



CALL NO. 201

CONTRACT ID. 211013

CALDWELL - TRIGG COUNTIES

FED/STATE PROJECT NUMBER 121GR21D013-NHPP

DESCRIPTION I-24

WORK TYPE INTERSTATE RESURFACING & REHAB

PRIMARY COMPLETION DATE 12/1/2021

LETTING DATE: April 23,2021

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 am EASTERN DAYLIGHT TIME April 23,2021. Bids will be publicly announced at 10:00 am EASTERN DAYLIGHT TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

DBE CERTIFICATION REQUIRED - 11%

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

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PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 01

CONTRACT ID - 211013

121GR21D013-NHPP

COUNTY - CALDWELL

PCN - DE01700242113

NHPP 0242 (077)

I-24 (MP 55.00) CONCRETE PAVEMENT AND ROADWAY REHABILITATION ON I-24 FROM MP 55.00 TO MP 57.00 IN CALDWELL COUNTY (MP 57.00), A DISTANCE OF 02.00 MILES.INTERSTATE RESURFACING & REHAB SYP NO. 01-20011.10.

GEOGRAPHIC COORDINATES LATITUDE 36:57:42.00 LONGITUDE 87:51:39.00

COUNTY - TRIGG

PCN - DE11100242113

NHPP 0242 (077)

I-24 (MP 55.5) CONCRETE PAVEMENT AND ROADWAY REHABILITATION ON I-24 FROM MP 55.5 TO MP 64.5 IN TRIGG COUNTY (MP 64.5), A DISTANCE OF 09.00 MILES.INTERSTATE RESURFACING & REHAB SYP NO. 01-20011.10.

GEOGRAPHIC COORDINATES LATITUDE 36:55:14.00 LONGITUDE 87:47:52.00

COMPLETION DATE(S):

COMPLETED BY 12/01/2021

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.

April 30, 2018

FEDERAL CONTRACT NOTES

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

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

CIVIL RIGHTS ACT OF 1964

The Kentucky Department of Highways, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252) and the Regulations of the Federal Department of Transportation (49 C.F.R., Part 21), issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the ground of race, color, or national origin.

NOTICE TO ALL BIDDERS

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

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

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

SECOND TIER SUBCONTRACTS

Second Tier subcontracts on federally assisted projects shall be permitted. However, in the case of DBE’s, second tier subcontracts will only be permitted where the other subcontractor is also a DBE. All second tier subcontracts shall have the consent of both the Contractor and the Engineer.

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

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

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

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

DBE GOAL

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

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

OBLIGATION OF CONTRACTORS

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

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

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

CERTIFICATION OF CONTRACT GOAL

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

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

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

DBE PARTICIPATION PLAN

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

The DBE Participation Plan shall include the following:

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

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

UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED

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

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

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

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

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

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

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

FAILURE TO MEET GOOD FAITH REQUIREMENT

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

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

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

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

SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT

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

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

PROMPT PAYMENT

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

CONTRACTOR REPORTING

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

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

******* IMPORTANT *******

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

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

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

DEFAULT OR DECERTIFICATION OF THE DBE

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

PROHIBITION ON TELECOMMUNICATIONS EQUIPMENT OR SERVICES

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

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

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

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

SECTION 7 is expanded by the following new Article:

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

Pursuant to Title 46CFR Part 381, the Contractor agrees

- To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

- To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

- To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

ASPHALT MIXTURE

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

DGA BASE

Unless otherwise noted, the Department estimates the rate of application for DGA Base to be 115 lbs/sy per inch of depth.

DGA BASE FOR SHOULDERS

Unless otherwise noted, the Department estimates the rate of application for DGA Base for Shoulders to be 115 lbs/sy per inch of depth. The Department will not measure necessary grading and/or shaping of existing shoulders prior to placing of DGA Base, but shall be incidental to the Contract unit price per ton for DGA Base.

Accept payment at the Contract unit price per ton as full compensation for all labor, materials, equipment, and incidentals for grading and/or shaping of existing shoulders and furnishing, placing, and compacting the DGA Base.

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.

JPC RIDE QUALITY

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

FUEL AND ASPHALT PAY ADJUSTMENT

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

OPTION A

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

Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS

I-24

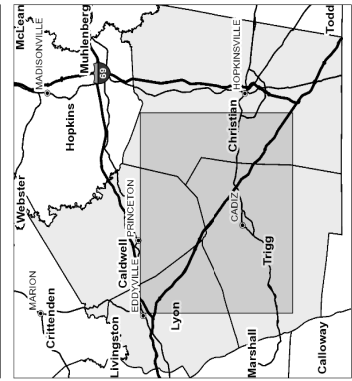
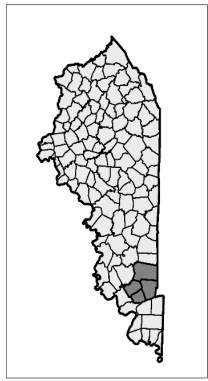
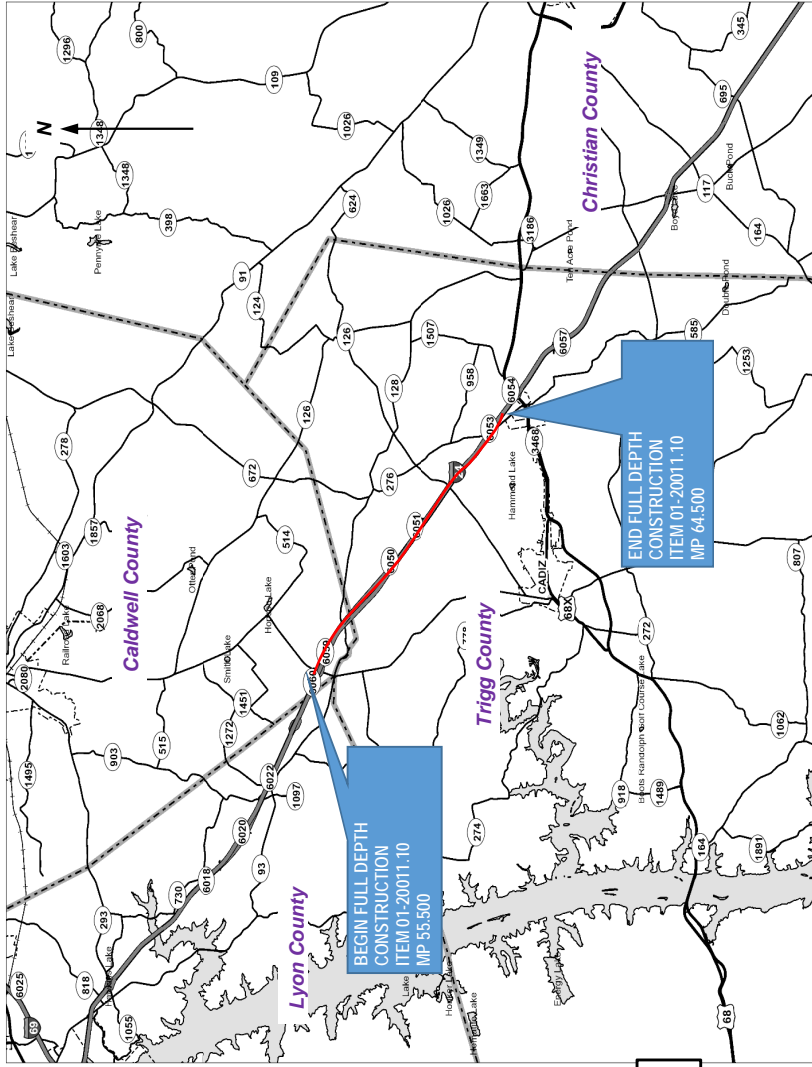
CONCRETE PAVEMENT AND ROADWAY REHABILITATION CALDWELL AND TRIGG COUNTY MP 55.500 TO MP 64.500 ITEM NO. 01-20011.10

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Prepared By:
WSP USA INC.
1792 ALYSHEBA WAY
LEXINGTON, KY 40509
859-272-5400

February 19, 2021



THIS PROJECT IS A FULLY CONTROLLED ACCESS HIGHWAY

COUNTY(S) CALDWELL AND TRIGG

ITEM NO(S) 01-20011.10

PROJECT NO(S). NHPP 0242(077), FD52 111 0024 057-065, FD52 017 0024 055-057

LETTING DATE: 4/23/2021

RECOMMENDED BY: KYTC Project Manager

PLAN APPROVED BY: State Highway Engineer

FHWA APPROVED BY:

DATE

DATE

DATE

STANDARD DRAWINGS
I-24 - CALDWELL AND TRIGG COUNTY
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APPLICABLE KENTUCKY DEPARTMENT OF HIGHWAYS
STANDARD DRAWINGS - CURRENT EDITIONS:

RBB-002	GUARDRAIL AND BRIDGE END DRAINAGE FOR TWIN STRUCTURES
RBB-003	LAYOUT OF GUARDRAIL AT TWIN STRUCTURES (DEPRESSED MEDIAN)
RBC-002	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A COMPONENTS
RBC-003	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A AND A-1 COMPONENTS
RBC-005	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A
RBC-005N	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A NOTES
RBC-006	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1
RBC-110	CONNECTION DETAILS OF CRASH CUSHION TYPE VI TO DOUBLE FACE GUARDRAIL
RBE-060	CRASH CUSHION TYPE VI ABC (ONE & TWO DIRECTION)
RBE-100	CRASH CUSHION TYPE VI-BT
RBE-205	CRASH CUSHION TYPE IX-A
RBI-001	TYPICAL GUARDRAIL INSTALLATIONS
RBI-002	TYPICAL GUARDRAIL INSTALLATIONS
RBI-003	TYPICAL INSTALLATION FOR GUARDRAIL END TREATMENT TYPE 2A
RBI-004	INSTALLATION OF GUARDRAIL END TREATMENT TYPE 1
RBM-020	DELINEATORS FOR CONCRETE BARRIERS
RBM-115	CONCRETE BARRIER WALL TYPE 9T (TEMPORARY)
RBM-120	BOX BEAM STIFFENING OF TEMPORARY CONCRETE BARRIER
RBR-001	STEEL BEAM GUARDRAIL ("W" BEAM)
RBR-005	GUARDRAIL COMPONENTS
RBR-010	GUARDRAIL TERMINAL SECTIONS
RBR-015	STEEL GUARDRAIL POSTS
RBR-020	GUARDRAIL END TREATMENT TYPE 1
RBR-025	GUARDRAIL END TREATMENT TYPE 2A
RBR-055	DELINEATORS FOR GUARDRAIL
RBR-060	DELINEATORS AT NARROW SHOULDER BRIDGES
RDD-020	FLUME INLET TYPE 1
RDD-021	FLUME INLET TYPE 2
RDD-040	CHANNEL LINING CLASS II AND III
RDI-035	COATINGS, LININGS AND PAVINGS FOR NON-STRUCTURAL PLATE PIPE
RDI-040	EROSION CONTROL BLANKET SLOPE INSTALLATION
RDP-001	PERFORATED PIPE TYPES AND COVER HEIGHTS
RDP-005	PERFORATED PIPE FOR SUBGRADE DRAINAGE ON TWO-LANE (CLASS 2) AND MULTI-LANE ROADS
RDP-006	PERFORATED PIPE UNDERDRAINS (LONGITUDINAL AND TRANSVERSE)
RDP-007	PERFORATED PIPE DETAILS (SOLID ROCK)
RDP-010	PERFORATED PIPE HEADWALLS
RDX-050	SUBGRADE DRAINAGE CONCRETE PAVEMENT
RDX-210	TEMPORARY SILT FENCE
RDX-215	TEMPORARY SILT FENCE WITH WOVEN WIRE FENCE FABRIC
RDX-230	SILT TRAP TYPE C
RGS-001	CURVE WIDENING AND SUPERELEVATION TRANSITIONS

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RGS-002	SUPERELEVATION FOR MULTILANE PAVEMENT
RGX-001	MISCELLANEOUS STANDARDS
RPM-100	CURB AND GUTTER CURBS AND VALLEY GUTTER
RPM-145	RUMBLE STRIPS TYPE 3
RPN-010	PAVEMENT TRANSITIONS & JOINT DETAILS FOR JOINTED PLAIN CONCRETE PAVEMENT AT BRIDGE ENDS
RPN-015	JOINTED PLAIN CONCRETE PAVEMENT
RPN-020	CONCRETE PAVEMENT JOINTS TYPES & SPACING
RPS-010	CONCRETE PAVEMENT JOINT DETAILS
RPS-020	EXPANSION AND CONTRACTION JOINT LOAD TRANSFER ASSEMBLIES
RPS-030	CONCRETE PAVEMENT JOINTS TYPES AND SPACING
RPS-034	CONCRETE PAVEMENT JOINTS TYPES AND SPACING
RPX-001	STATION MARKINGS CONCRETE PAVEMENT
RPX-010	PREFORMED COMPRESSION JOINT SEAL FOR CONCRETE PAVEMENT
RPX-015	HOT-POURED ELASTIC JOINT SEALS FOR CONCRETE PAVEMENT
RPX-020	SILICONE RUBBER SEALS FOR CONCRETE PAVEMENT
TPM-105	PAVEMENT MARKER ARRANGEMENTS MULTI-LANE ROADWAYS
TPM-125	PAVEMENT GORE ARRANGEMENT EXIT GORE AND OFF RAMP
TPM-200	TYPICAL ENTRANCE RAMP MARKINGS FOR INTERSTATES AND PARKWAYS
TPM-201	TYPICAL EXIT RAMP MARKINGS FOR INTERSTATES AND PARKWAYS
TPM-204	TYPICAL MARKINGS FOR GORE AREAS
TPR-115	SHOULDER & EDGELINE RUMBLE STRIP PLACEMENT DETAILS
TPR-130	RUMBLE STRIP DETAILS MULTILANE ROADWAYS AND RAMPS
TTC-115	LANE CLOSURE MULTI-LANE HIGHWAY CASE I
TTC-135	SHOULDER CLOSURE
TTC-145	MEDIAN CROSSOVER CASE II
TTC-146	MEDIAN CROSSOVER CASE II
TTC-160	TEMPORARY PAVEMENT MARKER ARRANGEMENTS FOR LANE CLOSURES
TTD-120	DOUBLE FINES ZONE SIGNS
TTD-130	SPEED ZONE SIGNING FOR WORK ZONES
TTS-120	MOBILE OPERATION FOR DURABLE STRIPING CASE I

REFERENCES
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1. KENTUCKY TRANSPORTATION CABINET, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.
2. FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) - CURRENT EDITION WITH REVISIONS.
3. APPLICABLE KENTUCKY DEPARTMENT OF HIGHWAYS SUPPLEMENT SPECIFICATIONS (ATTACHED):

SPCL. NOTE	ASPHALT MILLING AND TEXTURING
SPCL. NOTE	TYPICAL SECTION DIMENSIONS
SPCL. NOTE	BEFORE YOU DIG
SPCL. NOTE	GEOTEXTILE BOND BREAKER INTERLAYER FOR CONCRETE OVERLAY
SPCL. NOTE	LONGITUDINAL TEXTURING OF CONCRETE PAVEMENT
SPCL. NOTE	HIGH TENSION CABLE-ROPE MEDIAN BARRIER
SPCL. NOTE	EXPERIMENTAL KYCT AND HAMBURG TESTING
SPCL. NOTE	FIXED COMPLETION DATE AND LIQUIDATED DAMAGES
SPCL. NOTE	GUARDRAIL DELIVERY VERIFICATION SHEET
SPCL. NOTE	PORTABLE CHANGEABLE MESSAGE SIGNS
SPCL. NOTE	CONCRETE SLURRY
SPCL. NOTE	DURABLE PREFORMED PAVEMENT MARKING (INLAID)

GENERAL SUMMARY						
I-24 - CALDWELL AND TRIGG COUNTY						
BID CODE	ITEM	UNIT	NOTE	QUANTITIES		
				CALDWELL COUNTY	TRIGG COUNTY	TOTALS
00001	DGA	TON		1,808	6,589	8,397
00008	CEMENT STABILIZED ROADBED	SY		35,523	122,883	158,406
00078	CRUSHED AGGREGATE SIZE NO 2	TON		62	245	307
00100	ASPHALT SEAL AGGREGATE	TON		92	328	420
00103	ASPHALT SEAL COAT	TON		11	39	50
00190	LEVELING & WEDGING PG64-22	TON		183	700	883
00214	CL3 ASPH BASE 1.00D PG64-22	TON		419	502	921
00312	CL3 ASPH SURF 0.50D PG64-22	TON		1,026	3,634	4,660
00356	ASPHALT MATERIAL FOR TACK	TON		4	14	18
00358	ASPHALT CURING SEAL	TON		71	246	317
01005	PERFORATED PIPE EDGE DRAIN- 4 IN	LF		17,266	68,933	86,199
01015	INSPECT AND CERTIFY EDGE DRAIN SYSTEM	LS		1	1	1
01020	PERF PIPE HEADWALL TY 1 - 4 IN	EACH		0	10	10
01024	PERF PIPE HEADWALL TY 2 - 4 IN	EACH		0	4	4
01028	PERF PIPE HEADWALL TY 3 - 4 IN	EACH		0	4	4
01032	PERF PIPE HEADWALL TY 4 - 4 IN	EACH		62	227	289
01690	FLUME INLET TYPE 1	EACH		0	2	2
01691	FLUME INLET TYPE 2	EACH		0	1	1
01890	ISLAND HEADER CURB TYPE 1	LF	8	100	0	100
01891	ISLAND HEADER CURB TYPE 2	LF	8	0	50	50
01982	DELINEATOR FOR GUARDRAIL MONO WHITE	EACH		4	30	34
01983	DELINEATOR FOR GUARDRAIL MONO YELLOW	EACH		3	3	6
01986	DELINEATOR FOR BARRIER - BI-DIRECTIONAL YELLOW	EACH		555	1,863	2,418
02058	REMOVE PCC PAVEMENT	SY	2	30,090	98,307	128,397
02071	JPC PAVEMENT - 11 IN	SY		35,523	122,883	158,406
02091	REMOVE PAVEMENT	SY	13	1,893	0	1,893
02351	GUARDRAIL - STEEL W BEAM - S FACE	LF		322	2,349	2,671
02352	GUARDRAIL - STEEL W BEAM - D FACE	LF		202	146	348
02360	GUARDRAIL TERMINAL SECTION NO 1	EACH		1	1	2
02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	EACH		2	2	4
02365	CRASH CUSHION TYPE IX - A	EACH		1	1	2
02367	GR END TREATMENT TYPE 1	EACH		1	2	3
02369	GR END TREATMENT TYPE 2A	EACH		1	2	3
02381	REMOVE GUARDRAIL	LF		849	2,745	3,594
02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	EACH		1	1	2
02483	CHANNEL LINING CLASS II	TON		0	80	80
02542	CEMENT	TON		1,151	3,981	5,132
02562	TEMPORARY SIGNS	SF	11	800	1,800	2,600
02565	OBJECT MARKER TYPE 2	EACH	4	1	1	2

GENERAL SUMMARY						
I-24 - CALDWELL AND TRIGG COUNTY						
BID CODE	ITEM	UNIT	NOTE	QUANTITIES		
				CALDWELL COUNTY	TRIGG COUNTY	TOTALS
02568	MOBILIZATION	LS		1	1	1
02569	DEMOBILIZATION	LS		1	1	1
02650	MAINTAIN AND CONTROL TRAFFIC	LS	11	1	1	1
02655	CROSSOVER (#1)	LS	11	1	0	1
02655	CROSSOVER (#2)	LS	11	0	1	1
02671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	11	2	4	6
02676	MOBILIZATION FOR MILL & TEXT	LS		1	1	1
02677	ASPHALT MILLING AND TEXTURING	TON		274	1,050	1,324
02695	RUMBLE STRIPS TYPE 3	LF	9	58,502	74,701	133,203
02701	TEMP SILT FENCE	LF	12	1,110	1,075	2,185
02702	SAND FOR BLOTTER	TON		89	307	396
02705	SILT TRAP TYPE C	EACH	12	2	2	4
02726	STAKING	LS		1	1	1
02775	ARROW PANEL	EACH	11	1	1	2
03171	CONCRETE BARRIER WALL TYPE 9T	LF		11,091	37,243	48,334
03383	PVC PIPE-4 IN	LF		1,866	7,187	9,053
04793	CONDUIT-1 1/4 IN	LF	6	0	30	30
04795	CONDUIT-2 INCH	LF	6	0	10	10
04820	TRENCHING AND BACKFILLING	LF	6	0	35	35
04829	PIEZOELECTRIC SENSOR	EACH	6	0	2	2
04830	LOOP WIRE	LF	6	0	750	750
04895	LOOP SAW SLOT AND FILL	LF	6	0	190	190
05950	EROSION CONTROL BLANKET	SY	12	1,000	1,000	2,000
05953	TEMP SEEDING AND PROTECTION	SY	12	833	2,190	3,023
05963	INITIAL FERTILIZER	TON	12,16	0.6	0.6	1.2
05964	MAINTENANCE FERTILIZER	TON	12	0.2	0.6	0.8
05985	SEEDING AND PROTECTION	SY	12,17	2,499	2,190	4,689
05992	AGRICULTURAL LIMESTONE	TON	12,18	5.1	4.4	9.5
06410	STEEL POST TYPE 1	LF	4	8	8	16
06511	PAVE STRIPING - TEMP PAINT - 6 IN	LF	11	43,025	147,460	190,485
06556	PAVE STRIPING - DUR TY 1- 6 IN W	LF	10	79,206	163,502	242,708
06556	PAVE STRIPING - DUR TY 1- 6 IN W (FURNISH & INSTALL)	LF		300	700	1,000
06557	PAVE STRIPING - DUR TY 1- 6 IN Y	LF	10	63,365	130,801	194,166
06557	PAVE STRIPING - DUR TY 1- 6 IN Y (FURNISH & INSTALL)	LF		300	700	1,000
06560	PAVE STRIPING-DUR TY 1-12 IN W	LF	10	2,297	1,288	3,585
06560	PAVE STRIPING-DUR TY 1-12 IN W (FURNISH & INSTALL)	LF		75	175	250
08903	CRASH CUSHION TY VI CLASS BT TL3	EACH	5	1	4	5
10020NS	FUEL ADJUSTMENT	DOLL		16,949	57,502	74,451
10030NS	ASPHALT ADJUSTMENT	DOLL		6,365	18,907	25,272

GENERAL SUMMARY						
I-24 - CALDWELL AND TRIGG COUNTY						
BID CODE	ITEM	UNIT	NOTE	QUANTITIES		
				CALDWELL COUNTY	TRIGG COUNTY	TOTALS
20191ED	OBJECT MARKER TY 3	EACH	3	1	2	3
20359NN	GALVANIZED STEEL CABINET	EACH	6	0	1	1
20360ES818	WOOD POST	EACH	6	0	2	2
20391NS835	ELECTRICAL JUNCTION BOX TYPE A	EACH	6	0	1	1
20411ED	LAW ENFORCEMENT OFFICER	HOUR		200	550	750
20412ED	REMOVE ASPHALT SHOULDER	SY		2,096	18,694	20,790
20432ES112	REMOVE CRASH CUSHION	EACH	5	2	5	7
22664EN	WATER BLASTING EXISTING STRIPING	LF	20	119,263	210,692	329,955
22883EN	CONCRETE WEDGE CURB	LF		0	1,735	1,735
23147EN	HIGH TENSION CABLE-ROPE	LF	7,15	1,022	675	1,697
23148EN	END ANCHORS	EACH	7	1	1	2
24255EC	REMOVE CABLE GUARDRAIL BARRIER SYSTEM	LF	7,14	385	280	665
24489EC	INLAID PAVEMENT MARKERS	EACH		160	461	621
24640ED	OBJECT MARKER TYPE 1	EACH	5	2	5	7
24969ED	LONGITUDINAL SAW CUT	LF		9,434	35,791	45,225
25019EC	GROOVE FOR PAVE STRIPING - 7 IN	LF	19	76,329	210,692	287,021
25050ED	GEOTEXTILE BOND BREAKER	SY		35,523	122,883	158,406

NOTES:

1. Quantities from all other summary sheets have been carried over and included in this General Summary Sheet.
2. For westbound concrete pavement removal MP 55.500 to MP 64.500.
3. For use at type 1 guardrail end treatments.
4. For guardrail at bridges. See Standard Drawing RBB-002.
5. Includes 5 for maintenance of traffic.
6. For replacing traffic data acquisition station.
7. For High Tension Cable-Rope Barrier for crossovers.
8. For drainage at the bridge.
9. For Eastbound roadway MP 51.886 to MP 64.500.
10. Material will be provided by KYTC.
11. For Maintenance of Traffic.
12. For erosion control of temporary crossovers.
13. For removal of the existing crossovers at MP 51.88 and MP 56.03.
14. Includes 80 LF for removal of the existing crossovers at MP 51.88 and MP 56.03.
15. Includes 562 LF for removal of the existing crossovers at MP 51.88 and MP 56.03.
16. Includes 0.4 Ton for removal of the existing crossovers at MP 51.88 and MP 56.03.
17. Includes 1,666 SY for removal of the existing crossovers at MP 51.88 and MP 56.03.
18. Includes 3.4 Ton for removal of the existing crossovers at MP 51.88 and MP 56.03.
19. For Eastbound roadway MP 64.500 to MP 69.830 and Westbound roadway MP 51.000 to MP 69.830
20. For Eastbound roadway MP 51.886 to MP 69.830 and Westbound roadway MP 51.000 to MP 55.500 and MP 64.500 to MP 69.830.

PAVING AREAS						
I-24 - CALDWELL AND TRIGG COUNTY						
BID CODE	ITEM	NOTE	DEPTH (inches)	SQUARE YARDS		
				CALDWELL COUNTY	TRIGG COUNTY	TOTALS
00001	DGA WEDGE	5	11.00	2,294	8,192	10,486
00001	DGA WEDGE	1	4.80	444		444
00001	DGA WEDGE	1,7	8.90		1,134	1,134
00001	DGA	6	10.00		955	955
00001	DGA	3	6.00	680	806	1,486
00008	CEMENT STABILIZED ROADBED			35,523	122,883	158,406
00100	ASPHALT SEAL AGGREGATE			4,587	16,384	20,972
00103	ASPHALT SEAL COAT			4,587	16,384	20,972
00190	LEVELING &WEDGING PG64-22	2	1.00	3,323	12,726	16,049
00214	CL3 ASPH BASE 1.00D PG64-22	3	3.00	1,360	1,612	2,972
00214	CL3 ASPH BASE 1.00D PG64-22		4.50	788	955	1,743
00312	CL3 ASPH SURF 0.50D PG64-22	3	1.25	680	806	1,486
00312	CL3 ASPH SURF 0.50D PG64-22		1.50	788	955	1,743
00312	CL3 ASPH SURF 0.50D PG64-22		2.00	8,308	31,814	40,122
00356	ASPHALT MATERIAL FOR TACK			9,776	33,575	43,351
00358	ASPHALT CURING SEAL	4		35,523	122,883	158,406
02071	JPC PAVEMENT - 11 IN			35,523	122,883	158,406
02542	CEMENT	4		35,523	122,883	158,406
02677	ASPHALT MILLING AND TEXTURING	2	1.50	3,323	12,726	16,048
02702	SAND FOR BLOTTER	4		35,523	122,883	158,406
25050ED	GEOTEXTILE BONDBREAKER INTERLAYER			35,523	122,883	158,406

NOTES:

1. Depth shown is equivalent and is based on the average depth over the cross section of the pavement material.
2. Assumed 40% of shoulder overlay area.
3. For temporary crossovers.
4. For cement stabilized roadbed.
5. For filling in inside shoulder with DGA.
6. For DGA base for full depth shoulder at MP 63.241 to MP 63.444.
7. For DGA wedge for full depth shoulder at MP 63.241 to MP 63.444.

PAVING SUMMARY						
I-24 - CALDWELL AND TRIGG COUNTY						
ITEM CODE	ITEM	NOTES	UNIT	CALDWELL COUNTY	TRIGG COUNTY	TOTALS
00001	DGA	1	TON	1,808	6,589	8,397
00008	CEMENT STABILIZED ROADBED		SQ. YD.	35,523	122,883	158,406
00100	ASPHALT SEAL AGGREGATE	3	TON	92	328	420
00103	ASPHALT SEAL COAT	4	TON	11	39	50
00190	LEVELING & WEDGING PG64-22	2	TON	183	700	883
00214	CL3 ASPH BASE 1.00D PG64-22	2	TON	419	502	921
00312	CL3 ASPH SURF 0.50D PG64-22	2	TON	1,026	3,634	4,660
00356	ASPHALT MATERIAL FOR TACK	6	TON	4	14	18
00358	ASPHALT CURING SEAL	7	TON	71	246	317
02071	JPC PAVEMENT - 11 IN		SQ. YD.	35,523	122,883	158,406
02542	CEMENT	9	TON	1,151	3,981	5,132
02677	ASPHALT MILLING AND TEXTURING	2	TON	274	1,050	1,324
02702	SAND FOR BLOTTER	8	TON	89	307	396
25050ED	GEOTEXTILE BONDBREAKER INTERLAYER		SQ. YD.	35,523	122,883	158,406

NOTES:

1. Estimated at 115 lbs. per sq. yd. per inch of depth.
2. Estimated at 110 lbs. per sq. yd. per inch of depth.
3. Estimated at 20 lbs. per sq. yd. (two applications).
4. Estimated at 2.4 lbs. per sq. yd. (two applications).
5. Quantities are carried over and included in General Summary.
6. Estimated at 0.84 lbs per sq.yd.
7. Estimated at 2 lbs. per sq. yd. (two applications).
8. Estimated at 5 lbs. per sq. yd.
9. Estimated at 6% by weight with a dry density of 120 lbs per cubic foot.

SCHEDULE AND SUMMARY OF GUARDRAIL													
I-24 - CALDWELL AND TRIGG COUNTY													
LOCATION						ITEM							
COUNTY	DIRECTION	STATIONS	MILEPOINTS	LIN. FT.			EACH			20432E S112			
				REMOVE GUARDRAIL	02381	02351	02352	02360	02367		02369	02363	02387
				BEAM - S FACE	BEAM - D FACE	GUARDRAIL TERMINAL SECTION NO 1	GR END TREATMENT 1	GR END TREATMENT 2A	GUARDRAIL CONNECTOR TO BRIDGE END TY A	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	CRASH CUSHION TYPE IX-A	REMOVE CRASH CUSHION	
X	WB	4038+58 TO 4040+58	53.374 TO 53.488	200									
X	WB	4038+61 TO 4040+58	53.375 TO 53.412	196	171			1		1			
X	WB	4042+20 TO 4044+46	53.442 TO 53.485	226	151		1		1				
X	WB	4042+20 TO 4044+91	53.442 TO 53.494	227		1			1		1	1	
	X	WB	4357+95 TO 4369+10	1110	1060		1	1					
	X	WB	4397+59 TO 4403+88	629	604			1		1			
	X	WB	4402+75 TO 4403+50	75									
	X	WB	4406+84 TO 4409+47	219	48	1			1		1	1	
	X	WB	4407+20 TO 4414+31	712	637		1		1				
				CALDWELL COUNTY TOTALS:	849	322	202	1	1	1	2	1	1
				TRIGG COUNTY TOTALS:	2,745	2,349	146	1	2	2	1	1	1
				PROJECT TOTALS:	3,594	2,671	348	2	3	4	2	2	2

NOTES:

- Quantities are carried over and included in the General Summary.
- Remove Guardrail includes removal of end treatments.

SCHEDULE AND SUMMARY OF EROSION REPAIRS									
I-24 - CALDWELL AND TRIGG COUNTY									
LOCATION						ITEM			
COUNTY			DIRECTION	STATIONS	MILEPOINTS	SHOULDER AND FILL SLOPE EROSION REPAIR			
CALDWELL	TRIGG					LIN. FT.	EACH		TON
						CONCRETE WEDGE CURB	FLUME INLET TYPE 1	FLUME INLET TYPE 2	CHANNEL LINING CLASS II
		X	WB	4357+95 TO 4369+08	59.423 TO 59.633	1106			20
		X	WB	4359+12	59.445		1		23
		X	WB	4364+08	59.539			1	11
		X	WB	4397+59 TO 4403+88	60.173 TO 60.292	629			10
		X	WB	4402+64	60.269		1		15
CALDWELL COUNTY TOTALS:						0	0	0	0
TRIGG COUNTY TOTALS:						1,735	2	1	80
PROJECT TOTALS:						1,735	2	1	80

NOTES:

- Quantities are carried over and included in General Summary.
- A quantity of Channel Lining Class II has been included for outlets of flumes.

SCHEDULE AND SUMMARY OF PAVEMENT UNDERDRAIN													
I-24 - CALDWELL AND TRIGG COUNTY													
COUNTY	CALDWELL	TRIGG	INSIDE SHOULDER	OUTSIDE SHOULDER	WESTBOUND MP 55.500 TO MP 64.500		NOTES	LIN. FT.		4-INCH PERFORATED PIPE HEADWALL			
					STATION	MILEPOINT		PERFORATED PIPE 4 INCH	PVC PIPE 4 INCH	EACH			
										TYPE 1 (2:1)	TYPE 2 (3:1)	TYPE 3 (4:1)	TYPE 4 (6:1)
								01000	03383	01020	01024	01028	01032
X		X			4150+82 TO 4152+91	55.500 TO 55.540	2	209	28				1
X		X			4152+91 TO 4155+50	55.540 TO 55.589	2	259	28				1
X		X			4155+50 TO 4158+50	55.589 TO 55.645	2	300	28				1
X		X			4158+50 TO 4161+50	55.645 TO 55.702	2	300	28				1
X		X			4161+50 TO 4164+50	55.702 TO 55.759	2	300	28				1
X		X			4164+50 TO 4167+50	55.759 TO 55.816	2	300	28				1
X		X			4167+50 TO 4170+50	55.816 TO 55.873	2	300	28				1
X		X			4170+50 TO 4173+50	55.873 TO 55.930	2	300	28				1
X		X			4173+50 TO 4176+50	55.930 TO 55.986	2	300	28				1
X		X			4176+50 TO 4179+50	55.986 TO 56.043	2	300	28				1
X		X			4179+50 TO 4182+50	56.043 TO 56.100	2	300	28				1
X		X			4182+50 TO 4185+50	56.100 TO 56.157	2	300	28				1
X		X			4185+50 TO 4188+50	56.157 TO 56.214	2	300	28				1
X		X			4188+50 TO 4191+50	56.214 TO 56.270	2	300	28				1
X		X			4191+50 TO 4194+50	56.270 TO 56.327	2	300	28				1
X		X			4194+50 TO 4197+50	56.327 TO 56.384	2	300	28				1
X		X			4197+50 TO 4200+50	56.384 TO 56.441	2	300	28				1
X		X			4200+50 TO 4203+50	56.441 TO 56.498	2	300	28				1
X		X			4203+50 TO 4204+45	56.498 TO 56.516	2	95	28				1
X		X			4204+45 TO 4207+00	56.516 TO 56.564	2	255	28				1
X		X			4207+00 TO 4210+00	56.564 TO 56.621	2	300	28				1
X		X			4210+00 TO 4213+00	56.621 TO 56.678	2	300	28				1
X		X			4213+00 TO 4216+00	56.678 TO 56.734	2	300	28				1
X		X			4216+00 TO 4219+00	56.734 TO 56.791	2	300	28				1
X		X			4219+00 TO 4222+00	56.791 TO 56.848	2	300	28				1
X		X			4222+00 TO 4225+00	56.848 TO 56.905	2	300	28				1
X		X			4225+00 TO 4228+00	56.905 TO 56.962	2	300	28				1
X		X			4228+00 TO 4231+00	56.962 TO 57.019	2	300	28				1
X		X			4231+00 TO 4234+00	57.019 TO 57.075	2	300	28				1
X		X			4234+00 TO 4237+00	57.075 TO 57.132	2	300	28				1
X		X			4237+00 TO 4240+00	57.132 TO 57.189	2	300	28				1
X		X			4240+00 TO 4243+00	57.189 TO 57.246	2	300	28				1
X		X			4243+00 TO 4246+00	57.246 TO 57.303	2	300	28				1
X		X			4246+00 TO 4247+77	57.303 TO 57.336	2	177	28				1
X		X			4247+77 TO 4250+00	57.336 TO 57.378	2	223	28				1
X		X			4250+00 TO 4253+00	57.378 TO 57.435	2	300	28				1
	X	X			4253+00 TO 4256+00	57.435 TO 57.492	2	300	28				1

SCHEDULE AND SUMMARY OF PAVEMENT UNDERDRAIN														
I-24 - CALDWELL AND TRIGG COUNTY														
COUNTY	CALDWELL	TRIGG	INSIDE SHOULDER	OUTSIDE SHOULDER	WESTBOUND MP 55.500 TO MP 64.500			NOTES	LIN. FT.		4-INCH PERFORATED PIPE HEADWALL			
					STATION	MILEPOINT	PERFORATED PIPE 4 INCH		PVC PIPE 4 INCH	EACH				
										TYPE 1 (2:1)	TYPE 2 (3:1)	TYPE 3 (4:1)	TYPE 4 (6:1)	
								01000	03383	01020	01024	01028	01032	
	X	X			4256+00 TO 4259+00	57.492 TO 57.549	2	300	28				1	
	X	X			4259+00 TO 4262+00	57.549 TO 57.606	2	300	28				1	
	X	X			4262+00 TO 4265+00	57.606 TO 57.662	2	300	28				1	
	X	X			4265+00 TO 4268+00	57.662 TO 57.719	2	300	28				1	
	X	X			4268+00 TO 4271+00	57.719 TO 57.776	2	300	28				1	
	X	X			4271+00 TO 4274+00	57.776 TO 57.833	2	300	28				1	
	X	X			4274+00 TO 4277+00	57.833 TO 57.890	2	300	28				1	
	X	X			4277+00 TO 4279+18	57.890 TO 57.931	2	218	28				1	
	X	X			4279+18 TO 4282+00	57.931 TO 57.984	2	282	28				1	
	X	X			4282+00 TO 4285+00	57.984 TO 58.041	2	300	28				1	
	X	X			4285+00 TO 4288+00	58.041 TO 58.098	2	300	28				1	
	X	X			4288+00 TO 4290+20	58.098 TO 58.140	2	220	28				1	
	X	X			4290+20 TO 4293+00	58.140 TO 58.193	2	280	28				1	
	X	X			4293+00 TO 4296+00	58.193 TO 58.250	2	300	28				1	
	X	X			4296+00 TO 4299+00	58.250 TO 58.306	2	300	28				1	
	X	X			4299+00 TO 4302+00	58.306 TO 58.363	2	300	28				1	
	X	X			4302+00 TO 4305+00	58.363 TO 58.420	2	300	28				1	
	X	X			4305+00 TO 4308+00	58.420 TO 58.477	2	300	28				1	
	X	X			4308+00 TO 4311+00	58.477 TO 58.534	2	300	28				1	
	X	X			4311+00 TO 4314+00	58.534 TO 58.591	2	300	28				1	
	X	X			4314+00 TO 4317+00	58.591 TO 58.647	2	300	28				1	
	X	X			4317+00 TO 4320+00	58.647 TO 58.704	2	300	28				1	
	X	X			4320+00 TO 4323+00	58.704 TO 58.761	2	300	28				1	
	X	X			4323+00 TO 4326+00	58.761 TO 58.818	2	300	28				1	
	X	X			4326+00 TO 4329+00	58.818 TO 58.875	2	300	28				1	
	X	X			4329+00 TO 4332+00	58.875 TO 58.931	2	300	28				1	
	X	X			4332+00 TO 4335+00	58.931 TO 58.988	2	300	28				1	
	X	X			4335+00 TO 4338+00	58.988 TO 59.045	2	300	28				1	
	X	X			4338+00 TO 4341+00	59.045 TO 59.102	2	300	28				1	
	X	X			4341+00 TO 4344+00	59.102 TO 59.159	2	300	28				1	
	X	X			4344+00 TO 4347+00	59.159 TO 59.216	2	300	28				1	
	X	X			4347+00 TO 4350+00	59.216 TO 59.272	2	300	28				1	
	X	X			4350+00 TO 4353+00	59.272 TO 59.329	2	300	28				1	
	X	X			4353+00 TO 4356+00	59.329 TO 59.386	2	300	28				1	
	X	X			4356+00 TO 4358+00	59.386 TO 59.424	2	200	28				1	
	X	X			4358+00 TO 4359+25	59.424 TO 59.448	2	125	28				1	
	X	X			4365+49 TO 4368+00	59.566 TO 59.613	2	251	28				1	

SCHEDULE AND SUMMARY OF PAVEMENT UNDERDRAIN													
I-24 - CALDWELL AND TRIGG COUNTY													
COUNTY	CALDWELL	TRIGG	INSIDE SHOULDER	OUTSIDE SHOULDER	WESTBOUND MP 55.500 TO MP 64.500		NOTES	LIN. FT.		4-INCH PERFORATED PIPE HEADWALL			
					STATION	MILEPOINT		PERFORATED PIPE 4 INCH	PVC PIPE 4 INCH	EACH			
										TYPE 1 (2:1)	TYPE 2 (3:1)	TYPE 3 (4:1)	TYPE 4 (6:1)
								01000	03383	01020	01024	01028	01032
	X	X			4368+00 TO 4371+00	59.613 TO 59.670	2	300	28				1
	X	X			4371+00 TO 4374+00	59.670 TO 59.727	2	300	28				1
	X	X			4374+00 TO 4376+85	59.727 TO 59.781	2	285	28				1
	X	X			4376+85 TO 4379+50	59.781 TO 59.831	2	265	28				1
	X	X			4379+50 TO 4382+50	59.831 TO 59.888	2	300	28				1
	X	X			4382+50 TO 4385+50	59.888 TO 59.945	2	300	28				1
	X	X			4385+50 TO 4388+50	59.945 TO 60.002	2	300	28				1
	X	X			4388+50 TO 4391+50	60.002 TO 60.058	2	300	28				1
	X	X			4391+50 TO 4394+50	60.058 TO 60.115	2	300	28				1
	X	X			4394+50 TO 4397+50	60.115 TO 60.172	2	300	28				1
	X	X			4397+50 TO 4400+50	60.172 TO 60.229	2	300	28				1
	X	X			4400+50 TO 4402+55	60.229 TO 60.268	2	205	28				1
	X	X			4402+55 TO 4403+60	60.268 TO 60.287	2	105	28				1
	X	X			4407+35 TO 4408+50	60.359 TO 60.380	2	115	28				1
	X	X			4408+50 TO 4411+50	60.380 TO 60.437	2	300	28				1
	X	X			4411+50 TO 4414+50	60.437 TO 60.494	2	300	28				1
	X	X			4414+50 TO 4417+50	60.494 TO 60.551	2	300	28				1
	X	X			4417+50 TO 4420+50	60.551 TO 60.608	2	300	28				1
	X	X			4420+50 TO 4422+66	60.608 TO 60.648	2	216	28				1
	X	X			4422+66 TO 4425+50	60.648 TO 60.702	2	284	28				1
	X	X			4425+50 TO 4428+50	60.702 TO 60.759	2	300	28				1
	X	X			4428+50 TO 4431+50	60.759 TO 60.816	2	300	28				1
	X	X			4431+50 TO 4434+50	60.816 TO 60.873	2	300	28				1
	X	X			4434+50 TO 4436+49	60.873 TO 60.910	2	199	28				1
	X	X			4436+49 TO 4439+00	60.910 TO 60.958	2	251	28				1
	X	X			4439+00 TO 4442+00	60.958 TO 61.015	2	300	28				1
	X	X			4442+00 TO 4445+00	61.015 TO 61.072	2	300	28				1
	X	X			4445+00 TO 4447+77	61.072 TO 61.124	2	277	28				1
	X	X			4452+87 TO 4455+50	61.221 TO 61.270	2	263	28				1
	X	X			4455+50 TO 4458+50	61.270 TO 61.327	2	300	28				1
	X	X			4458+50 TO 4461+50	61.327 TO 61.384	2	300	28				1
	X	X			4461+50 TO 4464+50	61.384 TO 61.441	2	300	28				1
	X	X			4464+50 TO 4467+50	61.441 TO 61.498	2	300	28				1
	X	X			4467+50 TO 4470+50	61.498 TO 61.555	2	300	28				1
	X	X			4470+50 TO 4473+50	61.555 TO 61.611	2	300	28				1
	X	X			4473+50 TO 4476+49	61.611 TO 61.668	2	299	28				1
	X	X			4476+49 TO 4479+00	61.668 TO 61.716	2	251	28				1

SCHEDULE AND SUMMARY OF PAVEMENT UNDERDRAIN													
I-24 - CALDWELL AND TRIGG COUNTY													
COUNTY	CALDWELL	TRIGG	INSIDE SHOULDER	OUTSIDE SHOULDER	WESTBOUND MP 55.500 TO MP 64.500		NOTES	LIN. FT.		4-INCH PERFORATED PIPE HEADWALL			
					STATION	MILEPOINT		PERFORATED PIPE 4 INCH	PVC PIPE 4 INCH	EACH			
										TYPE 1 (2:1)	TYPE 2 (3:1)	TYPE 3 (4:1)	TYPE 4 (6:1)
								01000	03383	01020	01024	01028	01032
	X	X			4479+00 TO 4482+00	61.716 TO 61.772	2	300	28				1
	X	X			4482+00 TO 4485+00	61.772 TO 61.829	2	300	28				1
	X	X			4485+00 TO 4488+00	61.829 TO 61.886	2	300	28				1
	X	X			4488+00 TO 4491+00	61.886 TO 61.943	2	300	28				1
	X	X			4491+00 TO 4494+00	61.943 TO 62.000	2	300	28				1
	X	X			4494+00 TO 4497+00	62.000 TO 62.056	2	300	28				1
	X	X			4497+00 TO 4498+16	62.056 TO 62.078	2	116	28				1
	X	X			4498+16 TO 4501+00	62.078 TO 62.132	2	284	28				1
	X	X			4501+00 TO 4504+00	62.132 TO 62.189	2	300	28				1
	X	X			4504+00 TO 4507+00	62.189 TO 62.246	2	300	28				1
	X	X			4507+00 TO 4510+00	62.246 TO 62.303	2	300	28				1
	X	X			4510+00 TO 4513+00	62.303 TO 62.359	2	300	28				1
	X	X			4513+00 TO 4516+00	62.359 TO 62.416	2	300	28				1
	X	X			4516+00 TO 4519+00	62.416 TO 62.473	2	300	28				1
	X	X			4519+00 TO 4522+00	62.473 TO 62.530	2	300	28				1
	X	X			4522+00 TO 4525+00	62.530 TO 62.587	2	300	28				1
	X	X			4525+00 TO 4528+00	62.587 TO 62.644	2	300	28				1
	X	X			4528+00 TO 4531+00	62.644 TO 62.700	2	300	28				1
	X	X			4531+00 TO 4534+00	62.700 TO 62.757	2	300	28				1
	X	X			4534+00 TO 4537+00	62.757 TO 62.814	2	300	28				1
	X	X			4537+00 TO 4540+00	62.814 TO 62.871	2	300	28				1
	X	X			4540+00 TO 4543+00	62.871 TO 62.928	2	300	28				1
	X	X			4543+00 TO 4546+00	62.928 TO 62.984	2	300	28				1
	X	X			4546+00 TO 4549+00	62.984 TO 63.041	2	300	28				1
	X	X			4549+00 TO 4552+00	63.041 TO 63.098	2	300	28				1
	X	X			4552+00 TO 4555+00	63.098 TO 63.155	2	300	28				1
	X	X			4555+00 TO 4558+00	63.155 TO 63.212	2	300	28				1
	X	X			4558+00 TO 4558+56	63.212 TO 63.222	2	56	28				1
	X	X			4571+31 TO 4574+00	63.464 TO 63.515	2	269	28				1
	X	X			4574+00 TO 4577+00	63.515 TO 63.572	2	300	28				1
	X	X			4577+00 TO 4580+00	63.572 TO 63.628	2	300	28				1
	X	X			4580+00 TO 4583+00	63.628 TO 63.685	2	300	28				1
	X	X			4583+00 TO 4586+00	63.685 TO 63.742	2	300	28				1
	X	X			4586+00 TO 4589+00	63.742 TO 63.799	2	300	28				1
	X	X			4589+00 TO 4592+00	63.799 TO 63.856	2	300	28				1
	X	X			4592+00 TO 4595+00	63.856 TO 63.912	2	300	28				1
	X	X			4595+00 TO 4598+00	63.912 TO 63.969	2	300	28				1

SCHEDULE AND SUMMARY OF PAVEMENT UNDERDRAIN													
I-24 - CALDWELL AND TRIGG COUNTY													
COUNTY	CALDWELL	TRIGG	INSIDE SHOULDER	OUTSIDE SHOULDER	WESTBOUND MP 55.500 TO MP 64.500		NOTES	LIN. FT.		4-INCH PERFORATED PIPE HEADWALL			
					STATION	MILEPOINT		PERFORATED PIPE 4 INCH	PVC PIPE 4 INCH	EACH			
										TYPE 1 (2:1)	TYPE 2 (3:1)	TYPE 3 (4:1)	TYPE 4 (6:1)
								01000	03383	01020	01024	01028	01032
		X	X		4598+00 TO 4601+00	63.969 TO 64.026	2	300	28				1
		X	X		4601+00 TO 4604+00	64.026 TO 64.083	2	300	28				1
		X	X		4604+00 TO 4607+00	64.083 TO 64.140	2	300	28				1
		X	X		4607+00 TO 4610+00	64.140 TO 64.197	2	300	28				1
		X	X		4610+00 TO 4613+00	64.197 TO 64.253	2	300	28				1
		X	X		4613+00 TO 4615+13	64.253 TO 64.294	2	213	28				1
		X	X		4615+13 TO 4618+00	64.294 TO 64.348	2	287	28				1
		X	X		4618+00 TO 4621+00	64.348 TO 64.405	2	300	28				1
		X	X		4621+00 TO 4624+00	64.405 TO 64.462	2	300	28				1
		X	X		4624+00 TO 4626+18	64.462 TO 64.503	2	218	28				1
X				X	4150+82 TO 4152+91	55.500 TO 55.540	2	209	33				1
X				X	4152+91 TO 4155+50	55.540 TO 55.589	2	259	33				1
X				X	4155+50 TO 4158+50	55.589 TO 55.645	2	300	33				1
X				X	4158+50 TO 4161+50	55.645 TO 55.702	2	300	33				1
X				X	4161+50 TO 4164+50	55.702 TO 55.759	2	300	33				1
X				X	4164+50 TO 4167+50	55.759 TO 55.816	2	300	33				1
X				X	4167+50 TO 4170+50	55.816 TO 55.873	2	300	33				1
X				X	4170+50 TO 4173+50	55.873 TO 55.930	2	300	33				1
X				X	4173+50 TO 4176+50	55.930 TO 55.986	2	300	33				1
X				X	4176+50 TO 4179+50	55.986 TO 56.043	2	300	33				1
X				X	4179+50 TO 4182+50	56.043 TO 56.100	2	300	33				1
X				X	4182+50 TO 4185+50	56.100 TO 56.157	2	300	33				1
X				X	4185+50 TO 4188+50	56.157 TO 56.214	2	300	33				1
X				X	4188+50 TO 4191+50	56.214 TO 56.270	2	300	33				1
X				X	4191+50 TO 4194+50	56.270 TO 56.327	2	300	33				1
X				X	4194+50 TO 4197+50	56.327 TO 56.384	2	300	33				1
X				X	4197+50 TO 4200+50	56.384 TO 56.441	2	300	33				1
X				X	4200+50 TO 4203+50	56.441 TO 56.498	2	300	33				1
X				X	4203+50 TO 4204+45	56.498 TO 56.516	2	95	33				1
X				X	4204+45 TO 4207+00	56.516 TO 56.564	2	255	33				1
X				X	4207+00 TO 4208+18	56.564 TO 56.586	2	118	33				1
X				X	4240+38 TO 4243+00	57.196 TO 57.246	2	262	33				1
X				X	4243+00 TO 4246+00	57.246 TO 57.303	2	300	33				1
X				X	4246+00 TO 4247+77	57.303 TO 57.336	2	177	33				1
X				X	4247+77 TO 4250+50	57.336 TO 57.388	2	273	33				1
X				X	4250+50 TO 4253+50	57.388 TO 57.445	2	300	33				1
		X		X	4253+50 TO 4256+50	57.445 TO 57.502	2	300	33				1

SCHEDULE AND SUMMARY OF PAVEMENT UNDERDRAIN														
I-24 - CALDWELL AND TRIGG COUNTY														
COUNTY	CALDWELL	TRIGG	INSIDE SHOULDER	OUTSIDE SHOULDER	WESTBOUND MP 55.500 TO MP 64.500			NOTES	LIN. FT.		4-INCH PERFORATED PIPE HEADWALL			
					STATION	MILEPOINT	PERFORATED PIPE 4 INCH		PVC PIPE 4 INCH	EACH				
										TYPE 1 (2:1)	TYPE 2 (3:1)	TYPE 3 (4:1)	TYPE 4 (6:1)	
								01000	03383	01020	01024	01028	01032	
	X		X		4256+50 TO 4259+50	57.502 TO 57.558	2	300	33				1	
	X		X		4259+50 TO 4262+50	57.558 TO 57.615	2	300	33				1	
	X		X		4262+50 TO 4265+01	57.615 TO 57.663	2	251	33				1	
	X		X		4269+76 TO 4272+50	57.753 TO 57.805	2	274	33				1	
	X		X		4272+50 TO 4275+50	57.805 TO 57.861	2	300	33				1	
	X		X		4275+50 TO 4278+00	57.861 TO 57.909	2	250	33				1	
	X		X		4278+00 TO 4279+18	57.909 TO 57.931	2	118	33				1	
	X		X		4279+18 TO 4282+00	57.931 TO 57.984	2	282	33				1	
	X		X		4282+00 TO 4285+00	57.984 TO 58.041	2	300	33				1	
	X		X		4285+00 TO 4288+00	58.041 TO 58.098	2	300	33				1	
	X		X		4288+00 TO 4290+20	58.098 TO 58.140	2	220	33				1	
	X		X		4290+20 TO 4293+00	58.140 TO 58.193	2	280	33				1	
	X		X		4293+00 TO 4296+00	58.193 TO 58.250	2	300	33				1	
	X		X		4296+00 TO 4299+00	58.250 TO 58.306	2	300	33				1	
	X		X		4299+00 TO 4302+00	58.306 TO 58.363	2	300	33				1	
	X		X		4302+00 TO 4305+00	58.363 TO 58.420	2	300	33				1	
	X		X		4305+00 TO 4308+00	58.420 TO 58.477	2	300	33				1	
	X		X		4308+00 TO 4311+00	58.477 TO 58.534	2	300	33				1	
	X		X		4311+00 TO 4314+00	58.534 TO 58.591	2	300	33				1	
	X		X		4314+00 TO 4317+00	58.591 TO 58.647	2	300	33				1	
	X		X		4317+00 TO 4320+00	58.647 TO 58.704	2	300	33				1	
	X		X		4320+00 TO 4323+00	58.704 TO 58.761	2	300	33				1	
	X		X		4323+00 TO 4326+00	58.761 TO 58.818	2	300	33				1	
	X		X		4326+00 TO 4329+00	58.818 TO 58.875	2	300	33				1	
	X		X		4329+00 TO 4332+00	58.875 TO 58.931	2	300	33				1	
	X		X		4332+00 TO 4335+00	58.931 TO 58.988	2	300	33				1	
	X		X		4335+00 TO 4338+00	58.988 TO 59.045	2	300	33				1	
	X		X		4338+00 TO 4341+00	59.045 TO 59.102	2	300	33				1	
	X		X		4341+00 TO 4344+00	59.102 TO 59.159	2	300	33				1	
	X		X		4344+00 TO 4347+00	59.159 TO 59.216	2	300	33				1	
	X		X		4347+00 TO 4350+00	59.216 TO 59.272	2	300	33				1	
	X		X		4350+00 TO 4353+00	59.272 TO 59.329	2	300	33				1	
	X		X		4353+00 TO 4356+00	59.329 TO 59.386	2	300	21			1		
	X		X		4356+00 TO 4358+50	59.386 TO 59.433	2	250	18		1			
	X		X		4358+50 TO 4359+26	59.433 TO 59.448	2	76	15	1				
	X		X		4359+26 TO 4362+00	59.448 TO 59.500	2	274	15	1				
	X		X		4362+00 TO 4365+00	59.500 TO 59.556	2	300	15	1				

SCHEDULE AND SUMMARY OF PAVEMENT UNDERDRAIN													
I-24 - CALDWELL AND TRIGG COUNTY													
COUNTY	CALDWELL	TRIGG	INSIDE SHOULDER	OUTSIDE SHOULDER	WESTBOUND MP 55.500 TO MP 64.500		NOTES	LIN. FT.		4-INCH PERFORATED PIPE HEADWALL			
					STATION	MILEPOINT		PERFORATED PIPE 4 INCH	PVC PIPE 4 INCH	EACH			
										TYPE 1 (2:1)	TYPE 2 (3:1)	TYPE 3 (4:1)	TYPE 4 (6:1)
								01000	03383	01020	01024	01028	01032
		X	X		4365+00 TO 4368+00	59.556 TO 59.613	2	300	15	1			
		X	X		4368+00 TO 4371+00	59.613 TO 59.670	2	300	18		1		
		X	X		4371+00 TO 4374+00	59.670 TO 59.727	2	300	21			1	
		X	X		4374+00 TO 4376+85	59.727 TO 59.781	2	285	33				1
		X	X		4376+85 TO 4379+50	59.781 TO 59.831	2	265	33				1
		X	X		4379+50 TO 4382+50	59.831 TO 59.888	2	300	33				1
		X	X		4382+50 TO 4385+50	59.888 TO 59.945	2	300	33				1
		X	X		4385+50 TO 4388+50	59.945 TO 60.002	2	300	33				1
		X	X		4388+50 TO 4391+50	60.002 TO 60.058	2	300	33				1
		X	X		4391+50 TO 4394+50	60.058 TO 60.115	2	300	21			1	
		X	X		4394+50 TO 4397+50	60.115 TO 60.172	2	300	18		1		
		X	X		4397+50 TO 4400+50	60.172 TO 60.229	2	300	15	1			
		X	X		4400+50 TO 4402+55	60.229 TO 60.268	2	205	15	1			
		X	X		4402+55 TO 4404+03	60.268 TO 60.296	2	148	15	1			
		X	X		4406+99 TO 4408+50	60.352 TO 60.380	2	151	15	1			
		X	X		4408+50 TO 4411+50	60.380 TO 60.437	2	300	15	1			
		X	X		4411+50 TO 4414+50	60.437 TO 60.494	2	300	15	1			
		X	X		4414+50 TO 4417+50	60.494 TO 60.551	2	300	18		1		
		X	X		4417+50 TO 4420+50	60.551 TO 60.608	2	300	21			1	
		X	X		4420+50 TO 4422+66	60.608 TO 60.648	2	216	33				1
		X	X		4422+66 TO 4425+50	60.648 TO 60.702	2	284	33				1
		X	X		4425+50 TO 4428+50	60.702 TO 60.759	2	300	33				1
		X	X		4428+50 TO 4431+50	60.759 TO 60.816	2	300	33				1
		X	X		4431+50 TO 4434+50	60.816 TO 60.873	2	300	33				1
		X	X		4434+50 TO 4436+44	60.873 TO 60.909	2	194	33				1
		X	X		4436+44 TO 4439+00	60.909 TO 60.958	2	256	33				1
		X	X		4439+00 TO 4442+00	60.958 TO 61.015	2	300	33				1
		X	X		4442+00 TO 4445+00	61.015 TO 61.072	2	300	33				1
		X	X		4445+00 TO 4448+00	61.072 TO 61.128	2	300	33				1
		X	X		4448+00 TO 4451+00	61.128 TO 61.185	2	300	33				1
		X	X		4451+00 TO 4454+00	61.185 TO 61.242	2	300	33				1
		X	X		4454+00 TO 4457+00	61.242 TO 61.299	2	300	33				1
		X	X		4457+00 TO 4460+00	61.299 TO 61.356	2	300	33				1
		X	X		4460+00 TO 4463+00	61.356 TO 61.412	2	300	33				1
		X	X		4463+00 TO 4466+00	61.412 TO 61.469	2	300	33				1
		X	X		4466+00 TO 4469+00	61.469 TO 61.526	2	300	33				1
		X	X		4469+00 TO 4472+00	61.526 TO 61.583	2	300	33				1

SCHEDULE AND SUMMARY OF PAVEMENT UNDERDRAIN													
I-24 - CALDWELL AND TRIGG COUNTY													
COUNTY	CALDWELL	TRIGG	INSIDE SHOULDER	OUTSIDE SHOULDER	WESTBOUND MP 55.500 TO MP 64.500		NOTES	LIN. FT.		4-INCH PERFORATED PIPE HEADWALL			
					STATION	MILEPOINT		PERFORATED PIPE 4 INCH	PVC PIPE 4 INCH	EACH			
										TYPE 1 (2:1)	TYPE 2 (3:1)	TYPE 3 (4:1)	TYPE 4 (6:1)
								01000	03383	01020	01024	01028	01032
	X		X		4472+00 TO 4475+00	61.583 TO 61.640	2	300	33				1
	X		X		4475+00 TO 4476+52	61.640 TO 61.669	2	152	33				1
	X		X		4476+52 TO 4479+50	61.669 TO 61.725	2	298	33				1
	X		X		4479+50 TO 4482+50	61.725 TO 61.782	2	300	33				1
	X		X		4482+50 TO 4485+50	61.782 TO 61.839	2	300	33				1
	X		X		4485+50 TO 4488+50	61.839 TO 61.895	2	300	33				1
	X		X		4488+50 TO 4491+50	61.895 TO 61.952	2	300	33				1
	X		X		4491+50 TO 4494+50	61.952 TO 62.009	2	300	33				1
	X		X		4494+50 TO 4497+50	62.009 TO 62.066	2	300	33				1
	X		X		4497+50 TO 4498+16	62.066 TO 62.078	2	66	33				1
	X		X		4498+16 TO 4501+00	62.078 TO 62.132	2	284	33				1
	X		X		4501+00 TO 4504+00	62.132 TO 62.189	2	300	33				1
	X		X		4504+00 TO 4507+00	62.189 TO 62.246	2	300	33				1
	X		X		4507+00 TO 4510+00	62.246 TO 62.303	2	300	33				1
	X		X		4510+00 TO 4513+00	62.303 TO 62.359	2	300	33				1
	X		X		4513+00 TO 4516+00	62.359 TO 62.416	2	300	33				1
	X		X		4516+00 TO 4517+80	62.416 TO 62.450	2	180	33				1
	X		X		4531+30 TO 4534+00	62.706 TO 62.757	2	270	33				1
	X		X		4534+00 TO 4537+00	62.757 TO 62.814	2	300	33				1
	X		X		4537+00 TO 4540+00	62.814 TO 62.871	2	300	33				1
	X		X		4540+00 TO 4543+00	62.871 TO 62.928	2	300	33				1
	X		X		4543+00 TO 4546+00	62.928 TO 62.984	2	300	33				1
	X		X		4546+00 TO 4549+00	62.984 TO 63.041	2	300	33				1
	X		X		4549+00 TO 4552+00	63.041 TO 63.098	2	300	33				1
	X		X		4552+00 TO 4555+00	63.098 TO 63.155	2	300	33				1
	X		X		4555+00 TO 4558+00	63.155 TO 63.212	2	300	33				1
	X		X		4558+00 TO 4561+00	63.212 TO 63.269	2	300	33				1
	X		X		4561+00 TO 4564+00	63.269 TO 63.325	2	300	33				1
	X		X		4564+00 TO 4567+00	63.325 TO 63.382	2	300	33				1
	X		X		4567+00 TO 4568+25	63.382 TO 63.406	2	125	33				1
	X		X		4568+25 TO 4571+00	63.406 TO 63.458	2	275	33				1
	X		X		4571+00 TO 4574+00	63.458 TO 63.515	2	300	33				1
	X		X		4574+00 TO 4577+00	63.515 TO 63.572	2	300	33				1
	X		X		4577+00 TO 4580+00	63.572 TO 63.628	2	300	33				1
	X		X		4580+00 TO 4583+00	63.628 TO 63.685	2	300	33				1
	X		X		4583+00 TO 4586+00	63.685 TO 63.742	2	300	33				1
	X		X		4586+00 TO 4589+00	63.742 TO 63.799	2	300	33				1

SCHEDULE AND SUMMARY OF PAVEMENT UNDERDRAIN													
I-24 - CALDWELL AND TRIGG COUNTY													
COUNTY		INSIDE SHOULDER	OUTSIDE SHOULDER	WESTBOUND MP 55.500 TO MP 64.500			NOTES	LIN. FT.		4-INCH PERFORATED PIPE HEADWALL			
CALDWELL	TRIGG			STATION	MILEPOINT	PERFORATED PIPE 4 INCH		PVC PIPE 4 INCH	EACH				
									TYPE 1 (2:1)	TYPE 2 (3:1)	TYPE 3 (4:1)	TYPE 4 (6:1)	
				01000	03383	01020	01024	01028	01032				
	X	X	4589+00 TO 4592+00	63.799 TO 63.856	2	300	33				1		
	X	X	4592+00 TO 4595+00	63.856 TO 63.912	2	300	33				1		
	X	X	4595+00 TO 4598+00	63.912 TO 63.969	2	300	33				1		
	X	X	4598+00 TO 4601+00	63.969 TO 64.026	2	300	33				1		
	X	X	4601+00 TO 4604+00	64.026 TO 64.083	2	300	33				1		
	X	X	4604+00 TO 4607+00	64.083 TO 64.140	2	300	33				1		
	X	X	4607+00 TO 4610+00	64.140 TO 64.197	2	300	33				1		
	X	X	4610+00 TO 4612+09	64.197 TO 64.236	2	209	33				1		
	X	X	4619+57 TO 4622+50	64.378 TO 64.433	2	293	33				1		
	X	X	4622+50 TO 4625+00	64.433 TO 64.481	2	250	33				1		
	X	X	4625+00 TO 4626+18	64.481 TO 64.503	2	118	33				1		
CALDWELL COUNTY TOTALS:						17,266	1,866	0	0	0	62		
TRIGG COUNTY TOTALS:						68,933	7,187	10	4	4	227		
PROJECT TOTALS:						86,199	9,053	10	4	4	289		

NOTES:

1. Quantities are carried over and included in General Summary.
2. All perforated pipe headwalls require 1 ton of Crushed Aggregate No. 2. Project total for Crushed Aggregate No. 2 is 307 tons.
3. Perforated pipe headwall types shall be confirmed by the Contractor.
4. All Stations are given from the I-24 westbound baseline.

GENERAL NOTES
I-24 – CALDWELL AND TRIGG
PAGE 1 OF 5

I. GENERAL

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, current edition, Supplemental Specifications, any applicable Special Provisions, and applicable Standard and Sepia Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

- (1) Maintain and Control Traffic;
- (2) Remove and reset or replace guardrail and guardrail end treatments at the locations listed and/or as directed by the Engineer;
- (3) Pavement Removal;
- (4) Concrete Pavement;
- (5) Asphalt Pavement;
- (6) Asphalt Pavement Milling and Texturing;
- (7) Inlaid Pavement Markers; and
- (8) All other work specified as part of this contract.

II. MATERIALS

Except as specified in these notes or on the drawings, all materials will be according to the Standard Specifications, current edition, and applicable Special Provisions and Special Notes. The Department will sample and test all materials according to Department's Sampling Manual and the Contractor will 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.

A. Maintain and Control Traffic

See Traffic Control Plan.

B. Dense Graded Aggregate

Crushed Stone Base may not be furnished in lieu of DGA.

C. Pavement Markings

Use Durable Tape

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic

See Traffic Control Plan and Standard Specifications.

B. Site Preparation

Be responsible for all site preparation. Do not disturb existing signs unless noted on the plans. This item will include, but is not limited to, incidental excavation and backfilling; removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; shoulder preparation and restoration, temporary and permanent erosion and pollution control; and all incidentals. Site preparation will be only as approved or directed by the Engineer. Other than the bid items listed, no direct payment will be made for site preparation, but will be incidental to the other items of work.

C. Disposal of Waste

Dispose of all cuttings, debris, and other waste off the right-of-way at approved sites obtained by the Contractor at no additional cost to the Department. The Contractor will be responsible for obtaining any necessary permits for this work. Temporary openings in the right of way fence for direct access to waste sites off the right of way or for access to other public roads will not be allowed. No separate payment will be made for the disposal of waste and debris from the project or obtaining the necessary permits but will be incidental to the other items of the work.

GENERAL NOTES
I-24 – CALDWELL AND TRIGG
PAGE 2 OF 5

D. Final Dressing, Clean Up, and Seeding and Protection

After all work is completed, completely remove all debris from the job site. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. 1. These items are incidental to other items in the contract. Payment, however, will be allowed for erosion control items associated with construction and removal of the temporary crossovers. Disturbed areas for the crossover are to be minimize and limited to the disturbed limits shown on the plans or as approved by the Engineer.

E. Guardrail

Remove and replace guardrail and guardrail end treatments listed in this proposal and/or as directed by the Engineer. Guardrail, end treatments and terminal sections are listed by mile points and quantities are approximate only. Actual locations will be determined by the Engineer at the time of construction. Grade and reshape shoulders to proper template for new guardrail and end treatment. Utilize DGA for embankment when required for new end treatments. Remove any existing guardrail with a lane closure in place. Do not leave the area unprotected. After the guardrail is removed, a shoulder closure shall remain in place until the guardrail is replaced in that area. To minimize safety hazards, guardrail removal is to be performed at the latest practical time prior to initiating the paving operation in an area and re-installation is to begin within 5 calendar days from the time that the final base course is completed and shall be pursued until completion. If guardrail installation is not started within 5 calendar days after paving operations ends, liquated damages will be charged as outlined in Section 108 of the current Standard Specifications.

The Contractor shall deliver existing salvaged guardrail system materials to the Central Sign Shop and Recycle Center in Frankfort, KY (502-564-8187) between the hours of 8:00 AM and 3:00 PM, Monday through Friday, and shall be neatly stacked in accordance with section 719.03.07 of the standard specifications. There is a guardrail delivery verification sheet which must be completed. The Contractor, Engineer, and Central Sign/Guardrail Center representative must all sign off on this sheet before payment may be made.

Note that the cable-rope barrier system in the median is not applicable to the above.

F. Pavement Striping and Pavement Markers

Permanent striping will be in accordance with Section 714 and temporary striping will be in accordance with Section 112, except that:

- (1) Striping will be 6-inch width (12-inch width for interchange gore areas);
- (2) Permanent and/or temporary striping will be in place before a lane is opened to traffic; and
- (3) Permanent striping will be Durable Tape.

G. On-Site Inspection

Each Contractor submitting a bid for this work will make a thorough inspection of the site prior to submitting a bid and will 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.

H. Caution

Information shown on the drawings and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own 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 if the conditions encountered are not in accordance with the information above.

GENERAL NOTES
I-24 – CALDWELL AND TRIGG
PAGE 3 OF 5

I. Utility Clearance

It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, if 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.

IV. METHOD OF MEASUREMENT

A. Maintain and Control Traffic

See Traffic Control Plan.

B. Site Preparation

Other than the bid items listed, site preparation will not be measured for payment, but will be incidental to the other items of work.

C. Dense Graded Aggregate

DGA used for guardrail and guardrail end treatments will be measured for payment.

D. Inlaid Pavement Markers and Permanent Striping

Permanent striping is measured per linear foot. Inlaid Pavement Markers are measured as each.

V. BASIS OF PAYMENT

No direct payment will be made other than for the bid items listed. All other items required to complete the construction will be incidental to the bid items listed. Existing signs (not to be disturbed) that are damaged by the Contractor will be replaced by the Contractor at his expense.

A. Maintain and Control Traffic

See Traffic Control Plan.

B. Site Preparation

Other than the bid items listed, no direct payment will be allowed for site preparation, but will be incidental to the other items of work.

C. Dense Grade Aggregate

See Section 302 of the Standard Specifications.

D. Inlaid Pavement Markers and Permanent Striping

See Standard Specifications and Traffic Control Plan.

E. Lane Closures

Contrary to Section 112, lane closures will not be measured for payment but will be incidental to the bid item "Maintain and Control Traffic". Arrow boards, portable message boards, and signs shall be paid for one time regardless of how many times they are moved.

VI. MISCELLANEOUS

A. The dimensions shown on the typical sections for pavement and shoulder widths and thickness are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened unless specified in the Proposal.

B. The Contractor is advised that locations of low wires crossing the roadway exist. If any utility is impacted, it will be the Contractor's responsibility to contact the affected utility and cover any costs associated with the impact.

C. Guardrail, End Treatments, and Terminal Sections to be replaced are listed by mileposts. Exact placement to be approved by the Engineer.

GENERAL NOTES
I-24 – CALDWELL AND TRIGG
PAGE 4 OF 5

- D. Any signs and any light poles that are damaged during construction are to be replaced at the Contractor's expense.
- E. The existing edge drain system that is not being replaced is to be preserved. Care should be taken when pavement is removed and replaced, any edge drains damaged during these activities will be replaced at the Contractor's expense.
- F. Pavement rideability requirements in accordance with Section 501 Category A of the standard specifications shall apply on this project.
- G. The Department will accept the compaction of asphalt mixtures furnished for the shoulders at one inch or greater on this project by Option B according to subsections 402 and 403 of the Standard Specifications.
- H. The Contractor shall be responsible for the repair of any pavement in the travelled lanes that becomes detrimental or hazardous to the travelling public during construction. Areas needing repair will be at the discretion of the Engineer. Repair or reconstruction of shoulder pavement due to maintenance of traffic will be paid for with the pavement construction bid items in the contract.
- I. No tree cutting is allowed nor should it be necessary.
- J. Depth of existing base material of existing pavement is not reflected on the cross sections.
- K. Delineators shall meet the requirements of Section 830 and 838 of the Standard Specifications. Delineators shall be placed in accordance with Section 3F of the M.U.T.C.D., current edition and Kentucky Standard Drawings, current edition.
- L. Locations of pavement subsurface drainage outlets are listed. These locations may be adjusted by the Engineer. Engineer may elect to add or reduce the number of outlets.
- M. Allowing traffic to travel on milled shoulder surface is not allowed unless approved by the Engineer.
- N. PVC pipe shall be used for all 4-inch non-perforated pipe (minimum schedule 40). The unit bid price for construction of the PVC pipe shall include all fittings, connections, etc.
- O. A vacuum truck shall be required during all milling operations.
- P. The old rest areas (eastbound and westbound) near MP 54.5 may be used by the Contractor for staging. A staging plan shall be submitted to the Engineer for approval. Upon completion of use of these areas the Contractor shall restore them to original condition as approved by the Engineer. Payment for restoration will not be allowed.
- Q. Cement Stabilized Roadbed – Stabilize the top 12 inches of the finished roadbed with Portland cement in accordance with section 208 of the standard specifications. Use selected soils, with a minimum CBR value of 3, for this purpose. The Portland cement content is 6.0 percent by weight, and the estimated plan quantity uses an average dry density of 120 lbs./cubic feet. However, adjust the quantity after constructing the roadbed and submitting the samples for testing. This takes approximately two weeks.
- R. Contrary to Standard Drawing TPR-130 use 8" rumble length and 1' offset from the edge line on both shoulders.
- S. Durable tape material (3M Stamark High Performance Pavement Marking Tape A380IES and A381IES and 3M Stamark Surface Preparation Adhesive P50) will be provided by KYTC. The unit price for bid items "PAVE STRIPING-DUR TY 1-6 IN W", "PAVE STRIPING-DUR TY 1-6 IN Y" and "PAVE STRIPING-DUR TY 1-12 IN W" shall include all cost associated with the installation of the striping material provided by KYTC. The unit price for "PAVE STRIPING-DUR TY 1-6 IN W (FURNISH AND INSTALL)", "PAVE STRIPING-DUR TY 1-6 IN Y (FURNISH AND

GENERAL NOTES
I-24 – CALDWELL AND TRIGG
PAGE 5 OF 5

INSTALL)” and “PAVE STRIPING-DUR TY 1-12 IN W (FURNISH AND INSTALL)” shall include the cost to furnish and install striping not provide by the Cabinet. Use of primer (3M Stamark Surface Preparation Adhesive P50) will be required for installation. All 6” striping shall be inlaid. 12” striping does not require grooving. Installation shall be as specified in “Special Note for Durable, Preformed Pavement Marking (Inlaid)”. Permanent striping shall be installed from MP 51.00 to MP 69.83 as directed by the Engineer. KYTC will provide:

1. 3M Stamark High Performance Pavement Marking Tape A380IES (100yd / Carton) - 6” White: 243,000 LF
 2. 3M Stamark High Performance Pavement Marking Tape A381IES (100yd / Carton) - 6” Yellow: 199,400 LF
 3. 3M Stamark High Performance Pavement Marking Tape 380IES (30yd / Carton) - 12” White: 3,600 LF
 4. 3M Stamark Surface Preparation Adhesive P50 (5 gallon container) – 264 pails
- T. Existing median crossovers at MP 51.88 and MP 56.03 shall be removed. The removal will be paid for with the “Remove Pavement” bid code. All pavement removal, temporary drainage removal, excavation, grading, and erosion control removal shall be incidental to this bid code. The removal of existing crossovers located at proposed Crossover #1 and Crossover #2 shall be incidental to Crossover #1 and Crossover #2.
- U. Unit price for all underdrain work shall include the extra work needed for underdrains that outlet into the depressed median in those areas where the cable barrier system has to be crossed. In those areas the underdrain outlet shall be either:
1. Bored under the concrete trench if elevation of outlet is acceptable to the Engineer; or
 2. The location of the outlet shall be adjusted to go between the posts. An opening in the concrete trench would then be cut as approved by the Engineer. The outlet would then be trenched in. The concrete removed would then be replaced with Class A Concrete as approved by the Engineer.
- Damage to the cable barrier system, including the concrete trench shall be repaired at the Contractor’s expense, as directed by the Engineer.
- V. The Engineer will provide the following digital information:
1. The proposed WB I-24 surface (.DTM file)
 2. The existing WB I-24 surface (.DTM file)
 3. The proposed horizontal geometry of Crossover #1, Crossover #2, and the I-24 CL alignments. (.ALG file)
 4. The proposed horizontal and vertical geometry of the I-24 WB Baseline. (.ALG file)
 5. 11”x17” Plan sheets and Cross Section sheets. (PDF)
 6. The WB I-24 Cross Section sheets. (.DGN file)
- The files provided are for information purposes only. The Contractor is responsible for the accuracy, relevant to the contract bid plans, of all digital files that are provided.
- W. The removal of the existing edge drain system from MP 55.500 to MP 64.500 shall be incidental to Remove PCC Pavement.

Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS

I-24

CALDWELL AND TRIGG COUNTIES

CONCRETE PAVEMENT AND ROADWAY REHABILITATION

ROADWAY PLANS

INDEX OF SHEETS

- R1 --- COVER SHEET
- R2 - R2E --- TYPICAL SECTIONS AND DETAILS
- R3 - R20 --- PLAN AND PROFILE SHEETS
- R21 - R23 --- MOT MISC. DETAILS AND CROSSOVER SHEETS

Prepared By:
WSP USA INC.
1792 ALYSHEBA WAY
LEXINGTON, KY 40509
859-272-5400

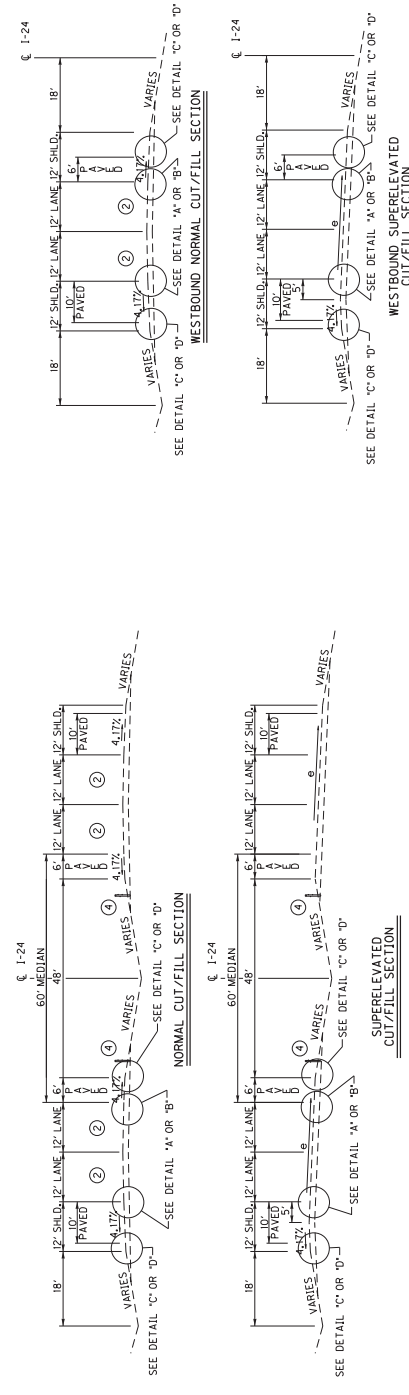
February 19, 2021

COUNTY OF CALDWELL TRIGG	ITEM NO. 01-200110	SHEET R2
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NOTE:

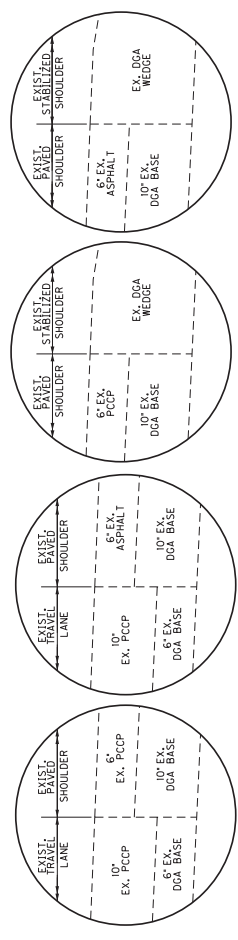
- ① FROM MP 55,500 TO MP 55,668 THE EXISTING SHOULDERS ARE PCCP. FROM MP 55,668 TO MP 64,500 THE EXISTING SHOULDERS ARE ASPHALT.
- ② RECORD PLANS INDICATE NORMAL CROSS SLOPES VARY FROM 1.56% TO 2.08%.
- ③ SHOULDER CROSS SLOPES SHOWN BASED ON RECORD PLANS.
- ④ LOCATION OF EXISTING CABLE BARRIER VARIES ON EASTBOUND OR WESTBOUND SIDE OF MEDIAN. SEE PLAN SHEETS FOR LOCATIONS.

EXISTING TYPICAL SECTIONS



MP 51.000 TO MP 51.461, MP 56.419 TO MP 59.442

MP 55.500 TO MP 56.419, MP 59.442 TO MP 64.500



DETAIL "A" NOT TO SCALE
DETAIL "B" NOT TO SCALE
DETAIL "C" NOT TO SCALE
DETAIL "D" NOT TO SCALE

NOT TO SCALE

EXISTING TYPICAL SECTIONS

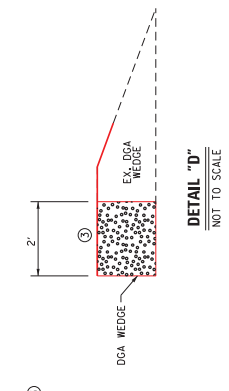
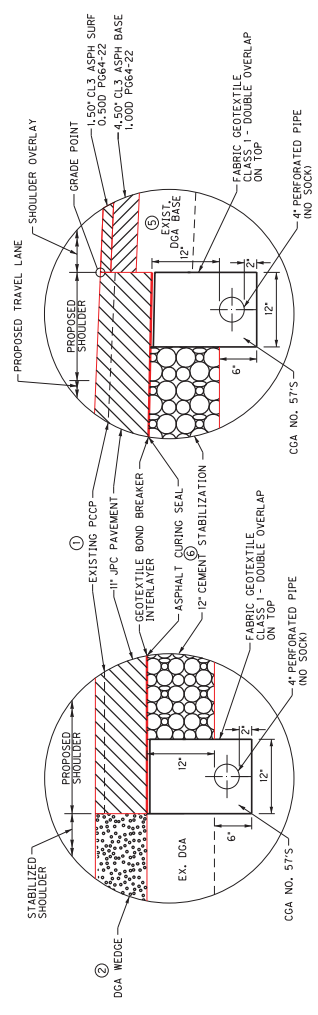
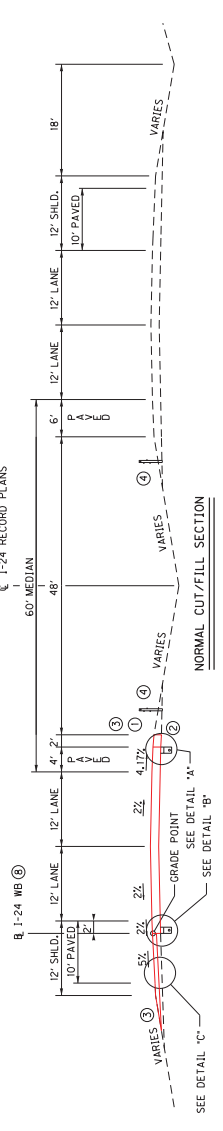
COUNTY OF	ITEM NO.	SHEET
CALDWELL TRIGG	01-200110	R2A

PROPOSED TYPICAL SECTIONS

MP 55.500 TO MP 55.668

NOTES:

- ① ALL CONCRETE PAVEMENT OF WESTBOUND TRAVEL LANES AND SHOULDERS TO BE REMOVED, INCLUDING ANY REMOVAL OF EXISTING BASE. REINFORCING BARS OF EXISTING PROPOSED PAVEMENT TO BE REMOVED. ALL NEW PAVEMENT SHALL BE INCIDENTAL TO REMOVE PCC PAVEMENT.
- ② SEE DETAIL "D" FOR INSIDE SHOULDER DETAIL.
- ③ ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2 FEET DOWN THE DITCH OR FILL SLOPE. TWO APPLICATIONS OF THE FOLLOWING: ASPHALT SEAL CEMENT @ 2.5% BY WEIGHT, ASPHALT SEAL AGGREGATE @ 20 LBS./SQ. YD.
- ④ LOCATION OF EXISTING CABLE BARRIER VARIES ON EASTBOUND OR WESTBOUND SIDE OF MEDIAN; SEE PLAN SHEETS FOR LOCATIONS.
- ⑤ MORE DCA WILL NEED TO BE ADDED TO SOME AREAS BEFORE PLACING ASPHALT SHOULDERS.
- ⑥ ASPHALT CURING SEAL REQUIRED OVER CEMENT STABILIZATION. TWO APPLICATIONS OF ASPHALT CURING SEAL @ 2 LBS./SQ. YD.
- ⑦ NOTE NOT USED.
- ⑧ BASELINE ALIGNMENT HAS BEEN DEVELOPED TO BE APPROXIMATELY 2 FEET FROM EXISTING EDGE OF TRAVEL LANES. THE LOCATION SHALL BE CONFIRMED BY FIELD SURVEY. THE BASELINE BASED ON THE GEOMETRIC DATA PROVIDED.



