CALL NO. 202

CONTRACT ID. 101050

KENTON - CAMPBELL COUNTIES

FED/STATE PROJECT NUMBER 121GR10D050-IM

DESCRIPTION COVINGTON-CINCINNATI ROAD (I-275)

WORK TYPE JPC PAVEMENT REPAIRS - GUARDRAIL INSTALL

PRIMARY COMPLETION DATE 12/1/2011

LETTING DATE: November 19, 2010

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME November 19, 2010. Bids will be publicly announced at 10:00 AM EASTERN STANDARD TIME.

DBE CERTIFICATION REQUIRED - 3.30%

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

TABLE OF CONTENTS

PART I SCOPE OF WORK
- PROJECT(S), COMPLETION DATE(S), & LIQUIDATED DAMAGES
- CONTRACT NOTES
- FEDERAL CONTRACT NOTES
- PROJECT TRAFFIC COORDINATOR (PTC)
- ASPHALT MIXTURE
- DGA BASE
- DGA BASE FOR SHOULDERS
- INCIDENTAL SURFACING
- OPTION A
- SPECIAL NOTE(S) APPLICABLE TO PROJECT
- RAILROAD NOTES
- RIGHT OF WAY NOTES
- UTILITY CLEARANCE
- MATERIAL SUMMARY

PART II SPECIFICATIONS AND STANDARD DRAWINGS
- SPECIFICATIONS REFERENCE
- SUPPLEMENTAL SPECIFICATIONS

PART III EMPLOYMENT, WAGE AND RECORD REQUIREMENTS
- FEDERAL-AID CONSTRUCTION CONTRACTS - FHWA 1273
- NONDISCRIMINATION OF EMPLOYEES
- EXECUTIVE BRANCH CODE OF ETHICS
- PROJECT WAGE RATES
- NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EEO
- NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EEO

PART IV INSURANCE

PART V BID ITEMS

PART I

SCOPE OF WORK

CONTRACT ID - 101050 ADMINISTRATIVE DISTRICT - 06

PROJECT(S) IDENTIFICATION AND DESCRIPTION:

COUNTY - KENTON, CAMPBELL
121GR10D050-IM COVINGTON-CINCINNATI ROAD (I-275)

COUNTY - CAMPBELL PES - DE01902751052
IM 2759(117)
COVINGTON-CINCINNATI ROAD (I-275) REPAIR AND GRIND PAVEMENT ON I-275 FROM MP 77.023 IN CAMPBELL COUNTY TO MP 79.796 IN KENTON COUNTY. JPC PAVEMENT REPAIRS - DIAMOND GRINDING. SYP NO. 06-02025.00.
GEOGRAPHIC COORDINATES LATITUDE 39^01'36" LONGITUDE 84^31'46"

COUNTY - CAMPBELL PES - DE01902751054
IM 2759(119)
COVINGTON-CINCINNATI ROAD (I-275) INSTALL HTC MEDIAN BARRIER ALONG I-275 IN KENTON AND CAMPBELL COUNTY FROM MP 77.200 TO MP 81.550. GUARDRAIL. SYP NO. 06-02800.20.
GEOGRAPHIC COORDINATES LATITUDE 39^01'36" LONGITUDE 84^31'46"

COUNTY - KENTON PES - DE05902751050
IM 2759(121)
COVINGTON-CINCINNATI ROAD (I-275) REPAIR AND GRIND PAVEMENT ON I-275 FROM MP 80.120 TO MP 82.475. JPC PAVEMENT REPAIRS - DIAMOND GRINDING. SYP NO. 06-02027.00.
GEOGRAPHIC COORDINATES LATITUDE 39^01'36" LONGITUDE 84^31'46"

COUNTY - KENTON PES - DE05902751051
IM 2759(117)
COVINGTON-CINCINNATI ROAD (I-275) REPAIR AND GRIND PAVEMENT ON I-275 FROM MP 77.023 IN CAMPBELL COUNTY TO MP 79.796 IN KENTON COUNTY. JPC PAVEMENT REPAIRS - DIAMOND GRINDING. SYP NO. 06-02025.00.
GEOGRAPHIC COORDINATES LATITUDE 39^01'36" LONGITUDE 84^31'46"

COUNTY - KENTON PES - DE05902751053
IM 2759(119)
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GEOGRAPHIC COORDINATES LATITUDE 39^01'36" LONGITUDE 84^31'46"

COMPLETION DATE(S):
COMPLETION DATE - December 01, 2011
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 Expedite Bidding Program available on the Internet web site of the Department of Highways, Division of Construction Procurement. (www.transportation.ky.gov/contract)

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 is advised that the Underground Facility Damage Protection Act of 1994, became law January 1, 1995. It is the contractor's responsibility to determine the impact of the act regarding this project, and take all steps necessary to be in compliance with the provision of the act.

07/01/2010

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 Capacity Rating 102.10 Delivery of Proposals
102.08 Irregular 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.

FHWA 1273

Contrary to Paragraph VI of FHWA 1273, contractors on National Highway System (NHS) Projects of $1 million or more are no longer required to submit Form FHWA-47.

Contrary to Form FHWA-1273, Section V, paragraph 2.b personal addresses and full social security numbers (SSN) shall not be included on weekly payroll submissions by contractors and subcontractors. Contractors and subcontractors shall include the last four digits of the employee's SSN as an individually identifying number for each employee on the weekly payroll submittal. This in no way changes the requirement that contractors and subcontractors maintain complete SSN and home addresses for employees and provide this information upon request of KYTC, FHWA, and the U.S. Department of Labor.

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 READ PUBLICLY. 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 printed bid packet. 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

All bidders are encouraged to submit their General DBE Participation Plan with their bid on the official form. Lowest responsive bidders whose bid packages include DBE Participation Plans may be awarded the contract at the next Awards Committee meeting provided that the DBE goal is met. 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;
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.

The apparent low bidder who does not submit a General DBE Participation Plan with the bid shall submit it within 10 calendar days after receipt of notification that they are the apparent low bidder. The project will not be considered for award prior to submission and approval of the apparent low bidder's DBE Participation Plan.

Detailed DBE Participation Plan forms will be included in the Contractor Package presented to successful bidders following the awarding of the project. The Detailed DBE Participation Plan must be completed and returned to Contract Procurement in accordance with Cabinet policy. A copy of the blank estimate will be included with the Detailed DBE Participation Plan to list sequence items by PCN (Project Control Number).

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 and nine (9) copies of this information must be received in the office of 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 certainly 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 DBE Liaison in the Office of Minority Affairs 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 our 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 submit certified reports on monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal.

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.

The Prime Contractor should supply the payment information at the time the DBE is compensated for their work. Form to use is located at:
http://transportation.ky.gov/construction/forms/DBEcheck.xls

Photocopied payments and completed form to be submitted to:
Office of Civil Rights and Small Business Development
6th Floor West
200 Mero Street
Frankfort, KY 40622

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.

Kentucky Transportation Cabinet
General DBE Participation Plan*

06/13/2005

Letting Date: _____ Contract ID Number _____ Project Number: _____

Designated DBE Goal % _____

Prime Contractor _____ DBE Company Name _____

Address _____

City, State, Zip _____

Federal Tax ID _____

Type of DBE Work: (all applicable)

_____ Supplier _____ Subcontractor _____ Manufacturer _____ Engineering _____ Other _____

Itemized worked to be performed by DBE Company:

Supplier 60% Y/N	Item Number	Description of Participation Item	Unit of Measure	Quantity to be Performed by DBE	DBE Unit Price **	Dollar Amount (based on DBE
					Total other Page	

**Note: 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

Total This DBE

Total Bid

% Credited toward Goal, this DBE

Prime Contractor's Signature: _____ Title: _____ Date: _____

DBE Participant Signature: _____ Title: _____ Date: _____

***This form must be completed for each DBE participant**

KYTC
DBE Payments

updated 2/28/08

Prime Contractor	Cont-ID

DBE Contractor	CHECK #

PAYMENT DATE	Amount of Payment

Use the section below to show multiple payments using the same check

Cont-ID	Amount	Cont-ID	Amount

Comments:

attach copy of check here

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

to be Submitted within 7 days of receipt of payment from KYTC

PROJECT TRAFFIC COORDINATOR (PTC)

This project is a significant project pursuant to section 112.03.12.

ASPHALT MIXTURE

The rate of application for all asphalt mixtures shall be estimated at 110 lbs/sy per inch of depth, unless otherwise noted.

DGA BASE

The rate of application for DGA Base shall be estimated at 115 lbs/sy per inch of depth.

DGA BASE FOR SHOULDERS

The rate of application shall be estimated at 115 lbs/sy per inch of depth. Payment for necessary grading and/or shaping of existing shoulders prior to placing of Dense Graded Aggregate Base shall be included in the unit price bid per ton for Dense Graded Aggregate Base.

INCIDENTAL SURFACING

The quantities established in the proposal include estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, and road and street approaches. These items are to be paved to the limits as shown on Standard Drawing RPM 110 or to the limits as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, the paving of the crossroads shall be to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. These areas are to be surfaced or resurfaced as directed by the Engineer and no direct payment will be allowed for placing and compacting.

OPTION A

The Contractor is advised that the compaction of asphalt mixtures furnished for driving lanes and ramps, at 25mm (1 inch) or greater, on this project will be accepted according to OPTION A in accordance with Section 402 and Section 403 of the current Standard Specification. Joint cores as described in subsection 402.03.02 are required for surface mixtures only. The compaction of all other asphalt mixtures will be accepted by OPTION B.

KENTON & CAMPBELL COUNTIES

I–275 MP 76.94 to MP 82.48

Project Numbers

FD52 019 0275 077–078
IM 2759(117)
FD52 059 0275 080–083
IM 2759(121)

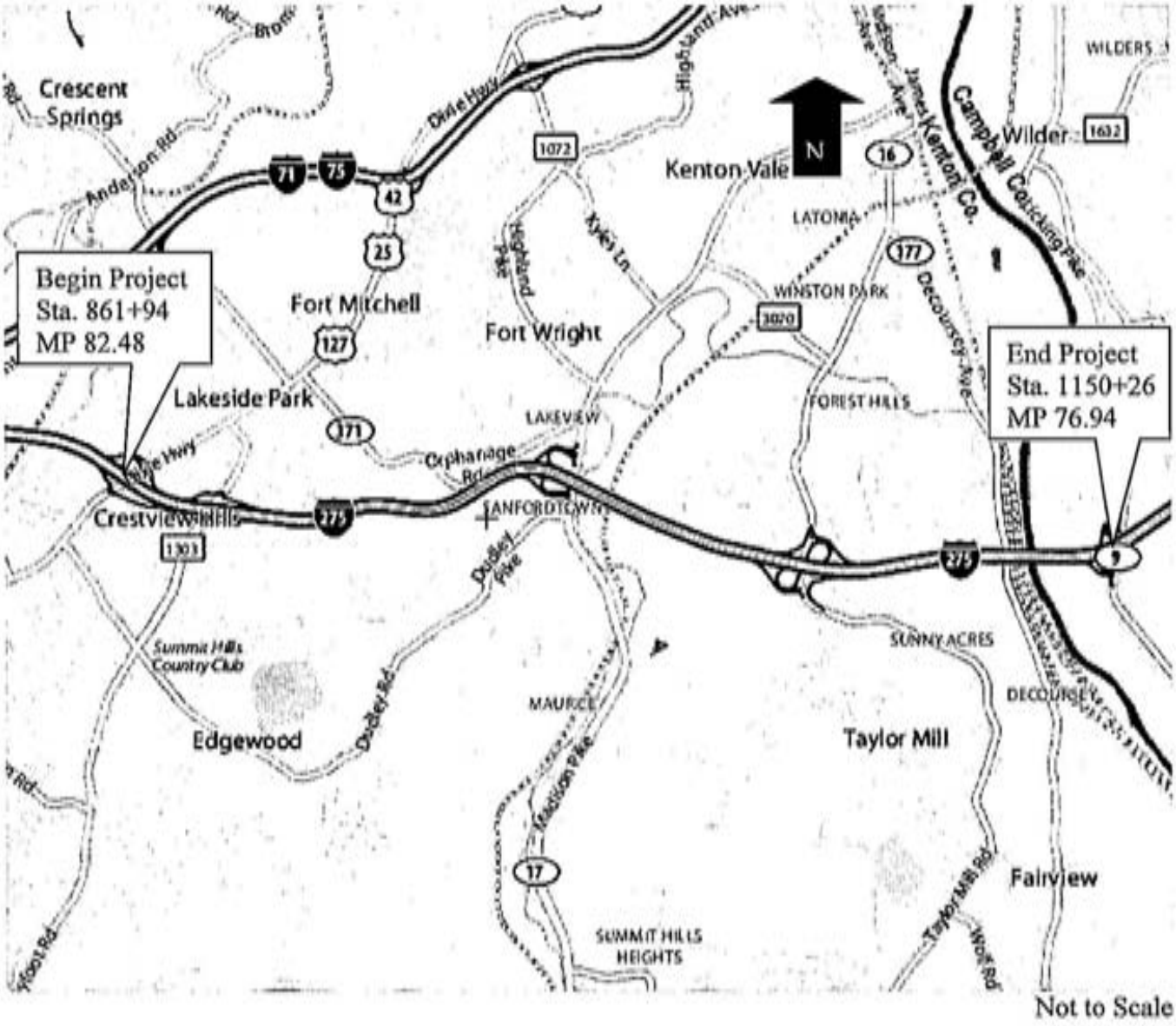
Item Numbers:
6–2025.00
6–2027.00

Prepared For The
Kentucky Transportation Cabinet

Prepared By

WMB, INC.
CONSULTING ENGINEERS

1950 Haggard Court
Lexington, Kentucky 40505
Ph. 859–299–5226



Item Number: 6-2025.00 & 6-2027.00

Project Number: FD52 019 0275 077-078, FD52 059 0275 080-083

Construction Number: IM 2759(117), IM 2759(121)

Letting Date: _____

Recommended By: _____ Date: 9-16-10
Project Manager

Plan Approved By: _____ Date: 9/16/10
State Highway Engineer

FHWA Approved By: _____ Date: _____

TABLE OF CONTENTS

Cover Sheet
Layout Sheet
Table of Contents
Applicable Standard Drawings & Sepias, Additional Drawings
Applicable Special Notes
Typical Sections
General Summary
Paving Summary
Paving Areas Summary
Concrete Pavement Repair Summary
Diamond Grinding Summary
Guardrail Summary
Curb Summary
Joint Summary
Saw & Seal Asphalt Joint Summary
Clean Drain Summary
Plan Sheets
Development Sheets
Alignment & Coordinate Control Sheets
Traffic Control
Maintenance of Traffic Typical Sections
Maintenance of Traffic Plan
Bridge Work Proposal
HTC Median Barrier Work Proposal
Traffic Signal Work Proposal
Lighting Work Proposal

Kentucky Department of Highways Standard Drawings, current editions, as applicable:

RBB-001-07 Guardrail and Bridge End Drainage for Single Structures
RBB-002-08 Guardrail and Bridge End Drainage for Twin Structures
RBB-003-02 Layout of Guardrail at Twin Structures (Depressed Median)
RBC-001-09 Guardrail Connector to Bridge End Type A and A-1
RBC-002-01 Guardrail Connector to Bridge End Type A and A-1 Components
RBC-003-07 Guardrail Connector to Bridge End Type A and A-1 Components
RBE-205-04 Crash Cushion Type IX-A
RBI-001-09 Typical Guardrail Installations
RBI-002-06 Typical Guardrail Installations
RBI-003-07 Typical Guardrail Installation for Guardrail End Treatment Type 2A
RBI-004-03 Installation Of Guardrail End Treatment Type 1
RBI-006-06 Guardrail Installation At Sign Supports
RBM-020-08 Delineators For Concrete Barriers
RBR-001-11 Steel Beam Guardrail (“W” beam)
RBR-005-10 Guardrail Components
RBR-010-05 Guardrail Terminal Sections
RBR-015-04 Guardrail Posts
RBR-016-04 Guardrail Posts
RBR-025-03 Guardrail End Treatment Type 2A
RDB-001-11 Drop Box Inlet Type 1
RDB-100-04 Sloped Box Outlet Type 1
RDB-101-04 Grates for Sloped Box Outlet Type 1
RDD-040-04 Channel Lining Class II and III
RDI-020-08 Pipe Bedding for Culverts, Entrance and Storm Sewer Pipe
RDI-021 Pipe Bedding for Culverts, Entrance, and Storm Sewer Reinforced Conc. Pipe
RDI-035-01 Coatings, Linings and Pavings for Non-Structural Plate Pipe
RDX-001-05 Junction Box
RDX-002-03 Junction Box (Dimensions & Quantities)
RDX-210-02 Temporary Silt Fence
RDX-230 Silt Trap Type C
RPM-100-09 Curb and Gutter, Curbs, and Valley Gutter
RPM-120-06 Island Curb Construction Details (Rigid & Flexible Pavement)
RPM-145-03 Rumble Strips Type 3
RPN-001-06 Jointed Plain Concrete Pavement for Shoulders & Medians
RPN-010-06 Pavement Transitions & Joint Details for Jointed Plain Concrete Pavement at Bridge Ends
RPN-015-04 Jointed Plain Concrete Pavement
RPN-020-03 Concrete Pavement Joints Types & Spacing
RPS-010-10 Concrete Pavement Joint Details
RPS-020-13 Expansion and Contraction Joint Load Transfer Assemblies
RPS-036-05 Concrete Pavement Joints Types and Spacing
RPS-037-05 Concrete Pavement Joints Types and Spacing
RPS-038-05 Concrete Pavement Joints Types and Spacing
RPS-039-05 Concrete Pavement Joints Types and Spacing

RPX-001-03 Station Markings Concrete Pavement
RPX-015-03 Hot-Poured Elastic Joint Seals for Concrete Pavement
TPM-105-01 Pavement Marker Arrangements Multi-Lane Roadways
TPM-125-01 Pavement Marker Arrangement Exit Gore and Off-Ramp
TPM-130-01 Pavement Marker Arrangement On-Ramp with Tapered Acceleration Lane
TPM-135-01 Pavement Marker Arrangement On-Ramp with Parallel Acceleration Lane
TTC-115-01 Lane Closure Multi-Lane Highway Case I
TTC-120-01 Lane Closure Multi-Lane Highway Case II
TTC-125-01 Double Lane Closure
TTC-135-01 Shoulder Closure
TTD-110-01 Post Splicing Detail
TTD-120 Work Zone Speed Limit and Double Fine Signs
TTD-115 Pavement Condition Warning Signs
TTS-110-01 Mobile Operation for Paint Striping Case III
TTS-115-01 Mobile Operation for Paint Striping Case IV

Kentucky Department of Highways Sepias, as applicable:

Delineators for Guardrail
Concrete Barrier Wall Type 9T (Temporary)
Culvert, Entrance & Storm Sewer Pipe Types & Cover Heights

Additional Drawings

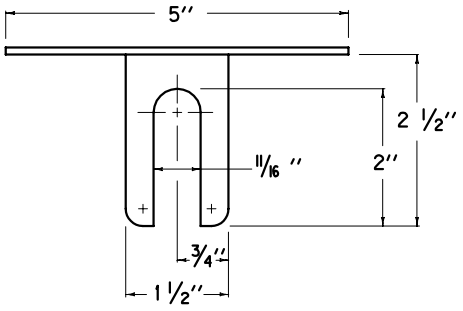
Saw And Seal Transverse Joints In Asphalt Overlay

NOTES

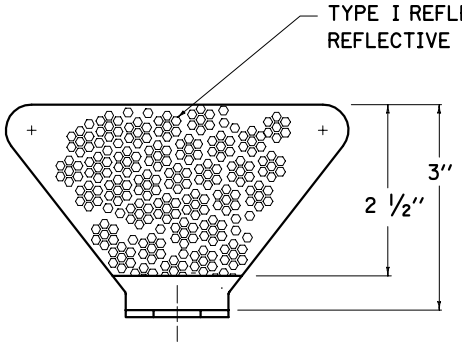
1. DELINEATOR SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR ONE COMPLETE INSTALLATION.
2.

CODE	PAY ITEM	PAY UNIT
1982	DELINEATOR FOR GUARDRAIL - WHITE	EACH
1983	DELINEATOR FOR GUARDRL - YELLOW	EACH

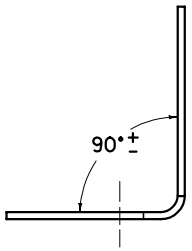
3. GUARDRAIL DELINEATORS SHALL BE REQUIRED ON ALL ROADWAYS WITH SHOULDERS 6'-0" IN WIDTH OR LESS AND AT OTHER LOCATIONS WHERE THE GUARDRAIL LEADS INTO HORIZONTAL CURVES OF LESS THAN 950 FEET RADIUS.
4. DELINEATORS SHALL BE MANUFACTURED FROM 12 GA. GALVANIZED STEEL.
5. DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MANUFACTURES TOLERANCES.
6. WHEN CONCRETE BARRIERS EXTEND ACROSS BRIDGE STRUCTURES IN LIEU OF STEEL BEAM GUARDRAIL, DELINEATORS SHALL BE INSTALLED AT SAME VERTICAL ALIGNMENT AS ON THE GUARDRAIL AND DELINEATORS SHALL COMPLY WITH CURRENT STD. DWG. RBM-020.



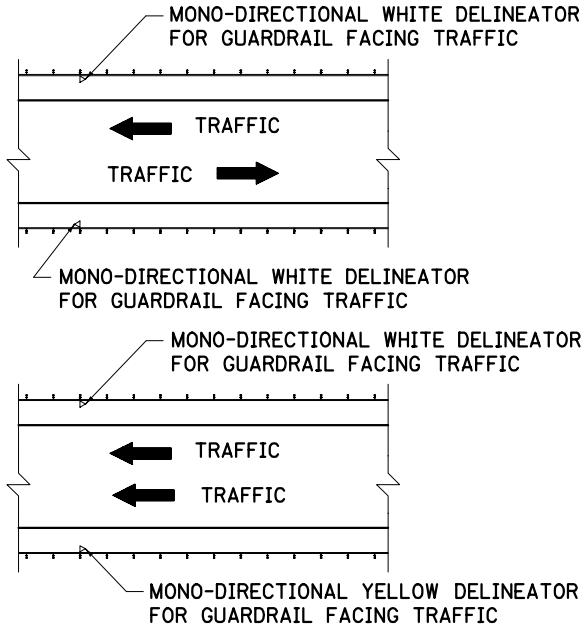
PLAN VIEW



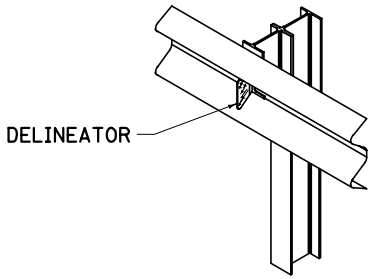
FRONT VIEW



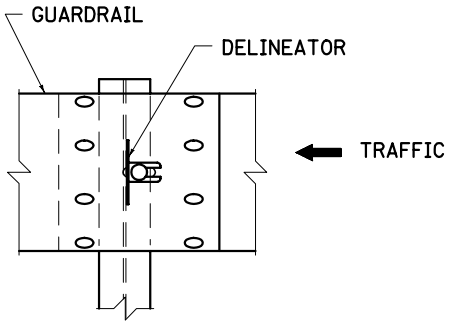
SIDE VIEW



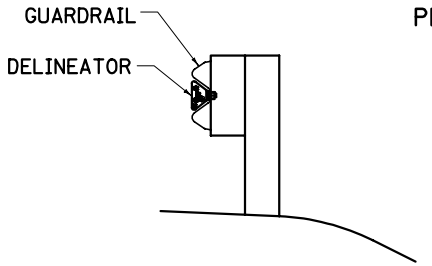
PLACEMENT OF DELINEATORS FOR GUARDRAIL



ISOMETRIC VIEW



FRONT VIEW



SIDE VIEW

DELINEATOR SPACINGS ON HORIZONTAL CURVES	
DEGREE OF CURVE	SPACING ON CURVES
≤ 2°	100'
> 2° ≤ 4°	75'
> 4°	50'

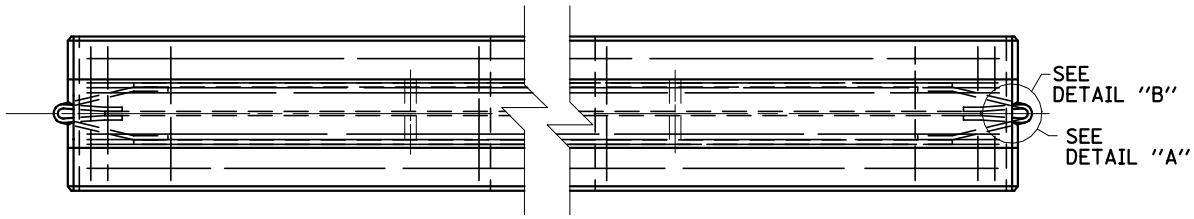
SPACING ON TANGENTS = 100' INTERVALS

KENTUCKY
DEPARTMENT OF HIGHWAYS

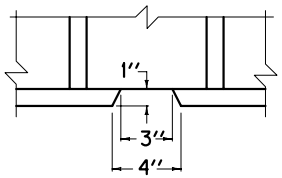
DELINEATORS
FOR GUARDRAIL

SUBMITTED William S. Haddock 12-1-99
ASST. DIRECTOR DIVISION OF DESIGN DATE

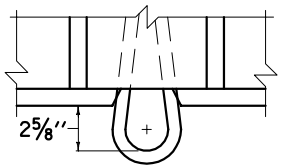
002



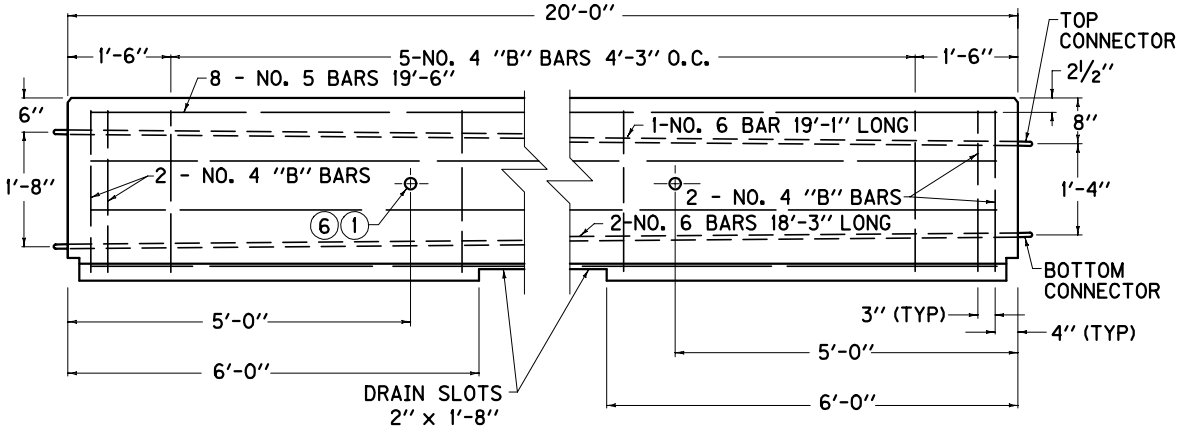
PLAN VIEW



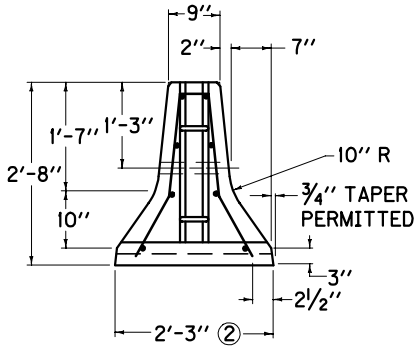
DETAIL "A"



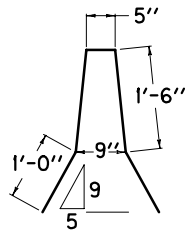
DETAIL "B"



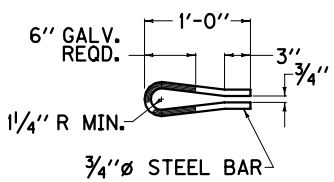
ELEVATION VIEW



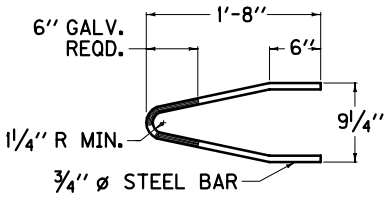
RIGHT ELEVATION VIEW



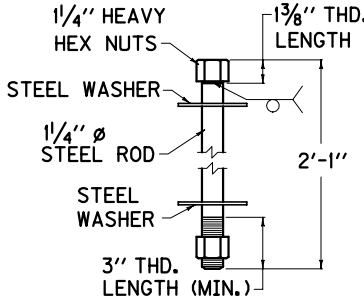
DETAIL OF "B" BAR



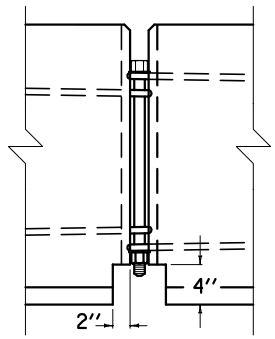
TOP CONNECTOR
(HOT DIP GALVANIZE AFTER FORMING)



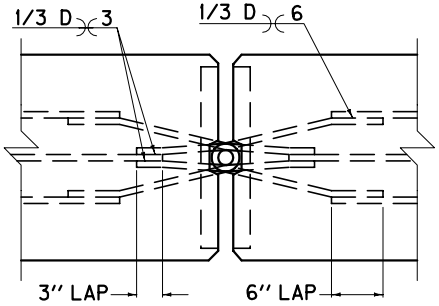
BOTTOM CONNECTOR
(HOT DIP GALVANIZE AFTER FORMING)



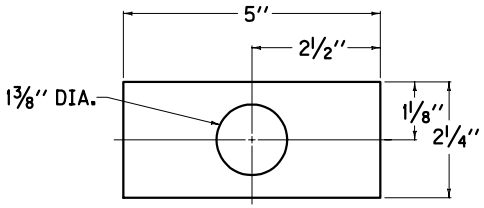
CONNECTOR PIN



ELEVATION OF CONNECTON DETAIL



PLAN OF CONNECTION DETAIL



½" THICK STEEL WASHER

~ NOTES ~

BID ITEM AND UNIT TO BID:
CONC. BARRIER WALL TYPE 9T - LIN. FT.

① 2" DIA. LIFTING HOLE - 2 REQUIRED EACH SECTION. FORMED WITH 2" P.V.C. PIPE OR EQUAL.

② TAPER NOT INCLUDED IN BASE WIDTH.

3. SHOP DRAWINGS SHALL BE APPROVED PRIOR TO MANUFACTURE.

④ BASED ON 150 LBS./CU. FT.

5. PLACE ALL STEEL REINFORCEMENT A CLEAR DISTANCE OF 2" MIN. FROM OUTSIDE FACE OF WALL, EXCEPT WHERE SHOWN OTHERWISE.

⑥ LIFTING BARS SHALL BE REQUIRED TO PREVENT SPALLING OF CONCRETE AROUND HOLES.

7. PREVIOUS WALL MANUFACTURED ACCORDING TO STANDARD DRAWING RBM-115-07 MAY STILL BE USED. ANY NEW BARRIER WALL TYPE 9T MANUFACTURED SHALL COMPLY TO THIS STANDARD DRAWING.

8. A PERMISSABLE ALTERNATE FOR THE PIN AND LOOP CONNECTOR IS JJ HOOK MANUFACTURED BY EASI-SET INDUSTRIES OUT OF MIDLAND, VA. SEE MANUFACTURER'S SHOP DRAWINGS FOR DETAILS ON JJ HOOK CONNECTOR AND RECOMMENDED REINFORCEMENT. THE BARRIER WALL'S SHAPE, LENGTH, DRAIN SLOT DIMENSIONS AND LOCATIONS SHALL MATCH THIS DRAWINGS CURRENT DIMENSIONS. ①⑥

APPROXIMATE QUANTITIES

20'		
REINF.	CONC.	WEIGHT ④
LBS.	CU. YD./FT.	TONS
195	0.12	5.0

FOR TEMPORARY USE ONLY

KENTUCKY
DEPARTMENT OF HIGHWAYS

CONCRETE BARRIER WALL TYPE 9T (TEMPORARY)

APPROVED _____ DIVISION OF DESIGN 04-15-08 DATE

004

PIPE DIA. (IN)	PIPE TYPE	CIRCULAR PIPE COVER HEIGHTS IN FEET					
		2-5	5-10	10-15	15-20	20-25	25-30
12 & 15	2⅔"x½" CSPHS (1)	16 GA.					
	2⅔"x½" CSPLS (1)	16 GA.					
	2⅔"x½" CAPHS	16 GA.					
	PVC	SMOOTH WALL (SOLID WALL)					
	HDPE					FF	
	RCP (11)						
18	2⅔"x½" CSPHS (1)	16 GA.					
	2⅔"x½" CSPLS (1)	16 GA.					
	2⅔"x½" CAPHS	16 GA.					
	SRS (1)	16 GA.					
	SRA	16 GA.					
	PVC	RIBBED (PROFILE WALL)					
	HDPE					FF	
	RCP (11)						
		2-5	5-10	10-15	15-20	20-25	25-30

PIPE DIA. (IN)	PIPE TYPE	CIRCULAR PIPE COVER HEIGHTS IN FEET											
		2-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65
21	2⅔"x½" CSPHS (1)	16 GA.												
	2⅔"x½" CSPLS (1)	16 GA.					10 GA.							
	2⅔"x½" CAPHS	16 GA.												
	SRS (1)	16 GA.												
	SRA	16 GA.				14 GA.								
	PVC	RIBBED (PROFILE WALL)												
	HDPE					FF								
	RCP (11)													
24 (6)	2⅔"x½" CSPHS (1)	16 GA.											14 GA.	
	2⅔"x½" CSPLS (1)	16 GA.					10 GA.							
	2⅔"x½" CAPHS	16 GA.							14 GA.				12 GA.	
	SRS (1)	16 GA.						14 GA.					12 GA.	
	SRA	16 GA.			14 GA.			12 GA.			10 GA.			
	PVC	RIBBED (PROFILE WALL)												
	HDPE					FF								
	RCP (11)													
		2-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65

NOTES

(1) GAGES FOR CORRUGATED STEEL PIPE ITEMS SHOWN ARE BASED ON ALUMINUM-COATED TYPE 2 STEEL AS PER AASHTO M-274. ALUMINUM COATED TYPE 2 STEEL IS ONLY PERMITTED IN Ph RANGES OF 5 TO 9

2. WHEN CORRUGATED STEEL PIPE IS ZINC COATED (GALVANIZED) THE GAGE SHALL BE ONE GAGE HEAVIER THAN SHOWN IN THE TABLES.
3. CSP, CAP, SRS AND SRA ARE SHOWN IN GAGE.
4. MAXIMUM COVER HEIGHT MEASURED FROM TOP OF PIPE TO SUBGRADE ELEVATION SHALL GOVERN GAGE OF PIPE TO BE USED FOR ENTIRE LENGTH OF PIPE INSTALLATION.
5. MINIMUM COVER HEIGHTS FOR PIPE SHALL BE 2 FEET. GAGE OF PIPE FOR COVER HEIGHTS LESS THAN 2 FEET SHALL BE THAT SHOWN FOR COVER HEIGHTS OF 30 FEET (SEE STD. SPECIFICATIONS FOR BACKFILL). HDPE AND PVC SHALL NOT BE PERMITTED FOR COVER HEIGHTS LESS THAN 2 FEET.

(6) 24" DIA. PIPE IS MINIMUM SIZE FOR COVER HEIGHTS FROM 30 FEET TO 65 FEET.

7. MINIMUM COVER HEIGHT FOR ENTRANCE PIPE SHALL BE 0.5 FEET.
8. GAGE OF ENTRANCE PIPE FOR COVER HEIGHTS LESS THAN 2 FEET SHALL MEET THE FOLLOWING REQUIREMENTS:
   a. GAGE OF CSP SHALL BE THAT SHOWN FOR HEIGHTS OF 30 FEET.
   b. GAGE OF CAP SHALL BE ONE GAGE HEAVIER THAN SHOWN IN THE TABLE.
9. ALL CIRCULAR STRUCTURAL PLATE SHALL BE 5% VERTICALLY ELONGATED.
10. SEE CURRENT STANDARD DRAWING RDI-035 FOR COATINGS, LININGS AND PAVINGS FOR NON-STRUCTURAL PIPE.

(11) SEE DETAIL SHEET "PIPE BEDDING FOR CULVERTS, ENTRANCE, AND STORM SEWER REINFORCED CONC. PIPE" AND DETAIL SHEET "PIPE BEDDING TRENCH CONDITION REINFORCED CONC. PIPE" FOR RCP COVER HEIGHT AND BEDDING REQUIREMENTS.