DETAIL "A"
NOT TO SCALE

DETAIL "B"
NOT TO SCALE

DETAIL "C"
NOT TO SCALE

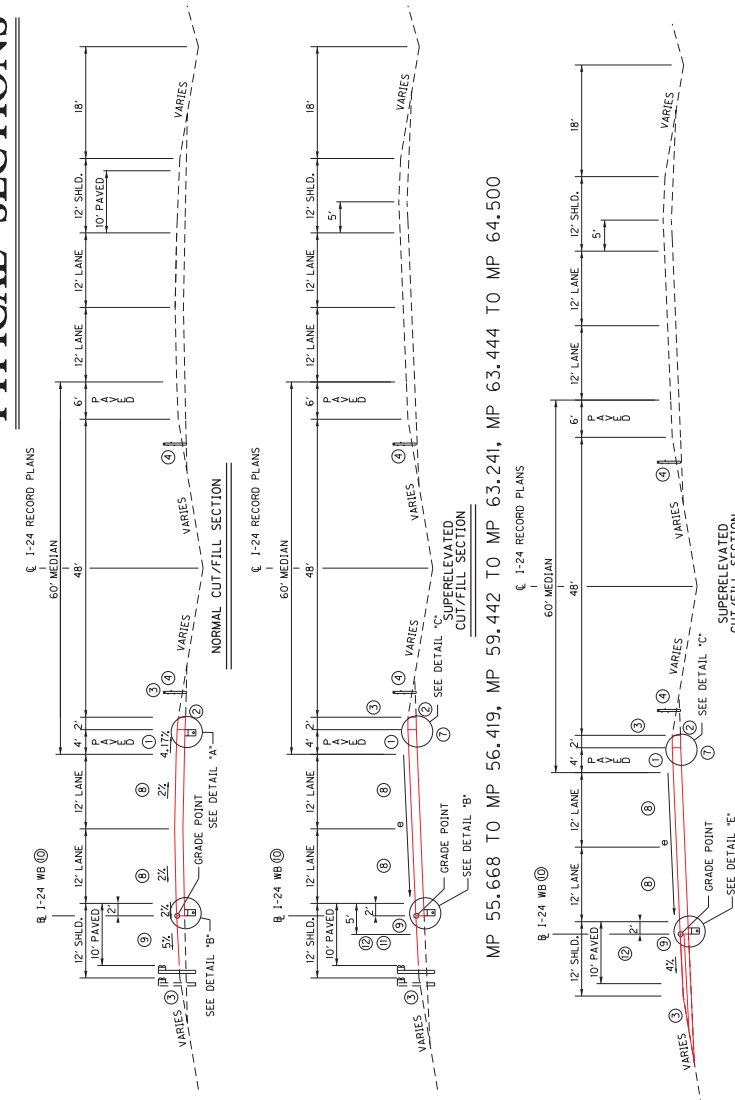
DETAIL "D"
NOT TO SCALE

NOT TO SCALE

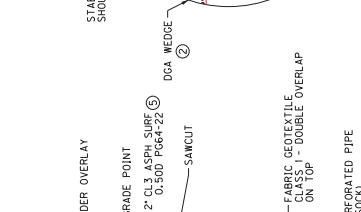
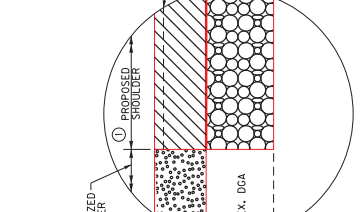
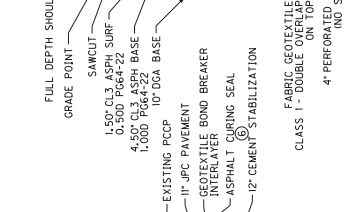
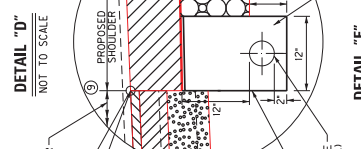
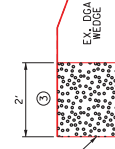
TYPICAL SECTIONS
DEPRESSED MEDIAN
MP 55.500 TO MP 55.668

COUNTY OF	ITEM NO.	SHEET
CALDWELL	01-200110	R28

PROPOSED TYPICAL SECTIONS



- NOTES:
- THE ENTIRE WESTBOUND 6' ASPHALT INSIDE SHOULDER IS TO BE REMOVED AND REPAVED WITH 1" JPC PAVEMENT. THIS INCLUDES ANY REMOVAL OF UNDERLYING BASE MATERIAL AND REMOVE ASPHALT SHOULDER.
 - SEE DETAIL "D" FOR INSIDE SHOULDER DETAIL.
 - ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO INSIDE EDGE OF WESTBOUND 6' ASPHALT SHOULDER. TWO APPLICATIONS OF THE FOLLOWING: ASPHALT SEAL COAT # 2-40 LBS./50. YD. ASPHALT SEAL AGGREGATE # 20 LBS./50. YD.
 - LOCATION OF EXISTING CURB AND BARRIER VARIES ON PLAN SHEETS FOR LOCATIONS.
 - MILLING WILL BE REQUIRED IN SOME AREAS TO PROVIDE MINIMUM OF 2" ASPHALT OVERLAY. LEVELING ASPHALT OVERLAY IS GREATER THAN 2.5" WHERE ASPHALT OVERLAY IS GREATER THAN 2.5".
 - ASPHALT CURING SEAL IS REQUIRED OVER CEMENT STABILIZATION. TWO APPLICATIONS OF ASPHALT CURING SEAL # 2 LBS./50. YD.
 - UNDERDRAIN WILL NOT BE REQUIRED ON HIGH SIDE OF SUPERELEVATION.
 - EXISTING CONCRETE PAVEMENT OF WESTBOUND TRAVEL LANES IS TO BE REMOVED AND REPLACED WITH NEW CONCRETE PAVEMENT.
 - APPROXIMATELY 2" OF EXISTING OUTSIDE ASPHALT SHOULDER IS TO BE REMOVED AND REPAVED WITH 1" JPC PAVEMENT. THIS INCLUDES ANY REMOVAL OF UNDERLYING BASE MATERIAL NEEDED FOR PROPOSED PAVEMENT. REMOVE ASPHALT SHOULDER FROM INSIDE EDGE OF PAVED ASPHALT SHOULDER. THE REMAINING 8' OF PAVED ASPHALT SHOULDER SHALL BE OVERLAYED WITH A MINIMUM OF 2" OF ASPHALT.
 - BASELINE ALIGNMENT HAS BEEN DEVELOPED TO BE TRAVEL LANE CENTERLINE. CONTRACTOR SHALL SURVEY AND ESTABLISH THE BASELINE BASED ON THE GEOMETRIC DATA PROVIDED.
 - WHEN THE SHOULDER IS ON THE HIGH SIDE OF SUPERELEVATION THE SHOULDER BREAK SHALL BE 5' FROM THE EDGE OF TRAVEL LANE.
 - SUPERELEVATED SHOULDERS, CONSTRUCT TO STANDARD SUPERELEVATION, BUT NOT FLATTER THAN SLOPES INDICATED FOR NORMAL SLOPES.



TYPICAL SECTIONS DEPRESSED MEDIAN
MP 55.668 TO MP 56.419 &
MP 59.442 TO MP 64.500

NOT TO SCALE

NOT TO SCALE

NOT TO SCALE

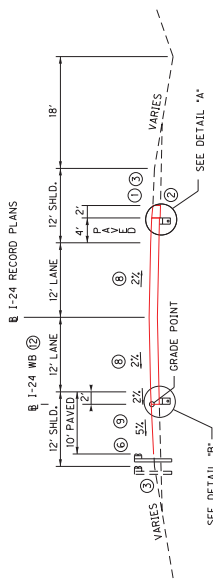
NOT TO SCALE

COUNTY OF	ITEM NO.	SHEET
CALDWELL TRIGG	01-200110	R2C

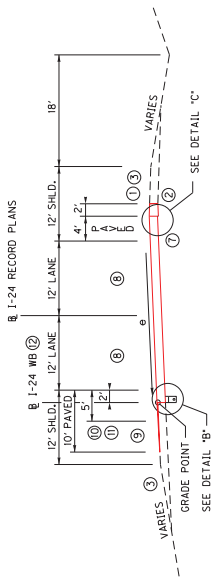
PROPOSED TYPICAL SECTIONS

MP 56.419 TO MP 59.442

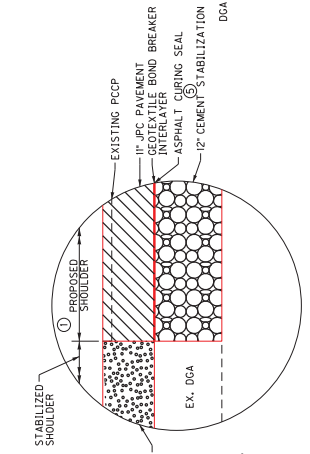
- NOTES:
- THE ENTIRE WESTBOUND 6' ASPHALT INSIDE SHOULDER IS TO BE REMOVED AND REPLACED WITH 4" CONCRETE PAVEMENT. THE REMAINING 2' OF ASPHALT INSIDE SHOULDER IS TO BE REPAIRED AND NEEDED FOR PROPOSED PAVEMENT. REMOVAL OF UNDERLYING MATERIAL SHALL BE INCIDENTAL TO REMOVE PCC PAVEMENT AND REMOVE ASPHALT SHOULDER.
 - SEE DETAIL 'D' FOR INSIDE SHOULDER DETAIL.
 - ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 4 FEET FROM THE EDGE OF PAVEMENT. TWO APPLICATIONS OF ASPHALT SEAL COAT @ 2.40 LBS./SQ. YD.
 - MILLING WILL BE REQUIRED IN SOME AREAS TO PROVIDE A SMOOTH AND EVEN SURFACE. MILLING AND MEDGING TO BE PROVIDED IN AREAS WHERE ASPHALT OVERLAY IS GREATER THAN 2.5".
 - ASPHALT CURING SEAL REQUIRED OVER CEMENT STABILIZATION. TWO APPLICATIONS OF ASPHALT CURING SEAL @ 2 LBS./SQ. YD.
 - EXISTING GUARDRAILS TO BE REMOVED. FACE OF NEW GUARDRAIL TO BE AT EDGE OF PAVED SHOULDER.
 - UNDERDRAIN WILL NOT BE REQUIRED ON HIGH SIDE OF SUPERELEVATION.
 - EXISTING CONCRETE PAVEMENT OF WESTBOUND TRAVEL LANE TO BE REMOVED AND REPLACED WITH NEW CONCRETE PAVEMENT.
 - APPROXIMATELY 2" OF EXISTING OUTSIDE ASPHALT SHOULDER (SEE NOTE 12) SHALL BE REMOVED AND REPLACED WITH NEW CONCRETE PAVEMENT. THIS INCLUDES REMOVAL OF UNDERLYING MATERIAL. THE REMAINING 8" OF ASPHALT INSIDE SHOULDER SHALL BE INCIDENTAL TO REMOVE ASPHALT SHOULDER. THE REMAINING 8" OF PAVED SHOULDER SHALL BE OPERATED WITH A MINIMUM OF 2" OF ASPHALT.
 - SUPERELEVATED SHOULDERS, CONSTRUCT TO STANDARD SUPERELEVATION, EXCEPT NOT FLATTER THAN SLOPES INDICATED FOR NORMAL SLOPES.
 - WHEN THE SHOULDER IS ON THE HIGH SIDE OF SUPERELEVATION, THE SHOULDER BREAK SHALL BE 5' FROM THE EDGE OF TRAVEL LANE.
 - BASELINE ALIGNMENT HAS BEEN DETERMINED TO BE TRAVEL LANE. CONTRACTOR SHALL SURVEY AND ESTABLISH THE BASELINE BASED ON THE GEOMETRIC DATA PROVIDED.



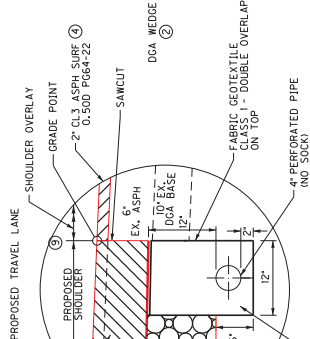
WESTBOUND NORMAL CUT/FILL SECTION



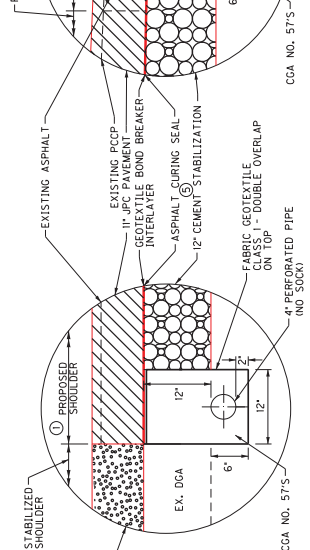
WESTBOUND SUPERELEVATED CUT/FILL SECTION



DETAIL "A"
NOT TO SCALE



DETAIL "B"
NOT TO SCALE



DETAIL "C"
NOT TO SCALE

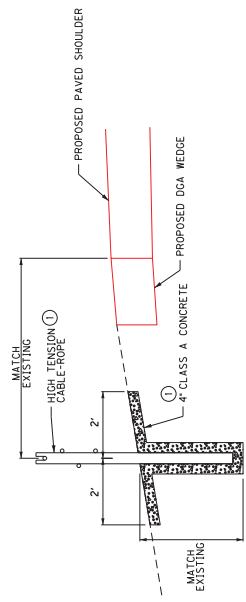


DETAIL "D"
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TYPICAL SECTIONS
BIFURCATED MEDIAN
MP 56.419 TO MP 59.442

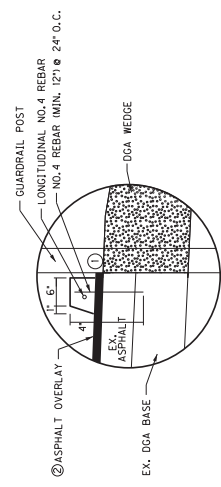
NOT TO SCALE

COUNTY OF CALDWELL TRIGG	ITEM NO. 01-20011.0	SHEET R20
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HIGH TENSION CABLE ROPE INSTALLATION
 NOT TO SCALE

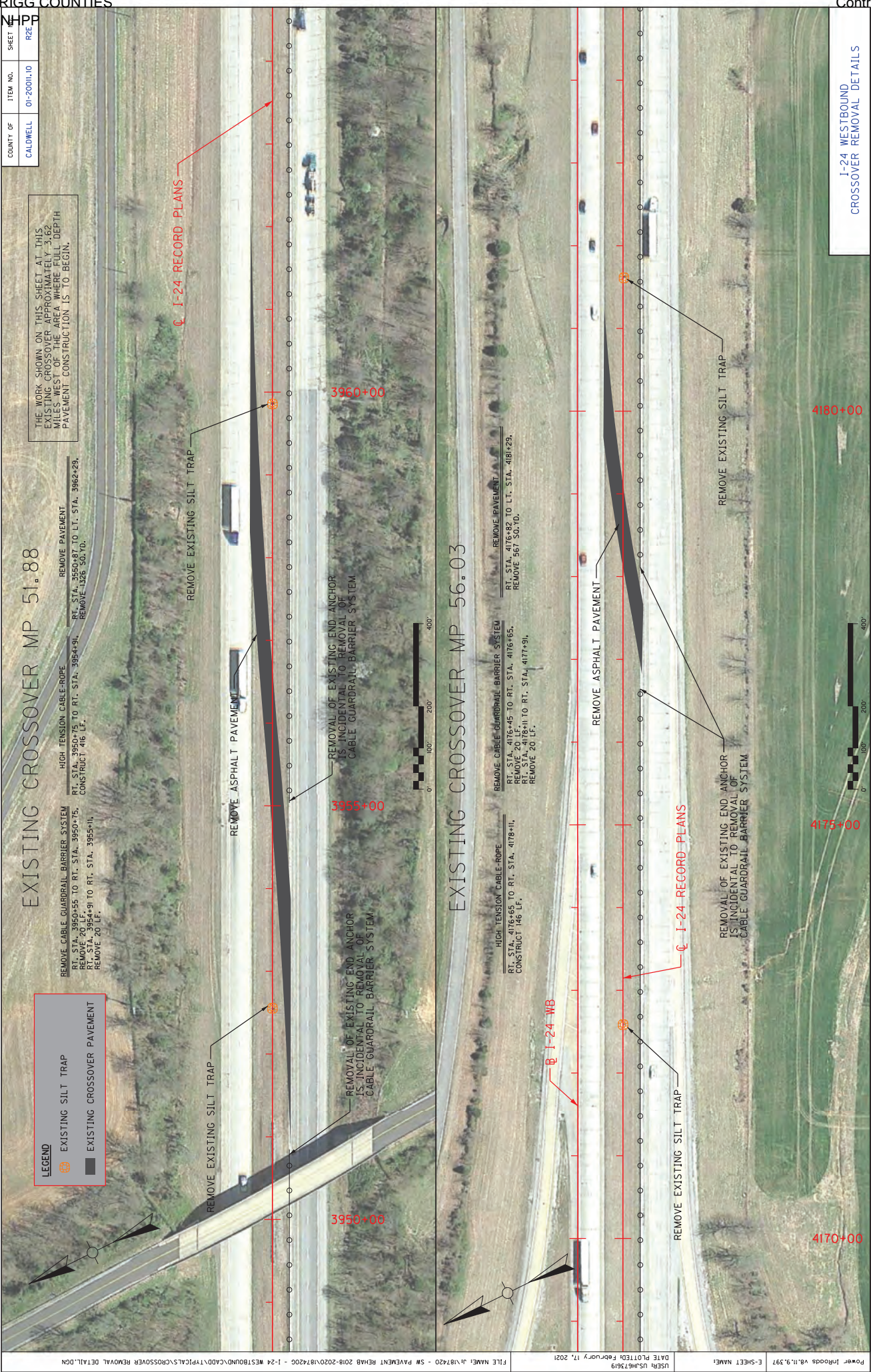
HIGH TENSION CABLE ROPE INSTALLATION NOTES
 ① EXISTING CONCRETE PAD, CONCRETE TRENCH, CABLE ROPE, AND POSTS SHALL BE REUSED AS APPROVED BY THE ENGINEER.



CONCRETE WEDGE CURB DETAIL
 NOT TO SCALE

CONCRETE WEDGE CURB NOTES
 ① OVERLAY SHALL BE EXTENDED TO GUARDRAIL POST.
 ② CONCRETE WEDGE CURB INSTALLED ON WESTBOUND SHOULDERS WILL BE PLACED ON THE PROPOSED ASPHALT OVERLAY AS SHOWN.
 3. THE LINE OF CONCRETE WEDGE CURB SHALL BE PLACED AT THE FACE OF THE GUARDRAIL.

MISCELLANEOUS DETAILS
 NOT TO SCALE



COUNTY OF	ITEM NO.	SHEET
CALDWELL	01-20011.0	R2E

THE WORK SHOWN ON THIS SHEET AT THIS EXISTING CROSSOVER APPROXIMATELY 3.62 MILES WEST OF THE AREA WHERE FULL DEPTH PAVEMENT CONSTRUCTION IS TO BEGIN.

REMOVE CABLE GUARDRAIL BARRIER SYSTEM
 RT STA. 3950+00 TO RT. STA. 3950+75;
 REMOVE 20 LF.
 RT STA. 3954+91 TO RT. STA. 3955+11;
 REMOVE 20 LF.

HIGH TENSION CABLE-ROPE
 RT STA. 3950+00 TO RT. STA. 3954+91;
 CONSTRUCT 746 LF.

REMOVE EXISTING SILT TRAP
 EXISTING SILT TRAP
 EXISTING CROSSOVER PAVEMENT

REMOVE EXISTING SILT TRAP
 REMOVE ASPHALT PAVEMENT
 REMOVE CABLE GUARDRAIL BARRIER SYSTEM
 REMOVE HIGH TENSION CABLE-ROPE

REMOVE EXISTING SILT TRAP
 REMOVE ASPHALT PAVEMENT
 REMOVE CABLE GUARDRAIL BARRIER SYSTEM
 REMOVE HIGH TENSION CABLE-ROPE

REMOVE CABLE GUARDRAIL BARRIER SYSTEM
 RT STA. 4176+45 TO RT. STA. 4176+65;
 REMOVE 20 LF.
 RT STA. 4178+11 TO RT. STA. 4177+91;
 REMOVE 20 LF.

HIGH TENSION CABLE-ROPE
 RT STA. 4176+45 TO RT. STA. 4178+11;
 CONSTRUCT 146 LF.

REMOVE EXISTING SILT TRAP
 REMOVE ASPHALT PAVEMENT
 REMOVE CABLE GUARDRAIL BARRIER SYSTEM
 REMOVE HIGH TENSION CABLE-ROPE

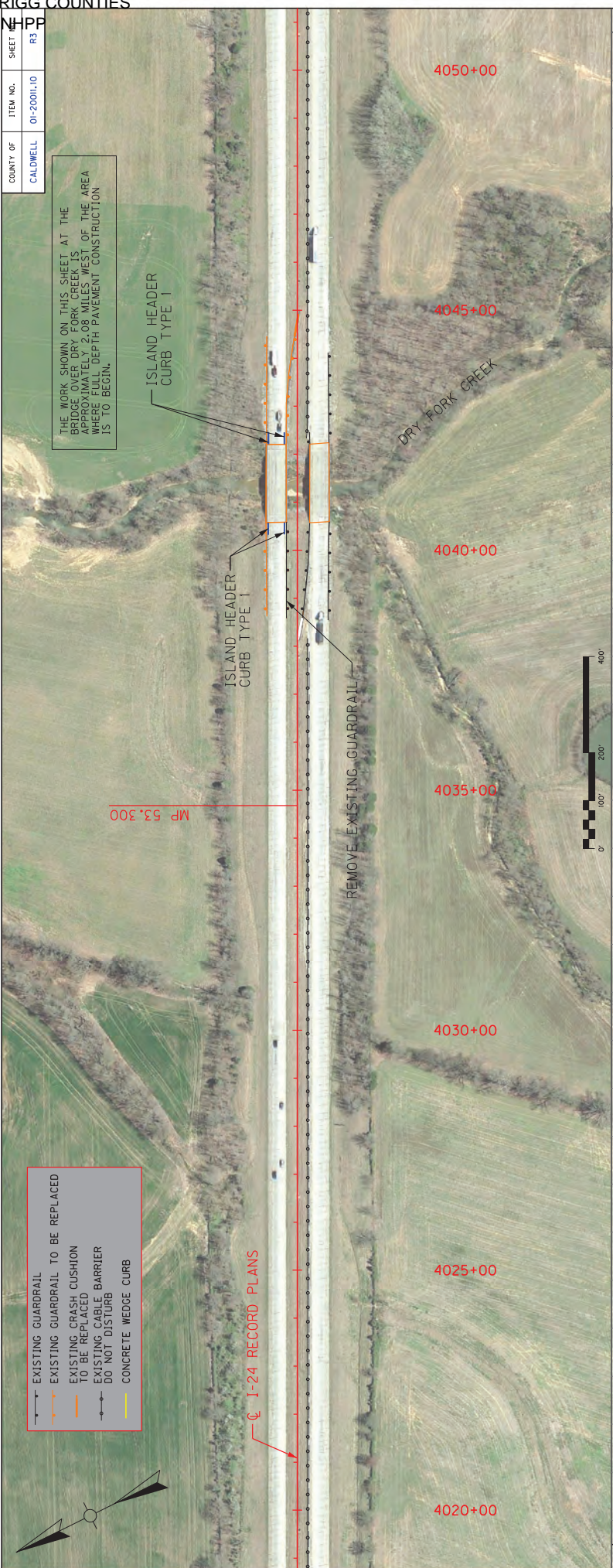
REMOVE EXISTING SILT TRAP
 REMOVE ASPHALT PAVEMENT
 REMOVE CABLE GUARDRAIL BARRIER SYSTEM
 REMOVE HIGH TENSION CABLE-ROPE

REMOVE EXISTING SILT TRAP
 REMOVE ASPHALT PAVEMENT
 REMOVE CABLE GUARDRAIL BARRIER SYSTEM
 REMOVE HIGH TENSION CABLE-ROPE

I-24 WESTBOUND
 CROSSOVER REMOVAL DETAILS

COUNTY OF	ITEM NO.	SHEET
CALDWELL	01-20011.0	83

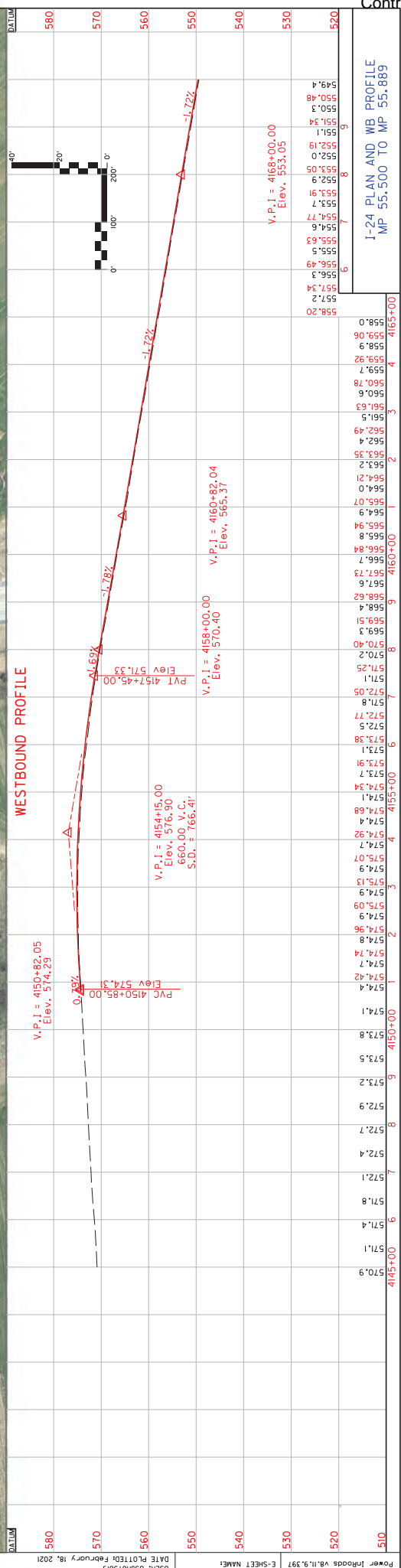
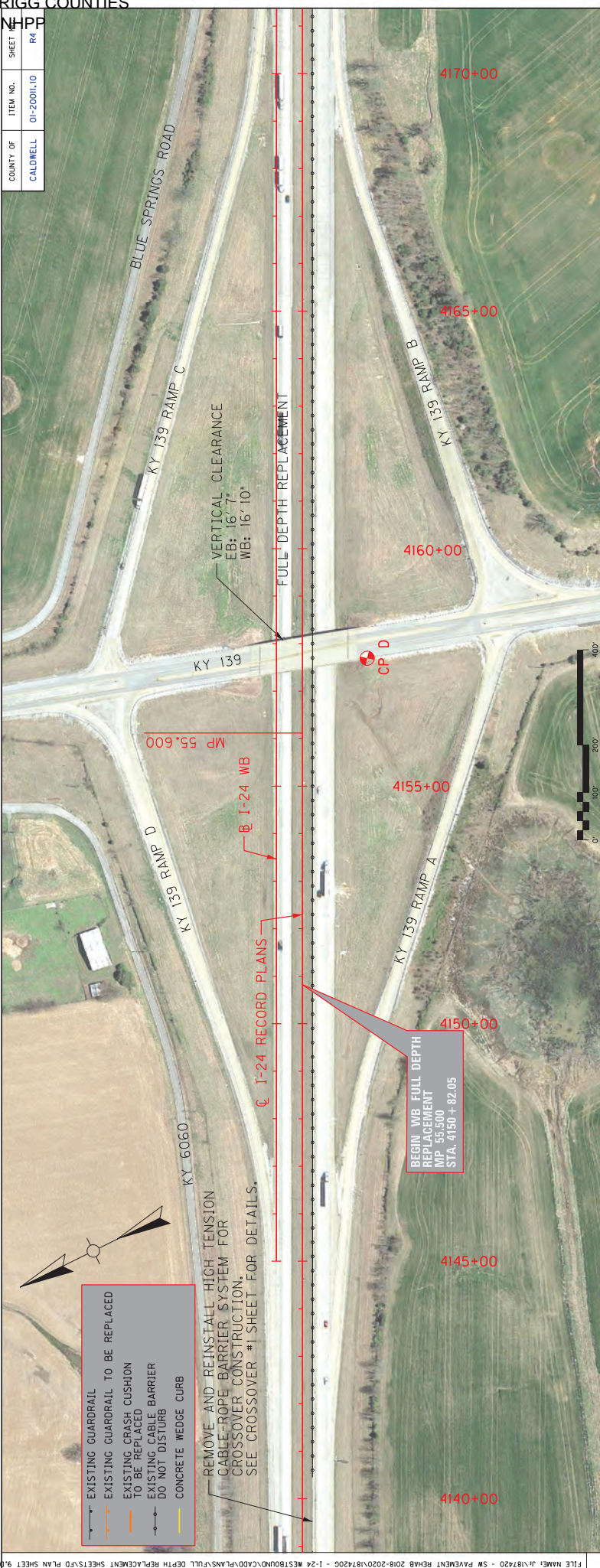
THE WORK SHOWN ON THIS SHEET AT THE BRIDGE OVER DRY FORK CREEK IS TO BE REPLACED WITH FULL DEPTH PAVEMENT CONSTRUCTION WHERE FULL DEPTH PAVEMENT CONSTRUCTION IS TO BEGIN.



- EXISTING GUARDRAIL
- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER DO NOT DISTURB
- CONCRETE WEDGE CURB

Q I-24 RECORD PLANS

I-24 PLAN
 MP 53.045 TO MP 53.614



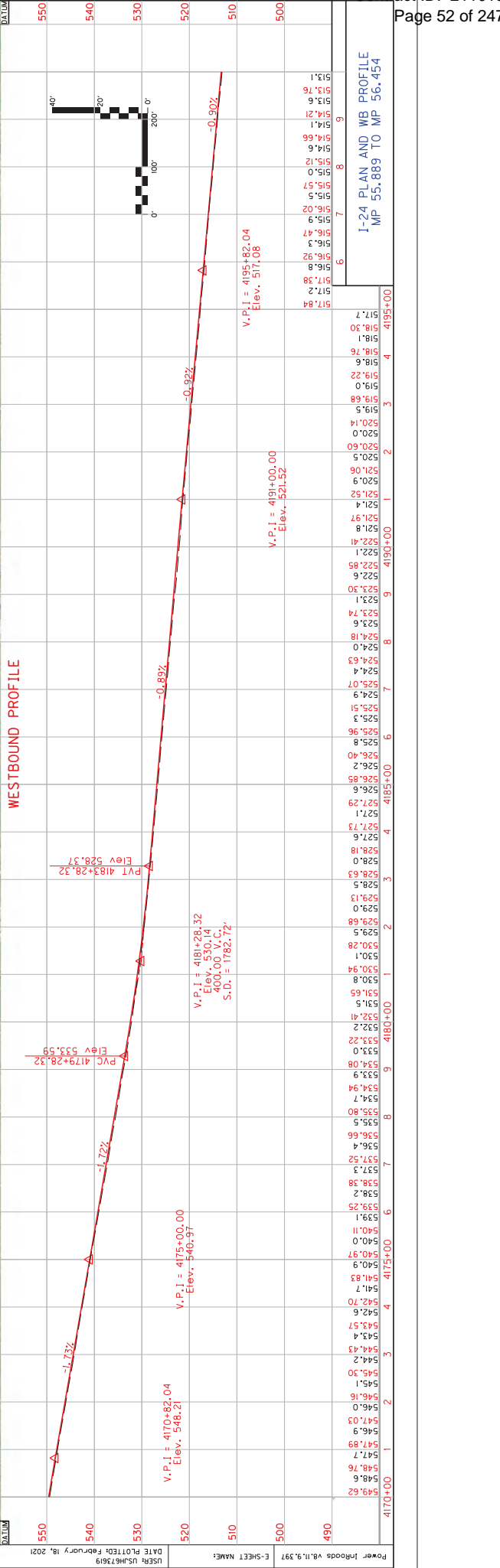
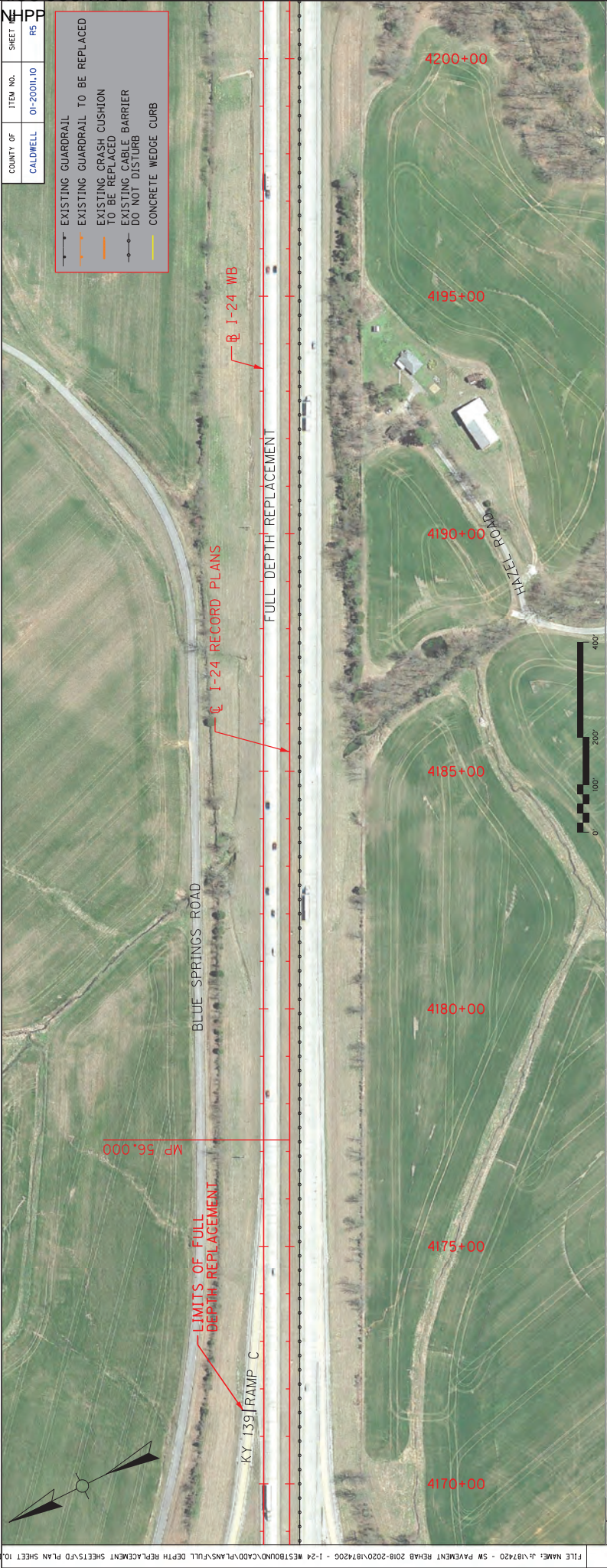
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 DATE PLOTTED: FEBRUARY 18, 2021
 USER: USJRH73619
 E-SHEET NAME: I-24 PLAN AND WB PROFILE
 MP 55.500 TO MP 55.889

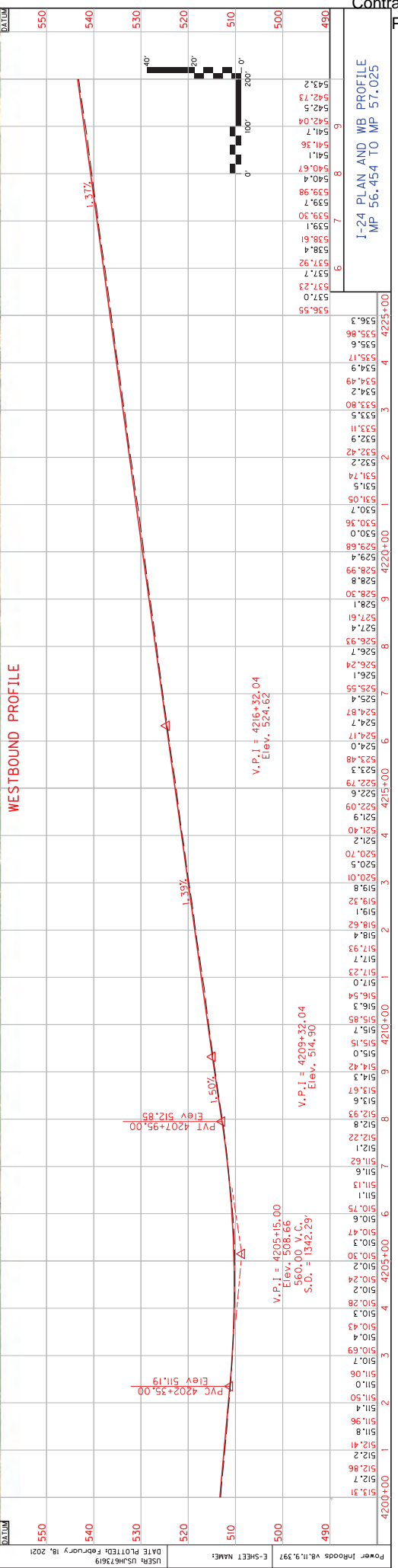
- EXISTING GUARDRAIL TO BE REPLACED
 - EXISTING CRASH CUSHION TO BE REPLACED
 - EXISTING CABLE BARRIER DO NOT DISTURB
 - CONCRETE WEDGE CURB
- REMOVE AND REINSTALL HIGH TENSION CABLE-ROPE BARRIER SYSTEM FOR CROSSOVER CONSTRUCTION.
 SEE CROSSOVER #1 SHEET FOR DETAILS.

COUNTY OF	ITEM NO.	SHEET
CALDWELL	01-20011LO	R4

COUNTY OF	ITEM NO.	SHEET
CALDWELL	01-20011.0	RS

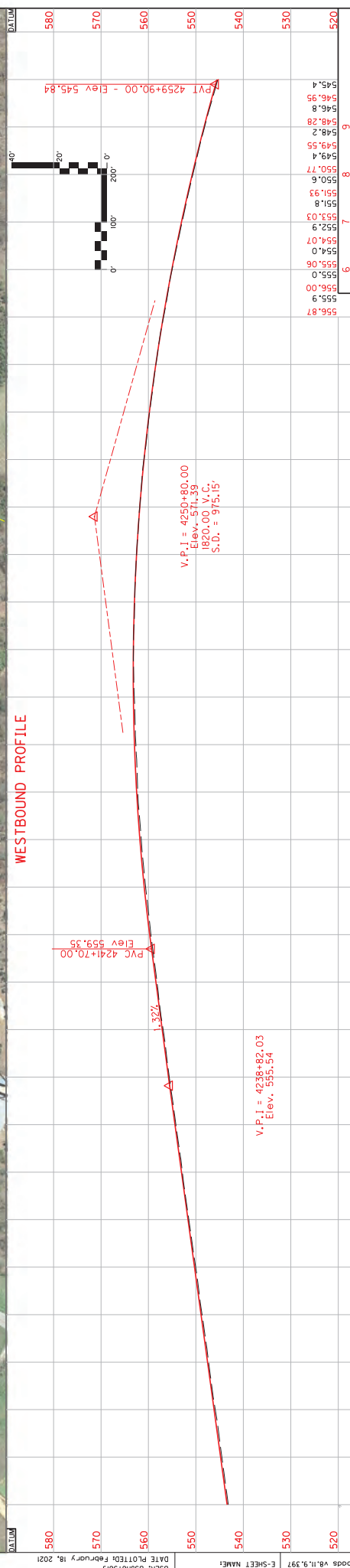
- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER DO NOT DISTURB
- CONCRETE WEDGE CURB



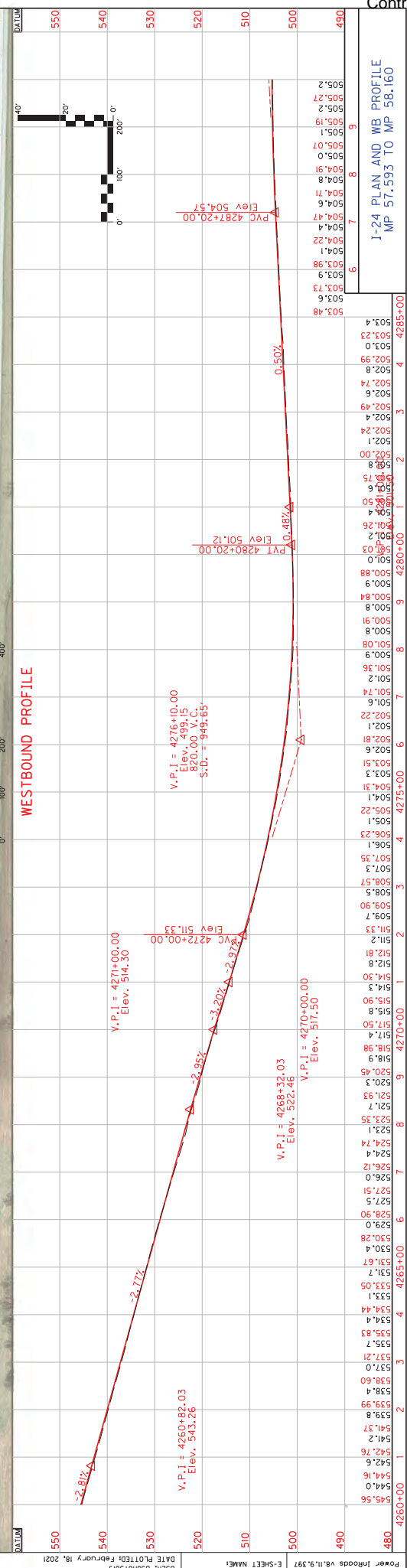
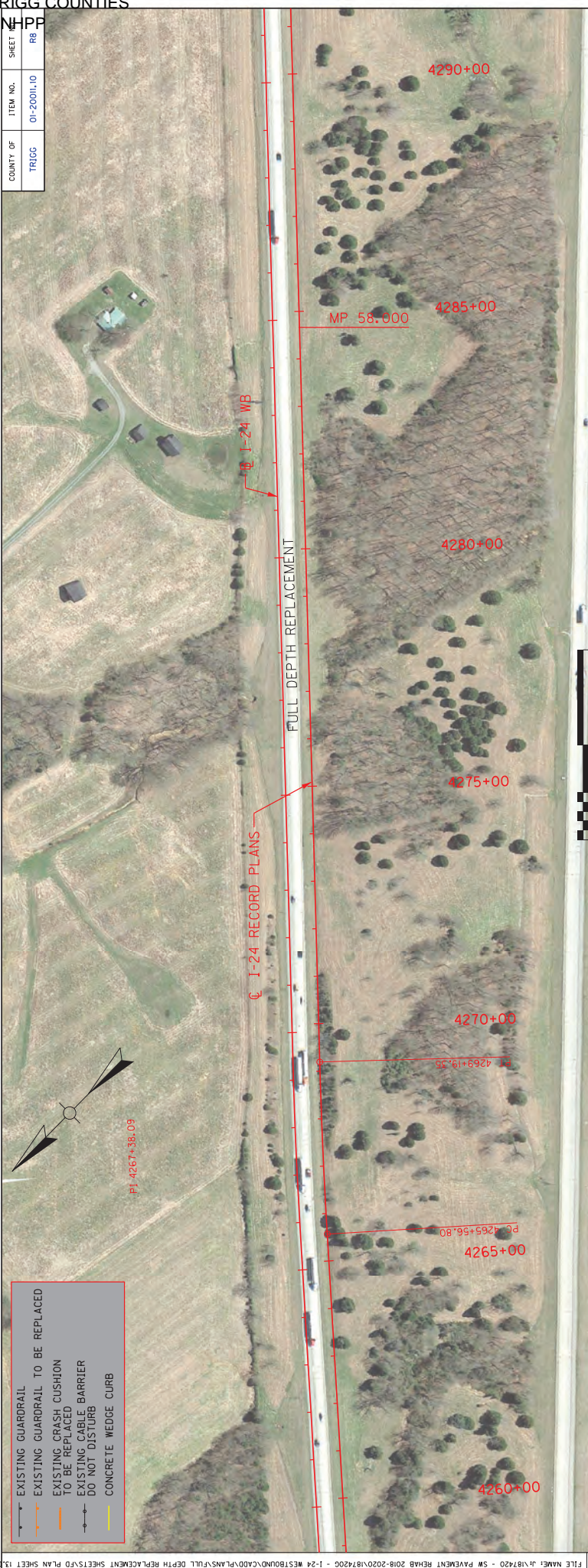


COUNTY OF	ITEM NO.	SHEET
CALDWELL	01-20011LO	86

I-24 PLAN AND WB PROFILE
MP 56.454 TO MP 57.025

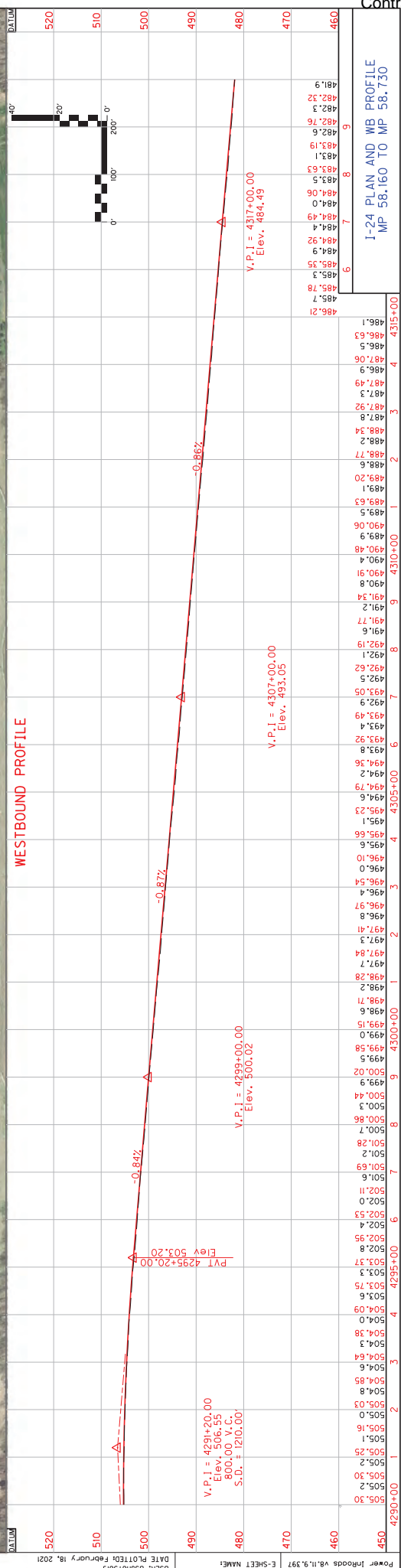


STATION	ELEVATION
4230+00	543.42
4231+00	543.9
4232+00	544.10
4233+00	544.79
4234+00	545.2
4235+00	545.9
4236+00	546.7
4237+00	547.3
4238+00	547.54
4239+00	548.0
4240+00	548.23
4241+00	548.91
4242+00	549.4
4243+00	549.60
4244+00	550.1
4245+00	550.29
4246+00	550.8
4247+00	550.98
4248+00	551.5
4249+00	551.66
4250+00	552.2
4251+00	552.35
4252+00	552.9
4253+00	553.04
4254+00	553.5
4255+00	553.72
4256+00	554.2
4257+00	554.9
4258+00	555.10
4259+00	555.6
4260+00	555.78
4261+00	556.2
4262+00	556.44
4263+00	556.9
4264+00	557.10
4265+00	557.6
4266+00	558.2
4267+00	558.42
4268+00	558.8
4269+00	559.08
4270+00	559.5
4271+00	559.74
4272+00	560.0
4273+00	560.33
4274+00	560.6
4275+00	560.88
4276+00	561.1
4277+00	561.36
4278+00	561.5
4279+00	561.79
4280+00	561.9
4281+00	562.16
4282+00	562.3
4283+00	562.48
4284+00	562.74
4285+00	562.7
4286+00	562.94
4287+00	562.8
4288+00	563.09
4289+00	563.0
4290+00	563.1
4291+00	563.21
4292+00	563.2
4293+00	563.18
4294+00	563.10
4295+00	562.9
4296+00	562.7
4297+00	562.51
4298+00	562.20
4299+00	561.8
4300+00	561.4
4301+00	561.42
4302+00	560.9
4303+00	560.94
4304+00	560.3
4305+00	560.40
4306+00	559.8
4307+00	559.16
4308+00	559.4
4309+00	558.46
4310+00	557.69
4311+00	556.8
4312+00	555.4



I-24 PLAN AND WB PROFILE
 MP 57.593 TO MP 58.160

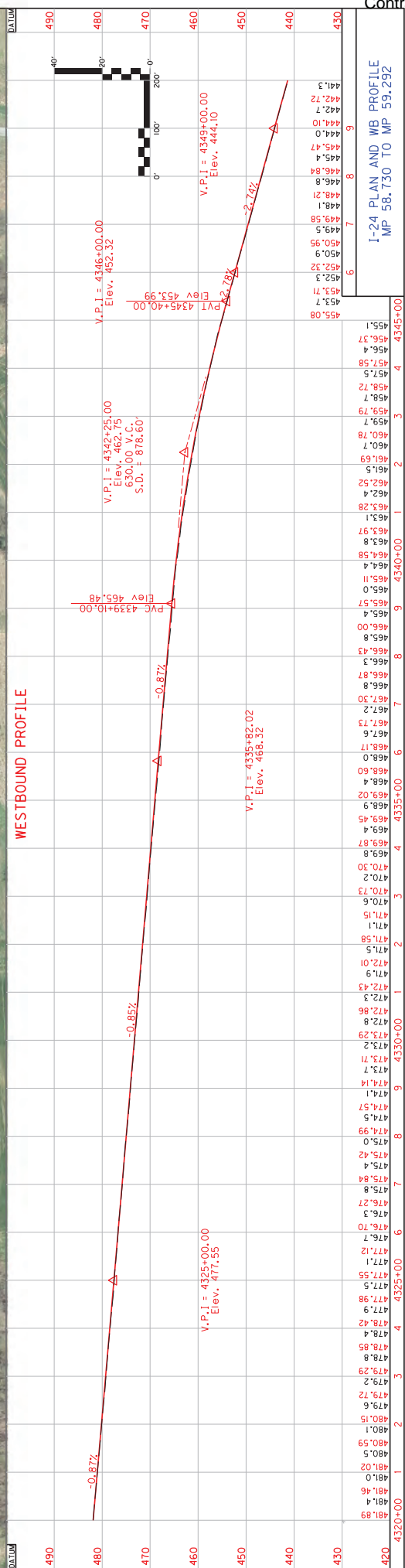
- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER DO NOT DISTURB
- CONCRETE WEDGE CURB



Power InRoads v8.11.9.197 E-SHEET NAME: DATE PLOTTED: USHR73619 FEBRUARY 18, 2021 FILE NAME: J:\187420 - SW PAVEMENT REHAB 2018-2020\187420C - I-24 WESTBOUND\CADD\PLANS\FULL DEPTH REPLACEMENT SHEETS\VD PLAN SHEET 1A.DWG

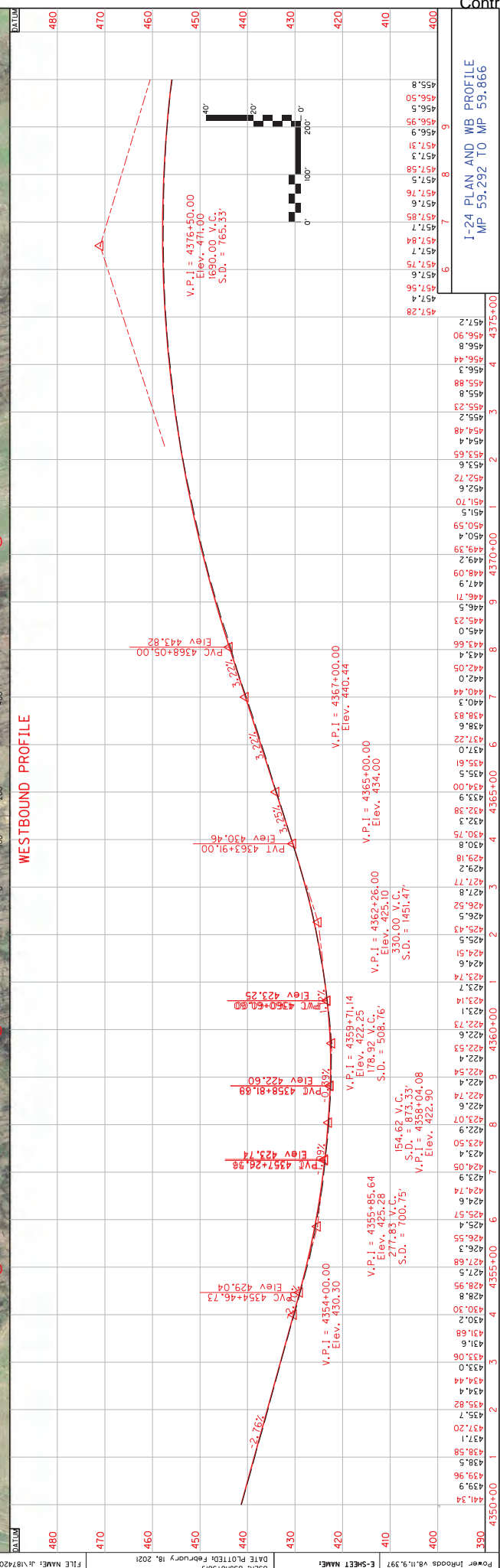
I-24 PLAN AND WB PROFILE
MP 58.160 TO MP 58.730

COUNTY OF	TRIGG	ITEM NO.	SHEET
		01-20011LO	RS



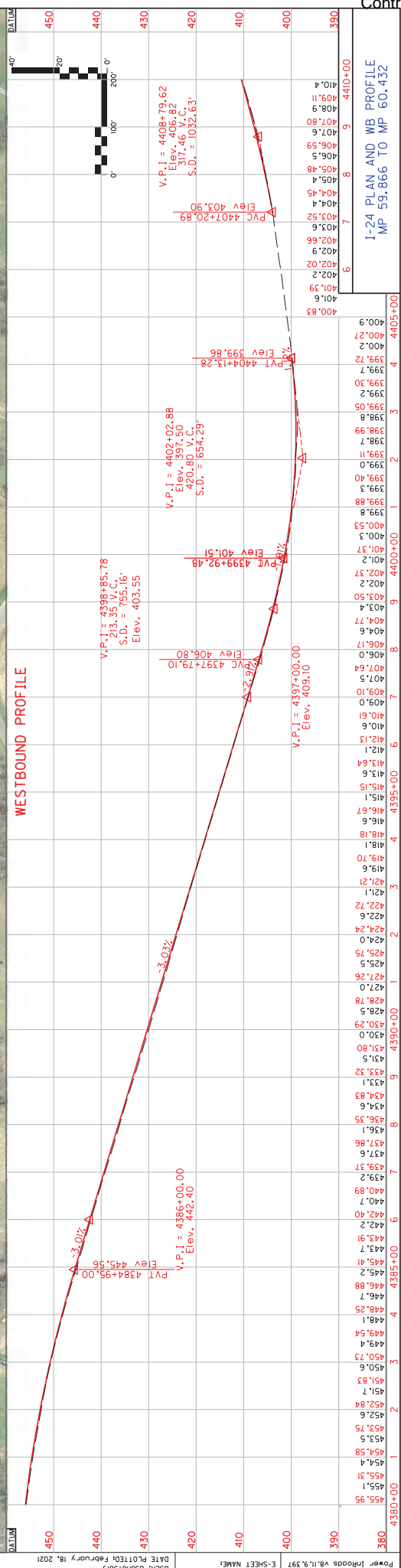
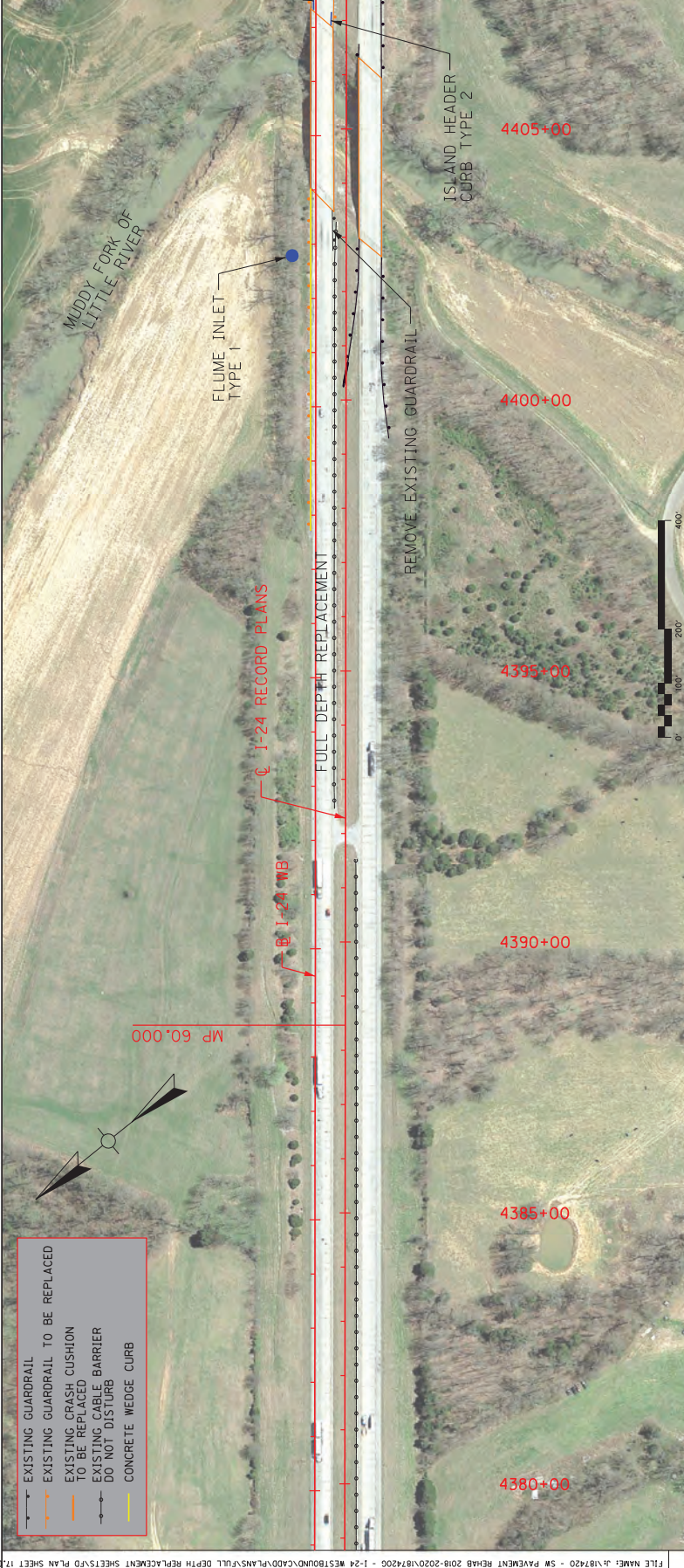
- EXISTING GUARDRAIL
- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER
- EXISTING CABLE BARRIER DO NOT DISTURB
- CONCRETE WEDGE CURB

1-24 PLAN AND WB PROFILE
MP 58.730 TO MP 59.292

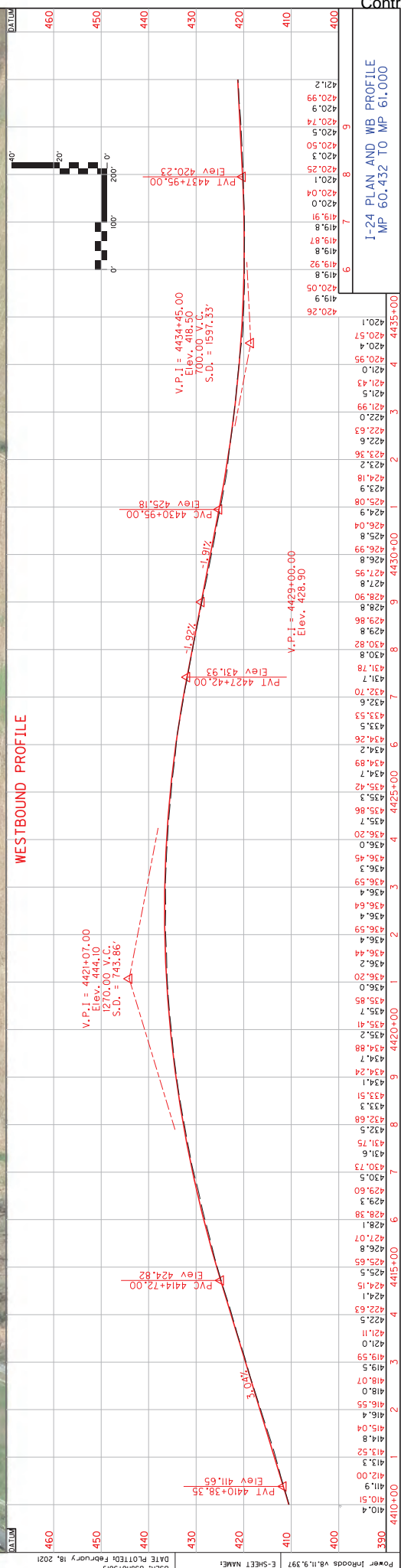
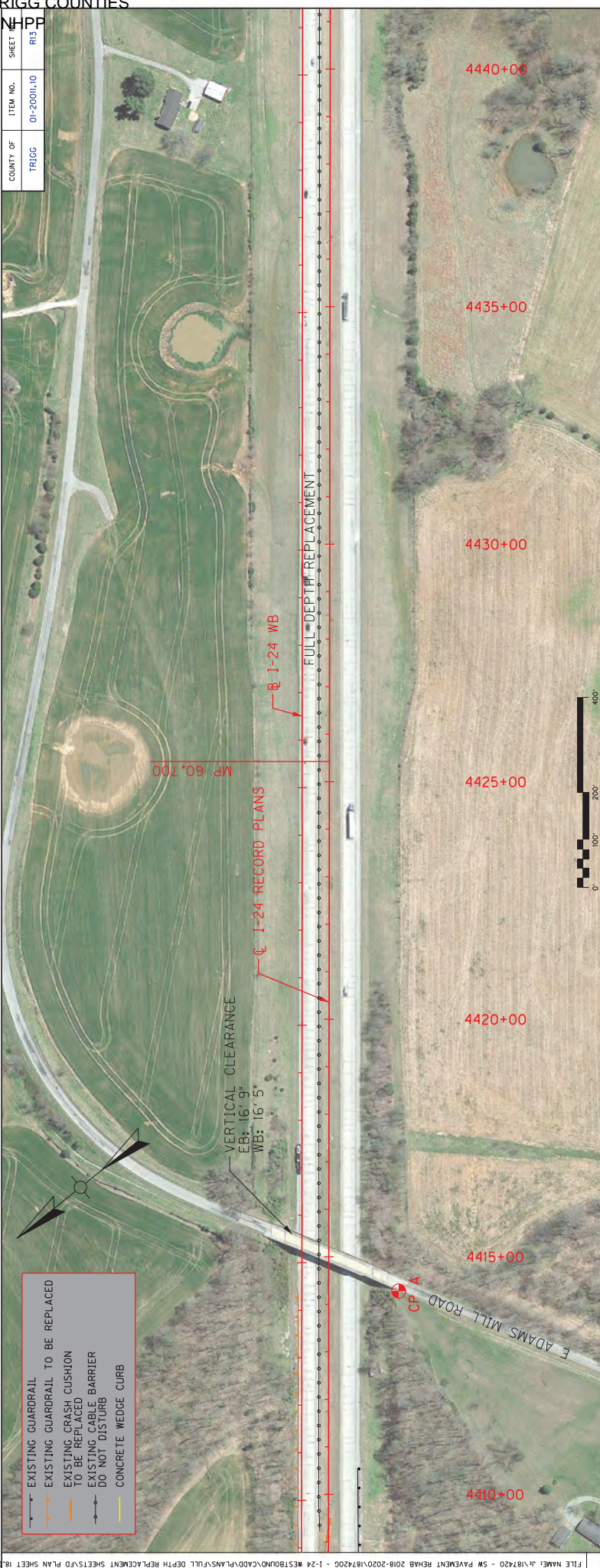


STATION	ELEVATION
4350+00	441.34
4351+00	439.9
4352+00	439.96
4353+00	438.58
4354+00	437.1
4355+00	435.7
4356+00	435.82
4357+00	434.4
4358+00	434.44
4359+00	435.0
4360+00	433.06
4361+00	431.6
4362+00	430.2
4363+00	428.8
4364+00	427.5
4365+00	426.3
4366+00	425.57
4367+00	424.6
4368+00	423.9
4369+00	423.4
4370+00	423.50
4371+00	423.07
4372+00	422.6
4373+00	422.54
4374+00	422.4
4375+00	422.4
4376+00	422.6
4377+00	422.74
4378+00	422.8
4379+00	422.8
4380+00	422.8
4381+00	422.8
4382+00	422.8
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4393+00	422.8
4394+00	422.8
4395+00	422.8
4396+00	422.8
4397+00	422.8
4398+00	422.8
4399+00	422.8
4400+00	422.8

COUNTY OF	TRIGG	SHEET	01-20011.0
ITEM NO.	01-20011.0	RIZ	



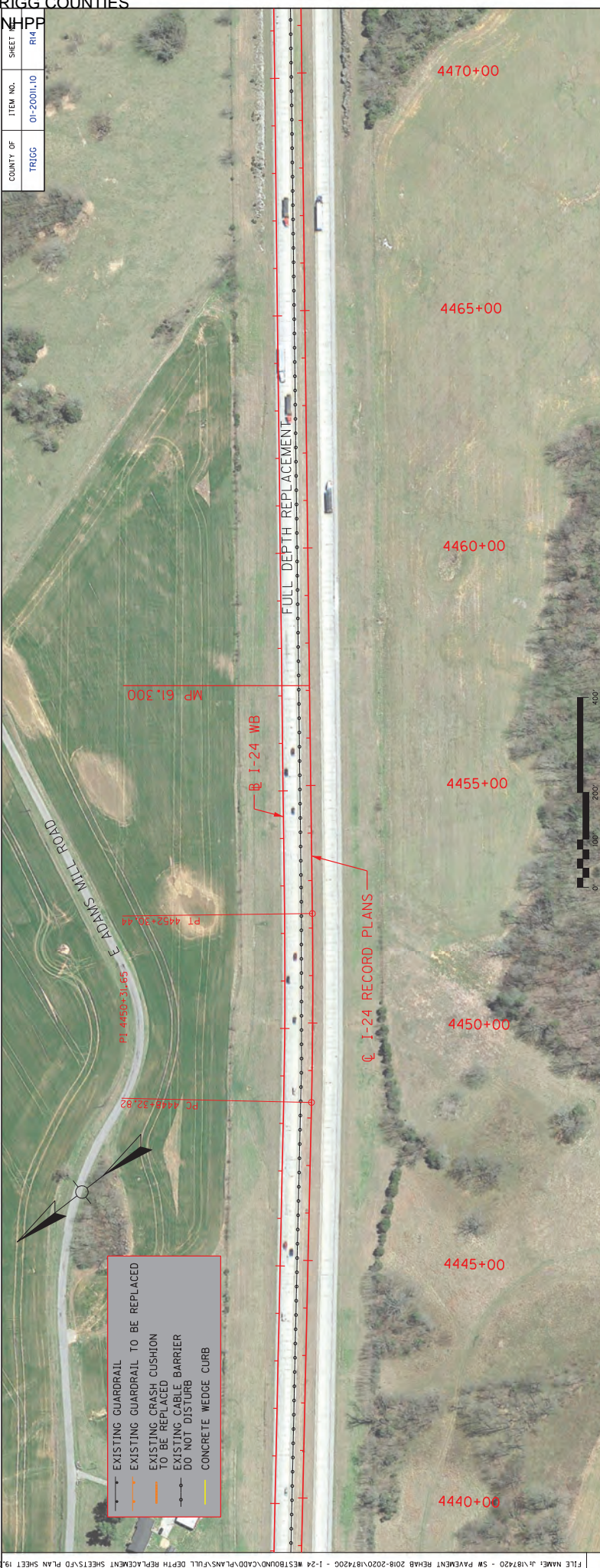
1-24 PLAN AND WB PROFILE
MP 59.866 TO MP 60.432



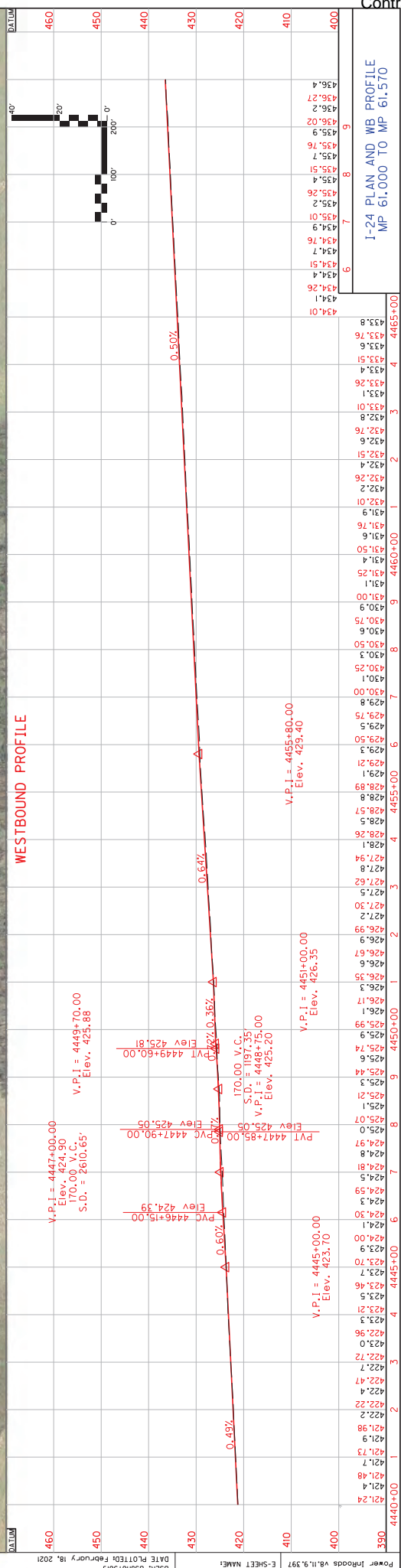
- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER DO NOT DISTURB
- CONCRETE WEDGE CURB

COUNTY OF	TRIGG	SHEET	01-2001110
ITEM NO.	01-2001110	REV.	

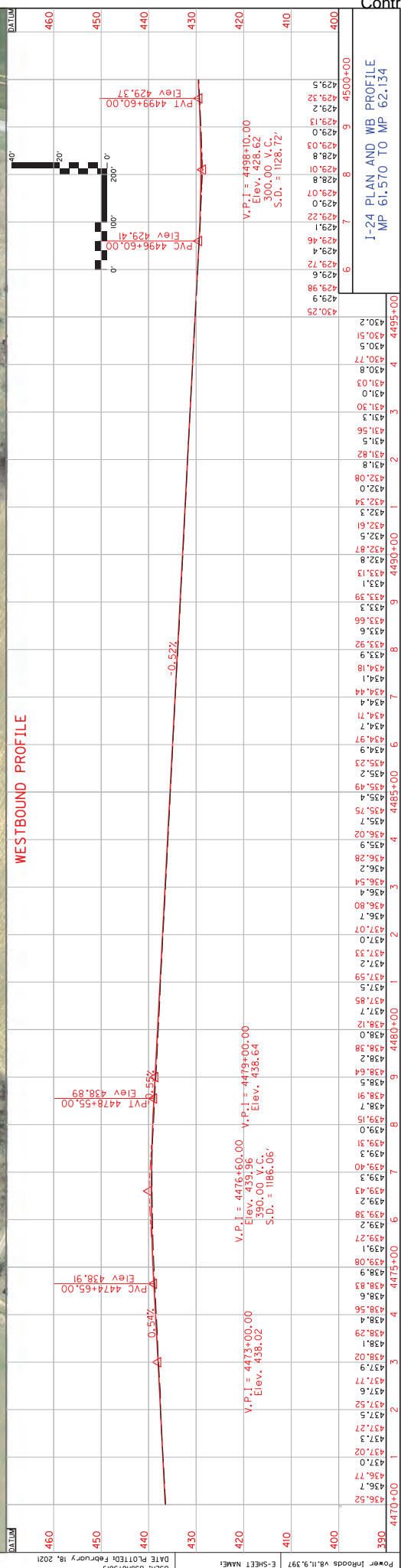
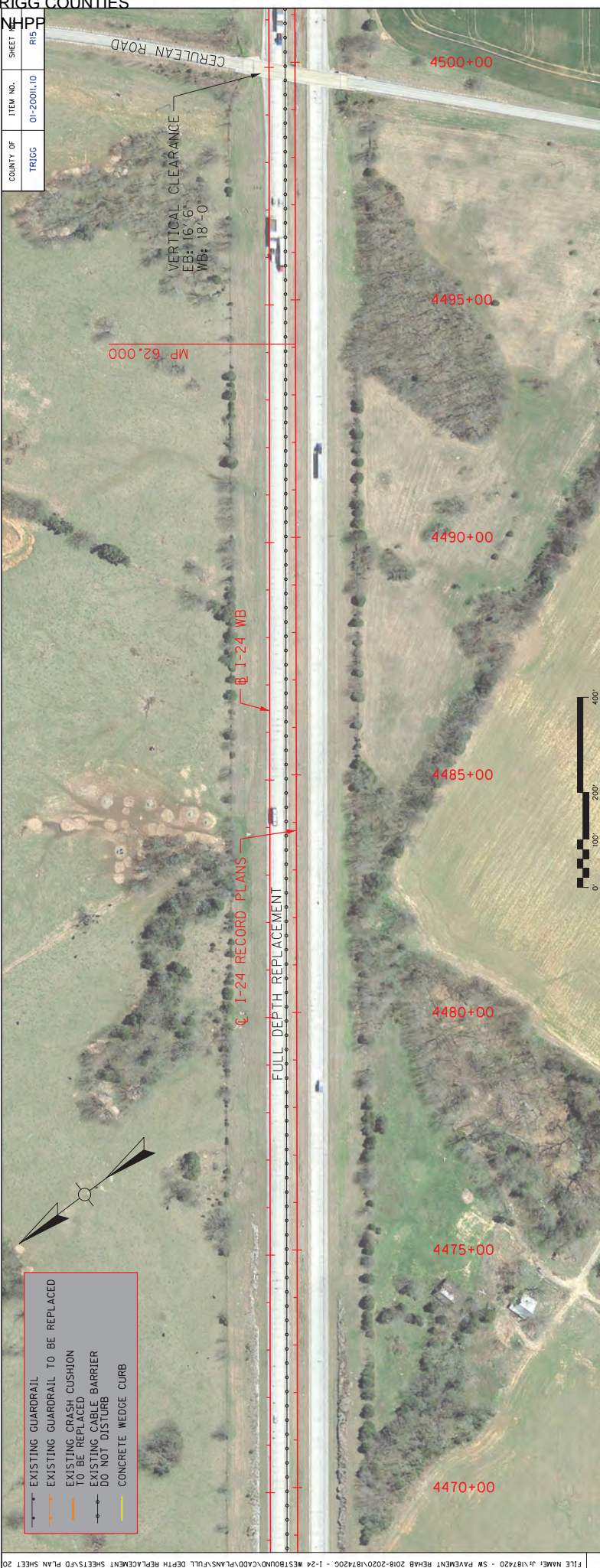
I-24 PLAN AND WB PROFILE
MP 60.432 TO MP 61.000



- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER TO BE REPLACED
- EXISTING CABLE BARRIER DO NOT DISTURB
- CONCRETE WEDGE CURB



I-24 PLAN AND WB PROFILE
MP 61.000 TO MP 61.570

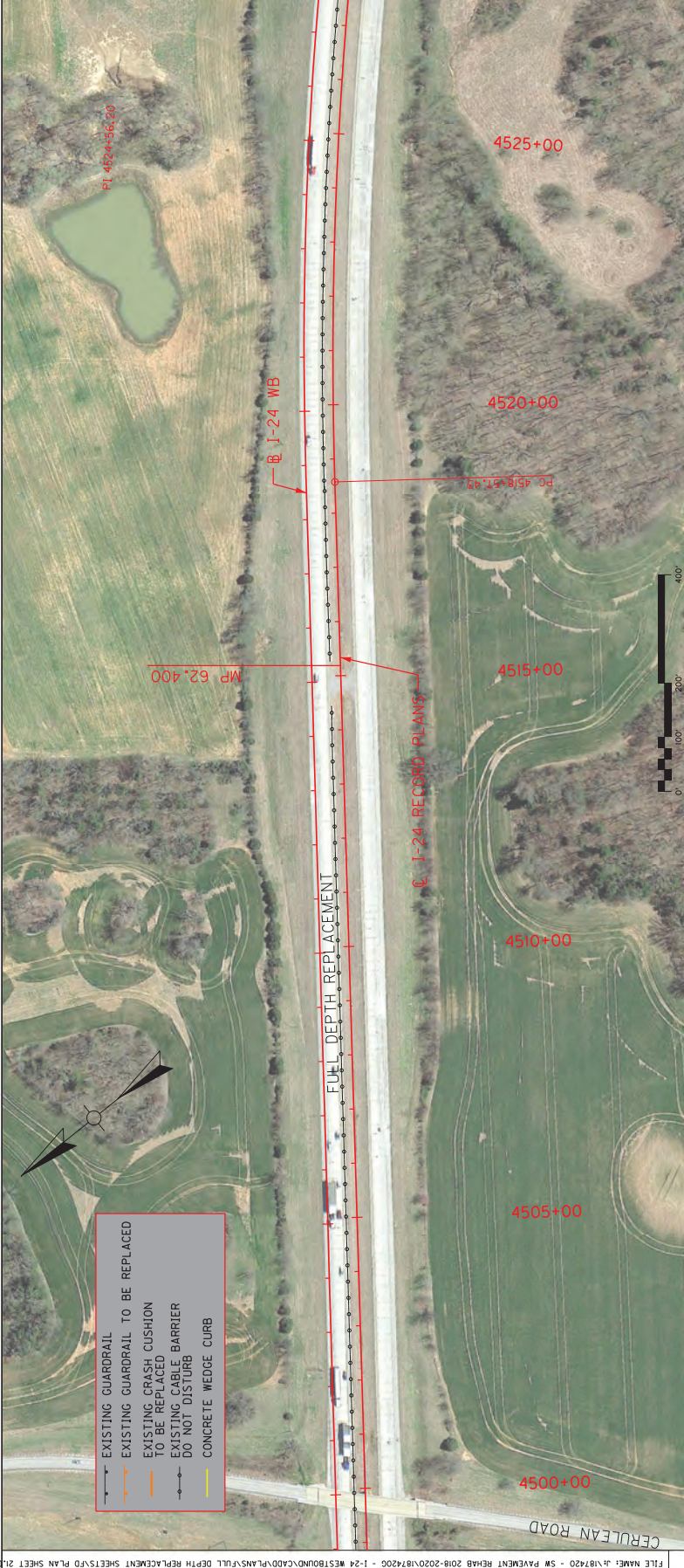


- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER DO NOT DISTURB
- CONCRETE WEDGE CURB

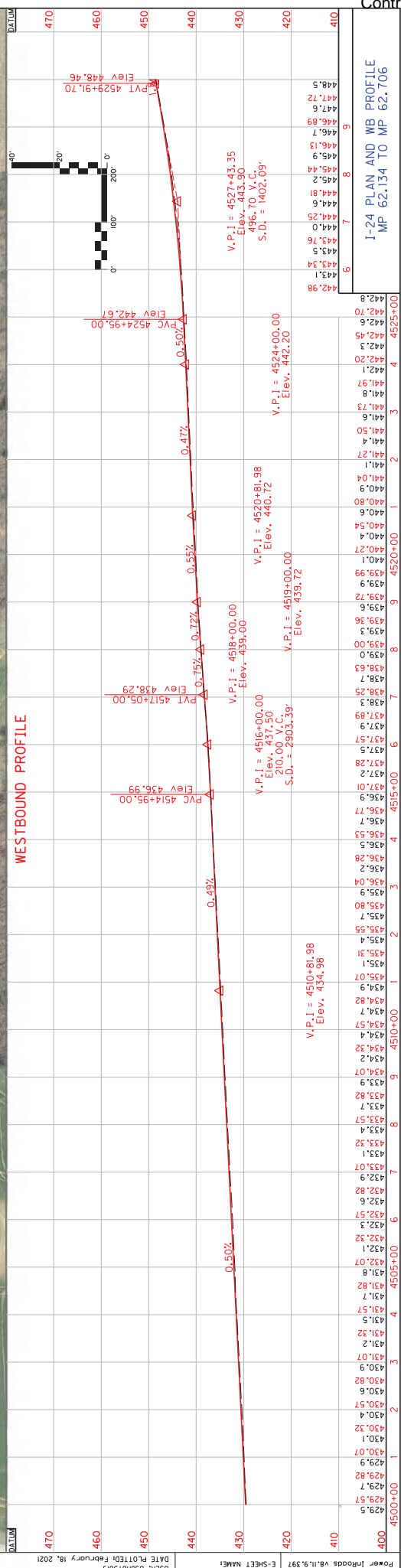
I-24 PLAN AND WB PROFILE
MP 61.570 TO MP 62.134

Station	Elevation
4470+00	436.52
4471+00	436.77
4472+00	437.02
4473+00	437.27
4474+00	437.52
4475+00	437.77
4476+00	438.02
4477+00	438.27
4478+00	438.52
4479+00	438.77
4480+00	439.02
4481+00	439.27
4482+00	439.52
4483+00	439.77
4484+00	440.02
4485+00	440.27
4486+00	440.52
4487+00	440.77
4488+00	441.02
4489+00	441.27
4490+00	441.52
4491+00	441.77
4492+00	442.02
4493+00	442.27
4494+00	442.52
4495+00	442.77
4496+00	443.02
4497+00	443.27
4498+00	443.52
4499+00	443.77
4500+00	444.02

COUNTY OF	TRIGG	ITEM NO.	01-200110	SHEET	B16
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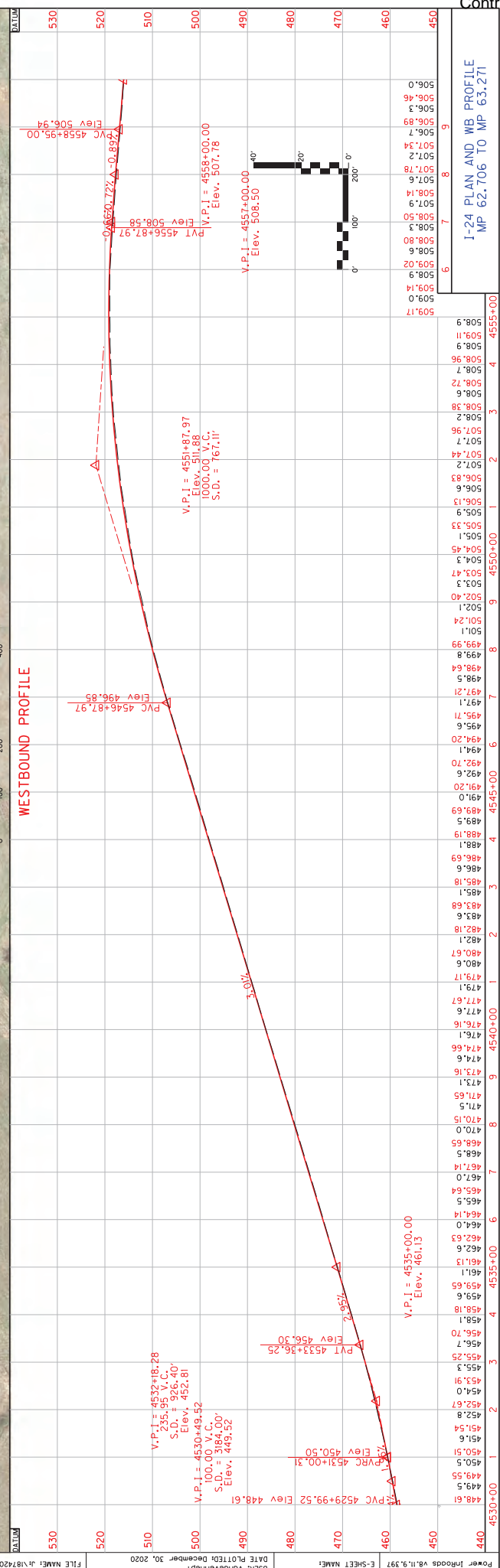
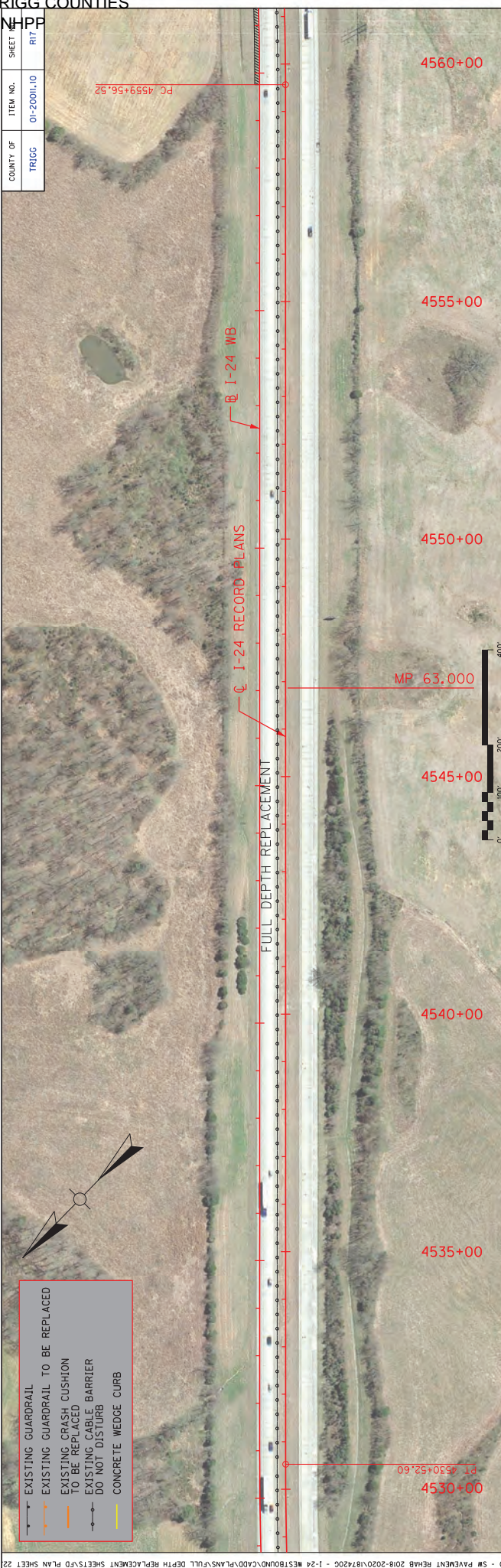


- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER DO NOT DISTURB
- CONCRETE WEDGE CURB

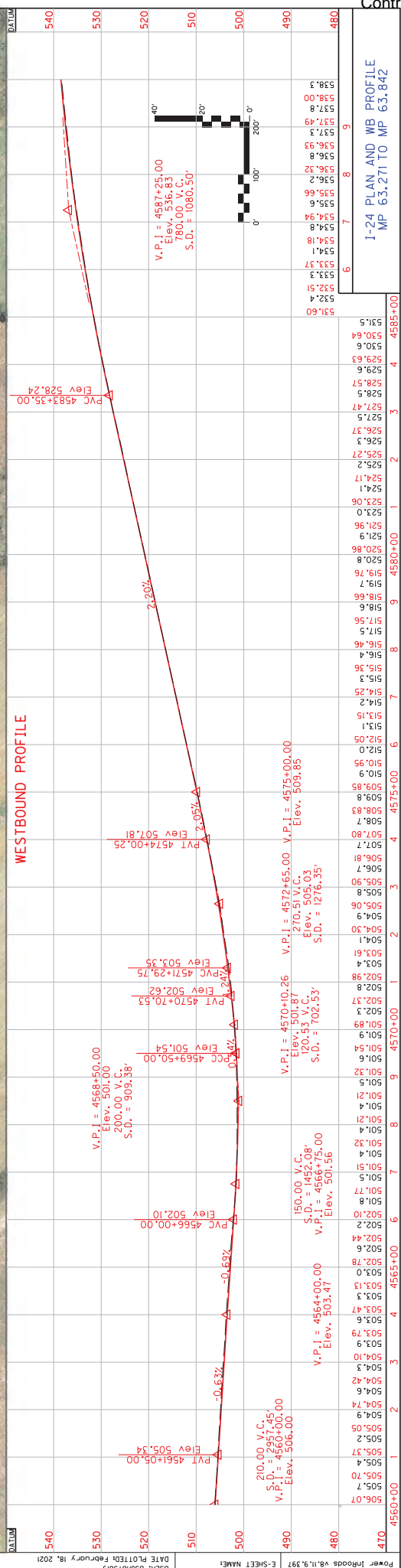
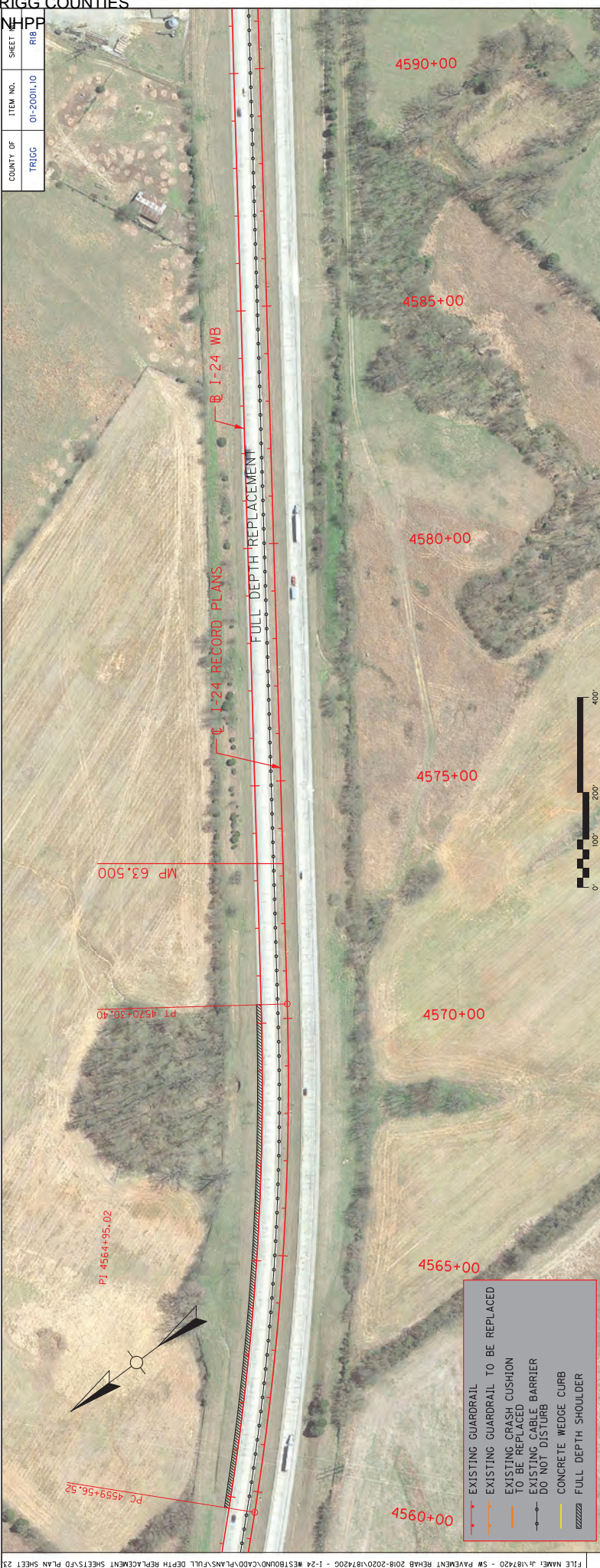


I-24 PLAN AND WB PROFILE
MP 62.134 TO MP 62.706

448.5	9
447.6	8
447.2	7
446.89	6
446.7	5
446.13	4
445.9	3
445.2	2
444.9	1
444.6	0
444.2	9
443.5	8
443.34	7
443.1	6
442.98	5
442.8	4
442.70	3
442.6	2
442.45	1
442.3	0
442.20	9
442.1	8
441.8	7
441.73	6
441.6	5
441.4	4
441.27	3
441.1	2
440.9	1
440.80	0
440.6	9
440.4	8
440.54	7
440.27	6
440.1	5
439.99	4
439.9	3
439.72	2
439.6	1
439.36	0
439.3	9
439.00	8
439.0	7
438.7	6
438.25	5
438.3	4
437.89	3
437.9	2
437.57	1
437.5	0
437.28	9
437.2	8
437.01	7
436.9	6
436.77	5
436.53	4
436.5	3
436.28	2
436.2	1
436.04	0
435.9	9
435.80	8
435.55	7
435.4	6
435.1	5
435.07	4
434.9	3
434.82	2
434.7	1
434.4	0
434.2	9
434.07	8
433.9	7
433.82	6
433.7	5
433.4	4
433.32	3
433.1	2
433.07	1
432.9	0
432.6	9
432.57	8
432.3	7
432.32	6
432.1	5
432.07	4
431.8	3
431.7	2
431.57	1
431.5	0
431.32	9
431.2	8
430.9	7
430.82	6
430.57	5
430.4	4
430.32	3
430.1	2
430.07	1
429.9	0
429.82	9
429.7	8
429.57	7
429.5	6

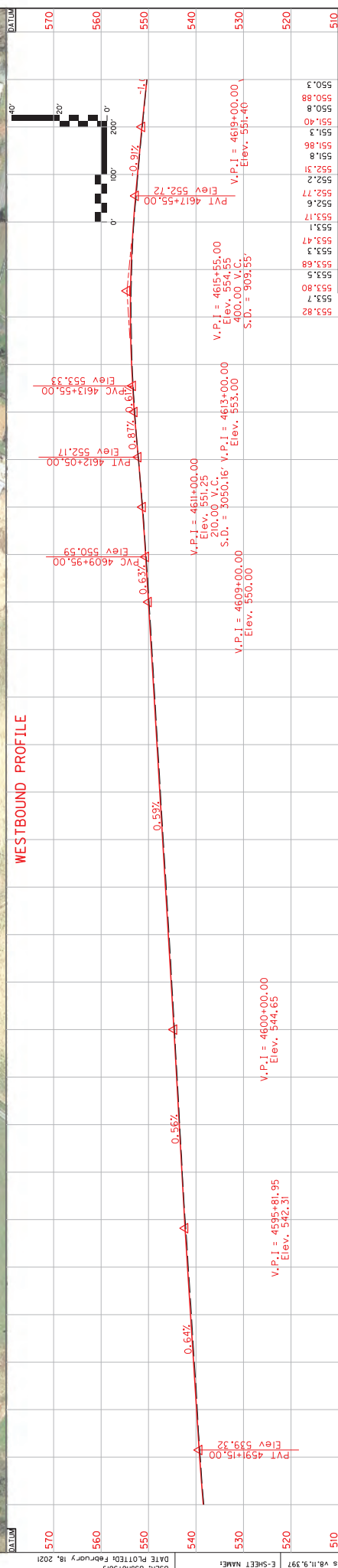
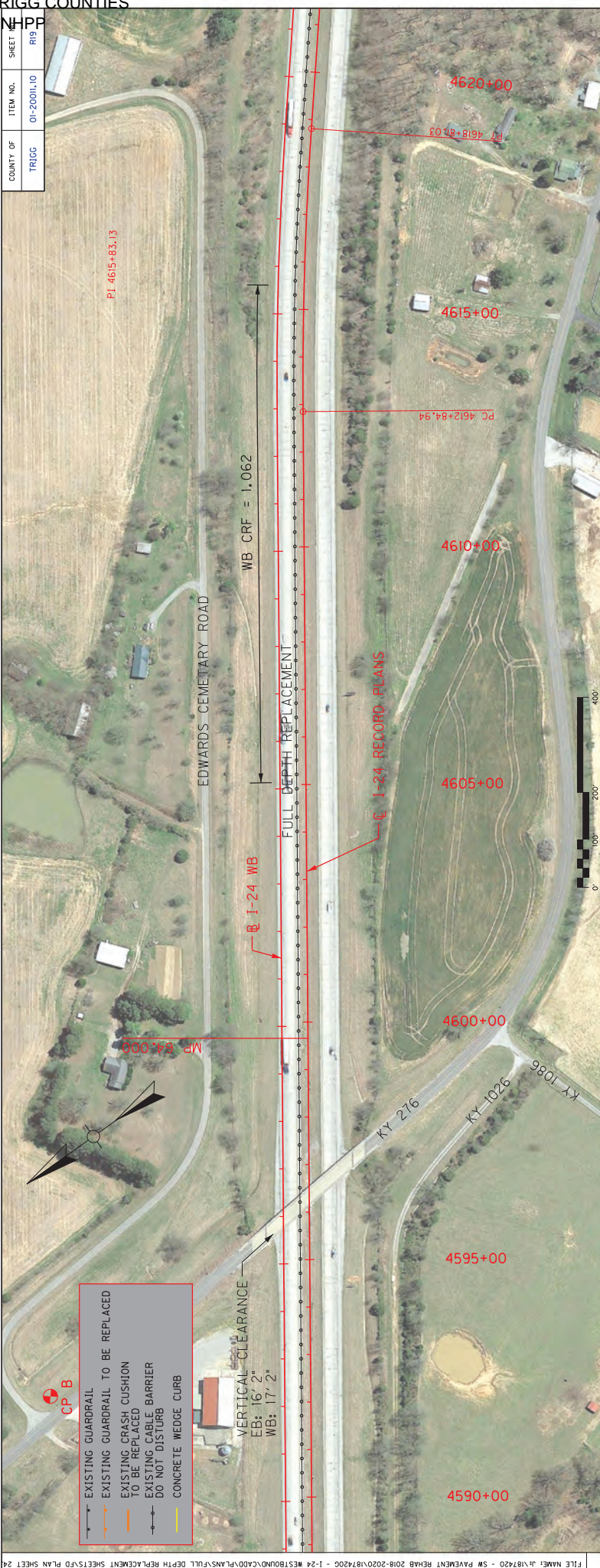


I-24 PLAN AND WB PROFILE
MP 62.706 TO MP 63.271



I-24 PLAN AND WB PROFILE
MP 63.271 TO MP 63.842

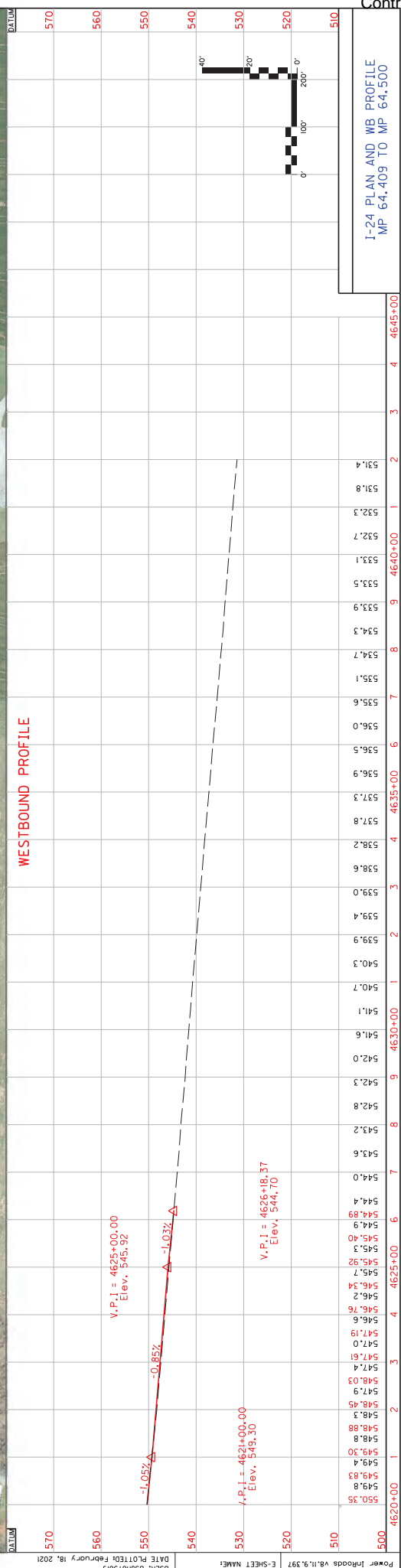
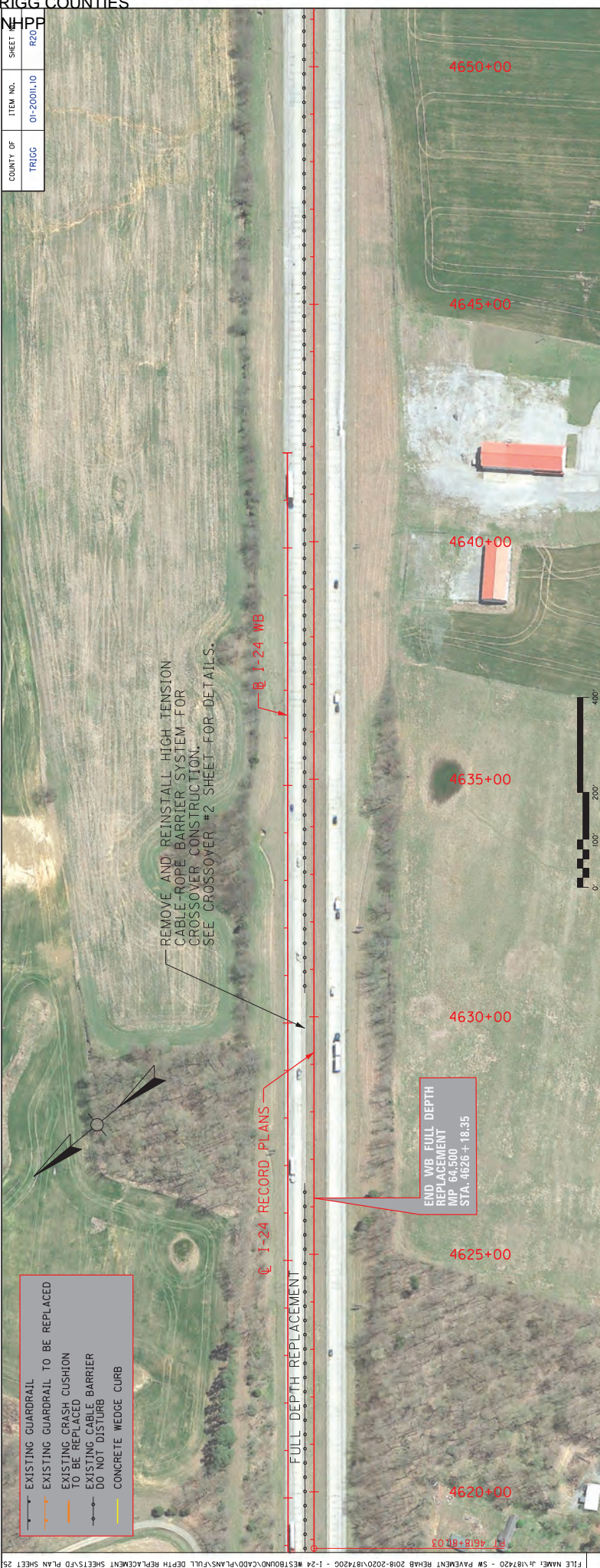
Station	Elevation
4560+00	506.07
4561+00	505.70
4562+00	505.37
4563+00	505.06
4564+00	504.74
4565+00	504.42
4566+00	504.10
4567+00	503.78
4568+00	503.46
4569+00	503.14
4570+00	502.82
4571+00	502.50
4572+00	502.18
4573+00	501.86
4574+00	501.54
4575+00	501.22
4576+00	500.90
4577+00	500.58
4578+00	500.26
4579+00	499.94
4580+00	499.62
4581+00	499.30
4582+00	498.98
4583+00	498.66
4584+00	498.34
4585+00	498.02
4586+00	497.70
4587+00	497.38
4588+00	497.06
4589+00	496.74
4590+00	496.42



Station	Elevation
4590+00	538.46
4591	538.8
4592	539.1
4593	539.4
4594	539.7
4595	539.55
4596	539.87
4597	539.1
4598	539.1
4599	539.1
4600	539.1
4601	539.1
4602	539.1
4603	539.1
4604	539.1
4605	539.1
4606	539.1
4607	539.1
4608	539.1
4609	539.1
4610	539.1
4611	539.1
4612	539.1
4613	539.1
4614	539.1
4615	539.1
4616	539.1
4617	539.1
4618	539.1
4619	539.1
4620	539.1

- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER DO NOT DISTURB
- CONCRETE WEDGE CURB

COUNTY OF	TRIGG
ITEM NO.	01-20011.0
SHEET	R20

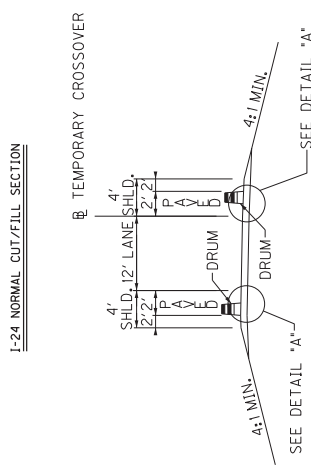
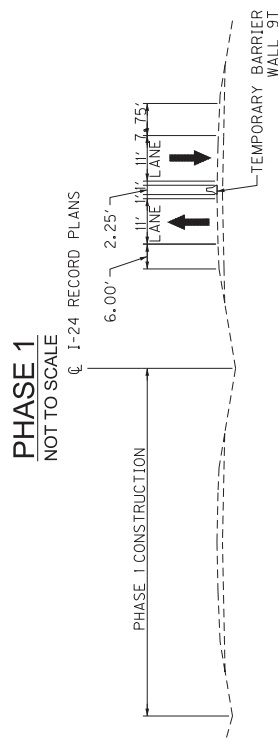


- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER DO NOT DISTURB
- CONCRETE WEDGE CURB

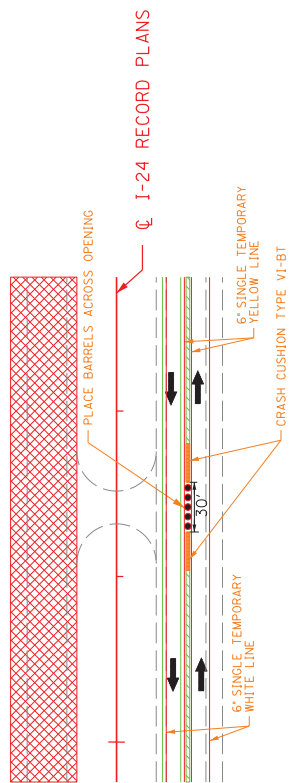
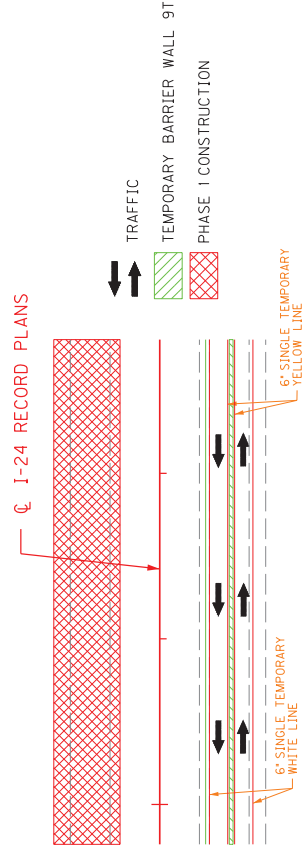
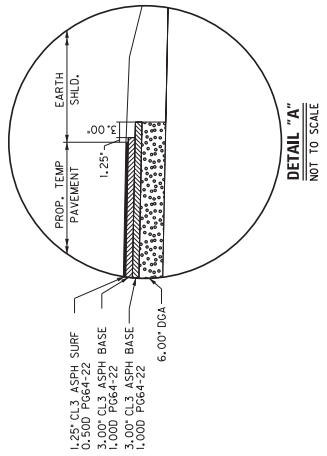
I-24 PLAN AND WB PROFILE
 MP 64.409 TO MP 64.500

COUNTY OF CALDWELL TRIGG	ITEM NO. 01-20011.0	SHEET R2
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MAINTENANCE OF TRAFFIC



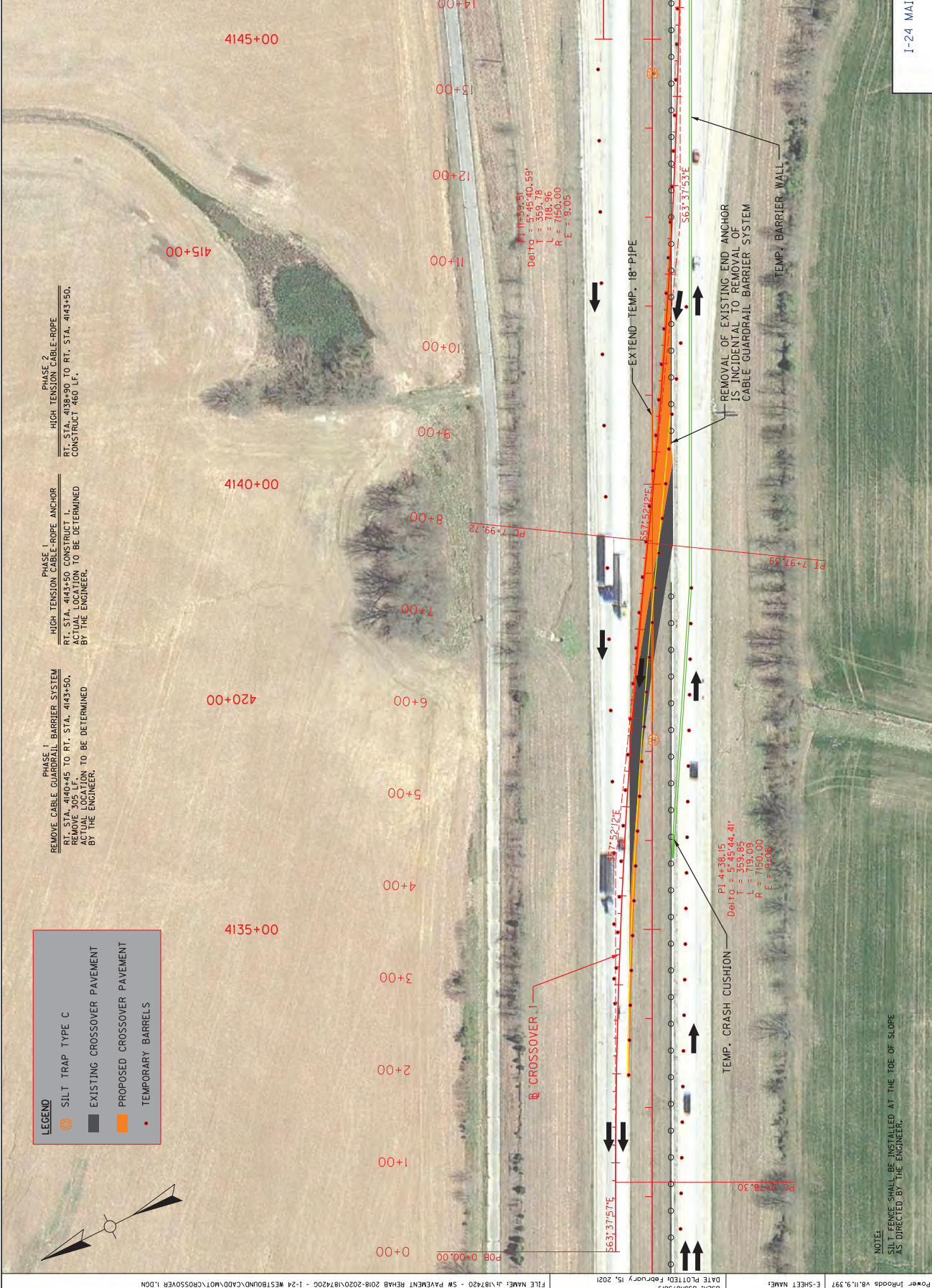
NORMAL CUT/FILL SECTION
SINGLE LANE CROSSOVER
NOT TO SCALE



MAINTENANCE OF TRAFFIC
MISCELLANEOUS DETAILS

NOT TO SCALE

COUNTY OF	ITEM NO.	SHEET
CALDWELL	01-20011.0	R22



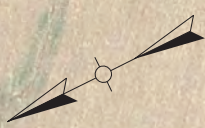
PHASE 2
HIGH TENSION CABLE-ROPE
RT. STA. 4138+90 TO RT. STA. 4143+50,
CONSTRUCT 460 LF.

PHASE 1
HIGH TENSION CABLE-ROPE ANCHOR
RT. STA. 4143+50, CONSTRUCT 1,
ACTUAL LOCATION TO BE DETERMINED
BY THE ENGINEER.

PHASE 1
REMOVE CABLE GUARDRAIL BARRIER SYSTEM
RT. STA. 4140+45 TO RT. STA. 4143+50,
REMOVE 305 LF,
ACTUAL LOCATION TO BE DETERMINED
BY THE ENGINEER.

LEGEND

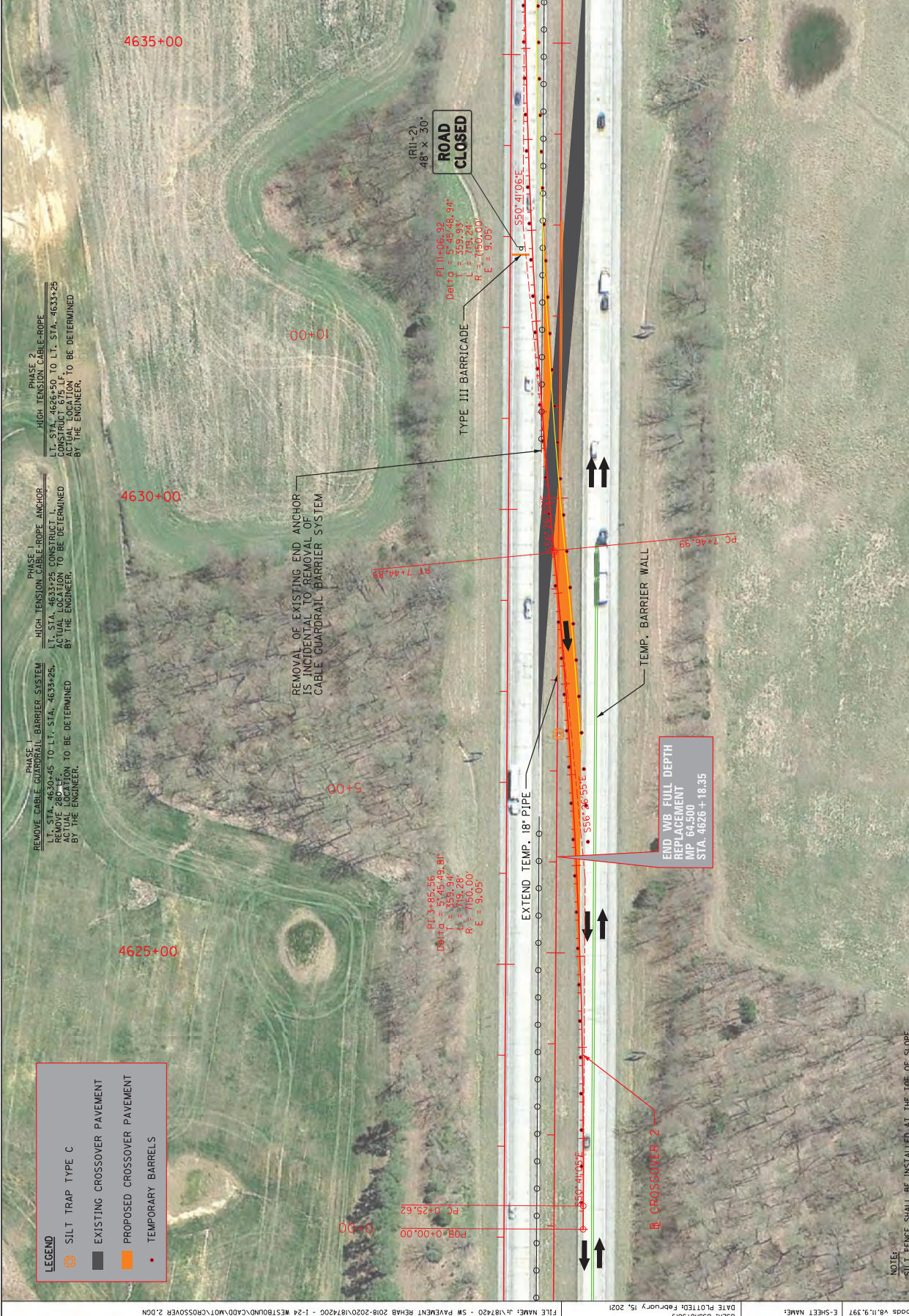
- SILT TRAP TYPE C
- EXISTING CROSSOVER PAVEMENT
- PROPOSED CROSSOVER PAVEMENT
- TEMPORARY BARRELS



NOTE:
SILT FENCE SHALL BE INSTALLED AT THE TOE OF SLOPE
AS DIRECTED BY THE ENGINEER.

J-24 MAINTENANCE OF TRAFFIC
CROSSOVER 1

COUNTY OF	TRIGG	ITEM NO.	01-20011.0	SHEET	R23
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LEGEND

- SILT TRAP TYPE C
- EXISTING CROSSOVER PAVEMENT
- PROPOSED CROSSOVER PAVEMENT
- TEMPORARY BARRELS

PHASE 2
HIGH TENSION CABLE-ROPE
L.T. STA. 4626+50 TO L.T. STA. 4633+25
CONSTRUCT 675 LF.
ACTUAL LOCATION TO BE DETERMINED
BY THE ENGINEER.

PHASE 1
HIGH TENSION CABLE-ROPE ANCHOR
L.T. STA. 4633+25 CONSTRUCT 1.
ACTUAL LOCATION TO BE DETERMINED
BY THE ENGINEER.

PHASE 1
REMOVE CABLE GUARDRAIL BARRIER SYSTEM
L.T. STA. 4630+45 TO L.T. STA. 4633+25.
ACTUAL LOCATION TO BE DETERMINED
BY THE ENGINEER.

REMOVAL OF EXISTING END ANCHOR
IS INCIDENTAL TO REMOVAL OF
CABLE GUARDRAIL BARRIER SYSTEM

END W/B FULL DEPTH
REPLACEMENT
W/B 6000
STA. 4620+18.35

NOTE:
SILT FENCE SHALL BE INSTALLED AT THE TOE OF SLOPE
AS DIRECTED BY THE ENGINEER.

J-24 MAINTENANCE OF TRAFFIC
CROSSOVER 2

Commonwealth of Kentucky

DEPARTMENT OF HIGHWAYS

I-24

CALDWELL AND TRIGG COUNTIES

CONCRETE PAVEMENT AND ROADWAY REHABILITATION

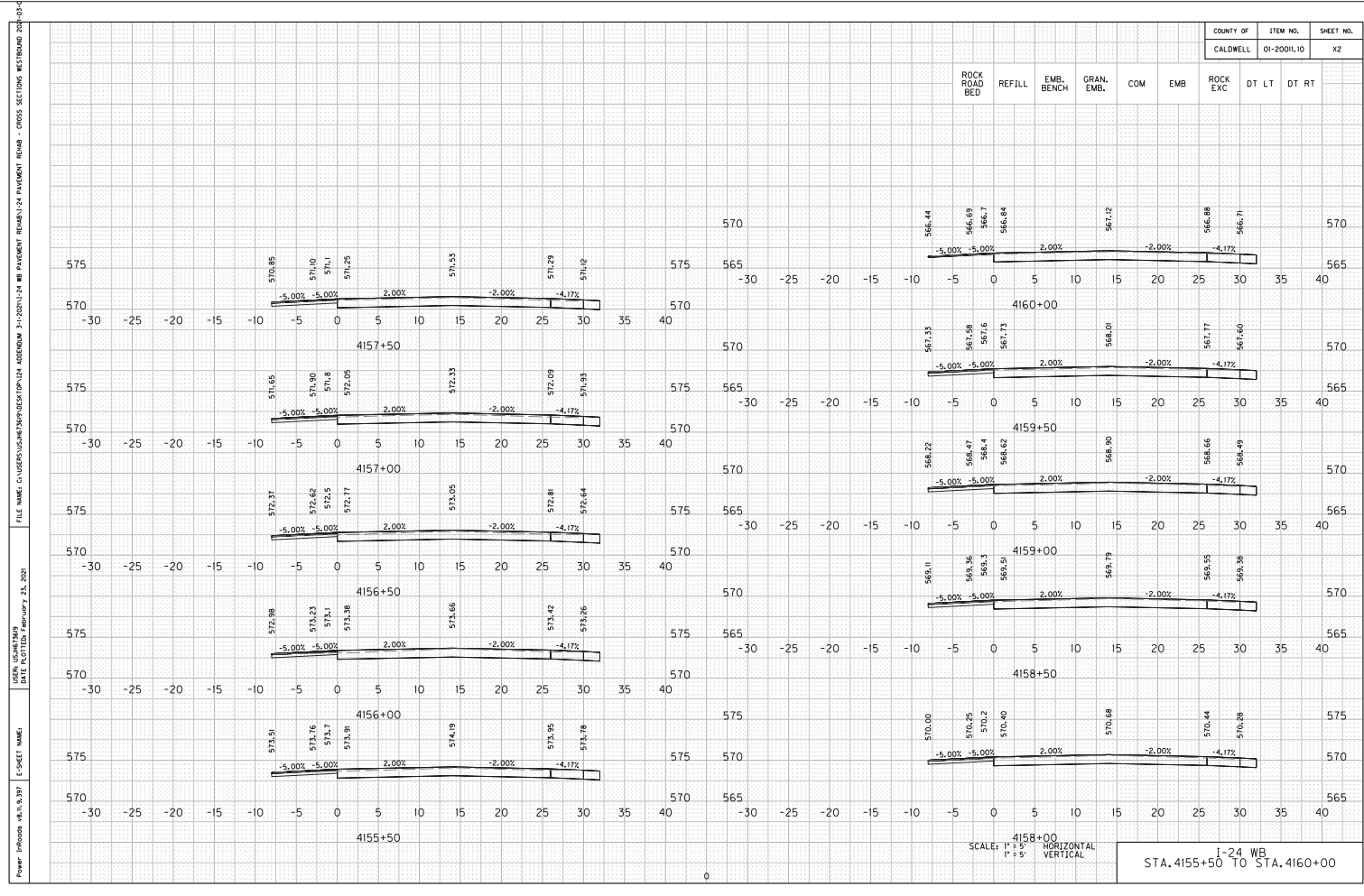
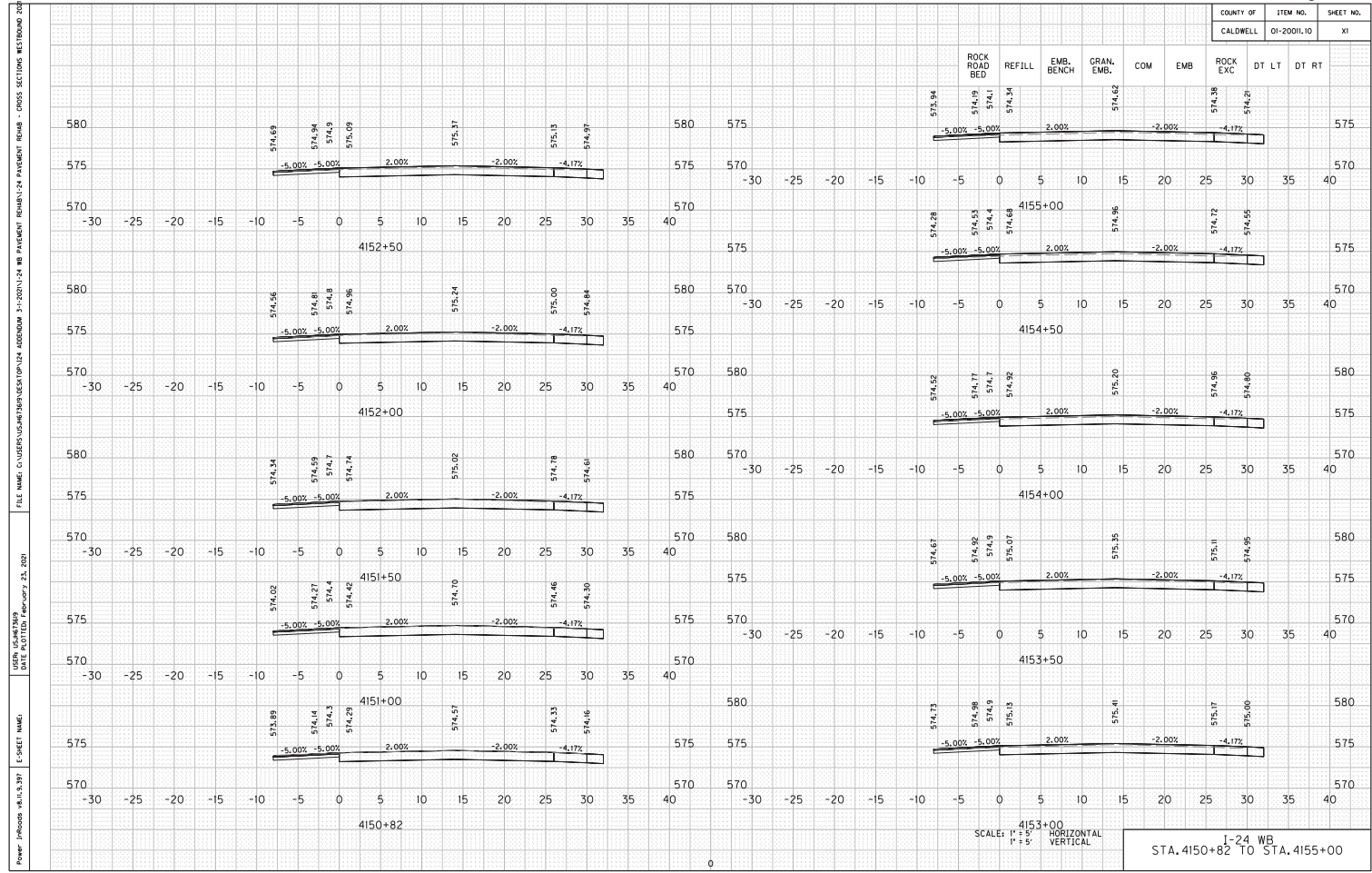
CROSS SECTIONS

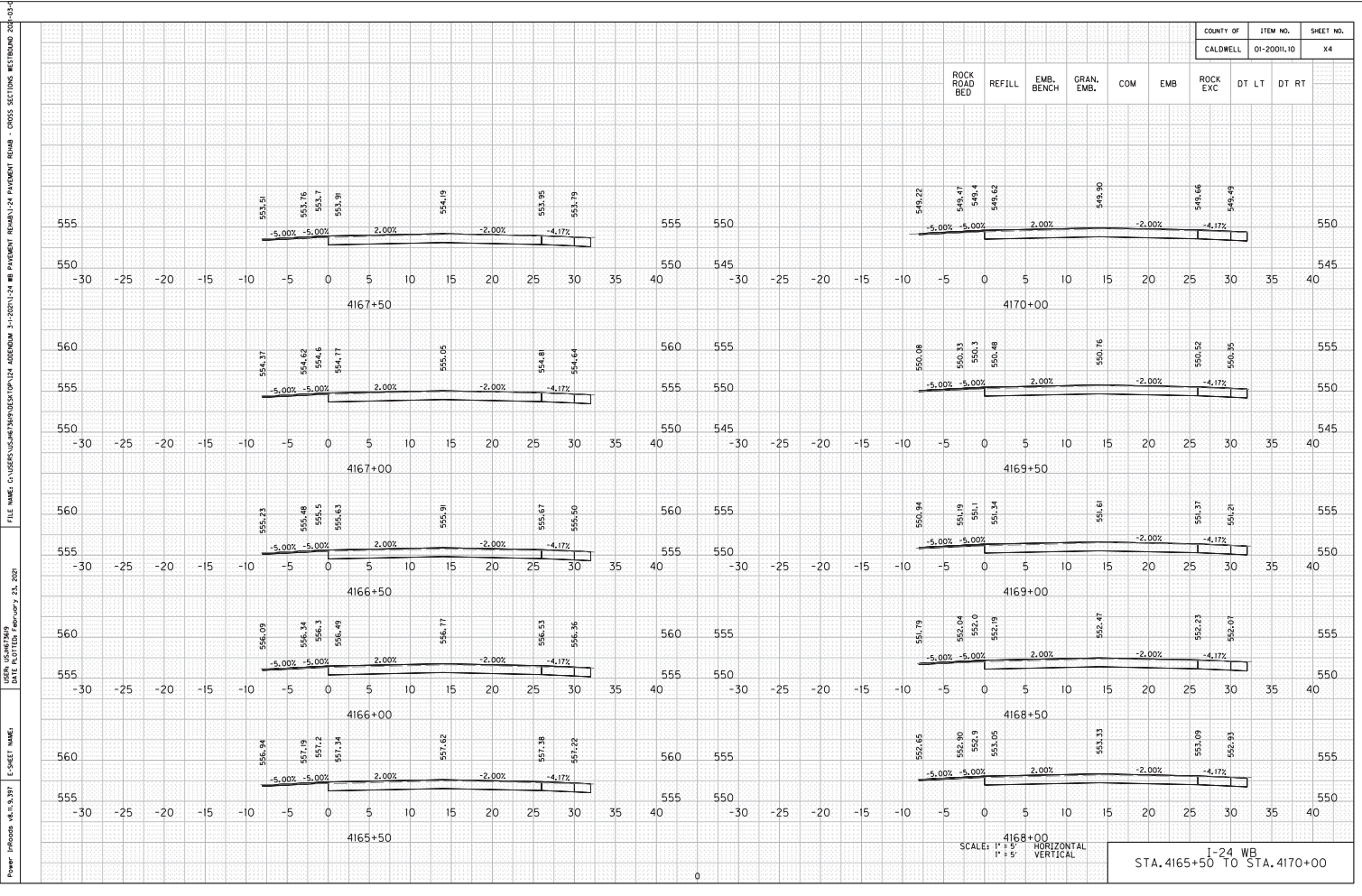
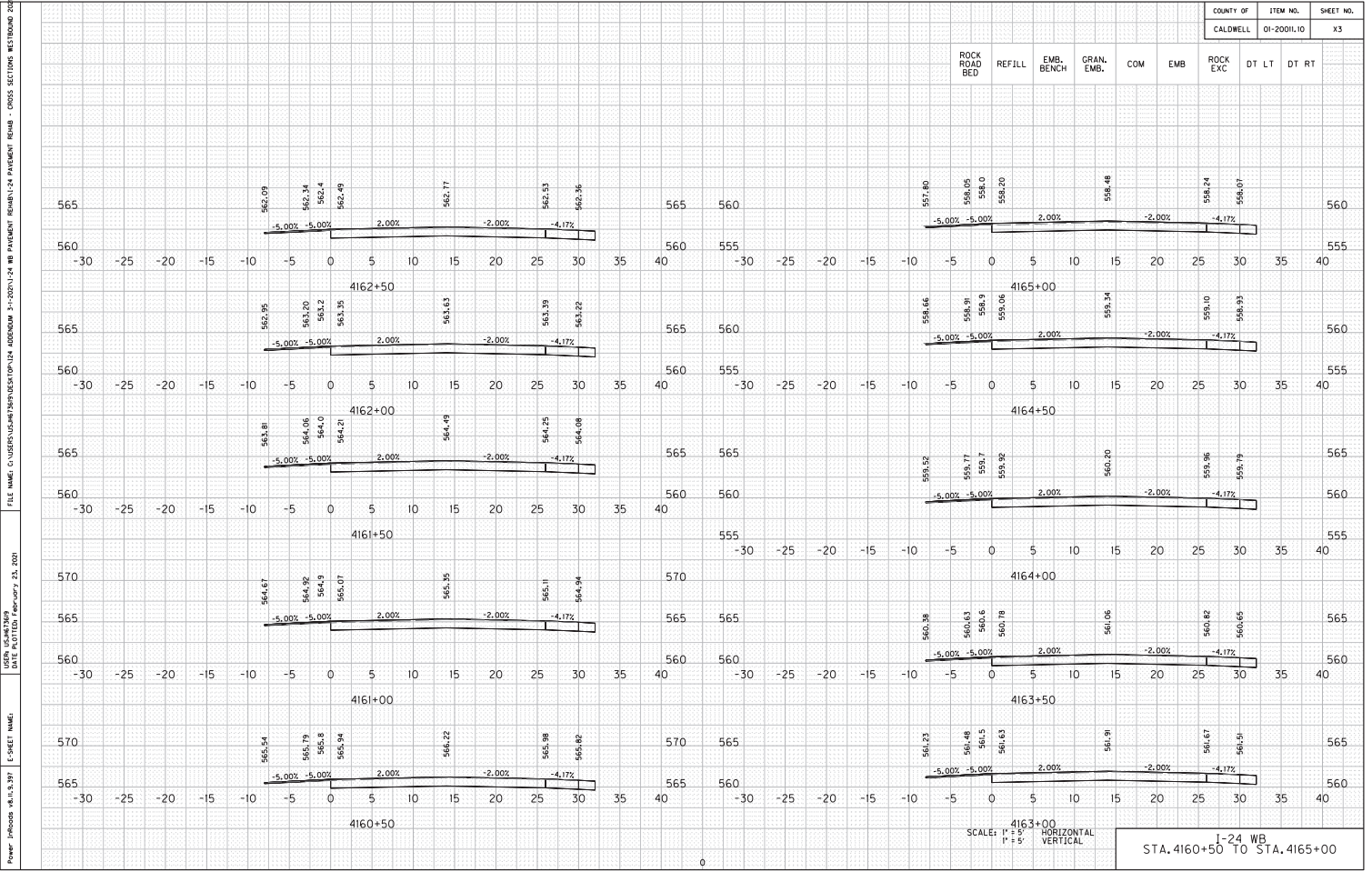
INDEX OF SHEETS

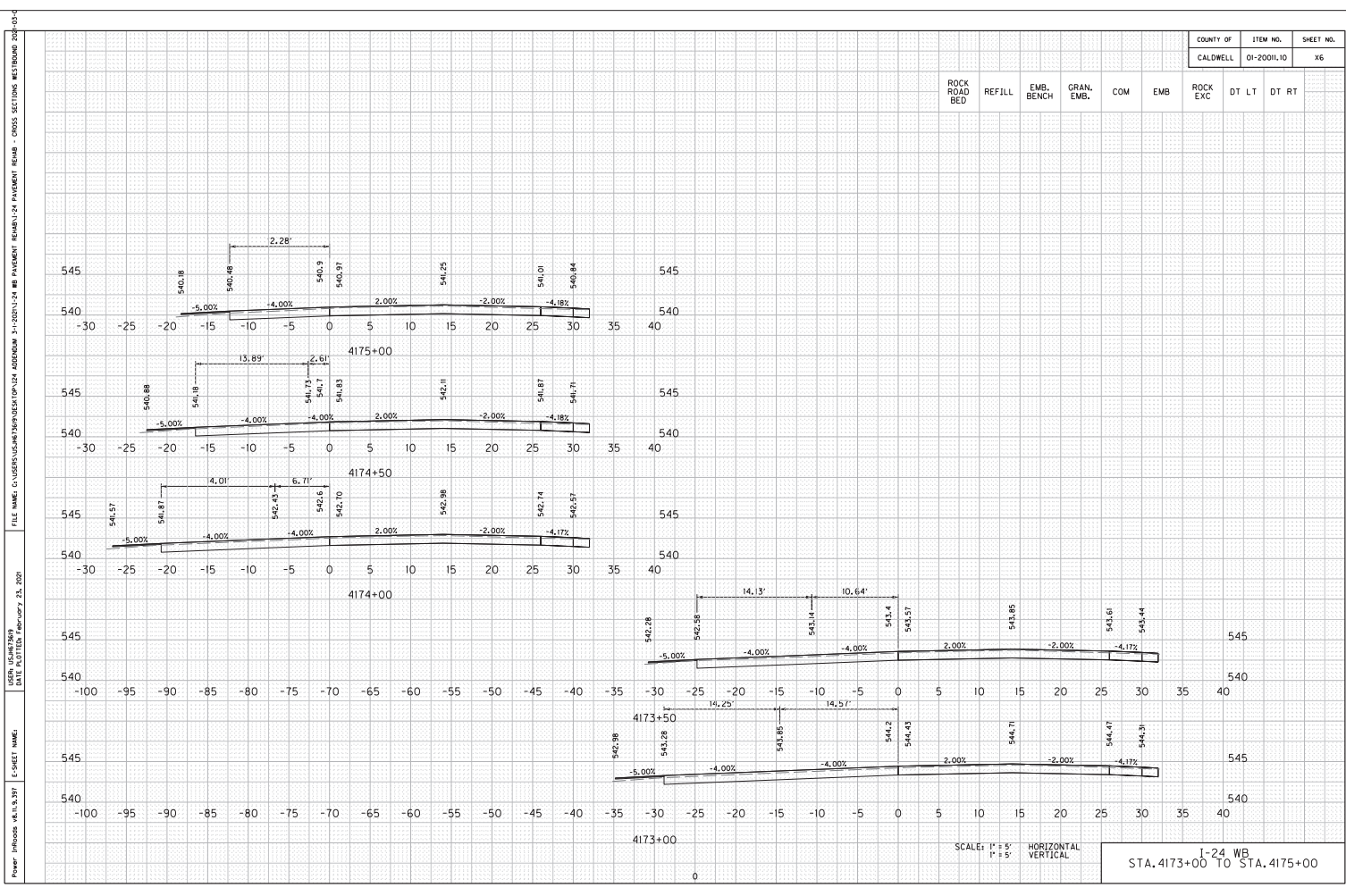
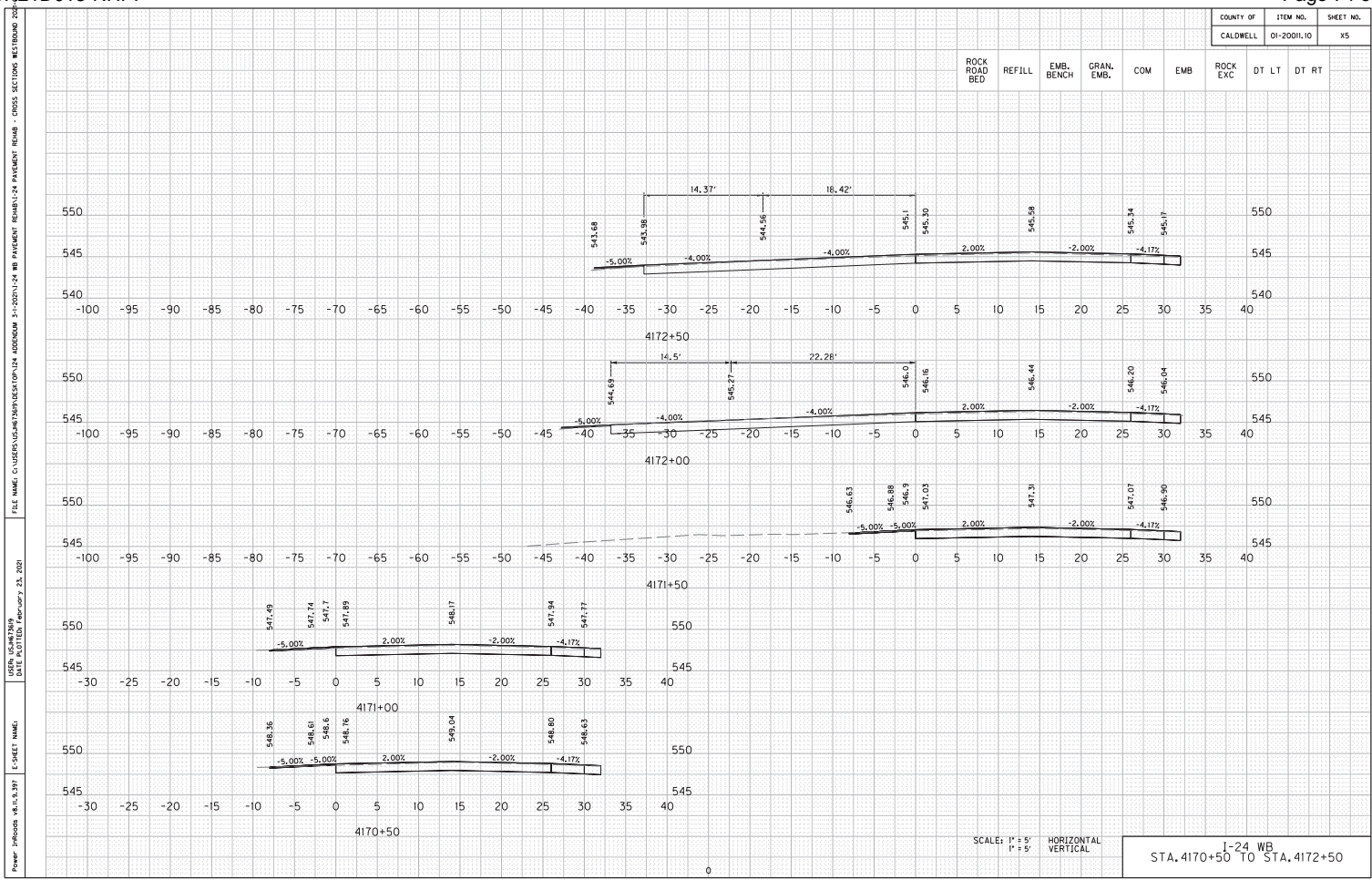
X1 - X91 --- WESTBOUND FULL DEPTH REPLACEMENT

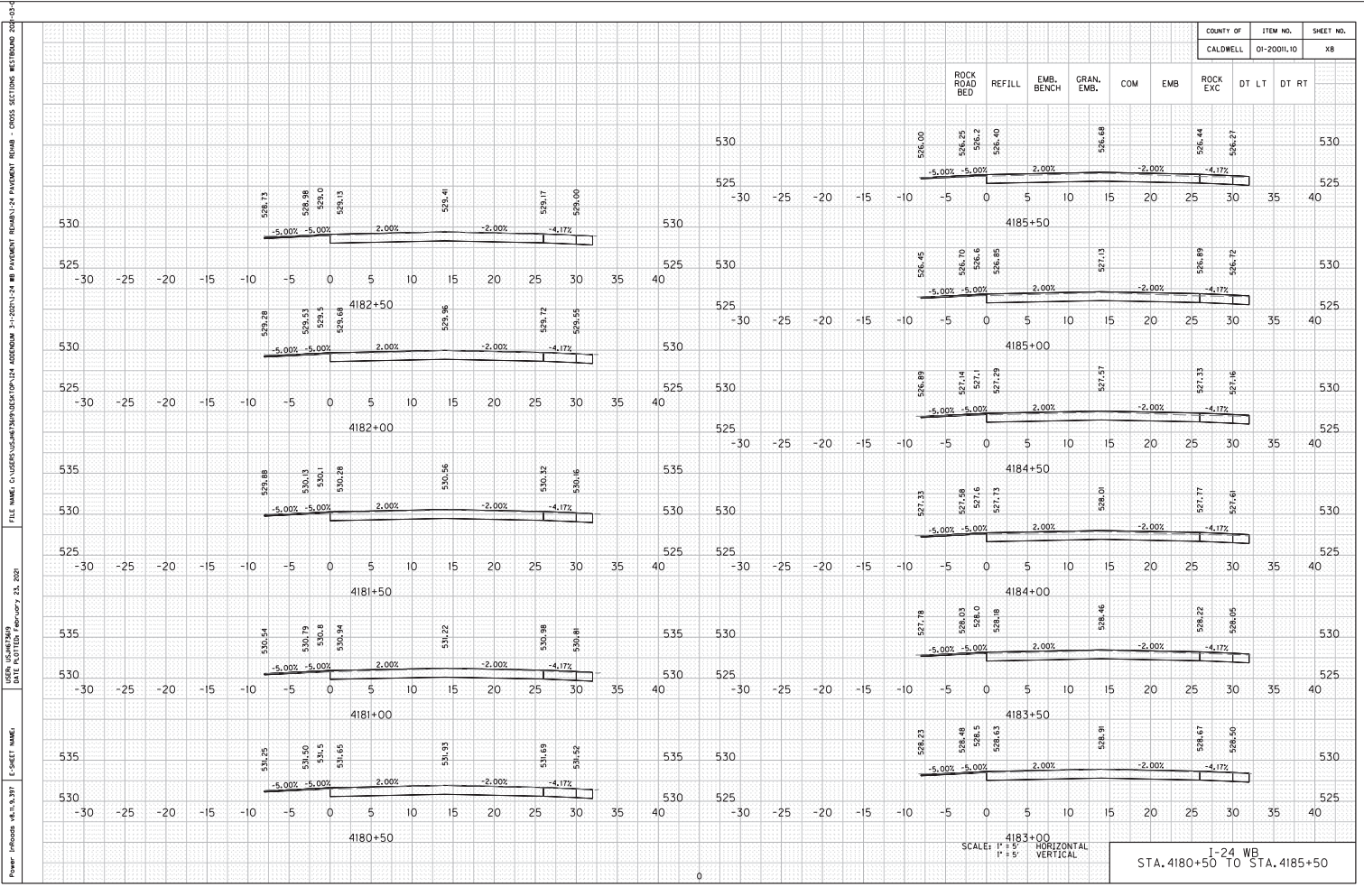
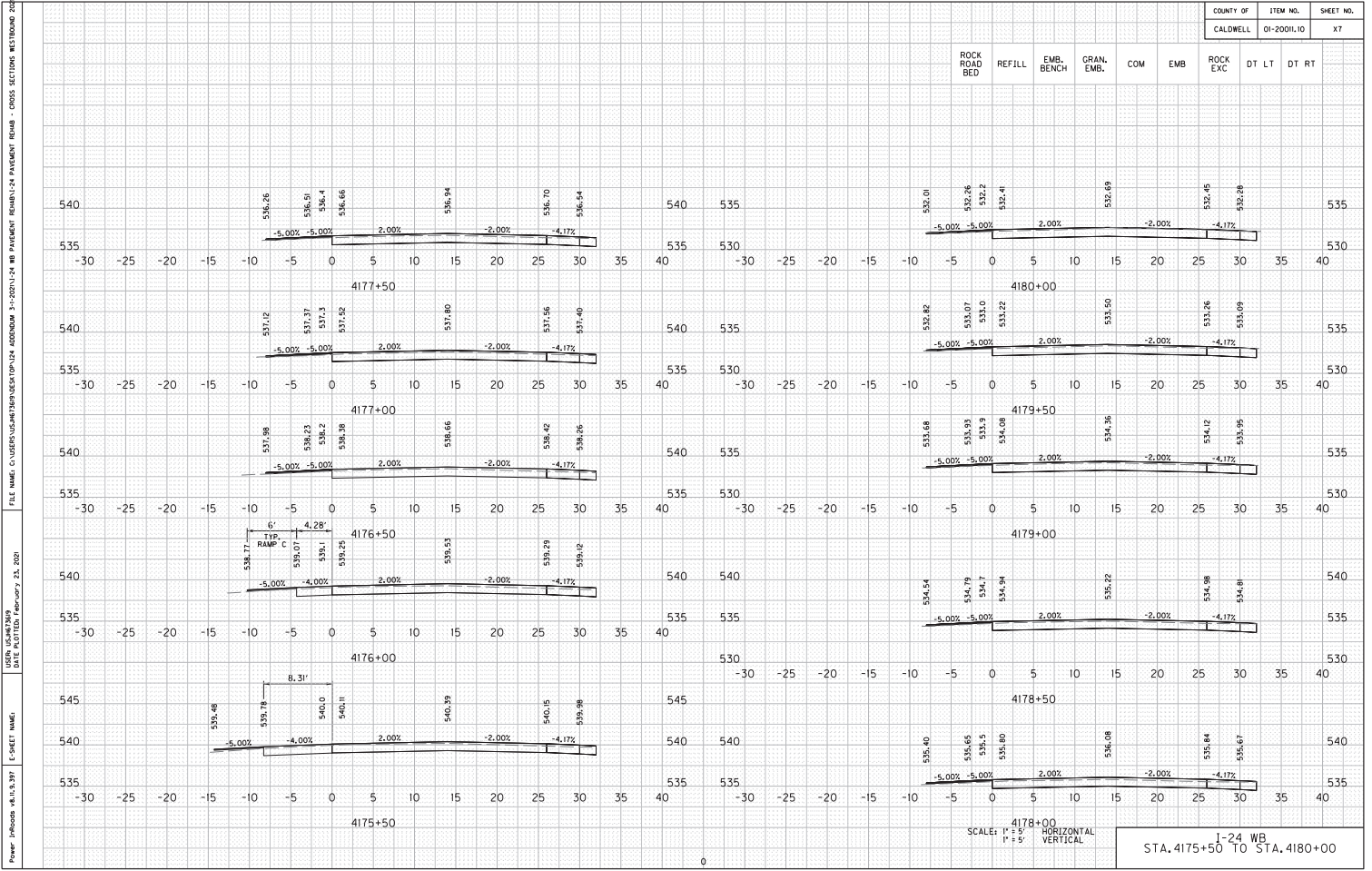
Prepared By:
WSP USA INC.
1792 ALYSHEBA WAY
LEXINGTON, KY 40509
859-272-5400

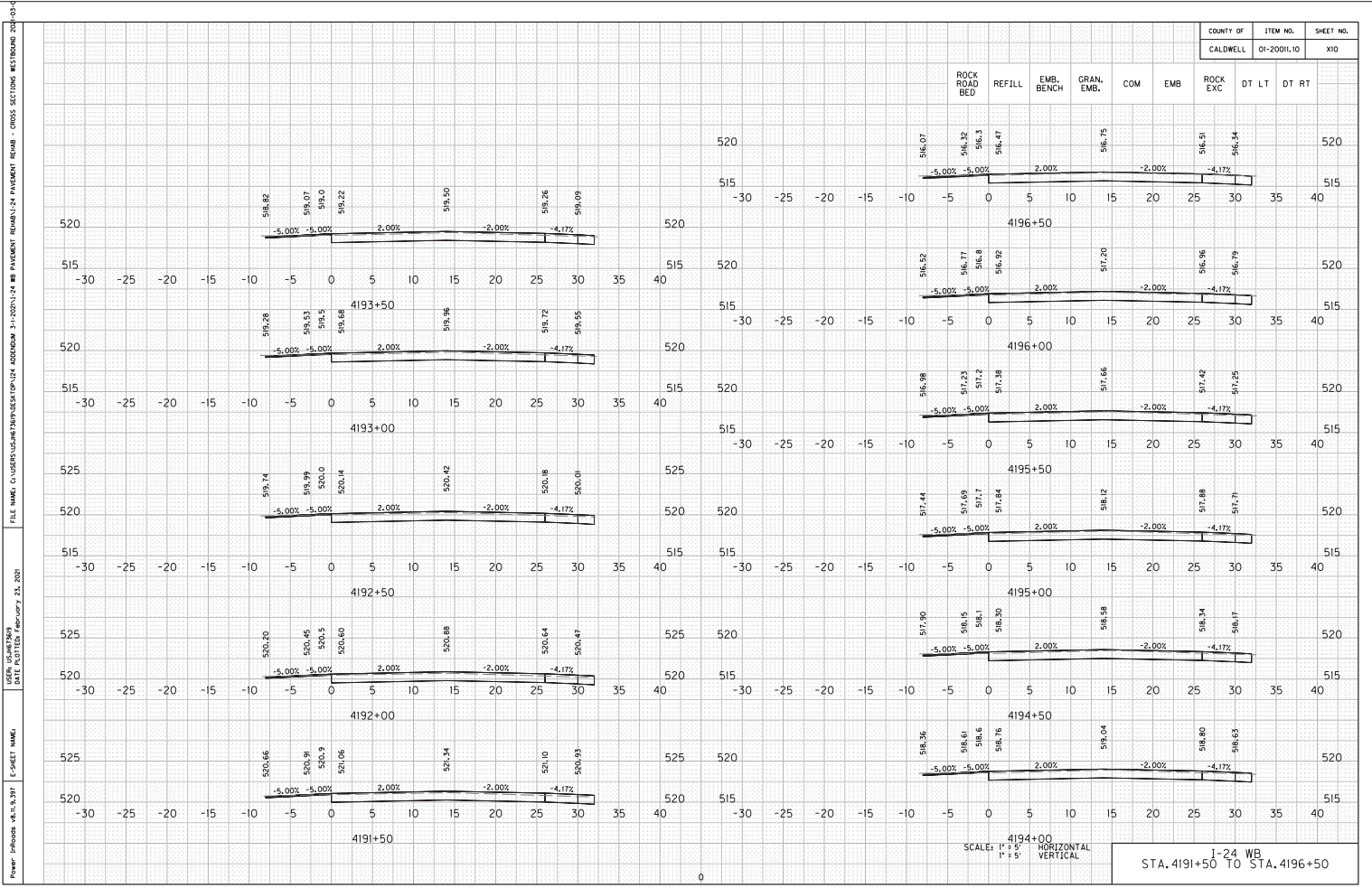
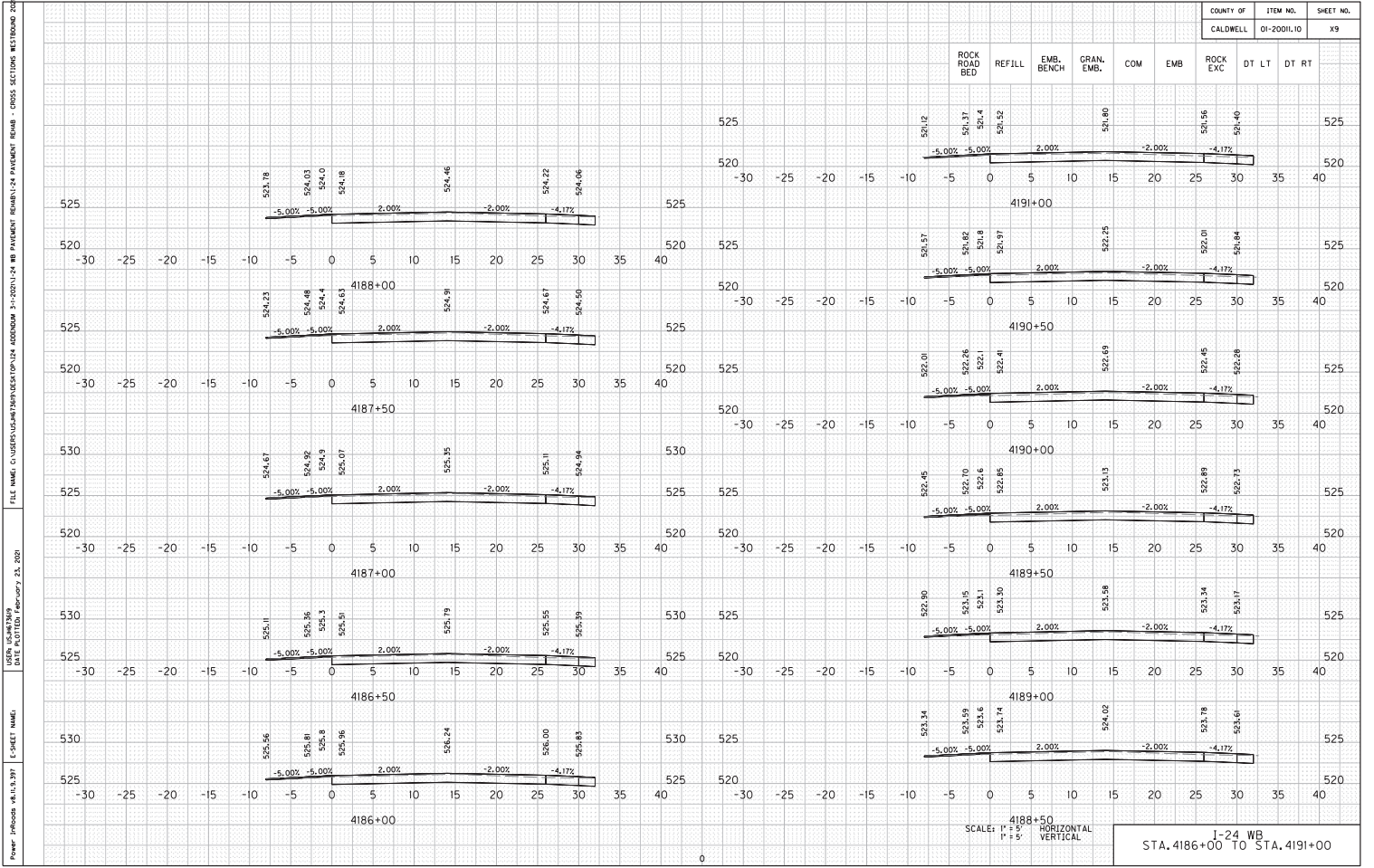
March 01, 2021

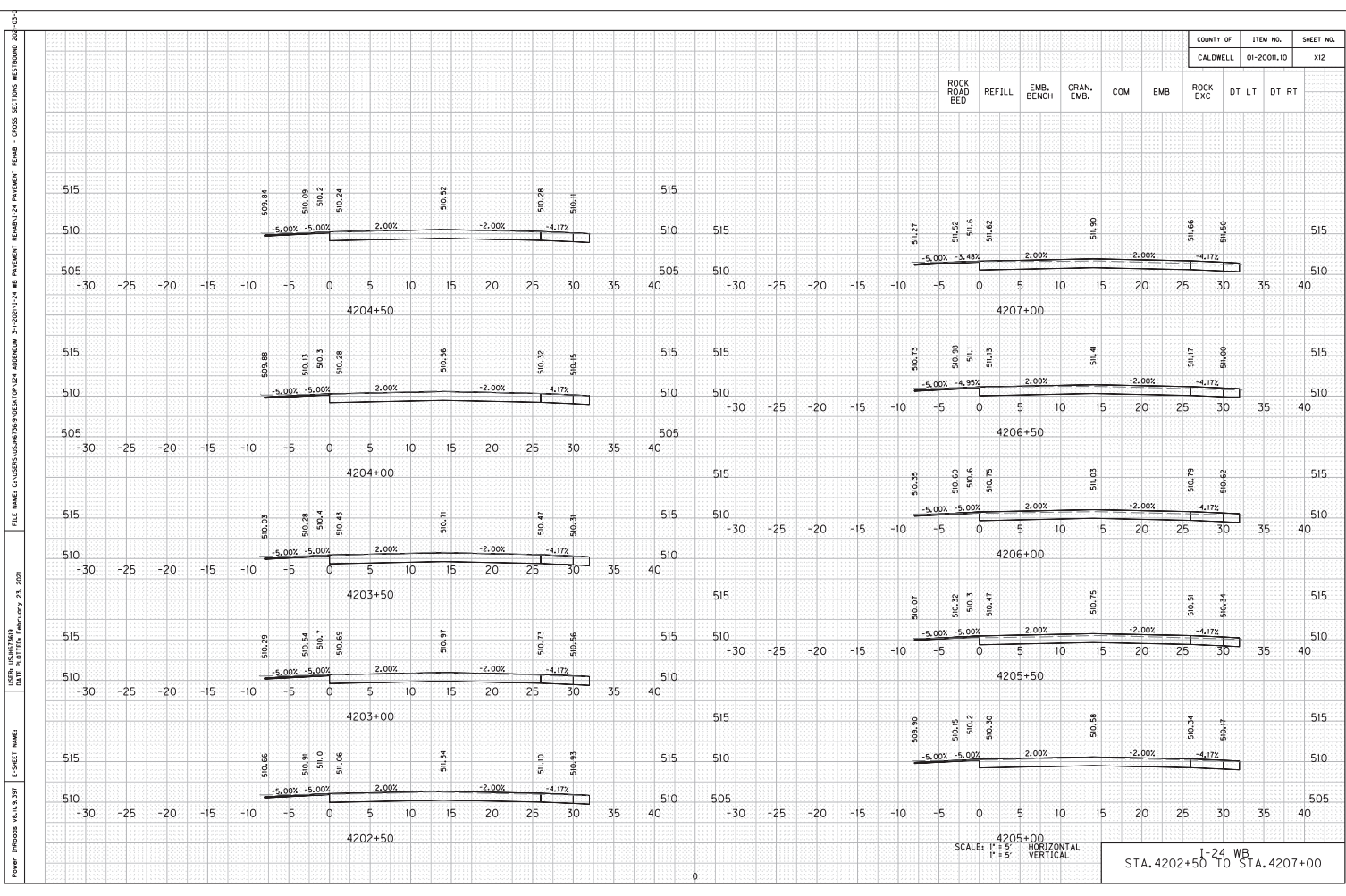
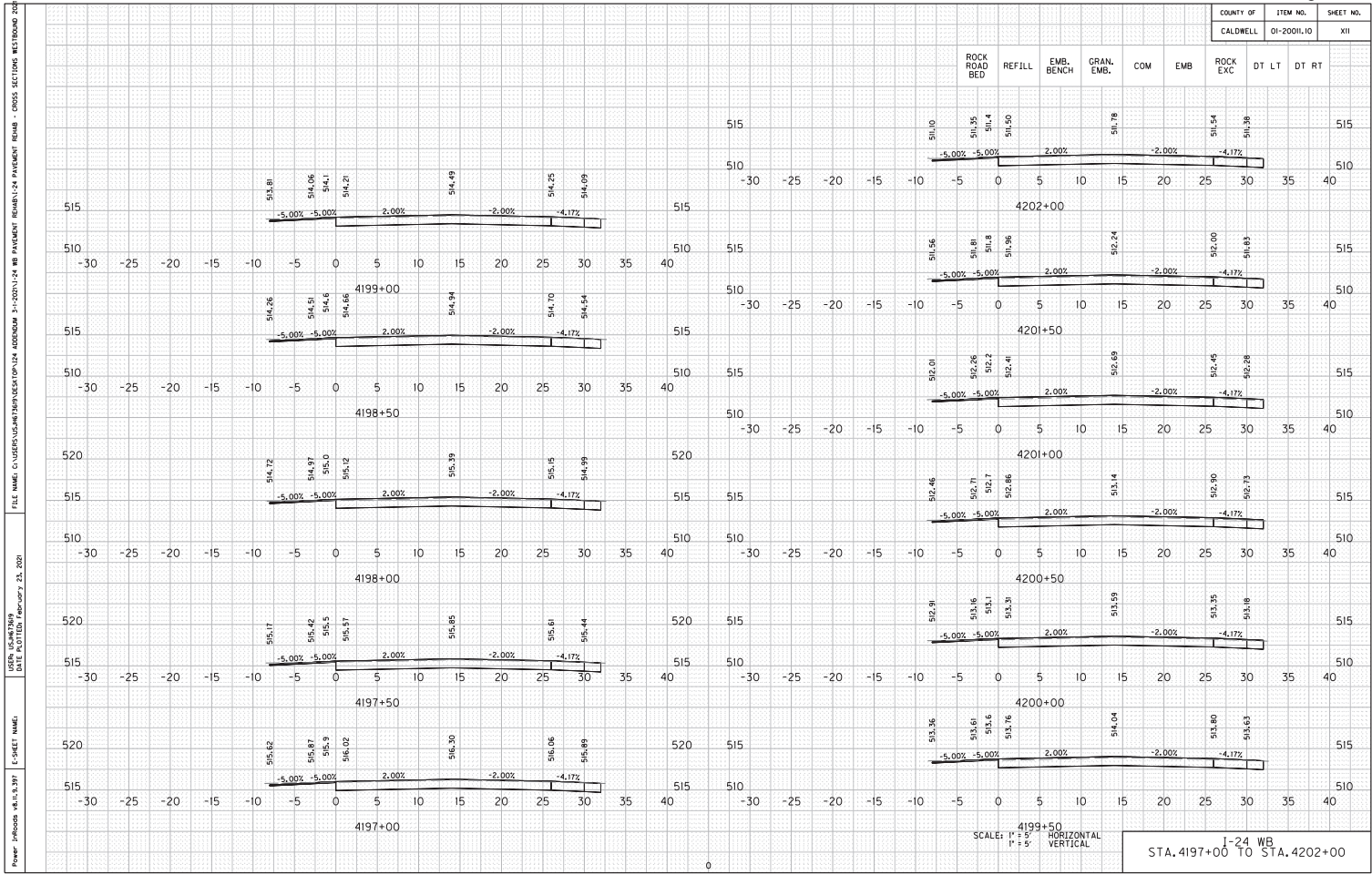


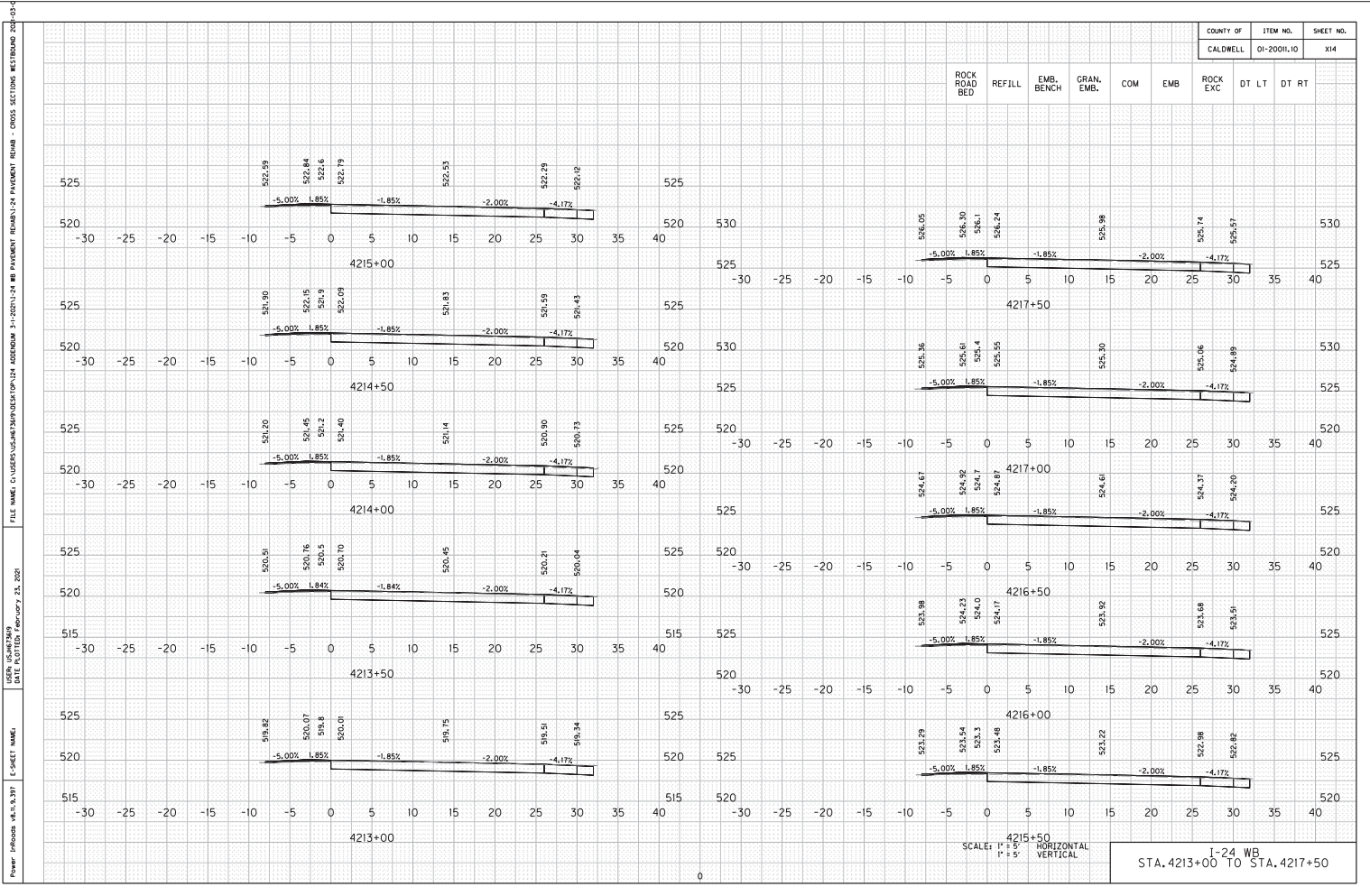
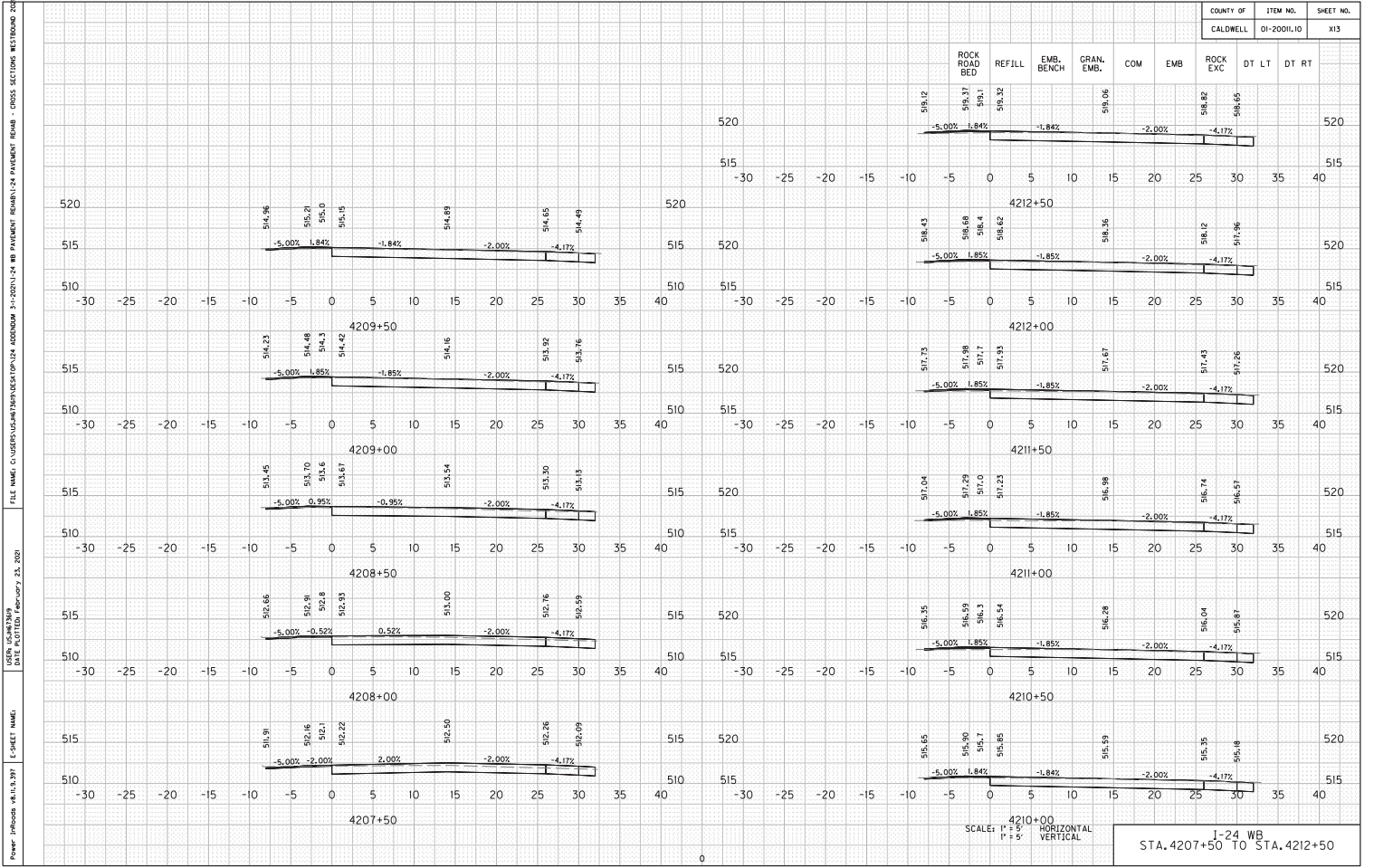