LEGEND

CSPHS: CORRUGATED STEEL PIPE WITH HELICAL LOCK SEAM OR HELICAL WELDED SEAM (HELICAL CORR.)
CSPLS: CORRUGATED STEEL PIPE WITH LONGITUDINAL RIVETED OR SPOT WELDED SEAM (ANNULAR CORR.)
CAPHS: CORRUGATED ALUMINUM ALLOY PIPE WITH HELICAL LOCK SEAM (HELICAL CORR.)
HDPE: HIGH DENSITY POLYETHYLENE PIPE
PVC: POLYVINYL CHLORIDE
SRS: SPIRAL RIB STEEL
SRA: SPIRAL RIB ALUMINUM
RCP: CIRCULAR REINFORCED CONCRETE PIPE
FF: FLOWABLE FILL REQUIRED

12" PIPE - 24" PIPE

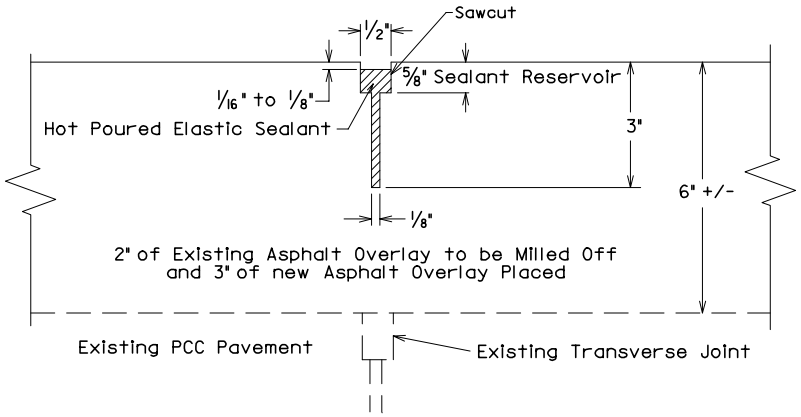
KENTUCKY
DEPARTMENT OF HIGHWAYS

CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS

APPROVED _____ DIVISION OF DESIGN 04-25-08 DATE

009

SAW AND SEAL TRANSVERSE JOINTS IN ASPHALT OVERLAY



Prior to milling the existing asphalt overlay, mark all existing transverse saw and seal joints in the existing asphalt pavement so they can be referenced after placement of the new asphalt overlay.

After the new asphalt overlay has been placed and within seven days after initial cooling saw the joint, clean it of debris or mud, and seal it. Saw the joint in the asphalt directly above the referenced existing saw and seal joint. Saw the joint the full width of the lanes and shoulders. Do not route the joint. Saw either wet or dry, however, clean the cut joint thoroughly of debris or mud and allow it to dry prior to applying the sealing material. Clean the dry sawed joints with compressed air. Clean the wet sawed joints with a water jet and blow with compressed air to provide a clean, dry surface prior to sealing. If a dry clean joint (free of debris or mud) cannot be obtained by the above methods, the Engineer may require sand blasting followed by cleaning with blown compressed air at the contractor's expense. Seal the joint before traffic can knead or damage the joint. Do not install sealant if the ambient temperature is less than 40° F. Do not allow traffic to cross the joints until they are "tack free".

The Department will make payment for this work as Item No. 23845EC "SAW & SEAL ASPHALT JOINT". Estimated quantities are based on the "Saw and Seal Asphalt Joint Summary" included in the proposal which are based on a field survey of the existing saw and seal joints. See summary for locations of joints. The Engineer may require additional joints if existing traverse cracks are visible at other locations after milling the pavement. Use hot poured asphalt elastic sealant for sealing the "Saw and Seal Joints" per subsections 501.03.18 and 807.03.01 of the current KYTC Standard Specifications.

SPECIAL NOTES APPLICABLE TO PROJECT

KENTON AND CAMPBELL COUNTIES
6-2025.00 & 6-2027.00

- FIXED COMPLETION DATE AND LIQUIDATED DAMAGES
- PROJECT COORDINATION WITH I-75 CONSTRUCTION
- JPC PAVEMENT DIAMOND GRINDING REHABILITATION
- TYPICAL SECTION DIMENSIONS
- REFERENCES TO SPECIAL PROVISION 76
- FULL DEPTH CONCRETE PAVEMENT REPAIR
- REMOVING EXISTING PAVEMENT MARKERS
- HIGH FRICTION SURFACE TREATMENT
- UTILITY CONSTRUCTION IMPACT ON CONSTRUCTION
- SHOULDER PREPARATION AND RESTORATION
- PORTABLE CHANGEABLE MESSAGE SIGNS
- ROADBED STABILIZATION AT BRIDGE ENDS
- ADR TRAFFIC STATIONS NOTES AND DETAILS
- SUBGRADE STABILIZATION

  RIDE QUALITY ADJUSTMENT FOR DIAMOND GRINDING

SEE BRIDGE PLANS FOR SPECIAL NOTES RELATED TO BRIDGE WORK.

Special Note For Fixed Completion Date and Liquidated Damages Kenton & Campbell Counties Item No. 6-2025.00 & 6-2027.00

Contrary to Section 108.09, Liquidated Damages of $5,000 per calendar day will be assessed for each day work remains uncompleted beyond the Specified Completion Date. This project has a Fixed Completion Date of December 1, 2011.

In addition to the Liquidated Damages specified above, Liquidated Damages in the following amounts will be charged when a lane closure remains in place during a prohibited period outlined in the Traffic Control Plan, excluding delays caused by inclement weather:

Mainline:	$2,500 for the first hour $10,000 for the second hour $20,000 any additional hour
Ramps:	$4,000 for the first hour $8,000 any additional hour

These hourly disincentives will still be in effect after the Fixed Completion Date of December 1, 2011 and will be charged in addition to the $5,000 per calender day if warranted. If work is delayed by inclement weather, the minimum work required to allow removal of the lane closure, as directed by the Engineer, shall be resumed immediately as soon as weather permits or the Department will begin to assess Liquidated Damages as specified herein.

Contrary to Section 108.09 of the Standard Specifications, **the disincentive fee will be charged during those periods when seasonal limitations of the Contract prohibit the Contractor from working on a controlling item or operation. This includes the months from December through March.**

All liquidated damages will be applied cumulatively.

All other applicable portions of Section 108 apply.

Special Note For Project Coordination With I-75 Construction

The KYTC has a project for pavement repair on I-75 from MP 186.95 to MP 191.22 which will run concurrent with this project. To facilitate maintenance of traffic, the Contractor will be required to maintain three through lanes for I-275 mainline during the following periods:

Eastbound I-275 between 6:00 PM Friday and 7:00 AM Monday from the Notice to Proceed date until July 1, 2011

Westbound I-275 between 6:00 PM Friday and 7:00 AM Monday from July 1, 2011 until completion of the project

If work on I-75 proceeds on a schedule to permit lane closures within these times the Engineer will notify the Contractor.

SPECIAL NOTES FOR JPC PAVEMENT
DIAMOND GRINDING REHABILITATION
KENTON AND CAMPBELL COUNTIES
I-275
FD 52 059 0275 080-083
IM 2759(121)
FD 52 019 0275 077-078
IM 2759(117)
Item No. 6-2025.00 & 6-2027.00

THIS PROJECT IS A FULLY CONTROLLED ACCESS HIGHWAY

I. DESCRIPTION

Perform all work in accordance with the Department's 2008 Standard Specifications, Supplemental Specifications, Special Notes, other 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) Place latex concrete overlays on the twin I-275 bridges over KY 17, Banklick Creek and the CSX Railroad; the I-275 Westbound bridge over Horsebranch Road; the twin I-275 bridges over KY 9, and the I-275 Westbound Ramp B bridge to KY 9 over KY 9 and perform all other bridge work, including joint eliminations and replacement of joint seals, detailed in the Proposal.

(3) Mill & Overlay the existing asphalt and construct Saw & Seal Asphalt Joints per the detail shown in the Proposal at the locations listed in the "Saw And Seal Asphalt Joint Summary" for the ramps at the following interchanges:

KY 1303
- Ramp J

KY 16
- Ramp B
- Ramp C
- Ramp D
- Ramp E
- Ramp F

.

(4) Remove the existing concrete pavement and replace with Full Depth JPC Pavement at the locations listed in the Proposal for the ramps at the following interchanges:

US 25
- Ramp C (1&2)
- Ramp E
- Ramp F

KY 1303
- Ramp D
- Ramp G
- Ramp K

KY 17
- Ramp A
- Ramp A-1
- Ramp B
- Ramp C
- Ramp D

KY 16
- Ramp A

KY 9
- Ramp A
- Ramp B
- Ramp C
- Ramp D

(5) Re-saw and seal joints and Diamond Grind JPC Pavement on I-275.
(6) Install Permanent Striping on I-275 and all ramps shown in items 3 and 4..
(7) Remove and replace Guardrail and Guardrail End Treatments as shown in the Proposal and/or as directed by the Engineer.
(8) Mill and place a new asphalt surface course on the east approaches to the twin I-275 bridges over KY 17, Banklick Creek and the CSX Railroad.
(9) Remove and install Type V pavement markers on all ramps shown in items 3 and 4. Pavement markers are not to be removed on I-275, but many missing or damaged markers are to be replaced with new markers.
(10) Install new traffic loops in both directions at approximate milepoint 79.4.
(11) Repair existing DGA shoulders on the mainline and ramps. Estimated quantities have been included in the proposal for bringing the existing DGA shoulder up to grade and sealing and are to be used as directed by the Engineer. The quantity is based on a 4’ wide section, 2 inches deep and parallel to the

edge of pavement in the areas without guardrail and areas where the existing guardrail is to be replaced. All shoulders on ramps receiving full depth replacement are to be brought back to grade and sealed.

(12) 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 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. Joint and Crack Sealing. For joints and cracks, use Hot-Poured Elastic Joint Sealant conforming to section 807.03.01.

C. Dense Graded Aggregate. Crushed Stone Base may not be furnished in lieu of DGA.

D. Jointed Plain Concrete Pavement 13". Use Jointed Plain Concrete Pavement 13" for full depth replacement of concrete pavement in the driving lanes and shoulders. Either central mixing or truck mixing will be allowed.

E. Pavement Markings - 6 inch HD21 Paint. Use HD21 6-inch Paint for permanent striping (12 inch at entrance and exit ramp tapers). See section 842 of the Standard Specifications.

F. Crushed Aggregate Size No. 2. Crushed Aggregate Size No. 2 will be limestone.

III. CONSTRUCTION METHODS

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

B. Site Preparation. Be responsible for all site preparation. Do not disturb existing signs. This item will include, but is not limited to, incidental excavation and backfilling; removal of bituminous pavement; 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. Construction Methods for Full Depth JPC Patching Repairs. Except as specified in these notes, perform full depth concrete pavement removal and replacement in accordance

with the Special Note for Full Depth Concrete Pavement Repair. Approximate removal locations are listed in the Proposal. The Engineer will determine the actual locations at the time of construction, and may add to the listed repairs if deemed necessary. Remove pavement for full depth repairs by a saw cut and lift method without disturbing the underlying base or damaging the adjacent pavement remaining in place. Do not "pre-saw" in advance until ready for slab removal within 48 hours. (The Engineer will not allow the slab to be sawed and then to remain in place for more than 48 hours.) Do not hammer or break pavement by other means to facilitate removal. Do not over-saw into existing JPC Pavement not intended to be removed. The original nominal depth of the mainline JPC pavement is 13 inches. However, the finished grade will be transitioned to match the adjacent pavement to remain in place. Gang drills, capable of drilling a minimum of four holes at a time, are required for dowel, hook bolt, and tie bar placement, unless otherwise approved by the Engineer.

Remove and replace concrete pavement in a continuous operation in accordance with the traffic control plan and these notes. Remove and replace concrete pavement in such a manner that removal and replacement is accomplished on the same day at each location. Once removal has begun, work continuously until the new JPC Pavement is placed and the elimination of the hole is completed. Hand finishing will be allowed, however, use a vibrating or roller screed for initial strike off. The entire concrete repair is to be "straight edged" with a tool no less than 10 feet long to ensure the best possible ride and that the new repair matches well with the existing pavement. A minimum compressive strength of 3000 PSI must be attained, as well as completion of any other related items specified in the Proposal prior to opening a repair site to traffic. Use of a maturity meter to verify that JPC is ready for traffic is permitted and is incidental to the work.

D. Diamond Grinding. Repair the JPC pavement and Diamond Grind the mainline JPC pavement. Stations listed in the diamond grinding summary are approximate only; the Engineer will designate actual locations at the time of construction. Make one or more passes with the grinding equipment as needed to obtain the rideability required by the Special Note for Ride Quality Adjustment for Diamond Grinding which is contrary to Section 503.03.09. Omit grinding on ramps past the point where the ramp pavement diverges from the mainline pavement, bridge decks, and around the two existing KYTC Automatic Traffic Recorder Collection Stations at approximate milepoints 78.05 and 81.4. Also, do not diamond grind thru the ARTIMIS traffic loops at approximate milepoint 79.33. Verify the grinding limits at the Automatic Traffic Recorder Collection Stations with the Engineer before grinding near them. Perform additional grinding as directed by the Engineer to provide smooth transitions between traffic lanes and between ground and unground areas. Grinding of four feet (4') of the shoulders has been included in the Diamond Grinding Summary. Grinding of the shoulders up to a depth of ¾ inch may be required in some areas to provide for positive drainage from the driving lane pavement and to eliminate the elevation difference at the driving lane to shoulder joint. Clean and sweep Diamond Ground areas before opening those areas to traffic. Sweeping associated with Diamond Grinding is incidental to Diamond Grinding. Dispose of all grindings, shavings, and debris off site at locations approved by the Engineer.

E. Joint Sealing. After diamond grinding, saw, clean, and reseal transverse and longitudinal joints including those on the shoulders as designated by the Engineer. Do not widen existing joints more than the absolute minimum required to provide a clean, new face for a reservoir for the new joint seal.

F. Edge Drains. Any edge drains installed will be to drain soft subgrade areas associated with full depth pavement replacement which required subgrade stabilization or at bridge end stabilization areas. Estimated quantities listed are approximate and are only to be installed when approved by the Engineer. Actual quantities will be determined at the time of construction. Any excavation will be incidental to the other items of associated work. Any grading and ditching necessary to provide positive drainage at the headwall outlet will be paid at the unit bid price for "Ditching".

G. 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.

H. Final Dressing and Clean Up. After all work is completed, completely remove all debris from the job site. Perform Class A Final Dressing on all disturbed areas. These items are incidental to other items in the contract.

I. Seeding and Protection. Immediately after final dressing is completed on an area, place erosion control blanket or seeding and protection on the area as directed by the Engineer.

J. Guardrail. Remove and replace guardrail and guardrail end treatments listed in the Guardrail Summary. 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 end treatments.

The Contractor shall deliver existing salvaged guardrail system materials to the Central Sign Shop and Recycle center at 1224 Wilkinson Blvd in Frankfort, KY. Contact Section Supervisor at (502) 564-8187 to schedule the delivery of material. Deliver the material between the hours of 8:00AM and 3:00PM, Monday through Friday. 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. There is a guardrail delivery verification sheet which must be completed.

K. Pavement Striping and Pavement Markers. Permanent striping will be in accordance with Section 112 and section 713, except that:

(1) Striping will be 6" in width (12" in ramp gore areas);
(2) Permanent striping will be in place before a lane is opened to traffic; and

(3) Permanent striping will be 6" HD21 Paint. (12" HD21 Paint in ramp gore areas)

L. 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.

M. Utility Clearance. It is not anticipated that utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities.

IV. METHOD OF MEASUREMENT

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

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

C. Crushed Aggregate Size No. 2. Crushed Aggregate will be used in the event it is necessary to stabilize under any of the full depth slab removal. Payment will be based on the tons used for stabilization and the tons used around the perforated pipe outlet headwalls.

D. Dense Graded Aggregate. DGA will be used in the event it is necessary to stabilize the subgrade under any of the full depth slab removal areas. A 4 inch lift will be placed on the Crushed Aggregate No. 2s. It will also be used to repair the DGA portion of the shoulders.

E. Remove JPC Pavement. See the Special Note for Full Depth Concrete Pavement Repair. Cement concrete pavement removed in full depth pavement repair areas will be measured in square yards, regardless of thickness.

F. JPC Pavement–13". See the Special Note for Full Depth Concrete Pavement Repair. JPC Pavement-13" will be measured by the square yard installed. No additional payment will be made for any additional concrete required due to a depth beyond 13".

G. Saw-Clean-Seal Joints. Longitudinal and transverse joints sawed, cleaned, and sealed will be measured in linear feet.

H. Smooth Dowels, Deformed Tie Bars and Hook Bolts. Smooth dowels, deformed tie bars, hook bolts, and joint sealing at JPC pavement repair areas will not be measured for payment, but will be incidental to JPC Pavement 13".

I. Raised Pavement Markers and Permanent Striping. HD21 permanent paint (6" and 12") is measured per linear foot. Type V Pavement Markers are measured as each installed.

J. Final Dressing and Clean Up. Final Dressing and Clean Up will not be measured for separate payment, but will be incidental to other items of work.

K. Seeding and Protection. Estimated quantities have been included for Erosion Control Blanket and Seeding and Protection to be used as approved or requested by the Engineer on any areas disturbed by this project.

L. Hauling Guardrail. Hauling Guardrail will not be measured and is incidental to removing guardrail.

V. BASIS OF PAYMENT

No direct payment will be made other than for the bid items listed in this note or the Proposal. All other items required to complete the construction will be incidental to the bid items listed. Existing signs damaged by the Contractor will be replaced by the Contractor at his expense.

A. Maintain and Control Traffic. See the 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. Remove JPC Pavement. See the Special Note for Full Depth Concrete Pavement Repair.

E. JPC Pavement–13". See the Special Note for Full Depth Concrete Pavement Repair. No additional payment will be made for any additional concrete required due to a depth beyond 13".

F. Raised Pavement Markers and Permanent Striping. See the Traffic Control Plan.

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS
I-275

The dimensions shown on the typical sections for pavement and shoulder widths are nominal or typical dimensions. The actual dimensions to be constructed or diamond ground 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 REFERENCES TO SPECIAL PROVISION 76

Special Provision 76 has been superseded by the Special Note for Full Depth Concrete Pavement Repair and the Special Note for Partial Depth Concrete Pavement Repair. Apply these notes for any references to Special Provision 76.

SPECIAL NOTE FOR FULL DEPTH CONCRETE PAVEMENT REPAIR

This Special Note applies to full depth repairs of concrete pavement. This note supersedes Special Provision 76 in the 2008 Standard Specifications. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Remove and replace concrete pavement. Comply with the applicable Standard Drawings and the Standard Specifications except as specifically superseded herein.

2.0 MATERIALS AND EQUIPMENT.

2.1 JPC Pavement. Test concrete materials according to section 601.03.03. Conform to 501, 502, and 601 except that the concrete must achieve 3000 psi in accordance with Section 4.4 of this note. The Engineer may allow pavement to be opened to traffic at less than 3,000 psi subject to the deductions described in Section 4.4 of this note.

2.2 Dowel Bars and Sleeves. Conform to 811

2.3 Tie Bars. Conform to Section 811. Use epoxy coated tie bars in longitudinal and transverse joints.

2.4 Joint Sealants. Conform to Subsection 807.03.01 or 807.03.05.

2.5 Grout Adhesives and Epoxy Resin Systems. Conform to Section 826.

2.6 Dense Graded Aggregate (DGA) and Crushed Stone Base (CSB). Conform to Section 805.

2.7 Geotextile Fabric. Conform to Section 843.

2.8 Drills. Drill holes using a gang drill, capable of drilling a minimum of four simultaneously. Misalignment of holes shall not exceed 1/4 inch in the vertical or oblique plane.

2.9 Hammers. Only use chisel point hammers weighing less than 40 pounds to remove deteriorated concrete.

3.0 CONSTRUCTION.

3.1 Removal of Existing Pavement. Remove existing pavement to the extent the Contract specifies or as the Engineer directs. The minimum length of patches measured along centerline is 3 feet on each side of an existing joint.

When working with pavements with non-skewed transverse joints, if it is necessary to remove existing pavement closer than 6 feet to a transverse joint, remove the pavement 3 feet beyond that joint .

When working with pavements with skewed transverse joints, if it is necessary to remove existing pavement closer than 3 feet to a transverse joint, remove the

pavement 3 feet beyond that joint.

Details of configurations of pavement and joints for various situations are depicted in the drawings herein.

When small areas of removal and replacement are performed at bridge ends, maintain or reconstruct existing expansion joints at their existing location. When the Engineer determines extensive full width removal and replacement is required, construct new expansion joints at the locations shown on Standard Drawing No. RPN-010.

In the removal operation, make a full depth saw cut longitudinally along the centerline joint and shoulder joint and transversely along the area marked for removal. To prevent damage to the subbase, do not allow the saw to penetrate more than ½" into the subbase. The Engineer may direct or approve additional cuts within the removal area for ease of removal of the damaged slab and to prevent damage to adjacent pavement to remain in place. Do not overcut beyond the limits of the removal area. Prevent saw slurry from entering existing joints and cracks. To avoid pumping and erosion beneath the slab, do not allow traffic on sawed pavement for more than 48 hours before beginning removal procedures, unless directed by the Engineer.

Lift out the deteriorated concrete vertically with lift pins. If approved by the Engineer, use other methods that do not damage the base, shoulder, or sides of pavement that is to be left in place. If any damage does occur, repair as the Engineer directs and use an acceptable alternative method for the removal process. Do not damage the pavement base during these operations.

3.2 Pavement Replacement. Do not damage the pavement base during these operations.

3.2.1 Preparation of Base. Compact the new and existing aggregate base to the Engineer's satisfaction. The Engineer will accept compaction by either visual inspection or by nuclear gauge. When the Engineer deems it necessary to stabilize the existing base or replace unsuitable materials, excluding bridge ends, use 12 inches of geotextile fabric wrapped No. 2 aggregate topped with 4 inches of DGA or CSB. Use either Type III or Type IV geotextile fabric. Flowable fill and cement stabilization may be used as an alternative to stabilize the existing base or to replace unsuitable materials when a plan for such is presented to and approved by the Engineer. The Engineer may also direct using only DGA or CSB to correct base deficiencies. At bridge ends, treat existing base and subgrade as the Contract specifies. During compaction, wet the base as the Engineer directs. Compact areas not accessible to compaction equipment by hand tamping.

3.2.2 Underdrains. Construct, or repair damage to, pavement edge drains according to Section 704. If underdrains are placed omitting areas to be patched, construct additional lateral drains as necessary to provide outlets for the installed underdrain until performing the pavement replacement and completing the underdrain system. Provide drainage for any undercut or base repair areas.

3.2.3 Pavement Replacement. Using load transfer assemblies for dowel joints drill into the existing slab according to the details shown herein and on the Standard Drawings.

Use plain epoxy coated dowels of the size specified on the standard

drawings based on the pavement thickness for contraction and expansion joints.

Drill holes for dowel bars and tie bars into the face of the existing slab, at a diameter as specified in the following. Drill the dowel bar holes and tie bar holes to a depth equal to 1/2 the length of the bars. Anchor tie bars into the existing pavement using an epoxy resin. Anchor dowel bars into the existing pavement using either an epoxy resin or an adhesive grout. For tie bars and dowel bars where an epoxy resin is to be used drill the holes 1/8 inch larger than the bar diameter. For dowel bars where an adhesive grout product is to be used, drill holes 1/4 inch larger than the bar diameter. Use a clear or opaque grout retention disk in both grout and epoxy applications. Operate the equipment to prevent damage to the pavement being drilled. Obtain the Engineer's approval of the drilling procedure. Install load transfer assemblies according to the Standard Drawings and Standard Specifications.

When indicated herein or in the Standard Drawings, use 1 inch deformed tie bars, 18 inches long on 30-inch centers and starting and ending 20 inches inside the edges of the repair area in the longitudinal joint. Use 1 inch deformed tie bars, or plain epoxy coated dowel bars sized in accordance with the Standard Drawings, 18 inches long beginning 12 inches inside of each edge and on 12-inch centers in transverse construction joints.

Install the dowels and tie bars according to Section 511 unless contradicted here. Ensure the holes are dry and free of dust and debris. Use a nozzle to insert the grout or epoxy starting at the back of the drilled hole to allow for full coating of the dowel or tie bar. After placement, use a bond breaker on the section of the dowel bar that is protruding from the hole.

Mix, place, finish, and cure concrete according to Section 501 with the exception that the Department will allow truck mixing, 2-bag mixers, and hand finishing.

When required, use a form on the side of the slab at longitudinal joints. When the adjacent traffic lane is not closed to traffic or the drop-off is not protected, temporarily fill the space between the form and the adjacent pavement with DGA. After placing the slab, remove the DGA and form. Fill the hole with concrete and thoroughly consolidate by rodding, spading, and sufficient vibration to form a dense homogeneous mass. Use a form on the side of the slab adjacent to shoulders. Excavate and backfill as shown on Section F'-F'.

For patches less than 25 feet in length, use a bond breaker and do not install tie bars at the longitudinal joint. Bond breakers should not exceed 1/8 inch in thickness, e.g. tar paper.

When resurfacing is required, a float finish is satisfactory. Otherwise, broom finish or, when the adjacent surface has a grooved finish, texture the surface according to Subsection 501.03.13 H). Finish the surface, including joints, to meet a surface tolerance of 1/8 inch in 10 feet that will be verified by straightedge. Cure the pavement and apply curing membranes according to 501.03.15.

Keep all pavement surfaces adjacent to this operation reasonably clean of excess grout and other materials at all times. Maintain all original longitudinal joints. Place transverse joints according to the details shown herein and on the Standard Drawings.

3.3 Joint Sealing. Seal all new or partially new joints with silicone rubber sealant or hot-poured elastic joint sealant according to Subsection 501.03.18.

4.0 MEASUREMENT.

4.1 Remove JPC Pavement. The Department will measure the quantity in square yards of surface area. The Department will not measure removal of underlying base material for payment and will consider it incidental to Remove JPC Pavement.

4.2 DGA or CSB. The Department will measure the quantity used to stabilize the existing base or to replace unsuitable material in tons. The Department will not measure removal of existing base material or underlying material for payment and will consider incidental to DGA or CSB. The quantity of DGA used for the drop-off protection shall be incidental to this work and will not be measured for payment.

4.3 JPC Pavement Non-Reinforced. The Department will measure according to 501.04.01. The Department will not measure dowels, tie bars, , or joint sealing for payment and will consider it incidental to Non-Reinforced JPC Pavement.

JPC Pavement will be paid according to section 5.0 below and according to the following payment schedule based on the compressive strength. The cylinders for payment will be tested two hours prior the scheduled opening of traffic.

3000 psi and up	100% payment
2750 to 3000 psi	75% payment and approval from the Engineer to open to traffic*
2500 to 2750 psi	50% payment and approval from the Engineer to open to traffic*
2250 to 2500 psi	25% payment and approval from the Engineer to open to traffic*
Below 2250 psi	10% payment and no potential to open to traffic. Maintain traffic closure until concrete reaches a minimum of 2250 psi.

*If the Engineer approves opening to traffic, the Engineer will evaluate the concrete at 28 days (or sooner) to determine if the removal and replacement of the concrete is necessary due to pavement distress induced by the early opening (i.e. noticeable cracking). If required by the Engineer, remove and replace those slabs showing distress at no cost to the Department.

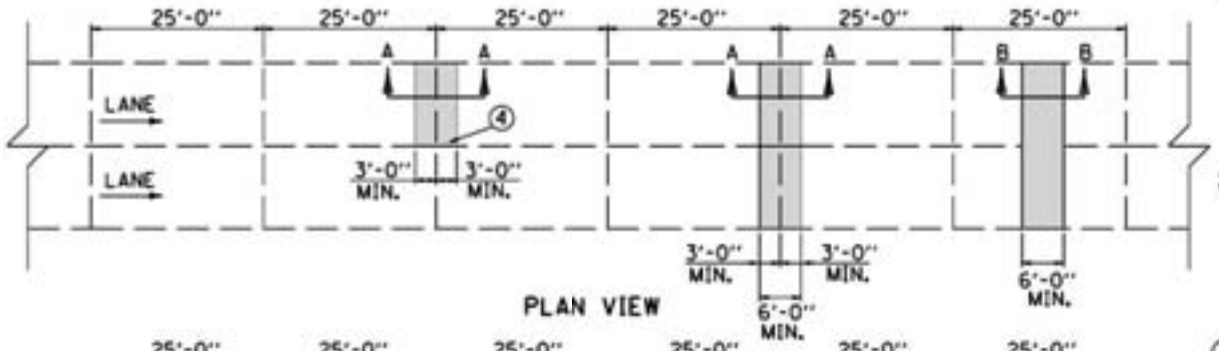
4.5 Underdrains. The Department will measure the quantity according to Subsection 704.04. The Department will not measure lateral drains for payment and will consider them incidental to the Underdrains.

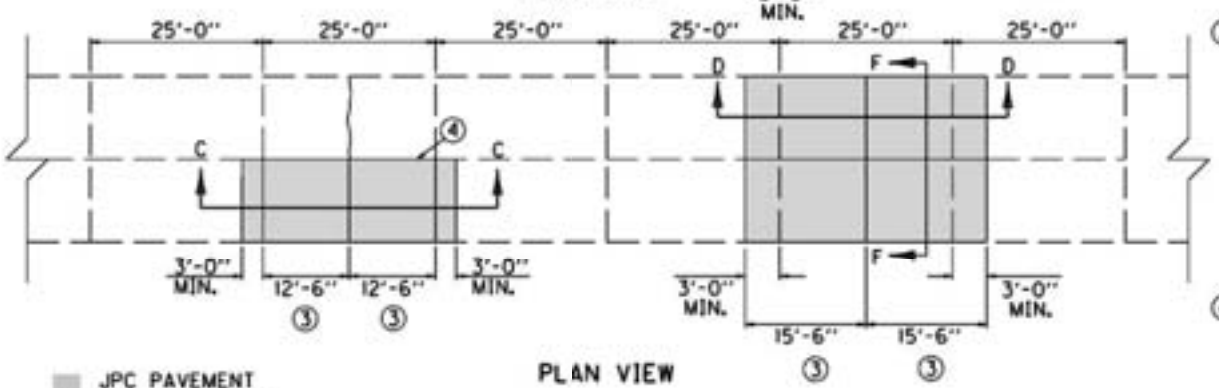
5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
----	Remove JPC Pavement	Square Yard
00001	DGA Base	Ton
00003	Crushed Stone Base	Ton
02069-02071, 02073, 02075, 02084, 02086, 02088	JPC Pavement Non-Reinforced, thickness	See Subsection 501.05
01000	Perforated Pipe, 4-inch	Linear Foot
02598, 02599	Fabric-Geotextile, Type	Square Yard

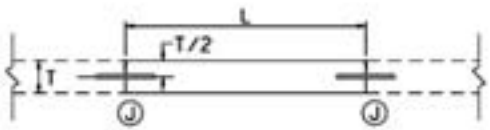
The Department will consider payment as full compensation for all work required in this provision.

September 9, 2010

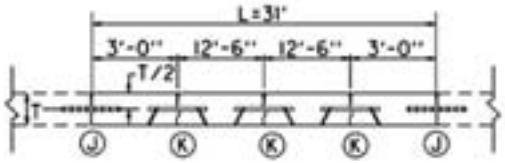




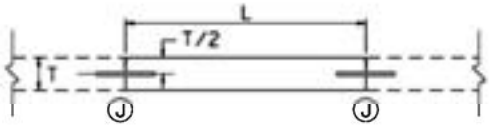
JPC PAVEMENT TO BE REMOVED



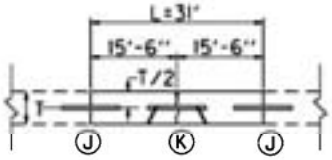
SECTION A
JOINT REPLACEMENT



SECTION C
LANE REPLACEMENT WHERE ADJACENT LANES OR JPC SHOULDERS WILL REMAIN



SECTION B
MID-SLAB REPLACEMENT



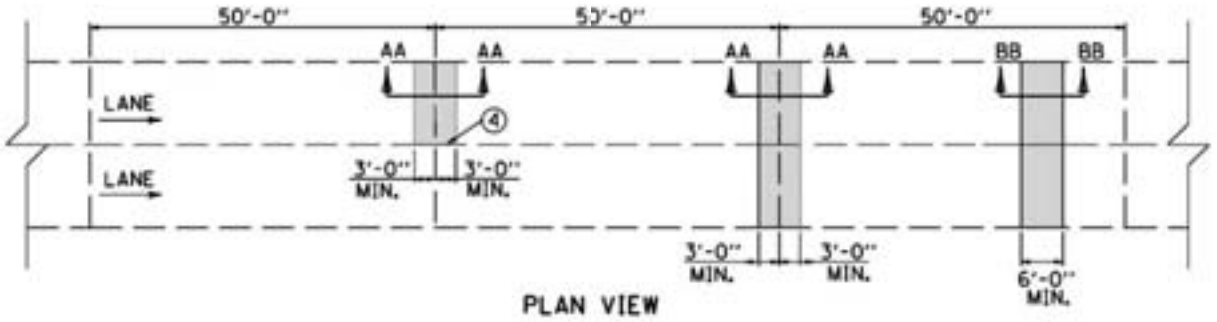
SECTION D
FULL WIDTH REPLACEMENT
(INCLUDING JPC SHOULDERS)

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION C), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION C) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION C) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
4. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L≤25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION C) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

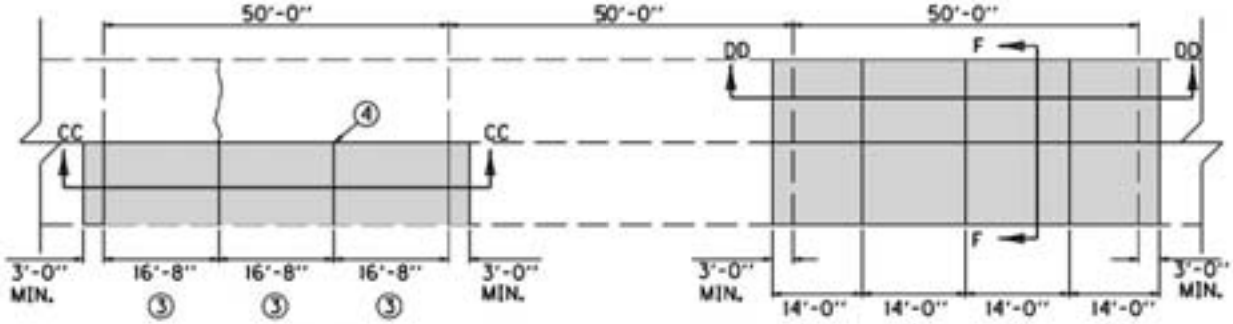
KENTUCKY DEPARTMENT OF HIGHWAYS

25' JOINT SPACING

APPROVED _____ TEBM DIVISION OF DESIGN _____ DATE

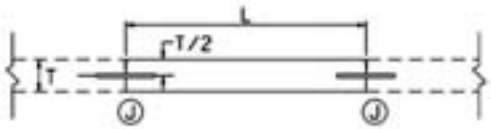


PLAN VIEW

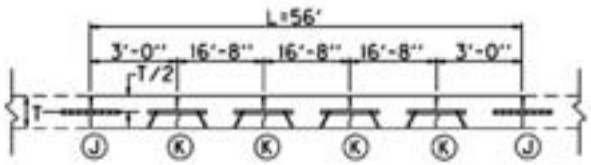


JPC PAVEMENT TO BE REMOVED

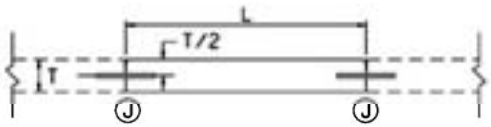
PLAN VIEW



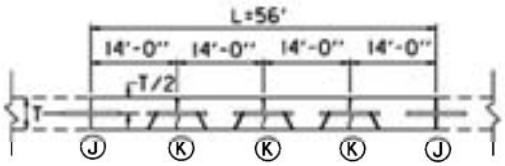
SECTION AA
JOINT REPLACEMENT



SECTION CC
LANE REPLACEMENT WHERE ADJACENT LANES OR JPC SHOULDERS WILL REMAIN



SECTION BB
MID-SLAB REPLACEMENT



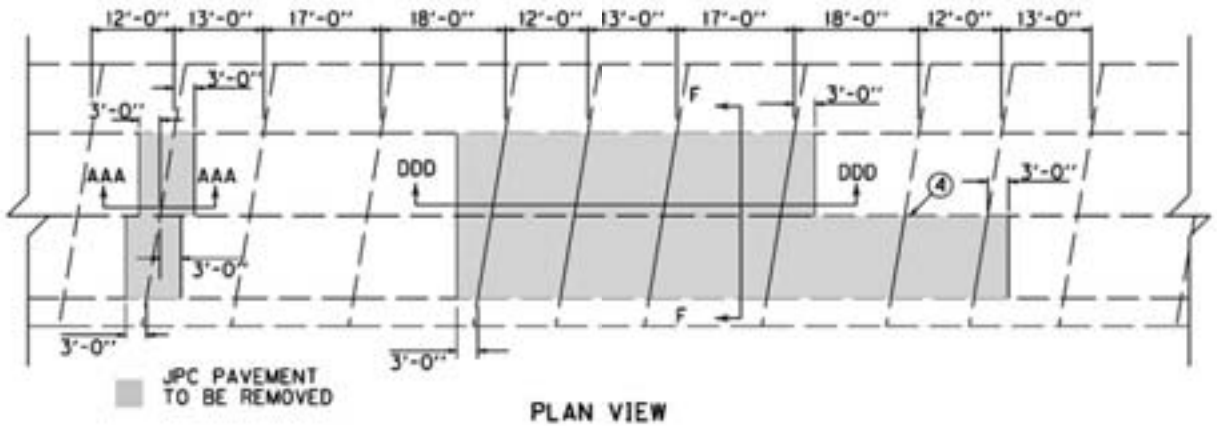
SECTION DD
FULL WIDTH REPLACEMENT
(INCLUDING JPC SHOULDERS)

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION CC), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION CC) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION CC) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
4. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L≤25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION CC) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

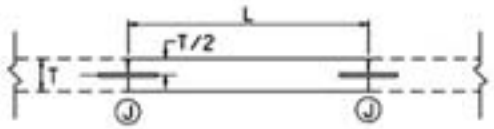
KENTUCKY DEPARTMENT OF HIGHWAYS

50' JOINT SPACING

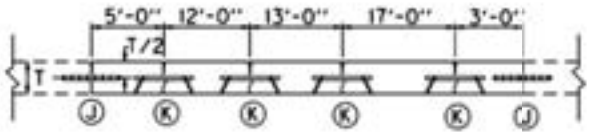
SUBMITTED _____ TEBM DIVISION OF DESIGN _____ DATE



PLAN VIEW



SECTION AAA
JOINT REPLACEMENT



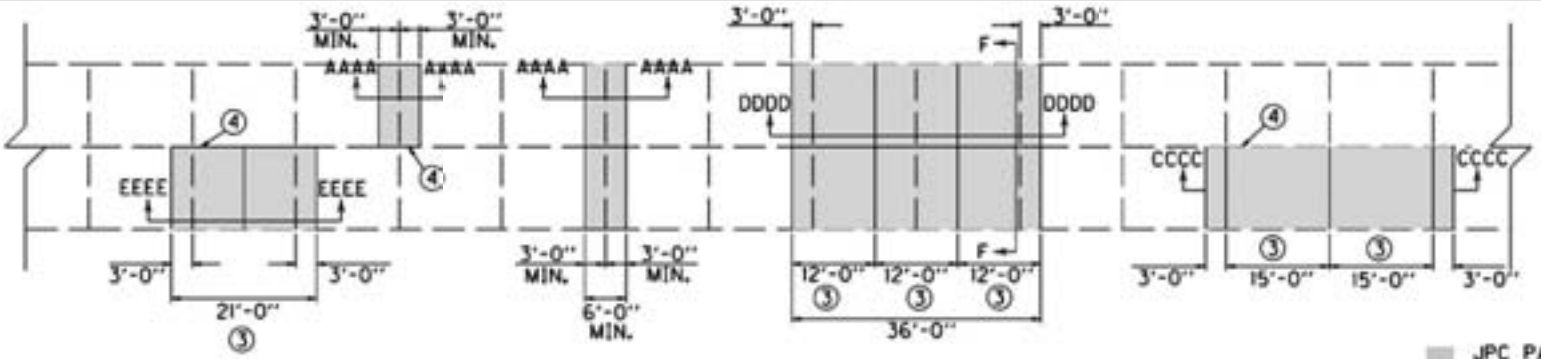
SECTION DDD
LANE REPLACEMENT
(ALWAYS MATCH EXISTING JOINTS)

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION DDD), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION DDD) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION DDD) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND MATCH EXISTING JOINTS. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH EXISTING JOINTS IN ADJACENT SLABS.
4. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L≤25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION DDD) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

KENTUCKY
DEPARTMENT OF HIGHWAYS

RANDOM SKEWED

APPROVED _____ TEBM DIVISION OF DESIGN _____ DATE



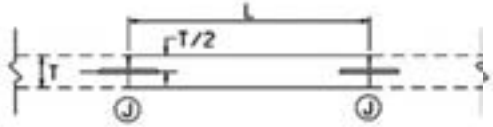
PLAN VIEW

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION CCCC), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION CCCC) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION CCCC) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.

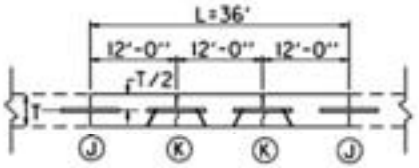
(3) IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.

(4) IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L≤25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.

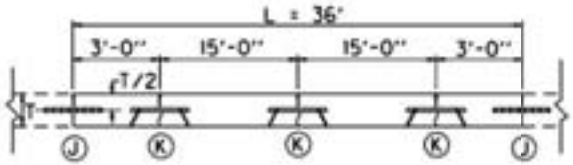
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6. SEE "CROSS SECTION" FOR SECTION F.



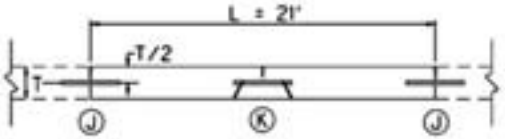
SECTION AAAA
JOINT REPLACEMENT



SECTION DDDD
FULL WIDTH REPLACEMENT
(INCLUDING JPC SHOULDERS)

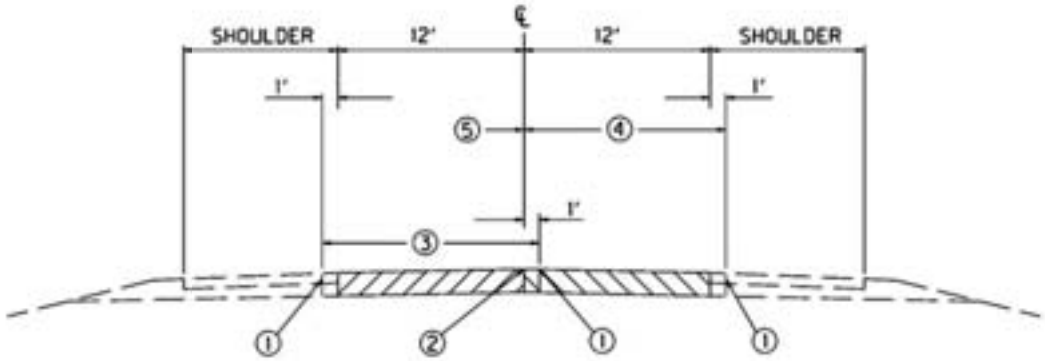


SECTION CCCC
LANE REPLACEMENT WHERE ADJACENT LANES OR JPC SHOULDERS WILL REMAIN



SECTION EEEE
LANE REPLACEMENT L≤25'

KENTUCKY DEPARTMENT OF HIGHWAYS
15' JOINT SPACING
APPROVED _____ TEBM DIVISION OF DESIGN _____ DATE



SECTION F

① SAW-CUT LINE. THIS ONE FOOT IS TO ALLOW FOR A FORM AND THE REMOVAL AND REPLACEMENT SHALL BE INCIDENTAL TO THE WORK, EXCEPT NEW ASPHALT MIXTURE SHALL BE PAID DIRECT ON A TONNAGE BASIS, AND NEW JPC PAVEMENT WILL BE PAID BY THE SQUARE YARD. COMPACT THE DGA BASE BY MECHANICAL TAMPERS TO THE ENGINEER'S SATISFACTION.

② EXISTING LONGITUDINAL JOINT.

③ FIRST SLAB REMOVAL LIMITS AND REPLACE 12-FOOT LANE.

④ SECOND SLAB REMOVAL LIMITS AND REPLACE 12-FOOT LANE.

⑤ THIS ONE FOOT IS TO ALLOW FOR A FORM ON THE FIRST POUR, AND A TEMPORARY PAVEMENT IS REQUIRED. THE DEPARTMENT WILL NOT REQUIRE REMOVAL OF THIS ONE FOOT IF THE GRADE OF THE EXISTING PAVEMENT IS ADEQUATE TO ENSURE THE NEW CONCRETE CAN BE PLACED AND FINISHED TO THE SATISFACTION OF THE ENGINEER. ANY TEMPORARY PAVEMENT IS INCIDENTAL TO JPC PAVEMENT.

6. THE ABOVE DRAWING DEPICTS THE ORDER OF SLAB REMOVAL WHEN BOTH ARE TO BE REMOVED AT THE SAME LOCATION. WHEN ONLY ONE SLAB OR LANE IS TO BE REMOVED, REMOVE AND REPLACE ACCORDING TO SECTION C, CC, OR CCCC. TRAFFIC CONTROL WILL SPECIFY WHICH LANE TO REMOVE FIRST.

KENTUCKY DEPARTMENT OF HIGHWAYS
CROSS SECTION
APPROVED _____ TEBM DIVISION OF DESIGN _____ DATE

SPECIAL NOTE FOR REMOVING EXISTING TYPE V RAISED PAVEMENT MARKERS ON PORTLAND CEMENT PAVEMENT I-275

The existing Type V snow plowable raised pavement markers are not to be removed from the mainline I-275 concrete pavement. However, a quantity of markers has been included for replacing missing or damaged markers on the mainline or those portions of ramps not to be replaced. For the removal of these damaged markers or repair of the holes where markers are missing, a saw cut is to be made around the perimeter of each marker or hole from a missing marker. The saw cut is to be made prior to removal of damaged markers. The hole is to be patched with a material approved by the Engineer.

Removal of Type V pavement markers will be paid at the contract price each, which shall be full compensation for removing the markers, including saw cutting the pavement around them, and disposing of the castings and any debris. Actual quantities removed will be verified by the Engineer. Material to repair the resulting recess and all work associated with installing it will be incidental to the Type V pavement marker removal bid item. The repair of holes resulting from missing markers will also be paid as “Removed Pavement Marker Type V”.

SPECIAL NOTE FOR HIGH FRICTION SURFACE TREATMENT

I. DESCRIPTION

This work shall be performed in accordance with the Department's 2008 Standard Specifications, and applicable Standard Drawings except as hereafter specified. Article references are to the Standard Specifications.

The Contractor shall furnish all materials, labor, and equipment for the following work: (1) Cleaning and preparing the existing pavement as directed by the Engineer; (2) Installing a high friction surface treatment in accordance with the contract documents; and (3) All other work as specified as part of this contract.

Work may be required during night, weekend, and other off peak hours and available work shifts may be less than 8 hours. Notify the Engineer a minimum of 48 hours prior to beginning work and obtain approval of proposed work schedule.

II. MATERIALS

The system shall consist of a two part cold applied modified exothermic epoxy resin binder treatment containing epoxy/amine binder covered with natural or pigmented bauxite aggregates.

The Department will sample and test all materials, and the Contractor shall have the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes. The Department will obtain one sample of each binder component and one sample of aggregate. The Department will obtain a one quart (32 ounce) sample of each binder component for testing, and the Department will obtain one 40 to 50 pound sample of aggregate for testing.

At the option of the Engineer, skid testing shall be conducted within 90 days of the completed project installation. Installed system shall produce a skid resistant reading of 69 SRV (Skid Resistant Value) as tested with a lock wheel testing apparatus. The Surface applications not meeting average minimum skid test results of 69 SRV shall be removed and replaced at no cost to the Department.

At the option of the Engineer, the installed system shall be tested for skid resistance at approximately six month intervals or when the Engineer deems it necessary for a one year period after the installation. If the skid resistance readings are less than 65 SRV, the installation shall be removed and replaced at no cost to the Department.

A. Binder. Ensure that the two-part epoxy material cures exothermically. Ensure that the binder consists of a thermosetting modified epoxy/amine compound that holds the aggregate firmly in position and meets the following requirements:

TWO-PART MODIFIED BINDER REQUIREMENTS		
Property	**Specification Limits**	**Test Method**
Ultimate Tensile Strength	17.0 – 25.0 MPa (19.65 MPa)	ASTM D638
Compressive Strength	5mm min.; > 13 MPa	ASTM D695
Gel Time	50 ml; 10 minutes min. (16 minutes)	ASTM D2471

Elongation at break	30% minimum (54.0%)	ASTM D638
Peak Exothermic Temperature	150°F min.	ASTM D2471
Water Absorption	Less than 0.25%	ASTM D570
Shore Hardness	70 min.	ASTM D2240, Shore D
Cure Rate	3 hours max	ASTM D1640 @ 75°F
Mixing Ratio	Per Manufacturer's Recommendation	n/a

B. Aggregate. Ensure that the aggregate is a bauxite material that is clean, dry and free from foreign matter and meets the following requirements:

AGGREGATE REQUIREMENTS		
Property	**Specification Limits**	**Test Method**
SFC – Side Force Coefficient	0.70 min.	ASTM E670
SRV/SRT – Skid Resistance Value Test	65.0 mm min. (70 mm)	ASTM E303
PSV – Polished Stone Value	75.0 mm max. (70 mm)	ASTM E660
Texture Depth – Sand Patch Method	1 mm min. (1.2 mm)	ASTM E965
AAV – Aggregate Abrasion Value	20 max	AASHTO T96 C
Aggregate Gradation	95.0 – 100.0% Passing No. 6 0.00 – 5.0% Passing No. 16	AASHTO T27

* As an option, and with approval of the Engineer, the current edition of a corresponding AASHTO test may also be used in lieu of any ASTM test.

III. CONSTRUCTION METHODS

Prior to beginning work, provide the Engineer with a certification from the manufacturer of the epoxy resin stating that all material used in the work will meet the requirements of Section II A in this Special Note. Also provide the Engineer with a certified certificate stating that all aggregates used in the work will meet the requirements of Section II B of this Special Note.

A. Traffic Control. Parameters and restrictions established in the Traffic Control notes will govern all aspects of this operation.

B. Preparation and Restoration. Ensure that a manufacturer's representative is on site to provide technical assistance during the start up operations and as necessary during the surface preparation, material placement and during any necessary remedial work.

Clean existing surfaces by use of mechanical sweepers, high pressure air or by other methods approved by the Engineer prior to the installation. Receiving surfaces must be clean, dry and free of all dust, oil, debris and any other material that might interfere with the bond between the epoxy binder material and existing surfaces. Surfaces may need to be washed with a mild detergent, rinsed and dried using a hot compressed air lance. Utilities, drainage structures, curbs and any other structure within or adjacent to the treatment

location shall be protected from the application of the surface treatment materials. Cover and protect all existing pavement markings that are adjacent to the application as directed by the Engineer. Pavement markings that conflict with the surface application shall be removed by grinding and the surface shall be swept clean prior to the epoxy binder application. Temporary painted markings may stay in place.

Pre-treat joints and cracks greater than 1/4 inch in width and depth with the mixed epoxy specified herein. Once the epoxy in the pre-treated areas has gelled, the epoxy binder and aggregate topping installation may proceed. Pre-treatment will not be required for new pavement.

For applications on new asphalt, a mandatory 30 day cure period shall take place prior to the installation of the epoxy binder and high friction bauxite aggregate. On new concrete surfaces, all curing compounds shall be completely removed prior to installation. Shot blasting is the preferred quickest method. The Engineer may determine that existing concrete surfaces require shot blasting.

C. Epoxy Binder and High Friction Aggregate Mechanized Application. Do not apply epoxy binder material on a wet surface, when the ambient air or surface temperature is below 40^{o}F or above 110^{o}F, or when the anticipated weather conditions or pavement surface temperature would prevent the proper application of the surface treatment as determined by the manufacturer.

Protect utilities, drainage structures, striping and pavement markings (as directed), curb and any other structure within and/or adjacent to the treatment location against the application of the surface treatment materials.

Apply the two-part modified epoxy binder by a truck or trailer mounted application machine that must be capable of continually mixing and delivering the binder components on demand within the temperature range specified in varying widths of up to 12 feet wide at a uniform application thickness. Ensure that the mechanically applied distributing equipment includes accurate measuring devices and/or calibrated containers and thermometers for measuring the binder temperature prior to placement should heating be required. Operations will proceed in such a manner that will not allow the epoxy base binder material to separate in the mixing lines, cure, dry, or otherwise impair retention bonding of the high friction surfacing aggregate. The application machine shall be equipped with flushing systems such that blockages of lines will not occur, and installation operations are not delayed, stopped, or otherwise compromised. Ensure that mechanical applications are capable of applying binder uniformly at a minimum rate of 10 gallons per minute. The mixed components are mechanically applied onto a prepared pavement surface with a minimum coverage rate of 3.5 square yards per gallon at a minimum uniform thickness of 50 mils onto the pavement. In addition, ensure that the application machine complies with the requirements of the binder manufacturer.

The bauxite aggregate shall be applied within 5 seconds (+/- 1 sec) of the base resin binder application onto the pavement section. Uniformly spread aggregate immediately without causing excessive overlap of aggregate outside of coverage area. Ensure that the mechanical aggregate spreader is capable of applying a continuous application of varying widths up to 12 foot width, in a manner to not violently disturb the wet epoxy film, at a rate of approximately 13-15 lbs per square yard. Complete coverage of the “wet” epoxy binder with aggregate is necessary to achieve a uniform surface. No exposed wet spots of the epoxy binder shall be visible once the aggregate is installed. The operations should proceed in such a manner that will not allow the mixed epoxy binder material to separate, cure, dry, be exposed or otherwise harden in such a way as to impair retention and bonding of the high friction surfacing aggregate. Do not use vibratory or impact type compaction on the aggregate after placement.

A manufacturer’s representative shall be on site to provide technical assistance during the start up operations.

Allow the treatment to cure in accordance with manufacturer recommendations (approximately 3 hours at an ambient air temperature of at least 40 degrees Fahrenheit); or as specified by the manufacturer. Protect treated surfaces from traffic and environmental effects until the area has cured. Remove the excess aggregate by hand brooms, mechanical sweeping, suction sweeping, or other means approved by the Engineer before opening to traffic. Excess aggregate can be reused on the following day's installation providing the reclaimed aggregate is clean, uncontaminated and dry. The Engineer may require additional sweeping as necessary after the system fully cures. Ensure that the coverage rate of the retained aggregate is 12-14 lbs per square yard.

D. Disposal of Waste. All debris, excess aggregate, materials containers, and other waste shall be disposed of off the Right-of-Way at approved sites obtained by the Contractor at no cost to the Department. No separate payment will be made for the disposal of waste and debris from the project, but shall be incidental to the other items of the work.

E. Restoration. Any roadway features disturbed by the work or the Contractor's operations shall be restored in like kind materials and design as directed by the Engineer at no additional cost to the Department.

IV. METHOD OF MEASUREMENT

A. Traffic Control. Parameters and restrictions established in the Traffic Control notes will govern all aspects of this operation. All necessary traffic control items for High Friction Surface Treatment will be incidental to the bid item Maintain and Control Traffic.

B. Preparation and Restoration. Other than bid items listed. Site Preparation and Restoration will not be measured for payment, but shall be incidental to this work.

C. High Friction Surface Treatment – Mechanized Application. At the option of the Engineer, material not meeting the product specifications may have a price reduction applied, or may be removed and replaced with passing material. No pay incentives are provided for in this work.

The quantity for the pay item High Friction Surface Treatment is the surface area of the road with surface treatment and is measured by the square yard (SY), complete in-place, and accepted. Material placed outside of the designated treatment area is disregarded in computing the quantity.

D. Final Dressing, Clean Up, and Seeding. Final Dressing, Clean Up, and Seeding and Protection will not be measured for separate payment, but will be incidental to other items of work.

V. BASIS OF PAYMENT

A. Traffic Control. Parameters and restrictions established in the Traffic Control notes will govern all aspects of this operation. All necessary traffic control items for High Friction Surface Treatment will be incidental to the bid item Maintain and Control Traffic.

B. Preparation and Restoration. Preparation and Restoration will not be measured for separate payment, but will be incidental to other items of work.

C. High Friction Surface Treatment – Mechanized Application. Payment for the accepted quantity for High Friction Surface Treatment, measured in accordance with Section IV of this Special Note, is paid for at the contract unit bid price for the pay item. Payment for this, item is full compensation for constructing the High Friction Surface Treatment as specified or directed and includes furnishing, hauling, surface preparation, applying, spreading, and sweeping the surface treatment, and all incidentals necessary to fulfill

the requirements of this pay item in accordance with the Plans, Specifications, and all other terms of the Contract.

D. Final Dressing, Clean Up, and Seeding. Final Dressing, Clean Up, and Seeding and Protection will not be measured for separate payment, but will be incidental to other items of work.

KENTON AND CAMPBELL COUNTIES
Pavement Rehab on I-275 from MP 77.023 to MP 82.475
Item No. 6-2025.00 & 6-2027.00

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities. If conflicts do arise, it is the responsibility of the contractor to verify the location of the existing utilities and to arrive at appropriate resolutions with the Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.

The Kentucky Transportation Cabinet makes no guarantees regarding: the existence of utilities, the location of utilities, the utility companies in the project scope, or the potential for conflicts encountered during construction. The location of utilities provided herein has been furnished by the facility owners and/or by reviewing record drawings and may not be accurate. It will be the roadway contractor's responsibility to locate utilities before excavating by calling the various utility owners and by examining any supplemental information supplied by the Cabinet. If necessary, the roadway contractor shall determine the exact location and elevation of utilities by hand digging to expose utilities before excavating in the area of a utility. The cost for repair and any other associated costs for any damage to utilities caused by the roadway contractor's operations shall be borne by the roadway contractor.

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.

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

OVERHEAD UTILITY LINE LOCATIONS & CLEARANCES					
LOCATION			LOW WIRE CLEARANCE	LOW WIRE	ALL WIRES
ROADWAY	STA	OFFSET	(feet)	(Type)	(No.& Type)
KENTON CO					
I-275	886+31	63' Rt	34.5	TELEPHONE	4E, 1CATV & 1T
I-275	886+58	19' Rt	31.2	TELEPHONE	4E, 1CATV & 1T
I-275	886+80	21' Lt	30.5	TELEPHONE	4E, 1CATV & 1T
I-275	887+01	57' Lt	31.0	TELEPHONE	4E, 1CATV & 1T
I-275	950+96	66' Rt	28.6	ELECTRIC	5E
I-275	951+23	30' Rt	35.4	ELECTRIC	5E
I-275	951+67	30' Lt	45.1	ELECTRIC	5E
I-275	952+00	66' Lt	54.8	ELECTRIC	5E
I-275	991+48	77' Lt	36.0	ELECTRIC	4E
I-275	991+63	26' Lt	31.8	ELECTRIC	4E
I-275	991+77	24' Rt	31.2	ELECTRIC	4E
I-275	991+96	83' Rt	34.8	ELECTRIC	4E
I-275	1036+80	81' Lt	61.0	TELEPHONE	5E & 1T
I-275	1036+81	68' Lt	59.7	TELEPHONE	5E & 1T
I-275	1036+82	31' Lt	57.0	TELEPHONE	5E & 1T
I-275	1036+87	28' Rt	56.1	TELEPHONE	5E & 1T
I-275	1036+89	65' Rt	56.8	TELEPHONE	5E & 1T
I-275	1104+37	66' Lt	84.5	ELECTRIC	5E
I-275	1104+37	30' Lt	77.3	ELECTRIC	5E
I-275	1104+38	30' Rt	67.4	ELECTRIC	5E
I-275	1104+39	66' Rt	62.2	ELECTRIC	5E
I-275	1104+96	30' Lt	84.5	ELECTRIC	5E
I-275	1104+97	66' Lt	91.7	ELECTRIC	5E
I-275	1104+99	30' Rt	74.7	ELECTRIC	5E
I-275	1104+99	66' Rt	69.2	ELECTRIC	5E
Ramp F-1 (US 25)	11+44	0'	35.1	ELECTRIC	8E
Ramp F-1 (US 25)	11+40	12' Lt	33.8	ELECTRIC	8E
Ramp F (US 25)	1+16	78.1' Lt	21.9	ELECTRIC	1E
Ramp F (US 25)	1+25	77.1' Lt	22.0	ELECTRIC	1E
Ramp F (US 25)	1+22	9.6' Rt	28.7	ELECTRIC	1E
Ramp F (US 25)	1+32	13.0' Lt	27.7	ELECTRIC	1E
Ramp F (US 25)	1+40	31.5' Lt	28.3	ELECTRIC	1E
Ramp C (KY 16)	11+88	6' Rt	20.0	ELECTRIC	1E
Ramp C (KY 16)	12+51	21' Lt	19.0	ELECTRIC	1E
Ramp E (KY 16)	12+19	16' Lt	59.3	TELEPHONE	5E & 1T
Ramp E (KY 16)	12+23	1' Lt	60.9	TELEPHONE	5E & 1T
Ramp C-1 (US 25)	8+49	0	35.6	TELEPHONE	5E & 1T
Ramp C-1 (US 25)	8+57	15' Lt	34.8	TELEPHONE	5E & 1T

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

OVERHEAD UTILITY LINE LOCATIONS & CLEARANCES					
LOCATION			LOW WIRE CLEARANCE	LOW WIRE	ALL WIRES
ROADWAY	STA	OFFSET	(feet)	(Type)	(No.& Type)
CAMPBELL CO					
I-275	1128+17	94' Rt	63.9	ELECTRIC	4E
I-275	1128+19	79' Rt	62.9	ELECTRIC	4E
I-275	1128+20	66' Rt	62.2	ELECTRIC	4E
I-275	1128+25	30' Rt	61.3	ELECTRIC	4E
I-275	1128+32	30' Lt	59.2	ELECTRIC	4E
I-275	1128+38	75' Lt	60.1	ELECTRIC	4E

SHOULDER PREPARATION AND RESTORATION

Prior to placing any lane closures that require shifting traffic onto existing shoulders, repair the shoulders, including any DGA portion, as directed by the Engineer. Removal of failed materials and additional patching shall be performed by the Contractor as directed by the Engineer during the time the shoulder is used as a travel lane. DGA and asphalt mixture for leveling and wedging will be paid at the Contract unit bid prices; all other shoulder preparation, maintenance, and restoration shall be incidental to other items of work.

1I

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

1I

11) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
12) Provide a photocell control to provide automatic dimming.
13) Allow an on-off flashing sequence at an adjustable rate.
14) Provide a sight to aim the message.
15) Provide a LED display color of approximately 590 nm amber.
16) Provide a controller that is password protected.
17) Provide a security device that prevents unauthorized individuals from accessing the controller.
18) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

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

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

2.3 Requirements for Flip-Disc Type Signs. Flip-disc type signs will have the following additional requirements:

1) Disc faces are fluorescent yellow on one side, and flat black on the reverse.
2) Discs are at least 3.5 square inches with a minimum character size of 5 discs horizontally by 7 discs vertically.
3) Discs are designed to operate without lubrication for at least 200 million operations.
4) Line change speed of 600 milliseconds or less.
5) When power is lost, the sign automatically becomes blank or displays a preprogrammed default message.

2.4 Power.

1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.
2) Diesel Power Source. Ensure the following is provided for:

   a) At least 24 spare bulbs available on the project for quick replacement of burned out bulbs.
   b) Black light at both top and bottom of each line to illuminate discs for visibility at night or under adverse weather conditions, for flip disk signs.

1I

c) Diesel generator and electric start assembly, including batteries and a fuel capacity adequate to provide at least 72 hours continuous operation without refueling.
d) Fuel gage.
e) Provide all other specific features, such as bulb size, protection from sun glare, and shock protection for electronics and bulbs, to the satisfaction of the Engineer.

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

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

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

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

4.0 MEASUREMENT. The final quantity of Variable Message Sign will be the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

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

Code	Pay Item	Pay Unit
02671	Portable Changeable Message Sign	Each

January 5, 2010

2E

SPECIAL NOTE FOR ROADBED STABILIZATION AT BRIDGE ENDS

This Special Note will apply where indicated on the plans or in the proposal. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Due to the wet and yielding embankments commonly encountered at bridge ends, undercut the existing roadbed within the limits the Contract specifies and backfill.

2.0 MATERIALS.

2.1 Geotextile Fabric. Furnish Type III fabric conforming to Section 843.

3.0 CONSTRUCTION. After removing the existing pavement and base, undercut the existing roadbed under the traffic lanes and shoulders as the Engineer directs. The minimum undercut shall be one foot, except undercut depth may be reduced where rock embankment constructed principally of limestone is encountered. Place geotextile fabric in the bottom and against the sides and ends of the undercut. The Department will not require a minimum lap between adjacent sheets of geotextile fabric for the longitudinal joint under the pavement centerline. Backfill the undercut with one or more of the following materials;

1) Crushed limestone size No. 1, 2, 23, or 57; or
2) Layered composition of several limestone sizes, with larger sizes on the bottom.

Use Dense Graded Aggregate (DGA), Crushed Stone Base (CSB), or Stabilized Aggregate Base (SAB) in the top 4 inches, and only in the top 4 inches, of the backfill.

Place geotextile fabric between the coarse backfill material and the 4-inch upper layer.

Compact the backfill material by "walking down" with equipment, or other methods the Engineer approves. See attached drawing for details of backfill placement and drainage.

Waste all removed materials, not used for purposes the Contract or Engineer specifies or permits, off the right-of-way at no expense to the Department.

4.0 MEASUREMENT.

4.1 Removing Pavement. The Department will measure the quantity in square yards. The Department will consider the pavement to include existing pavement, existing asphalt patching, and existing DGA base.

2E

4.2 Roadway Excavation. The Department will measure the quantity in cubic yards.

4.3 Backfilling Undercut. The Department will measure the quantity in cubic yards. The Department will not measure coarse aggregate for payment and will consider it incidental to this item of work.

4.4 Perforated Pipe. The Department will measure the quantity in linear feet.

4.5 Non-Perforated Pipe. The Department will measure the quantity in linear feet.

4.6 Geotextile Fabric, Type III. The Department will measure the quantity in square yards.

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

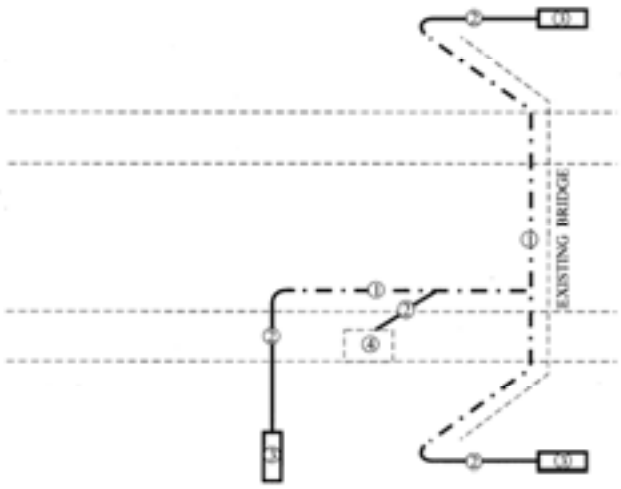
Code	Pay Item	Pay Unit
02091	Removing Pavement	Square Yard
01000	Perforated Pipe - 4 inches	Linear Foot
01010	Non-Perforated Pipe, 4 inches	Linear Foot
02235	Backfilling Undercut	Cubic Yard
02598	Fabric - Geotextile Type III	Square Yard

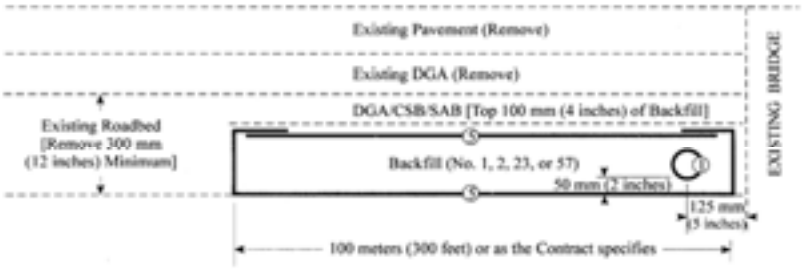
The Department will consider payment as full compensation for all work required in this note.

January 1, 2008

2E

BRIDGE END DRAINAGE AND STABILIZATION
(DETAILS)





NOTES

Contrary to Section 705 of the Standard Specifications, use only coarse aggregate for trench backfill.

Slope all pipe to drain to the outside. Provide a 1:24 (1/2":1') or greater slope for the outlet pipe.

The Department may require additional transverse drains within the stabilization area.

LEGEND

① 100-mm (4-inch) Perforated Pipe
② 100-mm (4-inch) Non-perforated Pipe
③ Perforated Pipe Headwall
④ Existing Box Inlet
⑤ Geotextile Fabric, Type III

GENERAL NOTE
KENTON COUNTY – I-275
ADR TRAFFIC STATION 078 – MP~ 78.0

The Division of Planning needs to re-establish an ADR data collection station within a section of the resurfacing project in Kenton County on I-275. Planning is requesting to have service replaced at a site with an approximate mile-point of 78.0, with the installation of traffic loop sensors and piezoelectric sensors once the new resurfacing project is deemed completed. Exact location will be determined in the field.

Contractor shall install two (2) loop sensors and one (1) piezo in each lane. Four (4) new Type-A junction boxes will be installed and conduit will be run into two (2) 20" x20" cabinets which are to be mounted on two (2) 4" x4" wood posts, each. These will be installed behind the guardrail beyond the shoulder on both sides as depicted in Figure 1.

Therefore, the contractor will install a total of twelve (12) loop sensors and six (6) piezo sensors in the roadway and run their lead-ins splice-free through the junction boxes and into the cabinets as indicated. All loops will run through two inch rigid conduit from edge of pavement to junction box and then through two inch rigid conduit from junction box to cabinet as depicted in Figure 1. Installation shall be coordinated with and approved by appropriate Division of Planning staff. Reference " Special Notes for Installation of Traffic Counting Inductance Loops" for materials, construction and installation details. Also see the Standard Details for Installation of Traffic Counting Inductance Loops and Axle Sensors, Location Drawings, Location Table and Estimate of Quantities, in regard to this specific project.

NOTE:

The Special Notes for Traffic Counting Inductance Loops and Axle Sensors are generic.
Only the sections that pertain to the specified location and the bid items listed in this summary are applicable.

SPECIAL NOTES:

The location listed in the proposal is approximate only. The Engineer, in coordination with the Central Office Division of Planning, will designate the exact location at the time of construction.

Notify the Central Office Division of Planning (502-564-7183, Equipment Management Team) a minimum of 14 days prior to beginning work in order for them to have the option to be present during sensor installation. The Engineer will contact and maintain liaison with the District Planning Engineer and the Central Office Division of Planning in order to coordinate the work.

LOCATION TABLE
KENTON COUNTY – I-275
ADR TRAFFIC STATION 078 – MP~ 78.0

STATION	DESCRIPTION	MP BEGIN	LOCATION	MP END	LANES	PIEZOS	LOOPS	PROJECT MP LIMITS
078	2loop, 1 piezo/lane	77.579	78.0	78.764	6	6	12	77.023 – 79.796

ADR TRAFFIC STATION 078 is located on I-275 at approximately the 78.0 mile-point (MP) with the final location confirmed by appropriate Division of Planning staff. This station has six (6) lanes of traffic, three (3) eastbound lanes (loops#1-6, and piezos#P1-P3), and three (3) westbound lanes (loops#1-6 and piezos# P1-P3). Each lane will have a loop-piezo-loop combination of sensors installed as depicted in Figure 1. The contractor shall install the sensors in each lane and run their lead-ins splice-free through newly installed Type-A junction boxes and into new 20"x20" cabinets as depicted in Figure 1. All new materials shall be utilized in the reconstruction unless otherwise noted.