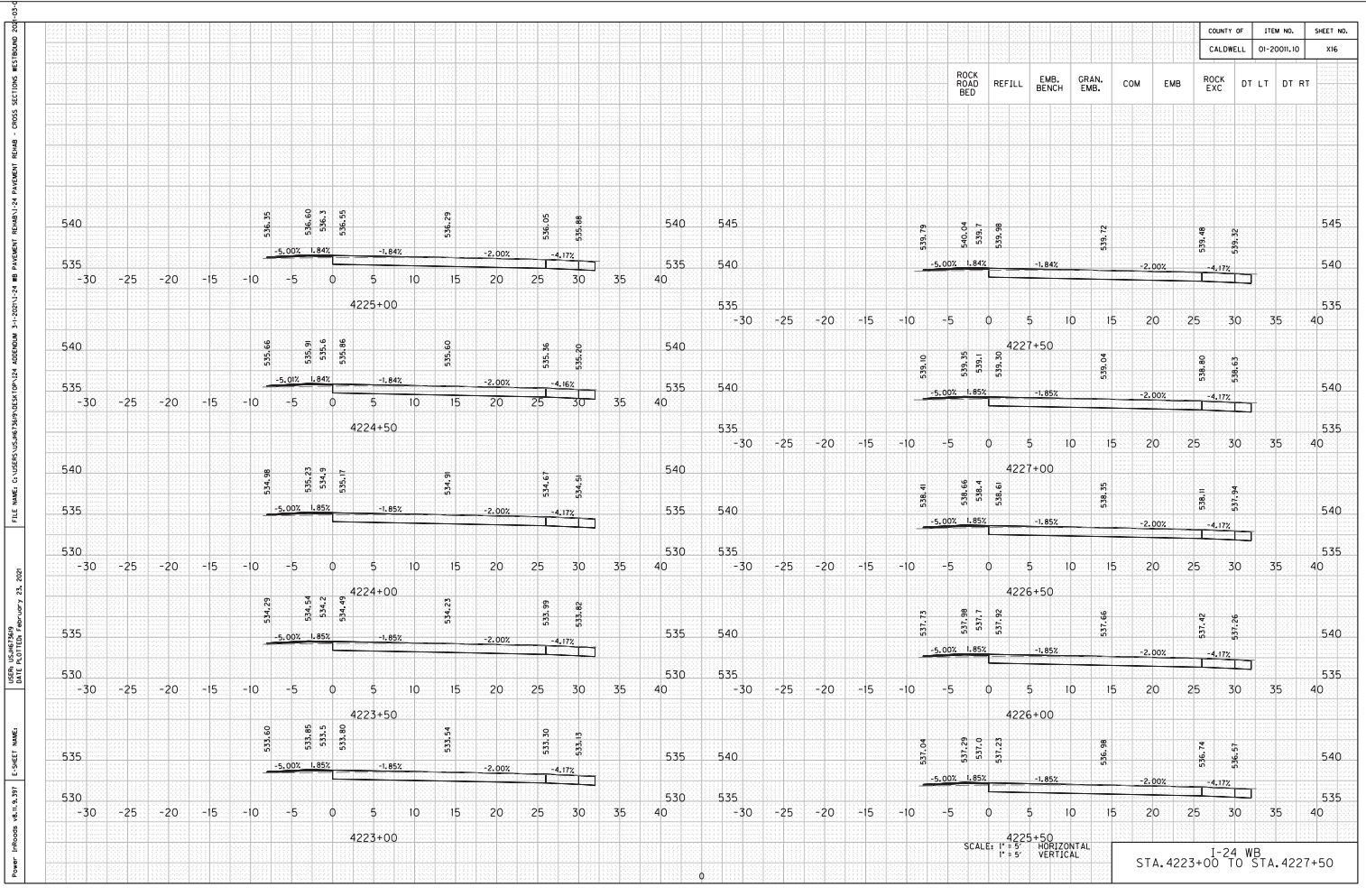
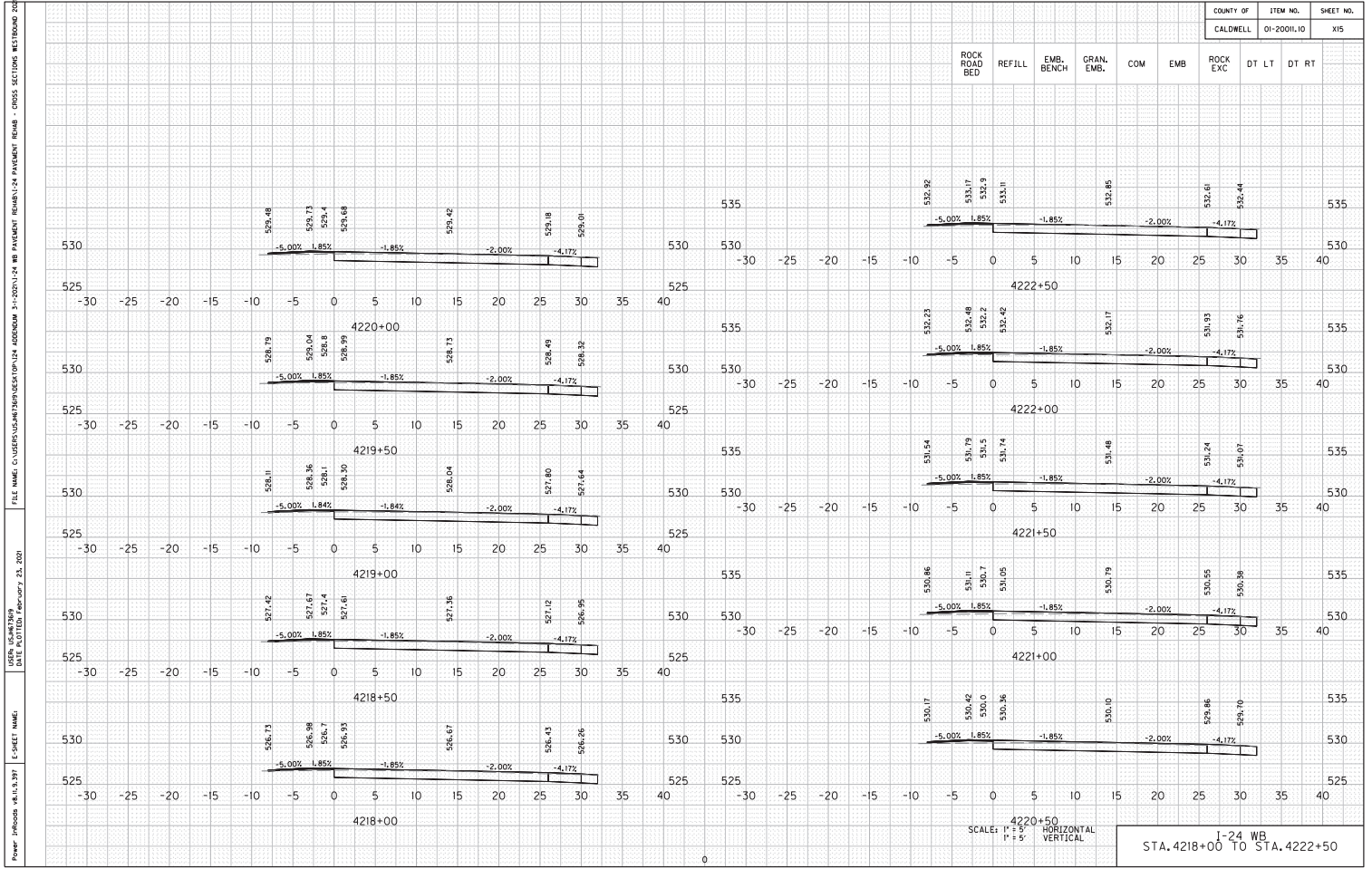


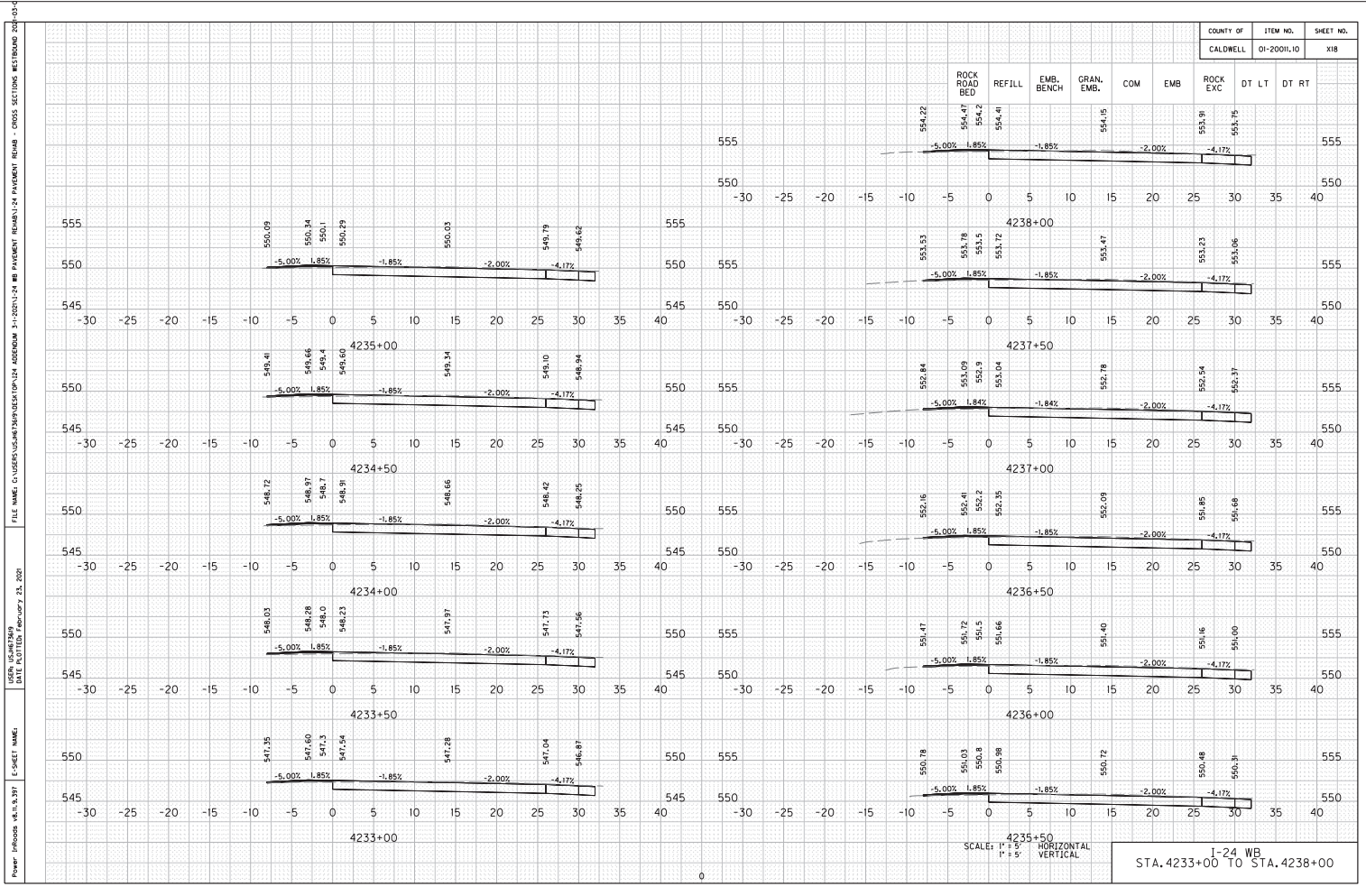
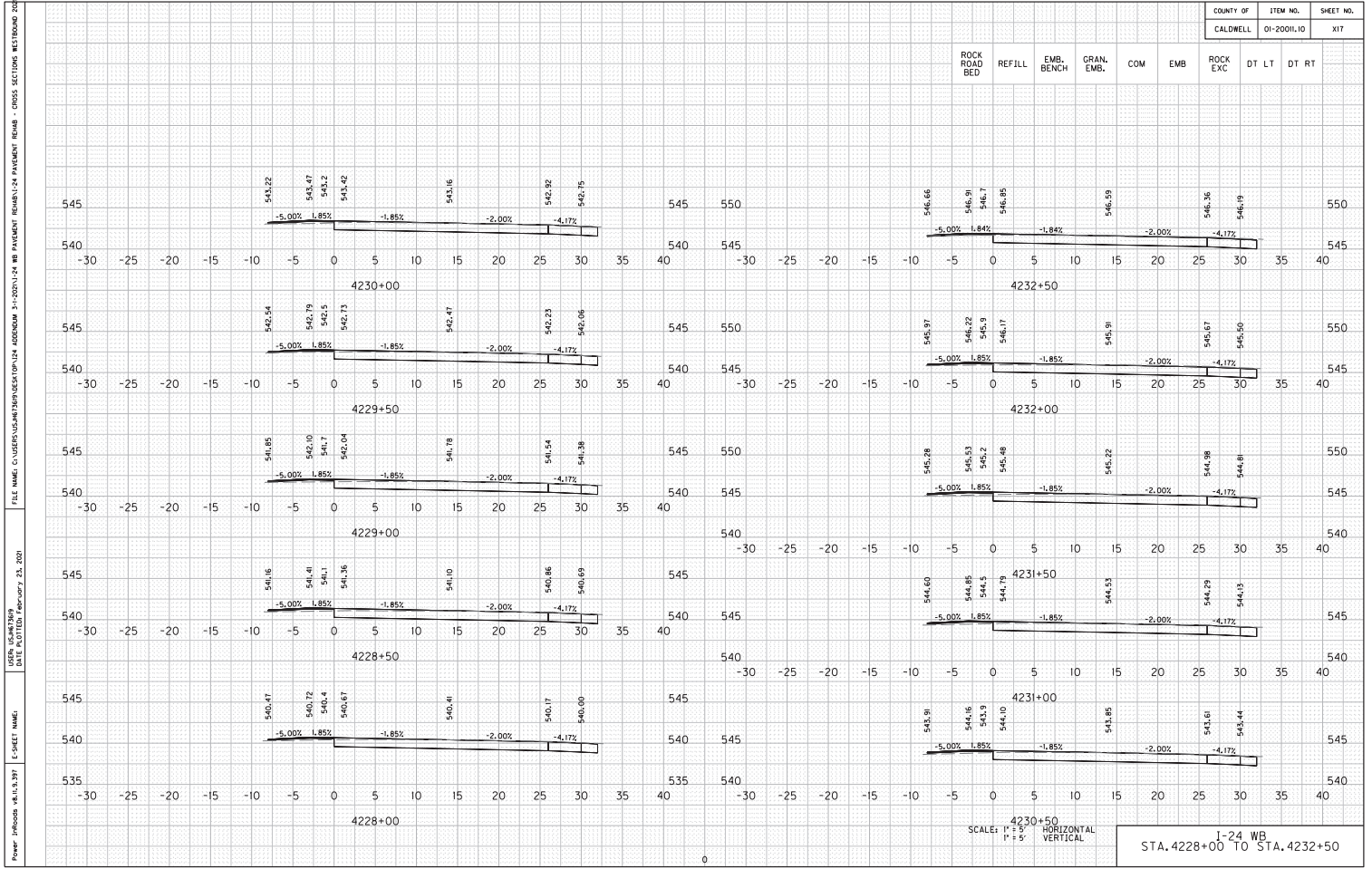


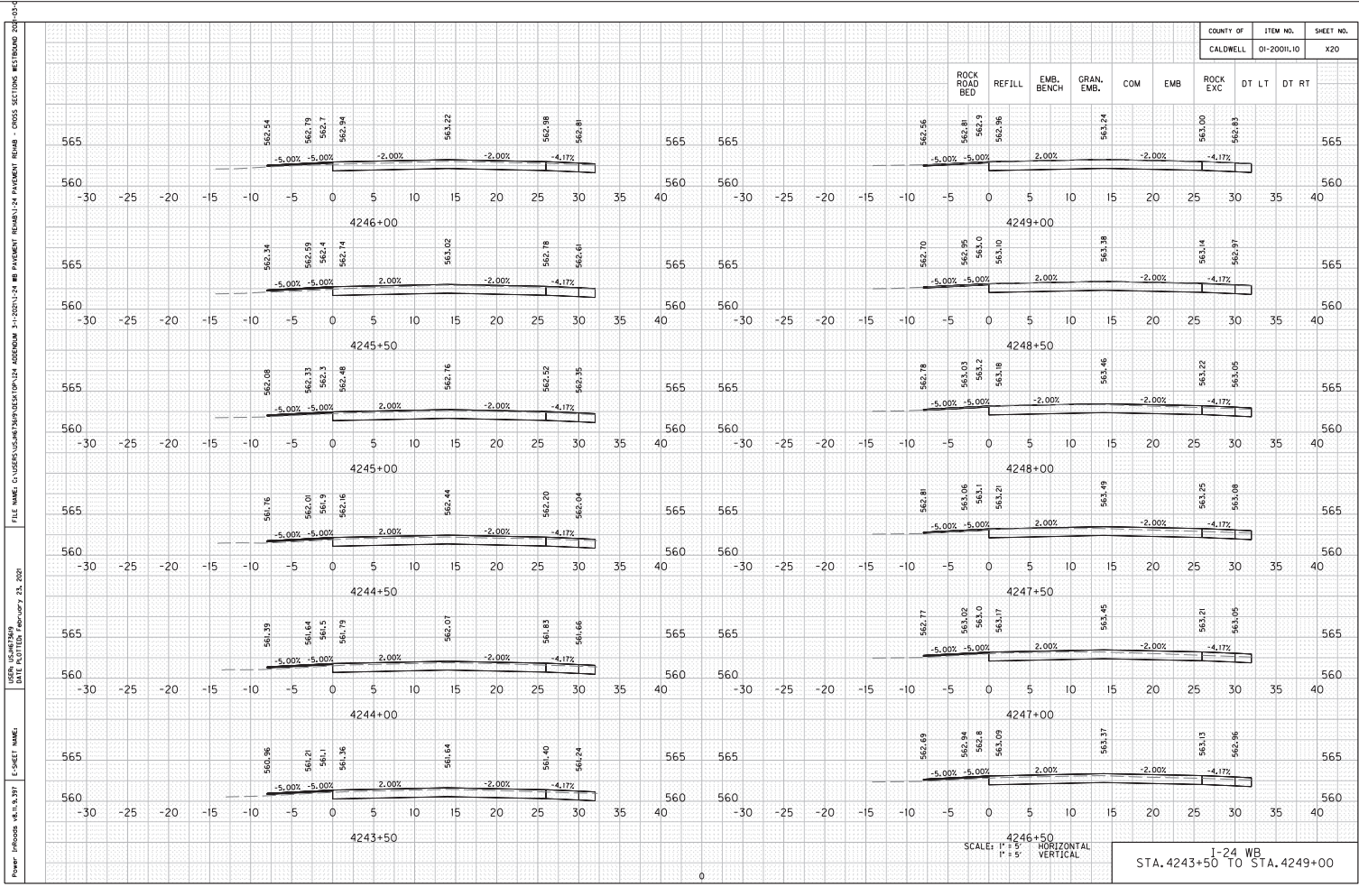
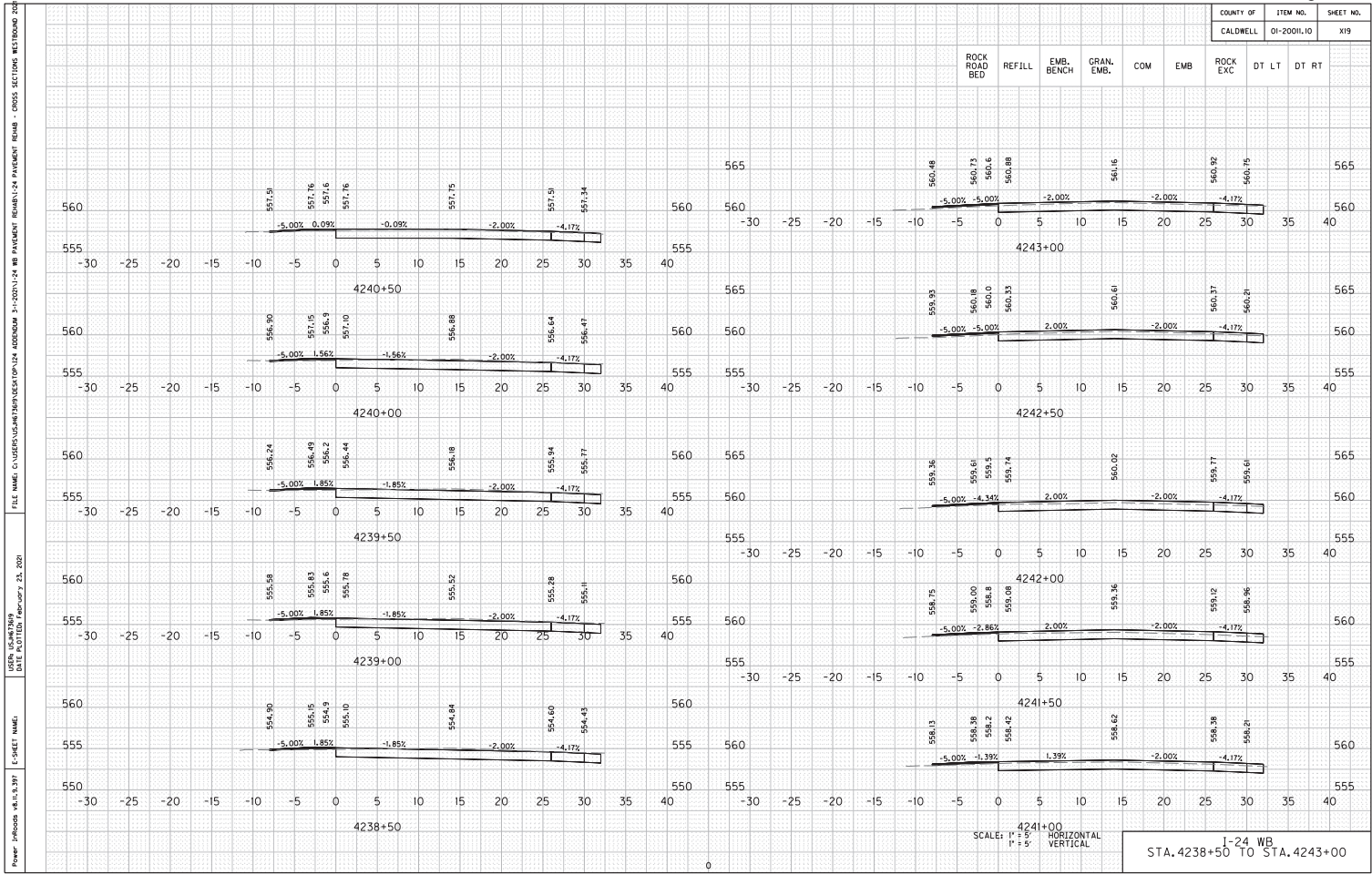


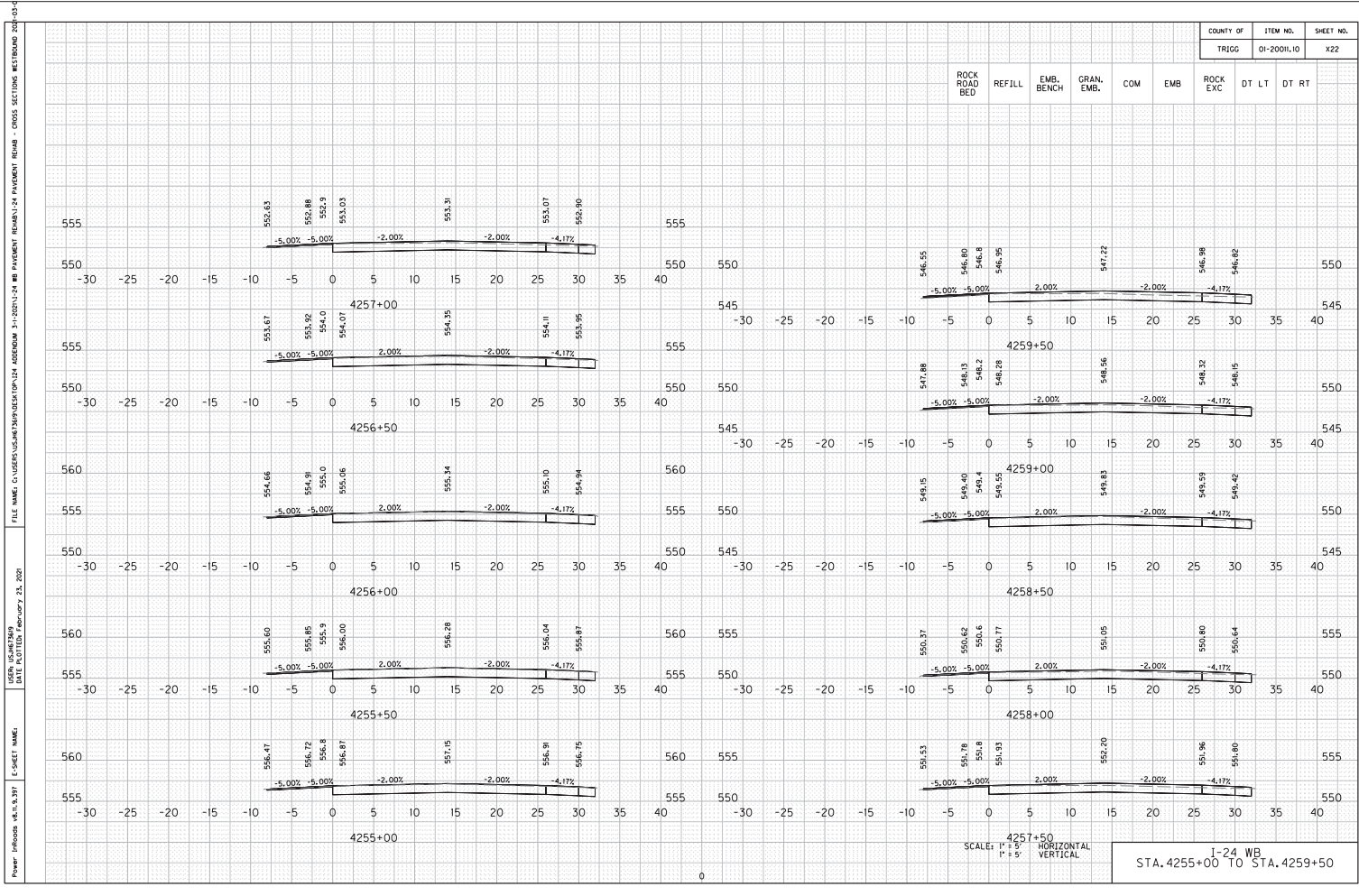
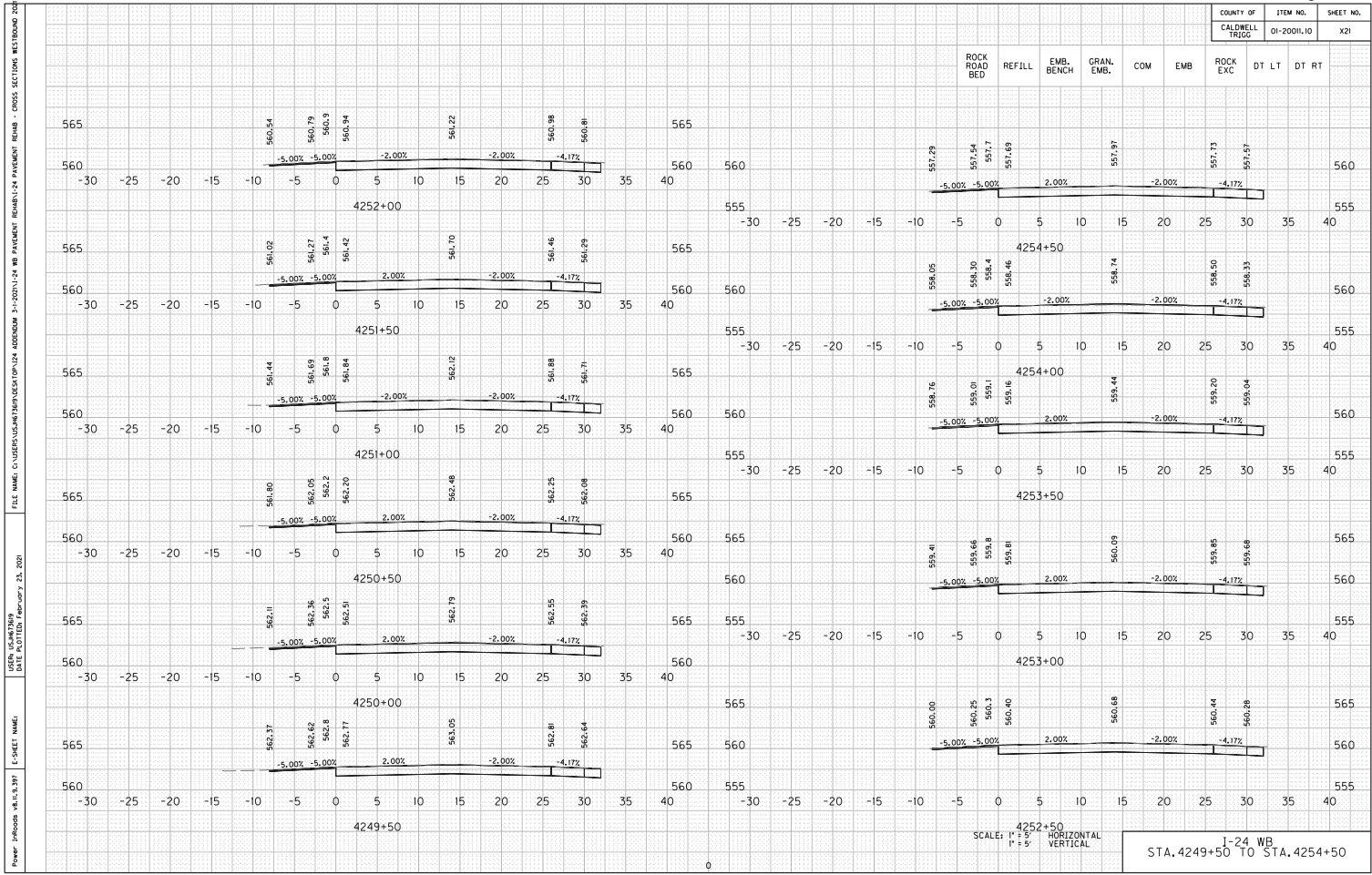


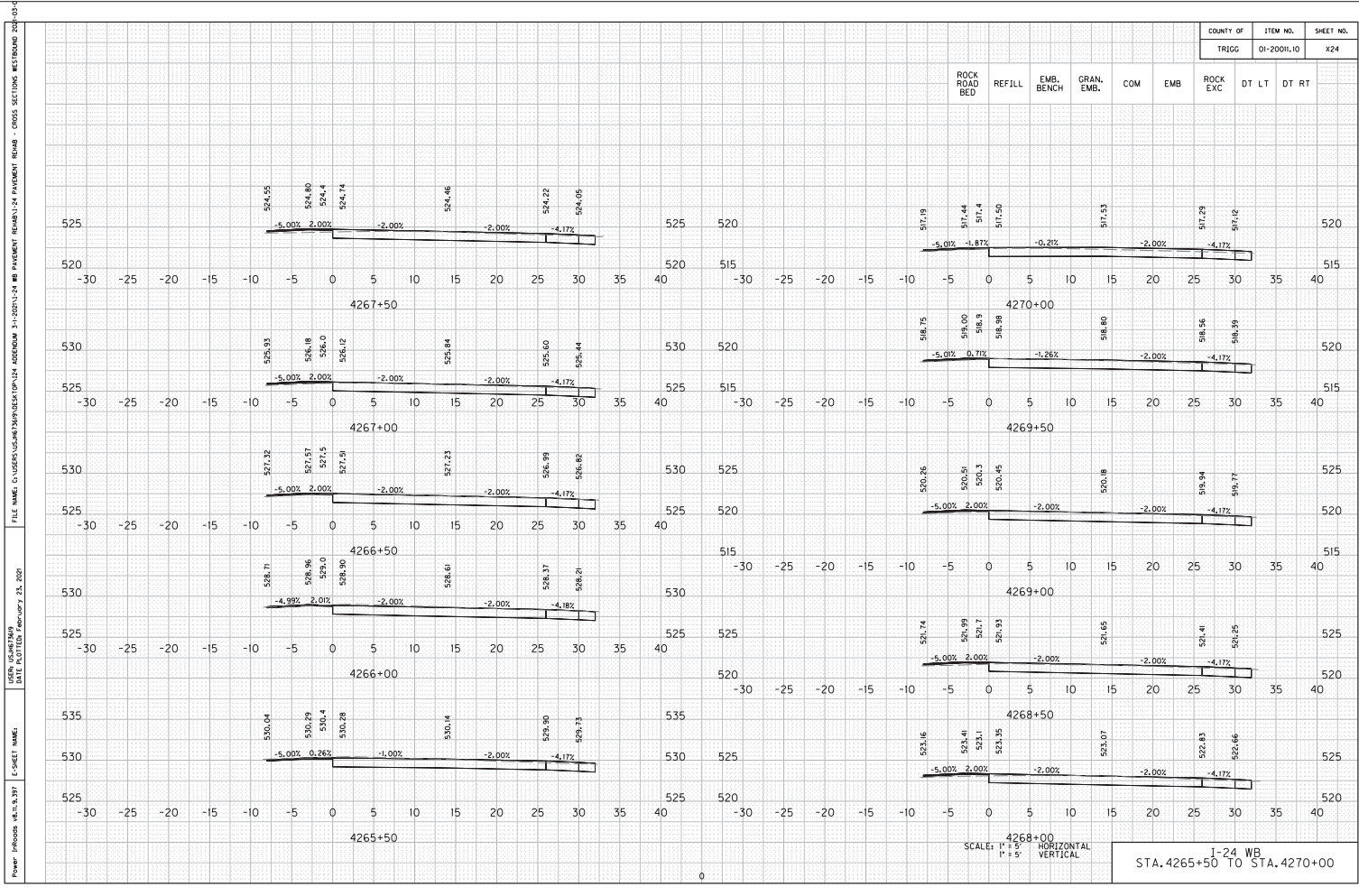
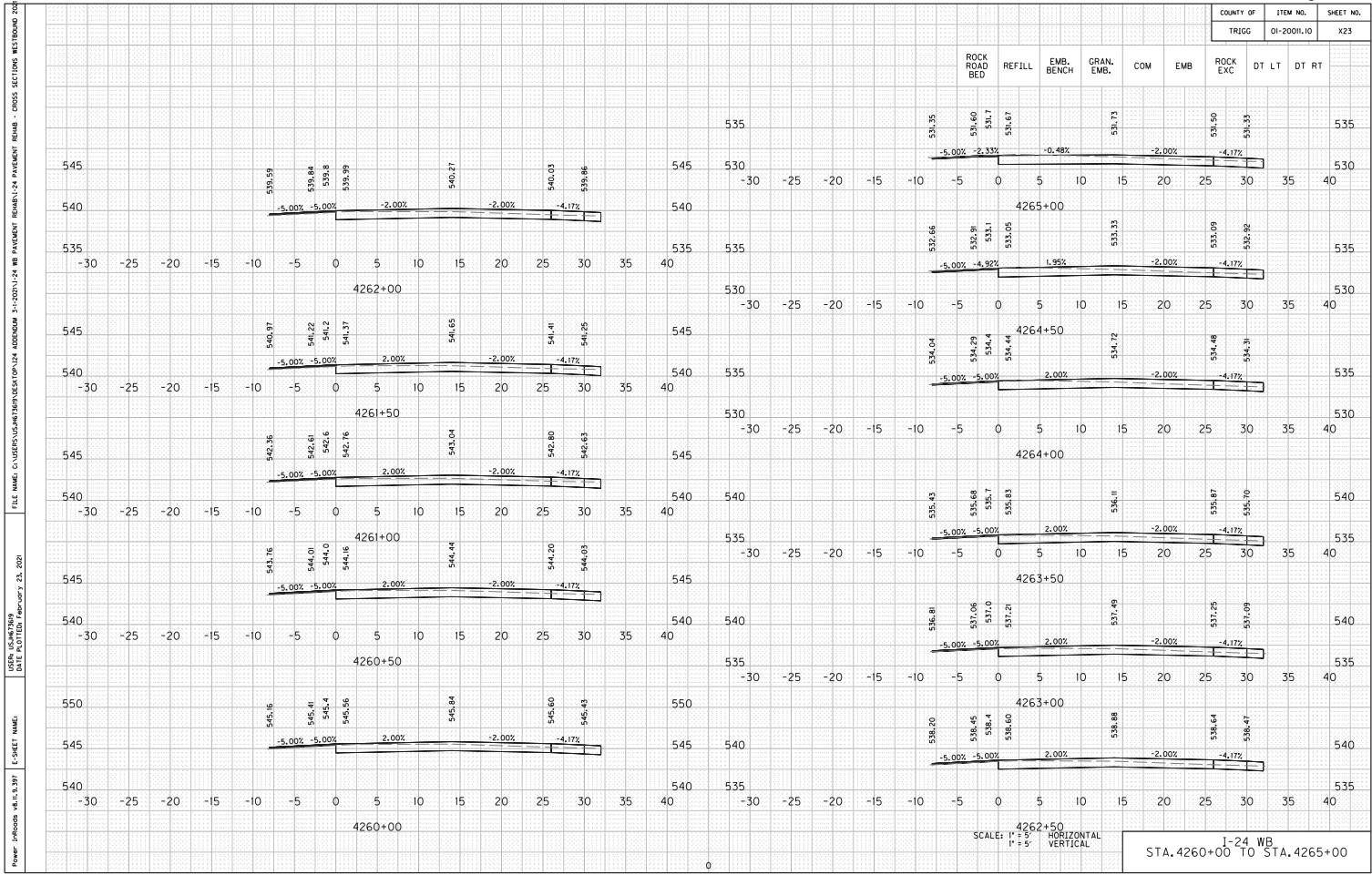


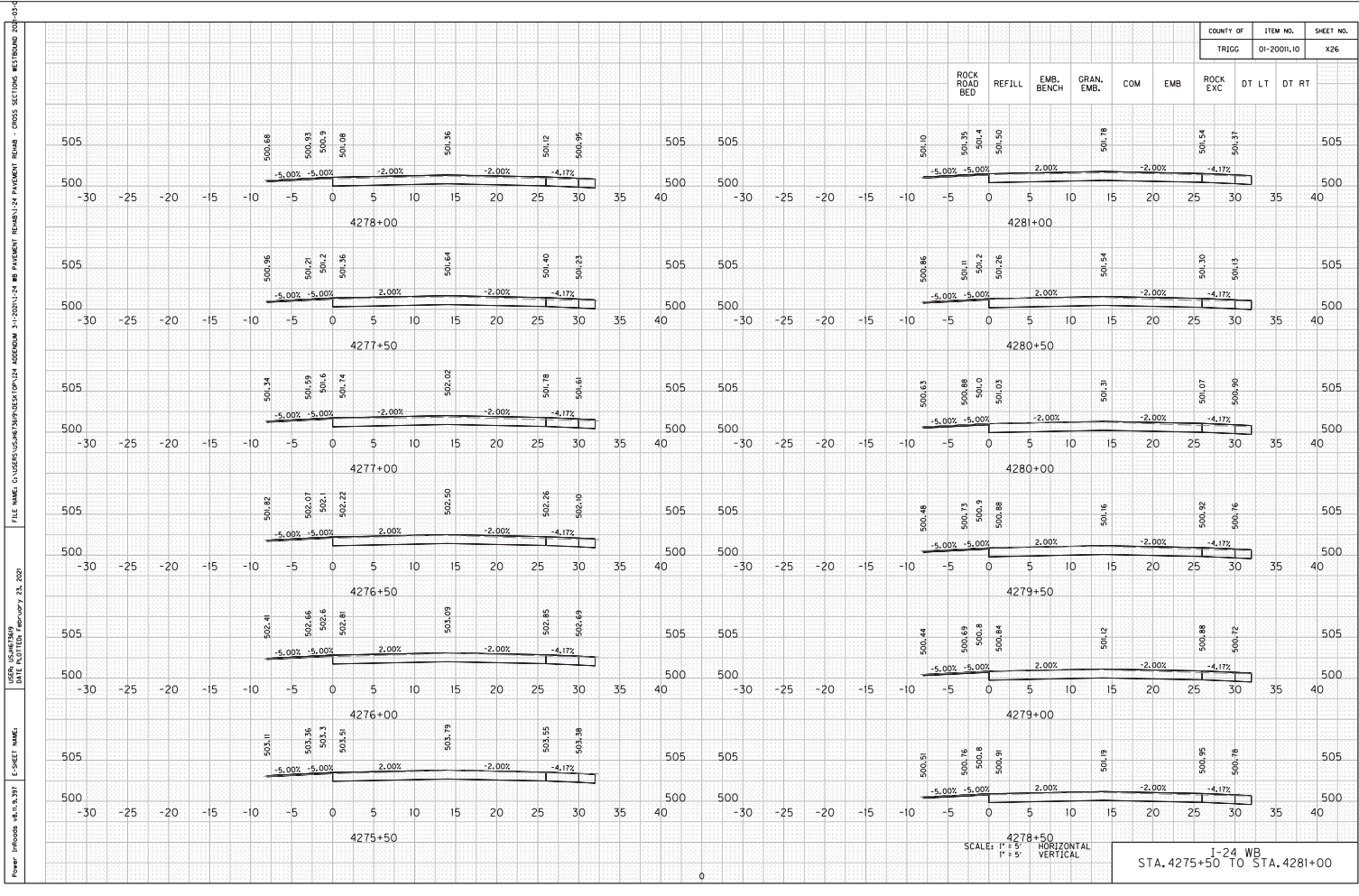
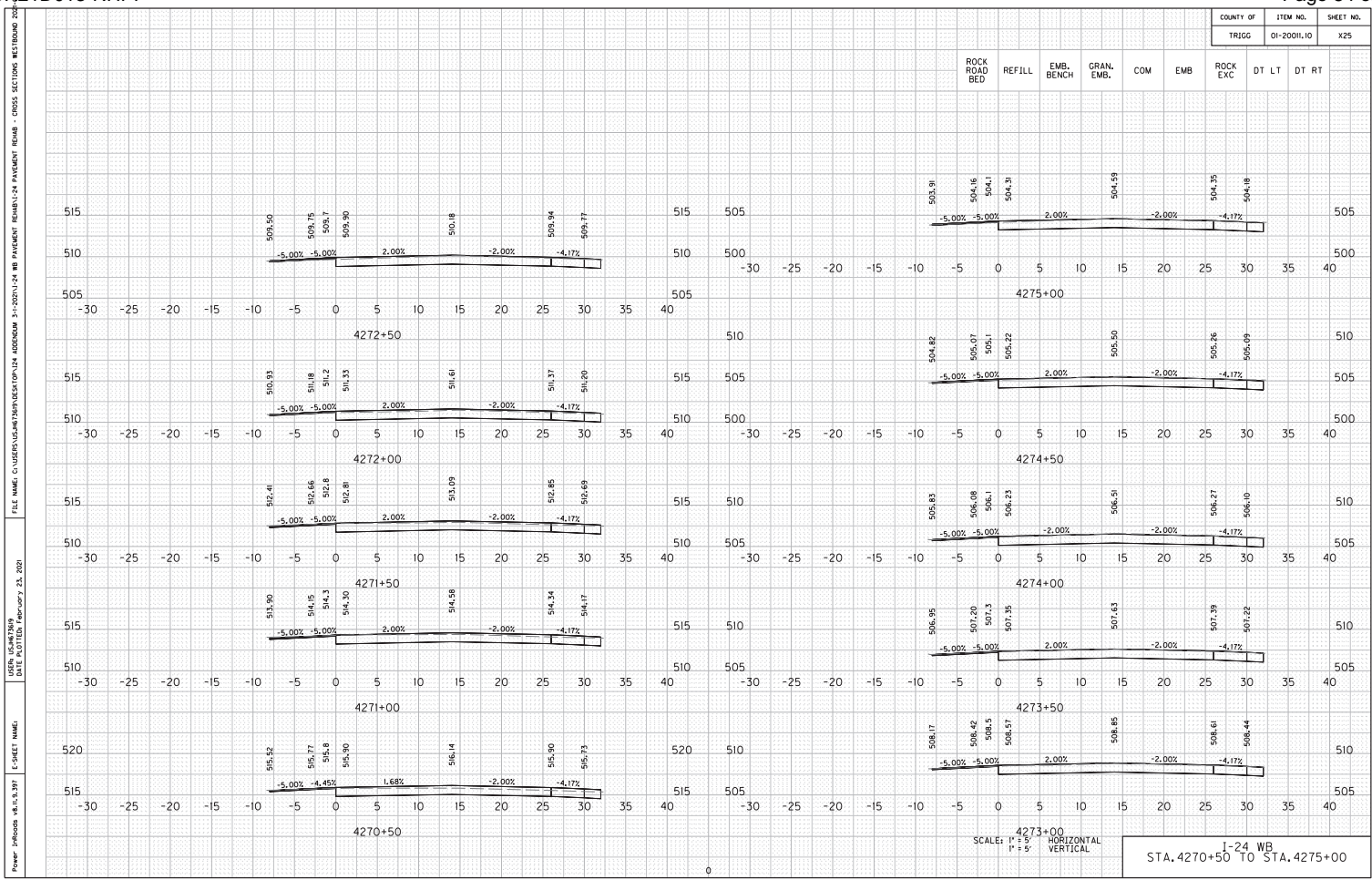


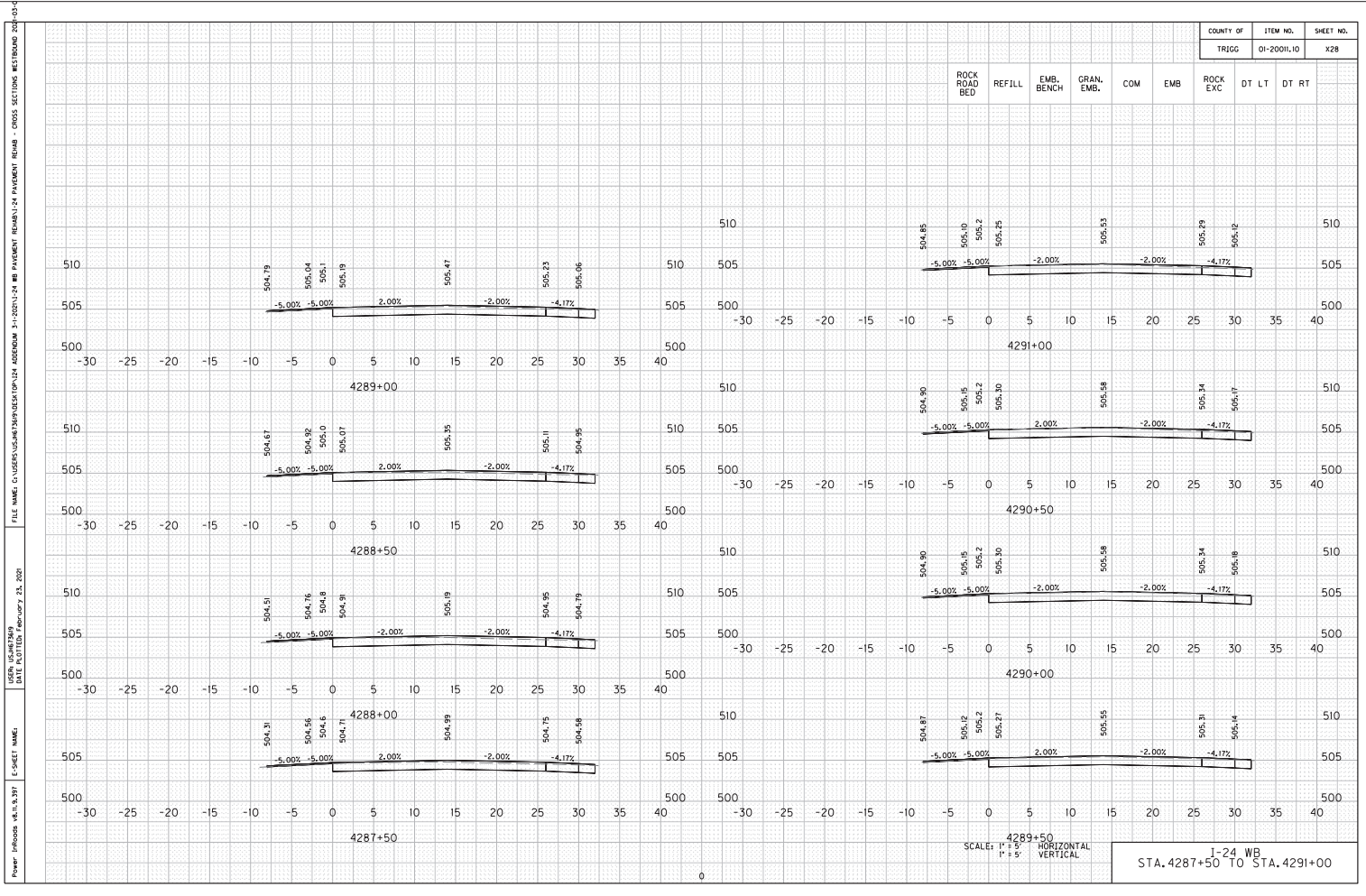
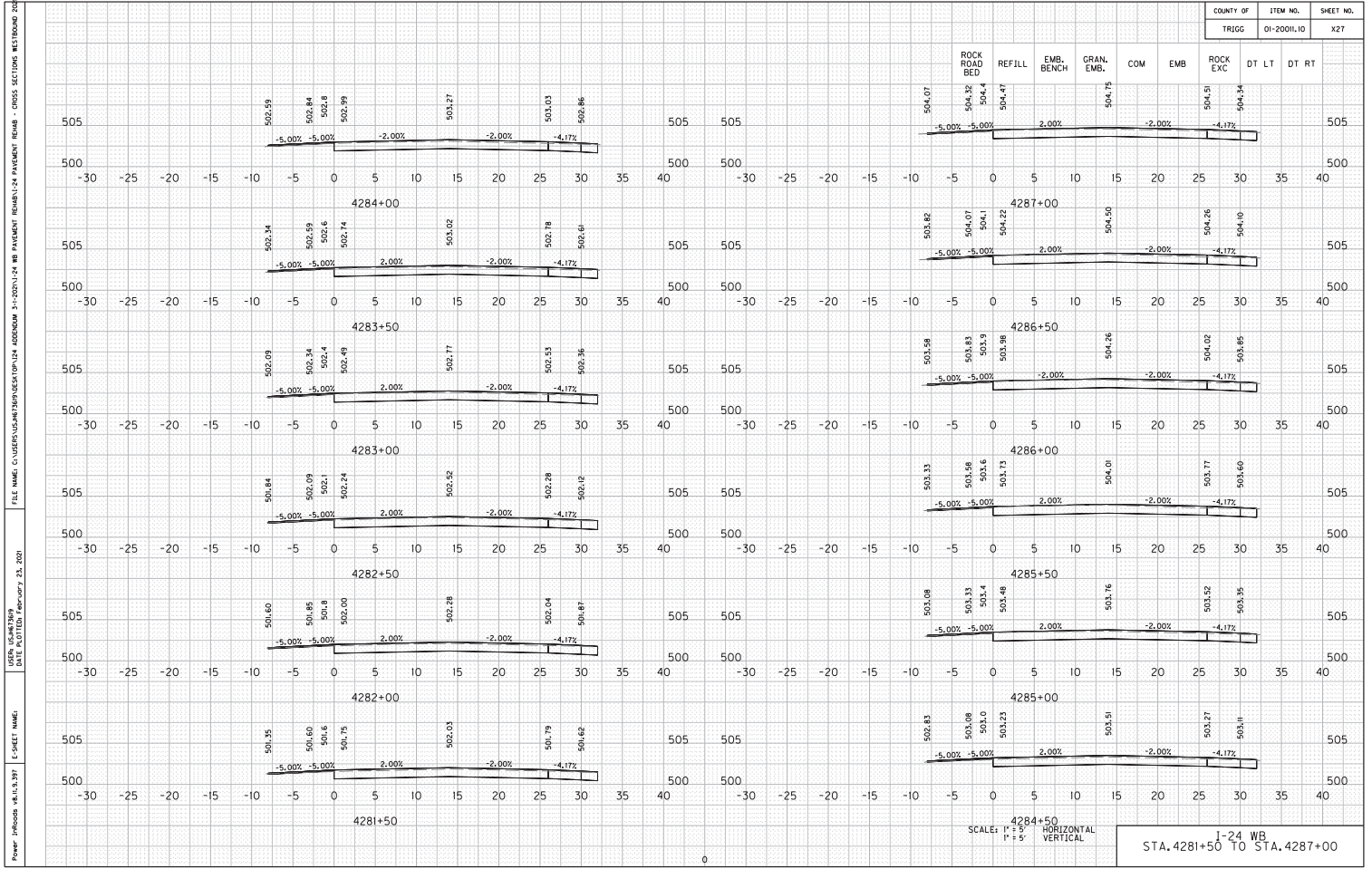


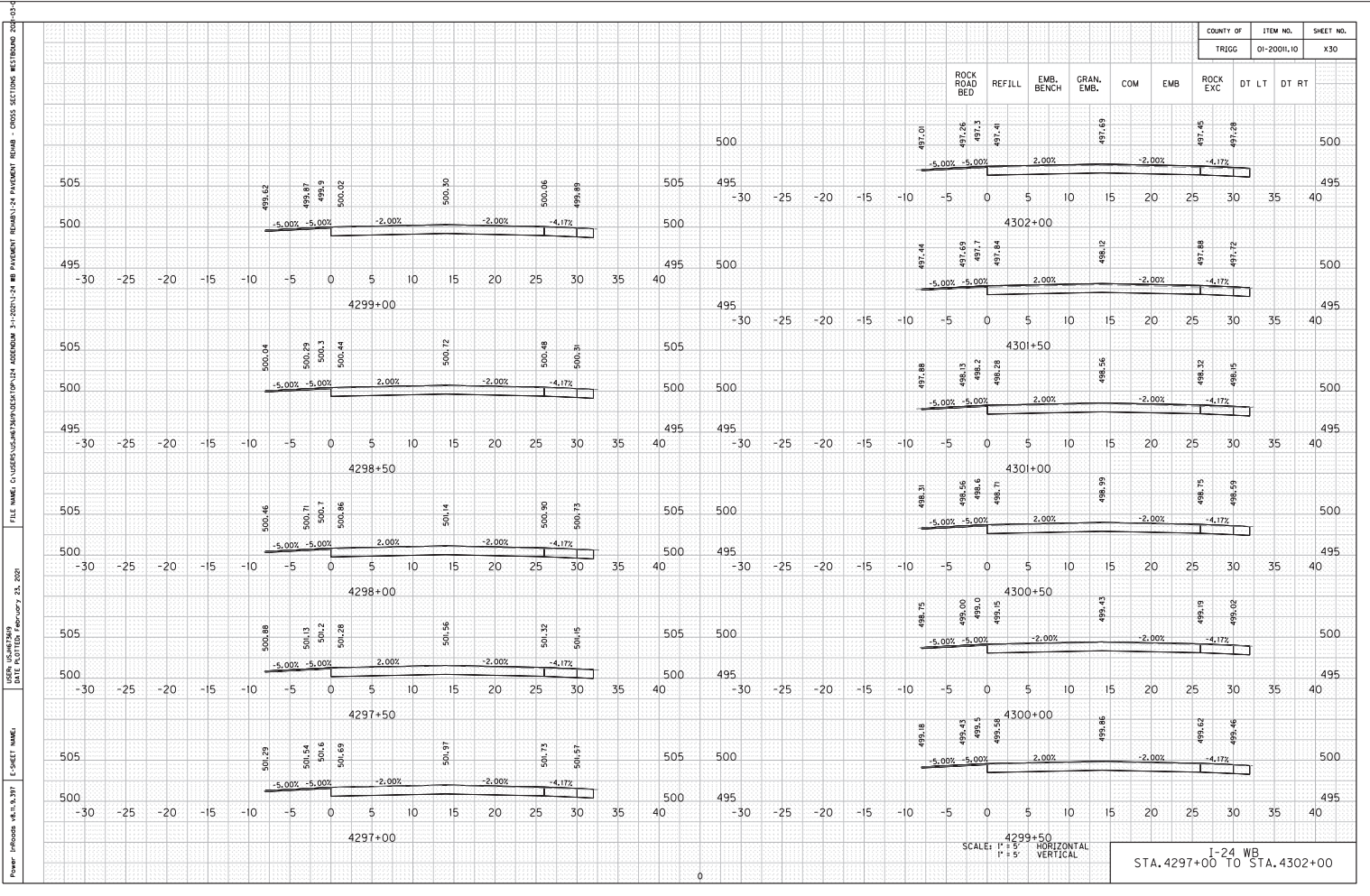
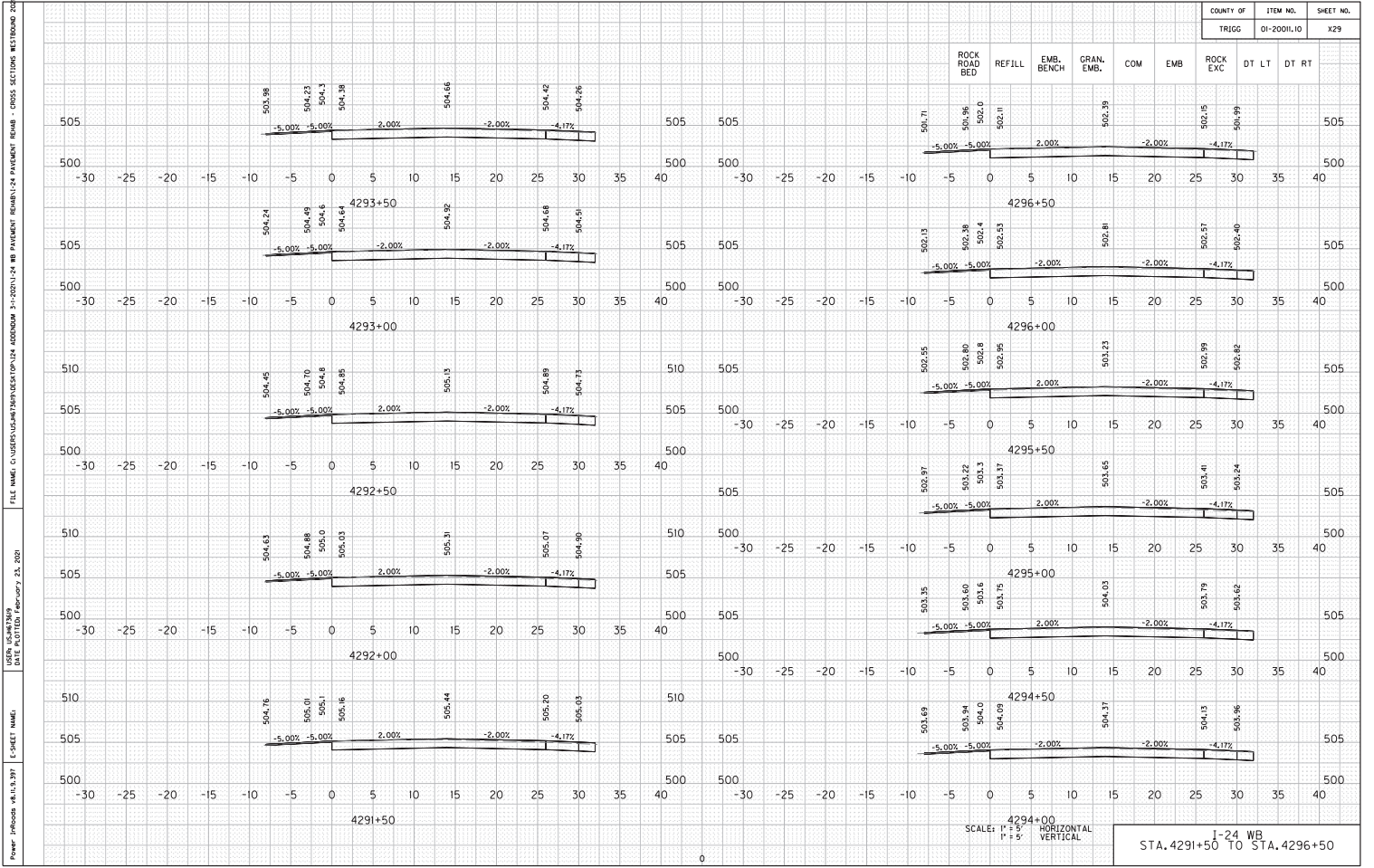


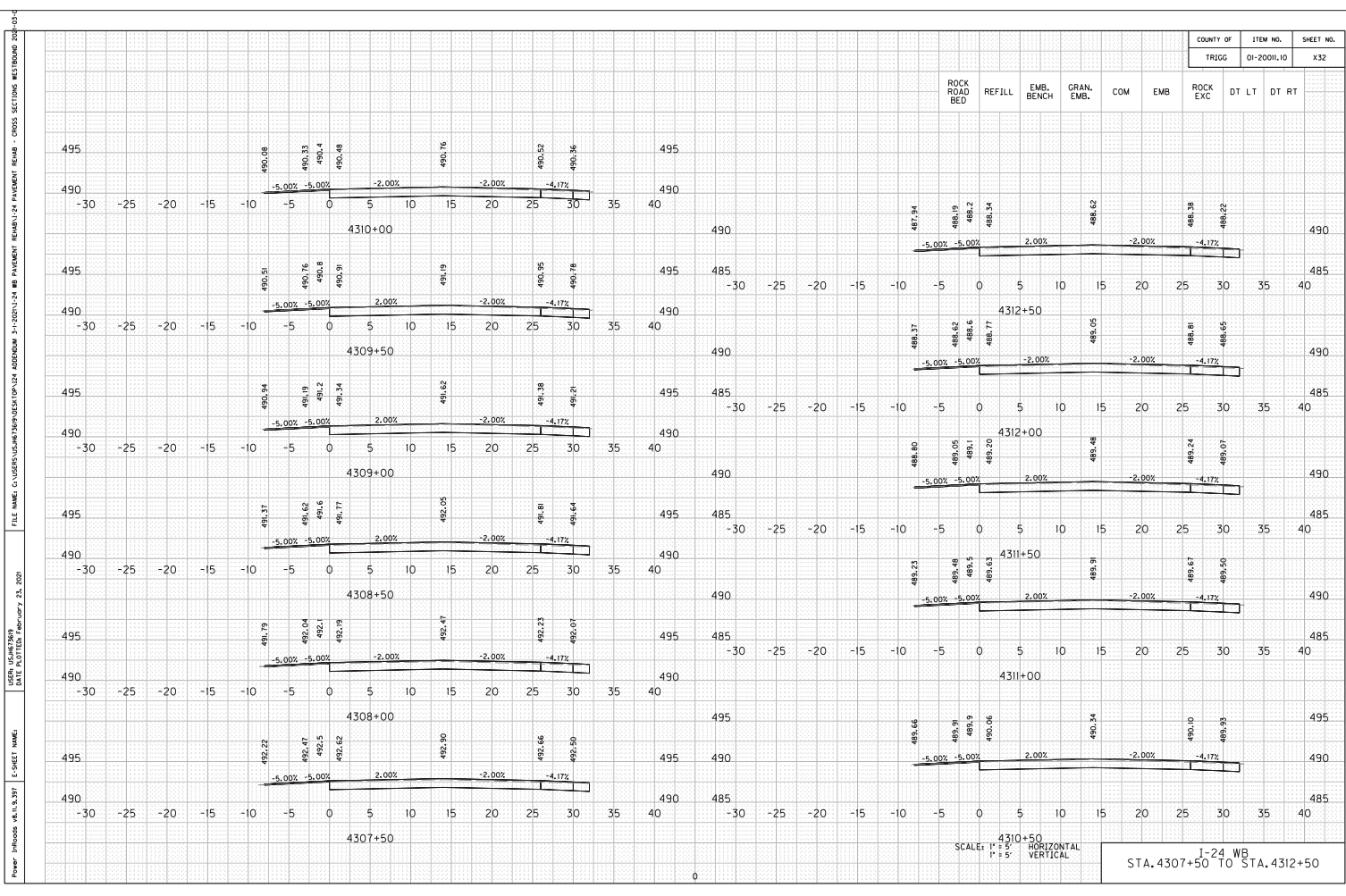
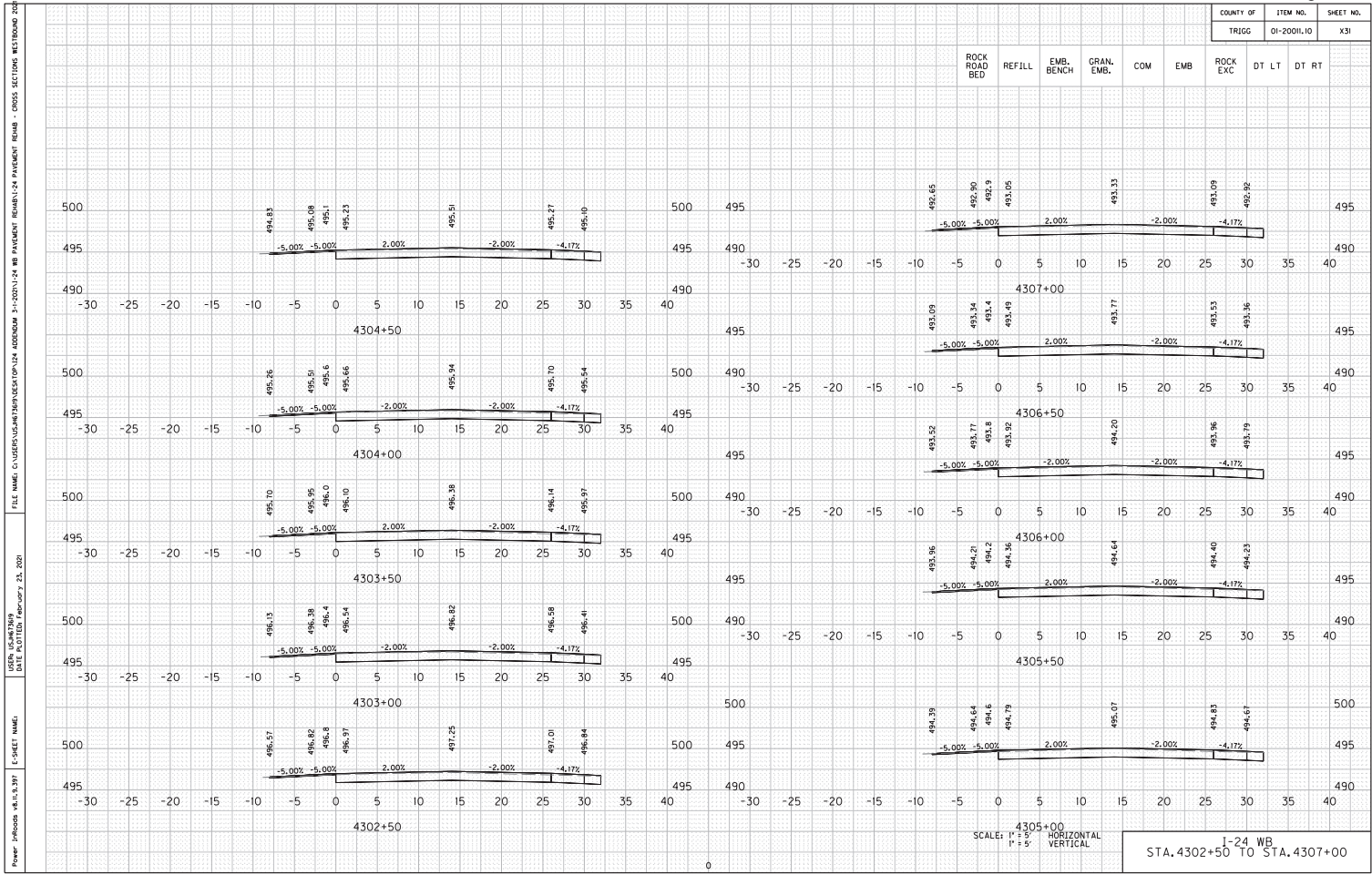


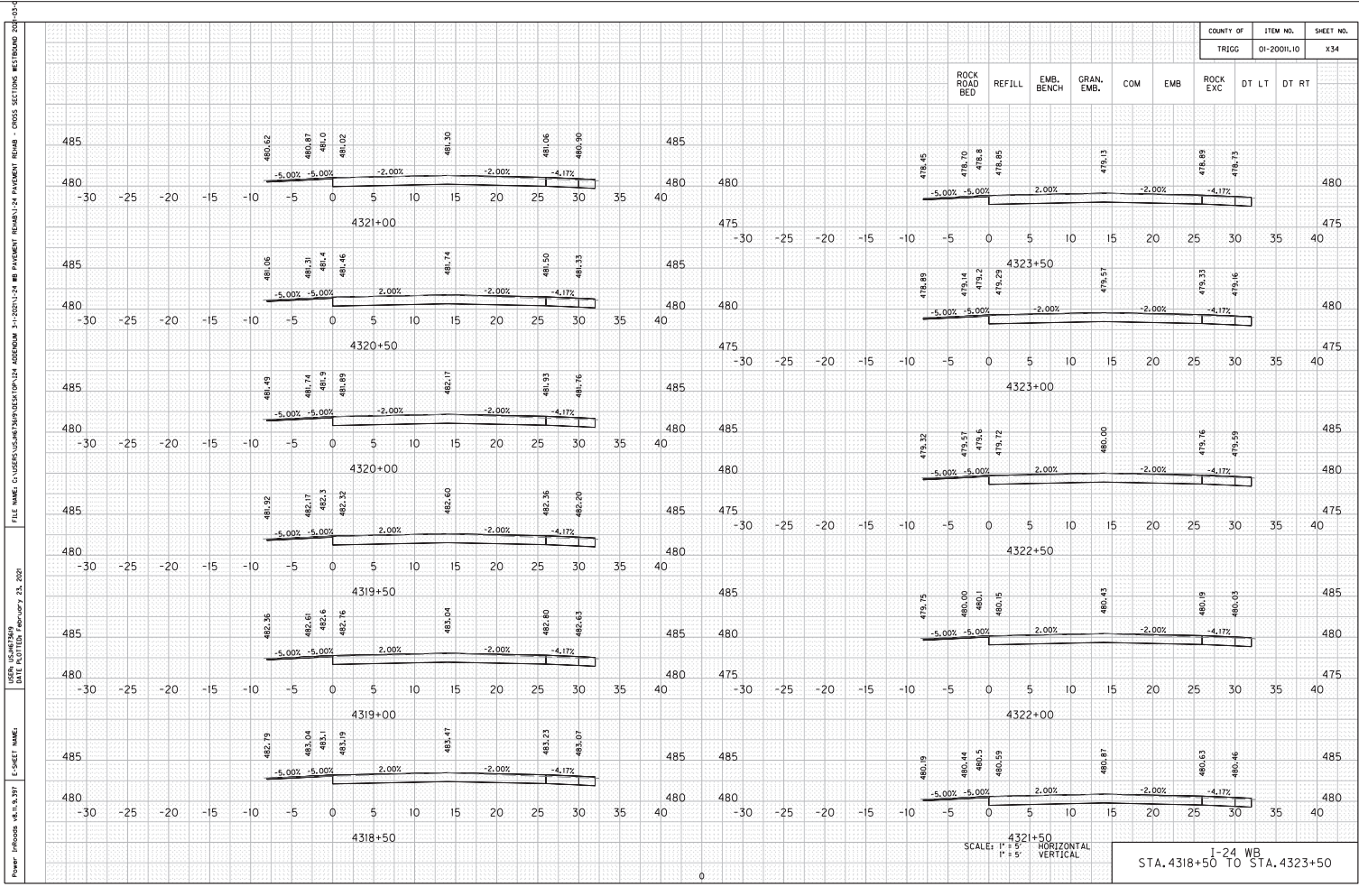
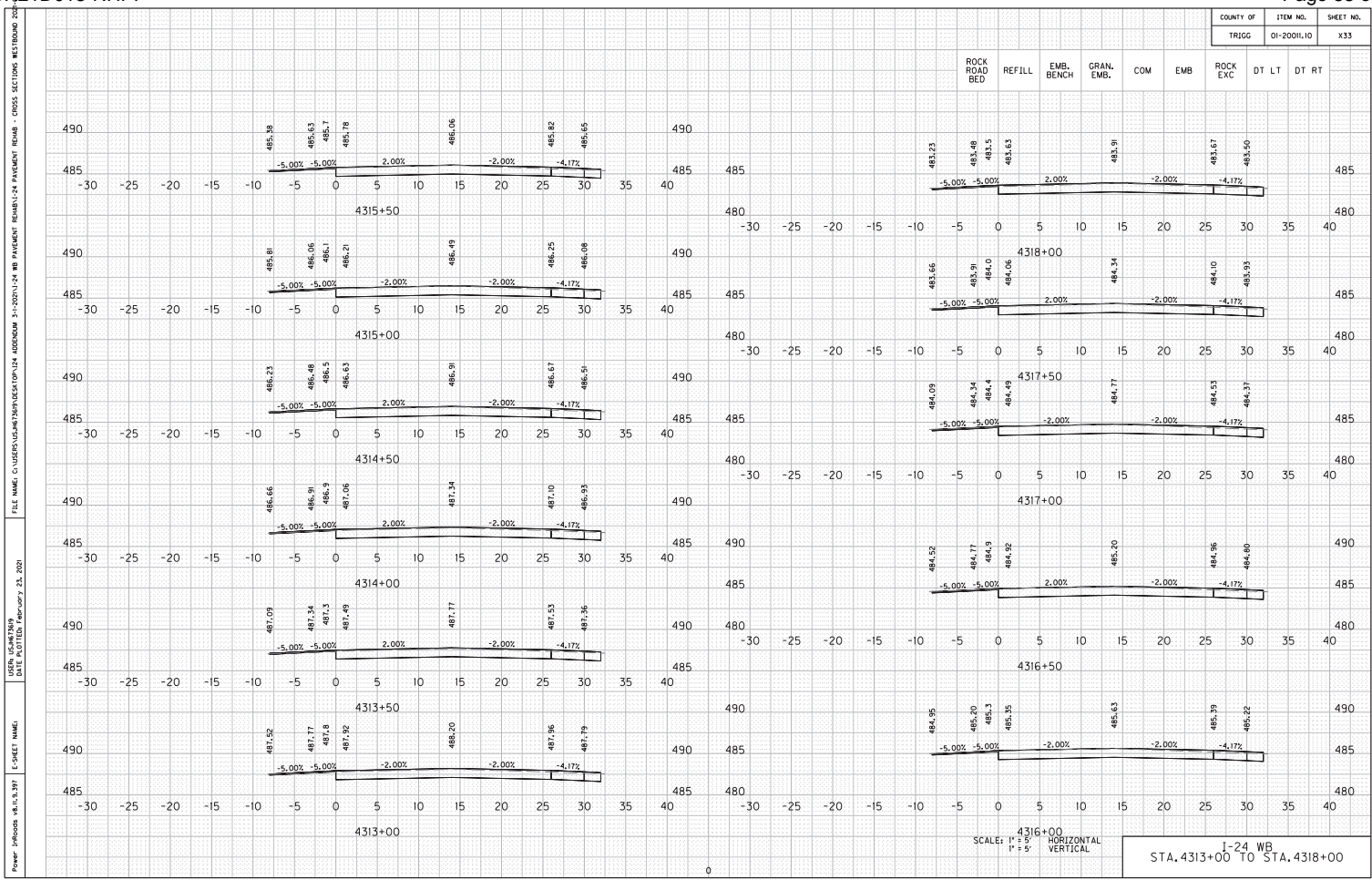


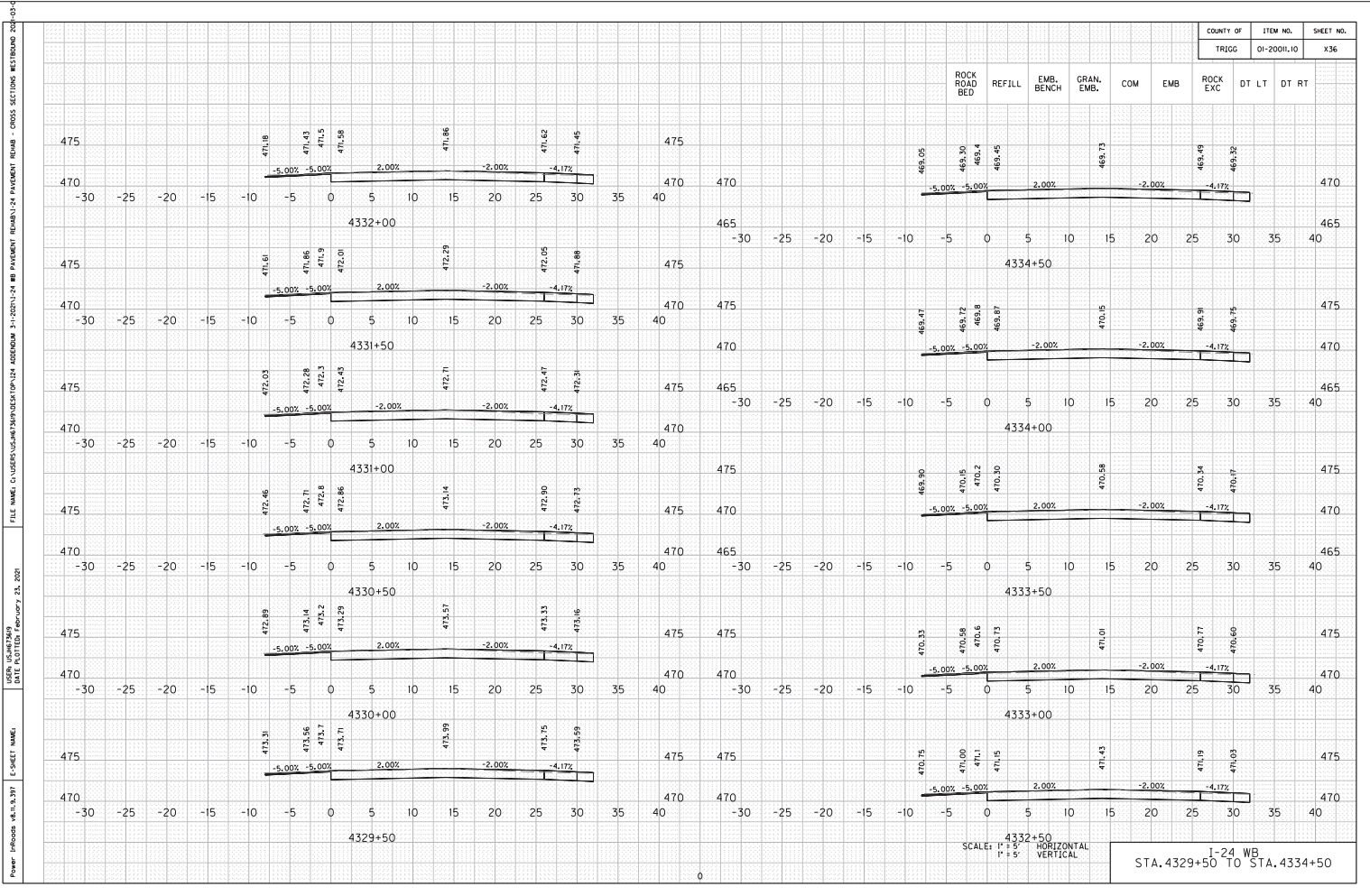
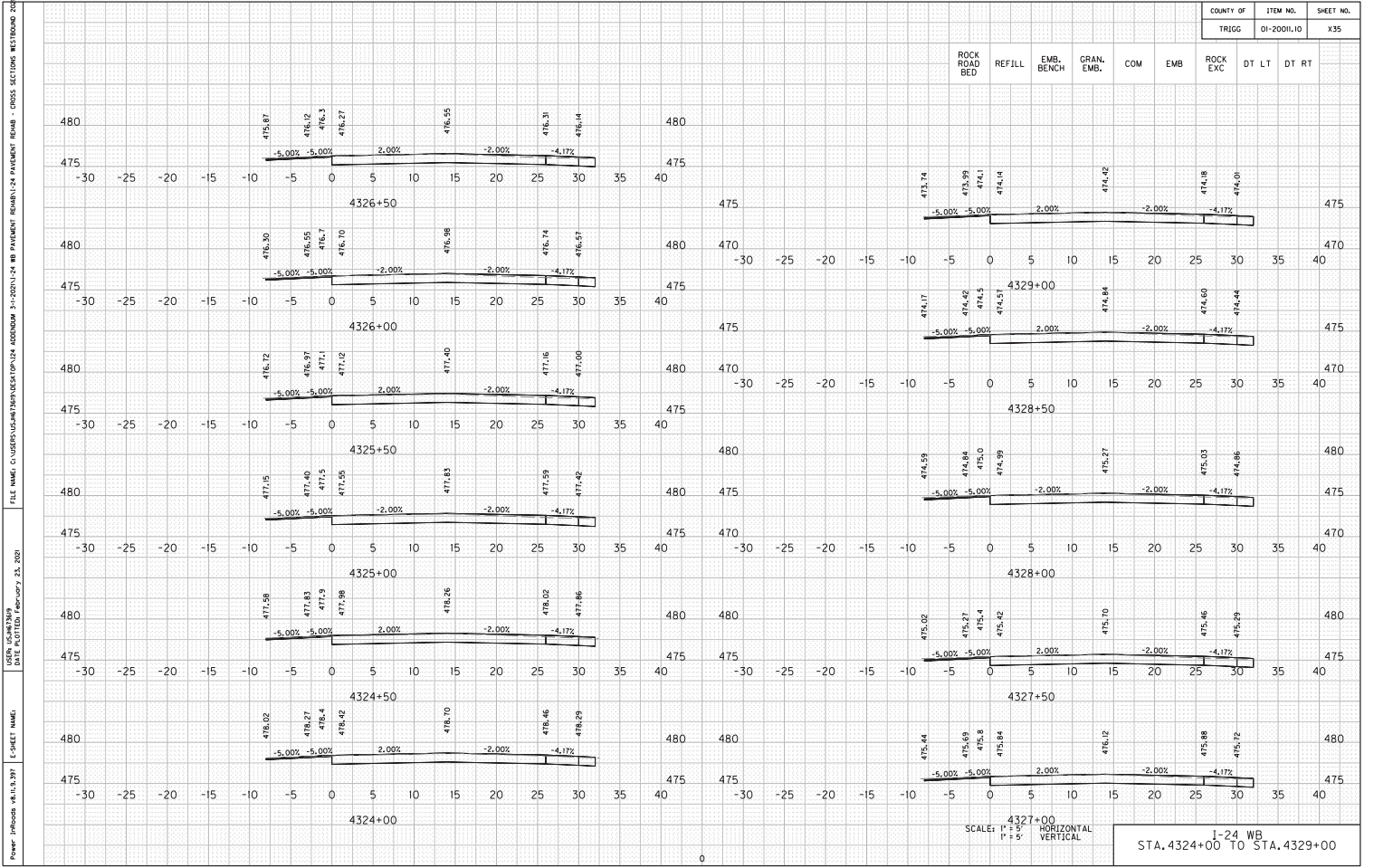