ESTIMATE OF QUANTITIES

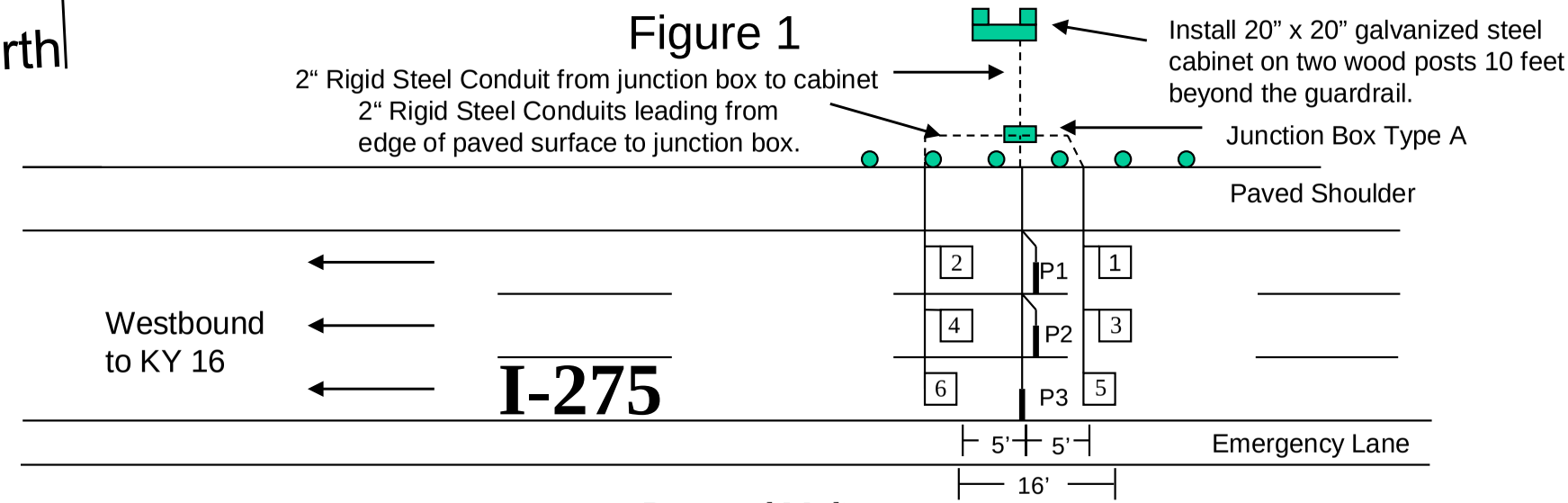
CODE	DESCRIPTION	UNIT	QUANTITY
4795	Conduit 2 inch	LINEAR FEET	120
20391ES835	Junction Box Type A	EACH	2
4820	Trenching and Backfilling	LINEAR FEET	100
4829	Piezoelectric sensor	EACH	6
4830	Loop wire	LINEAR FEET	2856
4895	Loop saw slot and fill	LINEAR FEET	552
20360ES818	Wood Post	EACH	4
20359EC	Galv. Steel Cabinet	EACH	2

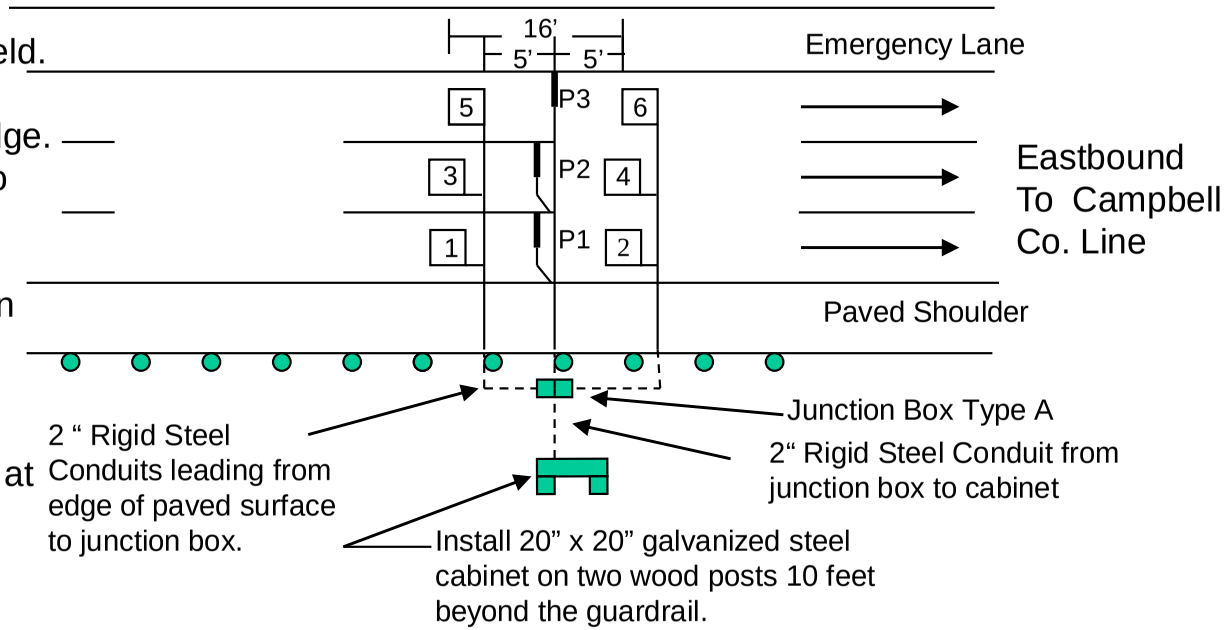
Contractor is responsible for the above materials listing. Specifications on materials and installation instructions for loops are found in the Special Notes for Installation of Traffic Counting Inductance Loops and Axle Sensors.

Site Drawing
Kenton Co., I 275, Station 078, MP~78.0

North

Figure 1





Exact site location will be determined in the field.
All loops are 6’ x 6’ square.
Loops are 16’ from leading edge to leading edge.
Run loop and piezo lead-in wires splice free to junction box on shoulder and to cabinet.
Piezos are centered between loops.
P1 through P3 are all Type-I piezo cables, 6’ in length.
Install two Type A junction boxes.
Locate cabinets 10 feet beyond the guardrail.
In each junction box, label all wires and leave at least 2’ of slack on each lead-in wire in the junction box and cabinet.

8/25/2010

DRAWING NOT TO SCALE

GENERAL NOTE
KENTON COUNTY – I-275
ADR TRAFFIC STATION 081 – MP 79.4

The Division of Planning needs to re-establish an ADR data collection station within a section of the resurfacing project in Kenton County on I-275. Planning is requesting to have service replaced at a site with an approximate mile-point of 79.4, with the installation of traffic loop sensors and piezoelectric sensors once the new resurfacing project is deemed completed. Exact location will be determined in the field.

Contractor shall install two (2) loop sensors and one (1) piezo in each lane. Four (4) new Type-A junction boxes will be installed and conduit will be run into two (2) 20”x20” cabinets which are to be mounted on two (2) 4”x4” wood posts, each. These will be installed behind the guardrail beyond the shoulder on both sides as depicted in Figure 1.

Therefore, the contractor will install a total of twelve (12) loop sensors and six (6) piezo sensors in the roadway and run their lead-ins splice-free through the junction boxes and into the cabinets as indicated. All loops will run through two inch rigid conduit from edge of pavement to junction box and then through two inch rigid conduit from junction box to cabinet as depicted in Figure 1. Installation shall be coordinated with and approved by appropriate Division of Planning staff. Reference “Special Notes for Installation of Traffic Counting Inductance Loops” for materials, construction and installation details. Also see the Standard Details for Installation of Traffic Counting Inductance Loops and Axle Sensors, Location Drawings, Location Table and Estimate of Quantities, in regard to this specific project.

NOTE:

The Special Notes for Traffic Counting Inductance Loops and Axle Sensors are generic.
Only the sections that pertain to the specified location and the bid items listed in this summary are applicable.

SPECIAL NOTES:

The location listed in the proposal is approximate only. The Engineer, in coordination with the Central Office Division of Planning, will designate the exact location at the time of construction.

Notify the Central Office Division of Planning (502-564-7183, Equipment Management Team) a minimum of 14 days prior to beginning work in order for them to have the option to be present during sensor installation. The Engineer will contact and maintain liaison with the District Planning Engineer and the Central Office Division of Planning in order to coordinate the work.

LOCATION TABLE
KENTON COUNTY – I-275
ADR TRAFFIC STATION 081 – MP 79.4

STATION	DESCRIPTION	MP BEGIN	LOCATION	MP END	LANES	PIEZOS	LOOPS	PROJECT MP LIMITS
087	2loop, 1 piezo/lane	78.764	79.4	79.796	6	6	12	

ADR TRAFFIC STATION 081 is located on I-275 at approximately the 79.4 mile-point (MP) with the final location confirmed by appropriate Division of Planning staff. This station has six (6) lanes of traffic, three (3) eastbound lanes (loops#1-6, and piezos#P1-P3), and three (3) westbound lanes (loops#1-6 and piezos# P1-P3). Each lane will have a loop-piezo-loop combination of sensors installed as depicted in Figure 1. The contractor shall install the sensors in each lane and run their lead-ins splice-free through newly installed Type-A junction boxes and into new 20”x20” cabinets as depicted in Figure 1. All new materials shall be utilized in the reconstruction unless otherwise noted.

ESTIMATE OF QUANTITIES

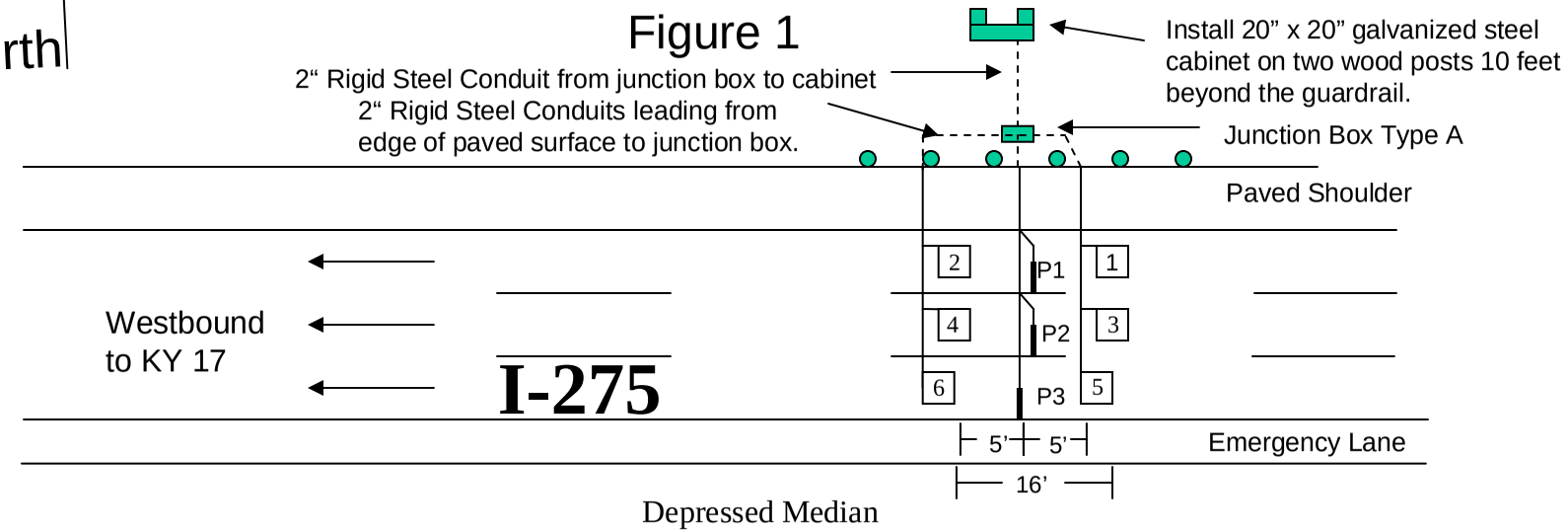
CODE	DESCRIPTION	UNIT	QUANTITY
4795	Conduit 2 inch	LINEAR FEET	120
20391ES835	Junction Box Type A	EACH	2
4820	Trenching and Backfilling	LINEAR FEET	100
4829	Piezoelectric sensor	EACH	6
4830	Loop wire	LINEAR FEET	2856
4895	Loop saw slot and fill	LINEAR FEET	552
20360ES818	Wood Post	EACH	4
20359EC	Galv. Steel Cabinet	EACH	2

Contractor is responsible for the above materials listing. Specifications on materials and installation instructions for loops are found in the Special Notes for Installation of Traffic Counting Inductance Loops and Axle Sensors.

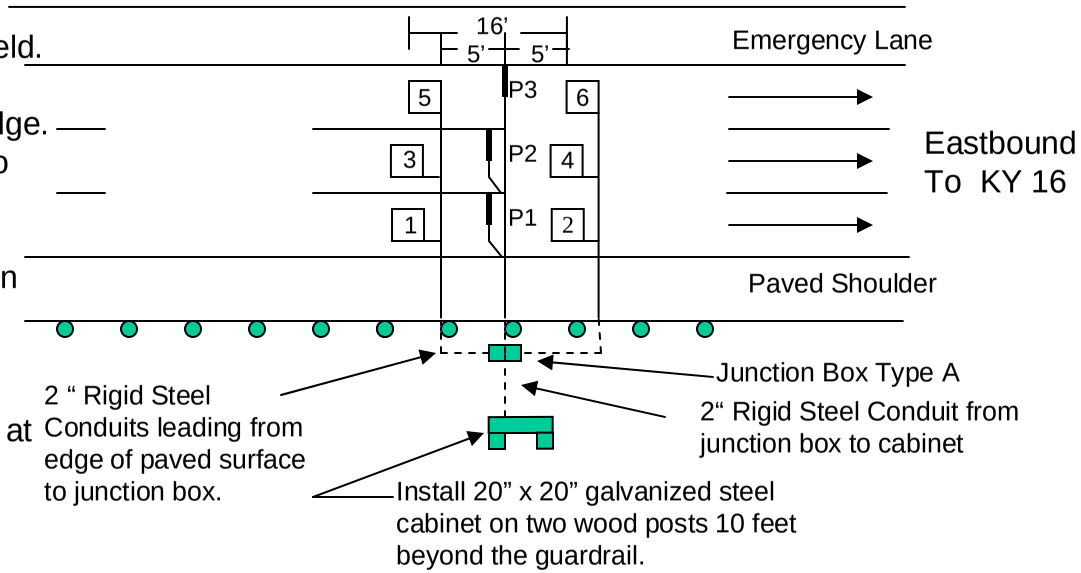
Site Drawing
Kenton Co., I 275, Station 081, MP 79.4

North

Figure 1



Depressed Median



Exact site location will be determined in the field.
All loops are 6’ x 6’ square.
Loops are 16’ from leading edge to leading edge.
Run loop and piezo lead-in wires splice free to junction box on shoulder and to cabinet.
Piezos are centered between loops.
P1 through P3 are all Type-I piezo cables, 6’ in length.
Install two Type A junction boxes.
Locate cabinets 10 feet beyond the guardrail.
In each junction box, label all wires and leave at least 2’ of slack on each lead-in wire in the junction box and cabinet.

03/18/2010

DRAWING NOT TO SCALE

Contract ID: 101050
Page 69 of 616

DIVISION OF PLANNING

STANDARD DETAILS FOR INSTALLATION OF TRAFFIC COUNTING INDUCTANCE LOOPS AND AXLE SENSORS

DRAWINGS ARE NOT TO SCALE

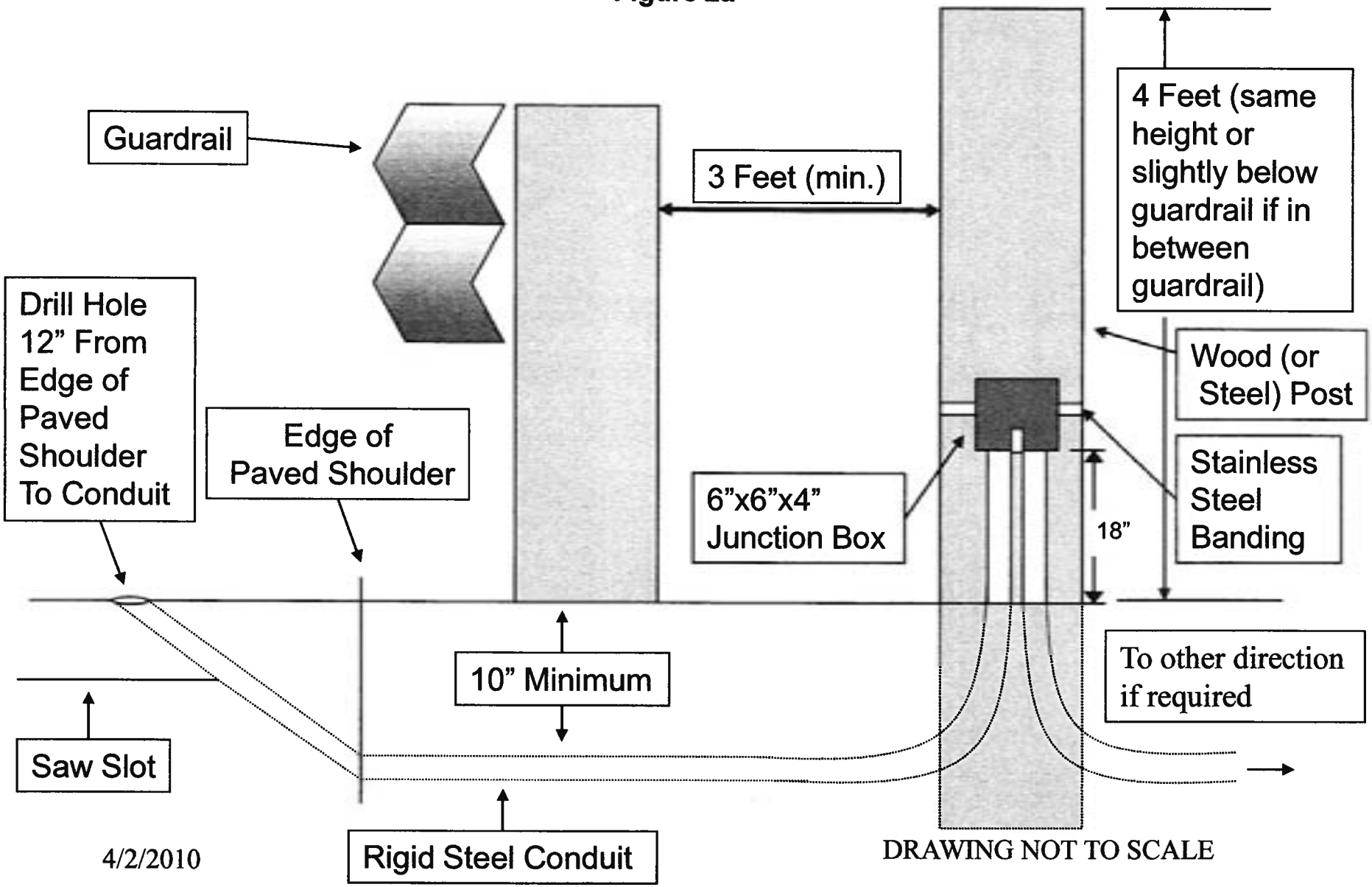
4/2/2010

Rev. 3/10

KENTON - CAMPBELL COUNTIES
121GR10D050-IM

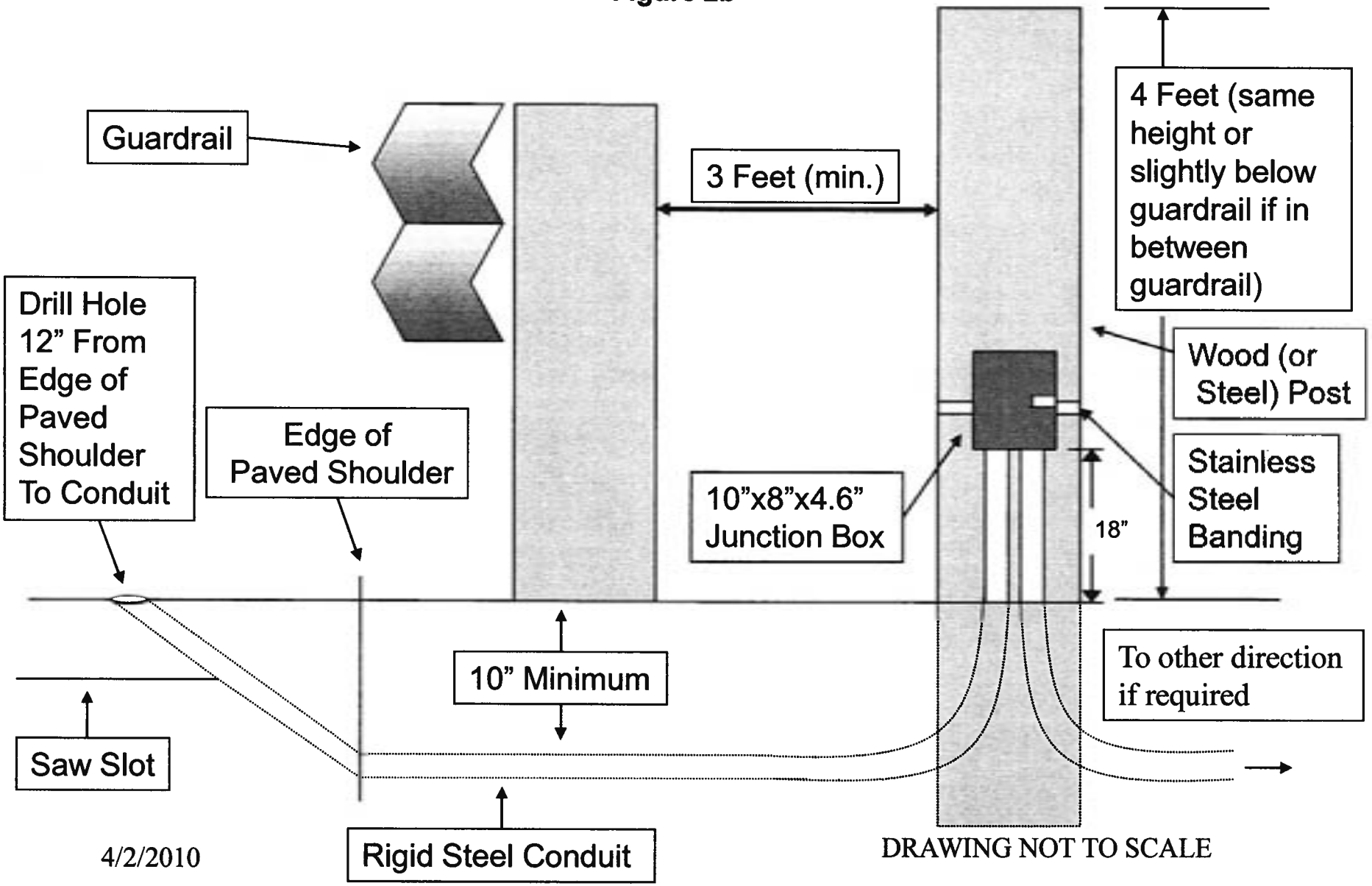
Junction Box Type 6"x 6"x 4" Detail

Figure 2a



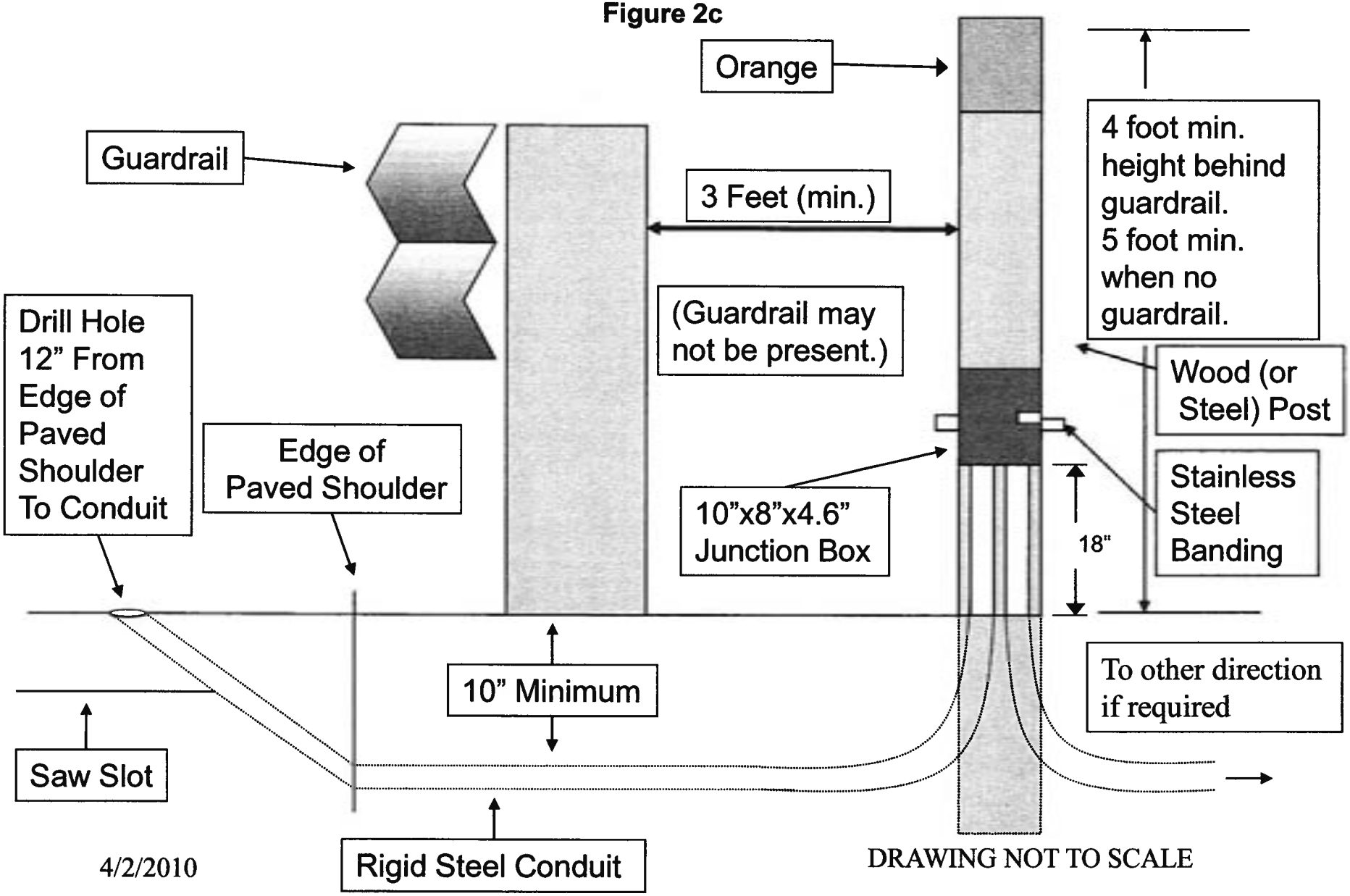
Junction Box Type 10"x 8"x 4" Detail

Figure 2b



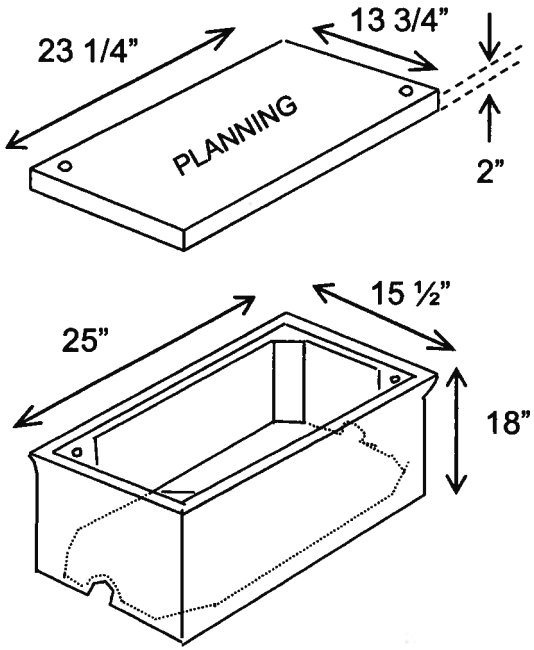
Junction Box Type 10"x 8"x 4" Detail

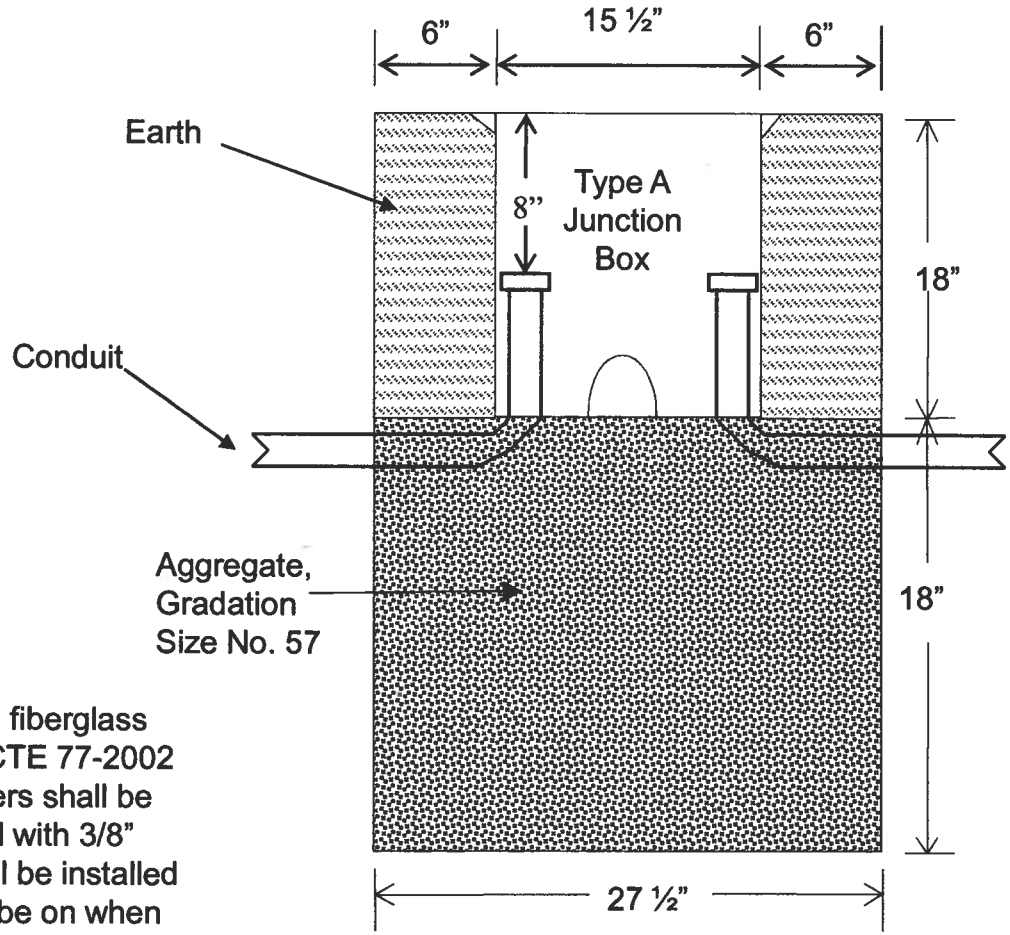
Figure 2c



Junction Box Type A Installation

Figure 3a





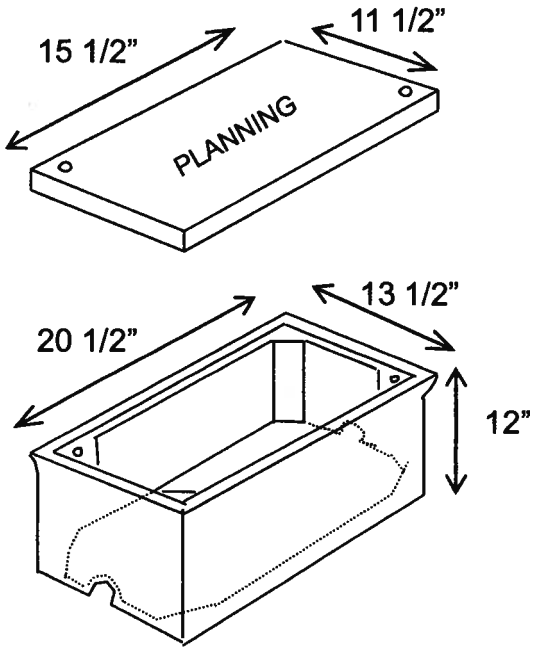
Junction box shall be constructed of a fiberglass reinforced polymer concrete, ANSI/SCTE 77-2002 Tier 15 style or approved equal. Covers shall be marked "PLANNING" and be attached with 3/8" stainless hex bolts. Junction box shall be installed flush with ground line. Covers should be on when filling in around the box.

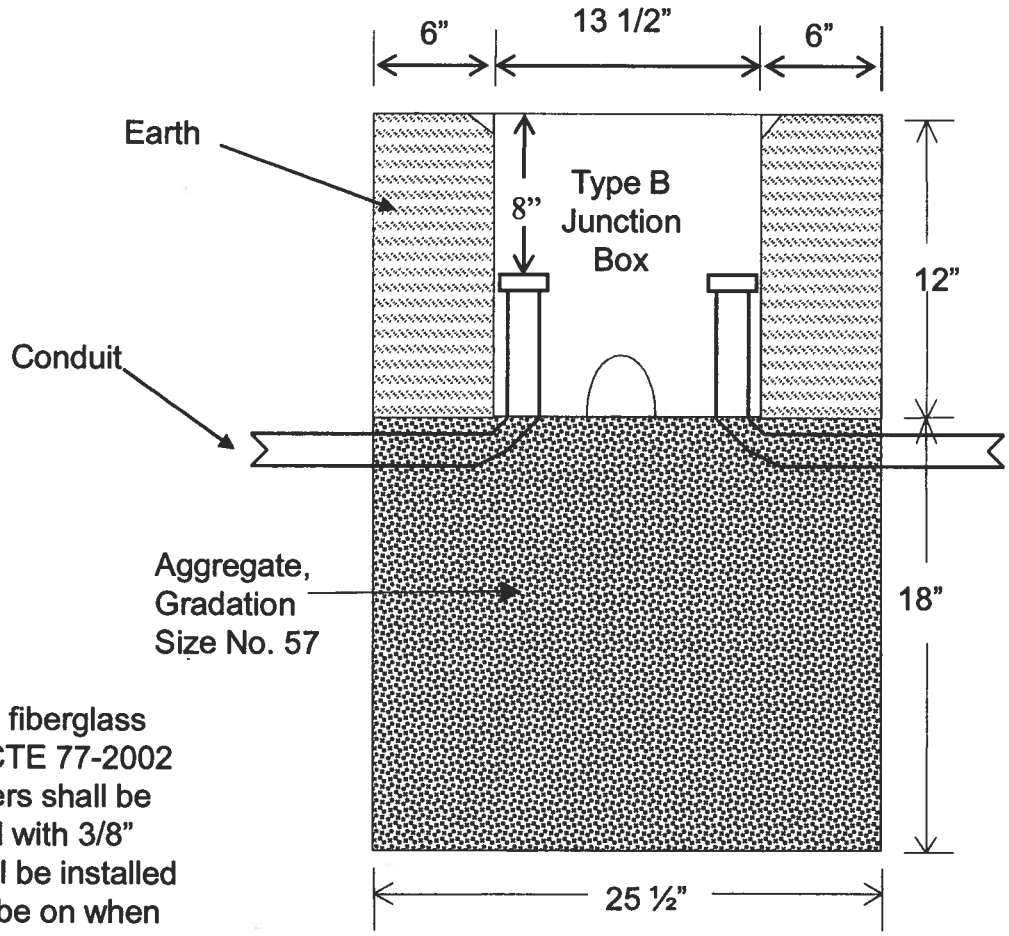
4/2/2010

DRAWING NOT TO SCALE

Junction Box Type B Installation

Figure 3b





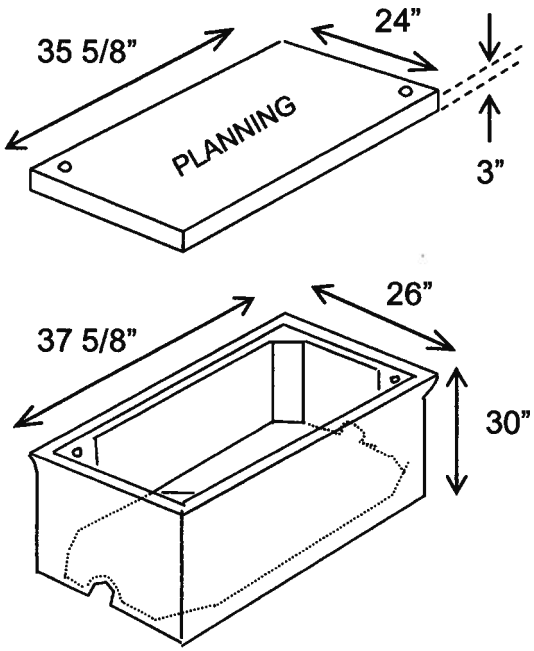
Junction box shall be constructed of a fiberglass reinforced polymer concrete, ANSI/SCTE 77-2002 Tier 15 style or approved equal. Covers shall be marked "PLANNING" and be attached with 3/8" stainless hex bolts. Junction box shall be installed flush with ground line. Covers should be on when filling in around the box.