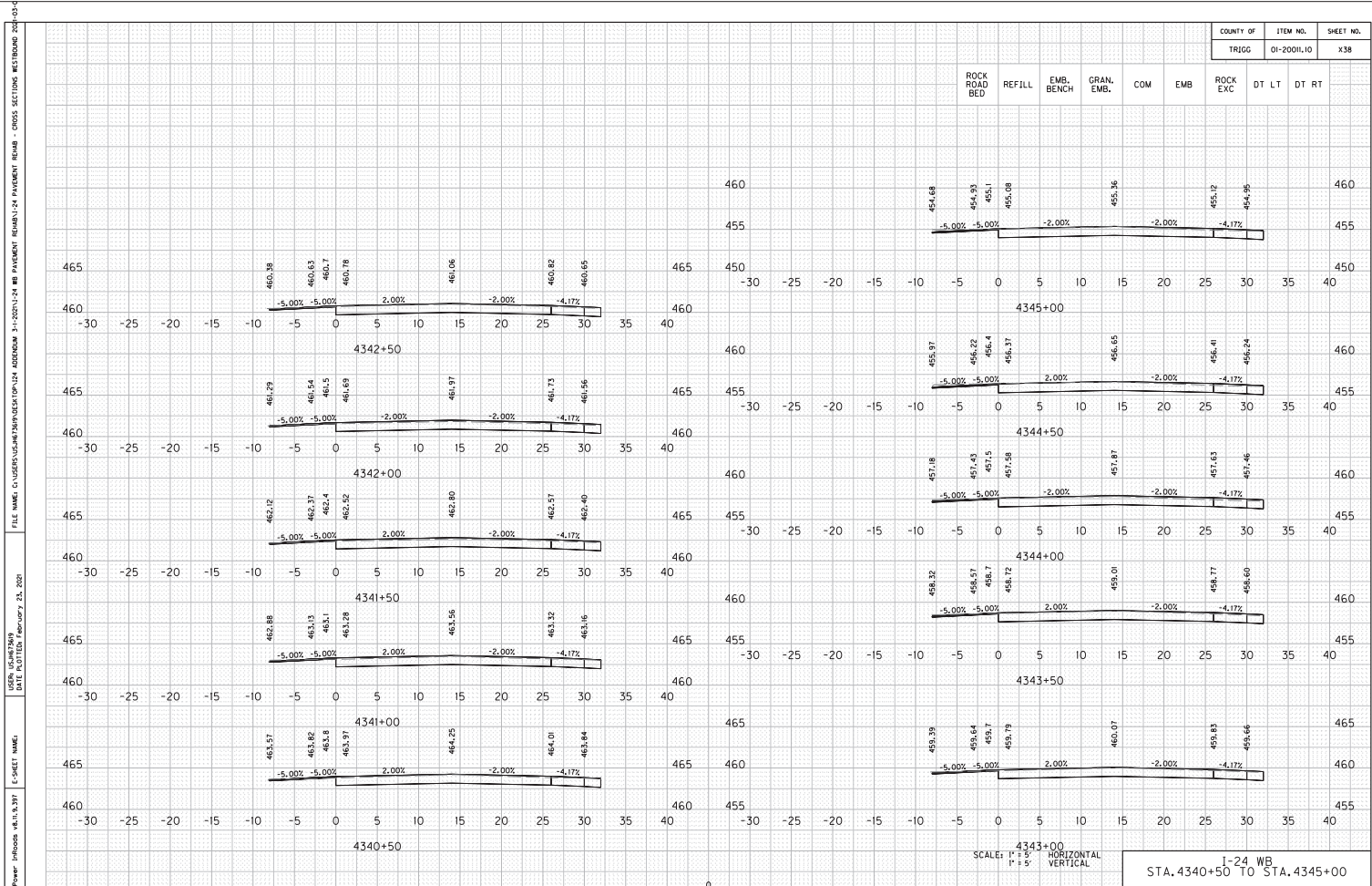
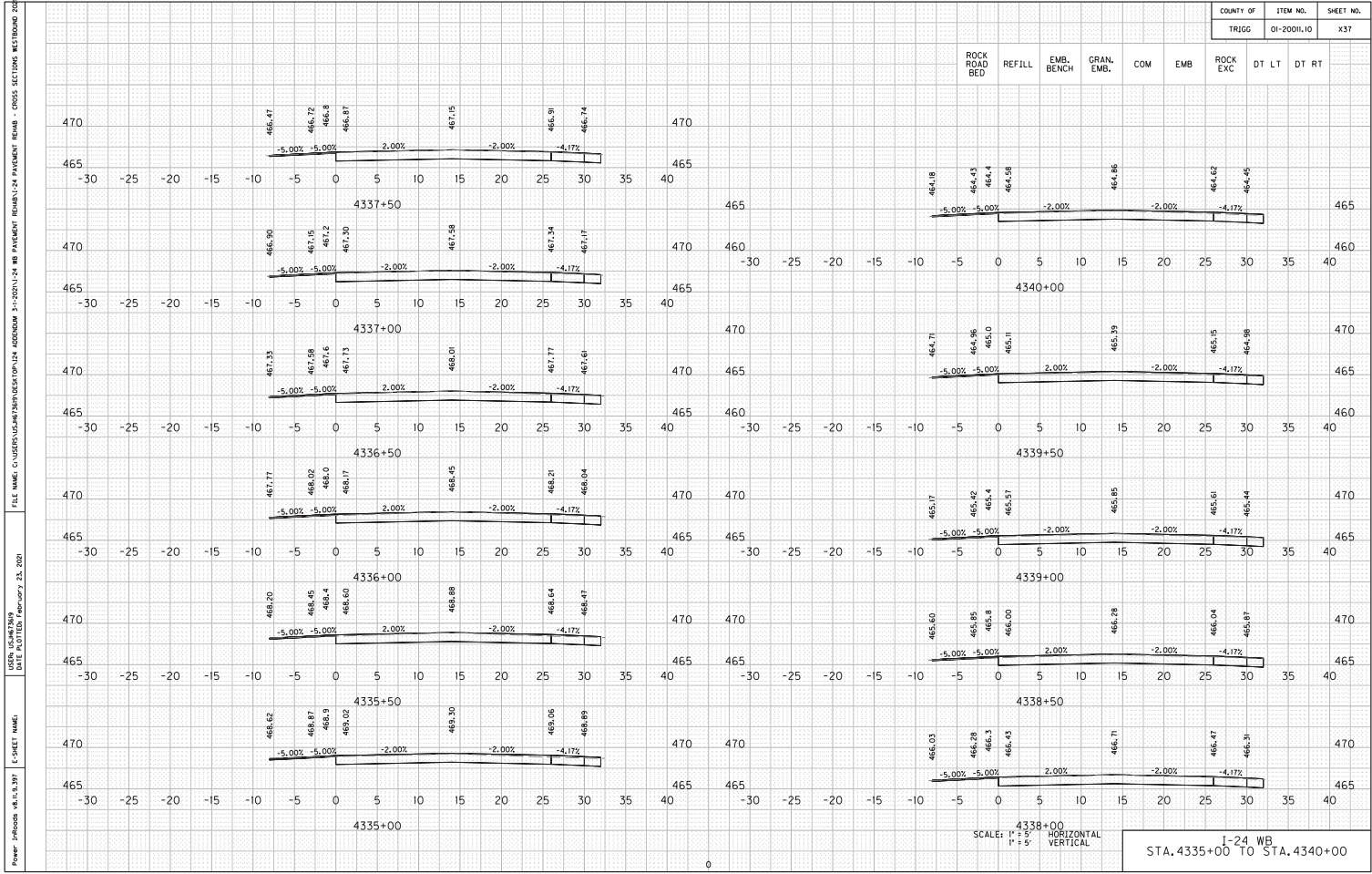


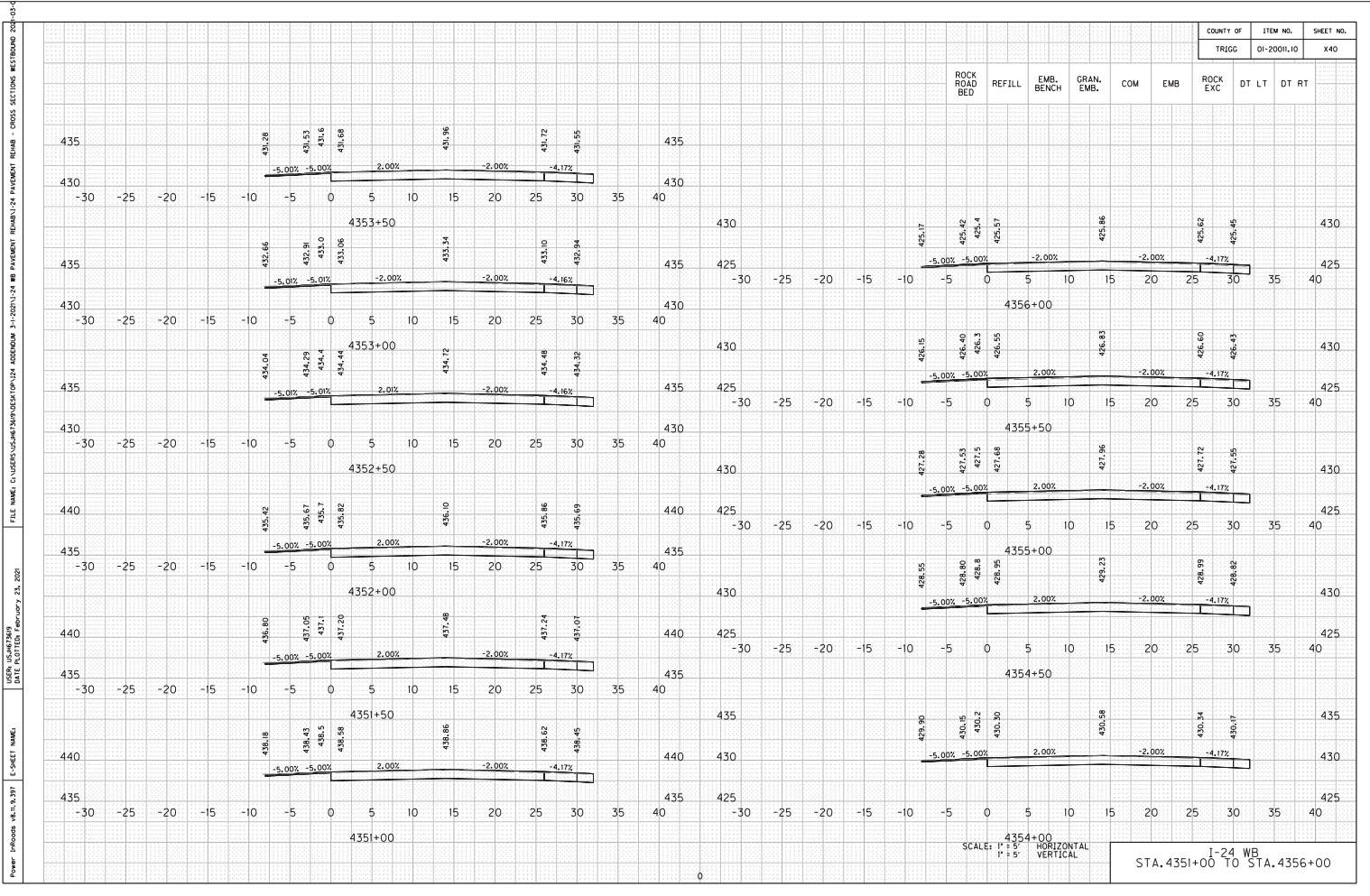
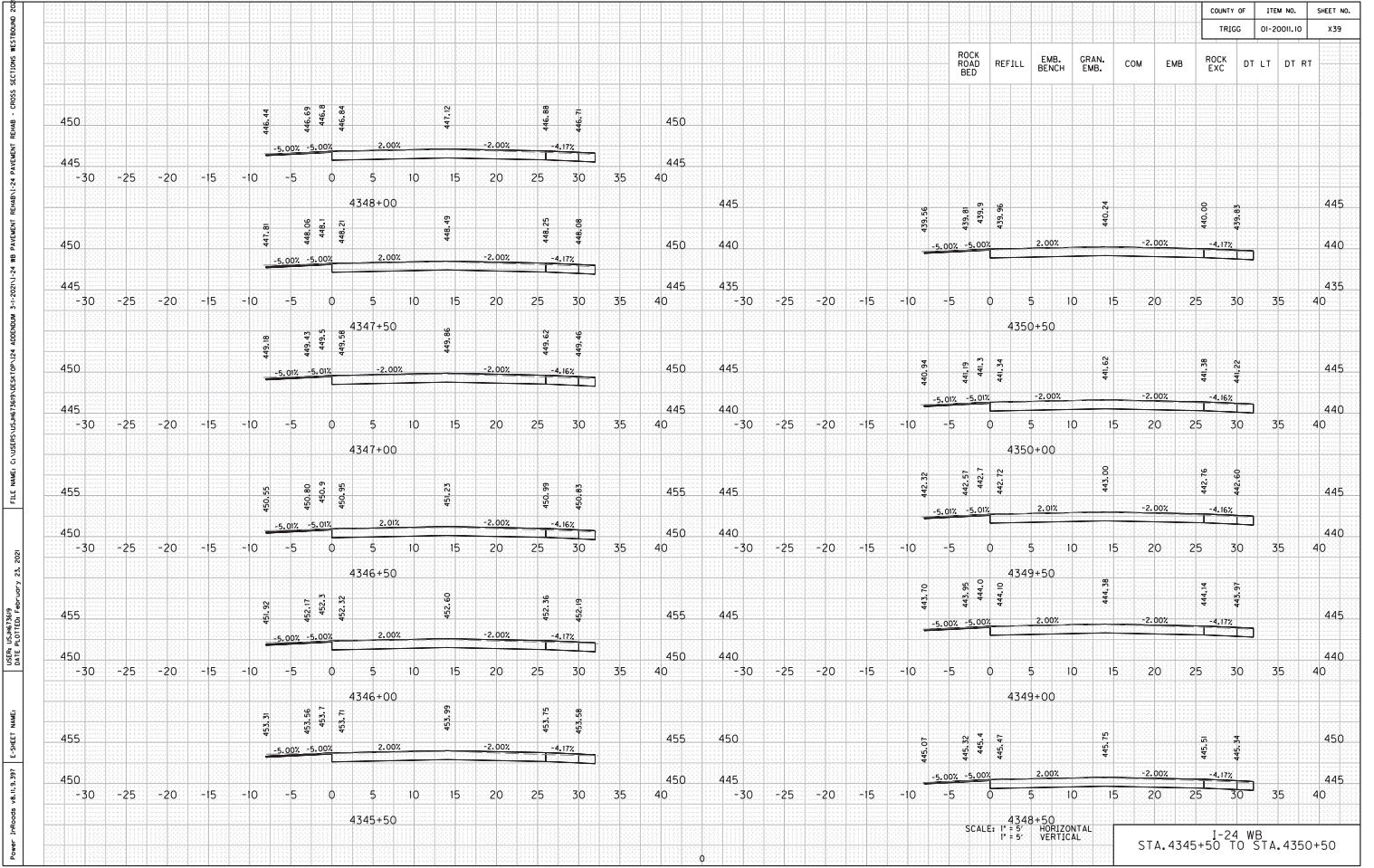


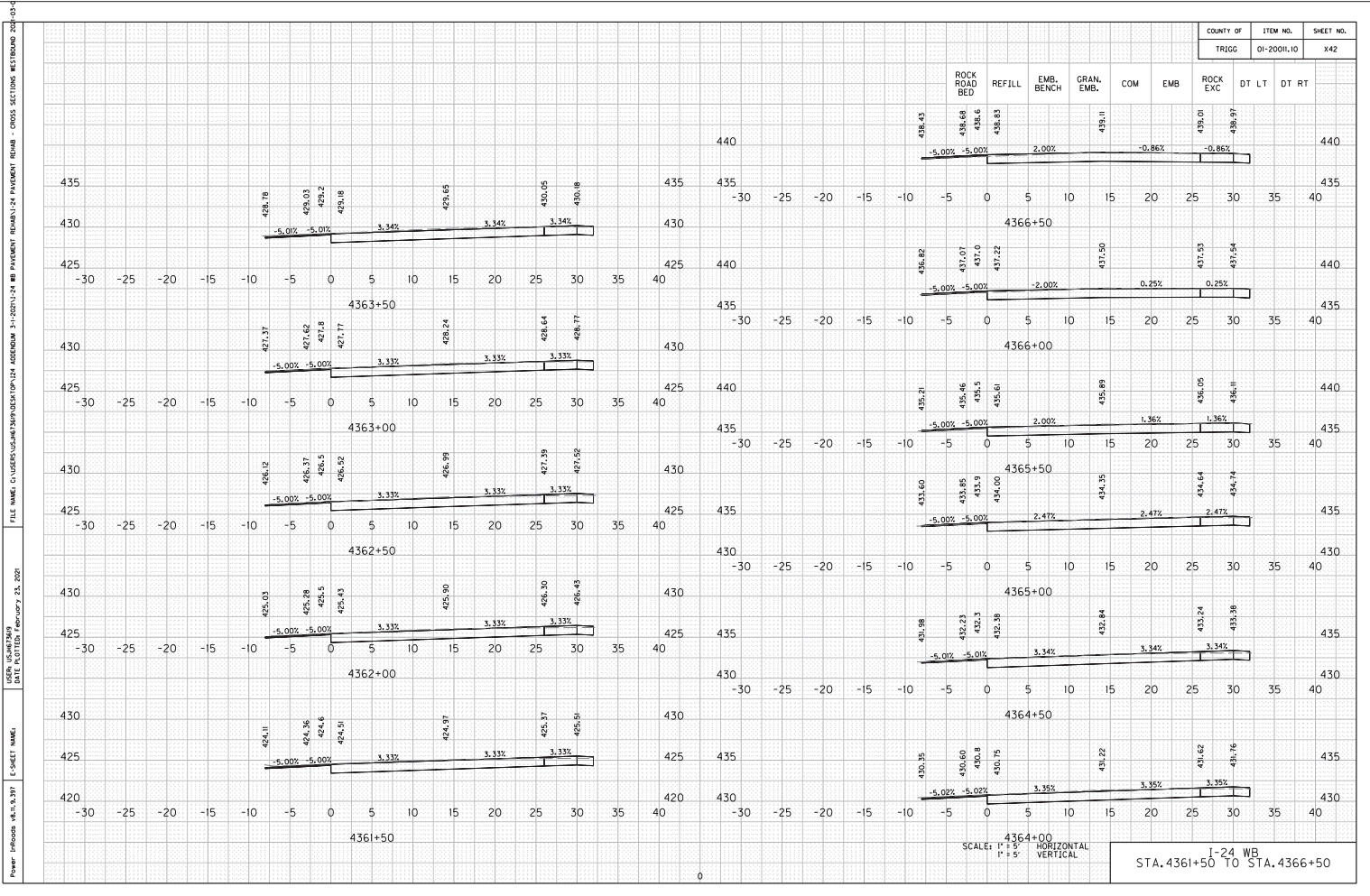
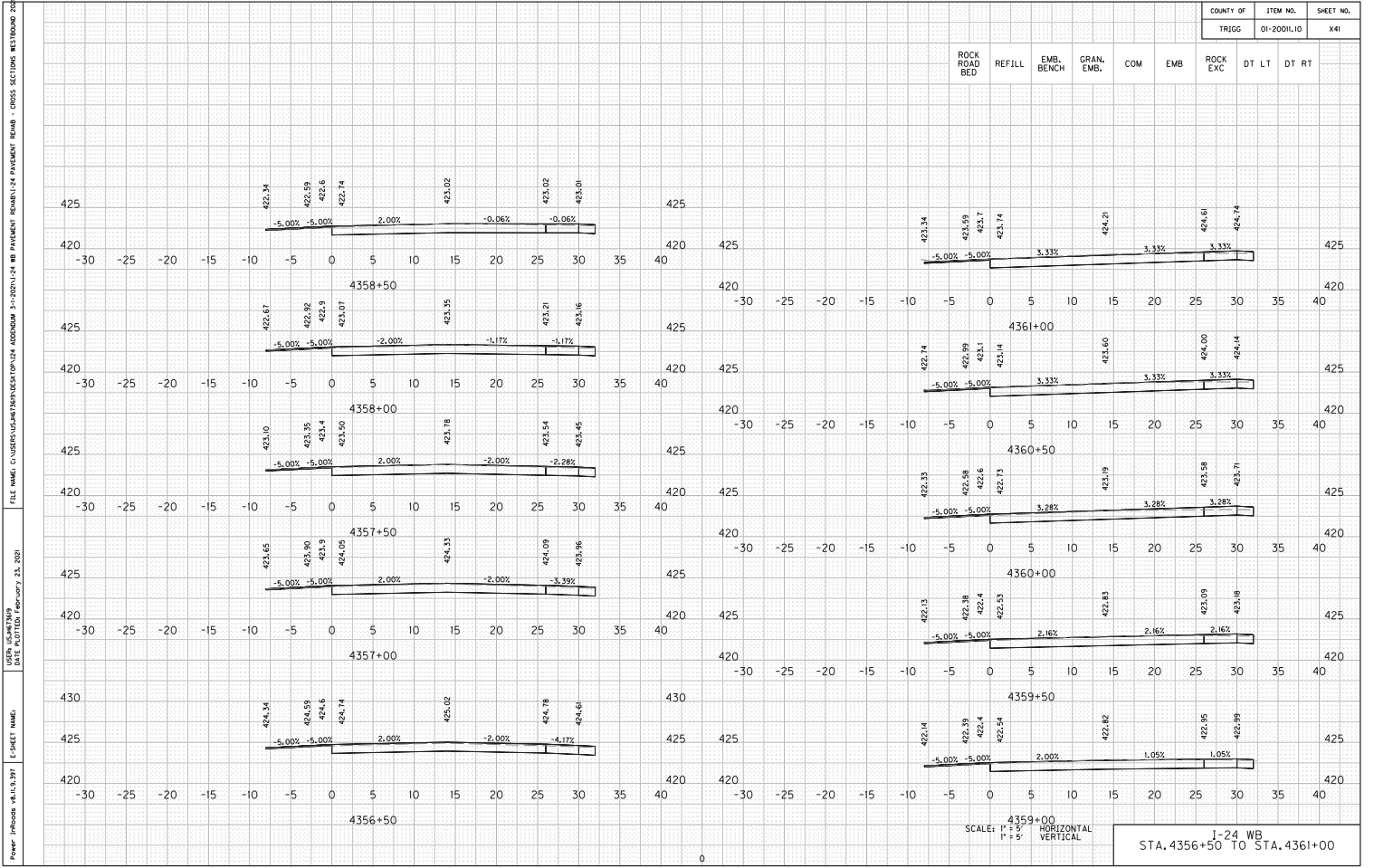


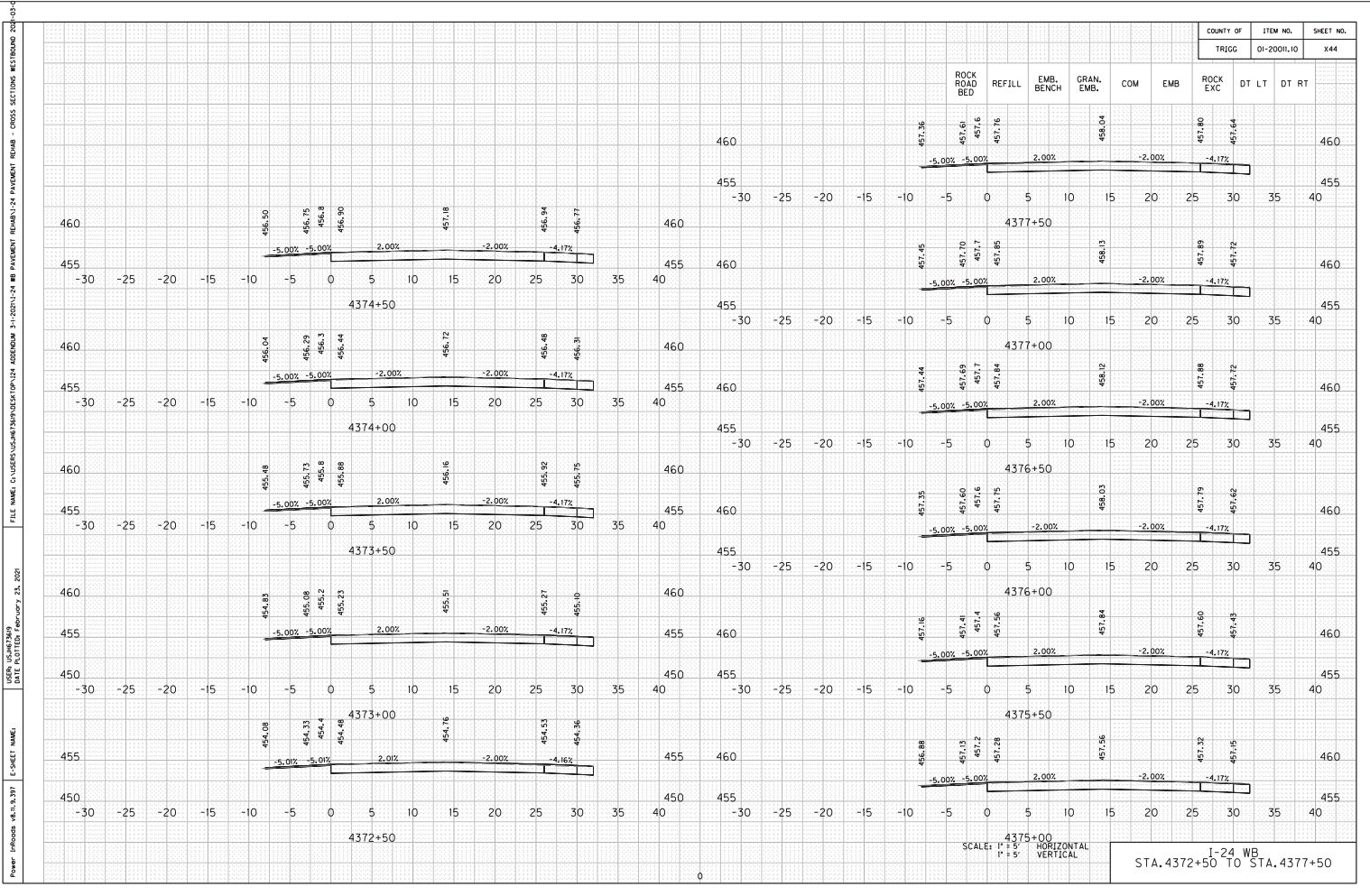
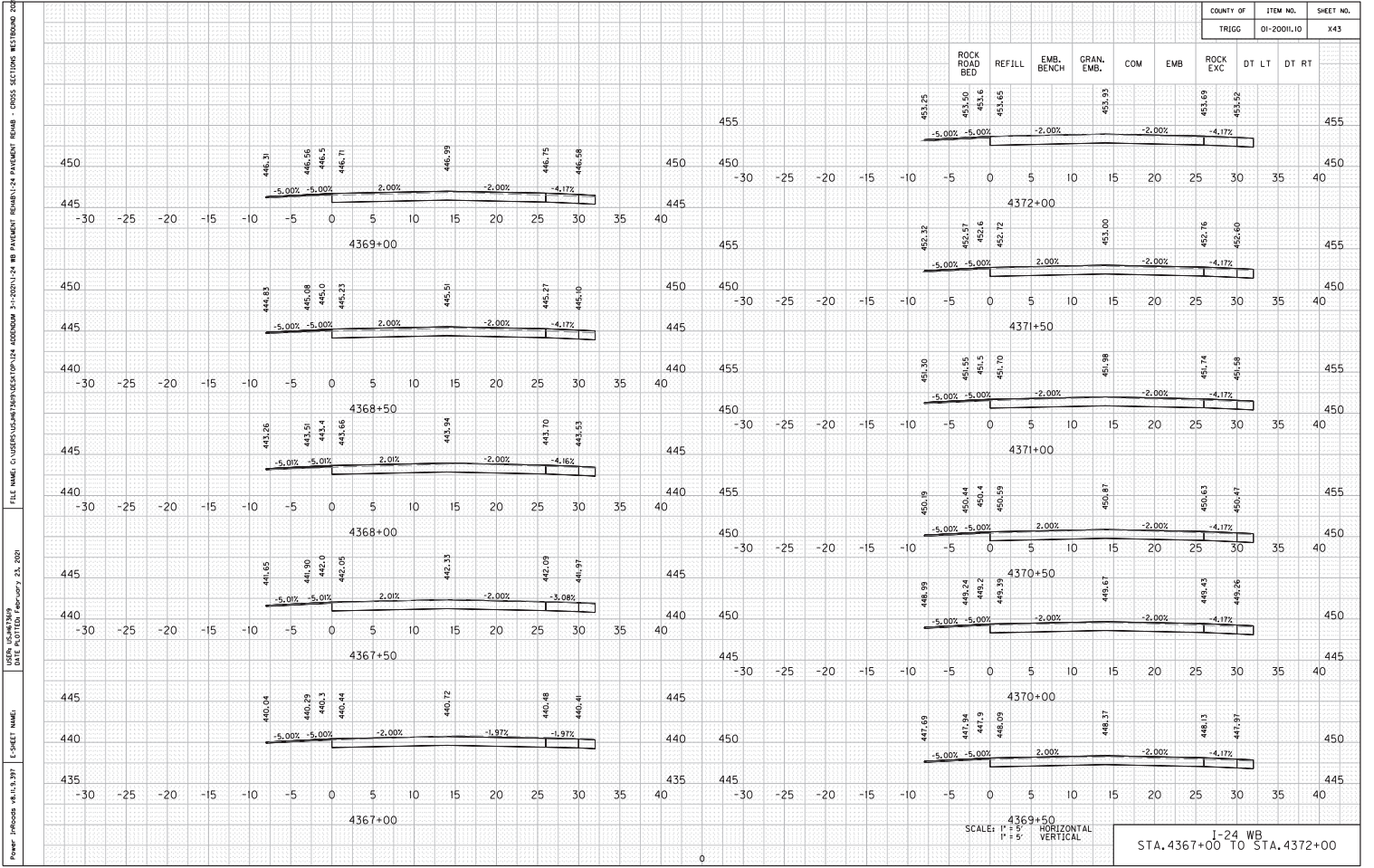


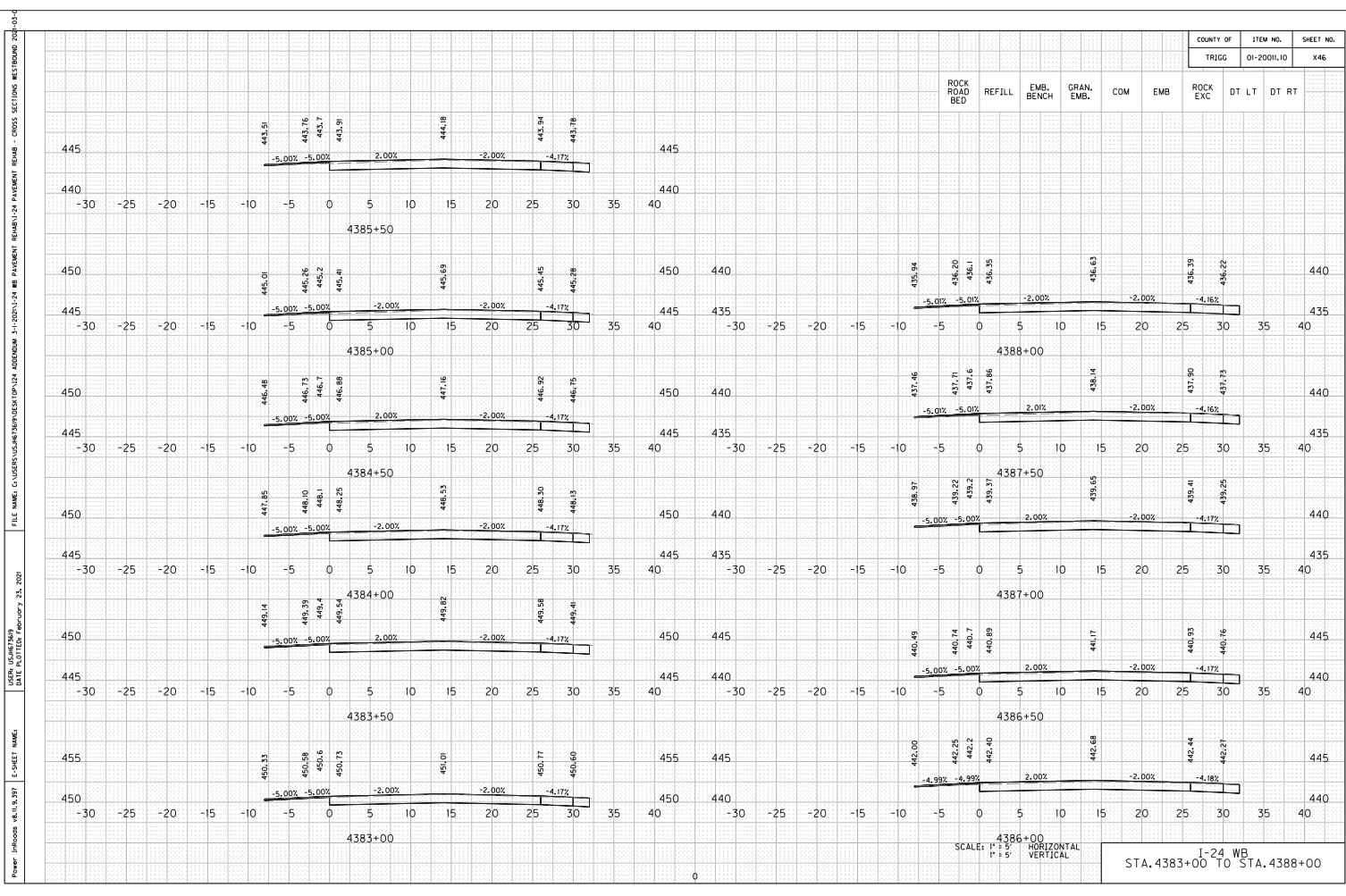
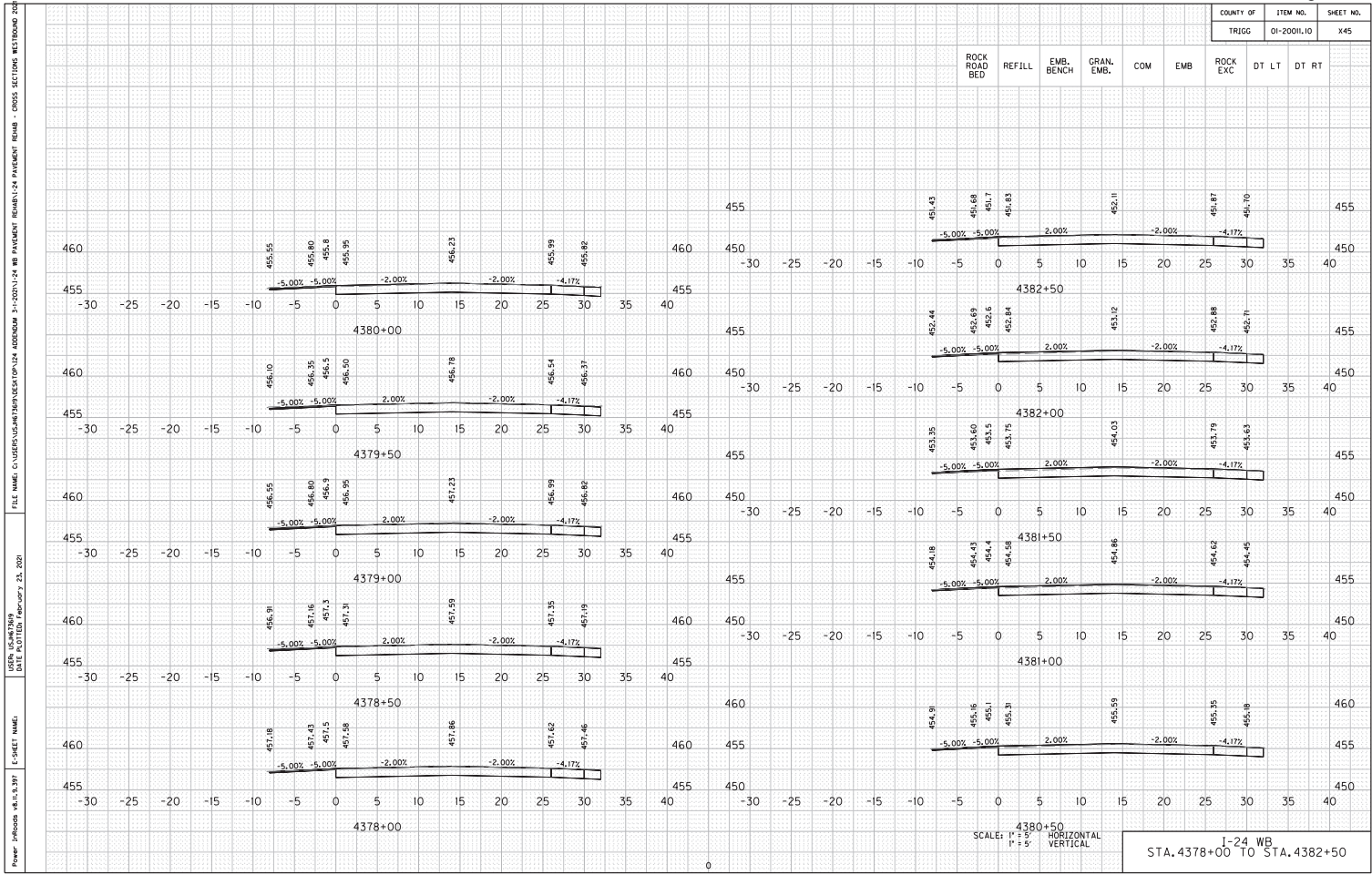


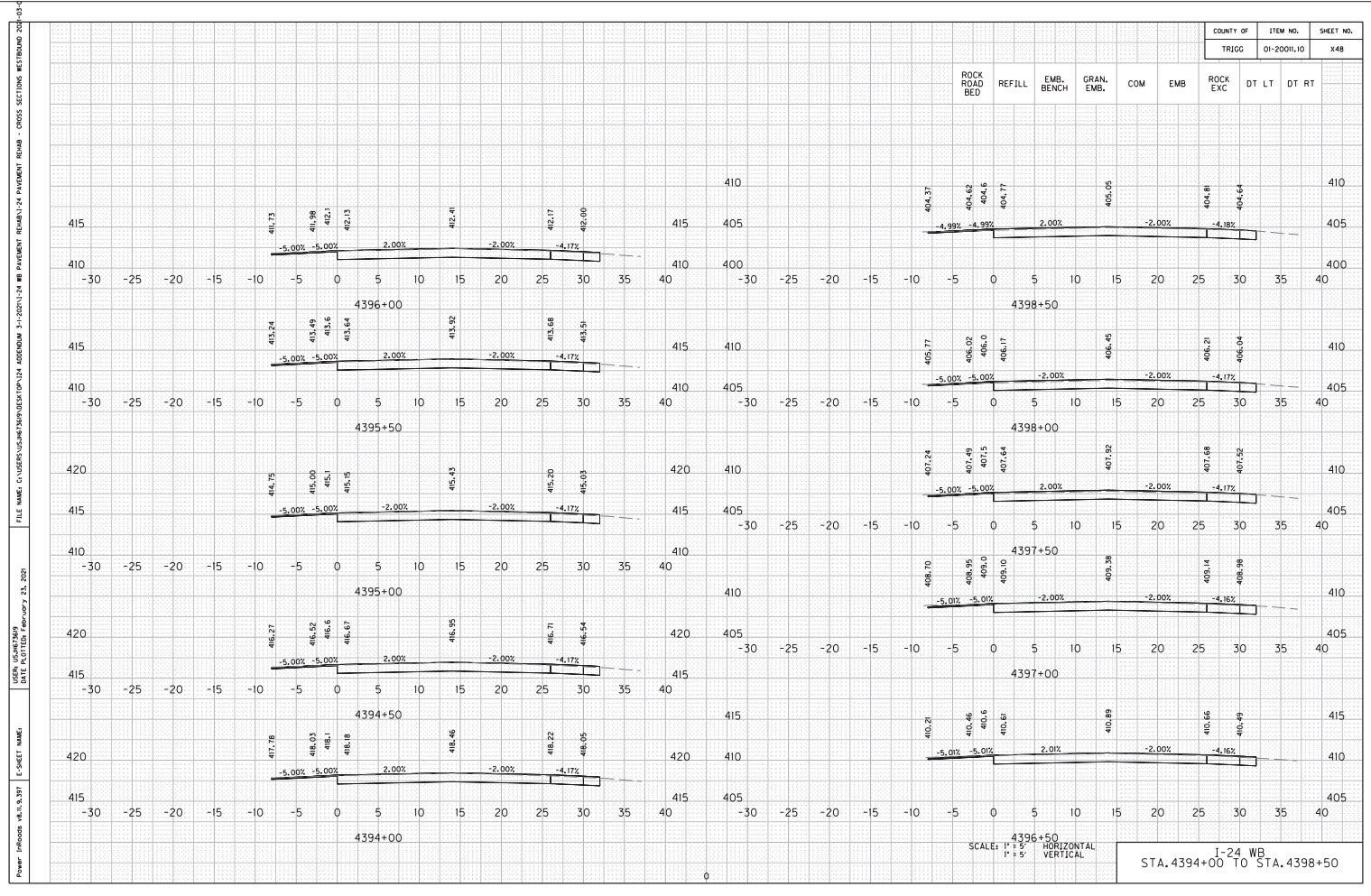
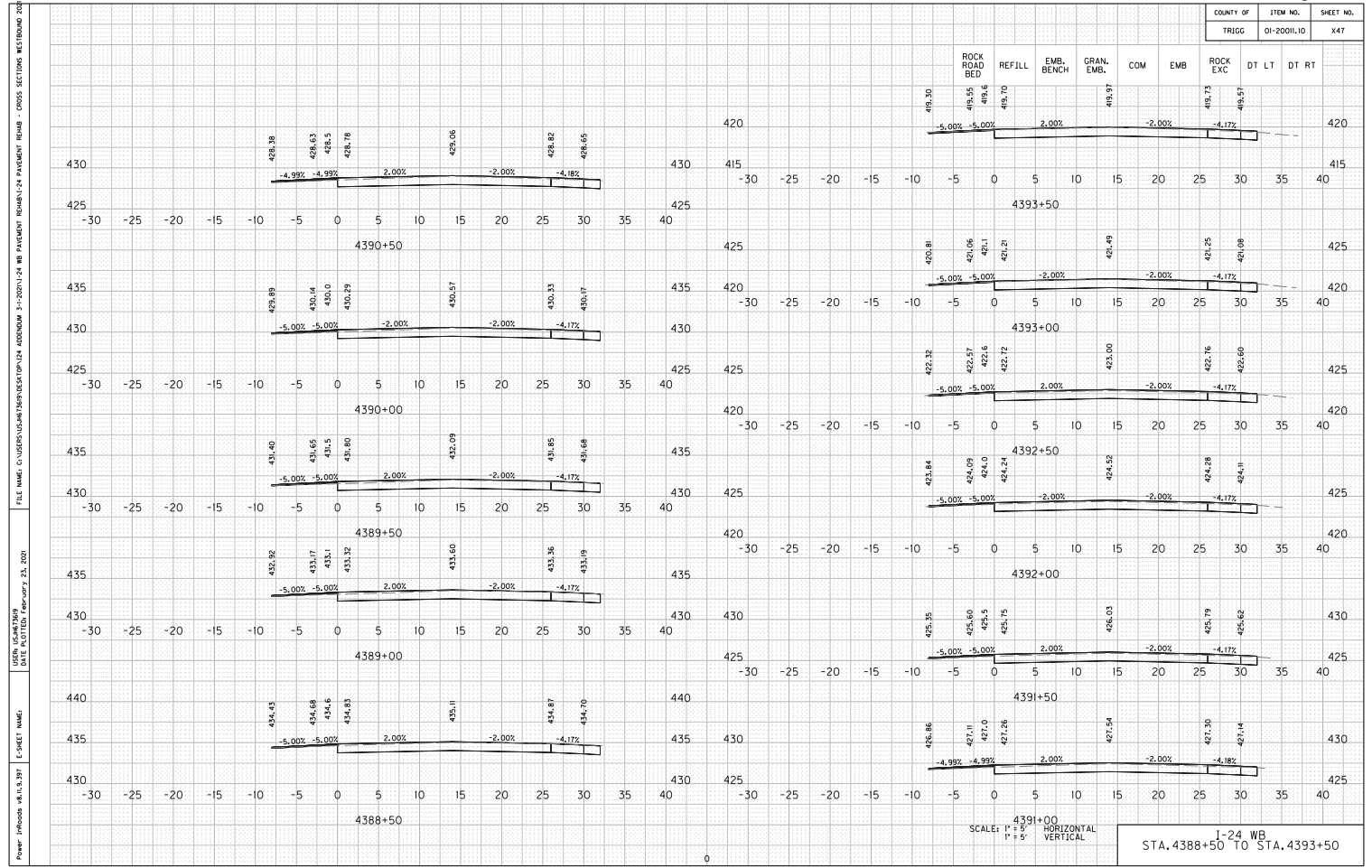


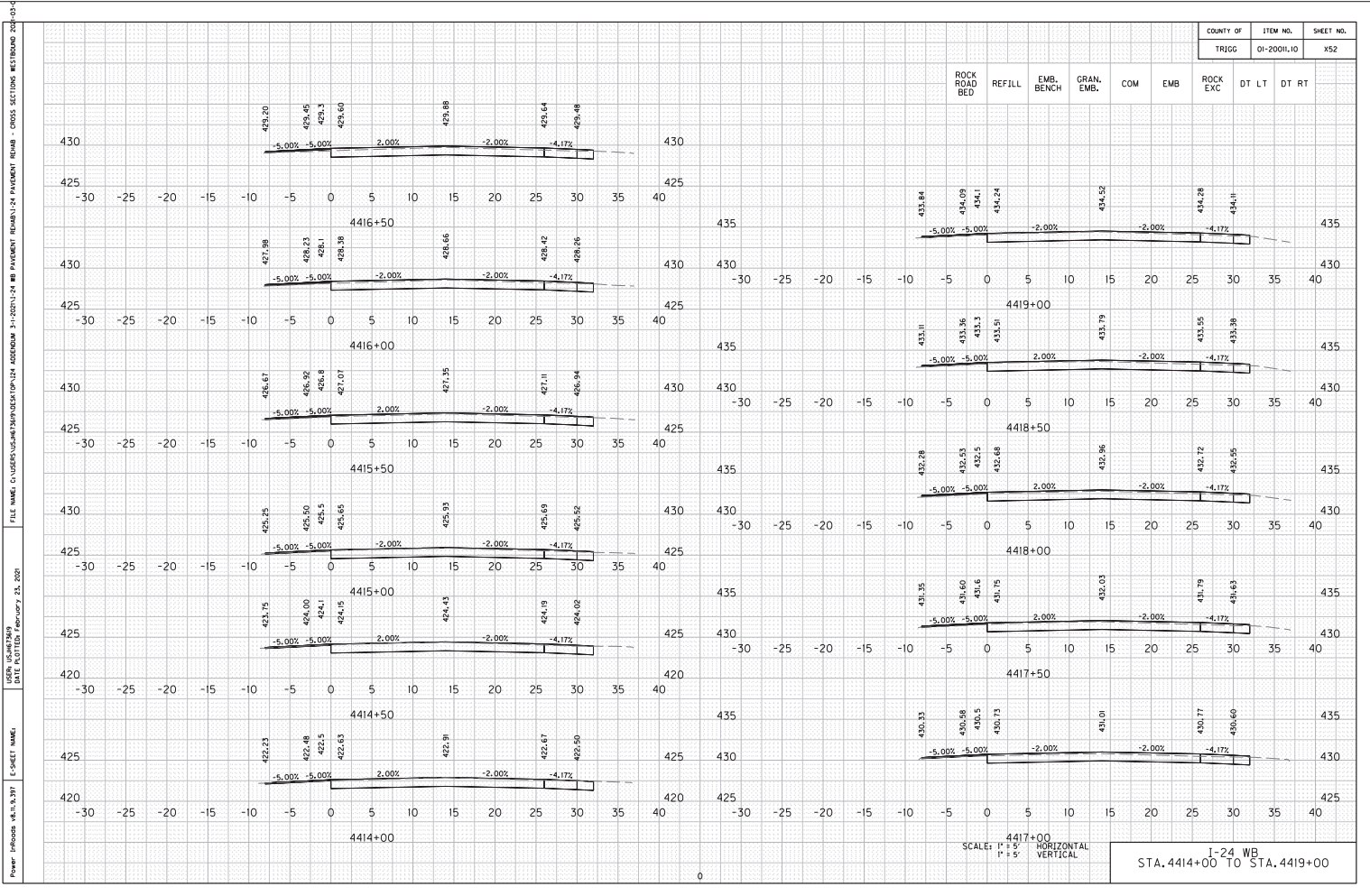
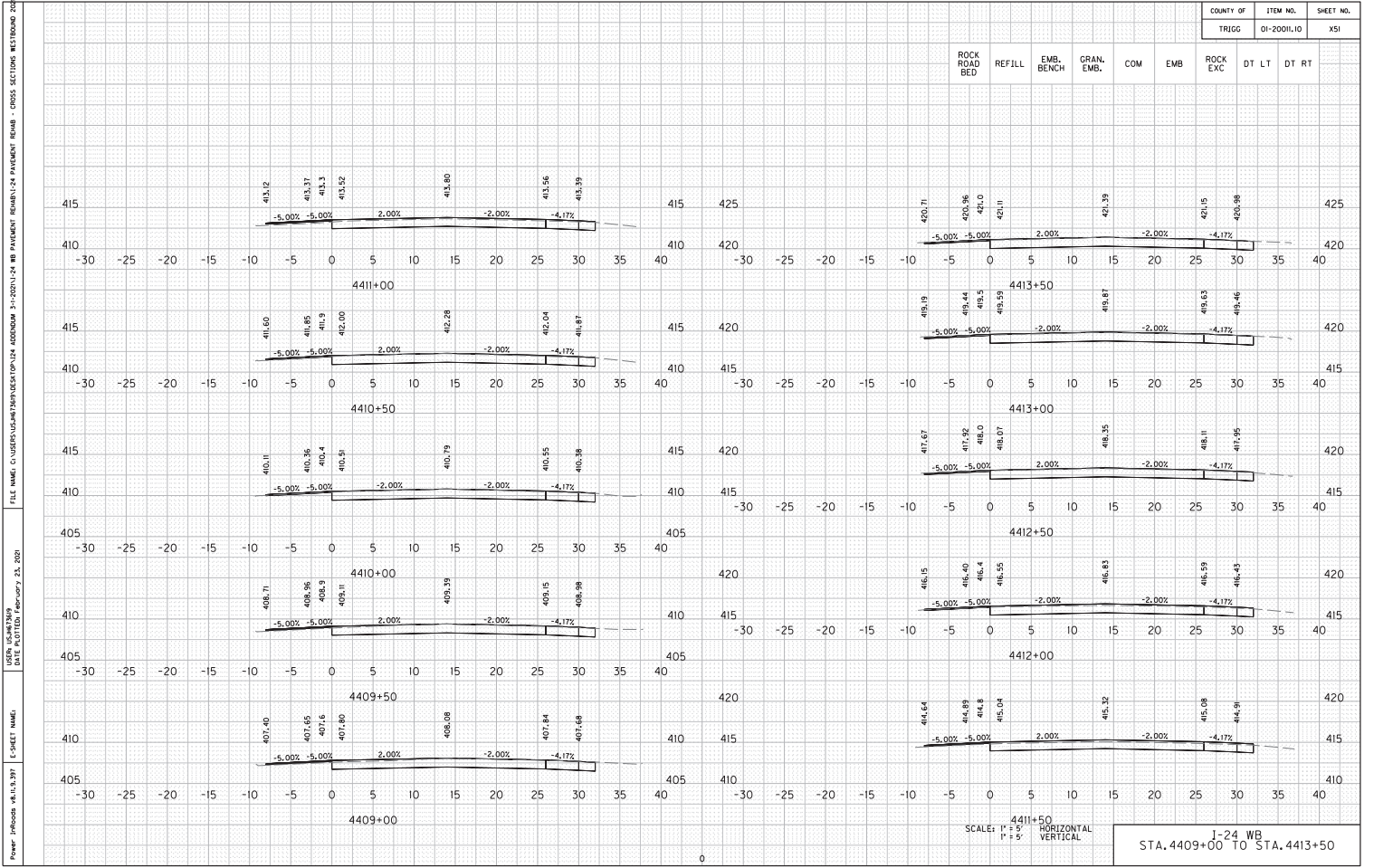


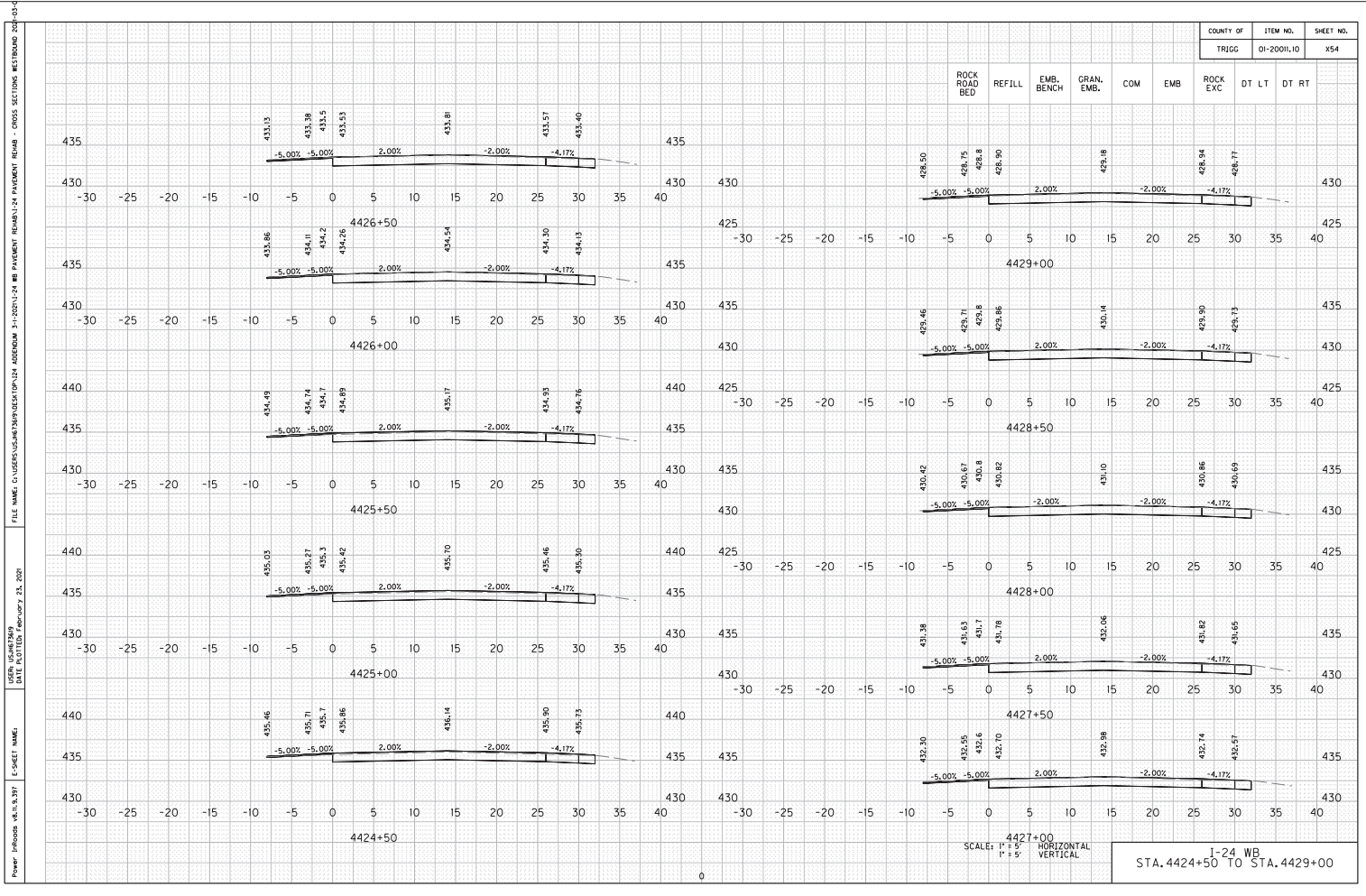
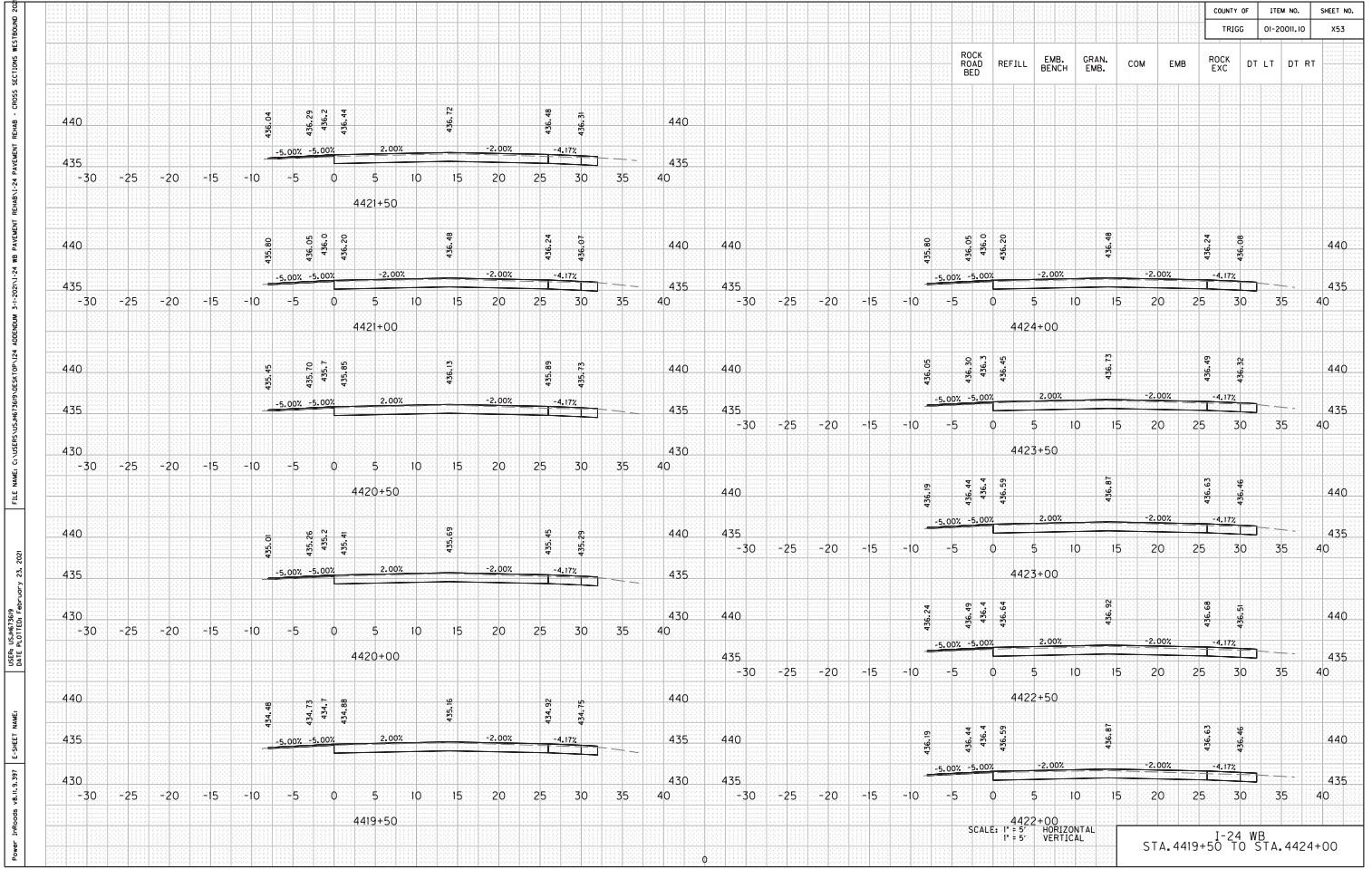


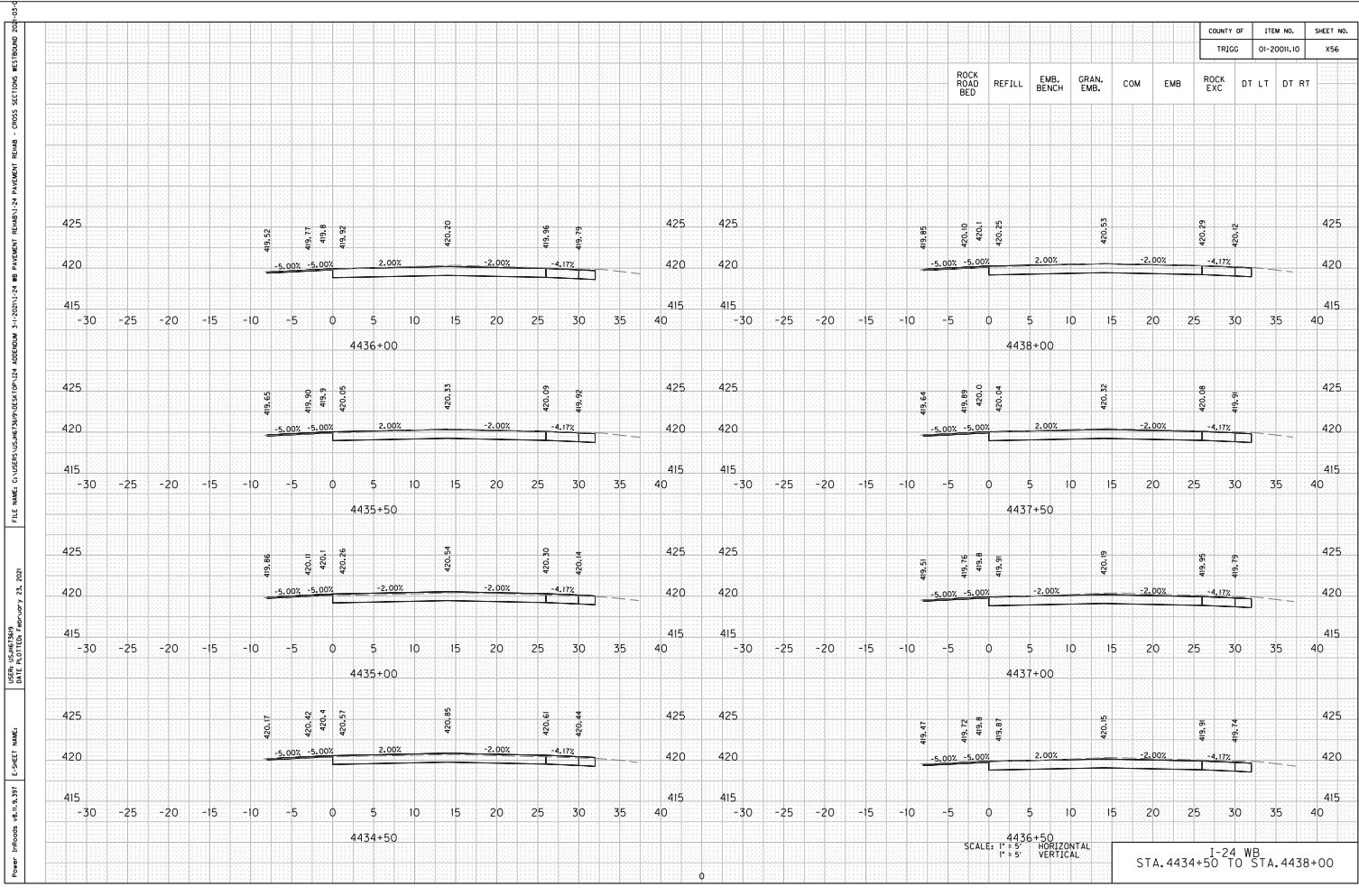
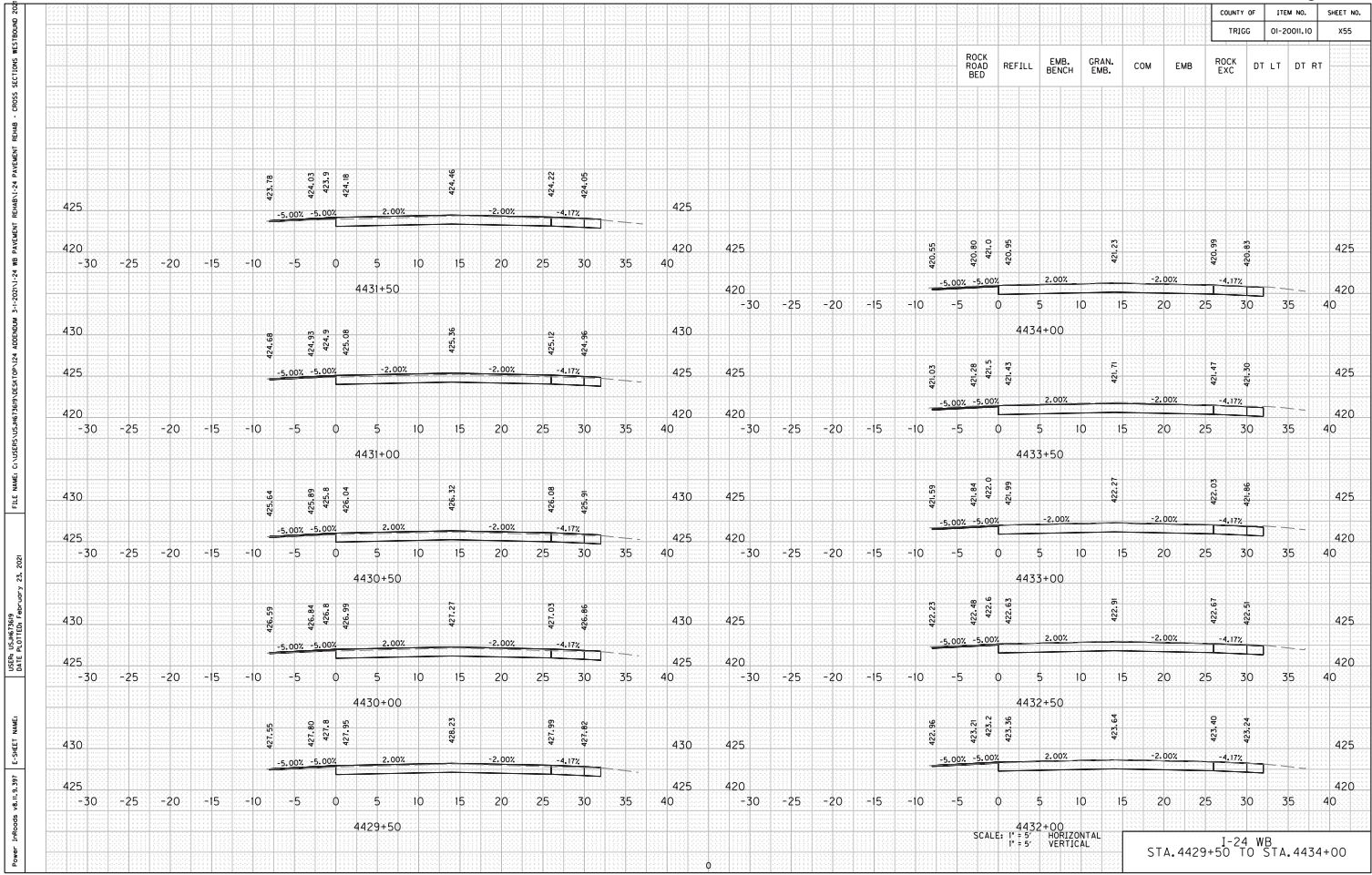


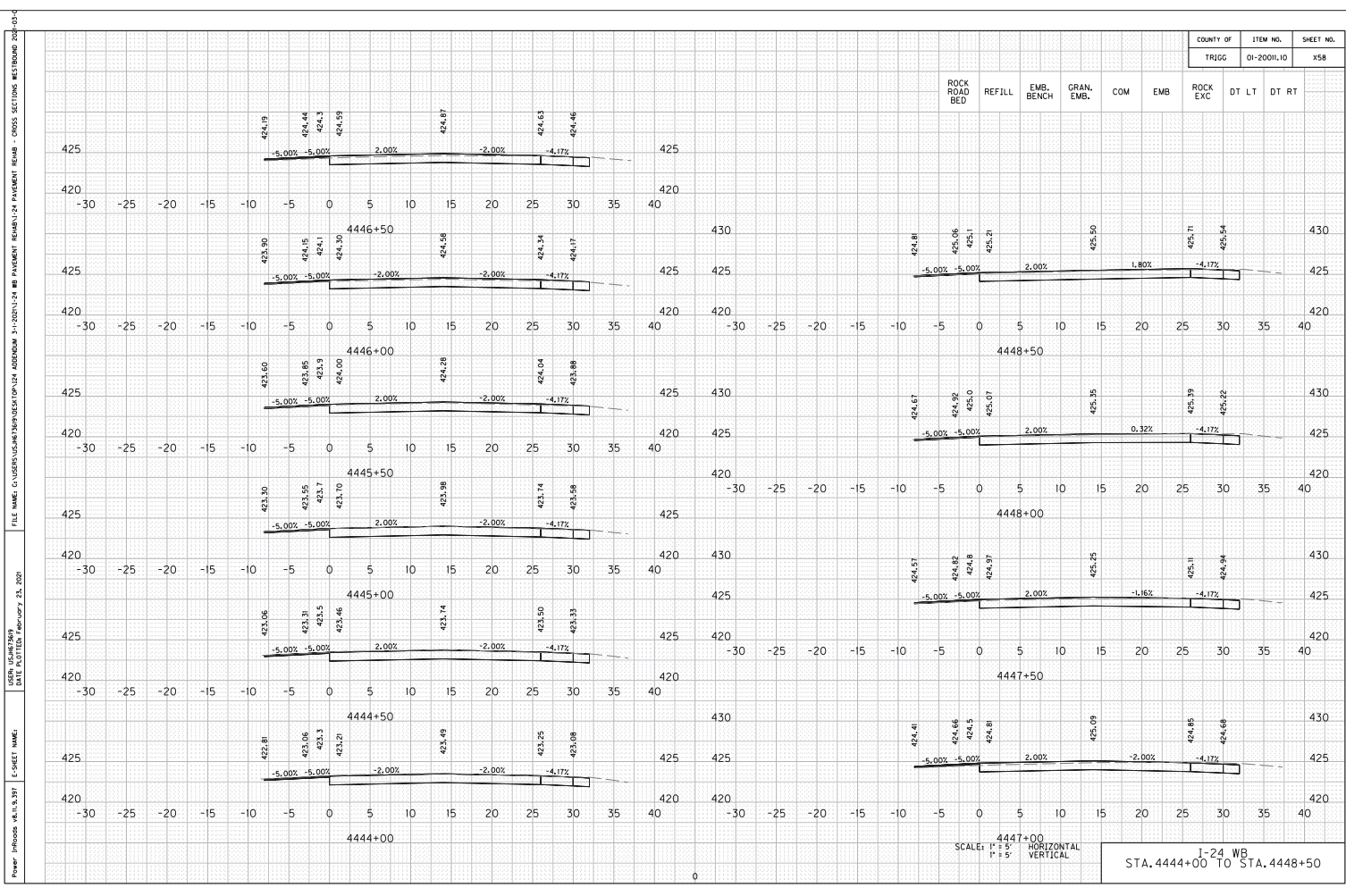
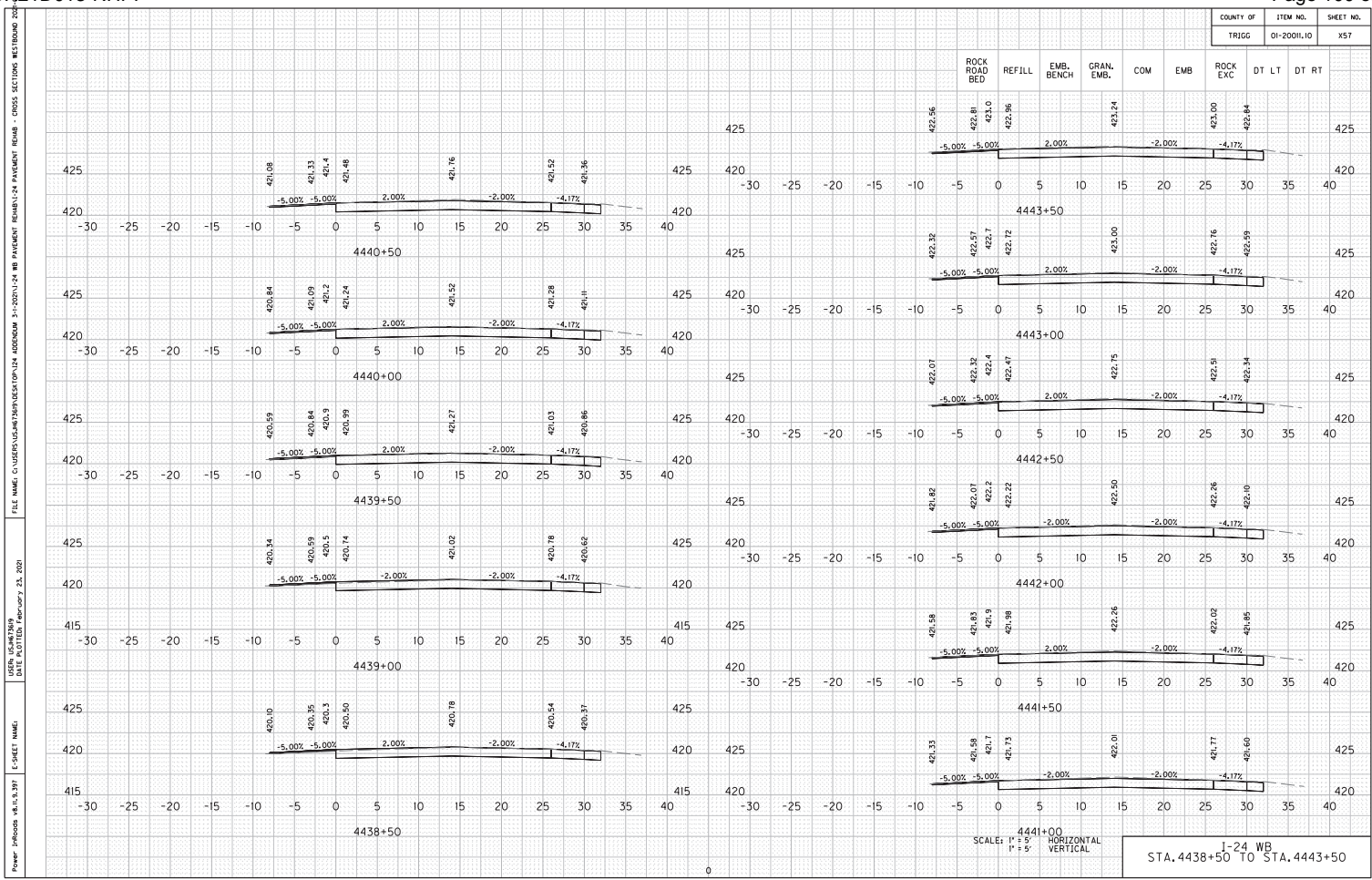


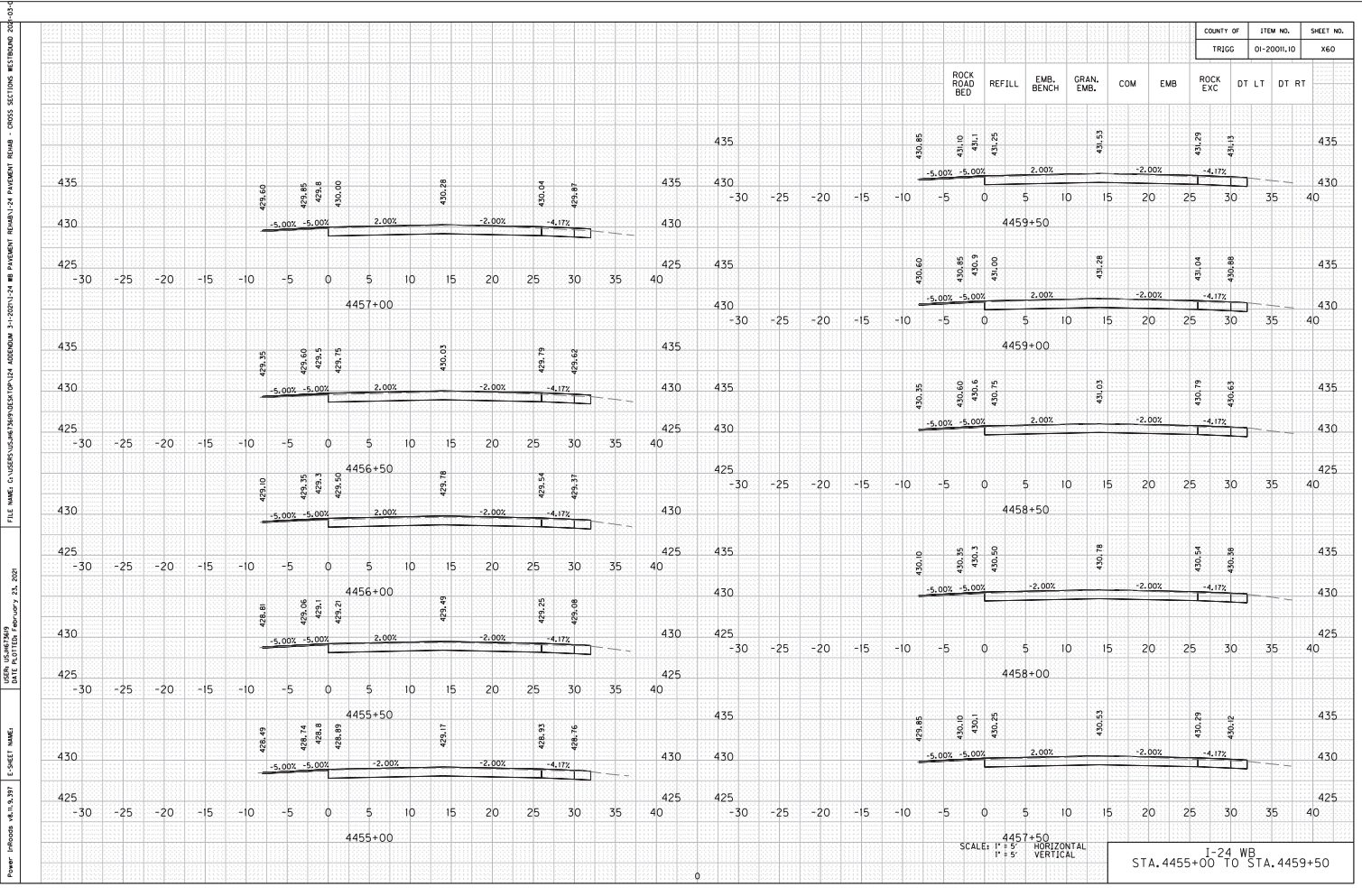
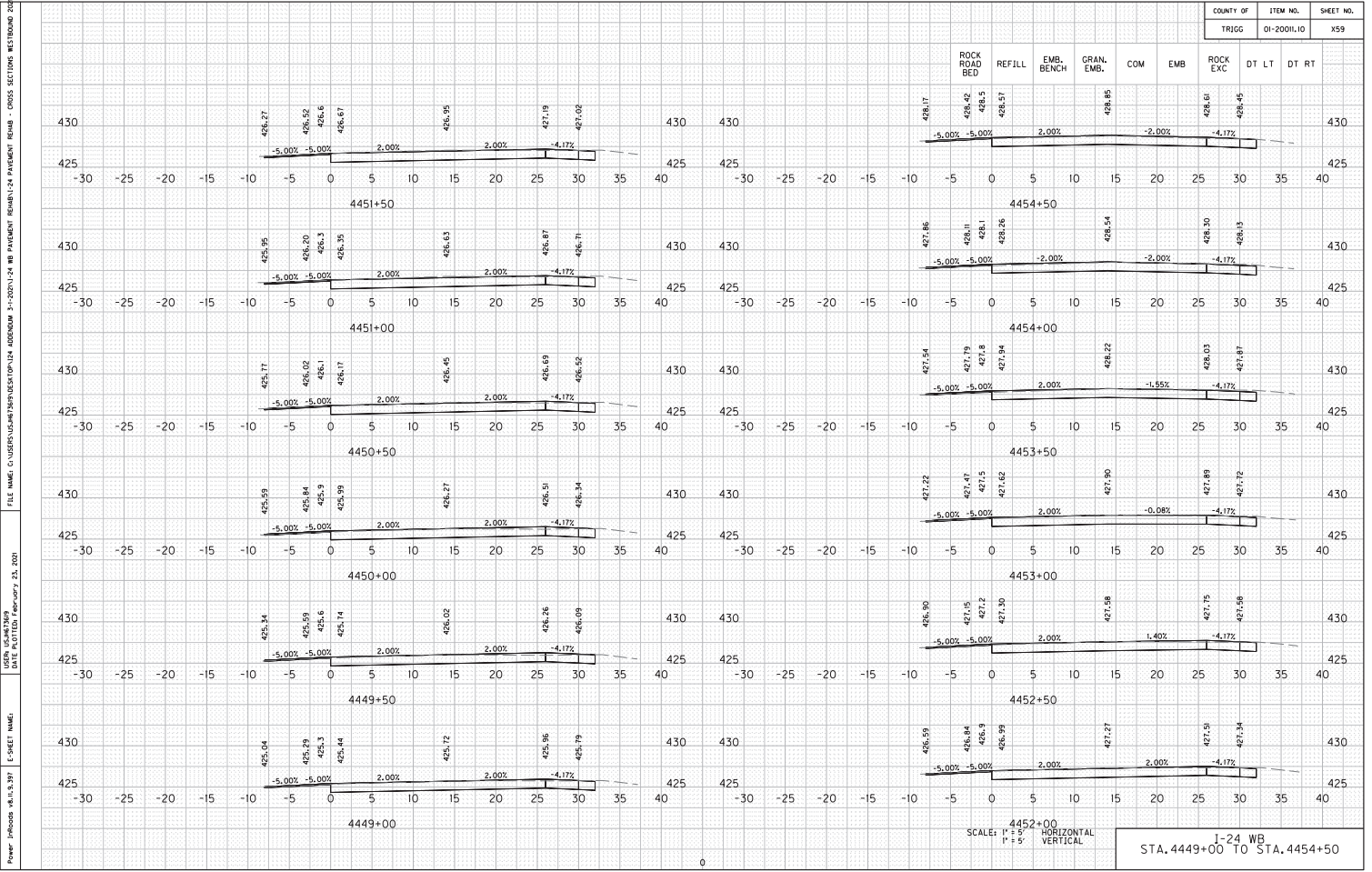


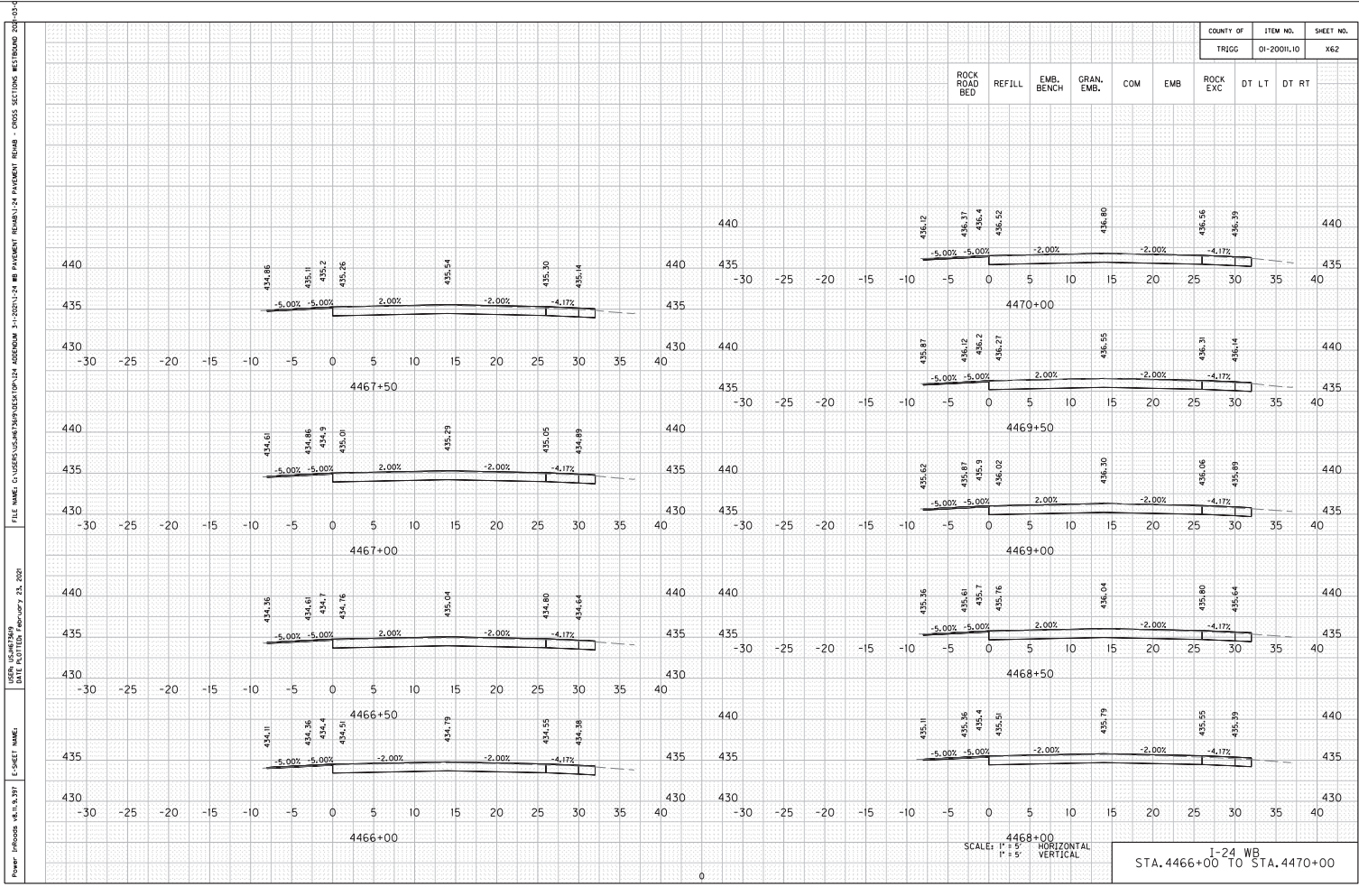
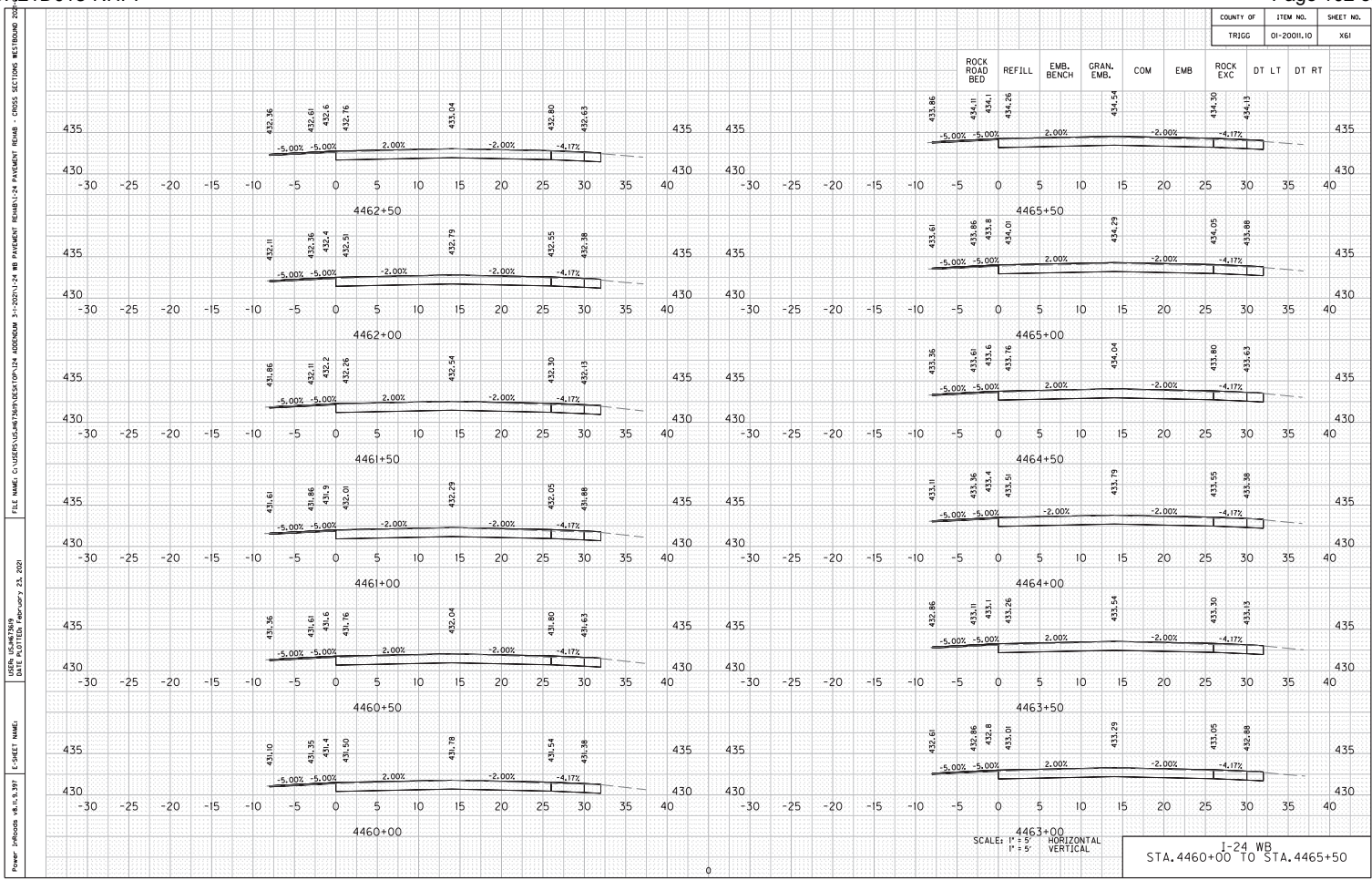


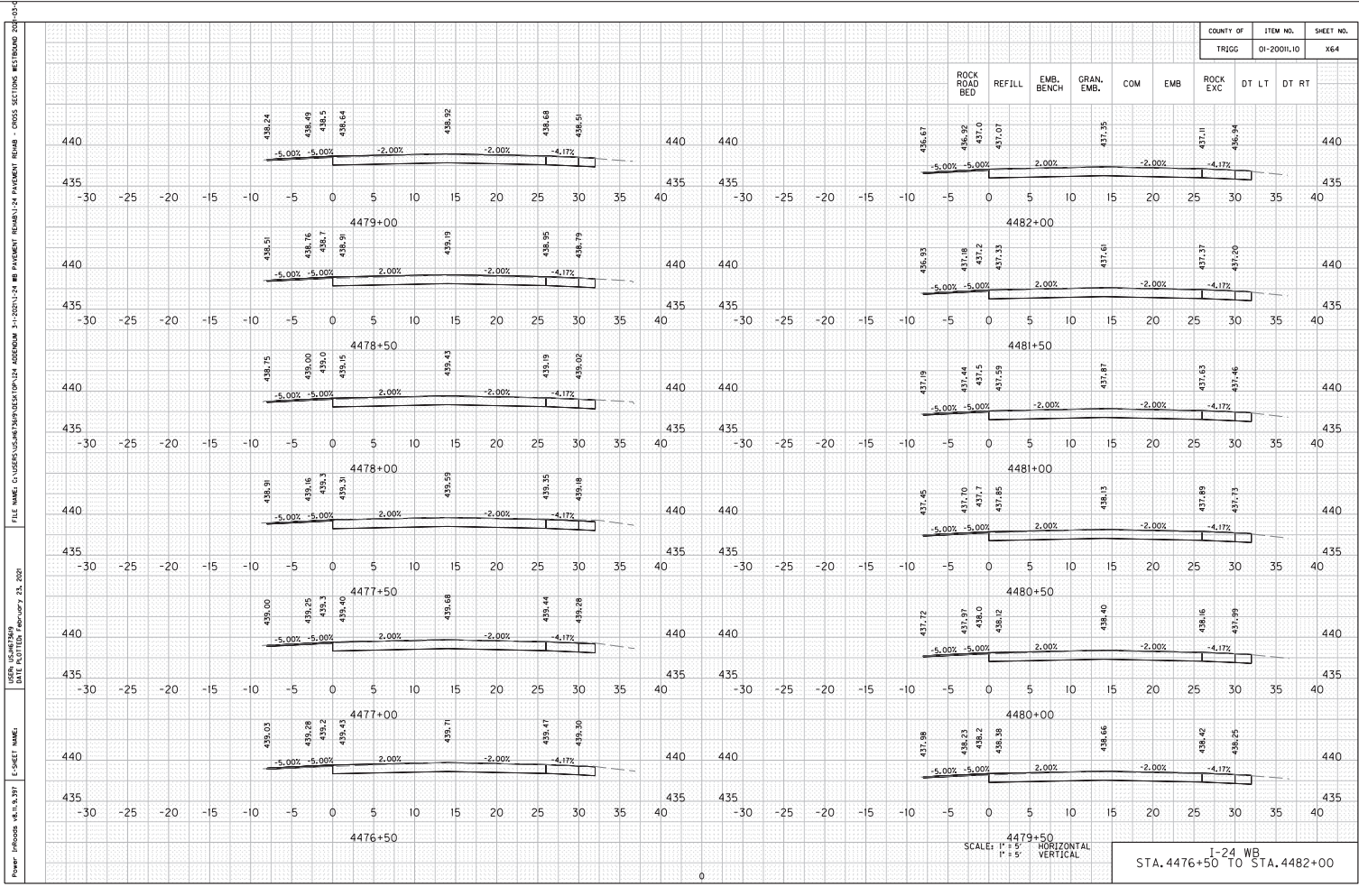
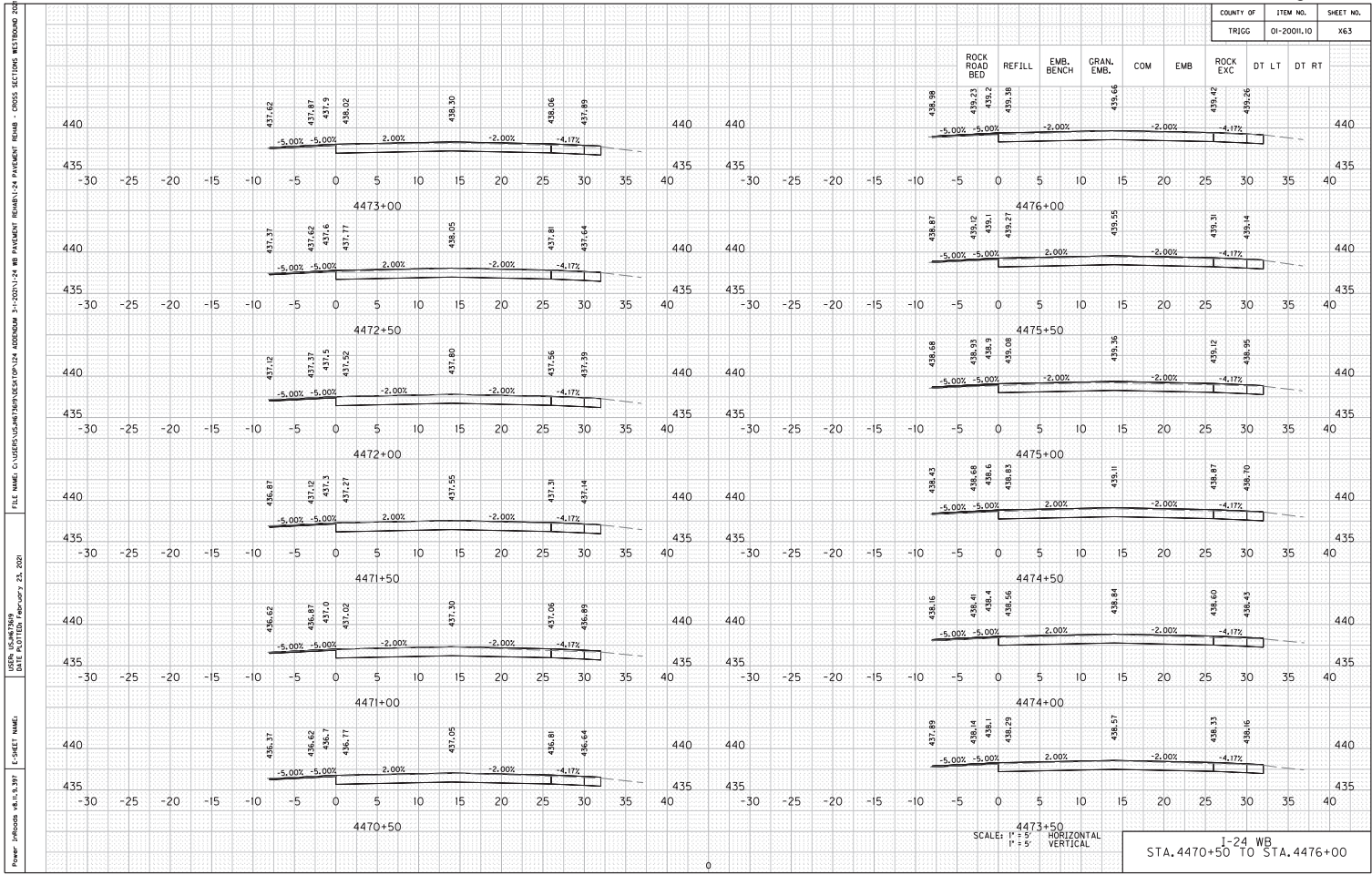


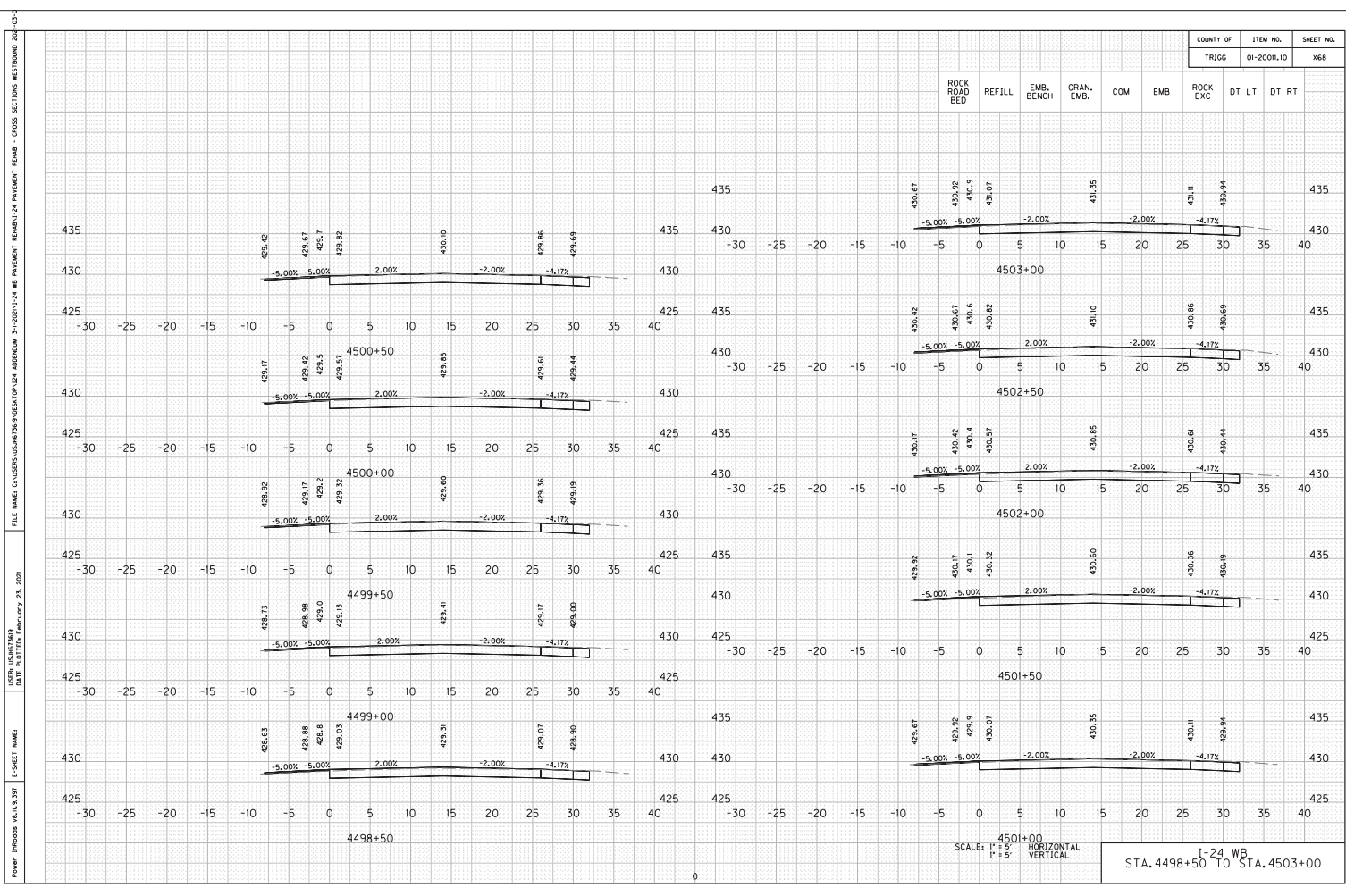
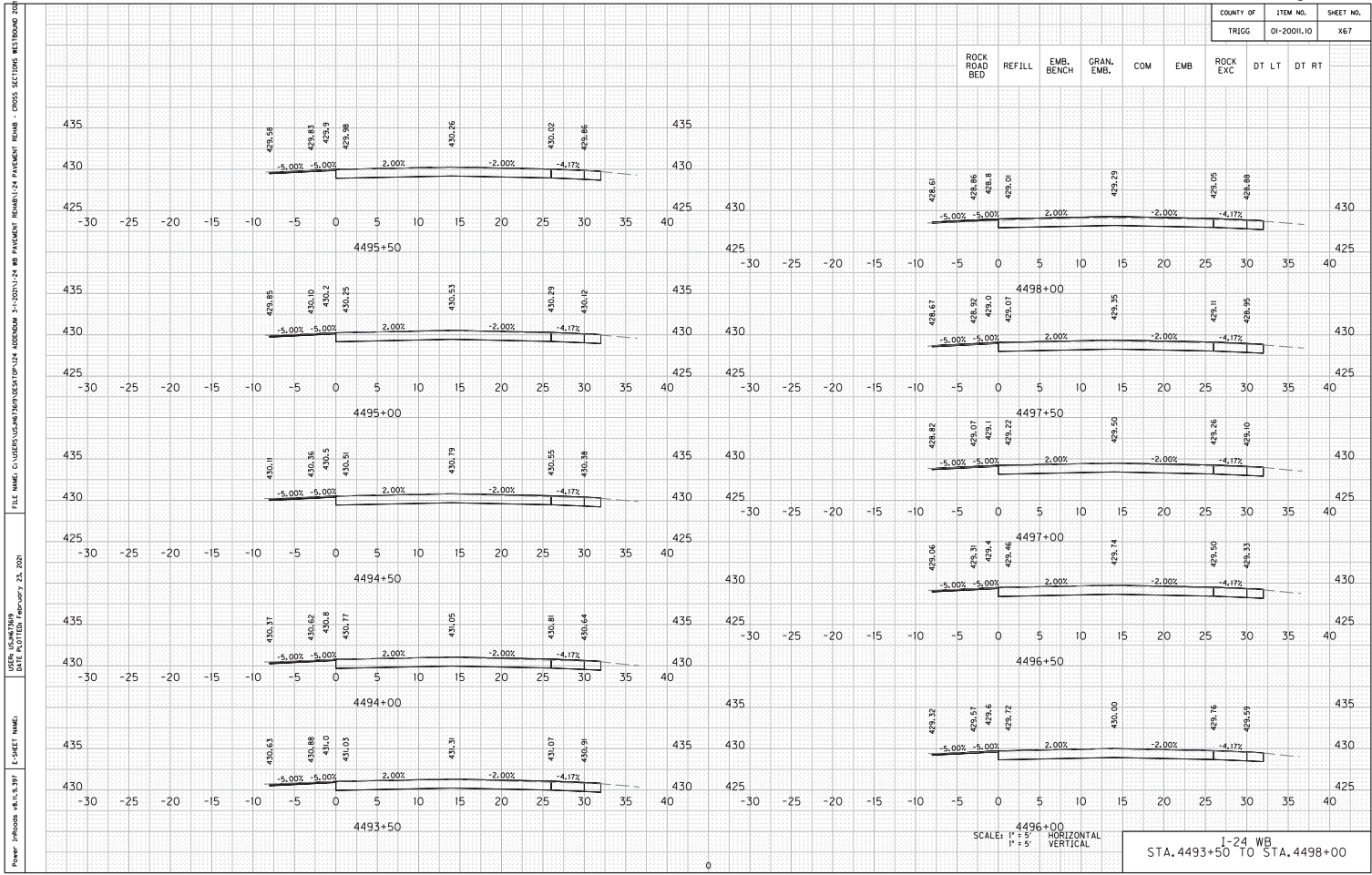


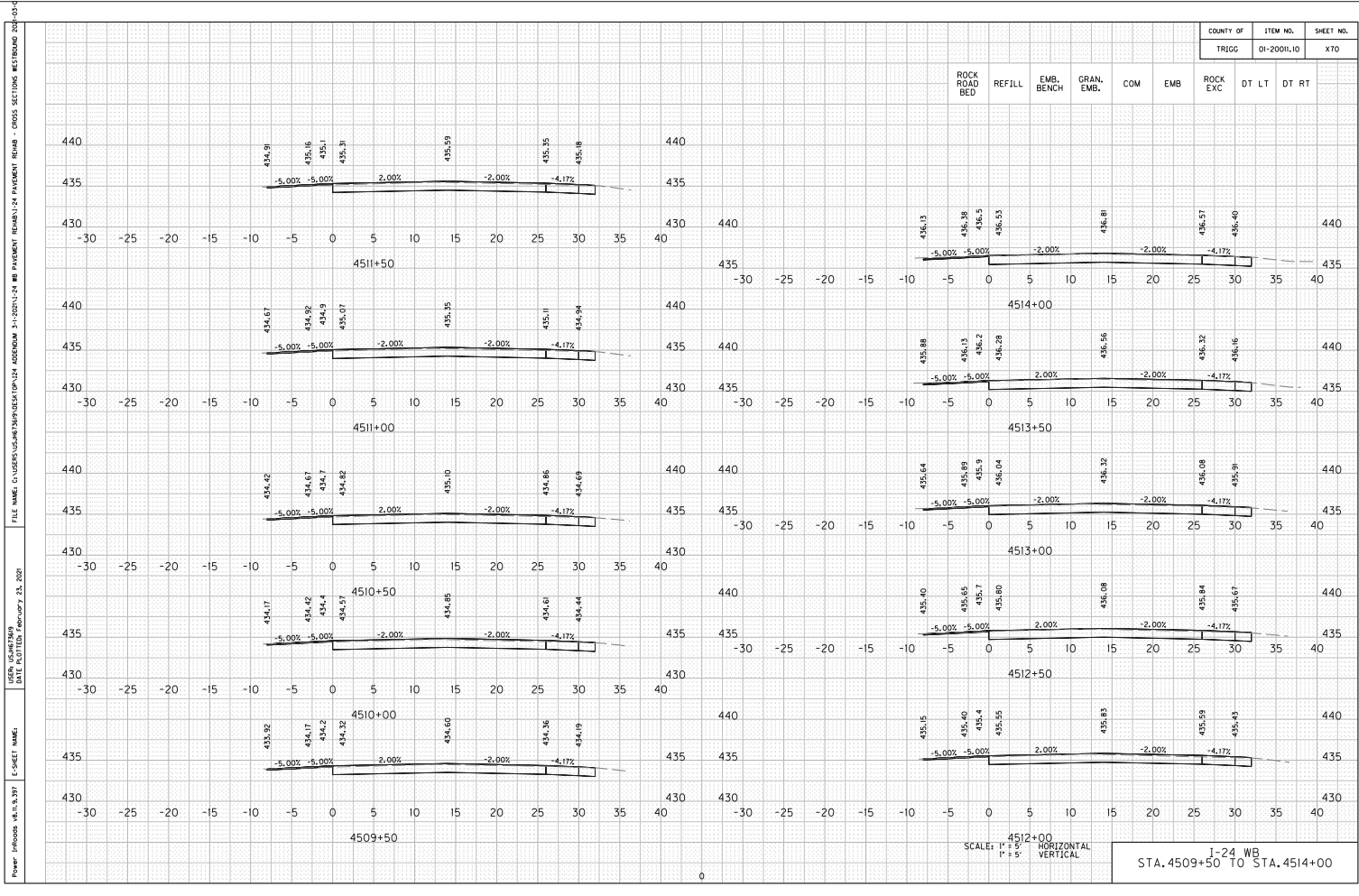
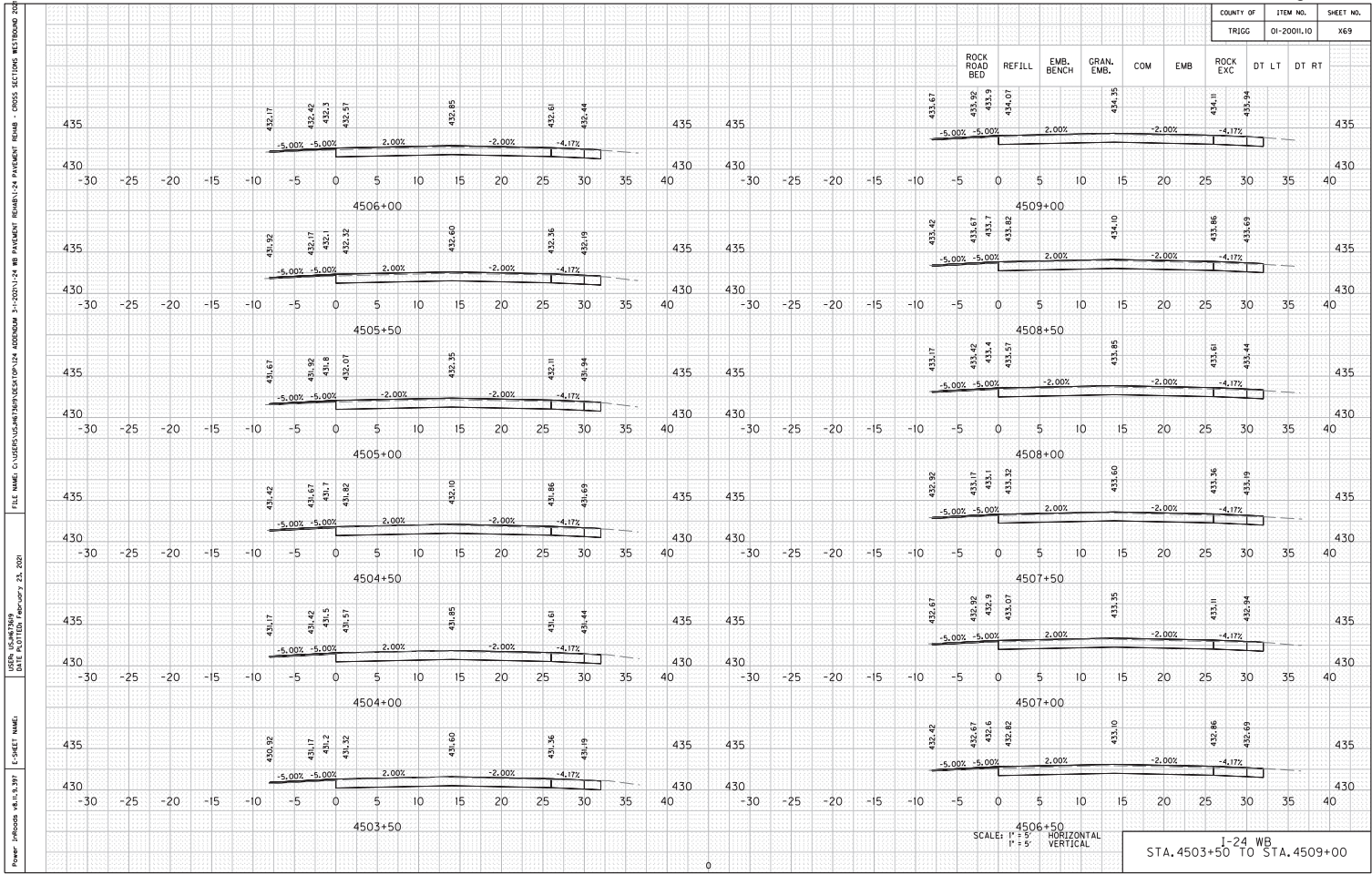


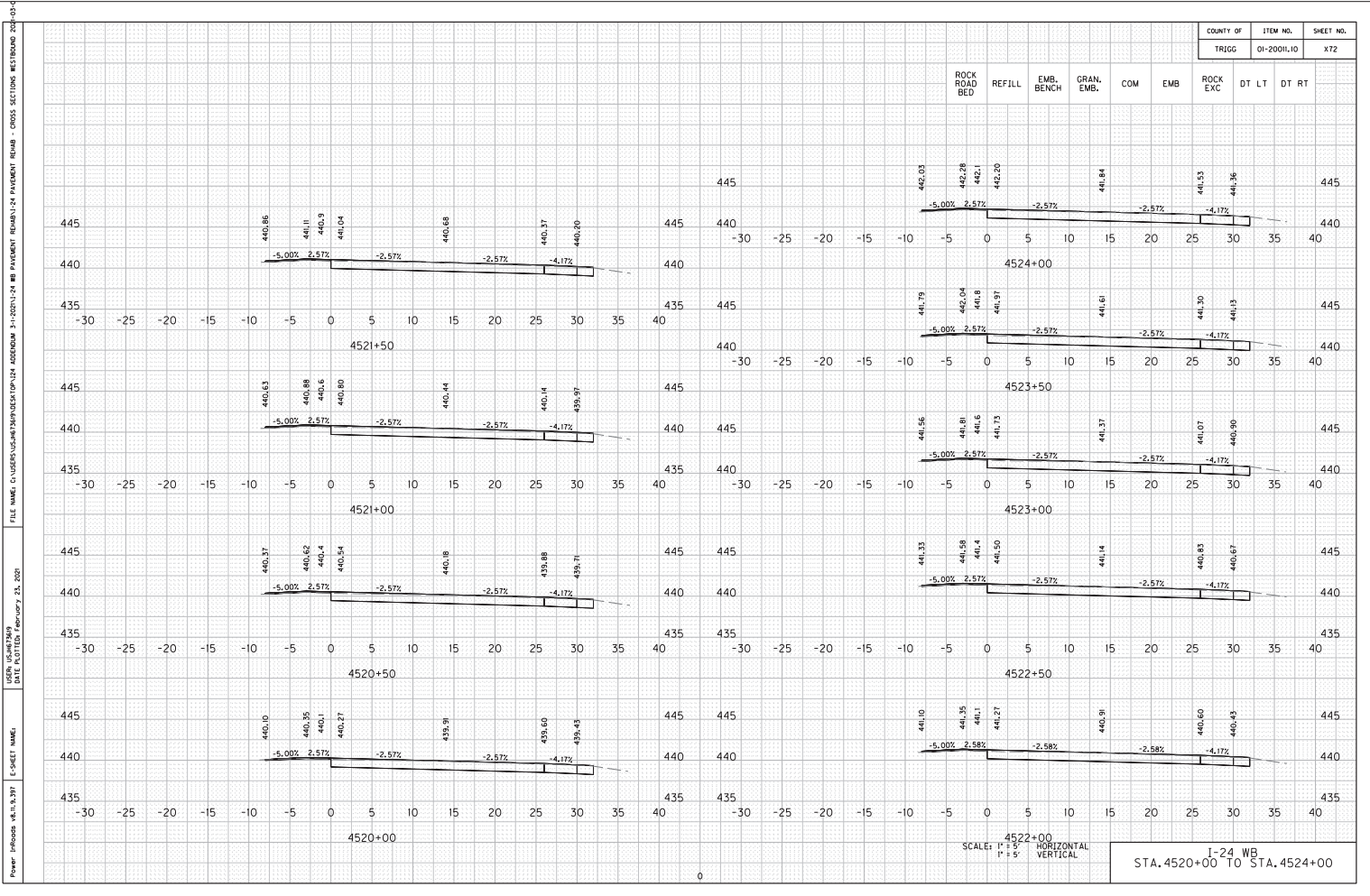
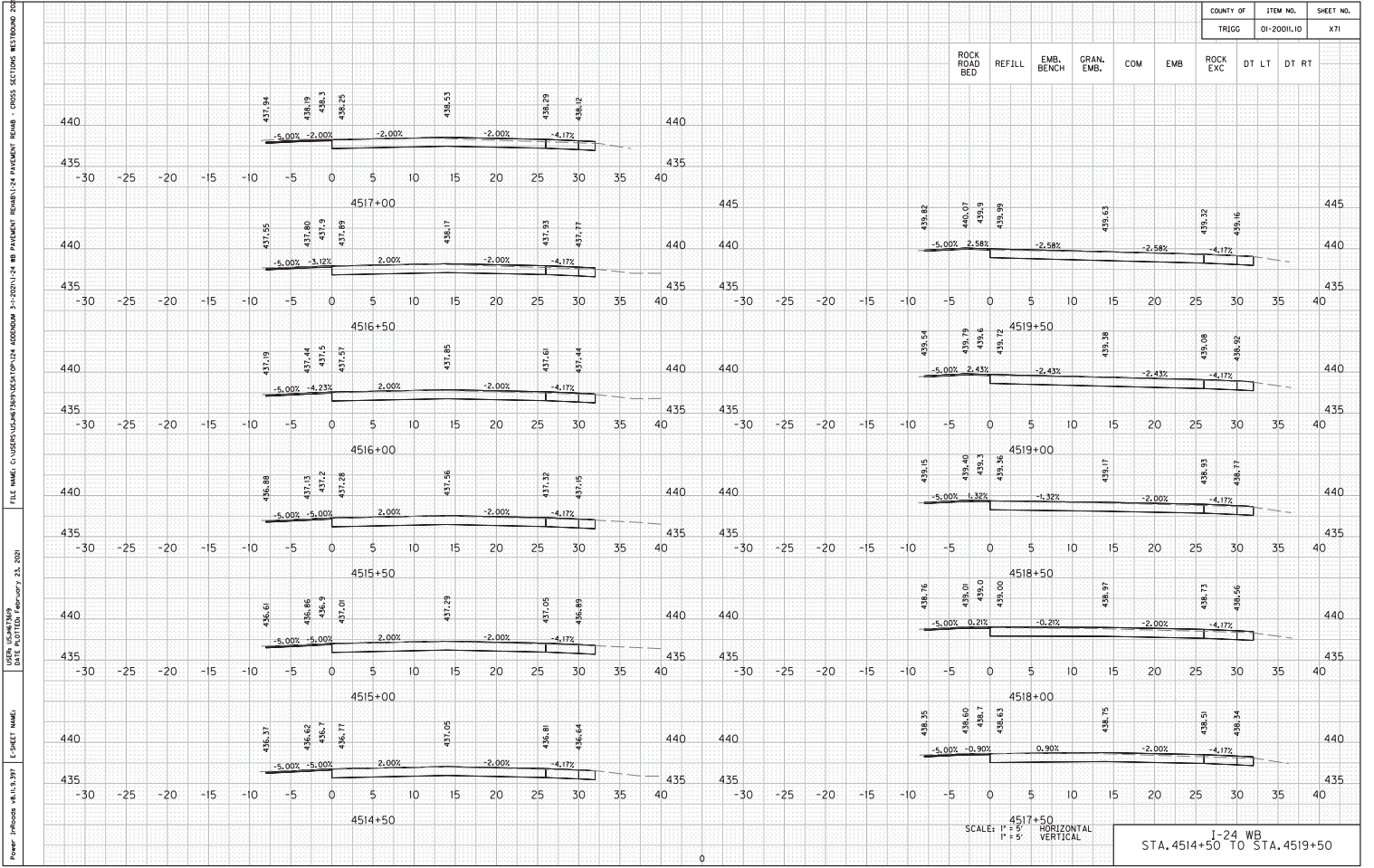


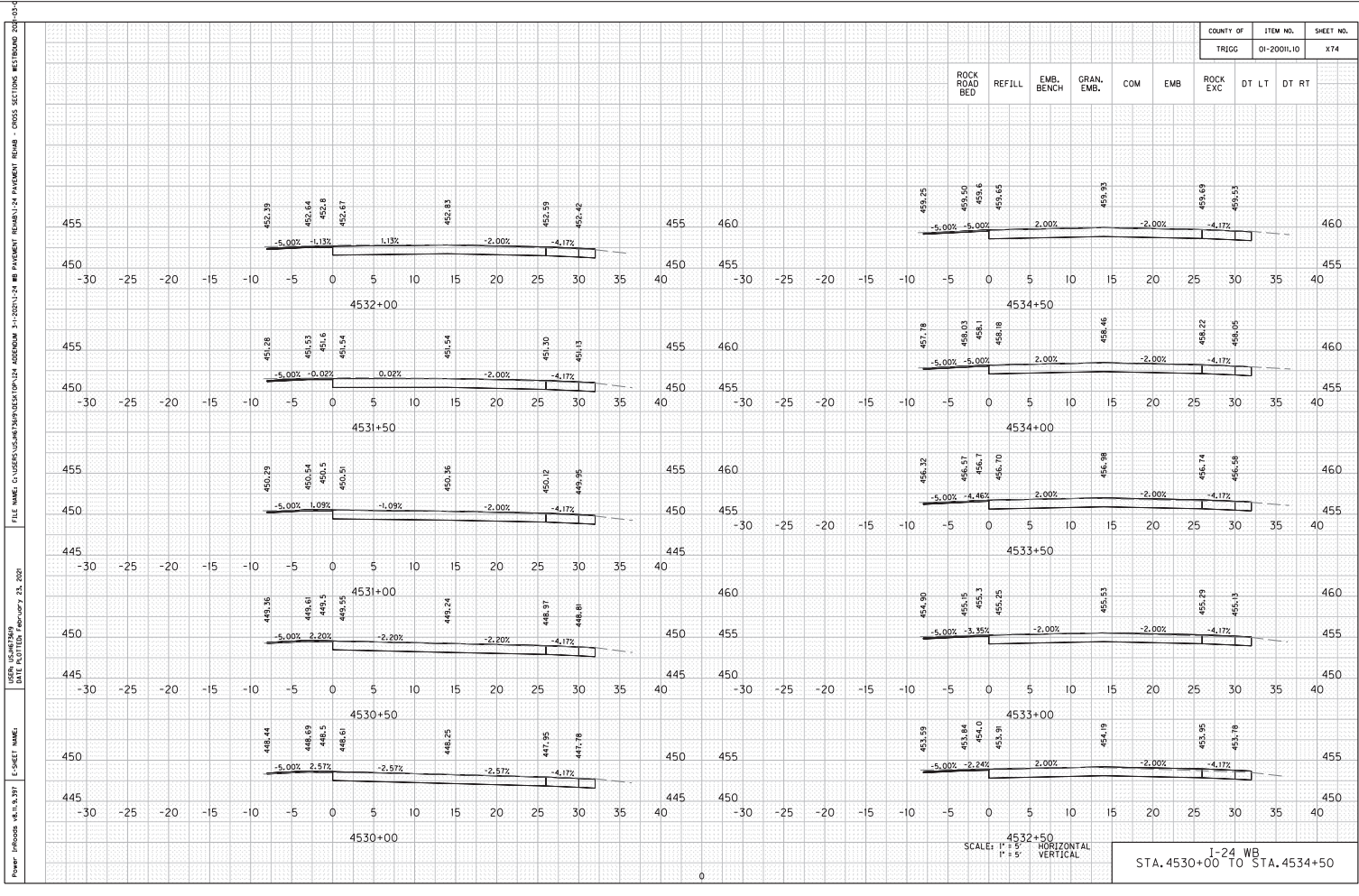
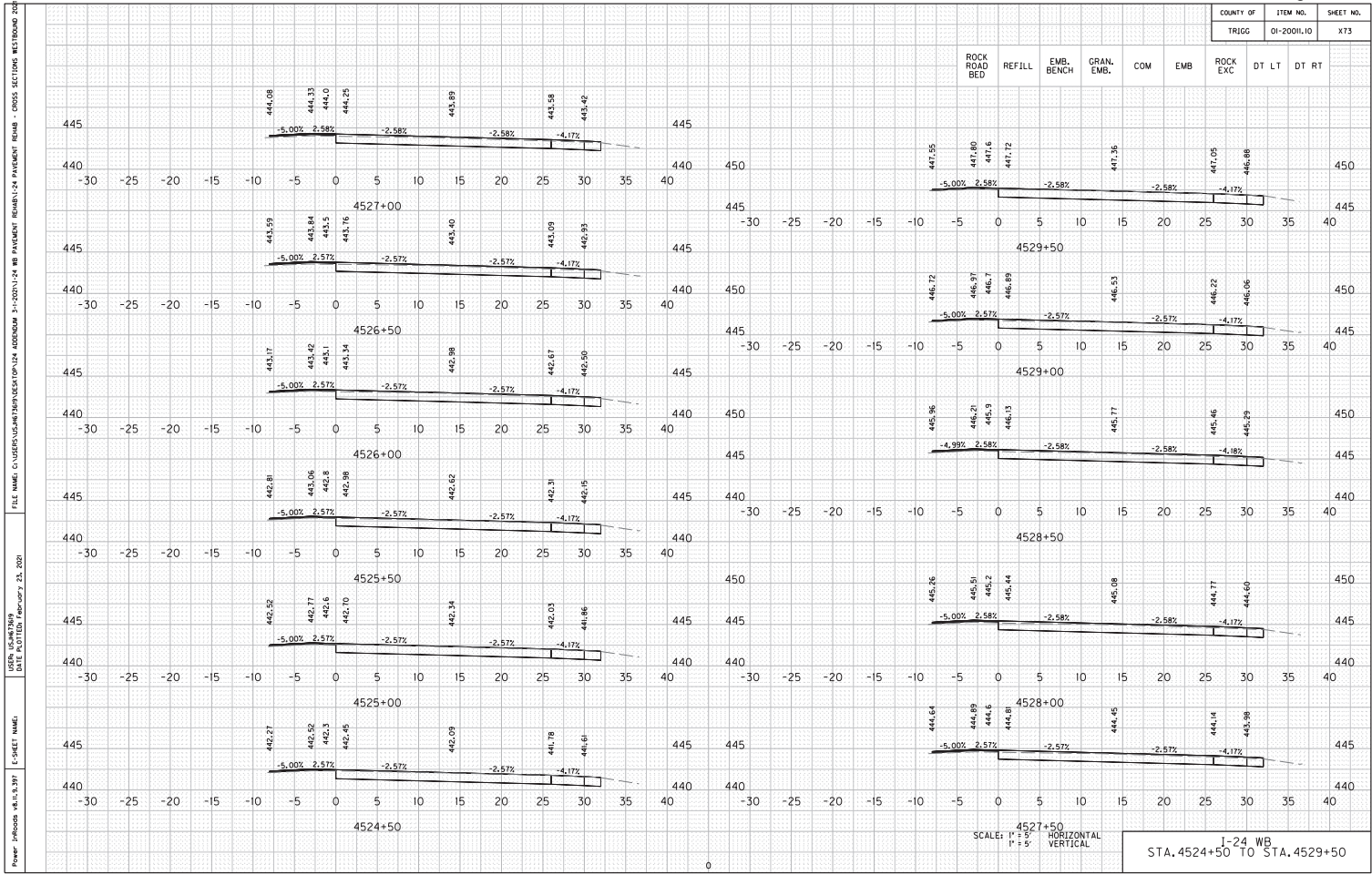


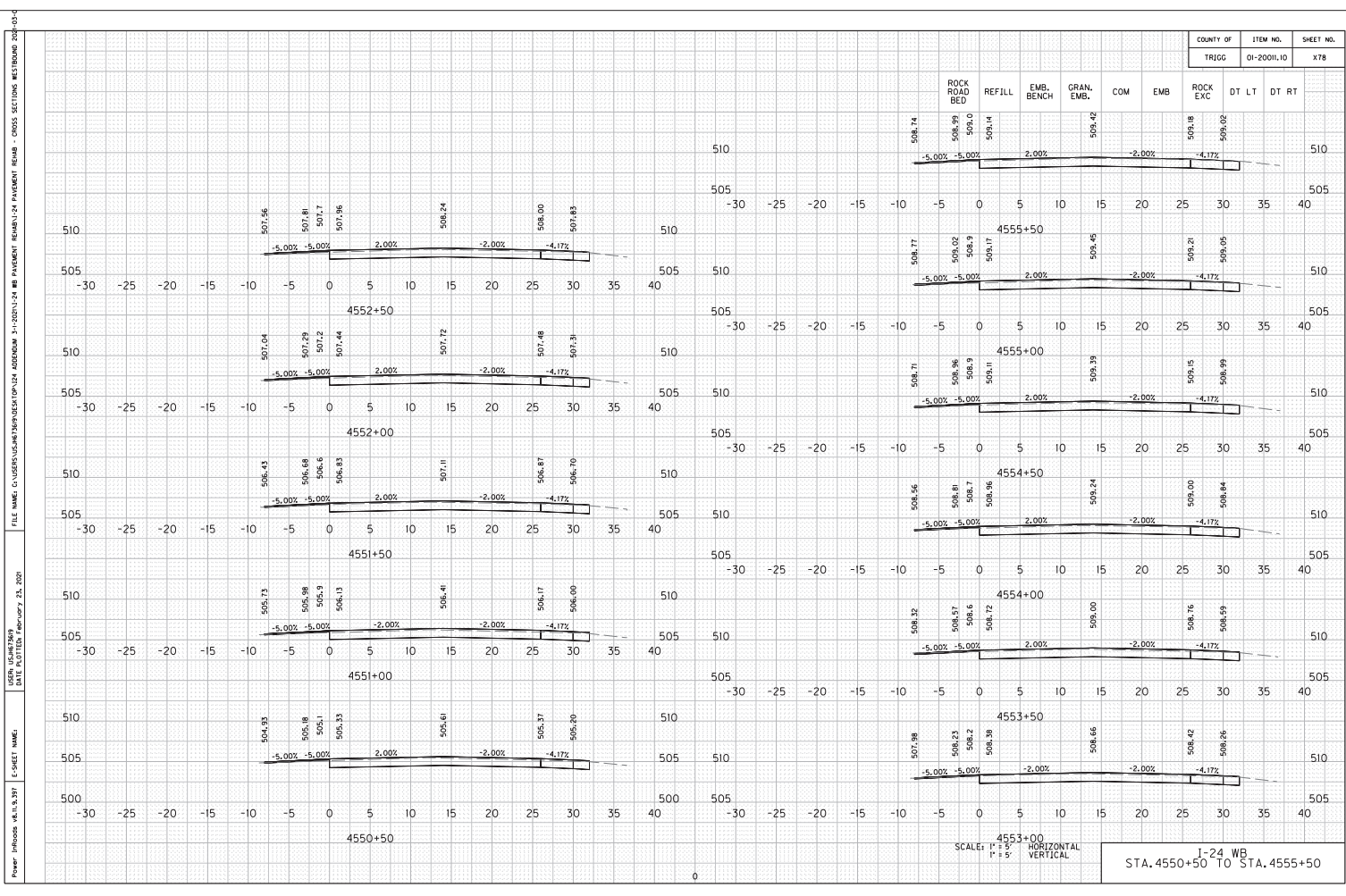
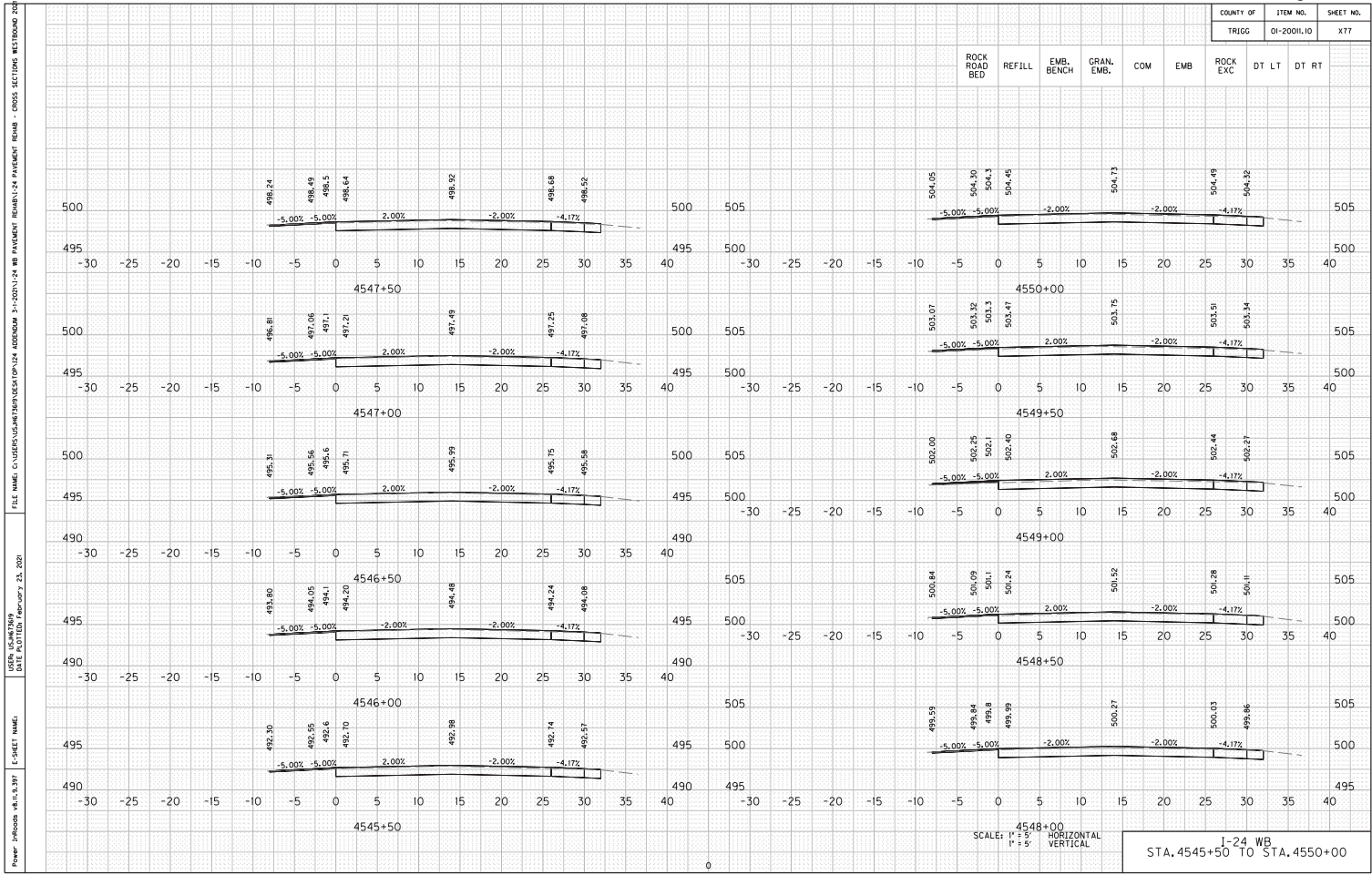


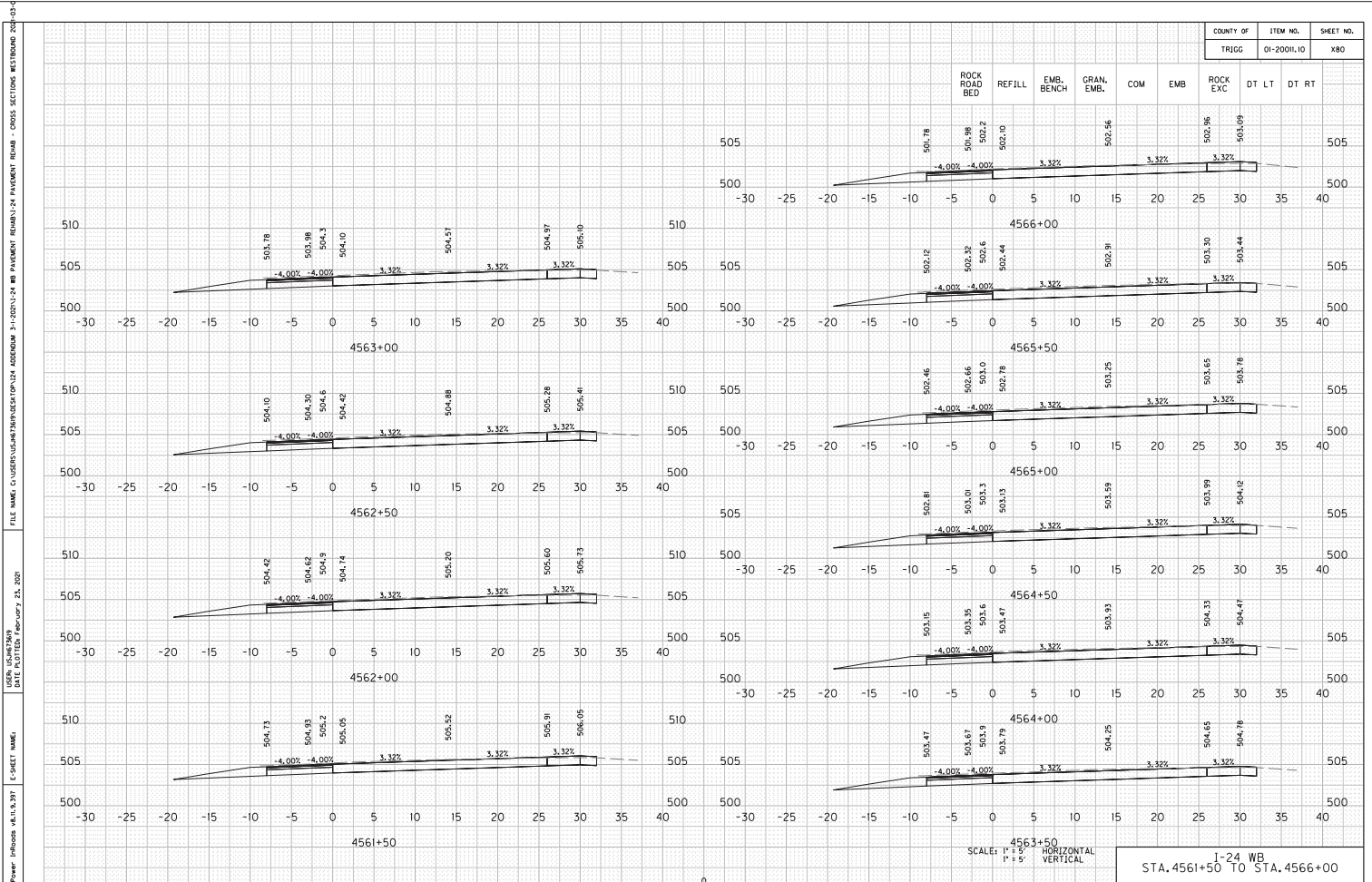
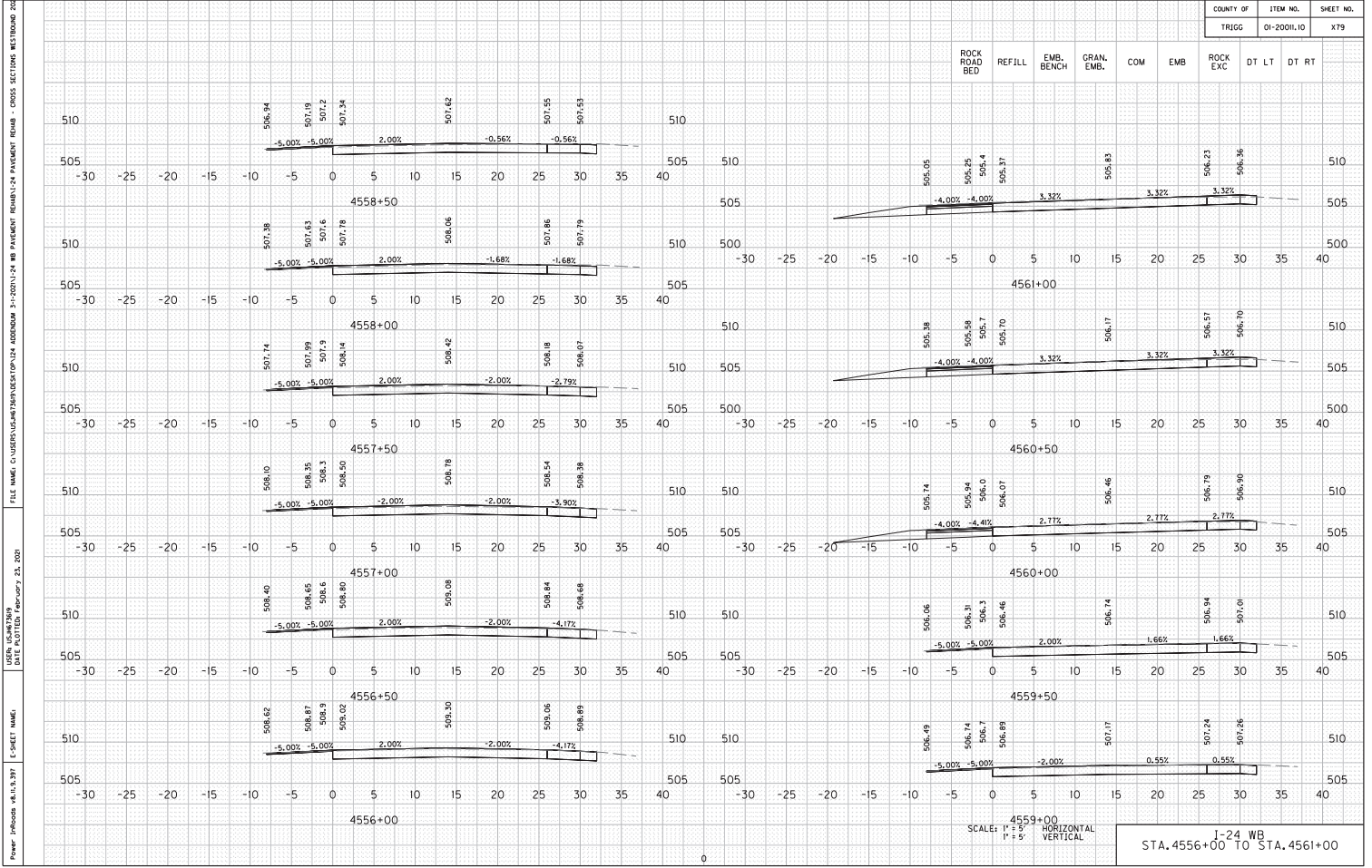


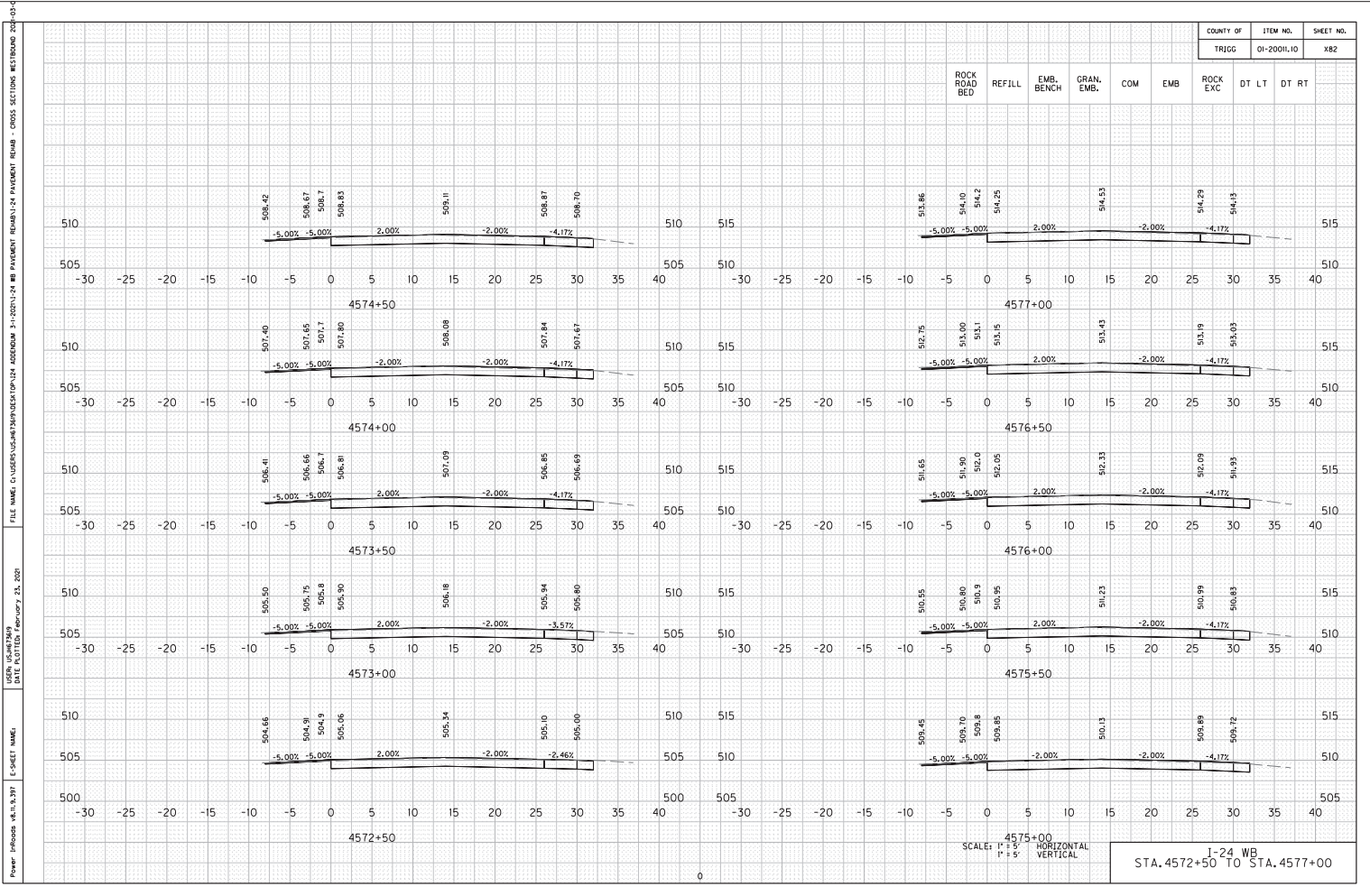
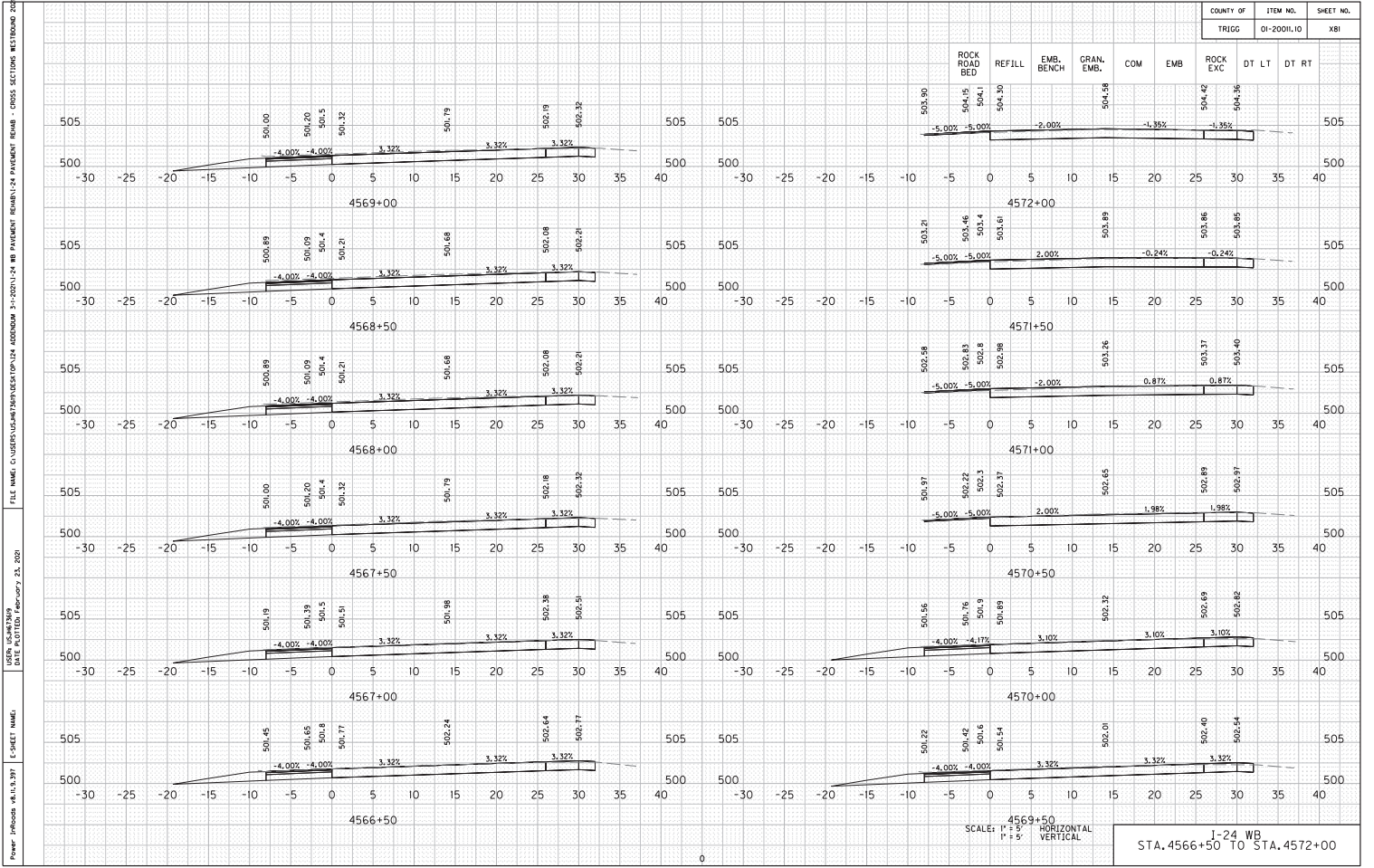


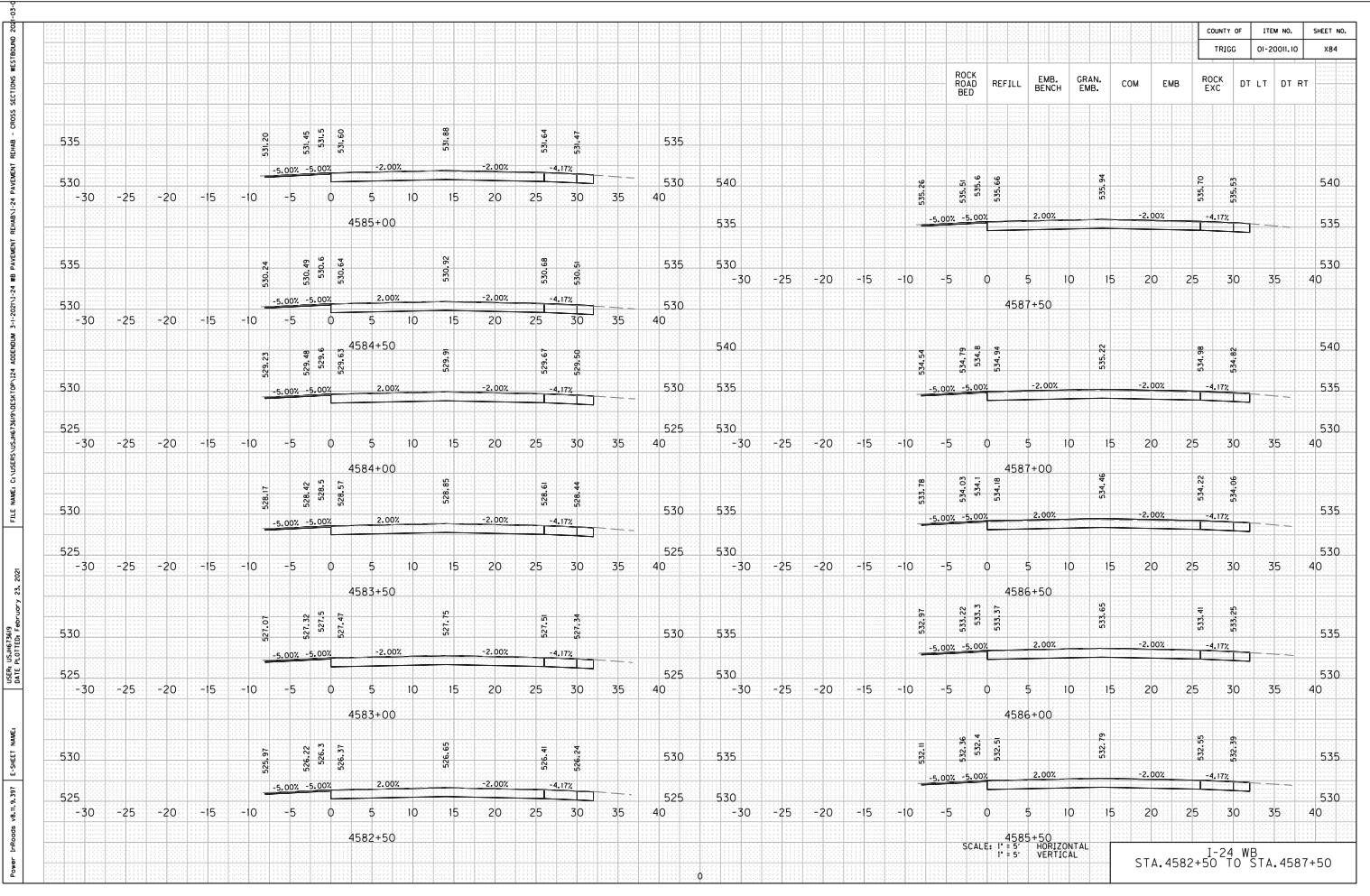
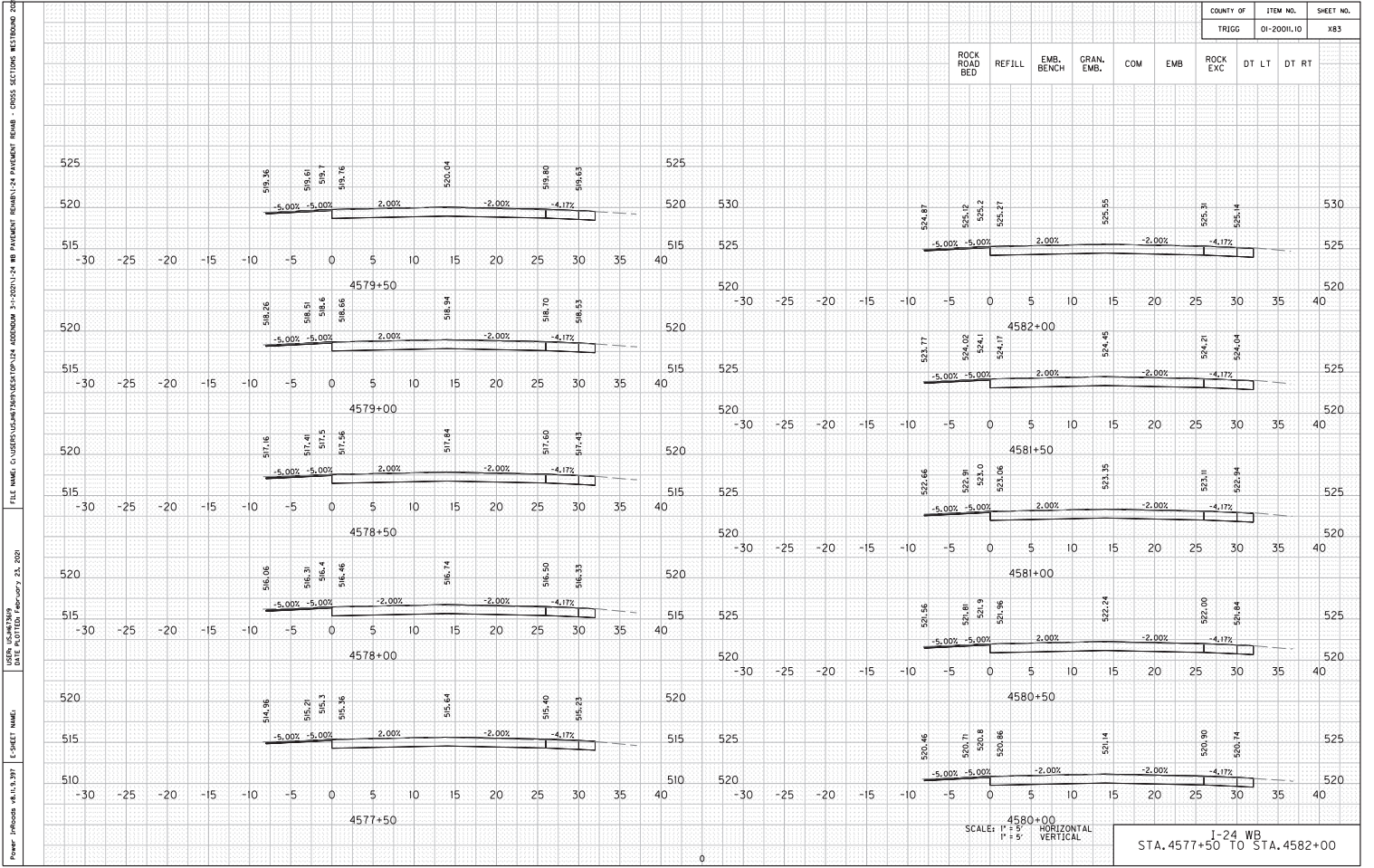


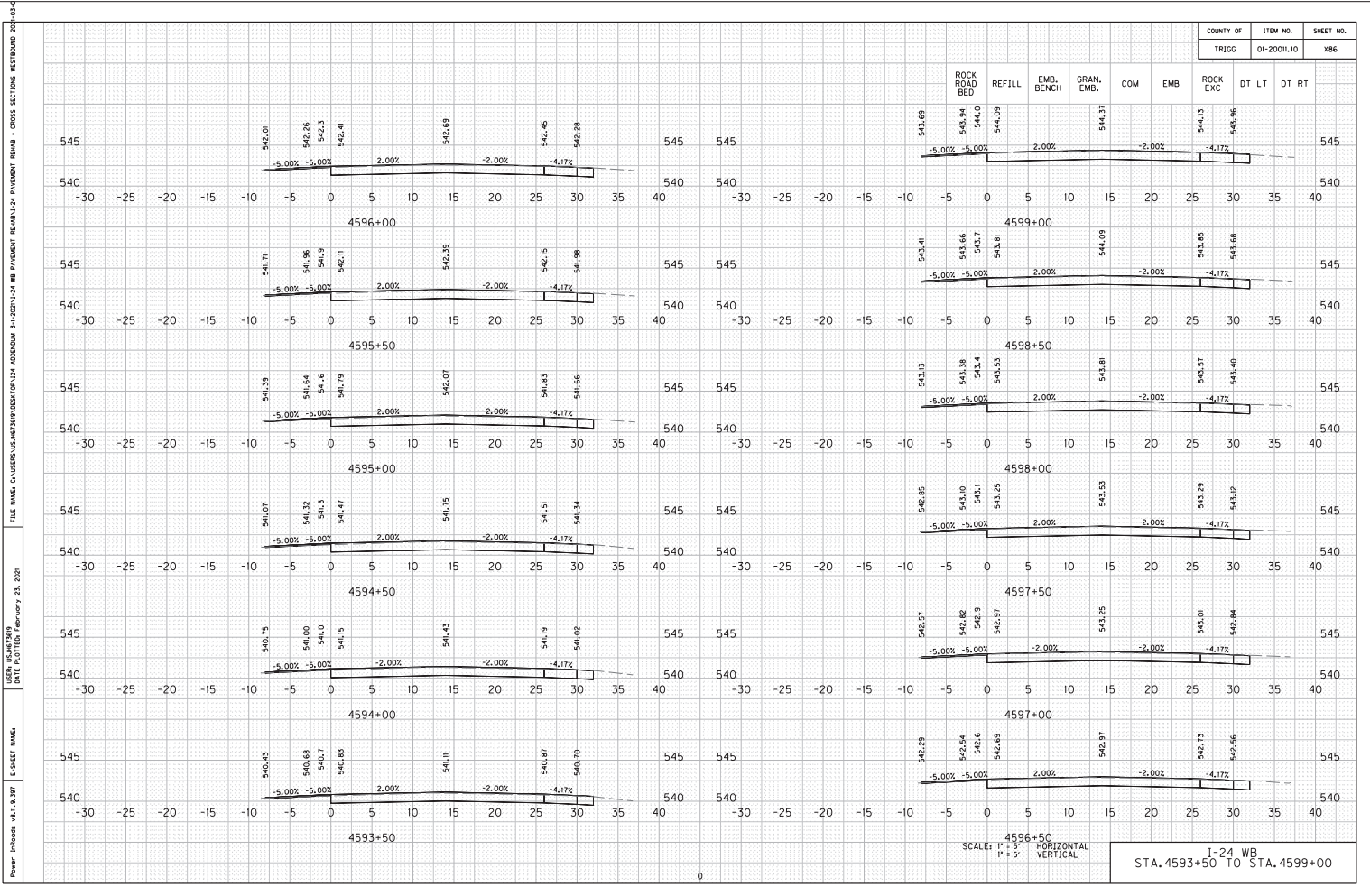
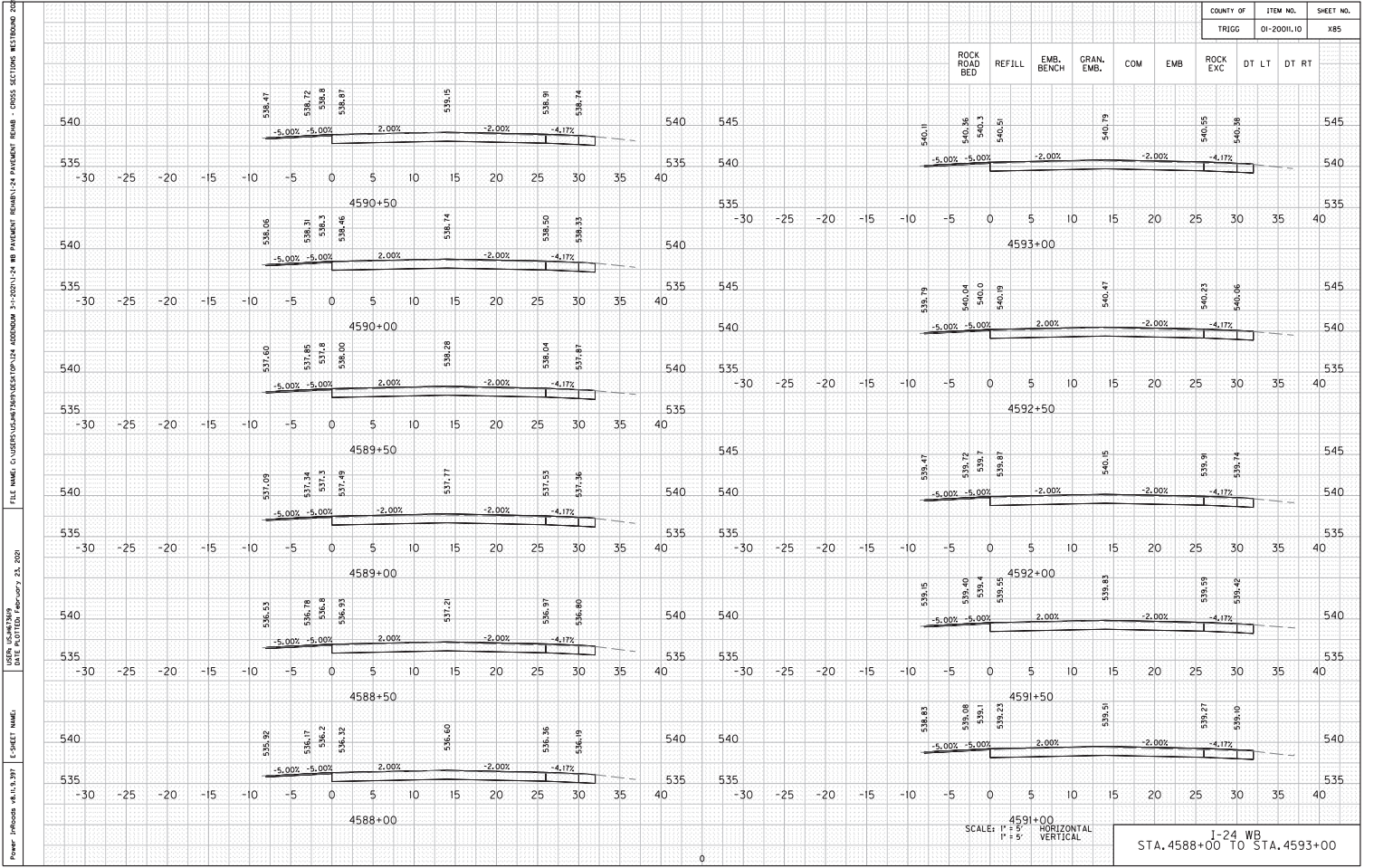


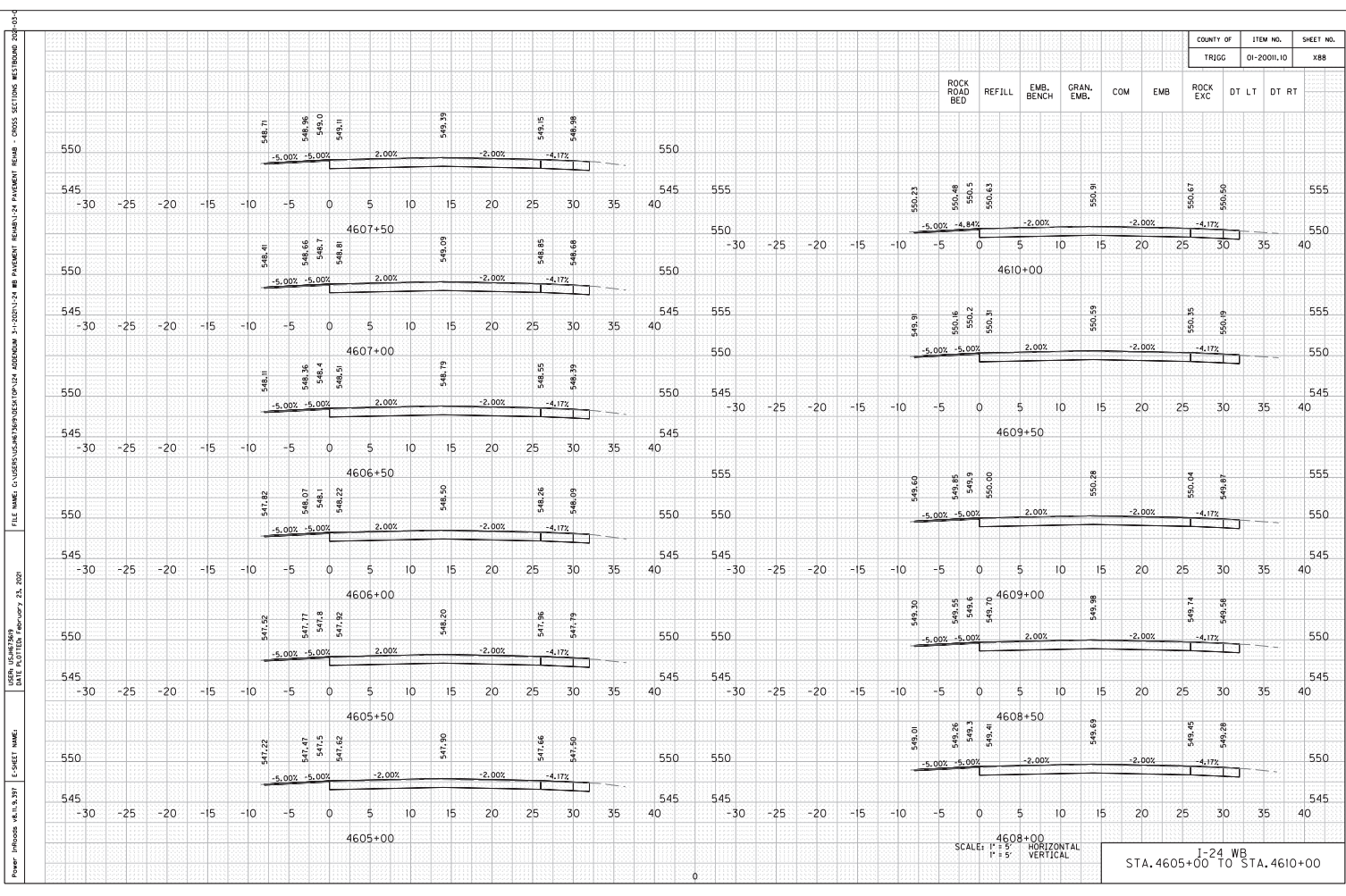
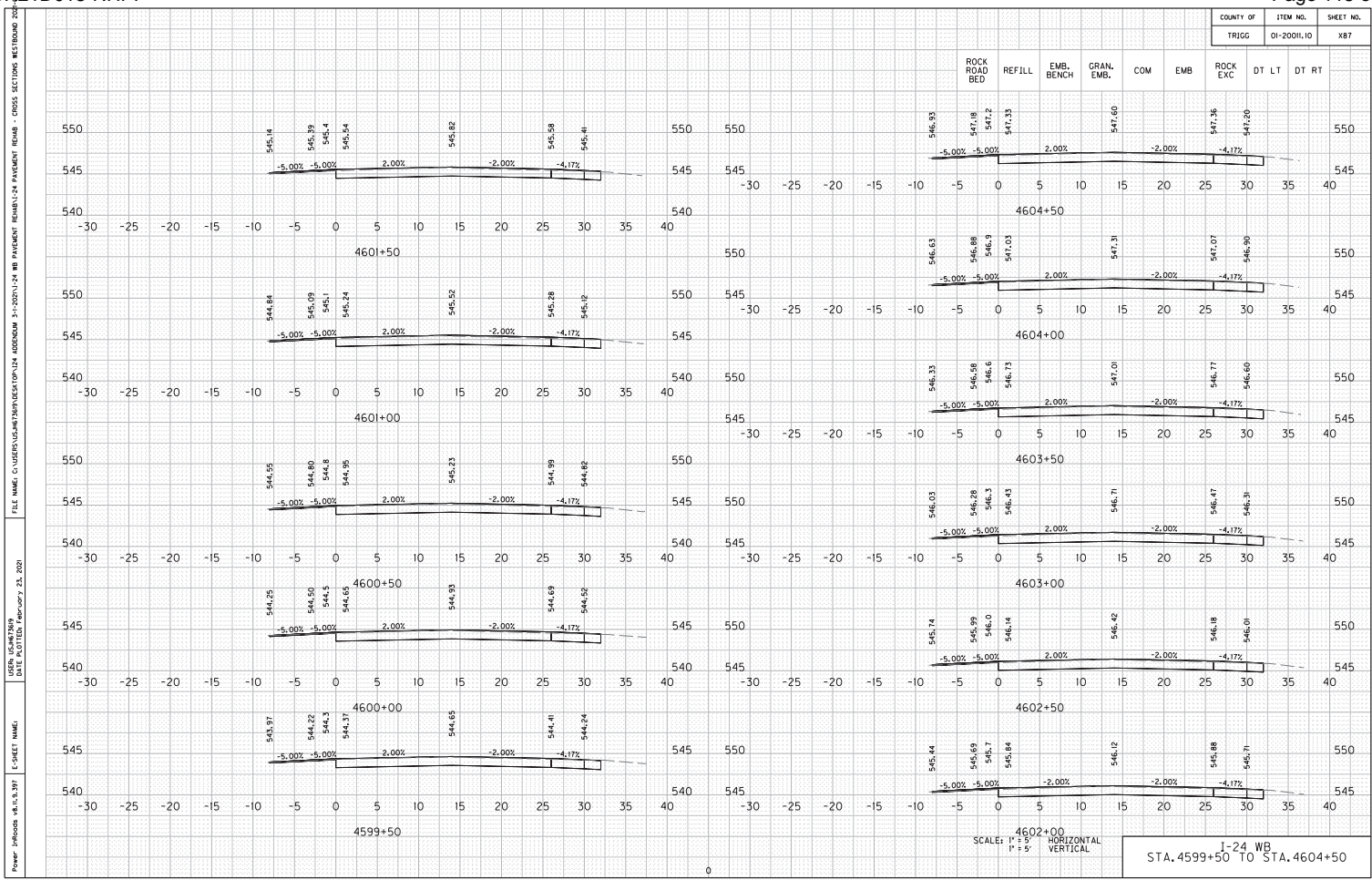