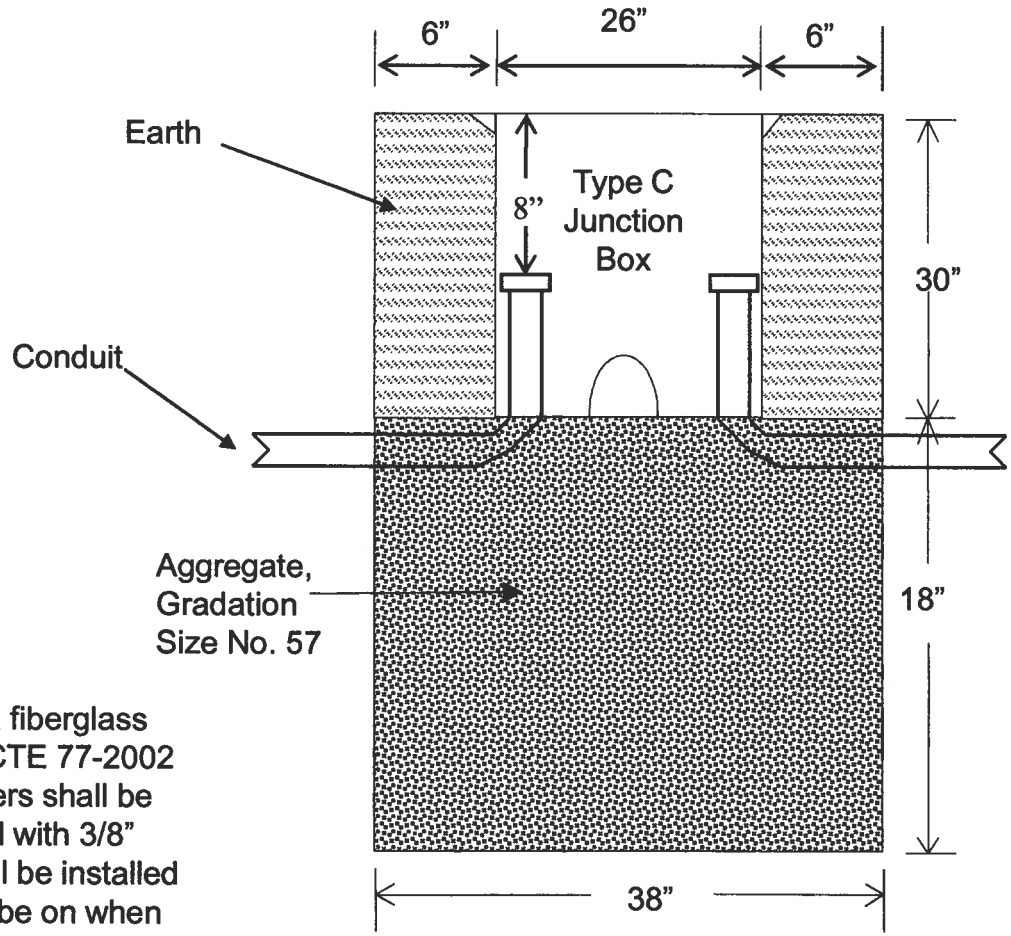
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Junction Box Type C Installation

Figure 3c





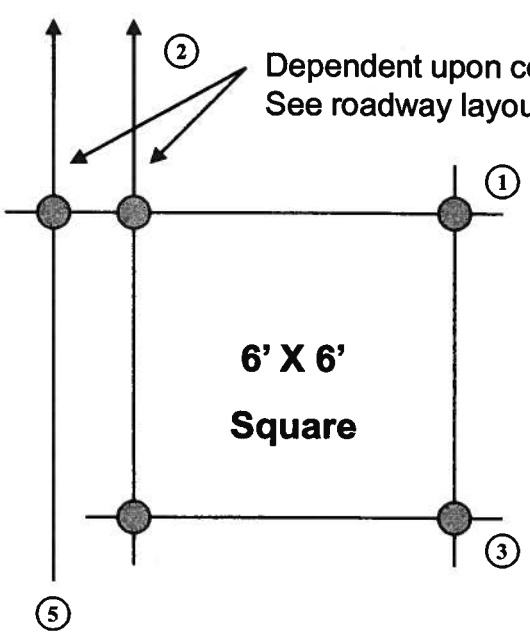
Junction box shall be constructed of a fiberglass reinforced polymer concrete, ANSI/SCTE 77-2002 Tier 15 style or approved equal. Covers shall be marked "PLANNING" and be attached with 3/8" stainless hex bolts. Junction box shall be installed flush with ground line. Covers should be on when filling in around the box.

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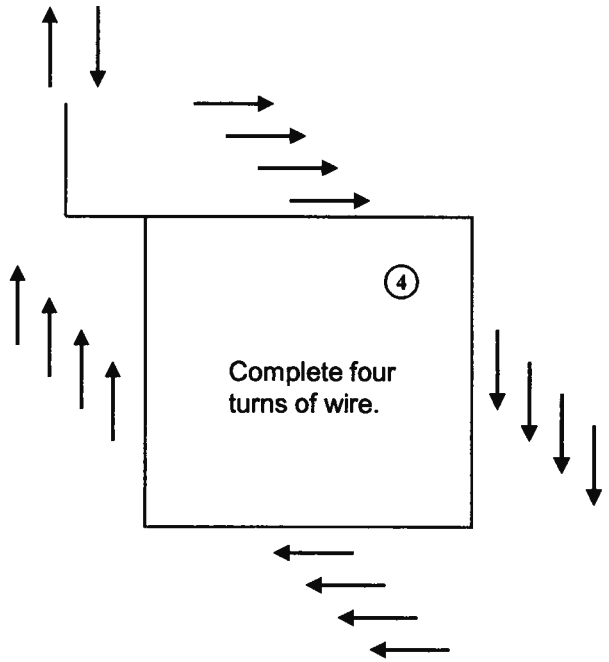
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Loop Installation Instructions

Loop Installation in Existing Roadways
Figure 4



Saw Slot Plan



Loop Wiring Plan

Notes:

① Overlap cuts so that slots are full depth at corners.

② Configuration is dependent upon loop layout.

③ Drill 1.5" hole in each corner to prevent sharp bends in the wire.

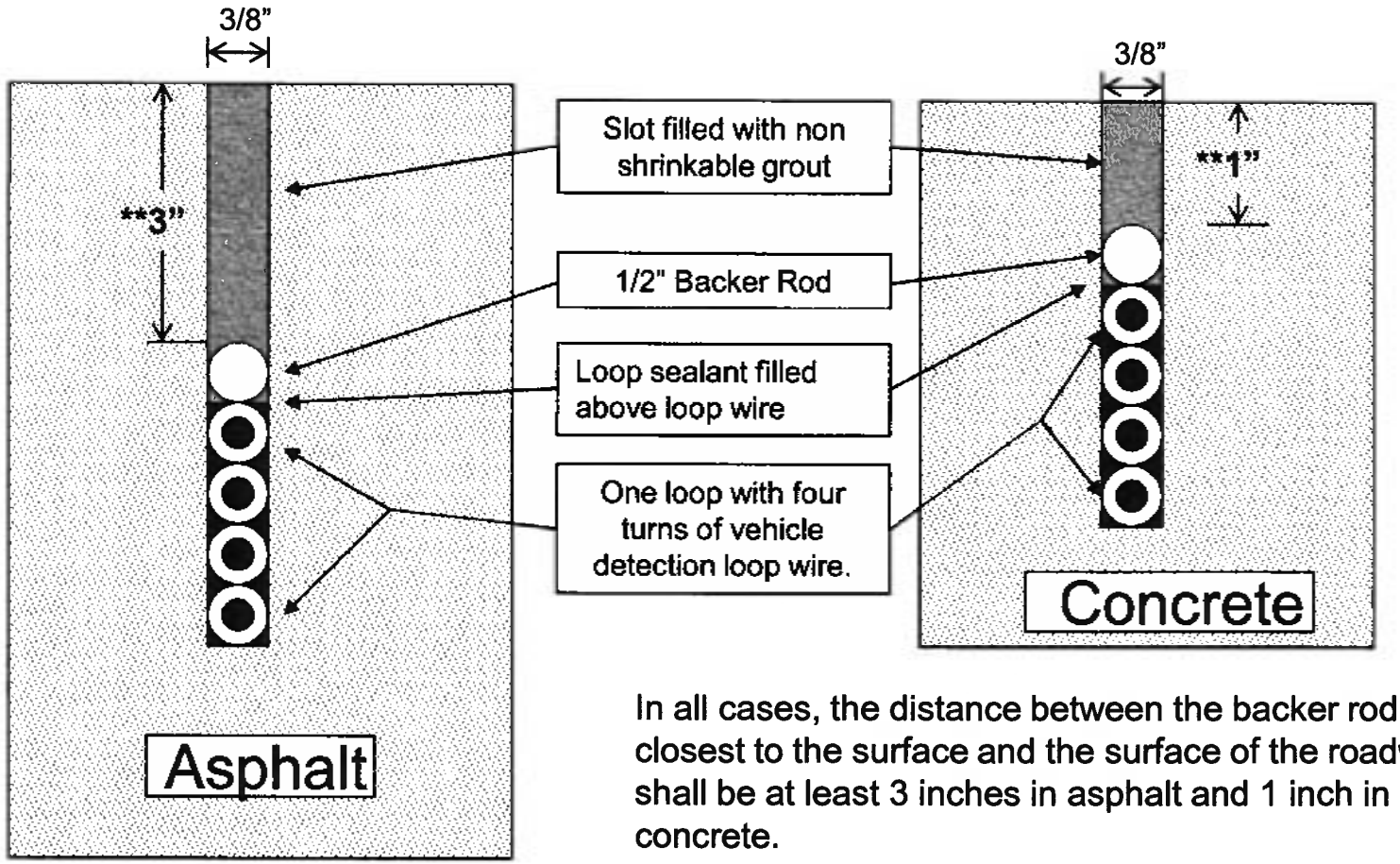
④ Unless denoted otherwise, all loops are 6' x 6' square, positioned in center of lane with 4 turns of 14 AWG loop wire.

⑤ The distance between adjacent loops is 6' for 12' lanes, 5.5' for 11' lanes, etc. It cannot be less than the loop is wide.

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Loop Installation in Roadway

Figure 5



In all cases, the distance between the backer rod closest to the surface and the surface of the roadway shall be at least 3 inches in asphalt and 1 inch in concrete.

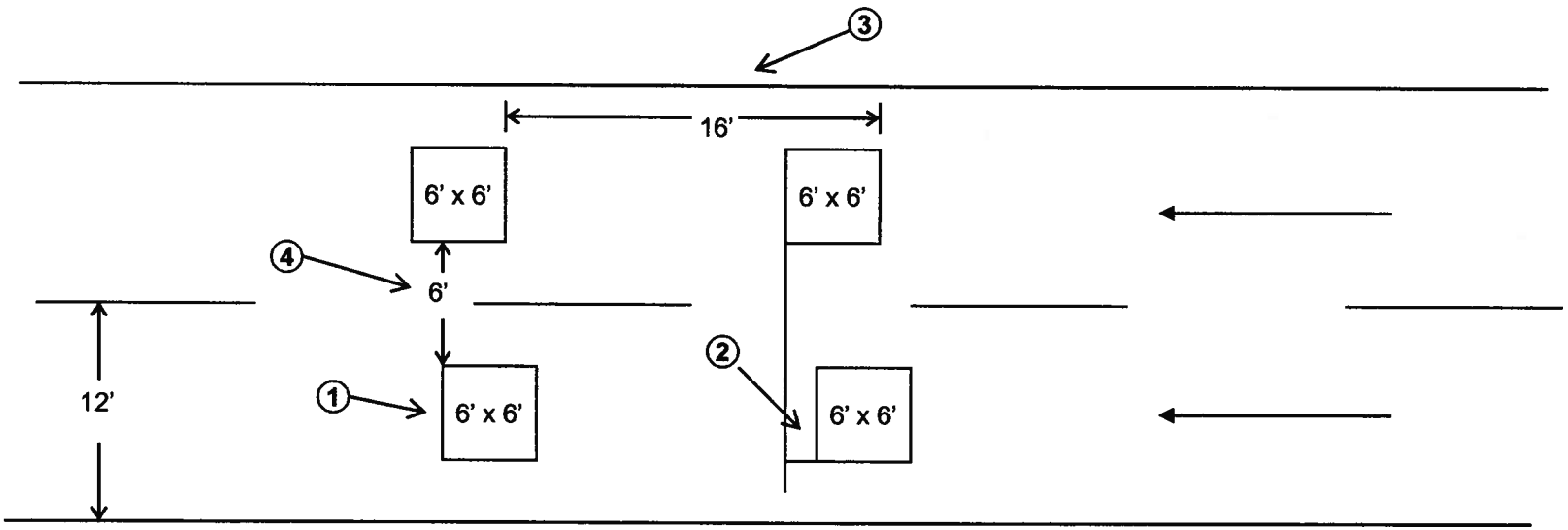
**Saw slot level shall be lowered at edge of roadway to meet the conduit level.

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Loop Characteristics

Figure 6

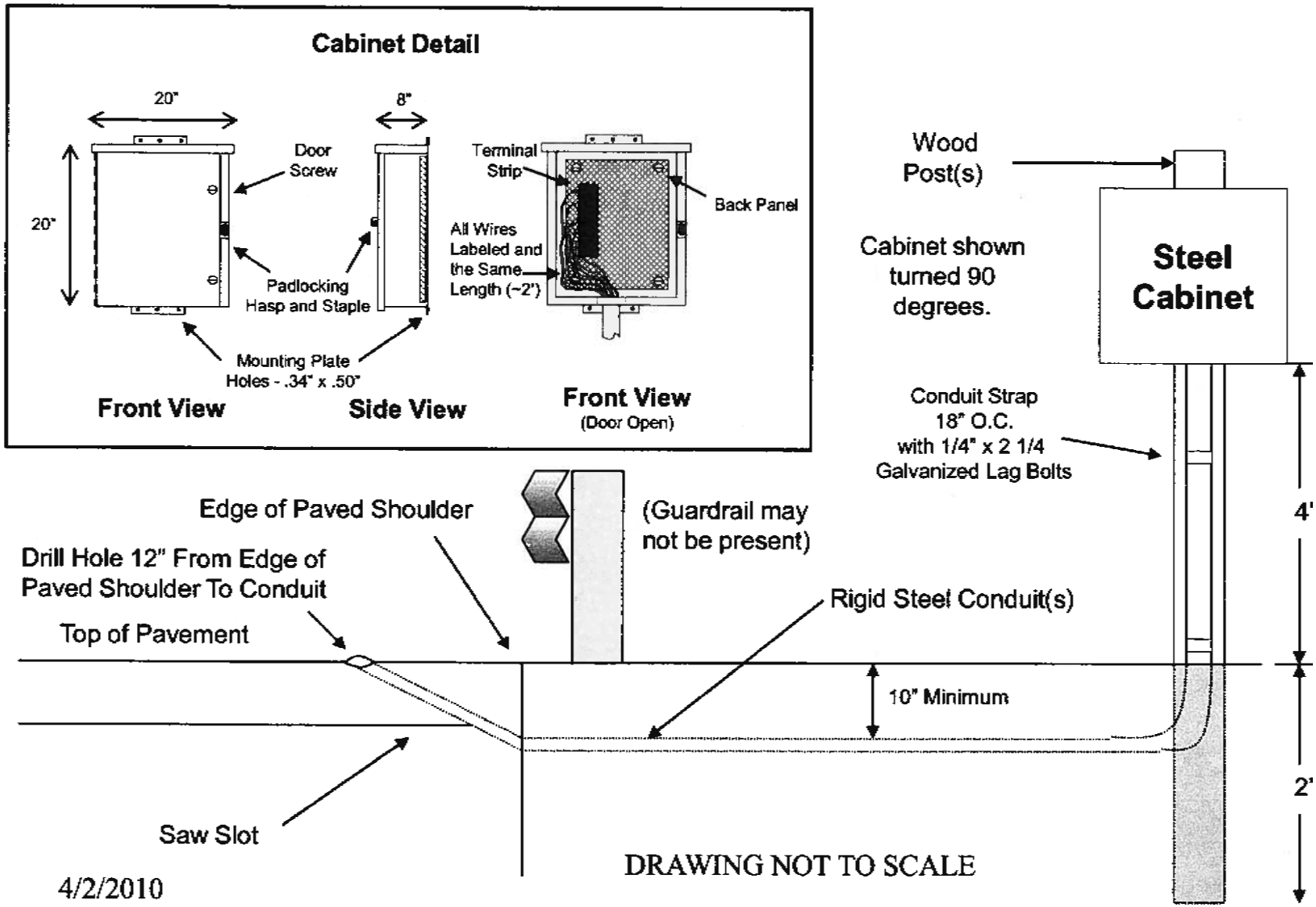


1. Unless denoted otherwise, all loops are 6' x 6' square, positioned in center of lane with 4 turns of 14 AWG loop wire.
2. Minimum 12" between loop and lead-ins. Lead-ins should be on the trailing edge of the loop.
3. If two loops are installed in a lane, space loops 16' from leading edge to leading edge unless denoted otherwise.
4. This distance is typically 6' for 12' lanes, 5.5' for 11' lanes, etc. It cannot be less than the loop is wide.

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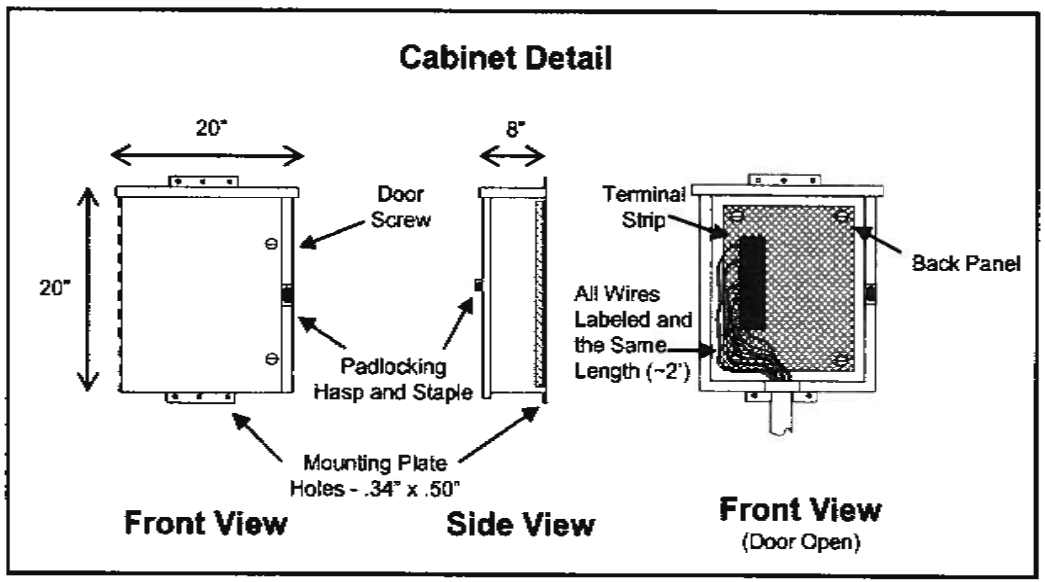
Galvanized Steel Cabinet and Post Installation

Figure 7a



Galvanized Steel Cabinet and Post Installation

Figure 7b

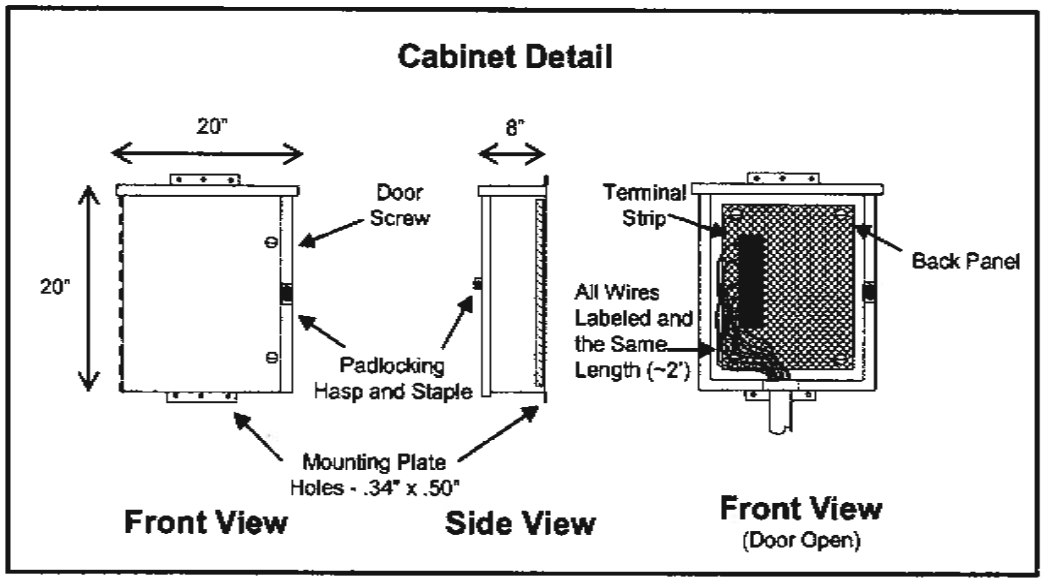


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Galvanized Steel Cabinet and Post Installation

Figure 7c

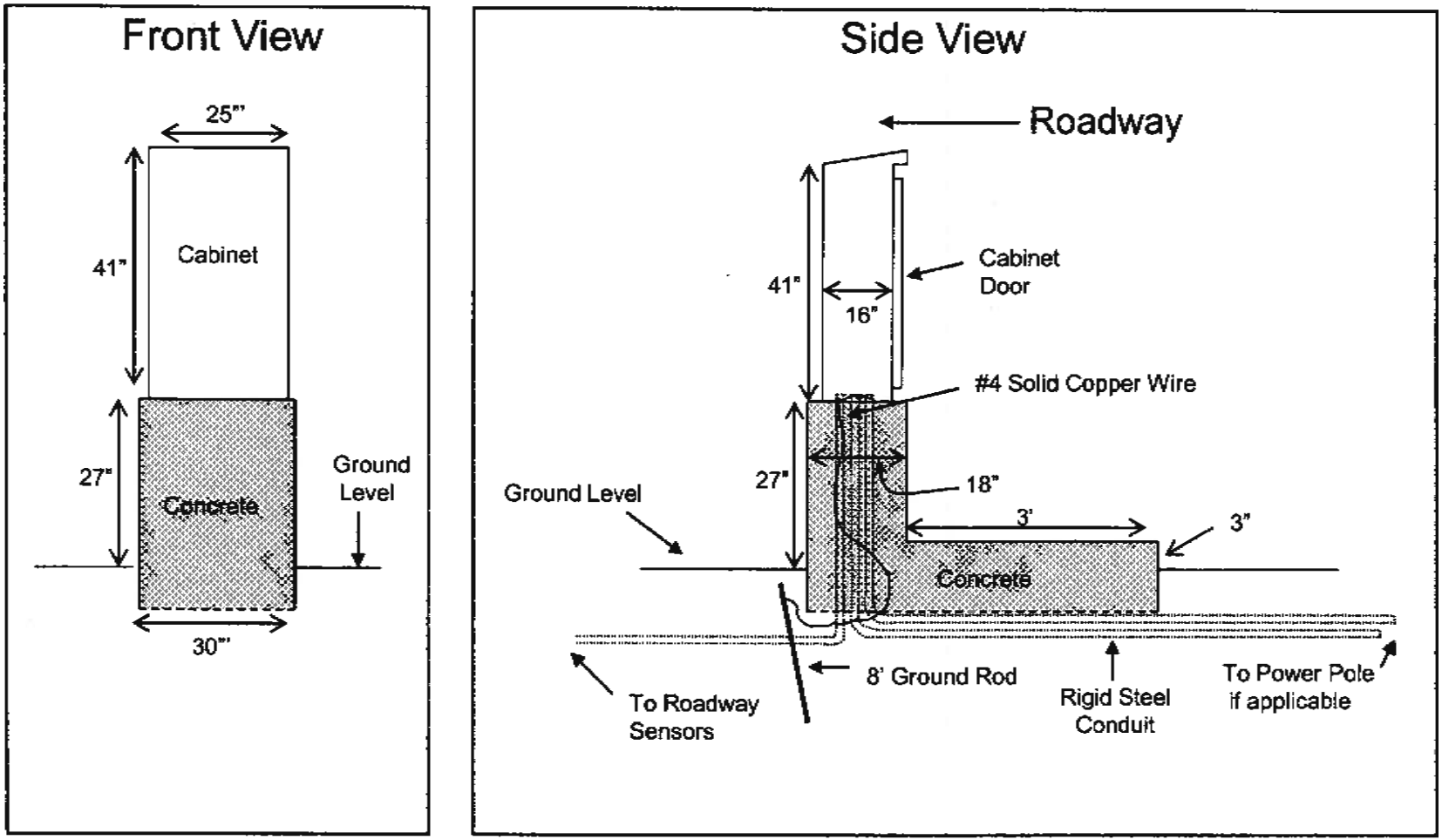


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Cabinet Type G

Figure 8

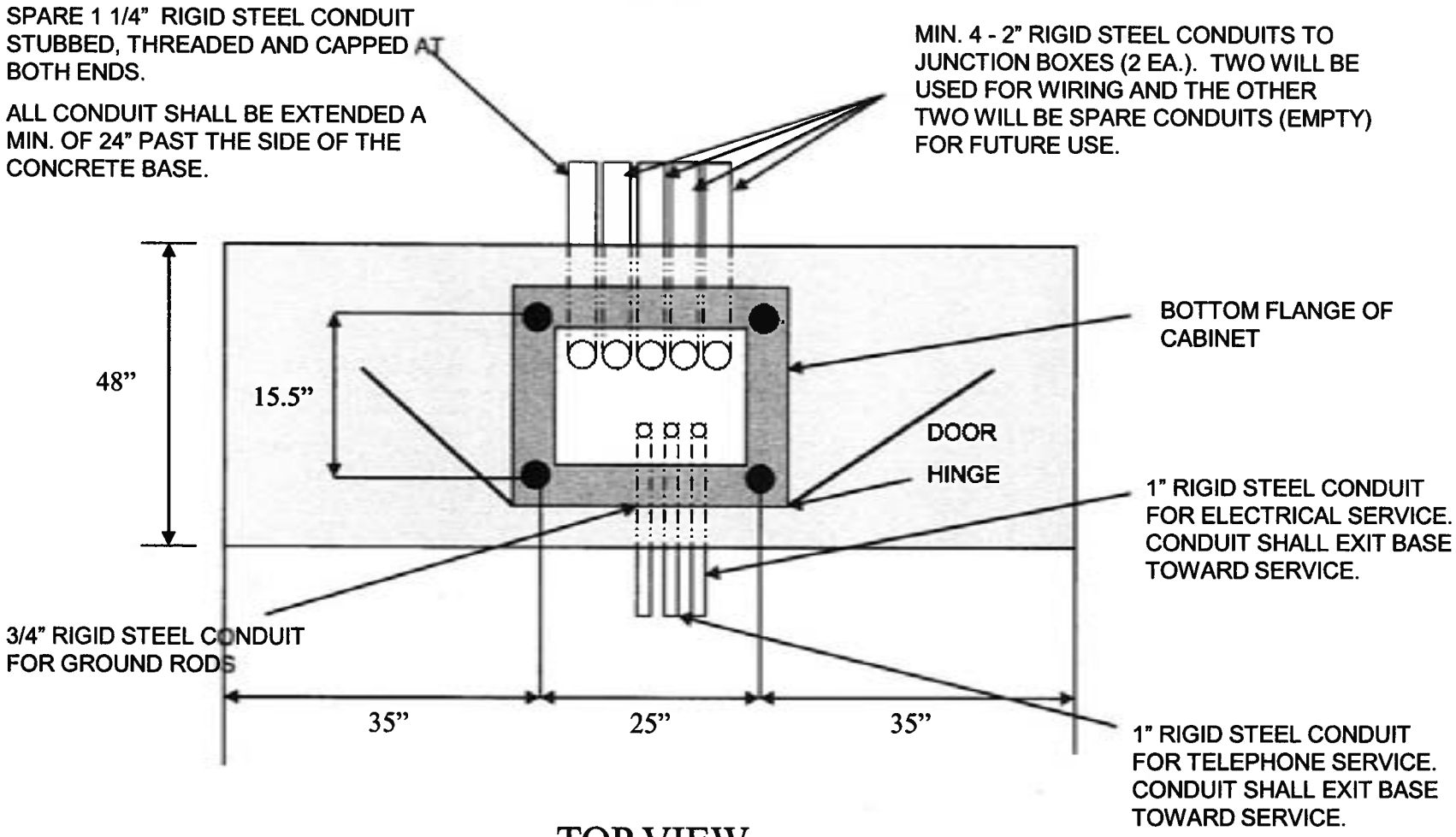


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Base Mounted 170 Cabinet Detail

Figure 9a



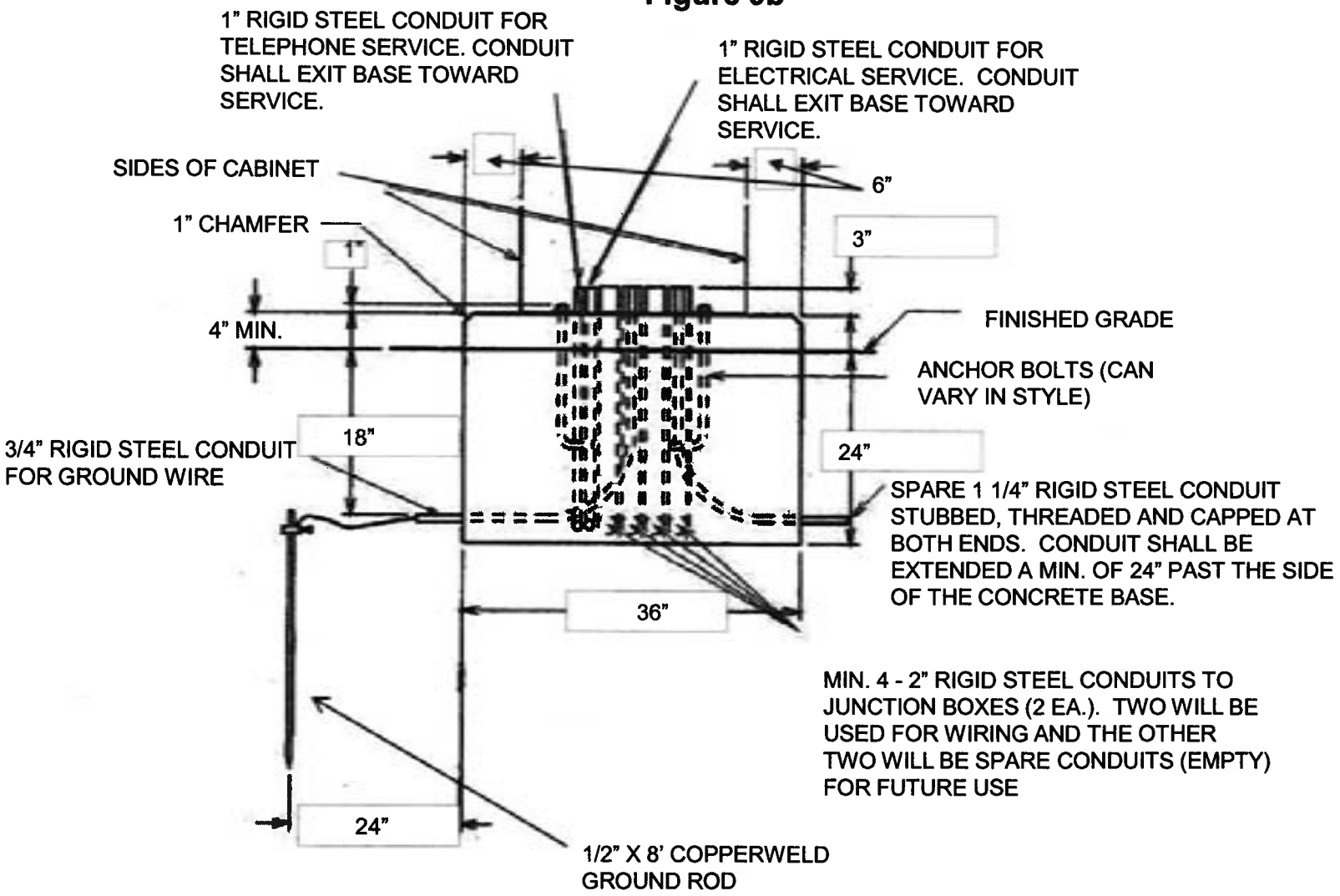
TOP VIEW

4/2/2010

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Base Mounted 170 Cabinet Detail

Figure 9b



SIDE VIEW

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Rev.03/10

DIVISION OF PLANNING

SPECIAL NOTES FOR INSTALLATION OF TRAFFIC COUNTING INDUCTANCE LOOPS AND AXLE SENSORS

I. DESCRIPTION

Except as specified in these notes, perform all work according to the Department's Current Edition Standard Specifications, applicable Special Provisions and Special Notes, Sepia and Standard Drawings, and the drawings elsewhere in this proposal. Article references are to the Standard Specifications.

Furnish all materials, labor, equipment, and incidentals for the following work: (1) Maintain and control traffic; (2) install inductive loops; and (3) all other work required by the Specifications, Standard Drawings, Special Notes and the drawings in the proposal. The details of the project will be supplied in addition to these Special Notes.

II. MATERIALS

The Department will sample and test all materials according to Department's Sampling Manual. Have all 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. All materials shall be approved prior to being utilized. The Contractor shall submit for approval five (5) copies of descriptive literature, drawings, and any requested design data for the materials he proposes to use. No substitutions for approved materials will be made without the written approval of the Engineer.

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

B. Junction Box Type 6 in. x 6 in. x 4 in. The junction box shall have minimum inside dimensions of at least 6 inches high by 6 inches wide by 4 inches deep, made of a UV stabilized nonmetallic material (plastic) or non-rusting metal, and be weatherproof (NEMA 4X enclosure). It shall have a removable replaceable door with a continuous durable weatherproof gasket between the body and overhanging door to ensure a watertight seal. The door shall be hinged with stainless steel screws, hinge(s) and pin(s). The door shall also have a stainless steel padlockable latch on the side opposite the hinge(s). An approved enclosure is the Hubbell-Wiegmann model VJ606HWPL1.

C. Junction Box Type 10 in. x 8 in. x 4 in. The junction box shall have minimum inside dimensions of at least 10 inches high by 8 inches wide by 4.6 inches deep, made of a UV stabilized nonmetallic material (plastic) or non-rusting metal, and be weatherproof (NEMA 4X enclosure). It shall have a removable replaceable door with a continuous durable weatherproof gasket between the body and overhanging door to ensure a watertight seal. The door shall be hinged with stainless steel screws, hinge(s) and pin(s). The door shall also

have a stainless steel padlockable latch on the side opposite the hinge(s). An approved enclosure is the Hubbell-Wiegmann model VJ1008HWPL1.

D. Junction Box Type A. The junction box Type A shall be constructed of a fiberglass reinforced polymer concrete, ANSI/SCTE 77-2002 Tier 15 Style, or approved equal. It shall have nominal inside dimensions of 13 inches wide by 24 inches long by 18 inches deep with an open bottom. The removable cover shall be attached with a minimum of two 3/8-inch stainless steel hex bolts and washers.

E. Junction Box Type B. The junction box Type B shall be constructed of a fiberglass reinforced polymer concrete, ANSI/SCTE 77-2002 Tier 15 Style, or approved equal. It shall have nominal inside dimensions of 11 inches wide by 18 inches long by 12 inches deep with an open bottom. The removable cover shall be attached with a minimum of two 3/8-inch stainless steel hex bolts and washers.

F. Junction Box Type C. The junction box Type C shall be constructed of a fiberglass reinforced polymer concrete, ANSI/SCTE 77-2002 Tier 15 Style, or approved equal. It shall have nominal inside dimensions of 24 inches wide by 36 inches long by 30 inches deep with an open bottom. The removable cover shall be attached with a minimum of two 3/8-inch stainless steel hex bolts and washers.

G. Cabinet Type G. A controller cabinet Type G shall be constructed of type 5052-H32 sheet aluminum with a minimum thickness of 0.125 inches. The cabinet shall meet or exceed the industry standards set forth by the UL 50 and the National Electrical Manufacturer's Association (NEMA) 3R. The cabinet shall have a dimension of 41 inches high by 25 inches wide by 16 inches deep. The cabinet shall include kits for a back panel and two shelves. The cabinet shall be designed with a sloped top to prevent the accumulation of water on its top surface. The single door opening shall be double flanged on all four sides, hinged on the right side, equipped with a three-point latching mechanism, and include a door restraint. The door shall be equipped with a Corbin tumbler #2 lock. The cabinet shall be equipped with two adjustable "C" mounting channels on both side and back walls to allow for versatile positioning of shelves. Manufacturer's shop drawings shall be submitted demonstrating details of equipment housing and installation. If electrical service is specified, a 120-volt GFCI AC duplex receptacle shall be provided in the cabinet.

An approved source is provided below. Other approved equal cabinets may be furnished if approved by a representative of the Central Office, Division of Planning. To be considered approved equal, the cabinet shall meet the above requirements and match the specified detailed dimensions.

Econolite Control Products.
P.O. Box 6150
3360 E. La Palma
Anaheim, California 92806-2856

H. Galvanized Steel Cabinet. The cabinet shall be a hinged cover NEMA Type 3R medium enclosure, constructed of 16 or 14 gauge galvanized steel, and have inside dimensions of 20 inches high by 20 inches wide by 8 inches deep. This shall be the standard size that contractors shall place their bids on. The cabinet shall meet the industry standards set forth by the Underwriters Laboratories Inc. (UL) 50 and the National Electrical Manufacturers Association (NEMA). The finish shall consist of an American National Standards Institute (ANSI) 61 gray polyester powder finish inside and out over the galvanized steel. The cabinet shall have the following features:

- Drip shield top and seam-free sides, front, and back, to provide protection in outdoor installations against rain, sleet, and snow.
- 16 gauge galvanized steel continuous stainless steel pin.
- Cover fastened securely with captive plated steel screws.
- Hasp and staple provided for padlocking.
- No gaskets or knockouts.
- Back plate mounted inside the cabinet for terminal strip installation.