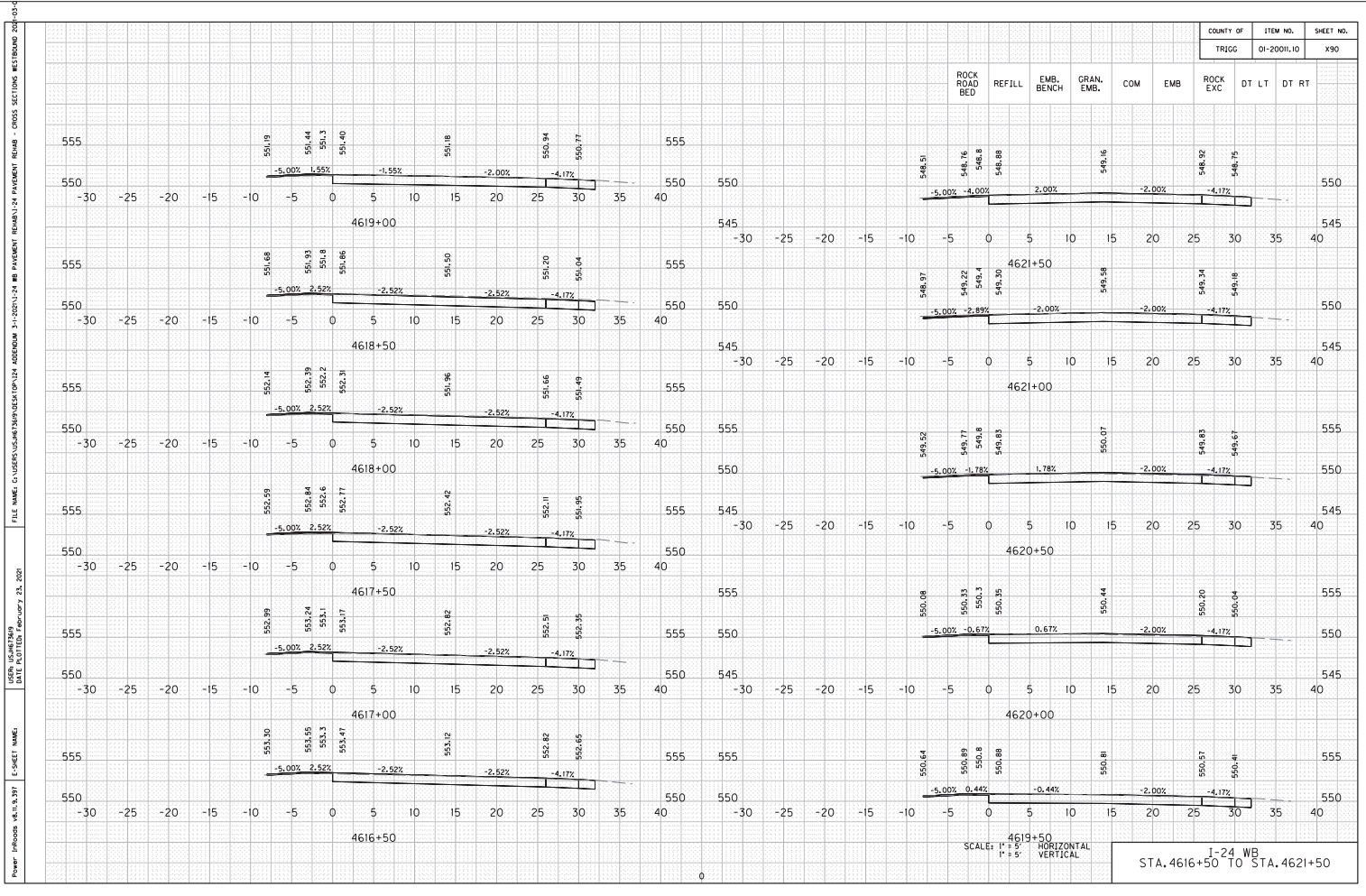
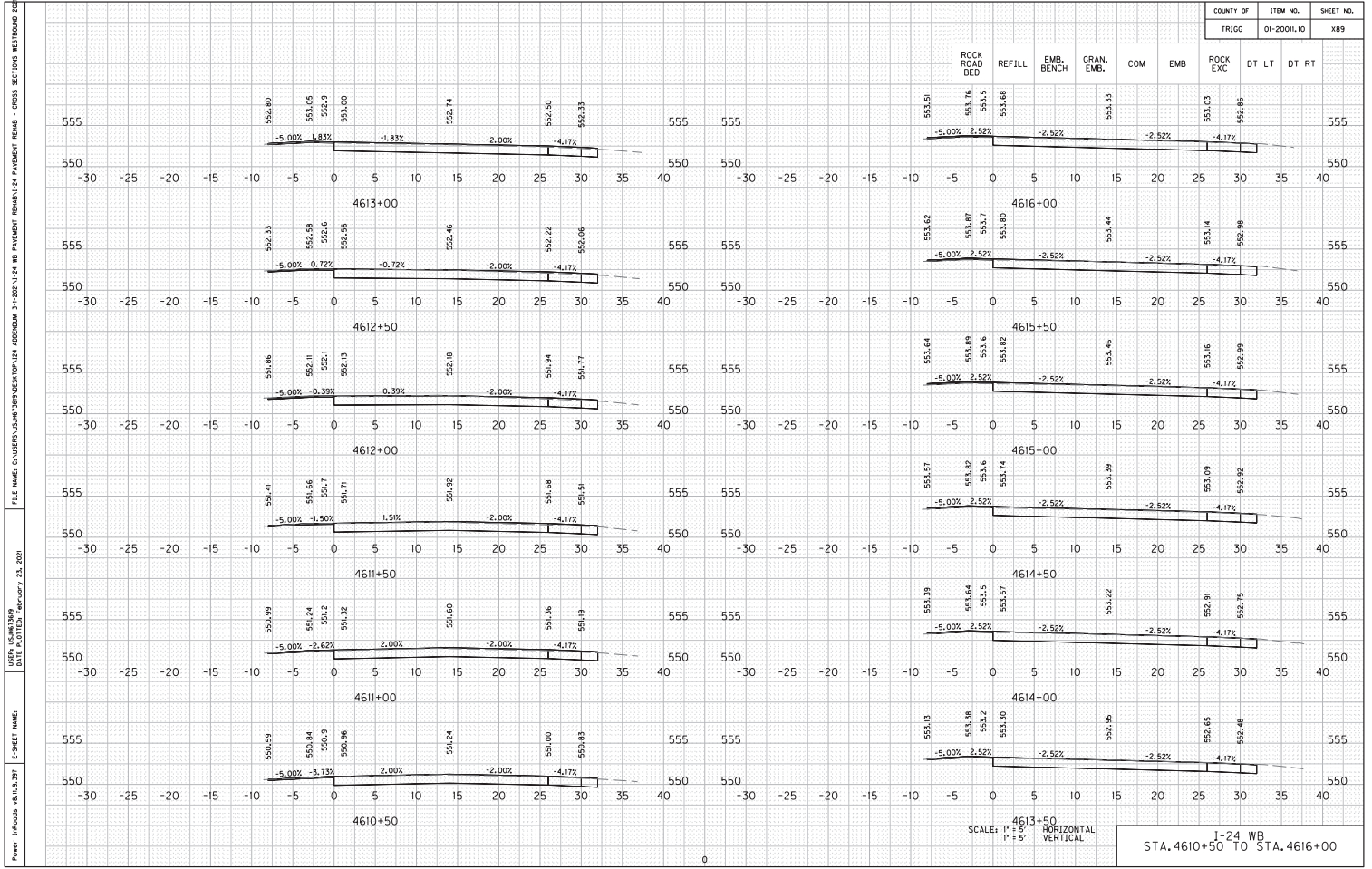


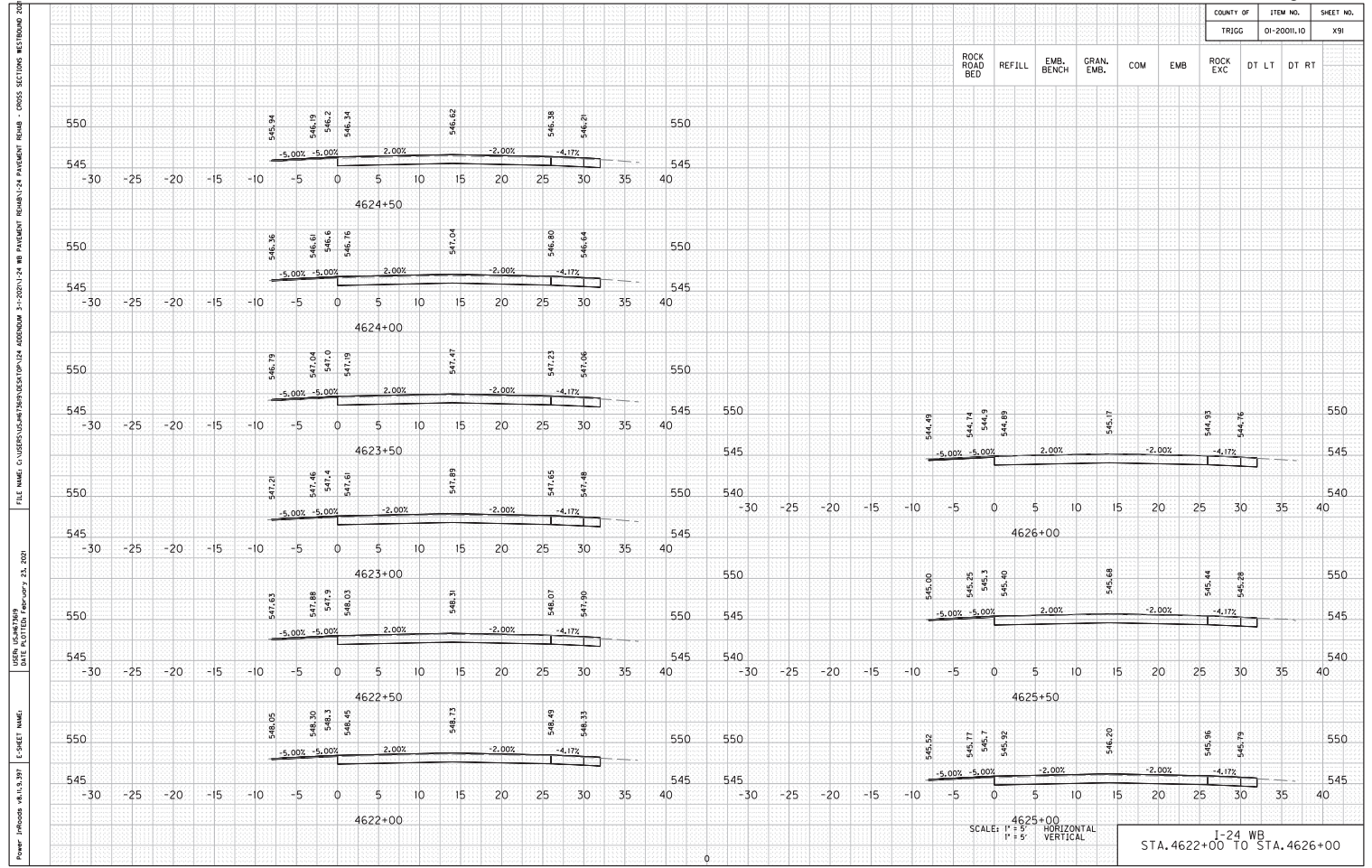






CALDWELL - TRIGG COUNTIES
121GR21D013-NHPP





VERTICAL AND HORIZONTAL CONTROL POINTS SHEET
I-24 - CALDWELL AND TRIGG COUNTY

POINT	DESCRIPTION	STATION AND OFFSET	STATE PLANE COORDINATES		ELEVATION	
			NORTHING	EASTING		
			A	#4 REBAR w/ CAP		I-24 CL STA. 4414+27.99
B	#4 REBAR w/ CAP	I-24 CL STA. 4592+17.19	549.49' LT.	3492124.503	4334700.352	543.506
C	#4 REBAR w/ CAP	I-24 CL STA. 4296+48.61	113.82' LT.	3510771.899	4311888.567	506.664
D	#4 REBAR w/ CAP	I-24 CL STA. 4157+69.22	136.34' RT.	3518438.330	4300466.719	593.093
E	#4 REBAR w/ CAP	I-24 CL STA. 4065+95.72	147.61' LT.	3522766.911	4292373.690	528.200
F	#4 REBAR w/ CAP	I-24 CL STA. 3969+18.60	356.72' RT.	3527252.112	4283796.202	548.704
G	#4 REBAR w/ CAP	---	---	3531001.087	4277220.604	530.905

**GEOMETRIC DATA SHEET
I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
POB	4145+00.00	3519173.151	4299414.375
PI	4146+00.00	3519128.759	4299503.981
PI	4147+00.00	3519084.293	4299593.551
PI	4148+00.00	3519039.892	4299683.153
PI	4149+00.00	3518995.458	4299772.739
PI	4150+00.00	3518950.967	4299862.297
PI	4150+82.05	3518914.577	4299935.834
PI	4152+00.00	3518862.216	4300041.527
PI	4153+00.00	3518817.795	4300131.119
PI	4154+00.00	3518773.421	4300220.734
PI	4155+00.00	3518728.966	4300310.310
PI	4156+00.00	3518684.556	4300399.907
PI	4157+00.00	3518640.095	4300489.480
PI	4158+00.00	3518595.786	4300579.128
PI	4159+00.00	3518551.424	4300668.749
PI	4160+00.00	3518507.052	4300758.366
PI	4161+00.00	3518462.592	4300847.939
PI	4162+00.00	3518418.231	4300937.561
PI	4163+00.00	3518373.838	4301027.167
PI	4164+00.00	3518329.369	4301116.735
PI	4165+00.00	3518285.040	4301206.373
PI	4166+00.00	3518240.533	4301295.923
PI	4167+00.00	3518196.111	4301385.515
PI	4168+00.00	3518151.736	4301475.129
PI	4169+00.00	3518107.358	4301564.743
PI	4170+00.00	3518062.900	4301654.317
PI	4171+00.00	3518018.321	4301743.831
PI	4172+00.00	3517973.905	4301833.426
PI	4173+00.00	3517929.405	4301922.979
PI	4174+00.00	3517885.045	4302012.601
PI	4175+00.00	3517840.978	4302102.369
PI	4176+00.00	3517796.506	4302191.936

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4177+00.00	3517752.183	4302281.577
PI	4178+00.00	3517707.687	4302371.132
PI	4179+00.00	3517663.375	4302460.778
PI	4180+00.00	3517619.146	4302550.466
PI	4181+00.00	3517574.682	4302640.037
PI	4182+00.00	3517530.226	4302729.611
PI	4183+00.00	3517485.840	4302819.221
PI	4184+00.00	3517441.457	4302908.832
PI	4185+00.00	3517396.990	4302998.402
PI	4186+00.00	3517352.750	4303088.084
PI	4187+00.00	3517308.371	4303177.697
PI	4188+00.00	3517263.920	4303267.274
PI	4189+00.00	3517219.512	4303356.873
PI	4190+00.00	3517175.117	4303446.478
PI	4191+00.00	3517130.629	4303536.037
PI	4192+00.00	3517086.336	4303625.693
PI	4193+00.00	3517041.980	4303715.317
PI	4194+00.00	3516997.604	4303804.932
PI	4195+00.00	3516953.098	4303894.482
PI	4196+00.00	3516908.692	4303984.082
PI	4197+00.00	3516864.291	4304073.684
PI	4198+00.00	3516820.029	4304163.355
PI	4199+00.00	3516775.614	4304252.950
PI	4200+00.00	3516731.193	4304342.542
PI	4201+00.00	3516686.842	4304432.169
PI	4202+00.00	3516642.451	4304521.777
PI	4203+00.00	3516598.005	4304611.357
PI	4204+00.00	3516553.599	4304700.956
PI	4205+00.00	3516509.198	4304790.558
PI	4206+00.00	3516464.787	4304880.156
PI	4207+00.00	3516420.300	4304969.715
PI	4208+00.00	3516375.900	4305059.318

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4208+82.04	3516339.459	4305132.817
PI	4209+32.04	3516317.052	4305177.516
PI	4209+82.04	3516294.605	4305222.194
PI	4210+32.04	3516271.959	4305266.771
PI	4210+82.04	3516248.946	4305311.160
PI	4211+32.04	3516225.839	4305355.501
PI	4211+82.04	3516202.497	4305399.718
PI	4212+32.04	3516178.936	4305443.819
PI	4212+82.04	3516155.327	4305487.893
PI	4213+32.04	3516131.416	4305531.805
PI	4213+82.04	3516107.402	4305575.661
PI	4214+32.04	3516083.023	4305619.315
PI	4214+82.04	3516058.574	4305662.929
PI	4215+32.04	3516033.920	4305706.429
PI	4215+82.04	3516009.070	4305749.816
PI	4216+32.04	3515983.985	4305793.068
PI	4216+82.04	3515958.762	4305836.240
PI	4217+32.04	3515933.424	4305879.344
PI	4217+82.04	3515907.790	4305922.273
PI	4218+32.04	3515881.872	4305965.031
PI	4218+82.04	3515855.833	4306007.715
PI	4219+32.04	3515829.773	4306050.387
PI	4219+82.04	3515803.504	4306092.931
PI	4220+32.04	3515776.940	4306135.290
PI	4220+82.04	3515750.236	4306177.562
PI	4221+32.04	3515723.317	4306219.697
PI	4221+82.04	3515696.254	4306261.740
PI	4222+32.04	3515669.026	4306303.676
PI	4222+82.04	3515641.480	4306345.403
PI	4223+32.04	3515613.899	4306387.108
PI	4223+82.04	3515586.018	4306428.613
PI	4224+32.04	3515557.981	4306470.013

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4224+82.04	3515530.021	4306511.464
PI	4225+32.04	3515501.761	4306552.711
PI	4225+82.04	3515473.297	4306593.819
PI	4226+32.04	3515444.585	4306634.753
PI	4226+82.04	3515415.719	4306675.579
PI	4227+32.04	3515386.529	4306716.174
PI	4227+82.04	3515357.382	4306756.799
PI	4228+32.04	3515327.987	4306797.246
PI	4228+82.04	3515298.430	4306837.574
PI	4229+32.04	3515268.662	4306877.747
PI	4229+82.04	3515238.701	4306917.776
PI	4230+32.04	3515208.644	4306957.733
PI	4230+82.04	3515178.381	4306997.535
PI	4231+32.04	3515147.877	4307037.152
PI	4231+82.04	3515117.218	4307076.649
PI	4232+32.04	3515086.463	4307116.072
PI	4232+82.04	3515055.619	4307155.424
PI	4233+32.04	3515024.496	4307194.556
PI	4233+82.04	3514993.130	4307233.494
PI	4234+32.04	3514961.651	4307272.341
PI	4234+82.04	3514930.069	4307311.104
PI	4235+32.04	3514898.168	4307349.605
PI	4235+82.04	3514866.256	4307388.097
PI	4236+32.04	3514834.141	4307426.420
PI	4236+82.04	3514801.759	4307464.517
PI	4237+32.04	3514769.374	4307502.612
PI	4237+82.04	3514736.788	4307540.534
PI	4238+32.04	3514704.050	4307578.326
PI	4238+82.04	3514671.144	4307615.972
PI	4239+32.04	3514637.966	4307653.378
PI	4240+00.00	3514592.570	4307703.961
PI	4241+00.00	3514525.596	4307778.220

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4242+00.00	3514458.550	4307852.415
PI	4243+00.00	3514391.453	4307926.563
PI	4244+00.00	3514324.485	4308000.828
PI	4245+00.00	3514257.481	4308075.060
PI	4246+00.00	3514190.409	4308149.232
PI	4247+00.00	3514123.352	4308223.417
PI	4248+00.00	3514056.195	4308297.511
PI	4249+00.00	3513989.253	4308371.799
PI	4250+00.00	3513922.303	4308446.081
PI	4251+00.00	3513855.168	4308520.195
PI	4252+00.00	3513788.158	4308594.422
PI	4253+00.00	3513721.153	4308668.654
PI	4254+00.00	3513654.022	4308742.771
PI	4255+00.00	3513586.957	4308816.949
PI	4256+00.00	3513520.008	4308891.231
PI	4257+00.00	3513452.966	4308965.429
PI	4258+00.00	3513386.045	4309039.737
PI	4259+00.00	3513319.066	4309113.992
PI	4260+00.00	3513252.168	4309188.320
PI	4261+00.00	3513185.167	4309262.555
PI	4262+00.00	3513118.110	4309336.739
PI	4263+00.00	3513051.222	4309411.077
PI	4264+00.00	3512984.210	4309485.302
PI	4265+00.00	3512917.171	4309559.503
PI	4266+00.00	3512850.189	4309633.756
PI	4266+82.03	3512794.936	4309694.384
PI	4267+32.03	3512761.028	4309731.129
PI	4267+82.03	3512726.992	4309767.757
PI	4268+32.03	3512692.736	4309804.178
PI	4268+82.03	3512658.330	4309840.458
PI	4269+32.03	3512623.744	4309876.566
PI	4270+00.00	3512576.559	4309925.492

**GEOMETRIC DATA SHEET
I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4271+00.00	3512507.285	4309997.611
PI	4272+00.00	3512437.999	4310069.718
PI	4273+00.00	3512368.696	4310141.808
PI	4274+00.00	3512299.356	4310213.864
PI	4275+00.00	3512230.106	4310286.006
PI	4276+00.00	3512160.784	4310358.078
PI	4277+00.00	3512091.442	4310430.132
PI	4278+00.00	3512022.176	4310502.258
PI	4279+00.00	3511952.952	4310574.425
PI	4280+00.00	3511883.598	4310646.467
PI	4281+00.00	3511814.292	4310718.555
PI	4282+00.00	3511744.978	4310790.635
PI	4283+00.00	3511675.659	4310862.710
PI	4284+00.00	3511606.336	4310934.782
PI	4285+00.00	3511537.135	4311006.971
PI	4286+00.00	3511467.831	4311079.061
PI	4287+00.00	3511398.555	4311151.177
PI	4288+00.00	3511329.210	4311223.228
PI	4289+00.00	3511260.062	4311295.468
PI	4290+00.00	3511190.641	4311367.446
PI	4291+00.00	3511121.313	4311439.513
PI	4292+00.00	3511052.036	4311511.629
PI	4293+00.00	3510982.710	4311583.697
PI	4294+00.00	3510913.395	4311655.776
PI	4295+00.00	3510844.142	4311727.916
PI	4296+00.00	3510774.782	4311799.952
PI	4297+00.00	3510705.483	4311872.046
PI	4298+00.00	3510636.203	4311944.160
PI	4299+00.00	3510566.870	4312016.221
PI	4300+00.00	3510497.577	4312088.322
PI	4301+00.00	3510428.382	4312160.516
PI	4302+00.00	3510359.067	4312232.596

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4303+00.00	3510289.733	4312304.657
PI	4304+00.00	3510220.452	4312376.769
PI	4305+00.00	3510151.220	4312448.928
PI	4306+00.00	3510081.895	4312520.998
PI	4307+00.00	3510012.620	4312593.115
PI	4308+00.00	3509943.293	4312665.183
PI	4309+00.00	3509874.066	4312737.347
PI	4310+00.00	3509804.684	4312809.362
PI	4311+00.00	3509735.399	4312881.470
PI	4312+00.00	3509666.094	4312953.560
PI	4313+00.00	3509596.813	4313025.671
PI	4314+00.00	3509527.625	4313097.873
PI	4315+00.00	3509458.244	4313169.888
PI	4316+00.00	3509388.949	4313241.988
PI	4317+00.00	3509319.692	4313314.122
PI	4318+00.00	3509250.487	4313386.308
PI	4319+00.00	3509181.182	4313458.397
PI	4320+00.00	3509111.805	4313530.416
PI	4321+00.00	3509042.450	4313602.457
PI	4322+00.00	3508973.152	4313674.552
PI	4323+00.00	3508903.841	4313746.636
PI	4324+00.00	3508834.577	4313818.764
PI	4325+00.00	3508765.194	4313890.778
PI	4326+00.00	3508695.930	4313962.907
PI	4327+00.00	3508626.705	4314035.072
PI	4328+00.01	3508557.337	4314107.101
PI	4329+00.01	3508488.128	4314179.282
PI	4330+00.01	3508418.808	4314251.356
PI	4331+00.01	3508349.471	4314323.415
PI	4332+00.01	3508280.180	4314395.517
PI	4333+00.01	3508210.878	4314467.609
PI	4334+00.01	3508141.482	4314539.610

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4335+00.01	3508072.218	4314611.739
PI	4336+00.01	3508002.968	4314683.880
PI	4337+00.01	3507933.569	4314755.879
PI	4338+00.01	3507864.307	4314828.009
PI	4339+00.01	3507794.897	4314899.997
PI	4340+00.01	3507725.529	4314972.025
PI	4341+00.01	3507656.224	4315044.114
PI	4342+00.01	3507586.813	4315116.101
PI	4343+00.01	3507517.481	4315188.164
PI	4344+00.01	3507448.040	4315260.122
PI	4345+00.01	3507378.645	4315332.125
PI	4346+00.01	3507309.320	4315404.194
PI	4347+00.01	3507239.865	4315476.139
PI	4348+00.01	3507170.600	4315548.267
PI	4349+00.01	3507101.335	4315620.395
PI	4350+00.01	3507031.828	4315692.288
PI	4351+00.01	3506962.513	4315764.368
PI	4352+00.01	3506893.170	4315836.421
PI	4353+00.01	3506823.708	4315908.358
PI	4354+00.01	3506754.470	4315980.512
PI	4355+00.01	3506685.106	4316052.544
PI	4356+00.01	3506615.673	4316124.510
PI	4357+00.01	3506546.379	4316196.609
PI	4358+00.01	3506477.033	4316268.658
PI	4359+00.01	3506407.853	4316340.867
PI	4359+82.02	3506350.909	4316399.890
PI	4360+32.02	3506316.423	4316436.093
PI	4360+82.02	3506282.191	4316472.537
PI	4361+32.02	3506248.286	4316509.284
PI	4361+82.02	3506214.765	4316546.383
PI	4362+32.02	3506181.584	4316583.786
PI	4362+82.02	3506148.651	4316621.408

**GEOMETRIC DATA SHEET
I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4363+32.02	3506116.089	4316659.351
PI	4363+82.02	3506083.934	4316697.639
PI	4364+32.02	3506052.191	4316736.270
PI	4364+82.02	3506020.711	4316775.116
PI	4366+00.01	3505946.611	4316866.935
PI	4367+00.01	3505883.900	4316944.829
PI	4368+00.01	3505821.258	4317022.778
PI	4369+00.01	3505758.516	4317100.645
PI	4370+00.01	3505695.723	4317178.472
PI	4371+00.01	3505632.991	4317256.348
PI	4372+00.01	3505570.264	4317334.229
PI	4373+00.01	3505507.707	4317412.246
PI	4374+00.01	3505444.919	4317490.077
PI	4375+00.01	3505382.138	4317567.914
PI	4376+00.01	3505319.336	4317645.733
PI	4377+00.01	3505256.540	4317723.558
PI	4378+00.01	3505193.679	4317801.330
PI	4379+00.01	3505130.908	4317879.175
PI	4380+00.01	3505068.017	4317956.922
PI	4381+00.01	3505005.385	4318034.879
PI	4382+00.01	3504942.601	4318112.714
PI	4383+00.01	3504879.684	4318190.441
PI	4384+00.01	3504816.813	4318268.205
PI	4385+00.01	3504754.070	4318346.072
PI	4386+00.01	3504691.369	4318423.973
PI	4387+00.01	3504628.539	4318501.771
PI	4388+00.01	3504565.542	4318579.433
PI	4389+00.01	3504502.771	4318657.278
PI	4390+00.01	3504439.851	4318735.002
PI	4391+00.01	3504377.158	4318812.910
PI	4392+00.01	3504314.354	4318890.728
PI	4393+00.01	3504251.557	4318968.551

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4394+00.01	3504188.824	4319046.426
PI	4395+00.01	3504125.924	4319124.168
PI	4396+00.01	3504063.178	4319202.033
PI	4397+00.01	3504000.208	4319279.716
PI	4398+00.01	3503937.468	4319357.586
PI	4399+00.01	3503874.817	4319435.528
PI	4400+00.01	3503812.013	4319513.346
PI	4401+00.01	3503749.113	4319591.086
PI	4402+00.01	3503686.282	4319668.883
PI	4403+00.01	3503623.577	4319746.781
PI	4404+00.01	3503560.985	4319824.770
PI	4408+00.01	3503309.734	4320136.014
PI	4409+00.01	3503246.931	4320213.833
PI	4410+00.01	3503184.059	4320291.596
PI	4411+00.01	3503121.330	4320369.475
PI	4412+00.01	3503058.479	4320447.255
PI	4413+00.01	3502995.653	4320525.056
PI	4414+00.01	3502932.881	4320602.899
PI	4415+00.01	3502870.050	4320680.696
PI	4416+00.01	3502807.241	4320758.509
PI	4417+00.01	3502744.465	4320836.350
PI	4418+00.01	3502681.827	4320914.302
PI	4419+00.01	3502618.969	4320992.077
PI	4420+00.01	3502556.167	4321069.897
PI	4421+00.01	3502493.269	4321147.639
PI	4422+00.01	3502430.510	4321225.493
PI	4423+00.01	3502367.836	4321303.417
PI	4424+00.01	3502304.984	4321381.196
PI	4425+00.01	3502242.400	4321459.191
PI	4426+00.01	3502179.572	4321536.990
PI	4427+00.01	3502116.709	4321614.760
PI	4428+00.01	3502053.823	4321692.513

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4429+00.01	3501991.078	4321770.378
PI	4430+00.01	3501928.275	4321848.197
PI	4431+00.01	3501865.465	4321926.010
PI	4432+00.01	3501802.702	4322003.861
PI	4433+00.01	3501739.936	4322081.710
PI	4434+00.01	3501677.182	4322159.568
PI	4435+00.01	3501614.268	4322237.298
PI	4436+00.01	3501551.617	4322315.240
PI	4437+00.01	3501488.757	4322393.012
PI	4438+00.01	3501426.013	4322470.879
PI	4439+00.01	3501363.161	4322548.659
PI	4440+00.01	3501300.403	4322626.514
PI	4441+00.01	3501237.616	4322704.345
PI	4442+00.01	3501174.829	4322782.178
PI	4443+00.01	3501112.071	4322860.032
PI	4444+00.01	3501049.184	4322937.784
PI	4445+00.01	3500986.454	4323015.662
PI	4446+00.01	3500923.635	4323093.467
PI	4447+00.01	3500860.965	4323171.393
PI	4447+82.00	3500809.456	4323235.187
PI	4448+32.00	3500778.025	4323274.072
PI	4448+82.00	3500746.794	4323313.118
PI	4449+32.00	3500715.534	4323352.141
PI	4449+82.00	3500684.428	4323391.287
PI	4450+32.00	3500653.641	4323430.684
PI	4450+82.00	3500622.927	4323470.139
PI	4451+32.00	3500592.458	4323509.782
PI	4451+82.00	3500562.120	4323549.527
PI	4452+32.00	3500531.868	4323589.336
PI	4452+82.00	3500501.785	4323629.274
PI	4453+32.00	3500471.683	4323669.197
PI	4454+00.01	3500430.710	4323723.478

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4455+00.01	3500370.593	4323803.390
PI	4456+00.01	3500310.517	4323883.333
PI	4457+00.01	3500250.350	4323963.208
PI	4458+00.01	3500190.118	4324043.034
PI	4459+00.01	3500129.984	4324122.933
PI	4460+00.01	3500069.809	4324202.801
PI	4461+00.01	3500009.586	4324282.633
PI	4462+00.01	3499949.472	4324362.548
PI	4463+00.01	3499889.392	4324442.488
PI	4464+00.01	3499829.130	4324522.291
PI	4465+00.01	3499769.148	4324602.304
PI	4466+00.01	3499708.877	4324682.101
PI	4467+00.01	3499648.822	4324762.060
PI	4468+00.01	3499588.520	4324841.832
PI	4469+00.01	3499528.418	4324921.756
PI	4470+00.01	3499468.199	4325001.591
PI	4471+00.01	3499408.051	4325081.479
PI	4472+00.01	3499347.971	4325161.420
PI	4473+00.01	3499287.941	4325241.398
PI	4474+00.01	3499227.802	4325321.293
PI	4475+00.01	3499167.334	4325400.941
PI	4476+00.01	3499107.190	4325480.833
PI	4477+00.01	3499047.158	4325560.809
PI	4478+00.01	3498987.050	4325640.728
PI	4479+00.01	3498926.761	4325720.510
PI	4480+00.01	3498866.627	4325800.409
PI	4481+00.01	3498806.303	4325880.166
PI	4482+00.01	3498746.183	4325960.076
PI	4483+00.01	3498686.034	4326039.964
PI	4484+00.01	3498625.923	4326119.880
PI	4485+00.01	3498565.811	4326199.796
PI	4486+00.01	3498505.652	4326279.676

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4487+00.01	3498445.439	4326359.516
PI	4488+00.01	3498385.218	4326439.350
PI	4489+00.01	3498325.118	4326519.275
PI	4490+00.01	3498265.016	4326599.198
PI	4491+00.01	3498204.803	4326679.038
PI	4492+00.01	3498144.527	4326758.831
PI	4493+00.01	3498084.373	4326838.715
PI	4494+00.01	3498024.255	4326918.626
PI	4495+00.01	3497964.125	4326998.529
PI	4496+00.01	3497903.983	4327078.422
PI	4497+00.01	3497843.804	4327158.287
PI	4498+00.01	3497783.613	4327238.144
PI	4499+00.01	3497723.420	4327317.998
PI	4500+00.01	3497663.388	4327397.975
PI	4501+00.01	3497603.190	4327477.826
PI	4502+00.01	3497543.319	4327557.923
PI	4503+00.01	3497483.095	4327637.755
PI	4504+00.01	3497422.898	4327717.607
PI	4505+00.01	3497362.469	4327797.284
PI	4506+00.01	3497302.370	4327877.210
PI	4507+00.01	3497242.218	4327957.095
PI	4508+00.01	3497182.057	4328036.975
PI	4509+00.01	3497122.034	4328116.957
PI	4510+00.01	3497061.702	4328196.708
PI	4511+00.01	3497001.485	4328276.545
PI	4512+00.01	3496941.408	4328356.487
PI	4513+00.01	3496881.179	4328436.315
PI	4514+00.01	3496820.984	4328516.168
PI	4515+00.01	3496760.922	4328596.122
PI	4516+00.01	3496700.748	4328675.991
PI	4517+00.01	3496640.441	4328755.760
PI	4518+00.01	3496580.352	4328835.693

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4518+81.99	3496531.091	4328901.215
PI	4519+31.99	3496500.917	4328941.083
PI	4519+81.99	3496470.260	4328980.581
PI	4520+31.99	3496439.668	4329020.130
PI	4520+81.99	3496408.955	4329059.585
PI	4521+31.99	3496377.852	4329098.733
PI	4521+81.99	3496346.393	4329137.595
PI	4522+31.99	3496314.610	4329176.193
PI	4522+81.99	3496282.667	4329214.659
PI	4523+31.99	3496250.504	4329252.941
PI	4523+81.99	3496218.114	4329291.032
PI	4524+31.99	3496185.409	4329328.852
PI	4524+81.99	3496152.521	4329366.513
PI	4525+31.99	3496119.430	4329403.996
PI	4525+81.99	3496086.013	4329441.189
PI	4526+31.99	3496052.406	4329478.210
PI	4526+81.99	3496018.568	4329515.020
PI	4527+31.98	3495984.390	4329551.513
PI	4527+81.98	3495950.011	4329587.819
PI	4528+31.98	3495915.352	4329623.857
PI	4528+81.98	3495880.393	4329659.604
PI	4529+31.98	3495845.427	4329695.345
PI	4529+81.98	3495810.127	4329730.754
PI	4530+29.71	3495776.260	4329764.384
PI	4530+71.89	3495746.140	4329793.917
PI	4531+00.01	3495726.010	4329813.552
PI	4532+00.01	3495654.418	4329883.371
PI	4533+00.01	3495582.740	4329953.100
PI	4534+00.01	3495511.135	4330022.905
PI	4535+00.01	3495439.432	4330092.609
PI	4536+00.01	3495367.659	4330162.242
PI	4537+00.02	3495296.200	4330232.197

**GEOMETRIC DATA SHEET
I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4538+00.02	3495224.492	4330301.896
PI	4539+00.02	3495152.842	4330371.655
PI	4540+00.02	3495081.150	4330441.370
PI	4541+00.02	3495009.523	4330511.153
PI	4542+00.02	3494937.774	4330580.810
PI	4543+00.02	3494866.109	4330650.552
PI	4544+00.02	3494794.508	4330720.361
PI	4545+00.02	3494722.795	4330790.056
PI	4546+00.02	3494651.120	4330859.789
PI	4547+00.02	3494579.514	4330929.592
PI	4548+00.02	3494507.820	4330999.306
PI	4549+00.02	3494436.232	4331069.128
PI	4550+00.02	3494364.475	4331138.778
PI	4551+00.02	3494292.777	4331208.486
PI	4552+00.02	3494221.214	4331278.335
PI	4553+00.02	3494149.453	4331347.980
PI	4554+00.02	3494077.929	4331417.868
PI	4555+00.02	3494006.327	4331487.676
PI	4556+00.02	3493934.672	4331557.429
PI	4557+00.02	3493862.941	4331627.104
PI	4558+00.02	3493791.440	4331697.017
PI	4559+00.02	3493719.715	4331766.699
PI	4559+81.98	3493660.954	4331823.838
PI	4560+31.98	3493625.298	4331858.889
PI	4560+81.98	3493589.977	4331894.278
PI	4561+31.98	3493554.920	4331929.929
PI	4561+81.98	3493520.244	4331965.951
PI	4562+31.98	3493485.872	4332002.262
PI	4562+81.98	3493451.895	4332038.943
PI	4563+31.98	3493418.149	4332075.838
PI	4563+81.98	3493384.749	4332113.045
PI	4564+31.98	3493351.554	4332150.436

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4564+81.97	3493318.868	4332188.271
PI	4565+31.97	3493286.430	4332226.321
PI	4565+81.97	3493254.392	4332264.707
PI	4566+31.97	3493222.622	4332303.316
PI	4566+81.97	3493191.282	4332342.274
PI	4567+31.97	3493160.213	4332381.450
PI	4567+81.97	3493129.510	4332420.912
PI	4568+31.97	3493099.194	4332460.673
PI	4568+81.97	3493069.195	4332500.673
PI	4569+31.97	3493039.499	4332540.899
PI	4569+81.97	3493010.160	4332581.386
PI	4570+31.97	3492981.178	4332622.129
PI	4571+00.02	3492942.046	4332677.797
PI	4572+00.02	3492884.549	4332759.614
PI	4573+00.02	3492827.128	4332841.485
PI	4574+00.02	3492769.553	4332923.248
PI	4575+00.02	3492712.133	4333005.119
PI	4576+00.02	3492654.752	4333087.018
PI	4577+00.02	3492597.234	4333168.821
PI	4578+00.02	3492539.682	4333250.600
PI	4579+00.02	3492482.278	4333332.482
PI	4580+00.02	3492424.834	4333414.337
PI	4581+00.02	3492367.518	4333496.282
PI	4582+00.02	3492309.976	4333578.068
PI	4583+00.02	3492252.431	4333659.851
PI	4584+00.02	3492195.035	4333741.740
PI	4585+00.02	3492137.488	4333823.522
PI	4586+00.02	3492080.145	4333905.448
PI	4587+00.02	3492022.511	4333987.169
PI	4588+00.02	3491965.145	4334069.079
PI	4589+00.02	3491907.659	4334150.904
PI	4590+00.02	3491850.245	4334232.779

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4591+00.02	3491792.817	4334314.645
PI	4592+00.02	3491735.299	4334396.448
PI	4593+00.02	3491677.799	4334478.263
PI	4594+00.02	3491620.347	4334560.113
PI	4595+00.02	3491563.054	4334642.073
PI	4596+00.02	3491505.496	4334723.847
PI	4597+00.02	3491447.921	4334805.610
PI	4598+00.02	3491390.594	4334887.547
PI	4599+00.02	3491333.203	4334969.439
PI	4600+00.02	3491275.719	4335051.266
PI	4601+00.02	3491218.206	4335133.072
PI	4602+00.02	3491160.676	4335214.866
PI	4603+00.02	3491103.206	4335296.702
PI	4604+00.02	3491045.736	4335378.539
PI	4605+00.03	3490988.248	4335460.375
PI	4606+00.02	3490930.798	4335542.213
PI	4607+00.02	3490873.328	4335624.050
PI	4608+00.02	3490815.859	4335705.887
PI	4609+00.02	3490758.420	4335787.745
PI	4610+00.02	3490700.879	4335869.531
PI	4611+00.02	3490643.612	4335951.511
PI	4612+00.02	3490586.044	4336033.278
PI	4612+84.37	3490537.506	4336102.261
PI	4613+31.97	3490510.074	4336141.161
PI	4613+81.97	3490481.148	4336181.945
PI	4614+31.97	3490451.910	4336222.505
PI	4614+81.97	3490422.343	4336262.826
PI	4615+31.97	3490392.633	4336303.042
PI	4615+81.97	3490362.526	4336342.960
PI	4616+31.97	3490332.188	4336382.704
PI	4616+81.97	3490301.660	4336422.303
PI	4617+31.96	3490270.868	4336461.696

**GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

I-24 WESTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4617+81.96	3490239.797	4336500.870
PI	4618+31.96	3490208.528	4336539.885
PI	4618+81.96	3490176.951	4336578.652
PI	4619+00.02	3490165.517	4336592.624
PI	4620+00.02	3490102.102	4336669.945
PI	4621+00.02	3490038.654	4336747.239
PI	4622+00.02	3489975.362	4336824.661
PI	4623+00.02	3489911.976	4336902.006
PI	4624+00.02	3489848.647	4336979.397
PI	4625+00.02	3489785.123	4337056.629
PI	4626+18.37	3489710.194	4337148.243
PI	4627+00.00	3489658.474	4337211.396
PI	4628+00.00	3489595.057	4337288.715
PI	4629+00.00	3489531.670	4337366.058
PI	4630+12.18	3489460.634	4337452.879
PI	4631+00.00	3489404.789	4337520.659
PI	4632+00.00	3489341.465	4337598.055
PI	4633+00.00	3489277.989	4337675.325
PI	4634+00.00	3489214.584	4337752.654
PI	4635+00.00	3489151.292	4337830.077
PI	4636+00.00	3489087.897	4337907.414
PI	4637+00.00	3489024.551	4337984.791
PI	4638+00.00	3488960.992	4338061.995
PI	4639+00.00	3488897.611	4338139.343
PI	4640+00.00	3488834.251	4338216.709
PI	4641+00.00	3488770.919	4338294.098
POE	4642+00.00	3488707.545	4338371.453

**CROSSOVER GEOMETRIC DATA SHEET
 I-24 WESTBOUND - CALDWELL AND TRIGG COUNTY**

CROSSOVER 1 COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
POB	0+00.00	3519765.965	4298188.045
PC	0+78.30	3519731.189	4298258.200
PI	4+38.15	3519571.370	4298580.610
PT	7+97.39	3519379.988	4298885.345
PC	7+99.72	3519378.746	4298887.322
PI	11+59.51	3519187.400	4299192.000
PT	15+18.68	3519027.605	4299514.347
POE	15+69.42	3519005.071	4299559.804

CROSSOVER 2 COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
POB	0+00.00	3489902.235	4336776.614
PC	0+25.62	3489886.004	4336796.434
PI	3+85.56	3489657.950	4337074.910
PT	7+44.89	3489459.016	4337374.881
PC	7+46.99	3489457.856	4337376.631
PI	11+06.92	3489258.930	4337676.590
PT	14+66.24	3489030.887	4337955.056
POE	15+06.89	3489005.127	4337986.512

SUPERELEVATION DATA		
Super Control Line:	GRADE POINT TO CROWN	
Type:	Linear	
Station	Cross Slope	Point Type
3909+57.96	2.00%	Normal Crown
4207+50.03	2.00%	Normal Crown
4208+17.74	0.00%	Zero Cross Slope
4208+80.28	-1.85%	Full Super
4239+75.00	-1.85%	Full Super
4240+37.55	0.00%	Zero Cross Slope
4241+05.26	2.00%	Normal Crown
4264+32.80	2.00%	Normal Crown
4265+00.51	0.00%	Zero Cross Slope
4265+68.22	-2.00%	Reverse Crown
4269+07.93	-2.00%	Reverse Crown
4269+75.64	0.00%	Zero Cross Slope
4270+43.35	2.00%	Normal Crown
4359+25.37	2.00%	Normal Crown
4359+85.24	3.33%	Full Super
4364+48.74	3.33%	Full Super
4365+08.61	2.00%	Normal Crown
4366+88.61	2.00%	Normal Crown
4448+44.24	2.00%	Normal Crown
4452+19.03	2.00%	Normal Crown
4453+54.45	2.00%	Normal Crown
4516+89.81	2.00%	Normal Crown
4517+79.81	0.00%	Zero Cross Slope
4518+69.81	-2.00%	Reverse Crown
4518+95.66	-2.57%	Full Super
4530+14.37	-2.57%	Full Super
4530+40.22	-2.00%	Reverse Crown
4531+30.22	0.00%	Zero Cross Slope
4532+20.22	2.00%	Normal Crown
4559+46.39	2.00%	Normal Crown
4560+05.83	3.32%	Full Super
4569+81.08	3.32%	Full Super
4570+40.52	2.00%	Normal Crown
4572+20.52	2.00%	Normal Crown
4611+19.01	2.00%	Normal Crown
4612+09.01	0.00%	Zero Cross Slope
4612+99.01	-2.00%	Reverse Crown
4613+22.34	-2.52%	Full Super
4618+43.63	-2.52%	Full Super
4618+66.96	-2.00%	Reverse Crown
4619+56.96	0.00%	Zero Cross Slope
4620+46.96	2.00%	Normal Crown
4937+88.01	2.00%	Normal Crown

Super Control Line: CROWN TO INSIDE EOP		
Type: Linear		
Station	Cross Slope	Point Type
3909+57.96	-2.00%	Normal Crown
4207+50.03	-2.00%	Normal Crown
4208+85.45	-2.00%	Normal Crown
4239+69.84	-2.00%	Normal Crown
4241+05.26	-2.00%	Normal Crown
4265+68.22	-2.00%	Normal Crown
4269+07.93	-2.00%	Normal Crown
4270+43.35	-2.00%	Normal Crown
4357+45.37	-2.00%	Normal Crown
4359+25.37	2.00%	Reverse Crown
4359+85.24	3.33%	Full Super
4364+48.74	3.33%	Full Super
4365+08.59	2.00%	Reverse Crown
4365+98.61	0.00%	Zero Cross Slope
4366+88.61	-2.00%	Normal Crown
4447+08.82	-2.00%	Normal Crown
4447+76.53	0.00%	Zero Cross Slope
4448+44.24	2.00%	Undefined
4452+19.03	2.00%	Undefined
4452+86.74	0.00%	Zero Cross Slope
4453+54.45	-2.00%	Normal Crown
4518+69.81	-2.00%	Normal Crown
4518+95.66	-2.57%	Full Super
4530+14.37	-2.57%	Full Super
4530+40.22	-2.00%	Normal Crown
4532+20.22	-2.00%	Normal Crown
4557+66.39	-2.00%	Normal Crown
4558+56.39	0.00%	Zero Cross Slope
4559+46.39	2.00%	Reverse Crown
4560+05.83	3.32%	Undefined
4569+81.08	3.32%	Full Super
4570+40.52	2.00%	Reverse Crown
4571+30.52	0.00%	Zero Cross Slope
4572+20.52	-2.00%	Normal Crown
4612+99.01	-2.00%	Normal Crown
4613+22.34	-2.52%	Full Super
4618+43.63	-2.52%	Full Super
4618+66.96	-2.00%	Normal Crown
4620+46.96	-2.00%	Normal Crown
4937+88.01	-2.00%	Normal Crown
Super Control Line: GRADE POINT TO SHOULDER_BREAK		
Type: Linear		
Station	Cross Slope	Point Type
4206+48.46	-5.00%	Normal Crown

4207+50.03	-2.00%	
4208+17.74	0.00%	Zero Cross Slope
4208+80.28	1.85%	Full Super
4239+75.00	1.85%	Full Super
4240+37.55	0.00%	Zero Cross Slope
4241+05.26	-2.00%	
4242+06.82	-5.00%	Normal Crown
4264+32.80	-5.00%	Normal Crown
4265+68.22	2.00%	
4269+07.93	2.00%	
4270+43.35	-5.00%	Normal Crown
4515+54.81	-5.00%	Normal Crown
4516+89.81	-2.00%	
4518+69.81	2.00%	
4518+95.66	2.57%	Full Super
4530+14.37	2.57%	Full Super
4530+40.22	2.00%	
4531+30.22	0.00%	Zero Cross Slope
4532+20.22	-2.00%	
4533+55.22	-5.00%	Normal Crown
4559+46.39	-5.00%	Normal Crown
4560+05.83	-4.00%	Normal Crown
4569+81.08	-4.00%	Normal Crown
4570+40.52	-5.00%	Normal Crown
4609+84.01	-5.00%	Normal Crown
4611+19.01	-2.00%	
4612+99.01	2.00%	
4613+22.34	2.52%	Full Super
4618+43.63	2.52%	Full Super
4618+66.96	2.00%	
4619+56.96	0.00%	Zero Cross Slope
4620+46.96	-2.00%	
4621+81.96	-5.00%	Normal Crown
4937+88.01	-5.00%	Normal Crown

**TRAFFIC CONTROL PLAN
I-24 – CALDWELL AND TRIGG COUNTIES
PAGE 1 OF 5**

TRAFFIC CONTROL GENERAL

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

Contrary to Section 106.01, traffic control devices used on this project may be new or used in like-new condition at the beginning of the work and maintained in like-new condition until completion of the work. Traffic Control Devices will conform to current MUTCD.

Reduce the speed limit in work areas of I-24 to 55 miles per hour and establish double fines for work zone speeding violations. The extent of these areas within the project limits will be restricted to the proximity of actual work areas as determined by the Engineer. Notify the Engineer a minimum of 12 hours prior to using the double fine signs. At the beginning of the work zone, the "WARNING FINE DOUBLED IN WORK ZONE" signs will be dual mounted. At the end of the work zone, the "END DOUBLE FINE" signs will be dual mounted as well. Remove or cover the signs when the highway work zone does not have workers present for more than a two-hour period of time. Payment for the signs will be at the unit bid price for signs erected. Any relocation or covering of signs will be incidental to "Maintain and Control Traffic."

Night work will be allowed on this project. Obtain approval from the Engineer for the method of lighting prior to its use.

PROJECT PHASING AND CONSTRUCTION PROCEDURES

The Contractor shall maintain a minimum of one 11-foot lane in each direction.

Use a lane closure at all times when work is performed in the adjacent lane or adjacent shoulder. Traffic shall not be allowed to travel on milled surface. Shoulders are NOT to be used as temporary travel lanes unless otherwise shown in the plans or directed or approved by the Engineer. When shoulders are utilized, perform any maintenance of the shoulder as deemed necessary and as directed by the Engineer to maintain traffic. Repair or reconstruction of shoulder pavement due to maintenance of traffic will be paid for with the pavement construction bid items in the contract. All removal of existing striping shall be by water blasting, unless otherwise directed by the Engineer, and this work shall be considered incidental to "Maintain and Control Traffic." Remove edge lines as necessary and approved by the Engineer throughout the project. Paint temporary edge lines for the lane closures.

Access to ramps at the KY 139 interchange shall be maintained, except for the westbound off ramp in Phase 1 as noted below.

All pavement edge transitions must be smooth and level before opening lanes up to traffic. A lane closure must be in place during all times that pavement edge drop-offs are present (see Pavement Edge Drop-off note).

Note that lane shifts are required throughout the project. Stripe according to the Standard Drawings and MUTCD.

The Contractor must notify the Engineer at least fourteen (14) days prior to beginning each phase of construction.

**TRAFFIC CONTROL PLAN
I-24 – CALDWELL AND TRIGG COUNTIES
PAGE 2 OF 5**

PHASE 1

Construct Crossover #1 and Crossover #2. The pavement slopes and transitions shall be as approved by the Engineer. Existing crossover pavement may be utilized as approved by the Engineer. Existing crossover pavement shall be removed as directed by the Engineer. Traffic shall then be reduced to one lane each direction and westbound traffic shifted to the eastbound lanes. The temporary barrier wall shall be in place prior to shifting of traffic. The westbound traffic shall use Crossover #1 and Crossover #2 to cross the median. Construct full depth pavement, permanent striping and pavement markers from MP 55.500 to 65.500.

The KY 139 interchange westbound off ramp shall be closed. Detour for the ramp traffic are to be as follows:

Traffic shall be routed west along I-24 to the KY 293 interchange and then back east along I-24 to the KY 139 eastbound off ramp.

Detours and ramp closures shall be signed and striped according to the MUTCD and current KYTC Standard Drawings. Signing for the detours shall be subject to approval by the Engineer.

PHASE 2

Shift westbound traffic to westbound lanes and remove temporary barrier wall. Remove all median crossovers. Place remaining permanent striping and pavement markers using temporary lane closures as directed by the Engineer. Construct guardrail, guardrail end treatments, and bridge end connectors. Final striping, guardrail, and other work may be done concurrent with other phases, as approved by the Engineer.

LANE CLOSURES

Limit the lengths of lane and shoulder closures to only that needed for actual operations in accordance with the phasing specified herein, or as directed by the Engineer. Limit lane closures to allow a minimum of one lane open per direction at any given time

Other than the holidays listed in the current Standard Specifications, the Engineer may specify additional days and hours when lane closures are not allowed. Do not leave lane closures in place during prohibited periods.

Contrary to Section 112, lane and shoulder closures will NOT be measured for payment but are considered incidental to "Maintain and Control Traffic."

SIGNS

Additional traffic control signs in addition to normal lane closure signing detailed on the Standard Drawings may be required by the Engineer. Additional signs needed for lane closures may include, but are not limited to, dual mounted LEFT/RIGHT LANE CLOSED 1 MILE, LEFT/RIGHT LANE CLOSED 2 MILES, LEFT/RIGHT LANE CLOSED 3 MILES, SLOWED/STOPPED TRAFFIC AHEAD. Signage for reduced speed limits and double fine work zones will be furnished, relocated, and maintained by the Contractor.

Contrary to Section 112, individual 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 signs or signs directed to be replaced by the Engineer due to poor legibility or reflectivity will not be measured for payment.

TRAFFIC CONTROL PLAN
I-24 – CALDWELL AND TRIGG COUNTIES
PAGE 3 OF 5

A quantity of signs has been included for lane shifts, "Roadwork Ahead" signs on entrance ramps, and extra Double Fine signs and Speed Limit signs between interchanges to be paid for only once no matter how many times they are moved or relocated.

Traffic control signs in addition to normal lane closure signing detailed in the Standard Drawings may be required by the Engineer.

FLASHING ARROWS

Flashing arrows will be paid for once, no matter how many times they are moved or relocated. The Department WILL NOT take possession of the flashing arrows upon completion of the work.

PORTABLE CHANGEABLE MESSAGE SIGNS

Provide portable 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 provide additional portable changeable message signs. Place portable 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 portable 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 will be designated by the Engineer. The portable changeable message signs will be in operation always. In the event of damage or mechanical/electrical failure, the Contractor will repair or replace the Portable Changeable Message Sign immediately. Portable Changeable Message Signs will be paid for once, no matter how many times they are moved or relocated. The Department WILL NOT take possession of the signs upon completion of the work.

BARRELS

Barrels are to be used for channelization or delineation and will be incidental to "Maintain and Control Traffic" according to Section 112.04.01. Replacement of damaged barrels due to poor condition or reflectivity, as directed by the Engineer, will not be measured for payment.

HIGH TENSION CABLE-ROPE MEDIAN BARRIER

The existing cable-rope barrier system along this section of I-24 is a Brifen Wire Rope Safety Fence (WRSF). It shall not be disturbed except for construction of the temporary median crossovers. In those areas, the high tension cable-rope median barrier (cable, posts, hardware, etc.) shall be removed and preserved for re-installation after removal of the crossover. The concrete pad may also be preserved as much as possible with placement of steel plates as approved by the Engineer. Anchors shall be installed immediately after removal for construction of the crossovers.

Concurrent with removal of the temporary median crossovers, the high tension cable-rope median barrier shall be re-installed in the same location as approved by the Engineer.

The Contractor shall use Brifen for all work associated with the removal, anchors, and re-installation of the cable-rope barrier system.

See "Special Note for High Tension Cable-Rope Median Barrier" for information applicable to the work on this project.

**TRAFFIC CONTROL PLAN
I-24 – CALDWELL AND TRIGG COUNTIES
PAGE 4 OF 5**

TRUCK MOUNTED ATTENUATORS

Furnish and install MUTCD approved Truck Mounted Attenuators (TMAs) in advance of work areas when workers are present less than 12 feet from traffic. If there is less than 500 feet between work sites, only a single TMA will be required at a location directed by the Engineer. Locate the TMAs at the individual work sites and move them as the work zone moves within the project limits. All details of the TMA installations shall be approved by the Engineer. TMAs will not be measured for payment but are incidental to Maintain and Control Traffic. The Department WILL NOT take possession of the TMAs upon completion of the work.

PAVEMENT MARKINGS

If lane closures are in place during nighttime hours, remove or cover the lenses of raised pavement markers that do not conform to the traffic control scheme in use, or as directed by the Engineer. Replace or uncover lenses before a closed lane is reopened to traffic. No direct payment will be made for removing and replacing or covering and uncovering the lenses but will be incidental to "Maintain and Control Traffic".

Place temporary and permanent striping in accordance with Section 112 and Section 714, except that:

1. Temporary and permanent striping will be 6" in width;
2. If the Contractor's operations or phasing requires temporary markings which must be subsequently removed from the ultimate pavement, an approved removable lane tape will be used; however removable tape will be measured and paid as Pavement Striping-Temporary Paint 6-inch;
3. Edge lines will be required for temporary striping;
4. Existing, temporary, or permanent striping will be in place before a lane is opened to traffic; and
5. Permanent striping will be Durable Tape.

Should the Contractor change the existing striping pattern, the Contractor is to restripe the roadway back to its original configuration within the time allotted for a lane closure.

Removal of existing and temporary striping shall be incidental to "Maintain and Control Traffic."

BARRICADES

Barricades used for channelization or delineation shall be incidental to "Maintain and Control Traffic". As directed by the Engineer replacements for damaged barrels to be replaced due to poor condition or reflectivity will not be measured for payment.

TEMPORARY BARRIER WALL

Concrete barrier wall type 9T shall be installed between lanes of opposing traffic. There shall be a minimum of one (1) delineator per section of wall. The delineators shall be bi-directional and placed on top of the wall.

TURNAROUNDS

Gaps shall be left in the temporary barrier wall for emergency vehicle turnarounds. The layout and locations are noted in the plans. The turnarounds are for emergency vehicles only. They shall NOT be used by the Contractor.

**TRAFFIC CONTROL PLAN
I-24 – CALDWELL AND TRIGG COUNTIES
PAGE 5 OF 5**

PAVEMENT EDGE DROP-OFFS

Pavement edge drop-offs will be protected by a lane or shoulder closure. Lane closures will be protected with barrels, vertical panels, or barricades as shown on the Standard Drawings.

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 1 ½". Place warning signs (MUTCD W8-11 or W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual posting on both sides of the traveled way shall be required. Pavement edges that traffic is not expected to cross, except accidentally, shall be treated as follows:

- Less than 2" – Protect with a lane closure.
- 2" to 4" – Protect with a lane closure. Place barrels, vertical panels, or barricades every 50 feet. Traffic cones may not be used in place of barrels, panels, and barricades at any time. Construct a wedge with compacted cuttings from milling, trenching, or asphalt mixtures with a 3:1 or flatter slope, when work is not active in the drop-off area. Place Type III Barricades at the beginning of the lane closures, and place additional Type III Barricades spaced at 2,500 feet during the time the lane closure is in place.
- Guardrail Installation – All areas from which guardrail is removed shall be protected by a shoulder closure or other method approved by the Engineer until the new guardrail is installed.

TRAFFIC COORDINATOR

Contractor shall designate an employee to be Traffic Coordinator. The designated Traffic Coordinator must be certified by an agency qualified for training in this area. The Traffic Coordinator will inspect the project maintenance of traffic once every two hours during the Contractor's operations and at any time a lane closure is in place. The Traffic Coordinator will report all incidents throughout the work zone to the Engineer on the project. The Contractor will furnish the name and telephone number where the Traffic Coordinator can be contacted always.

During any period when a lane closure is in place, the Traffic Coordinator will arrange for personnel to be present on the project always to inspect the traffic control, maintain the signing and devices, and relocate portable changeable message boards as queue lengths change. The personnel will have access on the project to a radio or telephone to be used in case of emergencies or accidents.

This project is designated as a Significant Project in accordance with Section 112.03.03 of the Kentucky Standard Specifications.

COORDINATION OF WORK

The Contractor is advised that other projects may be in progress within or in the near vicinity of this project. The traffic control of those projects may affect this project and the traffic control of this project may affect those projects. The Contractor will coordinate the work on this project with the work of the other Contractors. In case of conflict, the Engineer will determine the relative priority to give to work phasing on the various projects.

CONTRACTOR'S AND CONTRACTOR'S EMPLOYEES' VEHICLES

Do not use or allow employees to use median crossovers at any time except when inside lanes are closed for construction. In all other phases of construction, change vehicular direction of travel only at interchanges.

SPECIAL NOTE FOR ASPHALT MILLING AND TEXTURING

Begin paving operations immediately after the commencement of the asphalt milling operation. Continue paving operations continuously until completed. Do not allow public traffic to drive on the milled surface. If paving operations are not begun within this time period, liquidated damages will be assessed at the rate prescribed by Section 108.09 of the current Standard Specifications until such time as paving operations are begun.

Removal of the existing pavement markers prior to the milling operation is considered incidental to the bid item “Asphalt Pavement Milling and Texturing”.

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS

The dimensions shown on the typical sections for pavement and shoulder widths are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened unless specified elsewhere in the Proposal.

SPECIAL NOTE FOR BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

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GEOTEXTILE BOND BREAKER INTERLAYER FOR CONCRETE OVERLAY

1. DESCRIPTION. Install a geotextile fabric bond breaker interlayer on an existing concrete pavement in accordance with the standard specifications, the plans, and as described below:
2. MATERIAL REQUIREMENTS. The geotextile interlayer material shall comply with the requirements of Table 1 shown below:

Table 1.
Specifications for Geotextile Interlayer Material for Concrete Overlay

Property	Requirements	Test Procedure
Geotextile type	Nonwoven, needle-punched geotextile, no thermal treatment (calendaring or IR)	EN 13249 Annex F
Color	Uniform/nominally same-color (black or white)	Visual Inspection
Mass per unit area	≥ 14.7 oz/yd ² ≤ 16.2 oz/yd ²	ASTM D 5261
Thickness under load (pressure)	a. At 0.29 psi [2 kPa]: ≥ 120 mil b. At 2.9 psi [20 kPa]: ≥ 100 mil c. At 29 psi [200 kPa]: ≥ 40 mil	ASTM D 5199
Wide-width tensile strength	≥ 685 lb/ft	ASTM D 4595
Wide-width maximum elongation	≤ 130%	ASTM D 4595
Water permeability in normal direction under load (pressure)	At 2.9 psi [20 kPa]: ≥ 3.3x10 ⁻⁴ ft/s	ASTM D 5493
In-plane water permeability (transmissivity) under load (pressure)	a. At 2.9 psi [20 kPa]: ≥ 1.6x10 ⁻³ ft/s b. At 29 psi [200 kPa]: ≥ 6.6x10 ⁻⁴ ft/s	ASTM D 6574
Weather resistance	Retained strength ≥ 70%	ASTM D 4355 @ 500 hrs. exposure
Alkali resistance	≥ 97% polyolefin	EN 13249 Annex B
Peel Strength Geotextile to Concrete	≥ 4.2 lbs/linear inch	ASTM D 903
Peel Strength Geotextile to Geotextile	≥ 4.2 lbs/linear inch	ASTM D 903

3. Quality Control

- 3.1. Manufacturing Quality Control (MQC): Testing shall be performed at a laboratory accredited by GAI-LAP for tests required for the geotextile, at frequency in accordance with ASTM D 8102.
- 3.2. All supplied geotextiles shall include certificates of analysis for all specified properties.

4. SUBMITTALS

4.1. Product Certification

- 4.1.1. The Contractor shall provide the Engineer a certificate stating the name of the geotextile manufacturer, product name, style, chemical compositions of filaments or yarns and other pertinent information to fully describe the geotextile.

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4.1.2. The Manufacturer shall demonstrate transparency of their manufacturing process by showing traceability of the product from origin of raw material through finished good.

4.1.3. The Manufacturer is responsible for establishing and maintaining a quality control program to assure compliance with the requirements of the specification. Documentation describing the quality control program shall be made available upon request.

4.1.4. The Manufacturer's certificate shall be supplied before product shipment. The certificate shall state that the furnished geotextile meets all requirements of specification as evaluated under the manufacturer's quality control program. A person having legal authority to bind the Manufacturer shall attest to the certificate.

5. DELIVERY, STORAGE, AND HANDLING

5.1. Ensure geotextile labeling, shipment and storage follows ASTM D 4873.

5.2. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.

5.3. Each shipping document shall include a notation certifying that the material is in accordance with the manufacturer's certificate.

5.4. Wrap each geotextile roll with a material that will protect the geotextile from damage due to shipment, water, sunlight, and contaminants.

5.5. Maintain the protective wrapping during periods of shipment and storage. If the wrapping is damaged prior to installation, discard the outer wrap of geotextile material before installation.

5.6. Store geotextile rolls elevated off the ground and with adequately cover to protect them from the following: site construction damage, extended exposure to ultraviolet (UV) radiation, precipitation, surface water, chemicals that are strong acids or strong bases, flames, sparks, temperatures in excess of 160 deg F (71 deg C) and any other environmental condition that might damage the geotextile.

6. INSTALLATION

6.1. Installation of the geotextile fabric can be performed by using an adhesive, or nails with washers to ensure the geotextile remains in place and does not come loose, fold, or bulge.

6.2. Site Preparation

6.2.1. For new pavements on stabilized substructures and unbonded overlays, sweep the surface clean before placing geotextile interlayer and/or adhesive. Excessive debris may damage geotextile during installation and service.

6.2.2. For unbonded overlays:

6.2.2.1. Replace isolated areas of pavement where subgrade/subbase show evidence of active movement in the existing pavement. Repair the subgrade/subbase as

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necessary.

- 6.2.2.2. Fill any substantial voids greater than 2 in (5 cm) deep on the pavement surface with an approved material.
- 6.2.2.3. Joint deterioration with little or no faulting can be bridged with the overlay.
- 6.2.2.4. Use full-depth repairs at isolated spots where structural integrity needs restoring.

6.3. Installation Using Adhesive

6.3.1. Geotextile Interlayer Adhesive Application

- 6.3.1.1. Apply the adhesive to the existing pavement surface or milled surface before the placement of the geotextile.
- 6.3.1.2. Apply the adhesive continuously to the pavement around the perimeter of each geotextile roll/panel with a desired spray width of approximately 6 in (15 cm), or as specified.
- 6.3.1.3. Apply the adhesive to the edge of previously laid geotextile for all roll end and panel overlaps with a desired spray width of 6-8 in, or as specified.
- 6.3.1.4. Spray a test pattern to determine the best distance from the surface required to achieve the desired spray width. Adjust/open the applicator spray flare fitting until the spray pattern is wide enough to achieve the desired width.
- 6.3.1.5. Apply a single, continuous coat of the adhesive in front of the installation of geotextile at a pace necessary to achieve the desired spray width.
- 6.3.1.6. When ambient temperatures are above 68 degrees Fahrenheit, allow adhesive to dry properly before bonding to geotextile. Dry time can vary depending on temperature, humidity and coat weight. Typical dry time is 1 to 5 minutes. To check for dryness, use the back of your fingernail to press into the adhesive and lift up. Any adhesive transfer or viscous stretching of the adhesive indicates that the adhesive requires more time to dry. If the adhesive feels tacky, but there is no transfer or stretching, the adhesive is ready for bonding geotextile. The adhesive should be covered and rolled with geotextile within one hour of application. Position geotextile carefully as a strong bond is made instantly upon contact.
- 6.3.1.7. When ambient temperatures are below 68 degrees Fahrenheit, geotextile can generally be immediately placed onto adhesive. Adhesive can be used under the same temperature conditions as allowed for pouring of concrete, typically above 40 degrees Fahrenheit. When placing geotextile in this condition, geotextile needs to properly bond to adhesive before construction or vehicle trafficking begins. Position geotextile carefully and let it set until a strong bond is formed.

6.3.2. Geotextile Interlayer Placement

- 6.3.2.1. Begin placement at the starting end of the project making sure to apply adhesive as described above.
- 6.3.2.2. Install the geotextile taught over the adhesive without wrinkles. Placement of

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geotextile can be achieved by unrolling down the length of roadway by hand or machine. Carefully position geotextile as a strong bond is made instantly upon contact with adhesive.

- 6.3.2.3. Roll geotextile within one hour of adhesive application, with uniform pressure over the entire bonded area. The minimum recommended pressure is 25 psi. On large projects, a small drum roller is a preferred method for applying uniform pressure.
- 6.3.2.4. Additional geotextile panels may be required to cover the width of the pavement. For overlapping, spray adhesive onto the previously installed geotextile panel edge, install new panel and roll the overlap as specified above. Overlapping should not exceed three layers thick; therefore offset every other initial geotextile panel by 6-8 ft. (until entire width of pavement is covered. This will ensure proper shingling of the geotextile panels while preventing excessive layers at the corners. When overlaps are needed, the adjacent roll edge/end overlap shall be 6 inch minimum. End-of-roll overlaps shall be shingled in the direction of paving progression.
- 6.3.2.5. Extend geotextile beyond both edges of the new concrete pavement at least 6 inches. Geotextile is designed to flow water laterally through the geotextile. The six-inch tail on the outside of the pavement allows for overlap bonding and may be connected to a drainage system to flow water away from the pavement.
- 6.3.2.6. If vehicle traffic is present on the road or slow paving is expected, place geotextile no more than 650 ft. before the paving process.
- 6.3.2.7. If construction traffic is expected to travel on geotextile, avoid tight turns, sudden braking and acceleration, as this could damage or disturb the placed geotextile. Any public traffic should be controlled by flaggers or pilot cars and kept to a minimum.
- 6.3.2.8. If geotextile is being placed through an intersection or other area of higher traffic volume, place geotextile immediately before the paving process. This eliminates damage due to the heavy traffic directly on geotextile. Repair any traffic damage to the geotextile using a new piece of geotextile.
- 6.3.2.9. Once geotextile has bonded to the adhesive, it can be covered immediately with the concrete pavement/overlay.
- 6.3.2.10. Ensure geotextile surface temperature is below 90 degrees Fahrenheit at time of concrete placement to avoid heat stress and differential curing. Water misting can be used to reduce temperature.
- 6.3.2.11. Place concrete pavement/overlay directly on top of the placed geotextile. If geotextile becomes wet, it may be paved over provided there is no ponded water. Care should be taken not to displace geotextile while trucks drive on it, dump concrete into the paving apparatus, or onto the geotextile. Trucks should release the emergency parking break when dumping into an advancing paver to prevent damage to geotextile. Trucks should avoid sharp turns, hard braking, and quick acceleration at all times. The concrete overlay should be placed according to the project plans.
- 6.3.2.12. Place geotextile no more than five days before the paving process. Prolonged exposure to the elements may cause damage to geotextile. Do not allow construction equipment to track soil onto the geotextile. Clean off any excess

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sediment as it can affect drainage. Ensure water does not pond or deposit sediment on geotextile before concrete placement. Geotextile may be damp, but not soaked, during concrete placement.

6.4. Installation Using Nails with Washers

6.4.1. Geotextile Placement

- 6.4.1.1. Proceed with placement only after the surface is properly prepared and cleaned.
- 6.4.1.2. Roll the geotextile material onto the base or existing pavement surface, keeping the roll tight and minimizing wrinkles, kinks, and folds.
- 6.4.1.3. Overlap the edges of the geotextile by 8 inches +/- 2 inches. No more than three layers should overlap at any point.
- 6.4.1.4. Extend geotextile past both edges of the pavement a minimum of 6 inches, and may be tied into a longitudinal underdrain system to provide positive drainage.
- 6.4.1.5. Roll the geotextile out in a sequence that facilitates good overlapping, prevents folding or tearing by construction traffic, and minimizes the potential that the material will be disturbed by the paver.
- 6.4.1.6. Utilize temporary gaps in geotextile where trucks are crossing and making sharp turns.

6.4.2. Geotextile Fastening

- 6.4.2.1. Secure the geotextile to the underlying layer with nails placed through 2 to 2.75 inch galvanized washers or disks.
- 6.4.2.2. Secure initial geotextile roll end with nails with washers at 3 foot spacing.
- 6.4.2.3. Secure geotextile at 6-foot centers or less in both transverse and longitudinal directions. Longitudinal edges may require 3 foot spacing for extra security, especially in windy conditions.
- 6.4.2.4. Secure geotextile roll end overlaps with nails with washers at 3-foot spacings.
- 6.4.2.5. Verify all nail lengths for the type of existing pavement before installation begins. Normally, 0.75 inch nails for existing concrete pavements and 1.5 inch nails for asphalt or Cement Treated Base (CTB) substructures.
- 6.4.2.6. Test fastening guns and nails on the existing pavement prior to fabric installation to ensure the nails can be driven to their full depth.
- 6.4.2.7. After evaluation, choose the fastener device that provides enough power to drive the selected nail into the existing pavement on a consistent basis.
- 6.4.2.8. If a nail does not fully penetrate the existing pavement, drive another nail

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- and washer next to it. Remove loose nails to avoid truck tire punctures.
- 6.4.2.9. Use additional nails with washers as needed to ensure that the geotextile does not shift or fold before or during paving.
 - 6.4.2.10. If vehicle traffic is present on the road or slow paving is expected, place geotextile no more than 650 ft. (200 m) before the paving process.
 - 6.4.2.11. If construction traffic is expected to travel on geotextile, avoid tight turns, sudden braking and acceleration, as this could damage or disturb the placed geotextile. Any public traffic should be controlled by flaggers or pilot cars and kept to a minimum.
 - 6.4.2.12. If geotextile is being placed through an intersection or other area of higher traffic volume, place geotextile immediately before the paving process. This eliminates damage due to the heavy traffic directly on geotextile. Repair any traffic damage to the geotextile using a new piece of geotextile.
 - 6.4.2.13. If damage due to wind uplift or haul trucks occurs, cut out and replace the geotextile with adequate nails with washers.
 - 6.4.2.14. Ensure the geotextile surface temperature is below 90 degrees Fahrenheit (32 degrees Celsius) at time of concrete placement to avoid heat stress and differential curing. Water misting can be used to reduce temperature.
 - 6.4.2.15. Place concrete pavement/overlay directly on top of the placed geotextile. If geotextile becomes wet, it may be paved over provided there is no ponded water. Care should be taken not to displace geotextile while trucks drive on it, dump concrete into the paving apparatus, or onto the geotextile. Trucks should release the emergency parking brake when dumping into an advancing paver to prevent damage to geotextile. Trucks should avoid sharp turns, hard braking, and quick acceleration at all times. The concrete overlay should be placed according to the project plans.
 - 6.4.2.16. Place geotextile no more than five days before the paving process. Prolonged exposure to the elements may cause damage to geotextile. Do not allow construction equipment to track soil onto the geotextile. Clean off any excess sediment as it can affect drainage. Ensure water does not pond or deposit sediment on geotextile before concrete placement. Geotextile may be damp, but not soaked, during concrete placement.

7. Measurement and Payment

- 7.1. Method of Measurement: The amount of pavement, shoulder, and/or base/subbase surface area covered in accordance with the specifications in square yards.
- 7.2. Basis of Payment: By square yard covered, including all overlaps. Adhesive or nails with washers for fastening to the existing pavement, wastage, and all furnishing labor and equipment shall be considered incidental to the bid price for:

<u>ITEM NUMBER</u>	<u>ITEM DESCRIPTION</u>	<u>UNITS</u>
25050ED	GEOTEXTILE BOND BREAKER INTERLAYER	SQ YD

Special Note for
Longitudinal Texturing of Concrete Pavement

Provide concrete pavement with longitudinal texturing. Depth, spacing, and any other details in regards to texturing will be completed as per Specification 501.03.13 H) with the exception of the direction of texturing, and the spacing of longitudinal grooves. Spacing for the longitudinal grooves will be 3/4 inch. Obtain the Resident Engineer's approval as per the method of construction. A test area will not be necessary, but the Engineer does retain the authority to stop work if a problem occurs.

Diamond grinding will not be considered an acceptable alternative. Ride Quality will also not be waived.

No direct payment will be made for texturing of the pavement and it will be considered incidental to JPC Pavement.

SPECIAL NOTE FOR **HIGH TENSION CABLE-ROPE MEDIAN BARRIER**

Sheet 1 of 3

DESCRIPTION This work shall consist of removing and re-installing a high tension cable-rope HTC median barrier. The existing cable-rope barrier system along this section of I-24 is a Brifen Wire Rope Safety Fence (WRSF).

GENERAL REQUIREMENTS The HTC median barrier system shall match the existing and shall be a four cable-rope system that meets the National Cooperative Highway Research Program (NCHRP) Report 350, Test Level 4 testing for 6H:1V slopes and be accepted by FHWA as such. HTC installed on front slope grades steeper than 6H:1V but 4H:1V or flatter shall be Test Level 3 tested and accepted as such. Each of the four cable-ropes shall be independently anchored to a concrete end-anchor. The terminals/end anchorages shall be tested and accepted under NCHRP Report 350 Test Level 3. The maximum post spacing for the HTC System shall be 10.5 feet, center to center.

MATERIALS Samples for testing shall be provided as directed by the Physical Section of the Division of Materials. Contractors shall contact the Physical Section of the Division of Materials at 502-564-3160 for department specific sampling and testing procedures prior to bid. Section references are from the *Kentucky Standard Specifications for Road and Bridge Construction (current edition)*.

Concrete, Class A	Section 601
Steel Reinforcement (Minimum Grade 40 steel)	Section 811
Anchor Bolts and Nuts	Section 813
Galvanizing (Bolts, Nuts & Washers)	AASHTO M 232
Fittings (Steel) Hardware	AASHTO M 30
Reflective Sheeting	Section 830

Cable-rope The cable-rope shall be a galvanized $\frac{3}{4}$ inch diameter, 3x7 wire rope construction meeting AASHTO M30 Type I Class A coating. The wire rope shall be pre-stretched during manufacturing to exhibit a minimum modulus of elasticity of 11,805,090 pounds/inch² after pre-stretching. If cable rope or fittings of higher strength were used at the time of NCHRP 350 evaluation, use the higher strength materials.

Posts Posts shall be the socketed versions with caps, placed in metal or plastic sleeves installed in a concrete foundation. All posts shall be fabricated from materials meeting ASTM A-36 or greater steel and galvanized after fabrication to A-123. The required welding shall be performed by a certified welder in accordance with AWS D1.1. Posts shall be domestic hot-rolled mild steel, or cold-formed from hot-rolled mild steel. A fitting gasket, profiled to fit tightly around each post, shall be provided to prevent debris from entering the socket.

SPECIAL NOTE FOR **HIGH TENSION CABLE-ROPE MEDIAN BARRIER**

Sheet 2 of 3

Fittings Only swaged fittings shall be provided. Field-installed, galvanized-steel fittings (i.e., turnbuckles and splices) shall be one-inch diameter. Smaller fittings may be allowed with written permission from the Division of Design, Division of Construction, and the Division of Materials. Factory applied or stainless steel fittings shall meet AASHTO M30 Type I Class A. Threaded terminals shall be right hand or left hand threaded M24 X 3 pitch to ANSI B 1.13M. The body of the threaded terminal shall provide a minimum of 6 inches wire rope engagement depth. Threaded terminals shall be either stainless steel or galvanized, after processing, to ASTM A-153.

Turnbuckles Turnbuckles (i.e. Rigging Screws) shall be threaded to accept the fitting described above. Turnbuckles may be either the open or closed body type (with two inspection holes to determine threaded rope terminal penetration). The turnbuckles shall allow for a minimum of 6 inches of penetration from each end. Turnbuckles shall meet AASHTO M30 Type I Class A and shall be either stainless steel or galvanized, after processing, to ASTM A-153.

Mechanical Anchor Fittings Fittings shall be provided at the anchor termination of each cable-rope and shall be of the same type as used in the connection to the turnbuckles. The fittings shall meet AASHTO M30 Type I Class A yielding, shall be capable of release and reuse, and shall be either stainless steel or galvanized, after processing, to ASTM A-153.

End Terminals End Terminals placed within the clear zone, as defined by AASHTO Roadside Design Guide, shall be NCHRP Report 350 compliant, meeting Test Level 3 (TL-3) requirements, and having an FHWA letter of acceptance. Other terminals may be used in locations where impacts are unlikely or if properly shielded by impact attenuator, if approved by the Engineer. Each of the four cable-ropes of the system shall have separate anchor connections to the terminal end section. End anchors shall be fabricated from materials meeting ASTM A-36 and galvanized after fabrication to A-123. All welding shall be performed by a certified welder in accordance with AWS D1.1.

CONSTRUCTION The Contractor shall install high tension cable-rope barrier system according to Brifen's design and recommendation. Prior to construction, the proposed layout and location of the HTC System will be approved by the Department.

The posts shall be installed plumb and in accordance with the proposed layout, spacing, and location shown in the HTC System layout plans as approved by the Department.

Turnbuckles shall be included to allow for tensioning of the cable-ropes. For installations greater than 1,000 feet in length, at least one Turnbuckle per 1,000 feet shall be included per length of cable-rope. For installations less than 1,000 feet in length, one Turnbuckle per length of cable-rope shall be included near the center of the installation.

Extreme care shall be taken in ensuring proper cable-rope height. The area shall be relatively smooth, without edge drop-offs, holes, other depressions or abrupt slope changes between the edge of the traveled way and the cable-rope barrier system.

SPECIAL NOTE FOR HIGH TENSION CABLE-ROPE MEDIAN BARRIER

Sheet 3 of 3

The HTC System shall be placed and tensioned immediately after initial installation per the manufacturer's recommendations. Tension shall be rechecked approximately two (2) to three (3) weeks after initial tensioning and adjusted, if necessary. A tension log form shall be completed showing the time, date, location, ambient temperature, and final tension reading, signed by the person performing the tension reading. This log shall be furnished to the Engineer upon completion of work. This form shall also include the manufacturer's recommended tension chart.

Line post shall be socketed with sleeves set in concrete. The minimum diameter for the line post foundations shall be 12 inches. Minimum installation depth for the concrete line posts footings shall be 36-inches for non-rock installation. Greater depths may be required for non-rock installation due to manufacturer's recommendations based on soil information as shown in this proposal. Depths and requirements for installations in rock shall be based on manufacturer's recommendations.

The HTC System shall be delineated with retro-reflective sheeting. The delineation shall be applied to the last five posts at each end of an installation and throughout the remainder of the installation at a maximum spacing of 50 feet. The delineation shall provide a minimum of seven square inches of area when viewed on a line parallel to the roadway centerline. For median installations, the sheeting shall be applied to both sides of the post. The delineation shall be attached near the top of the posts as recommended by the manufacturer. The sheeting shall be yellow or white and shall be the same color as the adjacent edge line.

Contractor shall not allow traffic to be exposed to trenching and/or excavated post anchor holes for longer than one working shift, as directed by the Engineer.

MEASUREMENT

High Tension Cable-Rope Barrier will be measured by the linear foot. Any costs associated with the cable-rope, intermediate line posts, line post foundations, cable-rope tensioning, reflective sheeting, and all necessary incidentals shall be included in the price bid for this item.

End Anchors will be measured by each unit. The Contractor's proposed layout and location plans will specify the type and number of end terminals required. Any costs associated with the excavation, reinforcing steel, concrete, and other incidentals shall be included in the price bid for this item. End anchor pay limits vary by manufacturer. See manufacturers shop drawings for details.

PAYMENT

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
23147EN	HIGH TENSION CABLE-ROPE BARRIER	LINEAR FOOT
23148EN	END ANCHORS	EACH

Such payment shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

SPECIAL NOTE FOR EXPERIMENTAL KYCT AND HAMBURG TESTING

1.0 General

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

2.0 Equipment

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

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

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

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

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

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

3.0 Testing Requirements

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

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

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

3.2.2 Number of Specimens and Conditioning. Fabricate specimens in accordance with the Kentucky Method for KYCT Index Testing. Contrary to the method, fabricate a minimum of 3 and up to 6 test specimens. The specimens shall be compacted at the temperature in accordance to KM 64-411. KYCT mix design specimens shall be short-term aged conditioned for four hours at compaction temperature in accordance to KM 64-411. Plant produced bituminous material will not be required for age conditioning and shall be fabricated immediately after the gyratory acceptance specimens have been fabricated. An acceptable transport container will be required to prevent the asphalt mixture from losing heat and to maintain the compaction temperature of the asphalt mixture until the KYCT gyratory samples can be fabricated. This will eliminate reheating of the asphalt mixture. To insure confidence and reliability of the test results provided by KYCT testing and Hamburg testing, reheating of the asphalt mixture is strongly discouraged. If reheating does occur, provide documentation on the Asphalt Mixtures Acceptance Workbook (AMAW).