An approved source is provided below. Other approved equal cabinets may be furnished if approved by a representative of the Central Office, Division of Planning. To be considered approved equal, the cabinet shall meet the above requirements and match the specified detailed dimensions.

Hoffman Engineering Co.
World Headquarters
900 Ehlen Drive
Anoka, Minnesota 55303-7504

I. Wood Post. The wood post shall be 4 inches by 4 inches by 8 feet long, and is pretreated to conform to the American Wood Preservers' Association (AWPA) C-14. All wood posts shall be sawed on all four sides, having both ends square, and conform to the dimensions specified. The wood post is described in detail in Section 820.01 of the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Current Edition.

J. Conduit. Conduit shall be rigid steel waterproofed conduit unless otherwise specified. All conduits shall be galvanized inside and out and shall conform to the Underwriters' Laboratories (UL) requirements for rigid metallic conduit. IMC will not be accepted. Furnish all conduit fittings, bodies, boxes, joints, couplings and mounting hardware.

K. Loop Wire. All loop wire shall be plainly marked in accordance with the provisions of the current editions of the National Electric Code (NEC). The wire shall be 14-gauge single conductor, insulated in polyethylene (PE) with a 0.004-inch thick nylon coating, and enclosed in a 0.030-inch thick PE tube jacket. The wire shall meet the requirements of the International Municipal Signal Association (IMSA) Specification No. 51-7- latest edition. Any other wire shall be of appropriate size and type per the NEC and Section

834.01 Wiring of the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Current Edition.

L. Cable No. 14/1 Pair. Cable No. 14/1 pair or loop lead-in cable shall be 14 AWG, stranded, paired conductors, electrically shielded and shall conform to IMSA 19-2. All cable shall be plainly marked in accordance with the provisions of the National Electric Code.

M. Traffic Loop Encapsulant. The traffic loop encapsulant shall consist of a one-part polyurethane as described in Section 835.06 of the Kentucky Transportation Cabinet, Department of Highways Standard Specifications for Road and Bridge Construction, Current Edition.

N. Non-Shrinkable Grout. The grout used shall be non-shrinkable and meet the Department of Highways Standard Specifications for Road and Bridge Construction, Current Edition.

O. Backer Rod. Use backer rod of 1/2" diameter that meets the Department of Highways Standard Specifications for Road and Bridge Construction, Current Edition.

P. Seeding and Protection. Use seed mixture No. I per Section 212-Erosion Control of the Department's Current Edition Standard Specifications for Road and Bridge Construction book.

Q. Electrical Service. The contractor shall initiate a work order for the installation of electrical service to the power site. A representative from the Division of Planning and the local utility company shall be consulted prior to choosing an exact location for the pole. The contractor shall be responsible for clearing the right-of-way for the electrical service drop. The electrical service shall be a minimum 60-ampere, which is capable of supplying 120 volts or 240 volts to the electronics. The installation and materials specified in the construction notes below, shall be made incidental to the bid item established for electrical service. A 120-volt GFCI AC duplex receptacle shall be provided in the cabinet. Contractor is responsible for correct size and type of wire. Contractor is responsible for obtaining any and all electrical inspections, memberships, meter base and any other requirements by the utilities serving the installation and pays all fees required.

R. Piezoelectric Sensors. The sensor shall consist of a metal strip 0.260" wide x 0.063" thick; ±0.005" and be furnished in the specified lengths. The sensor shall include a 100-foot electrical coax-cable connected to one end. The coax-cable shall be RG 58 type with an underground/direct burial rated outer jacket. The OD of the cable is 0.187". The nominal capacitance of the cable is 27 pF/ft. Piezo lead-in cables are to be run splice free to their cabinets. Many installations exceed the 100-foot length so the piezo should be ordered with a lead-in of appropriate length. Standard lead-ins can be ordered from 100 to 500 feet in 50-foot increments. The manufacturer should be contacted regarding longer distances.

1. **Piezoelectric Sensor: Roadtrax BL Class I or Approved Equal**. Furnish Class I Piezoelectric Sensor to be used to collect truck weigh-in-motion data. Class I sensors are typically furnished in 6- or 11-foot lengths. See Notes and Estimate of Quantities for sensor type and length. One installation bracket for every 6 inches of sensor length shall also be supplied.

The vendors listed below are known distributors of the Roadtrax BL Class I sensors. Other approved equal sensors may be furnished if approved by a representative of the Central Office, Division of Planning. To be considered approved equal, the sensors shall meet the above requirements and match the specified detailed dimensions.

DIA-L Associates
P. 3302 Aquia Drive
Stafford, VA 22554

Measurement Specialties, Inc.
80 Little Falls Road
Fairfield, NJ 07004

International Road Dynamics, Inc.
702 43rd Street East
Saskatoon, Saskatchewan
Canada, S7K3T9

Grout material shall display fast cure times; tack free in 10 minutes and open to traffic in 40 minutes with full cure within an hour. Material shall have excellent adhesion to concrete and asphalt. It should display excellent chemical resistance, water insensitivity, and thermal stability at high and low temperatures. Ample encapsulation material shall be supplied for each sensor for its proper installation. Approved encapsulation material by the piezo manufacturer includes AS475 Axle Sensor Grout or approved equal. This is a durable two-part resin-based grout suitable for asphalt and concrete applications having the following typical physical properties:

Compressive Strength (psi)	ASTM D638	5000 min.
Water Absorbtion	ASTM D570	0.3% max
Wear Resistance	ASTM D4060	CS10 wheel, 1000 gm load 1000 cycles, 186 mg loss

The vendors listed below are known distributors of the approved grout.

DIA-L Associates
P. 3302 Aquia Drive
Stafford, VA 22554
(540) 659-2264

Measurement Specialties, Inc.
80 Little Falls Road
Fairfield, NJ 07004

PAT Traffic Control Corporation
1665 Orchard Drive
Chambersburg, PA 17201

International Road Dynamics, Inc.
702 43rd Street East
Saskatoon, Saskatchewan
Canada, S7K3T9

III. CONSTRUCTION METHODS

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

Once 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 their concerns and answer any questions that the contractor may have before beginning the work. Planning shall also be notified two weeks before work pertaining to these specifications begins to ensure their personnel are present during sensor installation and once the work has been completed so that their representative can perform a final inspection. The Division of Construction then reviews Planning's final inspection report and determine whether the work is in compliance with the specifications before awarding payment to the contractor.

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

B. Junction Box Type 6" x 6" x 4" or 10" x 8" x 4" (as noted). The contractor shall stub the rigid steel conduit to the junction box so the bottom of the box is approximately 18" above the ground. The junction box shall be located at or beyond the shoulder and mounted on the side of a post approximately 3 feet beyond the guardrail post using banding material or other appropriate mounting hardware with the hinge side up. See Figures 2a and 2b for additional details. Leave approximately 18" of slack lead-in wire coiled inside the junction box. Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or sensors. See Location Drawing for sensor numbers to be placed on all lead-ins.

C. Junction Box Type A (or B or C). Install the Junction Box Type A near the edge of pavement and flush with the ground level (see Figure 3). Place roughly 18 inches of No. 57 aggregate underneath the junction box Type B to allow drainage. Extend the loop lead-in wires splice-free to the cabinet. Run the wire from the junction box Type A through the conduit at a minimum depth of 6 inches. Stub the conduit up into the junction box Type A from its base to accommodate the lead-in wires. Leave at least 2 feet of slack lead-in wire coiled inside the junction box Type A. The conduit fittings, backfilling, and aggregate shall be incidental to the junction box Type A. Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or sensors. See Location Drawing for sensor numbers to be placed on all lead-ins.

D. Cabinet Type G. Locate the cabinet sufficiently beyond the roadside by determining the minimum clear zones in accordance with the "Roadside Design Guide". Place a concrete foundation of appropriate size for mounting the cabinet. The cabinet shall be mounted on the concrete base such that the bottom of the cabinet is 27" above the ground. The door of the cabinet shall open away from traffic. Fasten the cabinet to the foundation

using anchor rods and caulk the gap between the cabinet and the base. Stub rigid conduit up into the cabinet from its base. Install an extra 1 ¼" conduit to be stubbed out in the bottom of the cabinet and run out 2 feet from the concrete base and plugged with duct seal or taped shut with electrical tape toward the roadway for future use. An 8' copper clad ground rod shall be driven into the soil and bonded to the rigid conduit via #4 solid copper wire and ran through the concrete and up into the cabinet. A ¾" rigid steel conduit shall be stubbed up into the cabinet and run 2 feet up the electrical service pole and terminated to a ¾" weatherhead. This conduit shall be run in the same ditch as the electrical service. If electrical service is not provided as an item in the contract, the ¾" rigid steel conduit shall be run out 2 feet from the concrete base and plugged with plumbers putty or taped shut with electrical tape. The location of the plugged end shall be marked with a wooden stake and labeled "¾ in. conduit end" (see Figure 8). A 120-volt, 20-amp GFCI AC duplex receptacle shall be provided in the cabinet.

Leave at least 5 feet of slack lead-in wire in the cabinet. Include the following major items as incidental to the cost of the cabinet: concrete foundation, anchor rods, ground rod, #4 solid copper wire, bonding clamps, and caulking. The Division of Planning will supply additional harnesses and do final connections inside the cabinet. Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or sensors. See Location Drawing for sensor numbers to be placed on all lead-ins.

E. Install Base Mount Enclosure. Locate the cabinet sufficiently beyond the roadside by determining the minimum clear zones in accordance with the "Roadside Design Guide". For this project, a base mount Model 170 Controller Cabinet, without anchor bolts, will be State-furnished. The contractor shall construct each cabinet foundation as shown on the plans per the attached Figures 9a and 9b, "Base Mounted 170 Cabinet Detail", (including furnishing and installing anchor bolts). Contractor shall install the cabinet on the concrete base such that the doors of the cabinet open away from traffic (hinges are away from traffic), and shall make all field wiring connections to the sensors, electrical and telephone services (as applicable). Fasten the cabinet to the foundation using anchor rods and caulk the gap between the cabinet and the base. Stub rigid conduit up into the cabinet from its base. Install an extra 1 ¼" conduit to be stubbed out in the bottom of the cabinet and run out 2 feet from the concrete base and plugged with duct seal or taped shut with electrical tape toward the roadway for future use. An 8' copper clad ground rod shall be driven into the soil and bonded to the rigid conduit via #4 solid copper wire and ran through the concrete and up into the cabinet. Two 1" rigid steel conduits shall be stubbed up into the cabinet, one for electrical service and one for telephone service (whether installed at this time or in the future). They shall be run a minimum of 2 feet up the electrical service pole and/or telephone source and terminated to 1" weatherheads. These conduits shall be run in the same ditch if possible. If electrical service is not provided as an item in the contract, the 1" rigid steel conduit shall be run out 2 feet from the concrete base and plugged with plumbers putty or taped shut with electrical tape. The location of the plugged end shall be marked with a wooden stake and labeled "1 in. conduit end". A 120-volt, 20-amp GFCI AC duplex receptacle shall be provided in the cabinet.

Leave at least 6 feet of slack sensor lead-in wire in the cabinet. Include the following major items as incidental to the cost of this bid item: concrete foundation, anchor rods and associated hardware, ground rod, #4 solid copper wire, bonding clamps, caulking, electrical material and connections (if applicable). The Division of Planning will supply the cabinet, additional harnesses and do final sensor connections inside the cabinet. Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or other sensors. See Location Drawing for sensor numbers to be placed on all lead-ins.

F. Galvanized Steel Cabinet. The contractor shall determine the amount of clearance required from the road to the cabinet for each specific station location. The "Roadside Design Guide", developed by the American Association of State Highway Officials (AASHTO), shall be used as a tool to determine roadside safety based on design and speed limit. The contractor and Planning shall discuss and resolve any conflicts in the Pre-Construction meeting that might arise from following the station descriptions of the Location Table.

Use terminal strips on the back plate with a minimum of eight terminals each and 7/16-inch spacing (center to center) to mount inside the cabinet in order to connect the lead-in wires to the cable assemblies. Use screw type terminal strips to accommodate wire with spade-tongue ends. Allow for at least 20 inches of slack lead-in wire in the cabinet before connecting them to the terminal strip. Wires connected to the terminal strips shall have insulated, solderless, spade tongue terminals of correct wire and stud size. Wires shall be labeled correctly. See Location Drawing and Wiring Table.

Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or sensors. See Location Drawing for sensor numbers to be placed on all lead-ins.

G. Wood Post. Set the treated-wood post 3 feet below the ground and place the backfill material in the hole, compacting until flush with the existing earth. Mount the cabinet to the post using ¼" x 2 ½" galvanized lag bolts at the top and bottom of the cabinet. The base of the cabinet shall be 4 feet above ground level. Stub the rigid steel conduit up into the base of the cabinet. Affix the conduit to the post using two conduit straps, a maximum of 18" on-center, and ¼" x 2 ½" galvanized lag bolts. Cabinet door shall open facing away from traffic (see Figure 7).

H. Conduit. Rigid steel waterproofed conduit encasement shall be provided for all conductors where conductors run to a junction box or cabinet. All conduit installations shall conform to the provisions of the NEC, except where directed otherwise. Bonded slip joints will be permitted for joining rigid conduit to the junction box or cabinet. Where a standard coupling cannot be used, an approved threaded union coupling shall be used.

All conduit ends shall be reamed to remove burrs and sharp edges. Damaged portions of the galvanized surfaces and untreated threads resulting from field cuts shall be painted with a 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.

Conduit that will 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 6 inches below grade. All conduit openings shall be waterproofed with a flexible, removable sealant, including those ending in junction boxes and cabinets. This shall be accomplished using duct seal, or plumber's putty, by working it around the wires and then extending it 1 inch into the end of the conduit. After the conduit has been installed and before the backfilling is started, the conduit installation shall be inspected and approved by the Engineer. In backfilling trenches, the backfill material shall be placed and compacted in lifts of 9 inches or less. Any area disturbed as a result of the contractor's operations shall be restored to the satisfaction of the Engineer.

I. Wiring. All wiring shall conform to the provisions of the NEC unless otherwise shown on the plans. Permanent identification numbers shall be affixed to all wires in each junction box and cabinet in order to distinguish between the loops and/or sensors. See Location Drawing Figure 1 for sensor numbers to be placed on all lead-ins. All wiring shall be taken to a cabinet or junction box. Leave at least 2 feet of "slack" lead-in wire inside each Type B junction box and steel cabinet, a minimum of 4 feet of wire inside the Type G cabinet and a minimum of 6 feet of wire inside the base mounted Type 170 cabinet.

J. Splicing. Sensor lead-in cable lengths for each sensor shall allow sufficient but not excessive slack for splicing connections. All splices shall conform to the provisions of the NEC unless otherwise shown on the plans. Loop lead-in wire splices to shielded pair cables shall be twisted and soldered. Other splices shall be twisted and soldered or made with mechanical connectors of a type approved by the Engineer. Splices for loop wire shall be protected by either heat shrink tubing or a double spiral wrapping of vinyl electrical tape. For splicing home-run coax cable to the sensor's lead-in cable, the same coax cable, supplied by the manufacturer, shall be used. For coax-cable splices, the contractor shall provide kits (3M Scotchcast 3832 Buried Service Wire Encapsulation Kit or equal) to protect them. All splices are to be made in junction boxes unless approved by a representative of the Division of Planning.

K. Loops. A location table is furnished in the Supplemental Notes, along with an estimate of quantities, to display the approximate location for loop installation in the existing pavement. The contractor and a representative of Planning will verify the precise location on site. The contractor shall be careful to avoid expansion joints and pavement sections where potholes, cracks, or any other roadway flaws exist. This will not only facilitate installation of the equipment, but also will increase the accuracy and service life span of the sensors.

There shall be a minimum of 6 feet between loops in adjacent lanes for 12-foot wide lanes. Unless indicated otherwise, loops in the same lane shall be spaced 16 feet from leading edge to leading edge (see Figure 6). All loop dimensions shall be 6 feet by 6 feet square unless otherwise indicated by the Location Drawing. Center and mark each loop in the lane such that its sides are parallel and perpendicular to the direction of traffic. Make the saw-cut for the loop 3/8-inch wide and at a depth such that the top of the backer rod is a minimum of 1 inch below the surface of rigid (PCC/Concrete) pavement or 3 inches below the surface of asphalt pavement (see Figure 5). Drill a 1.5" hole at all four corners of the loop to prevent sharp bends in the wire (see Figure 4).

Make the saw-cut for the home run slot 3/8 inch wide. Since it may contain several lead-in wires, the depth should be such that the top of the backer rod is a minimum of 1 inch below the surface of rigid (concrete) pavement or 3 inches below the surface of bituminous (asphalt) pavement. Depending on the number of road sensors at a particular site, the home run slot will gradually need to be cut deeper as you approach the shoulder in order to maintain the minimum depth for the top lead-in wire and directly enter the buried conduit (10 inch depth).

Clean the mud, debris, water, and loose particles from the slot, roadway and surrounding areas. A high-pressure washer shall be used to wash the area followed by clean (oil free) compressed air.

Measure out the appropriate length of loop lead-in wire to allow slack in the final cabinet or junction box. Insert the loop wire into the loop slot for four rotations (see Figure 5). Push the wire in with a wooden stick, such as a paint stir stick or other blunt wooden object. If the wire insulation is broken, apply heat shrink tubing or a double wrapping of vinyl electrical tape to protect from corrosion. Extend the loop lead-in wire splice-free to the junction box or cabinet. Exceptions to this shall be considered on a case-by-case basis and must be approved by the Engineer. If splices cannot be avoided, every effort shall be made to locate them in a junction box. If loop lead-in cable (Cable No. 14/1 Pair) is specified, loop wires shall be twisted and run to the nearest type Junction Box and the wires twisted and soldered to the lead-in cable. The lead-in cable shall then be run splice free to the cabinet ensuring that extra cable is left in each subsequent junction box that it may be run through as well as the cabinet. All wires and cables shall be labeled in each junction box and cabinet.

Twist each pair of loop lead-in wires, exclusive of shielded coax-cable, with three to five turns per foot before placement into the conduit, junction box, and cabinet. Do not twist different pairs of loop wire together. Once the loop wire is installed in the roadway, apply enough loop encapsulant to just cover the loop wires in the saw slot. Once this is done, cover the encapsulated loop wire with backer rod throughout the entire loop and tail saw slots. Finish filling the saw cut with a mixture of non-shrinkable grout and water. Every attempt should be made to alleviate air pockets and low spaces should be refilled. Any excess grout shall be cleaned from the roadway via squeegee, etc. to help alleviate tracking. The loop encapsulant, backer rod and non-shrinkable grout shall be

incidental to the bid item "Loop Saw Slot and Fill".

Loops shall be cut just before the final surface course is laid in asphalt unless no pavement rehab or resurfacing is taking place. They shall be cut in the surface course for concrete whether there is pavement rehab/resurfacing or not. Final judgment is made by the Central Office, Division of Planning Equipment Branch.

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

L. Electrical Service. A treated-wood service pole, per Section 820 of the Department's Current Edition Standard Specifications, with a 20-foot minimum length and a 6- to 12-inch diameter, or approved equal, is to be furnished by the Contractor. Install the electrical service pole adjacent to the cabinet at a depth of at least 4 feet while maintaining a 12-foot minimum clearance for the electrical service drop. Compact the backfill material to support the electrical service drop without leaning. Install an appropriate pole support guy wire and anchor if necessary. Install rigid conduit up the length of the pole with three separate insulated conductors (No. 4 copper wire) in the conduit and a weatherhead at the top.

Space the conduit straps 30 inches apart and leave 24 inches of cable for the drip loop. Install a meter-base and a disconnect panel with a 20-ampere circuit breaker inside. A 120-volt, 20-amp GFCI AC duplex receptacle shall be provided in the cabinet. A manufactured weatherproof hub connector is required to connect the meter-base to the disconnect panel. Do not use service entrance cable inside the conduit. The conduit from the disconnect panel is required to be at a depth of 6 inches below grade. Install a 5/8-inch by 8-foot ground rod below the finished grade. Extend the ground wire through a separate hole in the disconnect panel and clamp to the ground rod. Install a 1" rigid conduit to 2 feet above ground level and install a weatherhead at the top opening. This conduit shall be run to and stubbed up into the Cabinet. The conduit shall be attached to the pole at a minimum of 2" from ground level and 2" from the weatherhead.

M. Piezoelectric Sensor, Roadtrax BL Class I or Approved Equal. Determine where on the roadway the piezoelectric sensor will be installed. Roadway ruts shall not be in excess of 1/2 inch under a 4-foot straight edge. Install the piezoelectric sensor perpendicular to traffic. Locate the sensor in the lane as shown on the site detail sheet. Eleven-feet length sensors should be centered in the lane. The following is a typical step by step procedure for the installation of a piezoelectric sensor. Refer specifically to the manufacturer's current instructions provided with the sensor prior to installation. Piezoelectric sensors are always installed at the final surface of the pavement.

1. Carefully mark the slot to be cut, perpendicular to the flow of traffic. Ensure that the sensors are properly positioned in the lane.
2. It is strongly recommended that a ¾" wide diamond blade be used for cutting the slot, or that blades be ganged together to get a single ¾ inch wide cut. The slot shall be wet cut to minimize damage to the road.
3. Cut a slot ¾ inch wide (±1/16") by 1" minimum deep. The slot should be 8" longer than the sensor (including the lead attachment). Drop the saw blade an extra ½" down on both ends of the sensor. The lead out should be centered on the slot.
4. Cut the home-run slot for the coax-cable ¼-inch wide and at a depth so that the cable is a minimum of 1 inch below the road surface in rigid pavement (concrete) or 3 inches below the road surface in bituminous (asphalt) pavement.
5. Sweep and wash out all debris left in the slot and ensure it is clean and dry.
6. Use high pressure water, or water and oil-free compressed air to clean ALL foreign and loose matter out of the slot and within 1 foot on all sides of the slot.
7. Totally remove excess water and debris from roadway and shoulder area. Debris should be disposed of properly.
8. Carefully 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.
9. Place a strip of duct tape on the pavement along the length of both sides of the sensor slot. Place the 2-4" wide duct tape 1/8" away from the slot.
10. Remove BL sensor from the box. Visually inspect each sensor to ensure it is straight without any twists or curls. Check lead attachment and passive cable for cuts, gaps, cracks and/or bare wire. Verify the correct sensor (type and length) is being installed by checking the data sheet. Verify there is sufficient cable to reach the cabinet.
11. Test the sensor for Capacitance, Dissipation Factor and Resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within ±20% of the enclosed data sheet. Resistance (using the 20M setting) should be infinite. Record the sensor serial number and the test results. This information should be stored in the counter cabinet and/or returned to KYTC Planning personnel.
12. Lay the sensor on the tape next to the slot. Ensure that the sensor is straight and flat. Ensure that you are wearing clean protective latex (or equivalent) gloves at all times when handling sensors.
13. Clean sensor with steel wool or emery pad. Wipe down with alcohol and clean lint-free cloth.
14. Place the installation bracket clips on the sensor, about every 6" for the length of the sensor.
15. Bend the end 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)
16. Place the sensor in the slot, with the brass element 3/8" below the road surface along the entire length. The end of the sensor should be at least 2" from the end of the slot and the tip should not touch the bottom of the slot. The top of the plastic installation bracket clips should be 1/8" below the surface of the road. The lead attachment should also not touch the bottom or sides of the slot. Ensure the ends of the sensors are pushed down sufficiently per the manufacturer's instructions.

17. 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).
18. Block off the ends of the slot using plumbers putty. Ensure that there are adequate "dams" at both ends so that the encapsulation material does not flow out. On the passive cable end, the dam should be about 3-5" past the end of the lead attachment area.
19. The encapsulation material should be placed full depth, overfilled, and allowed to cure 10 minutes before shaving level with the surface. Ensure it fills around and underneath the sensor completely and there is not a trough on top.
20. Remove the tape on the sides of the sensor as soon as the adhesive starts to cure.
21. Carefully remove all the plumbers putty from ends of the sensor.
22. Route the lead in cable through the slot cut for it, and cover with approved loop sealant.
23. After the encapsulant has hardened, grind the top of the installation using an angle grinder. The profile should be flush with the road surface or with a slight, 1/16" mound. There shall be no concave portion to the mound.
24. Clean up the site. Sealant curing time varies with temperature and humidity. Contractor shall ensure that the complete curing of the encapsulation material has taken place prior to subjecting the sensors to traffic.

After the installation is complete, the minimum output voltages of each piezoelectric sensor shall meet the following: 1.5 Volts (peak) for a 10,000 pound axle and 200 millivolts (peak) for a car axle. The piezoelectric sensor lead-in cable is part of the sensor and can be ordered in different lengths (100' standard). Piezoelectric sensor lead-in cable shall not be spliced.

N. Cleanup and Restoration. The contractor will be responsible for all 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 includes any filling of ruts and leveling ground appropriately. Clean the site and dispose of all waste and debris off the right-of-way at sites obtained by the contractor at no additional cost to the Department. Sow all disturbed earthen areas with Seed Mixture No. I per Section 212.03.03 Permanent Seeding and Protection of the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Current Edition. Seeding, silt fence and other erosion control items will be considered incidental to other bid items.

O. On-Site Inspection. Each contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize themselves with 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. The Department will not honor any claims resulting from site conditions.

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

Q. Caution. 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 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.

R. Utility Clearance. It is not anticipated that utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the contractor while relocating their facilities.

S. Site Inspections. All sensors are to be tested by a member of the Central Office Division of Planning equipment staff after the installation is complete to verify that the station is operating properly. Tests shall demonstrate that the system operates in accordance with the plans and specifications. Inductance loop conductors shall test free of shorts and unauthorized grounds and shall have an insulating resistance of at least 100 megaohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground. If the sensors do not meet the specifications and/or KYTC's traffic recording equipment does not perform properly because of an improperly functioning sensor, the contractor shall be responsible for the replacement of the faulty sensor(s), as soon as practicable at their total cost.

IV. BID 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 the 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.

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

B. Junction Box Type 6" x 6" x 4" (or Type 10" x 8" x 4" if noted). Each type junction box shall include furnishing and installing specified junction box in accordance with the specifications. This item includes connectors, splice sleeves, conduit fittings, mounting materials and any other items required to complete this part of the installation. Incidental to this item is furnishing and installing any specified post (wood, channel, metal, etc.) as required for the installation.

C. Junction Box Type A (B or C). Each type junction box shall include furnishing and installing specified junction box in accordance with the specifications. This item includes concrete (if required), #57 aggregate, conduit fittings and backfilling around the unit.

D. Cabinet Type G (NEMA-3R). Cabinet (each) shall include furnishing and installing a Type G cabinet as specified. This item shall include constructing the concrete base or mounting cabinet to pole, installation of duplex receptacle and connection of all detectors (where applicable). Incidental to this item shall be furnishing, installing electrical service conductors, conduits, fused cutout, ground rods, all internal shelving, brackets, any necessary pole mounting hardware and electrical inspection fees.

E. Install Base Mount Enclosure. Install base mount enclosure (each) shall include installing a State-furnished cabinet or enclosure as specified. This item shall include all materials and labor for constructing the concrete base (or, if specified, mounting cabinet to pole), installation of the cabinet, duplex receptacle and connection of all detectors (where applicable). Incidental to this item shall be furnishing, installing electrical service conductors, conduits, fused cutout, ground rods, telephone service conduits from the cabinet to the telephone company disconnect box, all internal shelving, brackets, anchor bolts, any necessary pole mounting hardware and electrical inspection fees if applicable.

F. Galvanized Steel Cabinet. Cabinet (each) shall include furnishing and installing a galvanized steel cabinet and post(s) as specified on the drawing. This item shall include mounting the cabinet to post and the connection of all detectors. Incidental to this item shall be furnishing and installing conductors, conduit, ground rods, any necessary pole mounting hardware and any electrical inspection fees.

G. Wood Post. Wood post (each) shall include furnishing and installing a wood post as specified. This item includes excavation, concrete (if required), and backfilling around the unit.

H. Conduit. Conduit shall include furnishing and installing specified conduit in accordance with specifications. This item includes conduit fittings, bodies, boxes, expansion joints, couplings, duct seal, bonding straps and any other necessary hardware. Conduit will be measured in linear feet.

I. Wire (or Cable). Wire or cable shall include furnishing and installing specified wire or cable within conduit, saw slot, or overhead as indicated on the detail sheets. This can include, but is not limited to: loop wire, Cable No. 14/1 Pair, etc. Incidental to this item shall be the labeling of all wires and cables in each junction box, cabinet and splice box; furnishing and installing of splice boots, cable rings or other hardware required for installing cable. Loop wire and cable will be measured in linear feet.

J. Loop Saw Slot and Fill. Loop saw slot and fill shall include sawing, cleaning and filling saw slots for induction loops, lead-in wires, etc. with loop sealant or specified approved material. Sawing and filling slot for wire will be measured in linear feet.

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

L. Electrical Service. Electrical services shall include all related work, labor, materials (e.g. meter, straps, conduit, fittings, wire, etc.) and fees towards furnishing and installing an electrical service, which has passed all required inspections. This will be measured in individual units each.

M. Telephone Service. Telephone services shall include all related work, labor, materials (e.g. meter, straps, conduit, fittings, wire, etc.) and fees towards furnishing and installing a telephone service, which has passed all required inspections. This will be measured in individual units each.

N. Piezoelectric Sensor or Approved Equal. Piezoelectric sensor (each) shall include furnishing and installing a Class I Piezoelectric Sensor in accordance with the specifications. Lead-in wire, splice kits, encapsulation material, grout, testing, and accessories shall be incidental to this bid item.

REFERENCES

1. Kentucky Transportation Cabinet, Department of Highways Standard Specifications for Road and Bridge Construction, Current Edition, and Supplemental Specifications.

2. National Electrical Code (NEC), latest edition.

3. International Municipal Signal Association (IMSA) Specification No. 51-7- latest edition.

4. FHWA Manual of Uniform Traffic Control Devices, latest edition.

5. "Roadside Design Guide", developed in 1996 by the American Association of State Highway and Transportation Officials (AASHTO).

6. Kentucky Department of Highways Standard Drawings, current editions, as applicable:

TTC-115	Lane Closure Case I
TTC-135	Shoulder Closure
TTD-110	Post Splicing Detail

Updated: March 31, 2010

Special Note for Subgrade Stabilization

Kenton & Campbell Counties
I-275
Item # 6-2025.00 & 6-2027.00

DESCRIPTION

The subgrade of this project is to be cement stabilized. In order to expedite construction, the curing time and testing of the subgrade have been approved to be subject to an experimental procedure. The subgrade is to be prepared and mixed per the Standard Specifications. The curing time is allowed to be lowered to 48 hours per the following items in this note.

A. The Subgrade is to be tested with a nuclear density meter to ensure that the required maximum dry density and optimum moisture content have been achieved.

B. The subgrade is to be coated with an asphalt curing seal within 12 hours of final mixing. This is to ensure that the proper moisture content is maintained during the shortened curing period.

C. After the 48 hour curing period the contractor can begin constructing the aggregate base layer. If any rutting of the treated subgrade layer is detected, it must be repaired immediately. Rutting is to be checked by driving a grader over the subgrade 5 times. If the depth of the ruts is three eights (3/8) of an inch or greater, construction of the aggregate layer is to be halted for an additional 24 hour curing period. Repair of the subgrade is defined as refilling any ruts and cutting any bulges to ensure the depth of stabilized material is 8 inches and the subgrade is at proper grade. The asphalt curing seal must be replied over disturbed areas so that it completely covers the stabilized area.

D. If after 4 days of curing the subgrade is continuing to rut in excess of 1/2 inch it can be tested using a Dynamic Cone Pentrometer (DCP) by an approved tester. If the DCP tests result show that the subgrade has achieved 80 psi of bearing strength, or have increased in strength by at least 15 psi the contractor will be allowed to continue aggregate layer construction. The Geotechnical branch will conduct DCP readings at the start of construction to determine a baseline bearing strength to compare DCP readings to.

E. If DCP results do not show the required strength the contractor can attempt checking the rutting depth or wait the full 7 day curing period.

F. The Geotechnical Branch will coordinate with the district construction personnel to ensure that core samples of the subgrade are taken. The rate of the core sampling will be determined during subgrade construction to ensure enough are taken to be representative of the entire subgrade. These cores will be tested for verification of the subgrade strength.

May 2, 2007

Item Nos. 6-2025.00 & 6-2027.00
I-275, Campbell and Kenton Cos.
IM 275-9(117)

Special Note for JPC Ride Quality Adjustment

Contrary to Section 503.03.09 for Diamond Grinding JPC Pavement the Category A Ride Quality Adjustment Schedule in Section 501of the Standard Specifications will apply on this project.

Attached for information only is IRI measurements performed on the existing pavement driving lane(s) in August 2010. Profile data was evaluated to determine projected IRI values after a single grinding pass. These IRI estimates presented assume no corrective repair work other than diamond grinding was performed. Improved numbers should be expected after repairs to the JPC Pavement are made.

The Department will apply a Ride Quality Adjustment for each 0.1-mile lane section tested. The contractor will be required to achieve the IRI specified for Category A Projects for each 0.1-mile lane section. ***The sum of the pay value adjustments for the ride quality shall not result in a positive incentive payment for project as a whole. A negative sum will result in a disincentive being charged to the contractor.***

When requesting tests on partially completed pavement, the Department will perform one test at no charge. The Department will perform additional requested testing and retesting for corrective work or pavement replacement at a cost of $150 per lane-mile. The Department will deduct charges for additional requested testing and retesting for corrective work from monies due on the Contract.

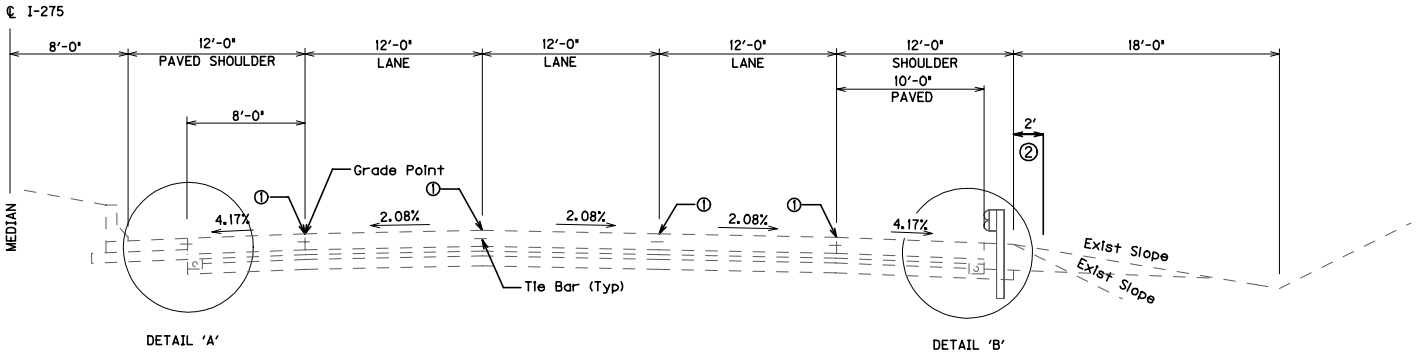
In accordance with Section 503.03.09, the Contractor will perform work to achieve the required IRI by regrinding the entire width of the traffic lane at areas having a high IRI.

NORTHBOUND		Lane 1		Lane 2		Lane 3	
		No Grind	1 Grind	No Grind	1 Grind	No Grind	1 Grind
Start MP	Stop MP	(in/mi)	(in/mi)	(in/mi)	(in/mi)	(in/mi)	(in/mi)
77.000	77.100	247.12	185.81	219.38	172.60	223.69	144.98
77.100	77.200	136.53	84.98	140.81	86.48	138.70	87.04
77.200	77.300	112.83	79.78	125.20	80.00	159.20	98.10
77.300	77.400	125.13	86.87	128.01	100.88	144.40	99.62
77.400	77.500	152.30	84.57	221.42	126.83	186.42	114.47
77.500	77.600	138.56	79.62	175.28	98.47	136.88	86.74
77.600	77.700	169.39	103.11	211.52	121.27	155.93	99.95
77.700	77.800	150.32	89.29	173.96	104.62	193.76	111.96
77.800	77.900	148.06	94.16	157.20	99.99	153.28	95.31
77.900	78.000	132.35	81.02	145.31	88.91	139.71	78.03
78.000	78.100	148.90	98.49	150.58	101.71	156.30	94.68
78.100	78.200	130.14	81.60	154.25	99.82	166.59	97.35
78.200	78.300	149.57	94.44	155.03	99.30	172.01	104.79
78.300	78.400	159.62	96.69	140.14	89.92	138.79	90.42
78.400	78.500	131.01	83.26	124.49	78.44	152.76	95.87
78.500	78.600	133.40	75.15	132.05	77.46	178.28	99.42
78.600	78.700	144.52	87.39	140.04	82.19	139.22	82.90
78.700	78.800	124.38	77.14	115.52	78.43	145.83	87.07
78.800	78.900	121.86	78.83	128.33	78.42	146.75	88.02
78.900	79.000	158.57	94.38	160.51	94.05	142.07	85.46
79.000	79.100	130.27	85.70	128.60	79.60	144.22	83.99
79.100	79.200	137.78	84.70	129.29	74.23	136.73	78.52
79.200	79.300	121.60	73.84	129.14	76.31	133.19	79.98
79.300	79.400	147.40	87.00	135.52	86.79	153.91	96.35
79.400	79.500	109.12	66.63	109.52	66.94	121.07	77.95
79.500	79.600	138.30	88.67	108.64	65.99	147.73	84.89
79.600	79.700	128.34	75.39	132.99	83.58	192.39	102.84
79.700	79.796	248.36	155.44	226.12	148.67	249.15	151.82
80.120	80.220	110.72	64.89	100.56	62.27	153.27	89.00
80.220	80.320	144.69	92.40	108.57	74.15	131.20	81.50
80.320	80.420	163.04	103.58	132.12	82.28	166.42	99.21
80.420	80.520	126.41	69.68	117.95	72.10	178.61	105.43
80.520	80.620	152.33	99.38	142.32	87.25	180.79	101.48
80.620	80.720	171.52	109.19	161.96	109.26	207.56	119.94
80.720	80.820	121.58	83.34	115.88	70.15	145.21	80.50
80.820	80.920	115.89	73.42	112.14	66.10	156.51	99.13
80.920	81.020	134.78	72.37	120.67	74.96	148.34	84.26
81.020	81.120	130.41	79.37	117.37	74.13	173.27	98.83
81.120	81.220	117.19	71.85	116.25	72.79	153.68	97.50
81.220	81.320	151.82	89.13	162.10	97.04	164.99	99.39
81.320	81.420	152.93	88.46	126.32	73.12	169.20	104.58
81.420	81.520	137.71	82.80	130.31	82.16	162.36	96.34
81.520	81.620	145.01	88.15	154.86	91.32	143.24	93.48
81.620	81.720	158.36	98.77	143.15	87.78	141.71	86.89
81.720	81.820	182.25	112.17	146.34	90.31	169.43	96.32
81.820	81.920	177.66	105.14	165.55	101.08	129.88	80.33
81.920	82.020	157.09	94.54	111.46	64.59	185.73	111.32
82.020	82.120	121.96	79.43			140.83	76.38
82.120	82.220	119.43	75.79			144.10	85.76
82.220	82.320	122.78	85.64			119.32	74.17
82.320	82.420	139.52	84.94			137.84	82.03
82.420	82.464	261.55	161.87			186.38	102.88

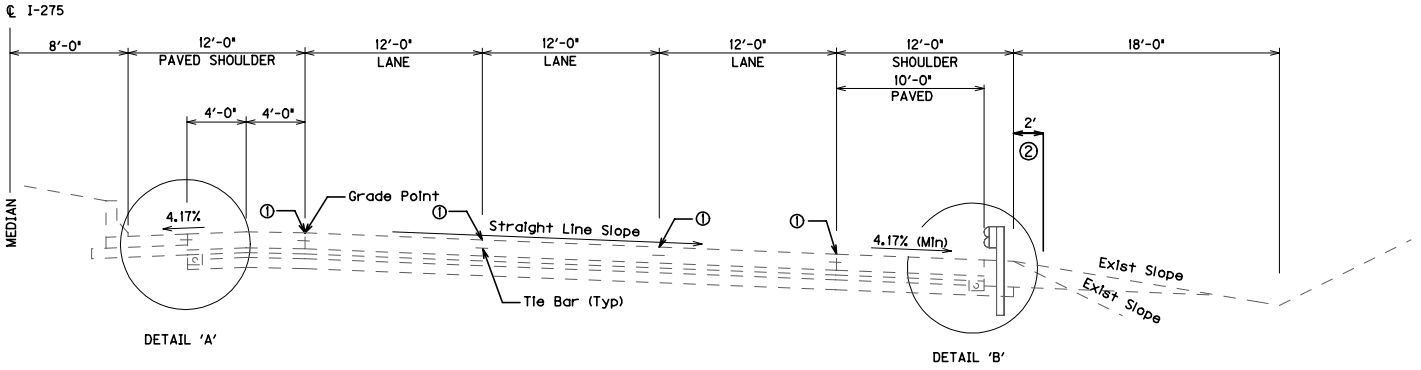
SOUTHBOUND		Lane 1		Lane 2		Lane 3	
		No Grind	1 Grind	No Grind	1 Grind	No Grind	1 Grind
Start MP	Stop MP	(in/mi)	(in/mi)	(in/mi)	(in/mi)	(in/mi)	(in/mi)
82.475	82.375	72.25	52.32	78.59	57.43	113.69	72.94
82.375	82.275	88.80	58.33	88.36	65.35	130.08	74.32
82.275	82.175	156.12	94.81	153.92	93.87	206.43	116.47
82.175	82.075	106.40	76.91	109.14	80.80	153.73	89.95
82.075	81.975	123.89	83.66	113.46	81.89	178.16	102.31
81.975	81.875	114.40	72.77	101.02	62.80	153.97	87.20
81.875	81.775	120.43	82.81	110.79	77.16	224.57	131.38
81.775	81.675	114.96	80.31	109.17	74.16	168.75	96.97
81.675	81.575	106.88	69.78	109.14	84.27	170.02	108.60
81.575	81.475	105.78	65.24	106.32	74.24	174.88	101.22
81.475	81.375	118.44	69.80	113.80	73.17	166.15	104.79
81.375	81.275	94.94	59.09	91.91	61.19	155.63	85.34
81.275	81.175	97.27	57.92	99.95	62.70	148.81	80.10
81.175	81.075	104.41	66.54	120.43	72.49	159.65	93.65
81.075	80.975	105.52	61.28	109.73	70.79	156.44	98.17
80.975	80.875	87.14	51.70	92.52	59.83	142.24	80.23
80.875	80.775	101.88	60.71	113.18	77.29	168.33	96.92
80.775	80.675	167.22	96.31	186.34	114.32	182.61	113.04
80.675	80.575	108.53	60.31	101.14	58.32	160.42	86.86
80.575	80.475	156.75	104.46	187.02	125.80	165.81	105.75
80.475	80.375	94.96	71.25	102.45	72.10	142.86	79.31
80.375	80.275	96.00	69.09	102.15	70.87	131.79	74.57
80.275	80.175	149.95	99.02	138.86	87.64	153.21	83.40
80.175	80.120	135.45	88.81	158.96	95.57	190.47	103.29
79.796	79.696	82.24	57.21	72.78	50.87	168.33	100.07
79.696	79.596	81.17	53.04	61.63	41.49	139.12	81.82
79.596	79.496	87.95	51.87	87.48	57.08	150.05	89.63
79.496	79.396	77.67	47.05	78.84	50.66	138.51	81.26
79.396	79.296	81.45	52.22	82.51	51.63	159.32	89.47
79.296	79.196	113.91	75.11	142.86	92.06	108.34	69.48
79.196	79.096	117.15	72.29	141.63	91.23	144.08	83.12
79.096	78.996	105.95	65.07	86.75	59.38	123.82	75.50
78.996	78.896	101.10	60.10	103.27	65.90	151.81	93.72
78.896	78.796	142.81	89.32	160.21	102.17	160.18	102.83
78.796	78.696	104.17	61.91	115.11	69.95	151.33	74.67
78.696	78.596	114.32	65.72	114.87	68.78	102.39	61.99
78.596	78.496	106.21	62.92	99.74	58.80	141.71	85.20
78.496	78.396	122.85	80.50	123.75	83.34	152.62	87.60
78.396	78.296	101.54	70.24	103.47	70.75	156.14	85.30
78.296	78.196	92.87	63.61	92.88	59.48	170.34	100.08
78.196	78.096	88.02	53.31	97.03	59.50	147.62	79.58
78.096	77.996	83.89	60.76	81.81	51.44	148.37	80.87
77.996	77.896	104.82	69.43	102.48	71.48	172.79	101.93
77.896	77.796	190.33	105.89	219.79	107.55	162.66	97.33
77.796	77.696	125.26	77.12	198.59	111.72	121.45	71.76
77.696	77.596	118.51	68.39	179.50	103.00	105.37	67.54
77.596	77.496	138.76	82.92	180.67	99.22	151.69	87.49
77.496	77.396	152.01	99.70	144.28	96.14	144.31	87.17
77.396	77.296	100.73	73.45	111.57	69.72	128.79	82.40
77.296	77.196	177.99	103.31	193.86	132.88	252.01	173.46
77.196	77.096	234.62	173.36	195.26	148.01	181.12	127.60
77.096	77.023	162.33	111.79	99.65	73.19	72.99	64.97

TYPICAL SECTIONS

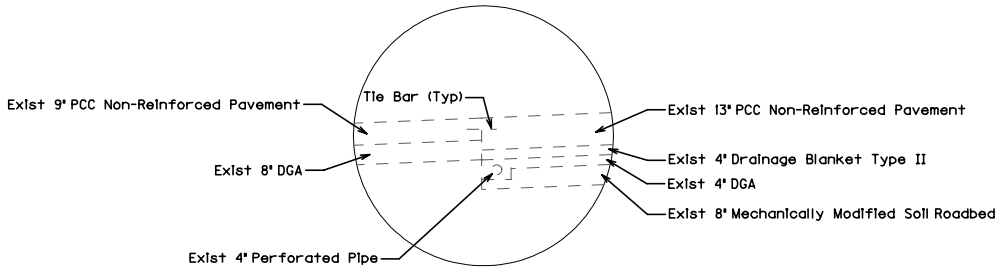
I-275 BEGIN PROJECT TO STA 920+25



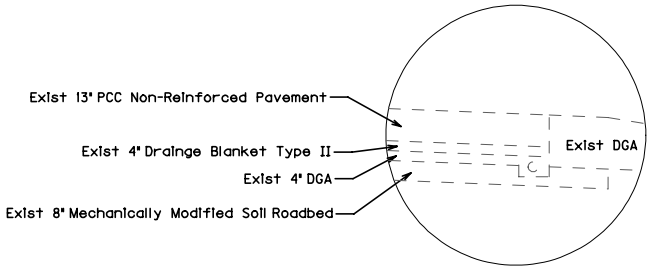
NORMAL SECTION



SUPERELEVATED SECTION



DETAIL 'A'



DETAIL 'B'

① Longitudinally Sawed Construction Joint

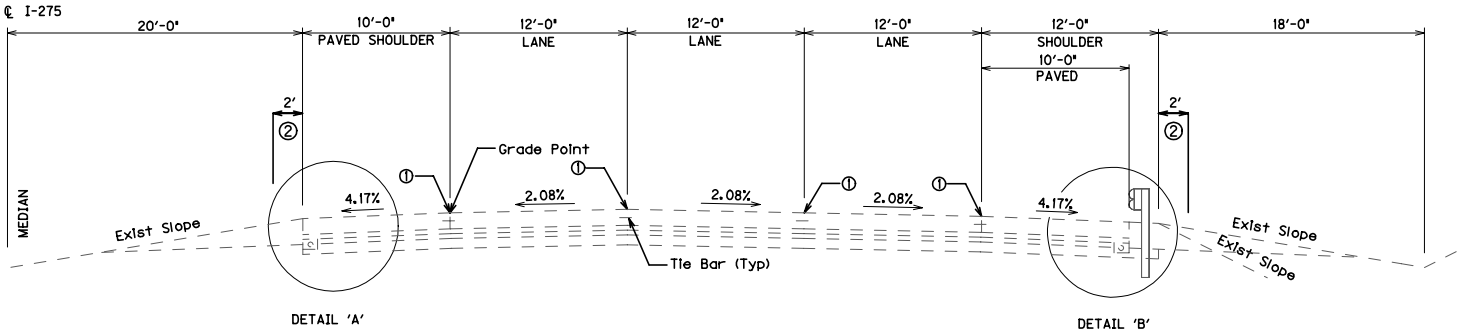
② Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

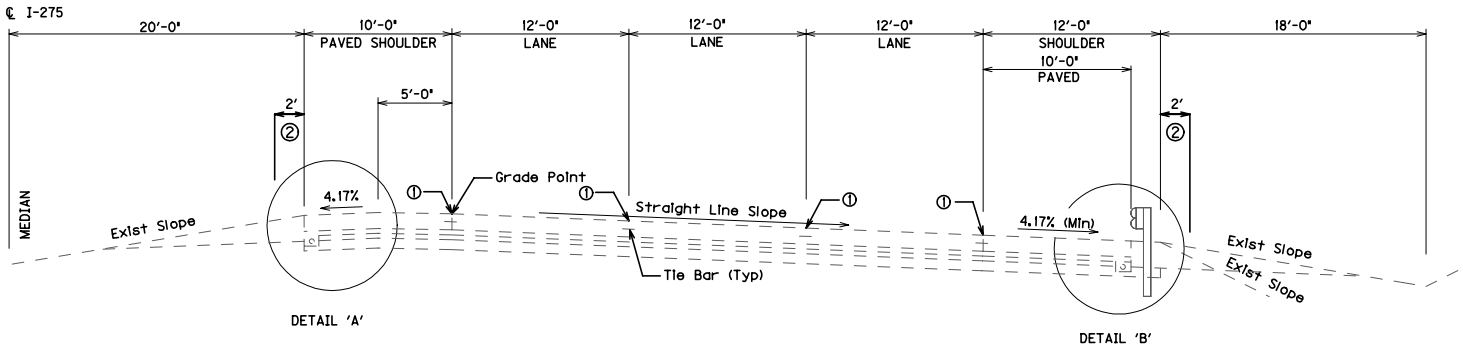
NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

TYPICAL SECTIONS

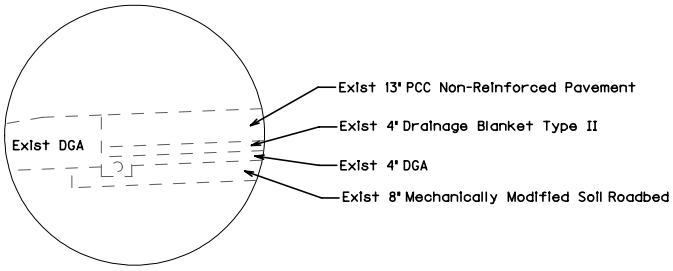
I-275
STA 920+25 TO STA 9886+95
STA 1007+00 TO END PROJECT



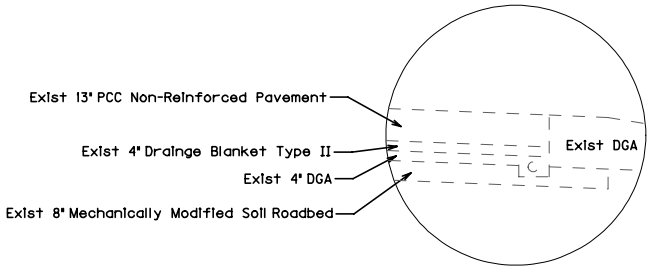
NORMAL SECTION



SUPERELEVATED SECTION



DETAIL 'A'



DETAIL 'B'

① Longitudinally Sawed Construction Joint

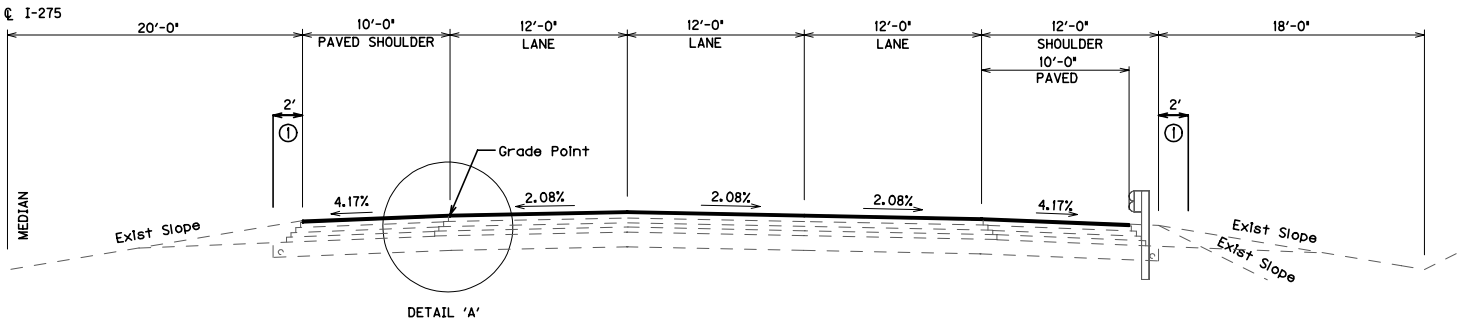
② Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

TYPICAL SECTIONS

I-275 STA 1003+70 TO STA 1006+15

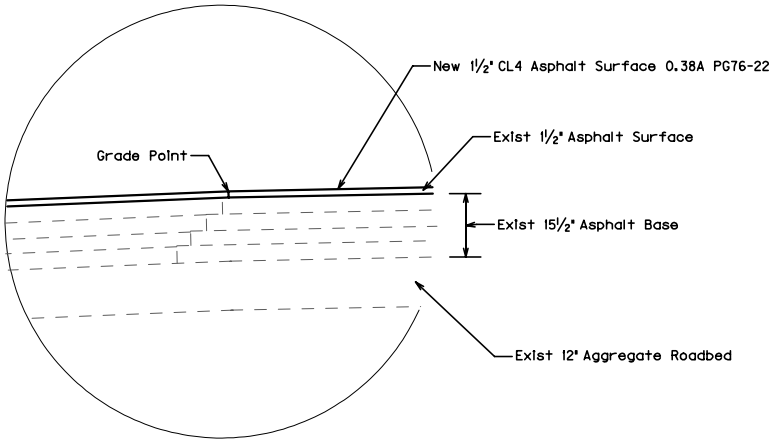


NORMAL SECTION

DRIVING LANE & SHOULDERS

Mill 1½" Of Existing Asphalt & Overlay With:

1½" CL4 Asphalt Surface 0.38A PG76-22



DETAIL 'A'

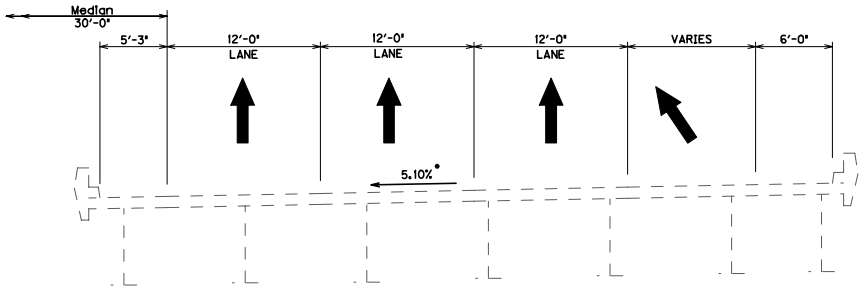
① Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

BRIDGE TYPICAL SECTIONS
ITEM NUMBER: 6-2025.00 & 6-2027.00

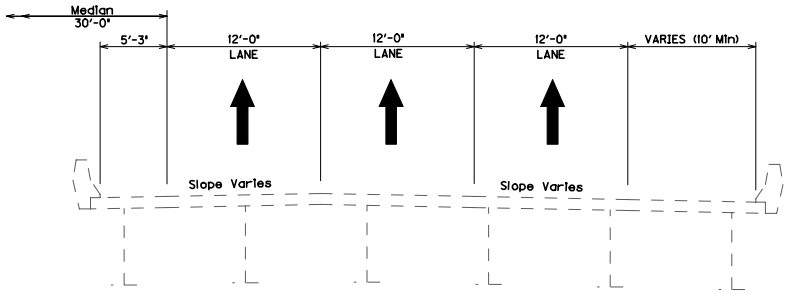
Bridge Maint. No. 019B00048R (Eastbound) Or 019B00048L (Westbound)



Eastbound Or Westbound I-275 Bridge Over KY 9

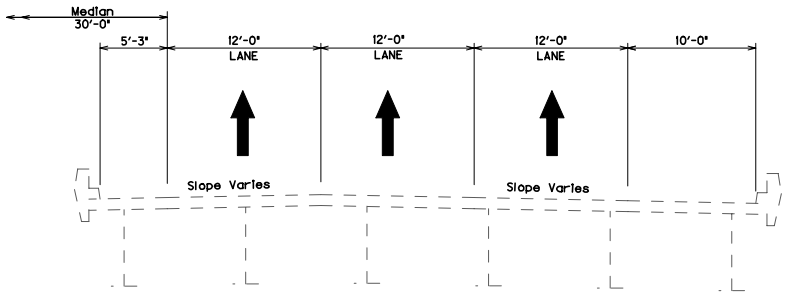
*Eastbound Slope Shown, Westbound Slope In Opposite Direction

Bridge Maint. No. 059B00063R (Eastbound) Or 059B00063L (Westbound)



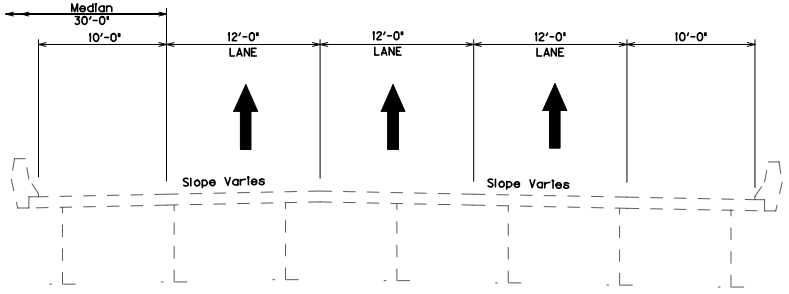
Eastbound Or Westbound I-275 Bridge Over KY 17

Bridge Maint. No. 059B00052R (Eastbound) Or 059B00052L (Westbound)



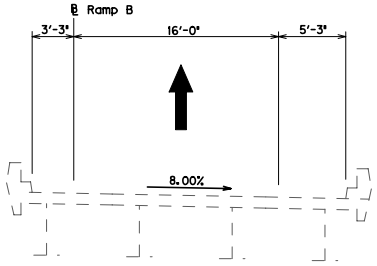
Eastbound Or Westbound I-275 Bridge
Over CSX Railraod, KY 177 & Licking River

Bridge Maint. No. 059B00061N

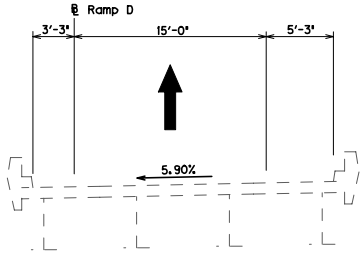


Eastbound Or Westbound I-275 Bridge Over Horse Branch Rd

Bridge Maint. No. 019B00047N



Westbound I-275 Ramp B To KY 9

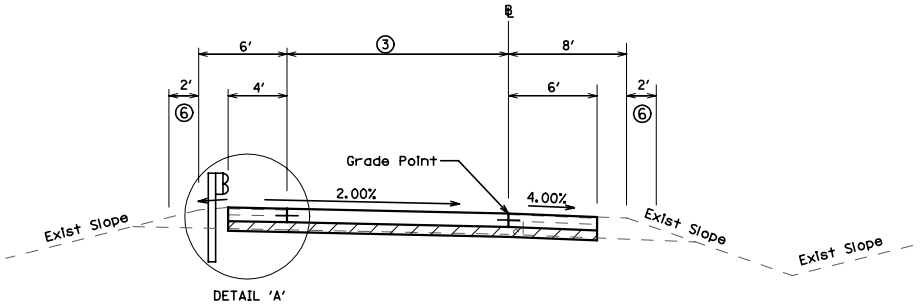


Eastbound I-275 Ramp D To KY 1303

TYPICAL SECTIONS

I-275 RAMPS AT

US 25	KY 1303	KY17	KY 16
RAMP C-1	RAMP D	RAMP A	RAMP A
RAMP C-2	RAMP G	RAMP A-1	
RAMP E	RAMP K	①RAMP B	
RAMP F		RAMP C	
		②RAMP D	

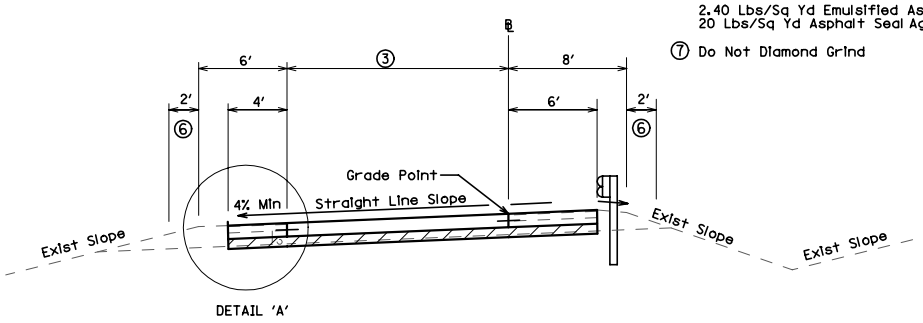


NORMAL SECTION

⑥ Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

⑦ Do Not Diamond Grind



SUPERELEVATED SECTION

① From Sta 5+79.8 to Sta 13+64.7

② From Sta 5+09.4 to Sta 15+43.6

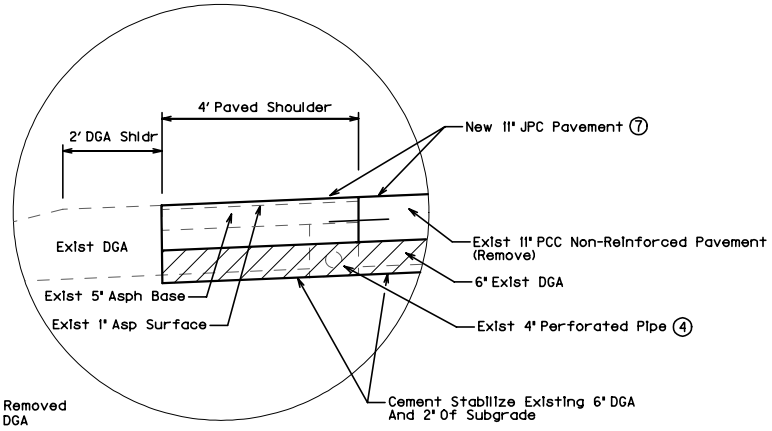
③ Ramp Widths:

US 25
RAMP C-1 - 15' Min
RAMP C-2 - 15' Min
RAMP E - 16' Min
RAMP F - 15' Min

KY 1303
RAMP D - 15' Min
RAMP G - 14' Min
RAMP K - 15' Min

KY 17
RAMP A - 15' Min
RAMP A-1 - 16' Min
RAMP B - 16' Min
RAMP C - 15.3' Min
RAMP D - 16' Min

KY 16
RAMP A - 15' Min



DETAIL 'A'

④ Any Existing Pipe Underdrains Disturbed Are To Be Removed And Not Replaced. Removal Will Be Incidental To The DGA Used To Refill The Void.

⑤ Only Hot Pour Elastic Sealant Will Be Allowed In Sealing Longitudinal And Transverse Joints

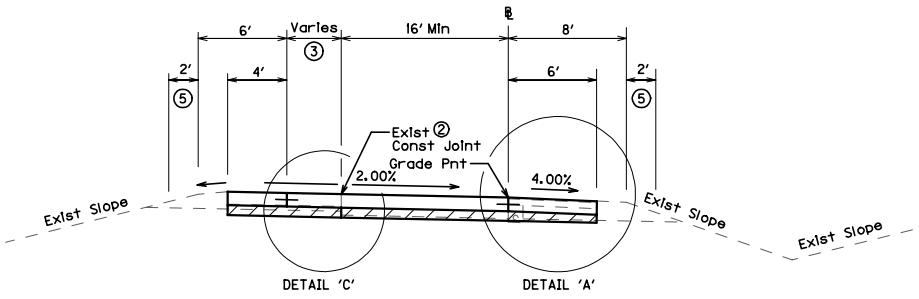
NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

TYPICAL SECTIONS

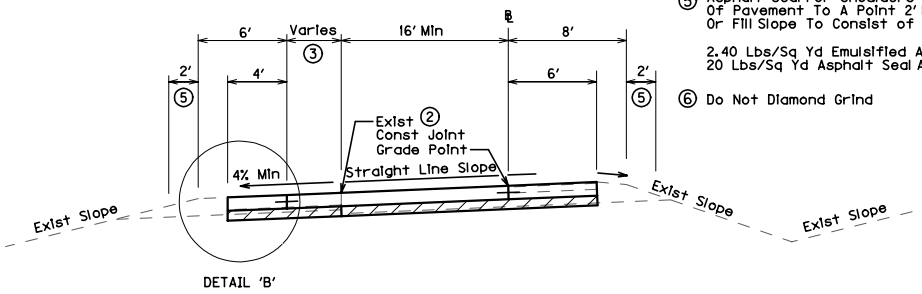
I-275 RAMPS AT

KY 17

RAMP B (Sta 13+64.7 to Sta 20+08.3)
RAMP D (Sta 15+43.6 to Sta 23+28.4)



NORMAL SECTION



SUPERELEVATED SECTION

⑤ Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

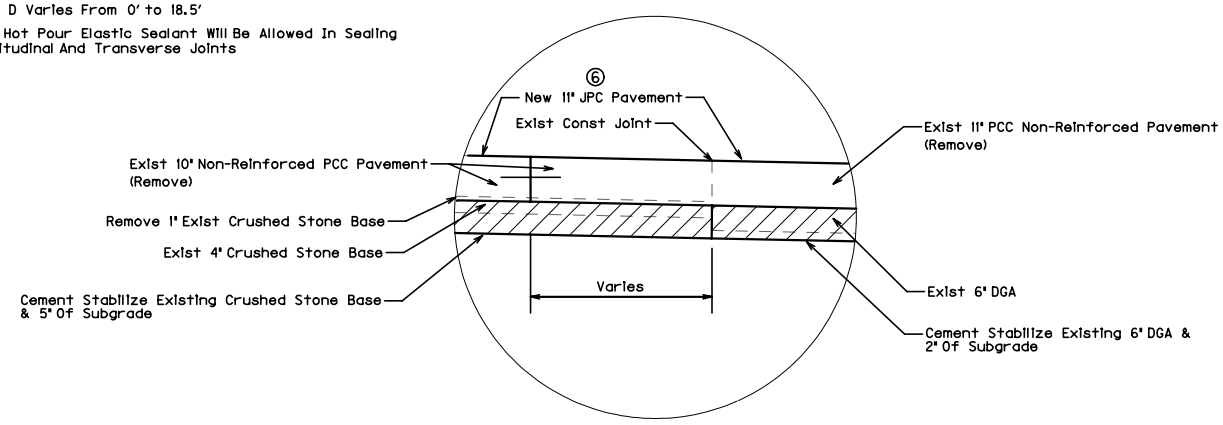
⑥ Do Not Diamond Grind

① Any Existing Pipe Underdrains Disturbed Are To Be Removed And Not Replaced. Removal Will Be Incidental To The DGA Used To Refill The Void.

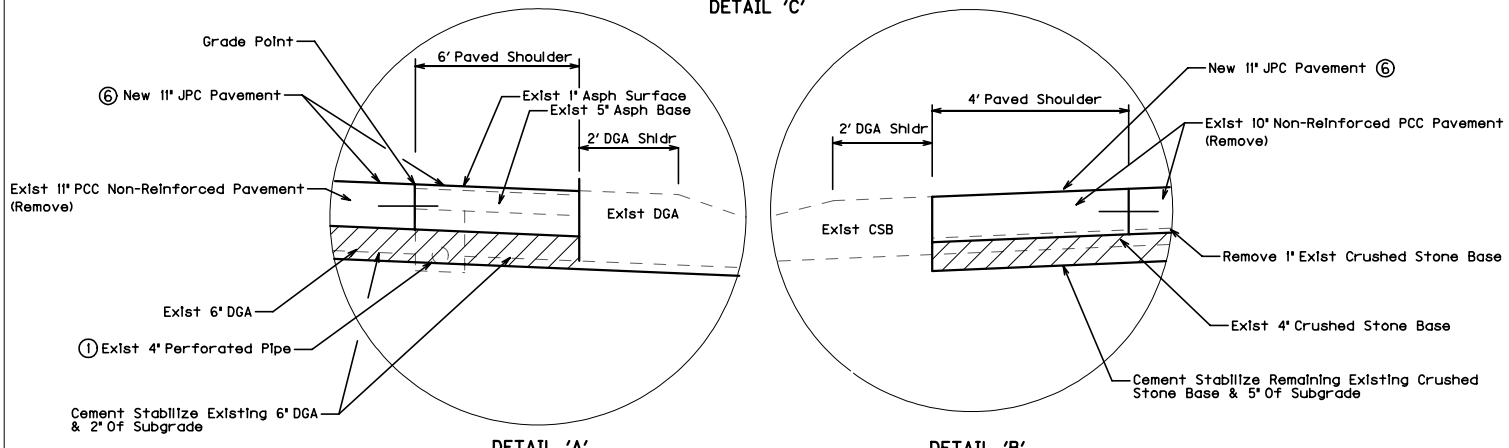
② Existing Construction Joint From Previous Base Widening

③ Ramp B Varies From 0' to 12'
Ramp D Varies From 0' to 18.5'

④ Only Hot Pour Elastic Sealant Will Be Allowed In Sealing Longitudinal And Transverse Joints



DETAIL 'C'



DETAIL 'A'

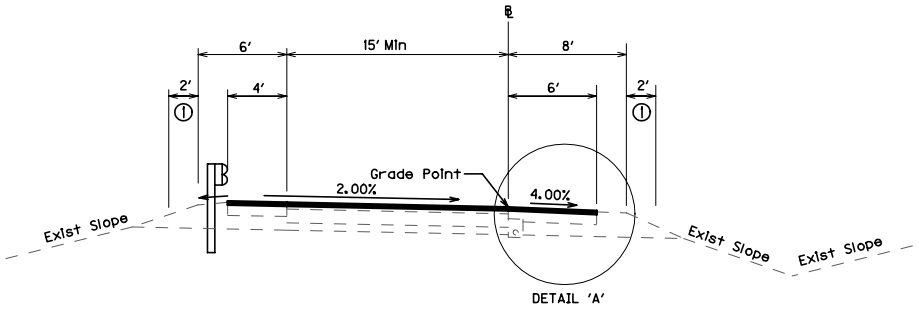
DETAIL 'B'

NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

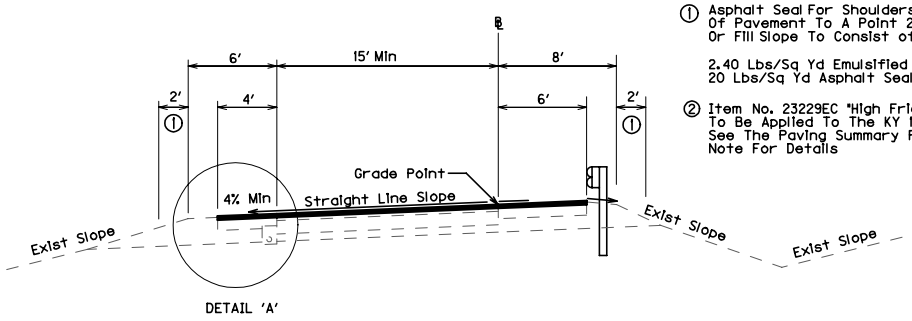
TYPICAL SECTIONS

I-275 RAMPS AT

KY 1303	KY 16
RAMP J	RAMP B
	RAMP C
	RAMP D
	RAMP E
	RAMP F



NORMAL SECTION



① Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

② Item No. 23229EC "High Friction Surface Treatment" Is To Be Applied To The KY 16 Ramp C Driving Lane See The Paving Summary For Quantity And Special Note For Details

SUPERELEVATED SECTION

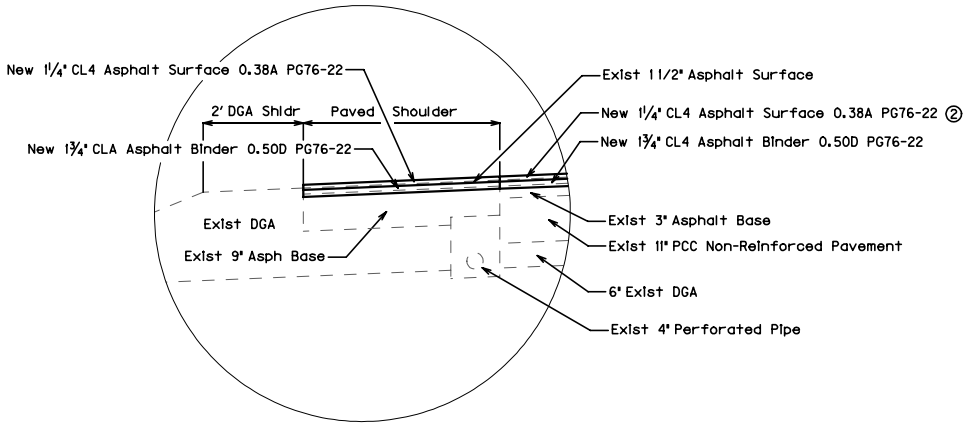
DRIVING LANE & SHOULDERS

Mill 2" Of Existing Asphalt & Overlay With:

1¾" CL 4 Asphalt Binder 0.50D PG76-22
1¼" CL4 Asphalt Surface 0.38A PG76-22

NOTE:

Mill 2" of Existing Asphalt Pavement & Overlay with 3" Asphalt. Taper Overlay to 2" Near Existing Wedge Curbs or Flumes.