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

3.2.4 File Name. As according to section 7.12 of The Kentucky Method for KYCT Index Testing, save the filename with the following format; "CID_Approved Mix Number_Lot Number_Sublot Number_Date"

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

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

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

3.3.3 File Name. Save the Excel spreadsheet with the following file name; “Hamburg_CID_Approved Mix Number_Lot Number_Sublot Number_Date” and upload the file into the AMAW.

4.0 Data

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

5.0 KYCT Video Demonstration

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

6.0 Payment

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

June 3, 2019

Special Note for Fixed Completion Date And Liquidated Damages

This project will have a fixed completion date of **December 1, 2021** for completion of all work associated with this project.

Liquidated damages per the Standard Specifications will be charged for each calendar day for any work completed after December 1, 2021.

Contrary to Section 108.09 of the Standard Specifications, Liquidated Damages per the Standard Specifications will be charge during the months of December through March for all work that is not completed.

07/15/20

SPECIAL NOTE FOR DURABLE, PREFORMED PAVEMENT MARKING (INLAID)

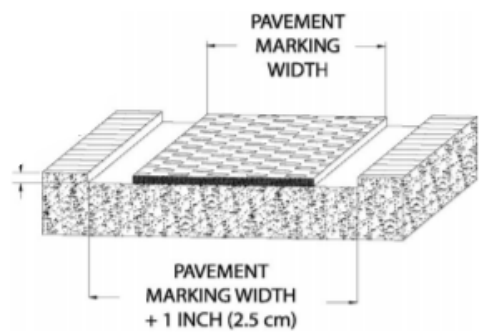
1.0 DESCRIPTION. This work consists of furnishing, installing, and warranting durable preformed patterned retroreflective pavement markings for lane lines, edge lines, channelizing lines, and gore markings. It also consists of recessing all 6" markings in a groove to protect retroreflective elements. The durable tape pavement markings must have specially designed optics which are highly retroreflective under both wet and dry conditions.

2.0 MATERIAL. Use 3M™ Stamark™ High Performance Pavement Marking Tape Series 380IES and 381IES. Preformed markings shall contain abrasion-resistant microcrystalline ceramic beads bonded in a highly durable polyurethane topcoat and shall be capable of being adhered to Portland Cement concrete (PCC) by a pre-coated pressure sensitive adhesive with a woven high tensile strength fiber. The markings shall be immediately ready for traffic after application. Markings must be a highly effective lane marking material that will show no appreciable fading, lifting, shrinkage, or chipping for the duration of the warranty period, when applied according to the manufacturer requirements.

3.0 CONSTRUCTION.

3.1 General. Apply the durable tape markings and surface preparation adhesive according to the manufacturer's installation instructions. All markings and surface preparation adhesive shall be installed by manufacturer certified installers only. The preformed patterned surface shall be installed such that it presents a near vertical surface to traffic to maximize retroreflectance. Center markings within the grooves in accordance with the below detail:

**Groove Depth shall be
160 mils +/- 10 mils**



3.2 Groove. All grooves are to be positioned 2 inches from the respective pavement joint or as otherwise indicated. In accordance with the above detail, the depth of the groove shall be 160 mils +/- 10 mils, and the groove width shall be one inch wider than the width of the pavement marking to be placed in the groove.

3.3 Equipment. Equip the grinding equipment with a free-floating cutting or grinding head to provide a consistent groove depth over irregular pavement surfaces. Equip the grinding or cutting head with gang-stacked diamond saw blades. The grinding equipment must be capable of producing a final pavement surface that is flat and free of ridges (see below figure for examples of unacceptable/acceptable groove surface texture).

Cross section of an unacceptable groove surface texture

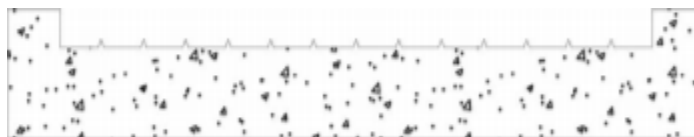
*** Groove ridges should rise no more than 15 mil. above the base of the groove ***



07/15/20

This coarse tooth ribbed pattern is a result of widely spaced or worn blades. Replace blades and/or change spacing to avoid such groove patterns. Thinner spacers may be used between blades to prevent irregular groove patterns.

Cross section of an acceptable smooth groove surface texture



Very minimal “ridged” or “corduroy” texture, it is a smooth groove made with thin spacers and new blades.

3.4 Surface Preparation & Cleaning the Groove . Clean the roadway surface where the markings will be applied. Remove all surface treatment, laitance, curing compound, or any other contaminants that would hinder adhesion. Curing compound can be removed by sandblasting or other methods such as shotblasting or hydroblasting. When water is used during surface preparation, the groove must be flushed with clean high-pressure water immediately following the cut to avoid build-up and hardening of the slurry in the groove. If water is present during groove cutting for any reason, allow grooves to dry for a minimum of 24 hours prior to pavement marking installation. Immediately prior to installation, clean the grooves completely using an air compressor with an air flow of at least 185 CFM and an air pressure of at least 120 PSI. A street sweeper or pick-up broom may effectively remove some debris, but a pass with an air compressor is required to completely clean the bottoms of the grooves. Grooves must be clean and dry for proper pavement marking installation.

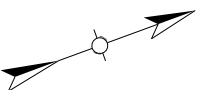
3.5 Tamping of the Durable Tape. Tamping the edges of the tape is very important. Tape application in the groove will require tamping with a vehicle tire. Tamp the tape thoroughly with a minimum of six (6) passes (all in the forward direction) over the surface of the new tape in the groove. The vehicle used to tamp the tape shall be recommended by the manufacturer and approved by the Representative. Do not twist or turn the vehicle tire on the tape and make sure all edges are firmly adhered. Slowly drive over the tape making a minimum of six tamping hits all forward passing over the surface of the new tape in the groove. The vehicle must be equipped with a pointing device to aid in keeping the vehicle tire on the tape. Tire strikes from front and rear wheels when aligned with the aid of a pointing device can be completed in 3 passes. Use a vehicle tire as recommended by the manufacturer.

4.0 MEASUREMENT. The Department will measure work required for the installation of the recessed groove. The Department will not measure surface preparation and pre-marking of the groove pay item. Corrective work will not be measured for payment.

5.0 PAYMENT. Payment will be measured and based on the following bid items:

06556 -	PAVE STRIPING – DUR TY 1 – 6 IN W	LF
06557 -	PAVE STRIPING – DUR TY 1 – 6 IN Y	LF
25019EC -	GROOVE FOR PAVE STRIPING – 7 IN	LF

TRIGG CO. I-24 m.p. ~59.5
~LAT/LONG N 36.93304, W 86.81697
STATION 046 (WB ONLY)



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

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

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

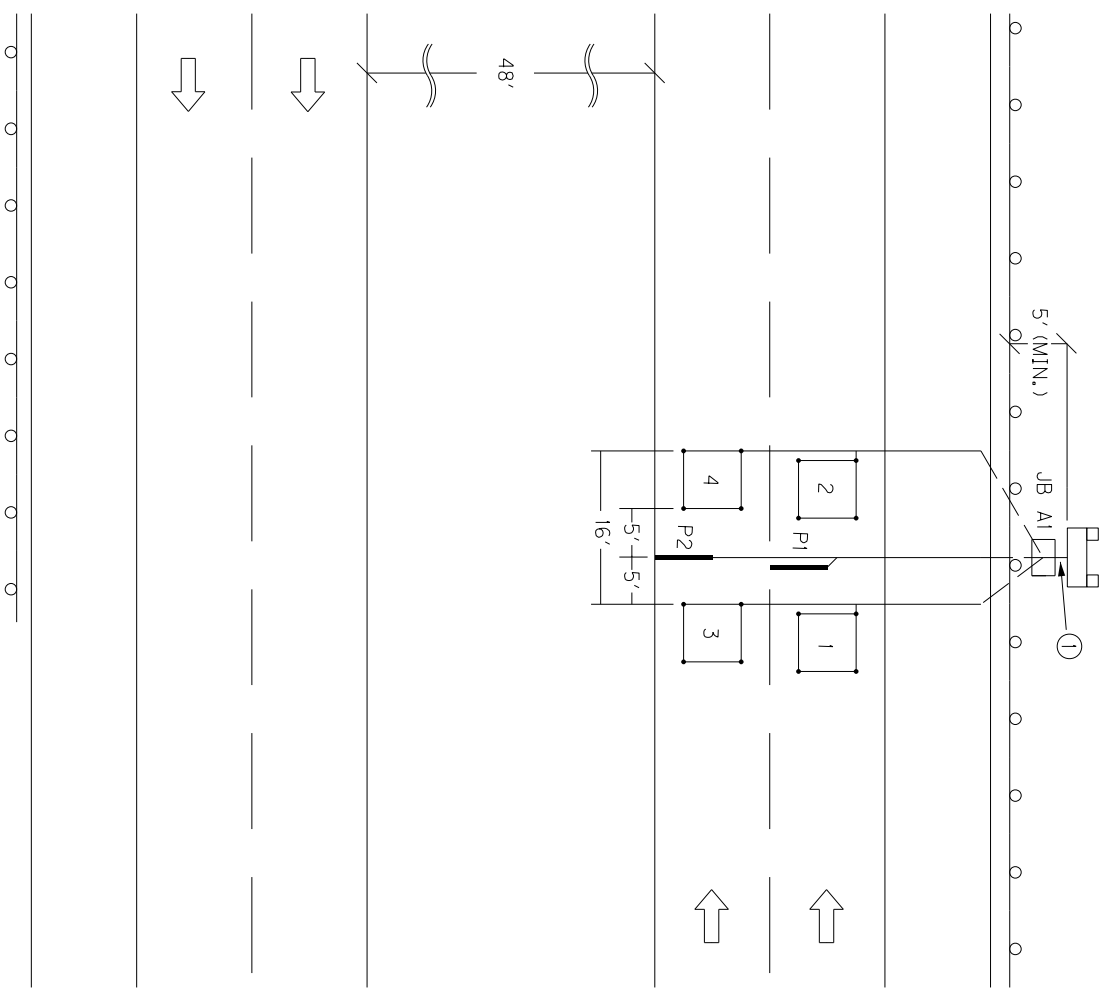
INSTALL ONE (1) TYPE A JUNCTION BOX (JB A1).

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

REMOVE EXISTING CABINET, POSTS, WIRE, CONDUIT AND JUNCTION BOX AND DISPOSE OF OFF THE PROJECT.

CODED NOTE:

① INSTALL ONE (1) 2" CONDUIT.



Permanent Traffic Data Acquisition Station
 Estimate Of Quantities

Revised February 2019

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

Bid Item Code	Description	Unit	Quantity
4793	CONDUIT 1 ¼ INCH	LIN FT	30
4795	CONDUIT 2 INCH	LIN FT	10
4811	ELECTRICAL JUNCTION BOX TYPE B	EACH	
4820	TRENCHING AND BACKFILLING	LIN FT	35
4821	OPEN CUT ROADWAY	LIN FT	
4829	PIEZOELECTRIC SENSOR	EACH	2
4830	LOOP WIRE	LIN FT	750
4833	WIRE – NO. 8	LIN FT	
4834	WIRE – NO. 6	LIN FT	
4850	CABLE NO. 14/1 PAIR	LIN FT	
4871	POLE – 35’ WOODEN	EACH	
4895	LOOP SAW SLOT AND FILL	LIN FT	190
4899	ELECTRICAL SERVICE	EACH	
20213EC	INSTALL PAD MOUNT ENCLOSURE	EACH	
20359NN	GALVANIZED STEEL CABINET	EACH	1
20360ES818	WOOD POST	EACH	2
20391NS835	ELECTRICAL JUNCTION BOX TYPE A	EACH	1
20392NS835	ELECTRICAL JUNCTION BOX TYPE C	EACH	
20468EC	ELECTRICAL JUNCTION BOX 10x8x4	EACH	
21543EN	BORE AND JACK CONDUIT	LIN FT	
23206EC	INSTALL CONTROLLER CABINET	EACH	

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

1. DESCRIPTION

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

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

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

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

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

Revised August, 2018

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

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

2. MATERIALS

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

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

2.1. Anchoring

2.1.1. Anchor and Anchor Rod

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

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

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

2.1.2. Guy Wire and Guy Guard

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

2.1.3. Strandwise for Guy Wire

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

2.2. Asphalt

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

2.3. Backer Rod

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

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

2.4. Cabinets

2.4.1. Galvanized Steel Cabinet

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

The cabinet shall be equipped with the following:

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

2.4.2. Anchor Bolt for Pad Mounted Cabinet

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

2.5. Concrete

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

2.6. Conduit and Conduit Fittings

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

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

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

2.7. Conduit sealant

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

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

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

2.8. Electrical Service Meter Base

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

2.9. Electrical Service Disconnect

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

2.10. Flashing Arrow

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

2.11. Ground Fault Circuit Interrupter (GFCI) Receptacle

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

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

This item shall include a UL listed, 4 inch x4 inch x 2¹/₈ inch box with ¾ inch side and end knockouts and a 1½ inches deep, single-receptacle cover to house the GFCI receptacle. Box and cover shall be hot rolled, galvanized steel with a minimum thickness of 0.62 inches.

2.12. Grounding

2.12.1. Ground Rod

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

2.12.2. Ground Rod Clamp

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

2.13. Grout

2.13.1. Grout for Inductive Loop Installation

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

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

2.13.2. Grout for Piezoelectric Sensor Installation

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

2.14. Hardware

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

2.14.1. Conduit Strap

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

2.14.2. Mounting Strap for Pole Mount Cabinet

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

2.14.3. Metal Framing Channel and Fittings

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

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

2.15. Junction Box

2.15.1. Junction Box Type A, B, or C

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

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

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

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

2.15.3. Junction Box 10x8x4

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

2.16. Maintain and Control Traffic

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

2.17. Piezoelectric Sensor

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

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

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

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

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

2.18. Saw Slot Sealant

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

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

The cured encapsulant shall meet or exceed the following:

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

2.19. Seeding and Protection

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

2.20. Signs

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

2.21. Splicing Materials

2.21.1. Electrical Tape

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

2.21.2. Splice Kit

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

2.22. Steel Reinforcing Bar

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

2.23. Terminal Block

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

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

2.24. Warning Tape

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

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

2.25. Wire and Cable

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

2.25.1. Loop Wire

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

2.25.2. Cable No. 14/1 Pair

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

2.25.3. Grounding conductor

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

2.25.4. Service Entrance Conductor

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

2.25.5. Terminal for electrical wire or cable

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

2.26. Wood Post

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

2.27. Wooden Pole

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

3. CONSTRUCTION METHODS

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

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

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

Unless otherwise specified, installed materials shall be new.

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

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

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

3.1. Anchoring

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

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

3.2. Bore and Jack Pipe – 2”

Furnish: Steel Encasement Pipe, 2”

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

3.3. Cleanup and Restoration

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

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

3.4. Conduit

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

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

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

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

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

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

3.5. Electrical Service

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

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

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

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

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

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

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

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

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

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

3.6. Flashing Arrow

Furnish: Arrow Panel

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

3.7. Galvanized Steel Cabinet

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

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

cabinet faces the roadway.

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

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

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

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

3.8. Grounding

Furnish: Ground rod with clamp; grounding conductor.

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

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

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

3.9. Install Pad Mount Enclosure

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

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

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

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

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

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

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

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

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

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

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

3.10. Install Controller Cabinet

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

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

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

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

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

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

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

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

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

3.11. Junction Box Type 10x8x4

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

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

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

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

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

3.12. Junction Box Type A, B, or C

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

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

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

3.13. Loops - Proposed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3.14. Loops – Existing

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

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

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

3.15. Maintain and Control Traffic

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

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

3.16. Open Cut Roadway

Furnish: Concrete, reinforcing bars.

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

3.17. Piezoelectric Sensor

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

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

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

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

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

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

Revised August, 2018

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

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

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

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

3.18. Pole – Wooden

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

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

3.19. Removal of Existing Equipment

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

3.20. Signs

Furnish: Signs; sign standards; hardware.

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

3.21. Splicing

Furnish: Splice kit; solder.

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

All splices shall conform to the provisions of the NEC.

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

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

3.22. Trenching and Backfilling

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

Excavate trench and provide required cover as shown on the standard detail sheets. After placing conduit, backfill material shall be placed and compacted in lifts of 9 inches or less. Install warning tape as shown on the detail sheet. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required).

3.23. Wiring

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

Installation of all wiring shall conform to the NEC. Permanent identification numbers shall be affixed to all wires in all junction boxes and cabinets (see Layout(s) for loop and piezo numbers).

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

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

3.24. Wood Post

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

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

4. BID ITEM NOTES AND METHOD OF MEASUREMENT FOR PAYMENT

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

4.1. Bore and Jack Pipe – 2”

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

4.2. Conduit

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

4.3. Electrical Service

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

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

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

Electrical service will be measured in individual units each.

4.4. Flashing Arrow

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

4.5. Galvanized Steel Cabinet

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

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

4.6. Install Pad Mount Enclosure

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

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

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

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

4.7. Install Controller Cabinet

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

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

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

Install Controller Cabinet will be measured in individual units each.

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

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

4.9. Junction Box Type A, B, or C

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

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

4.10. Loop Saw Slot and Fill

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

4.11. Maintain and Control Traffic

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

4.12. Open Cut Roadway

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

4.13. Piezoelectric Sensor

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

4.14. Pole – 35' Wooden

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

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

4.15. Signs

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

4.16. Trenching and Backfilling

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

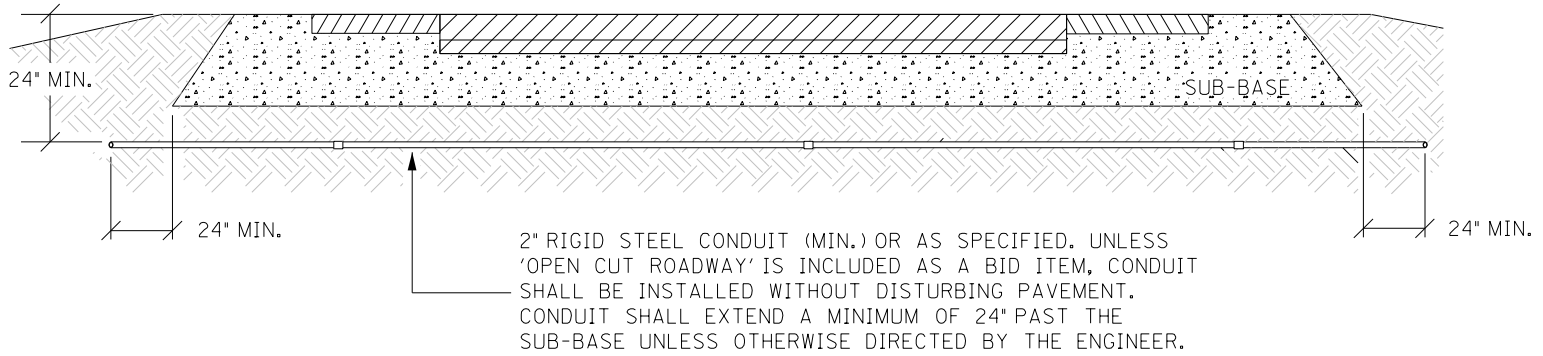
4.17. Wire or Cable

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

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

4.18. Wood Post

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

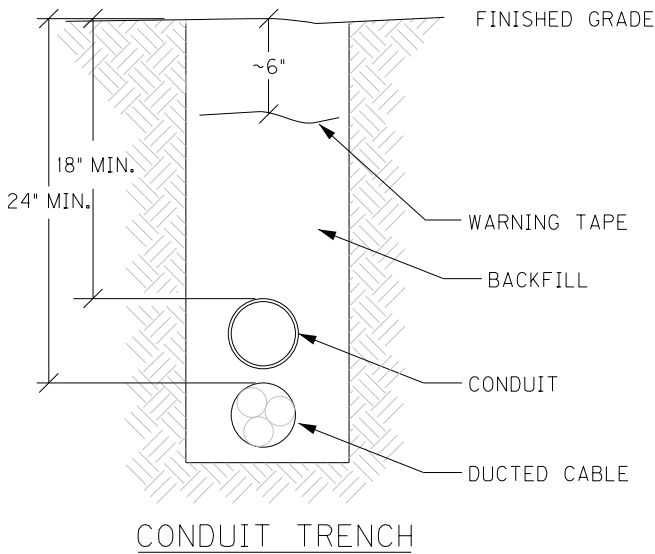


CONDUIT UNDER PAVEMENT

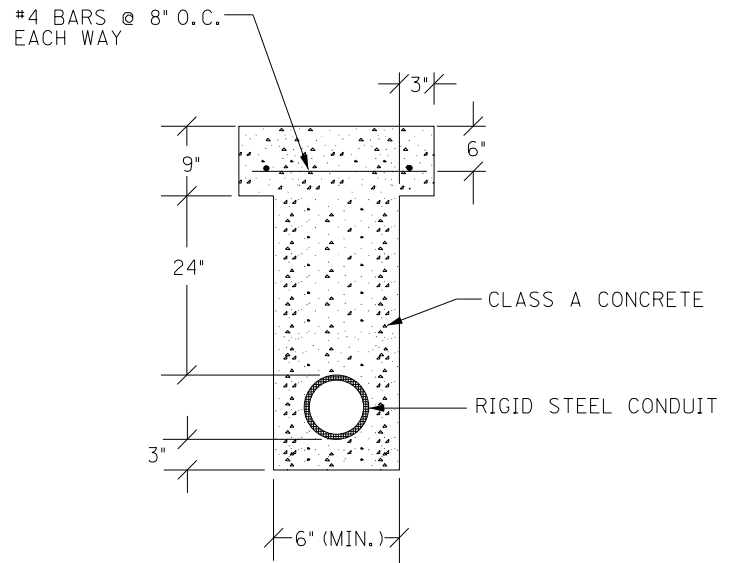
TOTAL TRENCH WIDTH SHALL BE 3" (NOM.) WIDER THAN THE SUM OF THE OUTSIDE DIAMETER(S) OF THE CONDUIT(S) INSTALLED. CONDUIT(S) SHALL BE CENTERED IN TRENCH.

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

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

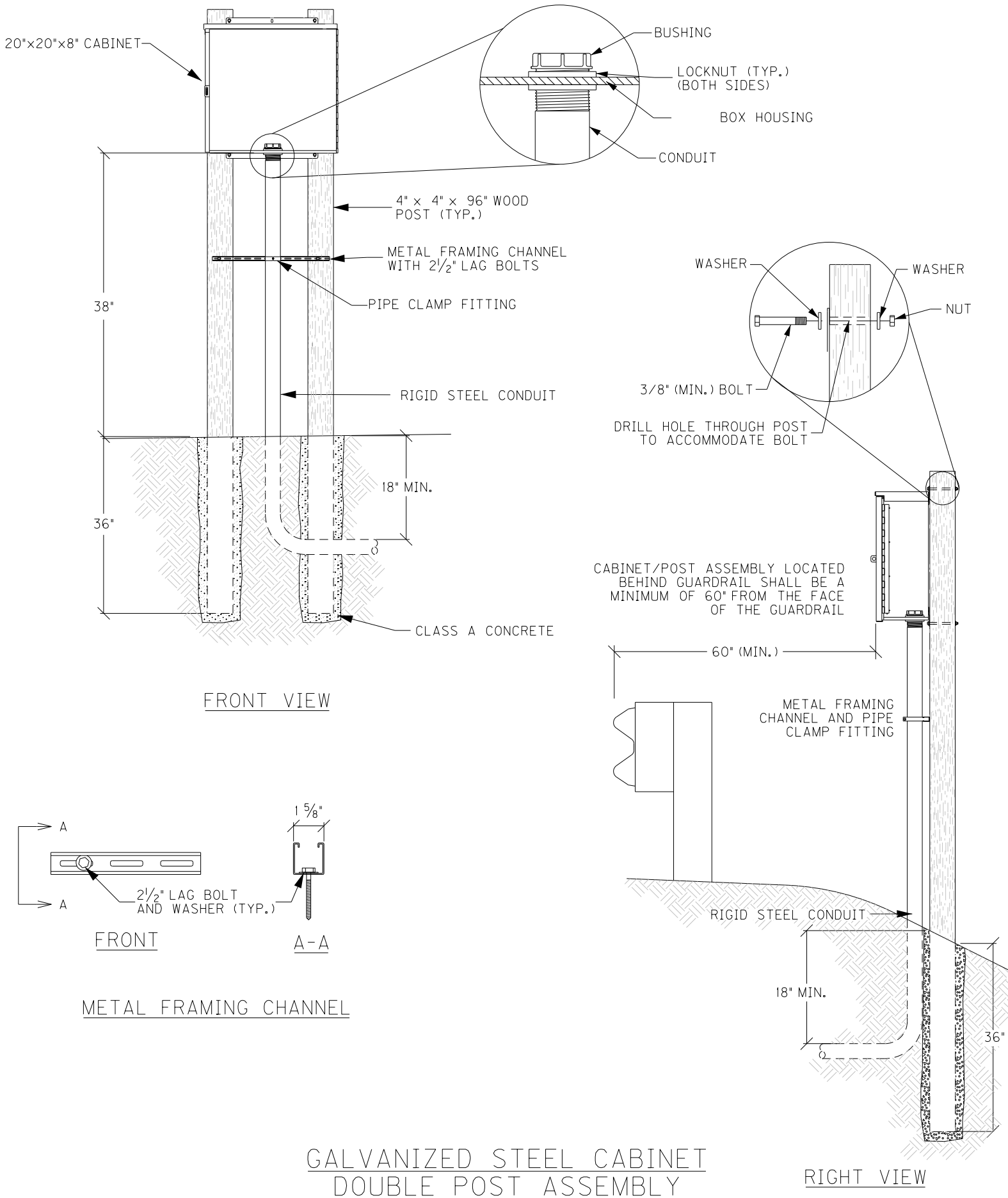


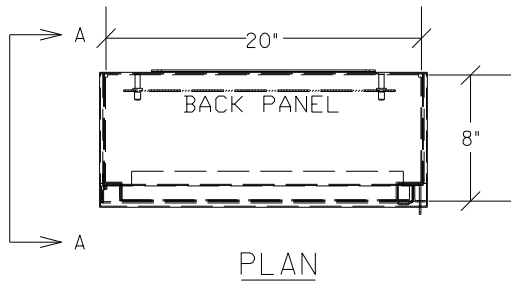
CONDUIT TRENCH



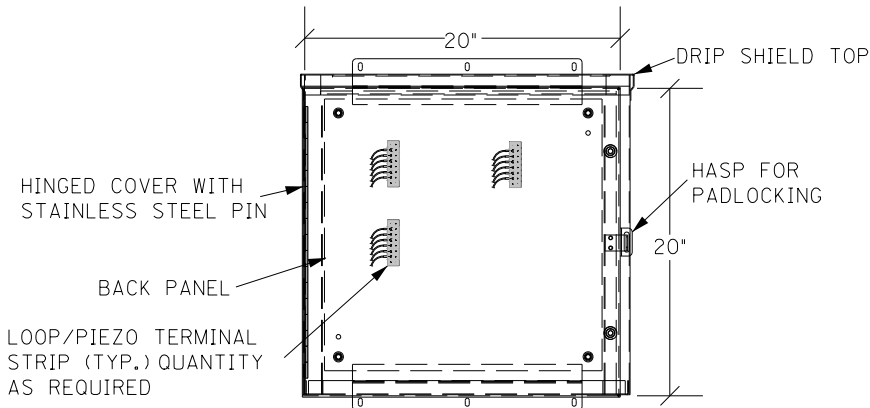
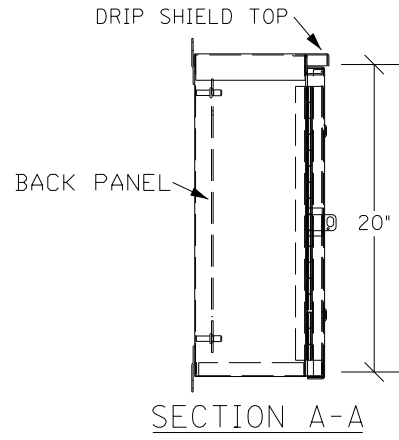
OPEN CUT PAVEMENT DETAIL

CONDUIT INSTALLATION



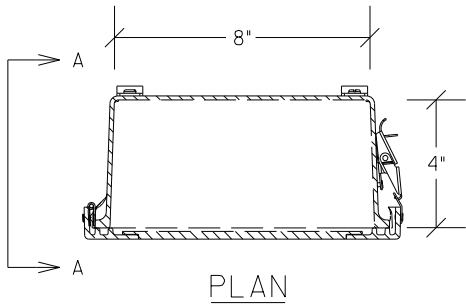


PLAN

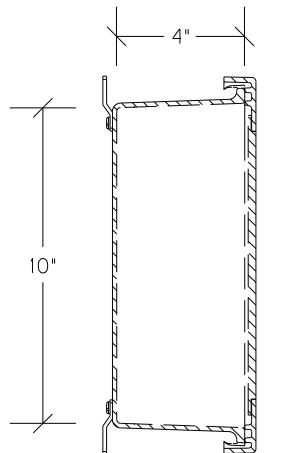


ELEVATION

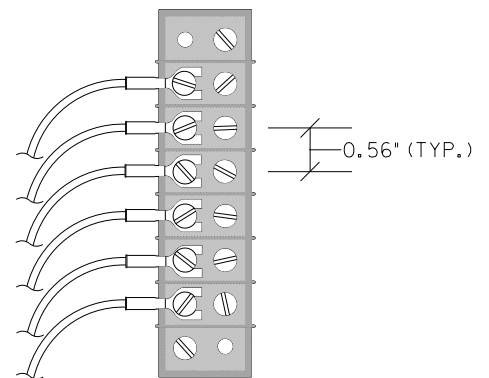
GALVANIZED STEEL CABINET



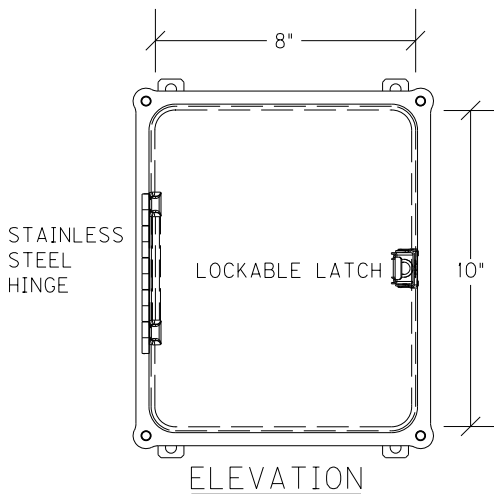
PLAN



SECTION A-A

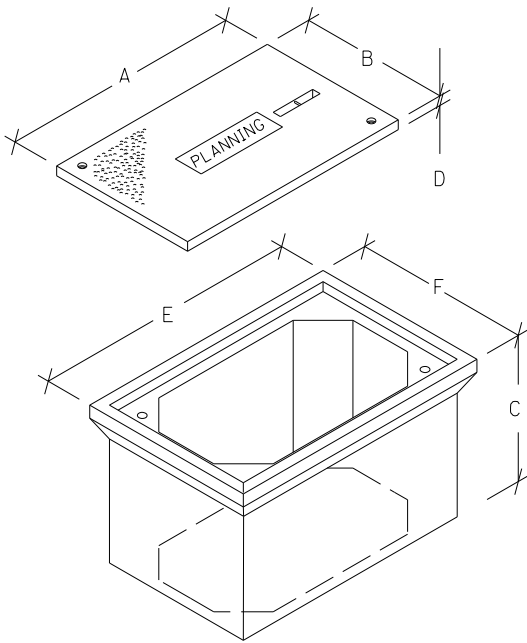


TERMINAL STRIP (TYP.)



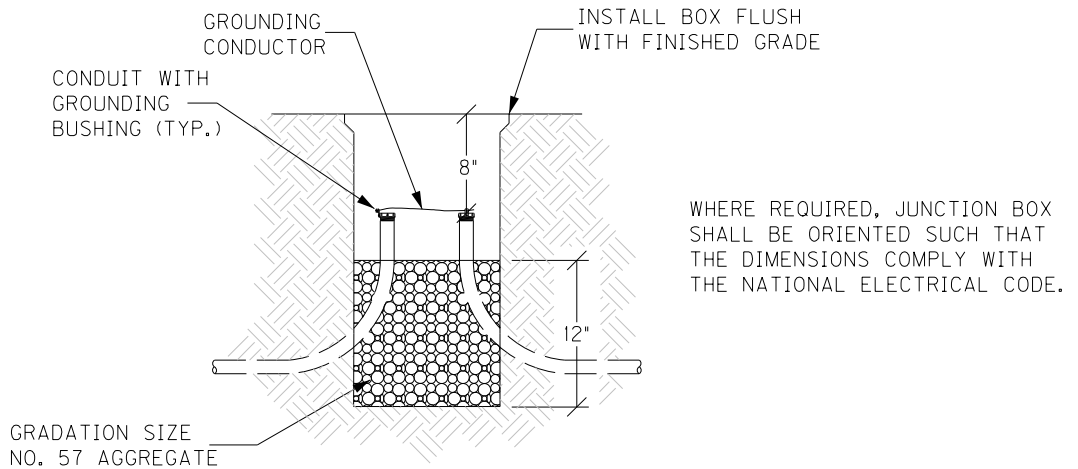
ELEVATION

JUNCTION BOX 10"X8"X4"

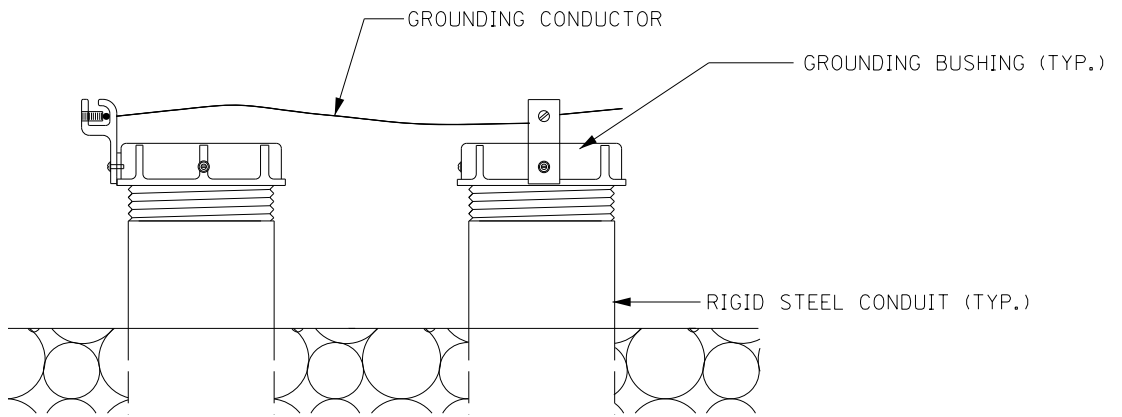


JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D*	E	F
TYPE A	23"	14"	18"	2"	25"	16"
TYPE B	18"	11"	12"	1¾"	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

* MINIMUM
STACKABLE BOXES ARE PERMITTED



ELEVATION

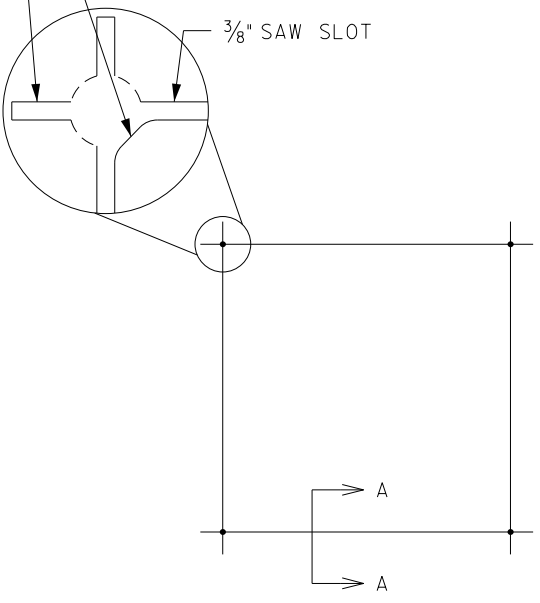


GROUNDING DETAIL

JUNCTION BOX - TYPE A, TYPE B, TYPE C

CALDWELL TRIG COUNTY AND CORNER
121GR21D013-NPP

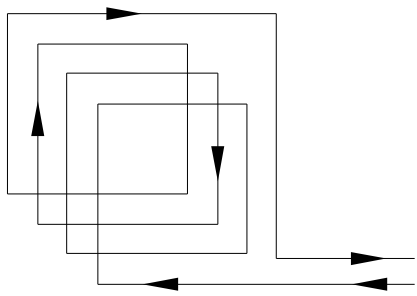
CORE DRILL 1 1/2" HOLE AND/OR
CHISEL CORNER TO SLOT DEPTH
TO ELIMINATE SHARP EDGES



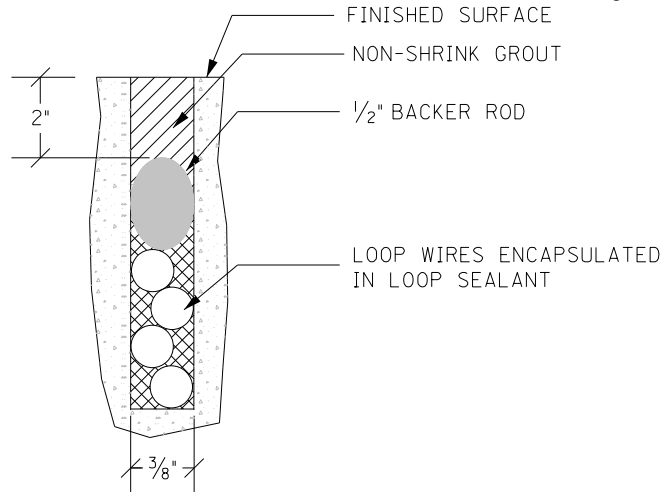
SAW CUT PLAN

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

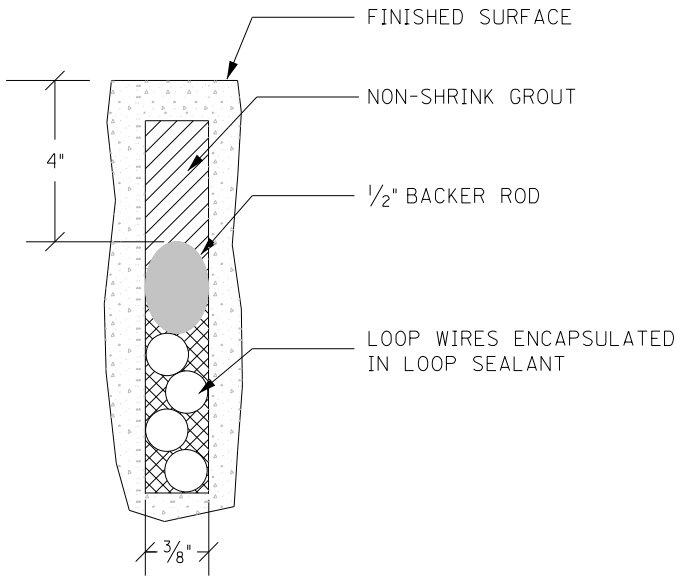
ADJACENT SAW SLOTS SHALL BE A MINIMUM OF 12" APART.



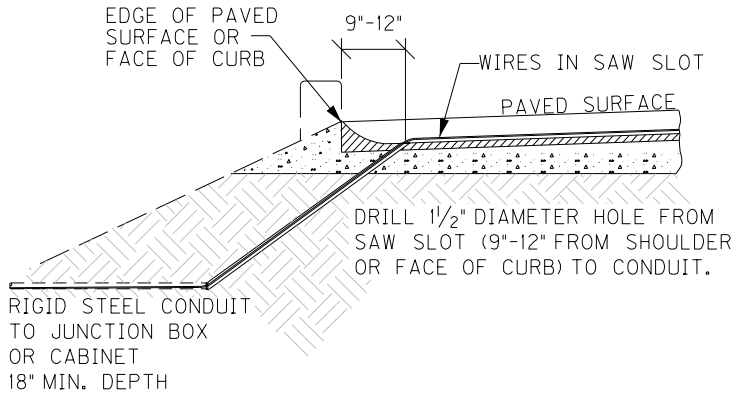
WIRING PLAN



SECTION A-A (CONCRETE)

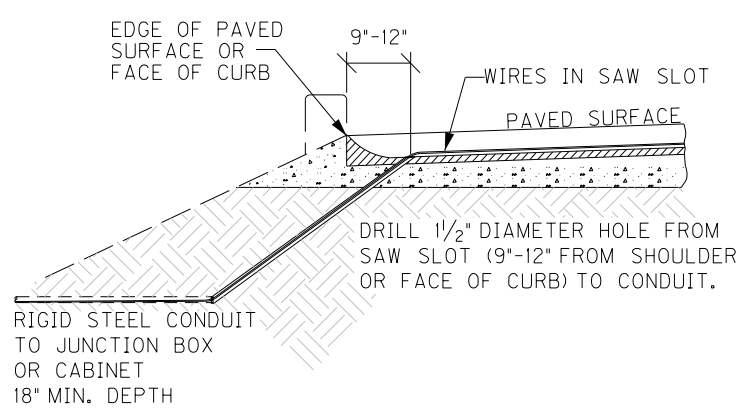
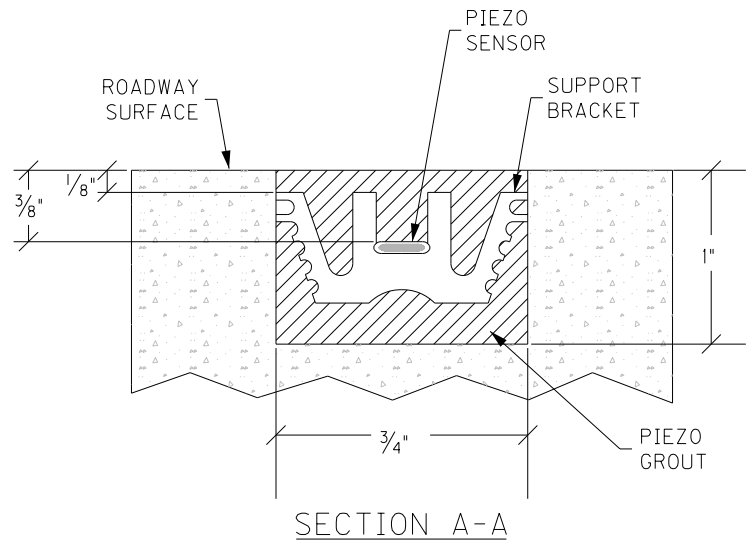
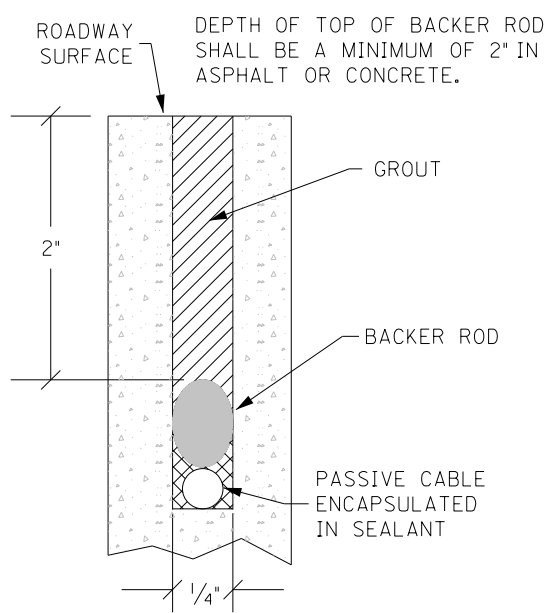
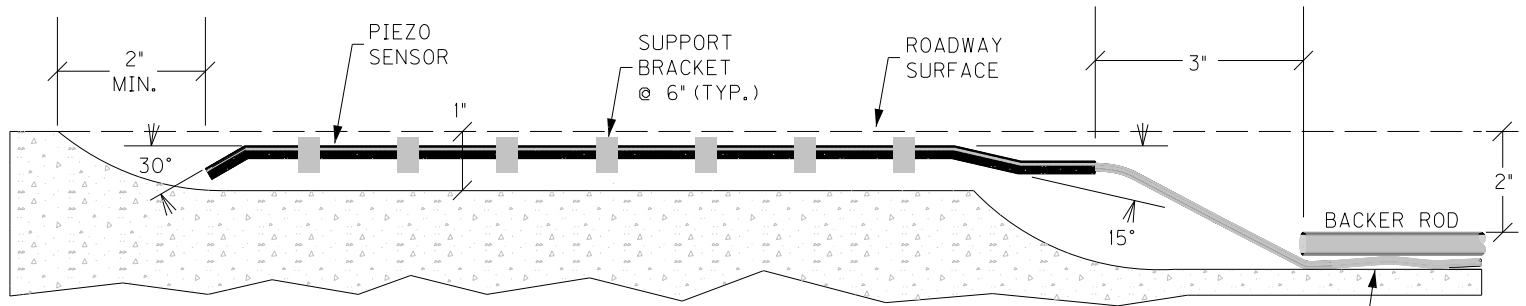
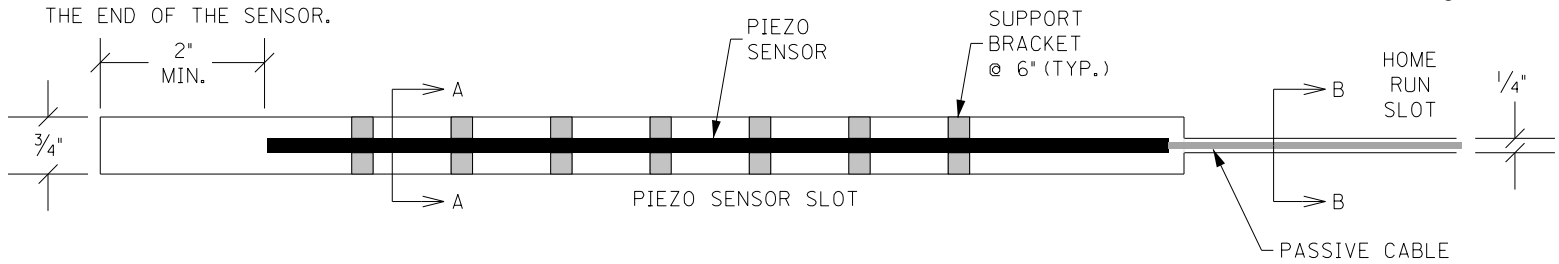


SECTION A-A (ASPHALT)



SAW SLOT EDGE OF PAVEMENT TRANSITION

INDUCTIVE LOOP DETECTOR



PIEZOELECTRIC SENSOR INSTALLATION



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

TC 62-226
Rev. 01/2016
Page 1 of 1

RIGHT OF WAY CERTIFICATION

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION			
ITEM #		COUNTY		PROJECT # (STATE)		PROJECT # (FEDERAL)	
01-20011.10		CALDWELL/TRIGG		FD52 017 0024 055-057 FD52 111 0024 057-065		NHPP 0242 (077)	
PROJECT DESCRIPTION							
ADDRESS PAVEMENT CONDITION OF PCC PAVEMENT ON I-24 FROM MP 55.5 TO MP 64.5.							
<input checked="" type="checkbox"/> No Additional Right of Way Required							
Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.							
<input type="checkbox"/> Condition # 1 (Additional Right of Way Required and Cleared)							
All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.							
<input type="checkbox"/> Condition # 2 (Additional Right of Way Required with Exception)							
The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract							
<input type="checkbox"/> Condition # 3 (Additional Right of Way Required with Exception)							
The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.							
Total Number of Parcels on Project		0	EXCEPTION (S) Parcel #		ANTICIPATED DATE OF POSSESSION WITH EXPLANATION		
Number of Parcels That Have Been Acquired							
Signed Deed							
Condemnation							
Signed ROE							
Notes/ Comments (Use Additional Sheet if necessary)							
LPA RW Project Manager				Right of Way Supervisor			
Printed Name				Printed Name		Greg L. Morgan	
Signature				Signature		Digitally signed by Greg L. Morgan	
Date				Date		Date: 2021.02.24 09:17:24 -06'00'	
Right of Way Director				FHWA			
Printed Name				Printed Name		No Signature Required as per FHWA-KYTC	
Signature				Signature		Current Stewardship Agreement	
Date		2021.02.24 13:37:41 -06'00'		Date			

UTILITIES AND RAIL CERTIFICATION NOTE

**TRIGG-CALDWELL COUNTIES, NHPP 0242(077)
FD52 111 0024 057-065, FD52 017 0024 055-057
I-24/PAVEMENT REHAB
1-20011.10**

Utility coordination efforts conducted by the project sponsor have determined that no significant utility relocation work is required to complete the project. Any work pertaining to these utility facilities is defined in the bid package and is to be carried out as instructed by the Kentucky Transportation Cabinet. The contractor will be responsible for any coordination or adjustments that are discussed or quantified in the proposal.

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

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

UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor’s responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation.

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

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The

Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.

UTILITIES AND RAIL CERTIFICATION NOTE

**TRIGG-CALDWELL COUNTIES, NHPP 0242(077)
FD52 111 0024 057-065, FD52 017 0024 055-057
I-24/PAVEMENT REHAB
1-20011.10**

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

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

AREA UTILITIES CONTACT LIST AS PROVIDED BY KY 811

<u>Utility Company/Agency</u>	<u>Contact Name</u>	<u>Contact Information</u>
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MATERIAL SUMMARY

CONTRACT ID: 211013

121GR21D013-NHPP

DE01700242113

I-24 CONCRETE PAVEMENT AND ROADWAY REHABILITATION ON I-24 FROM MP 55.00 TO MP 57.00 IN CALDWELL COUNTY INTERSTATE RESURFACING & REHAB, A DISTANCE OF 2 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0465	00001	DGA BASE	1,808.00	TON
0470	00008	CEMENT STABILIZED ROADBED	35,523.00	SQYD
0475	00100	ASPHALT SEAL AGGREGATE	92.00	TON
0480	00103	ASPHALT SEAL COAT	11.00	TON
0485	00190	LEVELING & WEDGING PG64-22	183.00	TON
0490	00214	CL3 ASPH BASE 1.00D PG64-22	419.00	TON
0495	00312	CL3 ASPH SURF 0.50D PG64-22	1,026.00	TON
0500	00356	ASPHALT MATERIAL FOR TACK	4.00	TON
0505	00358	ASPHALT CURING SEAL	71.00	TON
0510	02071	JPC PAVEMENT-11 IN	35,523.00	SQYD
0515	02542	CEMENT	1,151.00	TON
0520	02677	ASPHALT PAVE MILLING & TEXTURING	274.00	TON
0525	02702	SAND FOR BLOTTER	89.00	TON
0530	25050ED	GEOTEXTILE BOND BREAKER INTERLAYER	35,523.00	SQYD
0535	00078	CRUSHED AGGREGATE SIZE NO 2	62.00	TON
0540	01005	PERFORATED PIPE EDGE DRAIN-4 IN	17,266.00	LF
0545	01015	INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS
0550	01032	PERF PIPE HEADWALL TY 4-4 IN	62.00	EACH
0555	01890	ISLAND HEADER CURB TYPE 1	100.00	LF
0560	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	4.00	EACH
0565	01983	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL YELLOW	3.00	EACH
0570	01986	DELINEATOR FOR BARRIER WALL-B/Y	555.00	EACH
0575	02058	REMOVE PCC PAVEMENT	30,090.00	SQYD
0580	02091	REMOVE PAVEMENT	1,893.00	SQYD
0585	02351	GUARDRAIL-STEEL W BEAM-S FACE	322.00	LF
0590	02352	GUARDRAIL-STEEL W BEAM-D FACE	202.00	LF
0595	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
0600	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
0605	02365	CRASH CUSHION TYPE IX-A	1.00	EACH
0610	02367	GUARDRAIL END TREATMENT TYPE 1	1.00	EACH
0615	02369	GUARDRAIL END TREATMENT TYPE 2A	1.00	EACH
0620	02381	REMOVE GUARDRAIL	849.00	LF
0625	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	1.00	EACH
0630	02562	TEMPORARY SIGNS	800.00	SQFT
0635	02565	OBJECT MARKER TYPE 2	1.00	EACH
0640	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0645	02655	CROSSOVER	1.00	LS
0650	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0655	02676	MOBILIZATION FOR MILL & TEXT	1.00	LS
0660	02695	RUMBLE STRIPS TYPE 3	58,502.00	LF
0665	02701	TEMP SILT FENCE	1,110.00	LF
0670	02705	SILT TRAP TYPE C	2.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0675	02726	STAKING	1.00	LS
0680	02775	ARROW PANEL	1.00	EACH
0685	03171	CONCRETE BARRIER WALL TYPE 9T	11,091.00	LF
0690	03383	PVC PIPE-4 IN	1,866.00	LF
0695	05950	EROSION CONTROL BLANKET	1,000.00	SQYD
0700	05953	TEMP SEEDING AND PROTECTION	833.00	SQYD
0705	05963	INITIAL FERTILIZER	.60	TON
0710	05964	MAINTENANCE FERTILIZER	.20	TON
0715	05985	SEEDING AND PROTECTION	2,499.00	SQYD
0720	05992	AGRICULTURAL LIMESTONE	5.10	TON
0725	06410	STEEL POST TYPE 1	8.00	LF
0730	06511	PAVE STRIPING-TEMP PAINT-6 IN	43,025.00	LF
0735	06556	PAVE STRIPING-DUR TY 1-6 IN W	79,206.00	LF
0740	06556	PAVE STRIPING-DUR TY 1-6 IN W - FURNISH AND INSTALL	300.00	LF
0745	06557	PAVE STRIPING-DUR TY 1-6 IN Y	63,365.00	LF
0750	06557	PAVE STRIPING-DUR TY 1-6 IN Y - FURNISH AND INSTALL	300.00	LF
0755	06560	PAVE STRIPING-DUR TY 1-12 IN W	2,297.00	LF
0760	06560	PAVE STRIPING-DUR TY 1-12 IN W - FURNISH AND INSTALL	75.00	LF
0765	08903	CRASH CUSHION TY VI CLASS BT TL3	1.00	EACH
0770	10020NS	FUEL ADJUSTMENT	16,949.00	DOLL
0775	10030NS	ASPHALT ADJUSTMENT	6,365.00	DOLL
0780	20191ED	OBJECT MARKER TY 3	1.00	EACH
0785	20411ED	LAW ENFORCEMENT OFFICER	200.00	HOURL
0790	20412ED	REMOVE ASPHALT SHOULDER	2,096.00	SQYD
0795	20432ES112	REMOVE CRASH CUSHION	2.00	EACH
0800	22664EN	WATER BLASTING EXISTING STRIPE	119,263.00	LF
0805	23147EN	HIGH TENSION CABLE-ROPE BARRIER	1,022.00	LF
0810	23148EN	END ANCHORS	1.00	EACH
0815	24255EC	REMOVE CABLE GUARDRAIL BARRIER SYSTEM	385.00	LF
0820	24489EC	INLAID PAVEMENT MARKER	160.00	EACH
0825	24640ED	OBJECT MARKER TYPE 1	2.00	EACH
0830	24969ED	LONGITUDINAL SAW CUT	9,434.00	LF
0835	25019EC	GROOVE FOR PAVE STRIPING - 7 IN	76,329.00	LF
0840	02568	MOBILIZATION	1.00	LS
0845	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 211013

121GR21D013-NHPP

DE11100242113

I-24 CONCRETE PAVEMENT AND ROADWAY REHABILITATION ON I-24 FROM MP 55.5 TO MP 64.5 IN TRIGG COUNTY INTERSTATE RESURFACING & REHAB, A DISTANCE OF 9 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	00001	DGA BASE	6,589.00	TON
0010	00008	CEMENT STABILIZED ROADBED	122,883.00	SQYD

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0015	00100	ASPHALT SEAL AGGREGATE	328.00	TON
0020	00103	ASPHALT SEAL COAT	39.00	TON
0025	00190	LEVELING & WEDGING PG64-22	700.00	TON
0030	00214	CL3 ASPH BASE 1.00D PG64-22	502.00	TON
0035	00312	CL3 ASPH SURF 0.50D PG64-22	3,634.00	TON
0040	00356	ASPHALT MATERIAL FOR TACK	14.00	TON
0045	00358	ASPHALT CURING SEAL	246.00	TON
0050	02071	JPC PAVEMENT-11 IN	122,883.00	SQYD
0055	02542	CEMENT	3,981.00	TON
0060	02677	ASPHALT PAVE MILLING & TEXTURING	1,050.00	TON
0065	02702	SAND FOR BLOTTER	307.00	TON
0070	25050ED	GEOTEXTILE BOND BREAKER INTERLAYER	122,883.00	SQYD
0075	00078	CRUSHED AGGREGATE SIZE NO 2	245.00	TON
0080	01005	PERFORATED PIPE EDGE DRAIN-4 IN	68,933.00	LF
0085	01015	INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS
0090	01020	PERF PIPE HEADWALL TY 1-4 IN	10.00	EACH
0095	01024	PERF PIPE HEADWALL TY 2-4 IN	4.00	EACH
0100	01028	PERF PIPE HEADWALL TY 3-4 IN	4.00	EACH
0105	01032	PERF PIPE HEADWALL TY 4-4 IN	227.00	EACH
0110	01690	FLUME INLET TYPE 1	2.00	EACH
0115	01691	FLUME INLET TYPE 2	1.00	EACH
0120	01891	ISLAND HEADER CURB TYPE 2	50.00	LF
0125	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	30.00	EACH
0130	01983	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL YELLOW	3.00	EACH
0135	01986	DELINEATOR FOR BARRIER WALL-B/Y	1,863.00	EACH
0140	02058	REMOVE PCC PAVEMENT	98,307.00	SQYD
0145	02351	GUARDRAIL-STEEL W BEAM-S FACE	2,349.00	LF
0150	02352	GUARDRAIL-STEEL W BEAM-D FACE	146.00	LF
0155	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
0160	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
0165	02365	CRASH CUSHION TYPE IX-A	1.00	EACH
0170	02367	GUARDRAIL END TREATMENT TYPE 1	2.00	EACH
0175	02369	GUARDRAIL END TREATMENT TYPE 2A	2.00	EACH
0180	02381	REMOVE GUARDRAIL	2,745.00	LF
0185	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	1.00	EACH
0190	02483	CHANNEL LINING CLASS II	80.00	TON
0195	02562	TEMPORARY SIGNS	1,800.00	SQFT
0200	02565	OBJECT MARKER TYPE 2	1.00	EACH
0205	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0210	02655	CROSSOVER	1.00	LS
0215	02671	PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH
0220	02676	MOBILIZATION FOR MILL & TEXT	1.00	LS
0225	02695	RUMBLE STRIPS TYPE 3	74,701.00	LF
0230	02701	TEMP SILT FENCE	1,075.00	LF
0235	02705	SILT TRAP TYPE C	2.00	EACH
0240	02726	STAKING	1.00	LS
0245	02775	ARROW PANEL	1.00	EACH
0250	03171	CONCRETE BARRIER WALL TYPE 9T	37,243.00	LF
0255	03383	PVC PIPE-4 IN	7,187.00	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0260	05950	EROSION CONTROL BLANKET	1,000.00	SQYD
0265	05953	TEMP SEEDING AND PROTECTION	2,190.00	SQYD
0270	05963	INITIAL FERTILIZER	.60	TON
0275	05964	MAINTENANCE FERTILIZER	.60	TON
0280	05985	SEEDING AND PROTECTION	2,190.00	SQYD
0285	05992	AGRICULTURAL LIMESTONE	4.40	TON
0290	06410	STEEL POST TYPE 1	8.00	LF
0295	06511	PAVE STRIPING-TEMP PAINT-6 IN	147,460.00	LF
0300	06556	PAVE STRIPING-DUR TY 1-6 IN W	163,502.00	LF
0305	06556	PAVE STRIPING-DUR TY 1-6 IN W - FURNISH AND INSTALL	700.00	LF
0310	06557	PAVE STRIPING-DUR TY 1-6 IN Y	130,801.00	LF
0315	06557	PAVE STRIPING-DUR TY 1-6 IN Y - FURNISH AND INSTALL	700.00	LF
0320	06560	PAVE STRIPING-DUR TY 1-12 IN W	1,288.00	LF
0325	06560	PAVE STRIPING-DUR TY 1-12 IN W - FURNISH AND INSTALL	175.00	LF
0330	08903	CRASH CUSHION TY VI CLASS BT TL3	4.00	EACH
0335	10020NS	FUEL ADJUSTMENT	57,502.00	DOLL
0340	10030NS	ASPHALT ADJUSTMENT	18,907.00	DOLL
0345	20191ED	OBJECT MARKER TY 3	2.00	EACH
0350	20411ED	LAW ENFORCEMENT OFFICER	550.00	HOURL
0355	20412ED	REMOVE ASPHALT SHOULDER	18,694.00	SQYD
0360	20432ES112	REMOVE CRASH CUSHION	5.00	EACH
0365	22664EN	WATER BLASTING EXISTING STRIPE	210,692.00	LF
0370	22883EN	CONCRETE WEDGE CURB	1,735.00	LF
0375	23147EN	HIGH TENSION CABLE-ROPE BARRIER	675.00	LF
0380	23148EN	END ANCHORS	1.00	EACH
0385	24255EC	REMOVE CABLE GUARDRAIL BARRIER SYSTEM	280.00	LF
0390	24489EC	INLAID PAVEMENT MARKER	461.00	EACH
0395	24640ED	OBJECT MARKER TYPE 1	5.00	EACH
0400	24969ED	LONGITUDINAL SAW CUT	35,791.00	LF
0405	25019EC	GROOVE FOR PAVE STRIPING - 7 IN	210,692.00	LF
0410	04793	CONDUIT-1 1/4 IN	30.00	LF
0415	04795	CONDUIT-2 IN	10.00	LF
0420	04820	TRENCHING AND BACKFILLING	35.00	LF
0425	04829	PIEZOELECTRIC SENSOR	2.00	EACH
0430	04830	LOOP WIRE	750.00	LF
0435	04895	LOOP SAW SLOT AND FILL	190.00	LF
0440	20359NN	GALVANIZED STEEL CABINET	1.00	EACH
0445	20360ES818	WOOD POST	2.00	EACH
0450	20391NS835	ELECTRICAL JUNCTION BOX TYPE A	1.00	EACH
0455	02568	MOBILIZATION	1.00	LS
0460	02569	DEMOBILIZATION	1.00	LS

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

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

SUPPLEMENTAL SPECIFICATIONS

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

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

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS**

**EMPLOYMENT REQUIREMENTS
RELATING TO
NONDISCRIMINATION OF EMPLOYEES
(APPLICABLE TO FEDERAL-AID SYSTEM CONTRACTS)**

**AN ACT OF THE KENTUCKY GENERAL ASSEMBLY
TO PREVENT DISCRIMINATION IN EMPLOYMENT**

**KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972**

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

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

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

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

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

Revised: January 25, 2017

Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Standard Title VI/Non-Discrimination Statutes and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*)

EXECUTIVE BRANCH CODE OF ETHICS

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

KRS 11A.040 (7) provides:

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

KRS 11A.040 (9) states:

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

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

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

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

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

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

"General Decision Number: KY20210040 03/05/2021

Superseded General Decision Number: KY20200040

State: Kentucky

Construction Type: Highway

Counties: Allen, Ballard, Butler, Caldwell, Calloway, Carlisle, Christian, Crittenden, Daviess, Edmonson, Fulton, Graves, Hancock, Henderson, Hickman, Hopkins, Livingston, Logan, Lyon, Marshall, McCracken, McLean, Muhlenberg, Ohio, Simpson, Todd, Trigg, Union, Warren and Webster Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021
1	01/15/2021
2	03/05/2021

BRIN0004-002 06/01/2017

BALLARD, BUTLER, CALDWELL, CARLISLE, CRITTENDEN, DAVIESS, EDMONSON, FULTON, GRAVES, HANCOCK, HENDERSON, HICKMAN, HOPKINS, LIVINGSTON, LYON, MARSHALL, MCCRACKEN, MCLEAN, MUHLENBERG, OHIO, UNION, and WEBSTER COUNTIES

Rates Fringes

BRICKLAYER

Ballard, Caldwell, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, Marshall, and McCracken Counties.....	\$ 30.50	15.16
Butler, Edmonson, Hopkins, Muhlenberg, and Ohio Counties.....	\$ 26.80	12.38
Daviess, Hancock, Henderson, McLean, Union, and Webster Counties.....	\$ 30.00	15.16

BRTN0004-005 06/01/2017

ALLEN, CALLOWAY, CHRISTIAN, LOGAN, SIMPSON, TODD, TRIGG, and
WARREN COUNTIES

	Rates	Fringes
BRICKLAYER.....	\$ 26.80	12.38

CARP0357-002 04/01/2020

	Rates	Fringes
CARPENTER.....	\$ 29.81	19.92
DIVER.....	\$ 45.09	19.92
PILEDRIVERMAN.....	\$ 30.06	19.92

* ELEC0369-006 05/26/2020

BUTLER, EDMONSON, LOGAN, TODD & WARREN COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 33.21	17.85

ELEC0429-001 01/01/2020

ALLEN & SIMPSON COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 27.72	13.48

ELEC0816-002 06/30/2020

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN,
FULTON (Except a 5 mile radius of City Hall in Fulton), GRAVES,
HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 34.06	25.50%+7.25

Cable spicers receive \$.25 per hour additional.

ELEC1701-003 01/01/2020

DAVISS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, MUHLENBERG, OHIO,
UNION & WEBSTER COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 31.52	30%+7.25

Cable spicers receive \$.25 per hour additional.

ELEC1925-002 01/01/2021

FULTON COUNTY (Up to a 5 mile radius of City Hall in Fulton):

	Rates	Fringes
CABLE SPLICER.....	\$ 26.10	14.77
ELECTRICIAN.....	\$ 25.60	14.75

ENGI0181-017 07/01/2020

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 33.95	17.25
GROUP 2.....	\$ 31.09	17.25
GROUP 3.....	\$ 31.54	17.25
GROUP 4.....	\$ 30.77	17.25

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge Engineer; Elevating Grader & Loaders; Grade-All; Gurries; Heavy Equipment Robotics Operator/Mechanic; High Lift; Hoe-Type Machine; Hoist (Two or More Drums); Hoisting Engine (Two or More Drums); Horizontal Directional Drill Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

GROUP 2 - Air Compressor (Over 900 cu. ft. per min.); Bituminous Mixer; Boom Type Tamping Machine; Bull Float; Concrete Mixer (Under 21 cu. ft.); Dredge Engineer; Electric Vibrator; Compactor/Self-Propelled Compactor; Elevator (One Drum or Buck Hoist); Elevator (When used to Hoist Building Material); Finish Machine; Firemen & Hoist (One Drum); Flexplane; Forklift (Regardless of Lift Height); Form Grader; Joint Sealing Machine; Outboard Motor Boat; Power Sweeper (Riding Type); Roller (Rock); Ross Carrier; Skid Mounted or Trailer Mounted Concrete Pump; Skid Steer Machine with all Attachments; Switchman or Brakeman; Throttle Valve Person; Tractair & Road Widening Trencher; Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger;

Welding Machine; Well Points;& Whirley Oiler

GROUP 3 -All Off Road Material Handling Equipment, including
Articulating Dump Trucks; Greaser on Grease Facilities
servicing Heavy Equipment

GROUP 4 - Bituminous Distributor; Burlap & Curing Machine;
Cement Gun; Concrete Saw; Conveyor; Deckhand Oiler; Grout
Pump; Hydraulic Post Driver; Hydro Seeder; Mud Jack; Oiler;
Paving Joint Machine; Power Form Handling Equipment; Pump;
Roller (Earth); Steerman; Tamping Machine; Tractor (Under
50 H.P.); & Vibrator

CRANES - with booms 150 ft. & Over (Including JIB), and where
the length of the boom in combination with the length of
the piling equals or exceeds 150 ft. - \$1.00 above Group 1
rate

EMPLOYEES ASSIGNED TO WORK BELOW GROUND LEVEL ARE TO BE PAID
10% ABOVE BASIC WAGE RATE. THIS DOES NOT APPLY TO OPEN CUT
WORK.

IRON0070-005 06/01/2020

BUTLER COUNTY (Eastern eighth, including the Townships of
Decker, Lee & Tilford);
EDMONSON COUNTY (Northern three-fourths, including the
Townships of Asphalt, Bee Spring, Brownsville, Grassland, Huff,
Kyrock, Lindseyville, Mammoth Cave, Ollie, Prosperity, Rhoda,
Sunfish & Sweden)

Rates Fringes

IRONWORKER

Structural; Ornamental;
Reinforcing; Precast
Concrete Erectors.....\$ 30.42 23.15

IRON0103-004 04/01/2020

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, OHIO, UNION &
WEBSTER COUNTIES
BUTLER COUNTY (Townships of Aberdeen, Bancock, Casey,
Dexterville, Dunbar, Elfie, Gilstrap, Huntsville, Logansport,
Monford, Morgantown, Provo, Rochester, South Hill & Welchs
Creek);
CALDWELL COUNTY (Northeastern third, including the Township of
Creswell);
CHRISTIAN COUNTY (Northern third, including the Townships of
Apex, Crofton, Kelly, Mannington & Wynns);
CRITTENDEN COUNTY (Northeastern half, including the Townships
of Grove, Mattoon, Repton, Shady Grove & Tribune);
MUHLENBERG COUNTY (Townships of Bavier, Beech Creek Junction,
Benton, Brennen, Browder, Central City, Cleaton, Depoy,
Drakesboro, Eunis, Graham, Hillside, Luzerne, Lynn City,
Martwick, McNary, Millport, Moorman, Nelson, Paradise,
Powderly, South Carrollton, Tarina & Weir)

Rates Fringes

Ironworkers:.....\$ 29.50 24.385

IRON0492-003 05/01/2020

ALLEN, LOGAN, SIMPSON, TODD & WARREN COUNTIES
BUTLER COUNTY (Southern third, including the Townships of Boston, Berrys Lick, Dimple, Jetson, Quality, Sharer, Sugar Grove & Woodbury);
CHRISTIAN COUNTY (Eastern two-thirds, including the Townships of Bennettstown, Casky, Herndon, Hopkinsville, Howell, Masonville, Pembroke & Thompsonville);
EDMONSON COUNTY (Southern fourth, including the Townships of Chalybeate & Rocky Hill);
MUHLENBERG COUNTY (Southern eighth, including the Townships of Dunnior, Penrod & Rosewood)

	Rates	Fringes
Ironworkers:.....	\$ 29.55	15.06

IRON0782-006 08/01/2020

BALLARD, CALLOWAY, CARLISLE, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES
CALDWELL COUNTY (Southwestern two-thirds, including the Townships of Cedar Bluff, Cider, Claxton, Cobb, Crowtown, Dulaney, Farmersville, Fredonia, McGowan, Otter Pond & Princeton);
CHRISTIAN COUNTY (Western third, Excluding the Townships of Apex, Crofton, Kelly, Mannington, Wynns, Bennettstown, Casky, Herndon, Hopkinsville, Howell, Masonville, Pembroke & Thompsonville);
CRITTENDEN COUNTY (Southwestern half, including the Townships of Crayne, Dycusburg, Frances, Marion, Mexico, Midway, Sheridan & Told)

	Rates	Fringes
Ironworkers:		
Projects with a total contract cost of \$20,000,000.00 or above.....	\$ 30.13	25.17
All Other Work.....	\$ 28.54	23.75

LAB00189-005 07/01/2020

BALLARD, CALLOWAY, CARLISLE, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL & MCCRACKEN COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 23.26	15.62
GROUP 2.....	\$ 23.51	15.62
GROUP 3.....	\$ 23.56	15.62
GROUP 4.....	\$ 24.16	15.62

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson;

Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Blaster; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

LAB00189-006 07/01/2020

ALLEN, BUTLER, CALDWELL, CHRISTIAN, DAVIESS, EDMONSON, HANCOCK, HOPKINS, LOGAN, MCLEAN, MUHLENBERG, OHIO, SIMPSON, TODD, TRIGG & WARREN COUNTIES

Rates Fringes

Laborers:

GROUP 1.....	\$ 23.26	15.62
GROUP 2.....	\$ 23.51	15.62
GROUP 3.....	\$ 23.56	15.62
GROUP 4.....	\$ 24.16	15.62

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;

Burner & Welder; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Blaster; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

LAB00561-001 07/01/2020

CRITTENDEN, HENDERSON, UNION & WEBSTER COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 23.66	16.10
GROUP 2.....	\$ 23.91	16.10
GROUP 3.....	\$ 23.96	16.10
GROUP 4.....	\$ 24.56	16.10

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Blaster; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

PAIN0032-002 09/01/2020

BALLARD COUNTY

	Rates	Fringes
Painters:		
Bridges.....	\$ 35.01	17.93
All Other Work.....	\$ 32.71	17.93

Spray, Blast, Steam, High & Hazardous (Including Lead Abatement) and All Epoxy - \$1.00 Premium

PAIN0118-003 06/01/2014

EDMONSON COUNTY:

	Rates	Fringes
Painters:		
Brush & Roller.....	\$ 18.50	11.97
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning.....	\$ 19.50	11.97

PAIN0156-006 04/01/2015

DAVISS, HANCOCK, HENDERSON, MCLEAN, OHIO, UNION & WEBSTER COUNTIES

	Rates	Fringes
Painters:		
BRIDGES		
GROUP 1.....	\$ 27.60	12.85
GROUP 2.....	\$ 27.85	12.85
GROUP 3.....	\$ 28.60	12.85
GROUP 4.....	\$ 29.60	12.85
ALL OTHER WORK:		
GROUP 1.....	\$ 26.45	12.85
GROUP 2.....	\$ 26.70	12.85
GROUP 3.....	\$ 27.45	12.85
GROUP 4.....	\$ 28.45	12.85

PAINTER CLASSIFICATIONS

GROUP 1 - Brush & Roller

GROUP 2 - Plasterers

GROUP 3 - Spray; Sandblast; Power Tools; Waterblast;
Steamcleaning; Brush & Roller of Mastics, Creosotes, Kwinch
Koate & Coal Tar Epoxy

GROUP 4 - Spray of Mastics, Creosotes, Kwinch Koate & Coal
Tar Epoxy

PAIN0500-002 06/01/2020

CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON,
GRAVES, HICKMAN, HOPKINS, LIVINGSTON, LYON, MARSHALL, MCCRACKEN
& TRIGG COUNTIES:

	Rates	Fringes
Painters:		
Bridges.....	\$ 27.75	15.10
All Other Work.....	\$ 21.50	15.10

Waterblasting units with 3500 PSI and above - \$.50 premium
Spraypainting and all abrasive blasting - \$1.00 premium
Work 40 ft. and above ground level - \$1.00 premium

PLUM0184-002 07/01/2018

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN,
FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN
and TRIGG COUNTIES

	Rates	Fringes
Plumber; Steamfitter.....	\$ 35.06	18.18

PLUM0502-004 08/01/2020

ALLEN, BUTLER, EDMONSON, SIMPSON & WARREN

	Rates	Fringes
Plumber; Steamfitter.....	\$ 36.92	20.78

PLUM0633-002 07/01/2020

DAVISS, HANCOCK, HENDERSON, HOPKINS, LOGAN, MCLEAN,
MUHLENBERG, OHIO, TODD, UNION & WEBSTER COUNTIES:

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 32.17	19.30

TEAM0089-003 04/01/2020

ALLEN, BUTLER, EDMONSON, LOGAN, SIMPSON & WARREN COUNTIES

	Rates	Fringes
Truck drivers:		
Zone 1:		
Group 1.....	\$ 20.82	23.49
Group 2.....	\$ 21.00	23.49

Group 3.....	\$ 21.08	23.49
Group 4.....	\$ 21.10	23.49

GROUP 1 - Greaser; Tire Changer

GROUP 2 - Truck Mechanic; Single Axle Dump; Flat Bed; All Terrain Vehicles when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors

GROUP 3 - Mixer All Types

GROUP 4 - Winch and A-Frame when used in transporting materials; Ross Carrier; Fork Lift when used to transport building materials; Driver on Pavement Breaker; Euclid and Other Heavy Earth Moving Equipment; Low Boy; Articulator Cat; Five Axle Vehicle

TEAM0215-003 04/01/2020

DAVISS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, MUHLENBERG, OHIO & WEBSTER COUNTIES

	Rates	Fringes
TRUCK DRIVER		
Group 1.....	\$ 22.45	23.49
Group 2.....	\$ 22.68	23.49
Group 3.....	\$ 22.75	23.49
Group 4.....	\$ 22.76	23.49

GROUP 1: Greaser, Tire Changer

GROUP 2: Truck Mechanic

GROUP 3: Single Axle Dump; Flat Bed; All Terrain Vehicle when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors; Mixer All Types

GROUP 4: Euclid and other heavy earth moving equipment; Low Boy; Articulator Cat; 5 Axle Vehicle; Winch and A- Frame when used in transporting materials; Ross Carrier; Fork Lift when used to transport building materials; Driver on Pavement Breaker

TEAM0236-001 04/01/2020

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCracken, TODD & TRIGG COUNTIES

	Rates	Fringes
TRUCK DRIVER		
Group 1.....	\$ 20.82	23.49
Group 2.....	\$ 21.00	23.49
Group 3.....	\$ 21.00	23.49
Group 4.....	\$ 21.00	23.49
Group 5.....	\$ 21.08	23.49

GROUP 1: Greaser, Tire Changer

GROUP 2: Truck Mechanic

GROUP 3: Single Axle Dump; Flat Bed; All Terrain Vehicle when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Drivers of Distributors

GROUP 4: Euclid and other heavy earth moving equipment; Low Boy; Articulator Cat; Five Axle Vehicle; Winch and A-Frame when used in transporting materials; Ross Carrier

GROUP 5: Mixer All Types

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of

the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid to an employee at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty (40) hours in such workweek. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Director
Division of Construction Procurement
Frankfort, Kentucky 40622
502-564-3500

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
5.2%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Caldwell County.

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
12.0%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Trigg County.

PART IV
INSURANCE

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

PART V
BID ITEMS

PROPOSAL BID ITEMS

211013

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Report Date 3/30/21

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	8,397.00	TON		\$	
0020	00008		CEMENT STABILIZED ROADBED	158,406.00	SQYD		\$	
0030	00100		ASPHALT SEAL AGGREGATE	420.00	TON		\$	
0040	00103		ASPHALT SEAL COAT	50.00	TON		\$	
0050	00190		LEVELING & WEDGING PG64-22	883.00	TON		\$	
0060	00214		CL3 ASPH BASE 1.00D PG64-22	921.00	TON		\$	
0070	00312		CL3 ASPH SURF 0.50D PG64-22	4,660.00	TON		\$	
0080	00356		ASPHALT MATERIAL FOR TACK	18.00	TON		\$	
0090	00358		ASPHALT CURING SEAL	317.00	TON		\$	
0100	02071		JPC PAVEMENT-11 IN	158,406.00	SQYD		\$	
0110	02542		CEMENT	5,132.00	TON		\$	
0120	02677		ASPHALT PAVE MILLING & TEXTURING	1,324.00	TON		\$	
0130	02702		SAND FOR BLOTTER	396.00	TON		\$	
0140	25050ED		GEOTEXTILE BOND BREAKER INTERLAYER	158,406.00	SQYD		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0150	00078		CRUSHED AGGREGATE SIZE NO 2	307.00	TON		\$	
0160	01005		PERFORATED PIPE EDGE DRAIN-4 IN	86,199.00	LF		\$	
0170	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS		\$	
0180	01020		PERF PIPE HEADWALL TY 1-4 IN	10.00	EACH		\$	
0190	01024		PERF PIPE HEADWALL TY 2-4 IN	4.00	EACH		\$	
0200	01028		PERF PIPE HEADWALL TY 3-4 IN	4.00	EACH		\$	
0210	01032		PERF PIPE HEADWALL TY 4-4 IN	289.00	EACH		\$	
0220	01690		FLUME INLET TYPE 1	2.00	EACH		\$	
0230	01691		FLUME INLET TYPE 2	1.00	EACH		\$	
0240	01890		ISLAND HEADER CURB TYPE 1	100.00	LF		\$	
0250	01891		ISLAND HEADER CURB TYPE 2	50.00	LF		\$	
0260	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	34.00	EACH		\$	
0270	01983		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL YELLOW	6.00	EACH		\$	
0280	01986		DELINEATOR FOR BARRIER WALL-B/Y	2,418.00	EACH		\$	
0290	02058		REMOVE PCC PAVEMENT	128,397.00	SQYD		\$	
0300	02091		REMOVE PAVEMENT	1,893.00	SQYD		\$	
0310	02351		GUARDRAIL-STEEL W BEAM-S FACE	2,671.00	LF		\$	
0320	02352		GUARDRAIL-STEEL W BEAM-D FACE	348.00	LF		\$	
0330	02360		GUARDRAIL TERMINAL SECTION NO 1	2.00	EACH		\$	
0340	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	4.00	EACH		\$	
0350	02365		CRASH CUSHION TYPE IX-A	2.00	EACH		\$	
0360	02367		GUARDRAIL END TREATMENT TYPE 1	3.00	EACH		\$	
0370	02369		GUARDRAIL END TREATMENT TYPE 2A	3.00	EACH		\$	
0380	02381		REMOVE GUARDRAIL	3,594.00	LF		\$	
0390	02387		GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	2.00	EACH		\$	

PROPOSAL BID ITEMS

211013

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Report Date 3/30/21

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0400	02483		CHANNEL LINING CLASS II	80.00	TON		\$	
0410	02562		TEMPORARY SIGNS	2,600.00	SQFT		\$	
0420	02565		OBJECT MARKER TYPE 2	2.00	EACH		\$	
0430	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0440	02655		CROSSOVER	1.00	LS		\$	
0450	02671		PORTABLE CHANGEABLE MESSAGE SIGN	6.00	EACH		\$	
0460	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0470	02695		RUMBLE STRIPS TYPE 3	133,203.00	LF		\$	
0480	02701		TEMP SILT FENCE	2,185.00	LF		\$	
0490	02705		SILT TRAP TYPE C	4.00	EACH		\$	
0500	02726		STAKING	1.00	LS		\$	
0510	02775		ARROW PANEL	2.00	EACH		\$	
0520	03171		CONCRETE BARRIER WALL TYPE 9T	48,334.00	LF		\$	
0530	03383		PVC PIPE-4 IN	9,053.00	LF		\$	
0540	05950		EROSION CONTROL BLANKET	2,000.00	SQYD		\$	
0550	05953		TEMP SEEDING AND PROTECTION	3,023.00	SQYD		\$	
0560	05963		INITIAL FERTILIZER	1.20	TON		\$	
0570	05964		MAINTENANCE FERTILIZER	.80	TON		\$	
0580	05985		SEEDING AND PROTECTION	4,689.00	SQYD		\$	
0590	05992		AGRICULTURAL LIMESTONE	9.50	TON		\$	
0600	06410		STEEL POST TYPE 1	16.00	LF		\$	
0610	06511		PAVE STRIPING-TEMP PAINT-6 IN	190,485.00	LF		\$	
0620	06556		PAVE STRIPING-DUR TY 1-6 IN W	242,708.00	LF		\$	
0630	06556		PAVE STRIPING-DUR TY 1-6 IN W FURNISH AND INSTALL	1,000.00	LF		\$	
0640	06557		PAVE STRIPING-DUR TY 1-6 IN Y	194,166.00	LF		\$	
0650	06557		PAVE STRIPING-DUR TY 1-6 IN Y FURNISH AND INSTALL	1,000.00	LF		\$	
0660	06560		PAVE STRIPING-DUR TY 1-12 IN W	3,585.00	LF		\$	
0670	06560		PAVE STRIPING-DUR TY 1-12 IN W FURNISH AND INSTALL	250.00	LF		\$	
0680	08903		CRASH CUSHION TY VI CLASS BT TL3	5.00	EACH		\$	
0690	10020NS		FUEL ADJUSTMENT	74,451.00	DOLL	\$1.00	\$	\$74,451.00
0700	10030NS		ASPHALT ADJUSTMENT	25,272.00	DOLL	\$1.00	\$	\$25,272.00
0710	20191ED		OBJECT MARKER TY 3	3.00	EACH		\$	
0720	20411ED		LAW ENFORCEMENT OFFICER	750.00	HOUR		\$	
0730	20412ED		REMOVE ASPHALT SHOULDER	20,790.00	SQYD		\$	
0740	20432ES112		REMOVE CRASH CUSHION	7.00	EACH		\$	
0750	22664EN		WATER BLASTING EXISTING STRIPE	329,955.00	LF		\$	
0760	22883EN		CONCRETE WEDGE CURB	1,735.00	LF		\$	
0770	23147EN		HIGH TENSION CABLE-ROPE BARRIER	1,697.00	LF		\$	
0780	23148EN		END ANCHORS	2.00	EACH		\$	
0790	24255EC		REMOVE CABLE GUARDRAIL BARRIER SYSTEM	665.00	LF		\$	
0800	24489EC		INLAID PAVEMENT MARKER	621.00	EACH		\$	
0810	24640ED		OBJECT MARKER TYPE 1	7.00	EACH		\$	
0820	24969ED		LONGITUDINAL SAW CUT	45,225.00	LF		\$	
0830	25019EC		GROOVE FOR PAVE STRIPING - 7 IN	287,021.00	LF		\$	

PROPOSAL BID ITEMS

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Section: 0003 - TRAFFIC LOOPS

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0840	04793		CONDUIT-1 1/4 IN	30.00	LF		\$	
0850	04795		CONDUIT-2 IN	10.00	LF		\$	
0860	04820		TRENCHING AND BACKFILLING	35.00	LF		\$	
0870	04829		PIEZOELECTRIC SENSOR	2.00	EACH		\$	
0880	04830		LOOP WIRE	750.00	LF		\$	
0890	04895		LOOP SAW SLOT AND FILL	190.00	LF		\$	
0900	20359NN		GALVANIZED STEEL CABINET	1.00	EACH		\$	
0910	20360ES818		WOOD POST	2.00	EACH		\$	
0920	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	1.00	EACH		\$	

Section: 0004 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0930	02568		MOBILIZATION	1.00	LS		\$	
0940	02569		DEMOBILIZATION	1.00	LS		\$	