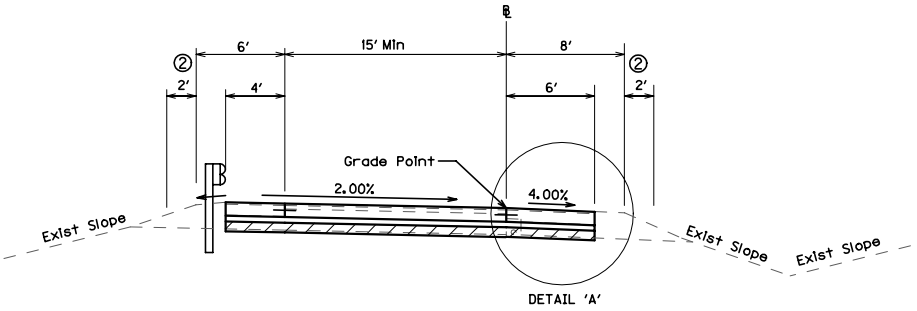
DETAIL 'A'

NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

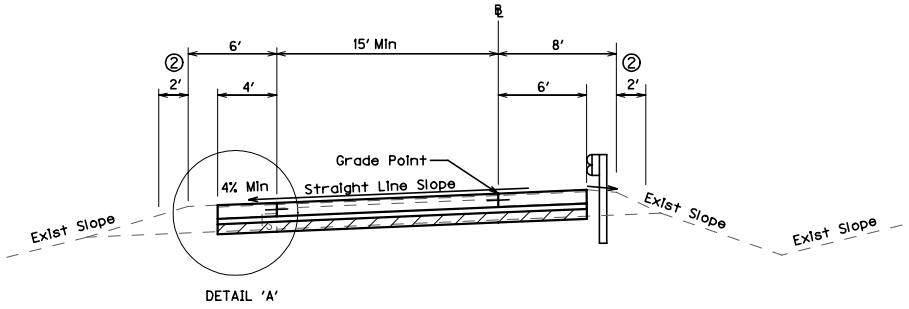
TYPICAL SECTIONS

I-275 RAMPS AT

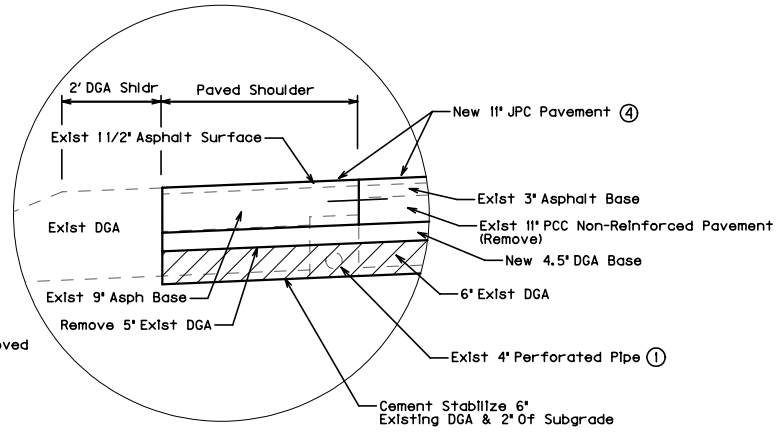
KY 9
RAMP A



NORMAL SECTION



SUPERELEVATED SECTION



DETAIL 'A'

① Any Existing Pipe Underdrains Disturbed Are To Be Removed And Not Replaced. Removal Will Be Incidental To The DGA Used To Refill The Void.

② Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

③ Only Hot Pour Elastic Sealant Will Be Allowed In Sealing Longitudinal And Transverse Joints

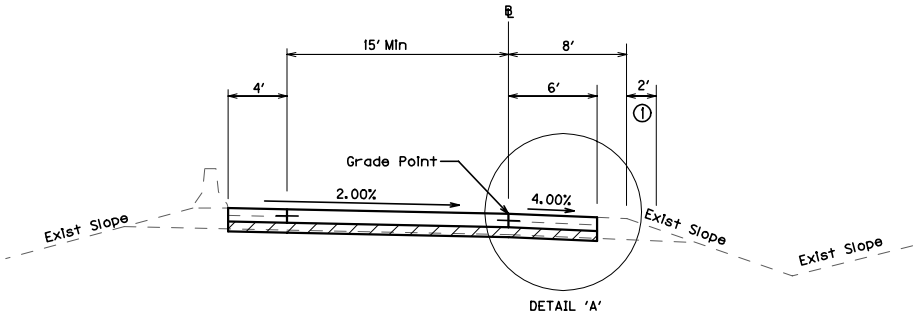
④ Do Not Diamond Grind

NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

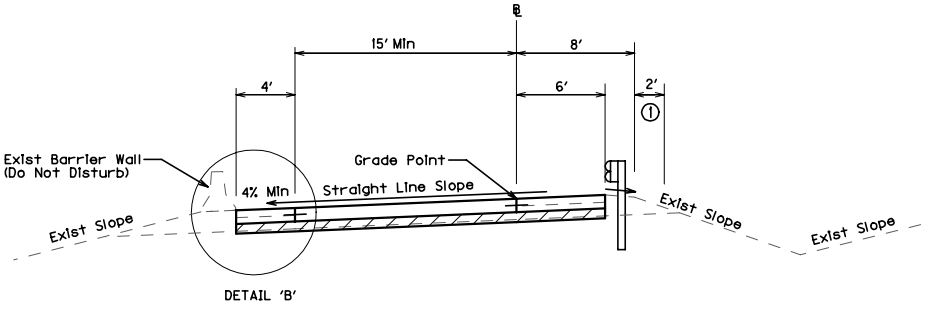
TYPICAL SECTIONS

I-275 RAMPS AT

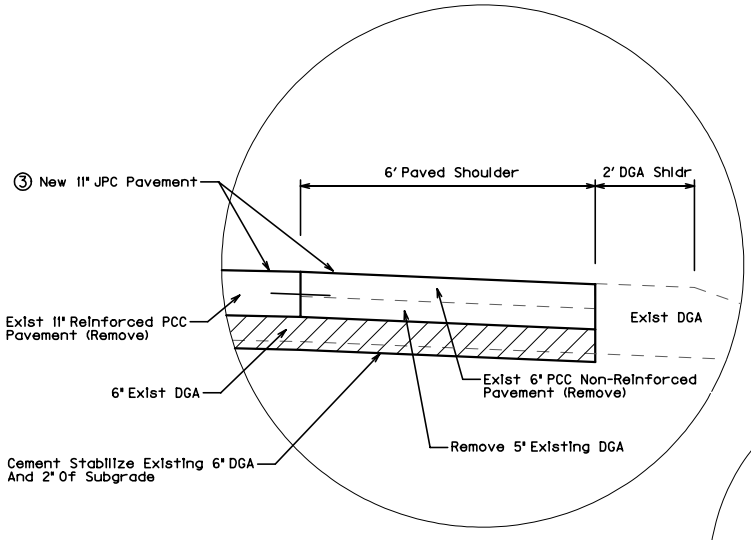
KY 9
RAMP B



NORMAL SECTION



SUPERELEVATED SECTION



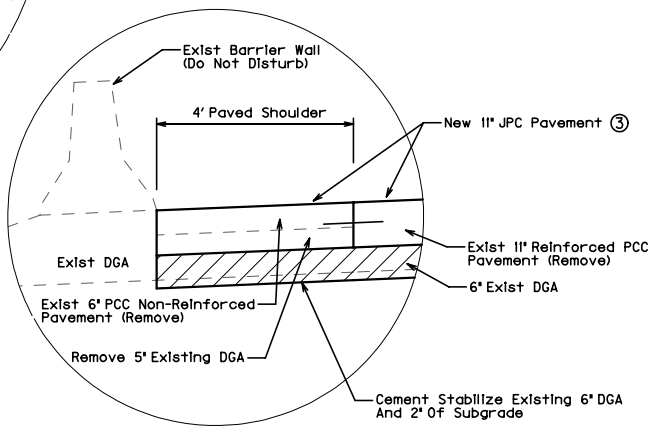
DETAIL 'A'

① Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

② Only Hot Pour Elastic Sealant Will Be Allowed In Sealing Longitudinal And Transverse Joints

③ Do Not Diamond Grind



DETAIL 'B'

NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

TYPICAL SECTIONS

I-275 RAMPS AT

KY 9
RAMP C

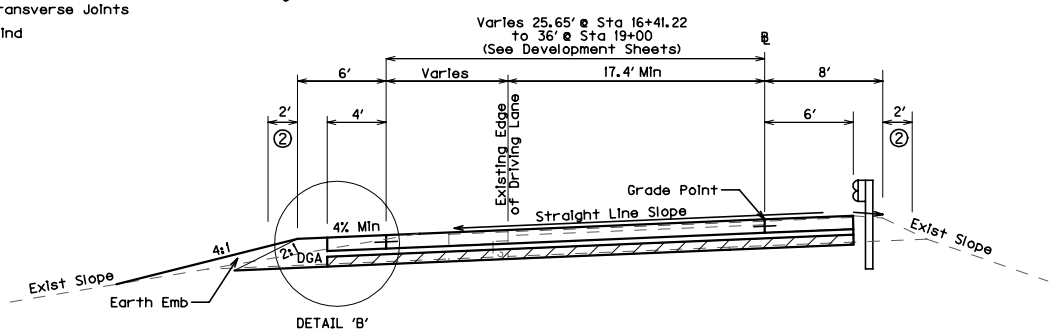
① Any Existing Pipe Underdrains Disturbed Are To Be Removed And Not Replaced. Removal Will Be Incidental To The DGA Used To Refill The Void.

② Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

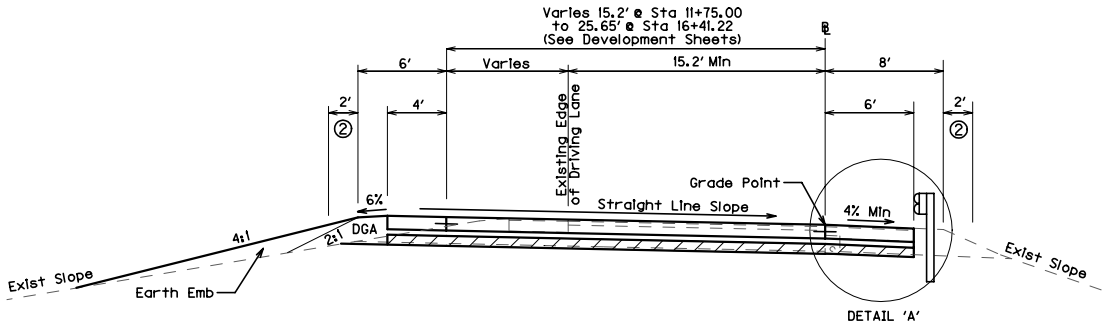
2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

③ Only Hot Pour Elastic Sealant Will Be Allowed In Sealing Longitudinal And Transverse Joints

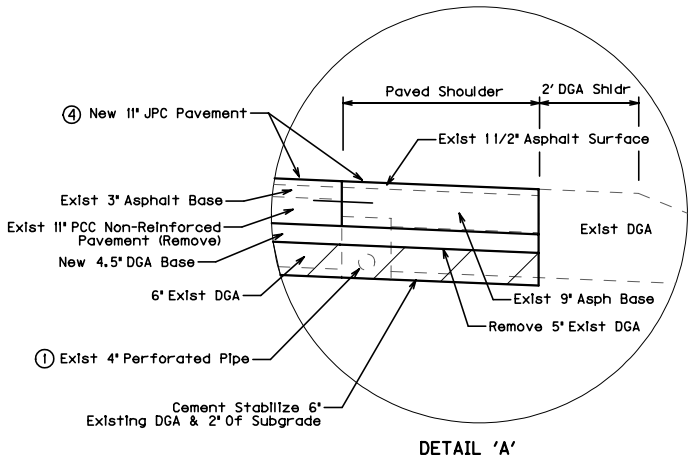
④ Do Not Diamond Grind

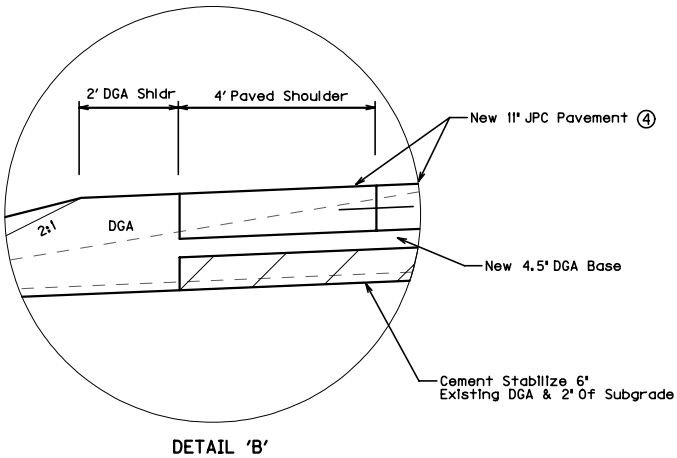


LEFT SUPERELEVATED SECTION
(STA 16+41.22 TO STA 19+50.00)



RIGHT SUPERELEVATED SECTION
(STA 11+75.00 TO STA 16+41.22)





NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

TYPICAL SECTIONS

I-275 RAMPS AT

KY 9
RAMP C

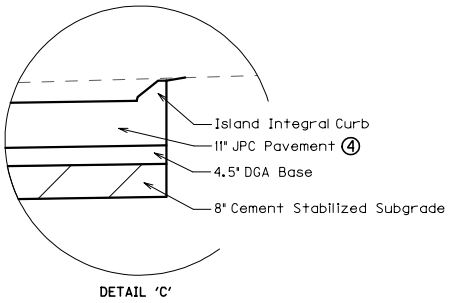
① Any Existing Pipe Underdrains Disturbed Are To Be Removed And Not Replaced. Removal Will Be Incidental To The DGA Used To Refill The Void.

② Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

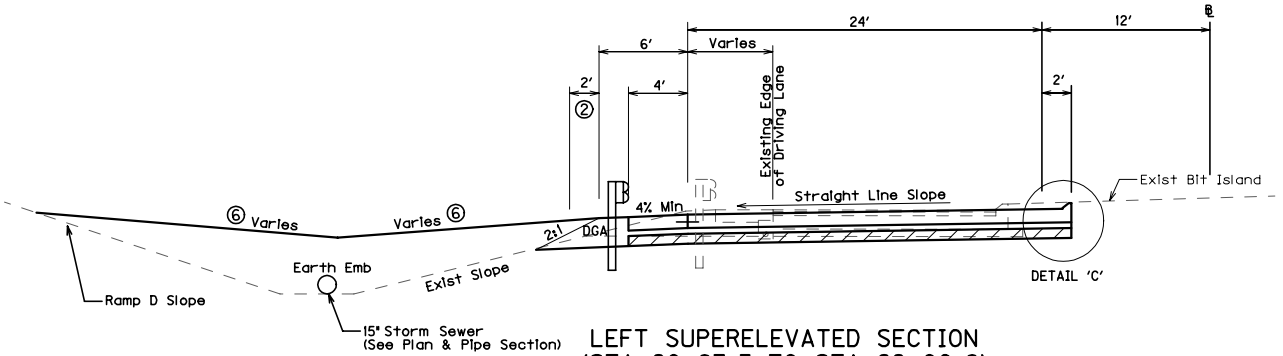
2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

③ Only Hot Pour Elastic Sealant Will Be Allowed In Sealing Longitudinal And Transverse Joints

④ Do Not Diamond Grind

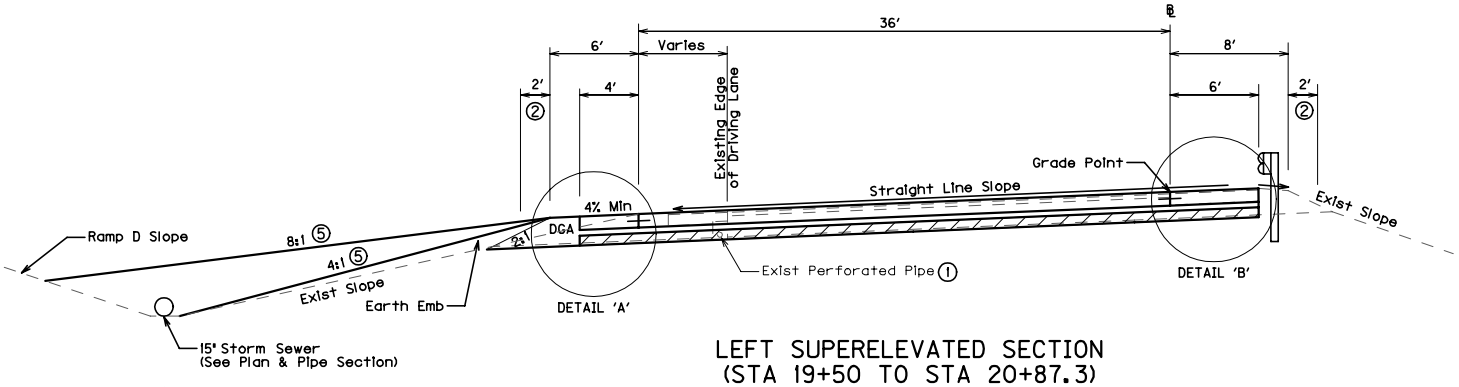


DETAIL 'C'



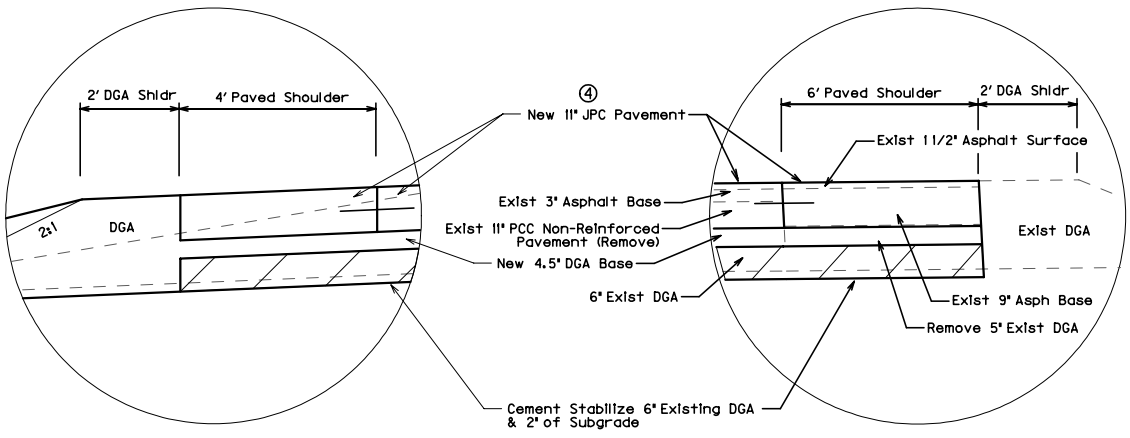
LEFT SUPERELEVATED SECTION
(STA 20+87.3 TO STA 22+00.8)

⑥ Grade to Drain to Drop Box Inlet Lt Sta 21+17



LEFT SUPERELEVATED SECTION
(STA 19+50 TO STA 20+87.3)

⑤ Slope Transitions From 4:1 At Sta 19+50 To 8:1 At Sta 19+75
From Sta 19+75 to Sta 20+75 - 8:1 Slope
Sta 20+75 to Sta 20+87.3 - Grade to Drain to Drop Box Inlet Lt Sta 21+17



DETAIL 'A'
DETAIL 'B'

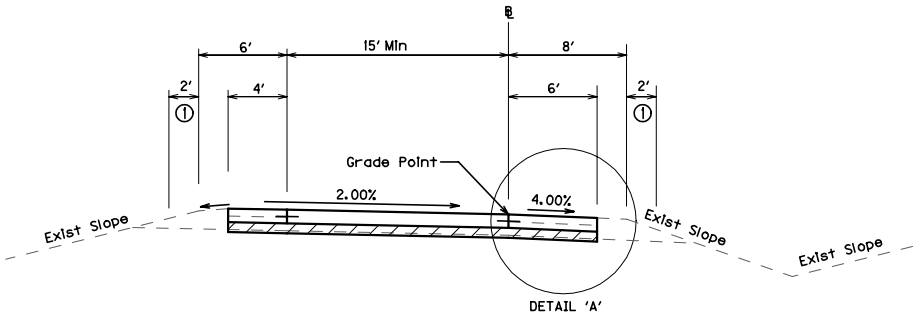
NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

TYPICAL SECTIONS

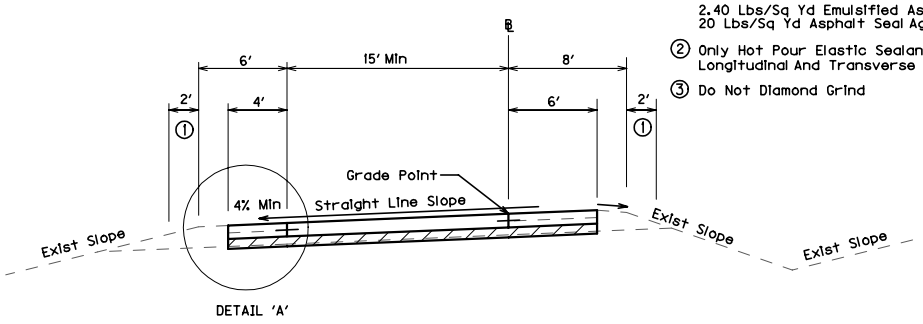
I-275 RAMPS AT

KY 9

RAMP D



NORMAL SECTION



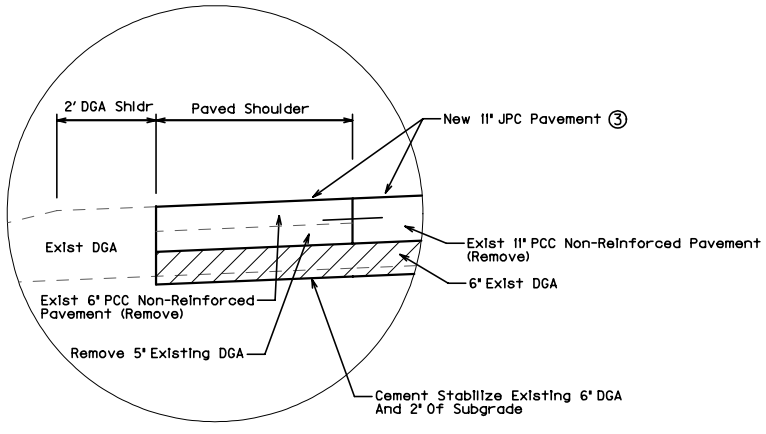
SUPERELEVATED SECTION

① Asphalt Seal For Shoulders From Outside Edge Of Pavement To A Point 2' Down The Ditch Or Fill Slope To Consist of 2 Applications Of:

2.40 Lbs/Sq Yd Emulsified Asphalt RS-2
20 Lbs/Sq Yd Asphalt Seal Aggregate (Size No 8 or 9M)

② Only Hot Pour Elastic Sealant Will Be Allowed In Sealing Longitudinal And Transverse Joints

③ Do Not Diamond Grind



DETAIL 'A'

NOTE: EXISTING PAVEMENT INFORMATION SHOWN TAKEN FROM PREVIOUS PLANS

GENERAL SUMMARY
1-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

CODE	ITEM	UNIT	CAMPBELL CO TOTAL	KENTON CO TOTAL	PROJECT TOTAL	NOTES
1	DGA BASE	TON	2,795	6,245	9,040	1)
100	ASPHALT SEAL AGGREGATE	TON	112	1,211	1,323	2)
291	EMULSIFIED ASPHALT RS-2	TON	13.6	145.5	159.1	3)
521	STORM SEWER PIPE-15 IN	LF	166		166	
1432	SLOPED BOX OUTLET TYPE 1-15 IN	EACH	1		1	
1490	DROP BOX INLET TYPE 1	EACH	1		1	
1641	JUNCTION BOX-15 IN	EACH	1		1	
1982	DELINEATOR FOR GUARDRAIL-WHITE	EACH	137	515	652	4)
1983	DELINEATOR FOR GUARDRAIL-YELLOW	EACH	50	165	215	4)
1984	DELINEATOR FOR BARRIER-WHITE	EACH	165	428	593	
1985	DELINEATOR FOR BARRIER-YELLOW	EACH	165	428	593	
2014	BARRICADE-TYPE III	EACH	5	20	25	
2058	REMOVE PCC PAVEMENT	SQ YD	12,915	35,011	47,926	5)
2086	JPC PAVEMENT - 13 IN	SQ YD	144	149	293	6)
2230	EMBANKMENT IN PLACE	CUYD	507		507	7)
2562	SIGNS	SQFT	500	1,500	2,000	
2568	MOBILIZATION	LS	1	1	1	
2569	DEMOBILIZATION	LS	1	1	1	
2650	MAINTAIN & CONTROL TRAFFIC	LS	1	1	1	
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	5	5	10	
2690	SAFELOADING	CUYD	3		3	
2701	TEMP SILT FENCE	LF	1,000	4,000	5,000	
2705	SILT TRAP TYPE C	EACH	15	55	70	
2708	CLEAN SILT TRAP TYPE C	EACH	15	55	70	
2709	CLEAN TEMP SILT FENCE	LF	1,000	4,000	5,000	
2726	STAKING	LP SUM	1	1	1	
2775	ARROW PANEL	EACH	2	3	5	
2894	CRASH CUSHION TYPE VI-T	EACH	2	3	5	8)
2898	RELOCATE CRASH CUSHION	EACH	2	3	5	8)
3171	CONCRETE BARRIER WALL TYPE 9T	LIN FT	1,200	4,600	5,800	8), 10)
5950	EROSION CONTROL BLANKET	SQYD	5,000	50,000	55,000	
5985	SEEDING AND PROTECTION	SQYD	15,000	72,000	87,000	
6417	FLEXIBLE DELINEATOR POST-W	EACH	71	405	476	
6418	FLEXIBLE DELINEATOR POST-Y	EACH	91	405	496	
6511	PAVE STRIPING-TEMP PAINT-6 IN	LF	20,000	180,000	200,000	
6549	PAVE STRIPING-TEMP REM TAPE-B	LF	2,000	18,000	20,000	
6550	PAVE STRIPING-TEMP REM TAPE-W	LF	2,000	18,000	20,000	
6551	PAVE STRIPING-TEMP REM TAPE-Y	LF	2,000	18,000	20,000	
6568	PAVE MARKING-THERMO STOP BAR-24IN	LF	40	139	179	
6574	PAVE MARKING-PREF THERM CURV ARROW	EACH	6	25	31	9)
6592	PAVEMENT MARKER TYPE V-B W/R	EACH	199	471	670	
6593	PAVEMENT MARKER TYPE V-B Y/R	EACH	113	655	768	
6600	REMOVE PAVEMENT MARKER TYPE V	EACH		507	507	11)
10020NS	FUEL ADJUSTMENT	DOLL	2,328	16,932	19,260	
10030NS	ASPHALT ADJUSTMENT	DOLL		12,523	12,523	
22854EN	PAVE STRIPE PERM-6 IN HD21-WHITE	LF	9,185	97,689	106,874	
22855EN	PAVE STRIPE PERM-6 IN HD21-YELLOW	LF	9,188	77,043	86,231	
22856EN	PAVE STRIPE PERM-12 IN HD21-WHITE	LF	2,126	8,893	11,019	

GENERAL SUMMARY
1-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

CODE	ITEM	UNIT	CAMPBELL CO TOTAL	KENTON CO TOTAL	PROJECT TOTAL	NOTES

NOTES:

1) Quantity includes 704 tons from the HTC Median Barrier General Summary and 8336 tons from the Paving Summary.
2) Quantity includes 245 tons from the HTC Median Barrier General Summary and 1078 tons from the Paving Summary.
3) Quantity includes 30 tons from the HTC Median Barrier General Summary and 129.1 tons from the Paving Summary.
4) Install the delineators prior to MOT phases of activity and leave in place permanently. Estimated at 50 foot centers for all guardrail.
5) Includes 16 square yards from the Concrete Pavement Repair Summary and 47,910 square yards from the Project Paving Summary.
6) Includes 16 square yards from the Concrete Pavement Repair Summary and 277 square yards from the Project Paving Summary.
7) For widening Ramp C at the KY 9 interchange.
8) Use for bridge repair areas.
9) Use 6 arrows for new double left turn lanes on east bound Exit Ramp to KY 9. Other arrows to replace existing arrows on other ramps in project limits.
10) All relocations of the 9T wall will be incidental to this item.
11) For removal from six ramps to be milled and overlaid

OTHER QUANTITIES:

See the other roadway summaries for additional quantities
See the bridge plans for quantities for the bridge work
See HTC Median Barrier General Summary for additional items for that work
See "Location Table" page for each ADR station to be installed for quantities for that work
See Signal Plans for quantities for all traffic signal and signal traffic loop work
See Lighting Plans for quantities for all lighting work

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

PROJECT PAVING SUMMARY					
ITEM CODE	**ITEM**	**UNIT**	**CAMPBELL COUNTY** 8.)	**KENTON COUNTY** 8.)	**PROJECT TOTAL**
1	DGA BASE 1), 9)	TON	2,795	5,541	**8,336**
8	CEMENT STABILIZED ROADBED	SQYD	15,385	52,392	**67,777**
100	ASPHALT SEAL AGGREGATE 2), 9)	TON	112	966	**1,078**
279	CL4 ASPH BIND 0.50D PG76-22 3)	TON		2,905	**2,905**
291	EMULSIFIED ASPHALT RS-2 4), 9)	TON	13.6	115.5	**129.1**
342	CL4 ASPH SURF 0.38A PG76-22 3)	TON		2,293	**2,293**
358	ASPHALT CURING SEAL 5)	TON	15.5	52.5	**68.0**
2058	REMOVE PCC PAVEMENT 9), 10)	SQYD	12,915	34,995	**47,910**
2071	JPC PAVEMENT - 11 IN	SQYD	10,551	33,989	**44,540**
2072	JPC PAVEMENT - 11 IN SHLD	SQYD	4,834	18,404	**23,238**
2086	JPC PAVEMENT - 13 IN 9)	SQYD	144	133	**277**
2087	JPC PAVEMENT - 13 IN SHLD	SQYD	59	44	**103**
2542	CEMENT 6)	TON	301	1,025	**1,326**
2676	MOBILIZATION FOR MILL & TEXT	LS		1	**1**
2677	ASPHALT PAVEMENT MILLING & TEXTURING 3)	TON		3,558	**3,558**
2702	SAND FOR BLOTTER 7)	TON	39	134	**173**
20412ED	REMOVE ASPHALT SHOULDER	SQYD	1,986	17,940	**19,926**
231229EC	HIGH FRICTION SURFACE TREATMENT	SQYD		2,608	**2,608**

NOTES:

1) Estimated at 115 pounds per square yard per inch of depth.
2) Estimated at 20 pounds per square yard per application (2 required).
3) Estimated at 110 pounds per square yard per inch of depth.
4) Estimated at 2.40 pounds per square yard per application (2 required).
5) Estimated at 2 pounds per square yard.
6) Estimated at 39.1 pounds per square yard.
7) Estimated at 5 pounds per square yard.
8) Quantities carried forward from the county summaries.
9) Quantities carried forward to the General Summary.
10) See I-275 Ramp K @ KY 1303 Sheet 2 of 3 for a Special Note Concerning This Bid Item

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

KENTON COUNTY PAVING SUMMARY

ITEM CODE	ITEM	UNIT	I-275 EAST	I-275 WEST	Ramp A (KY 16)	Ramp B (KY 16)	Ramp C (KY 16)	Ramp D (KY 16)	Ramp E (KY 16)	Ramp F (KY 16)	Ramp A (KY 17)	Ramp A-1 (KY 17)	Ramp B (KY 17)	Ramp C (KY 17)	Ramp D (KY 17)	Ramp C-1 (US 25)	Ramp C-2 (US 25)	Ramp E (US 25)	Ramp F (US 25)	Ramp D (KY 1303)	Ramp G (KY 1303)	Ramp J (KY 1303)	Ramp K (KY 1303)	TOTAL 11.)
1	DGA BASE 1.), 2.)	TON	1,374	1,636	129	153	200	150	177	139	170	23	149	132	187	41	192	96	226	108	16	83	160	**5,541**
8	CEMENT STABILIZED ROADBED	SQYD			3,514						5,066	708	5,451	4,606	7,251	1,120	6,674	3,092	6,739	3,085	607		4,479	**52,392**
100	ASPHALT SEAL AGGREGATE 3.)	TON	239	285	22	27	35	26	31	24	30	4	26	23	33	7	33	17	39	19	3	15	28	**966**
	1 3/4" CL4 ASPH BIND 0.50D PG76-22					506	404	537	578	415												429		2,869
	2 1/4" CL4 ASPH BIND 0.50D PG76-22		18	18																				36
279	CL4 ASPH BIND 0.50D PG76-22 4.)	TON	18	18		506	404	537	578	415												429		**2,905**
291	EMULSIFIED ASPHALT RS-2 5.)	TON	28.7	34.1	2.7	3.2	4.2	3.1	3.7	2.9	3.5	0.5	3.1	2.7	3.9	0.9	4.0	2.0	4.7	2.3	0.3	1.7	3.3	**115.5**
342	CL4 ASPH SURF 0.38A PG76-22 4.)	TON	117	127		362	288	384	413	296												306		**2,293**
358	ASPHALT CURING SEAL 6.)	TON			3.5						5.1	0.7	5.5	4.6	7.3	1.1	6.7	3.1	6.7	3.1	0.6		4.5	**52.5**
2058	REMOVE PCC PAVEMENT 7.)	SQYD	45	132	2,120						3,491	603	4,049	3,127	4,992	663	4,391	2,166	4,218	1,894	363		2,741	**34,995**
2071	JPC PAVEMENT - 11 IN	SQYD			2,109						3,225	463	3,773	3,134	4,634	672	4,853	1,923	4,183	1,910	371		2,739	**33,989**
2072	JPC PAVEMENT - 11 IN SHLD	SQYD			1,406						1,841	245	1,678	1,472	2,617	448	1,821	1,169	2,557	1,175	236		1,739	**18,404**
2086	JPC PAVEMENT - 13 IN	SQYD	36	97																				**133**
2087	JPC PAVEMENT - 13 IN SHLD	SQYD	9	35																				**44**
2542	CEMENT 8.)	TON			69						99	14	107	90	142	22	130	60	132	60	12		88	**1,025**
2676	MOBILIZATION FOR MILL & TEXT	LS																						**1**
	1 1/2" ASPHALT PAVEMENT MILLING & TEXTURING		117	127																				244
	2" ASPHALT PAVEMENT MILLING & TEXTURING					579	461	614	660	474												490		3,278
	9" ASPHALT PAVEMENT MILLING & TEXTURING		18	18																				36
2677	ASPHALT PAVEMENT MILLING & TEXTURING 4.)	TON	135	145		579	461	614	660	474												490		**3,558**
2702	SAND FOR BLOTTER 9.)	TON			9						13	2	14	12	18	3	17	8	17	8	2		11	**134**
20412ED	REMOVE ASPHALT SHOULDER	SQYD			1,503						1,730	132	1,412	1,522	1,808	463	2,094	1,407	2,549	1,215	300		1,805	**17,940**
231229EC	HIGH FRICTION SURFACE TREATMENT 10.)	SQYD					2,608																	**2,608**

NOTES:

1.) These quantities for use on shoulders.
2.) Estimated at 115 pounds per square yard per inch of depth.
3.) Estimated at 20 pounds per square yard per application (2 required).
4.) Estimated at 110 pounds per square yard per inch of depth.
5.) Estimated at 2.40 pounds per square yard per application (2 required).
6.) Estimated at 2 pounds per square yard.
7.) This may be full depth asphalt or asphalt overlay on PCC pavement.
8.) Estimated at 39.1 pounds per square yard.
9.) Estimated at 5 pounds per square yard.
10.) Apply only to KY 16, Ramp C on the asphalt portion of the traffic lane. See the special note in the proposal.
11.) Quantities carried forward to Project Paving Summary.

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

CAMPBELL COUNTY PAVING SUMMARY									
ITEM CODE	**ITEM**	**UNIT**	I-275 EAST	I-275 WEST	Ramp A (KY 9)	Ramp B (KY 9)	Ramp C (KY 9)	Ramp D (KY 9)	**TOTAL** 10.)
	DGA BASE 1.)						242		242
	2" DGA BASE 2.)		120	105	108	118	104	92	647
	4 1/2" DGA BASE				792		1,114		1,906
1	DGA BASE 3.)	TON	120	105	900	118	1,460	92	**2,795**
8	CEMENT STABILIZED ROADBED	SQYD			3,061	4,858	4,306	3,160	**15,385**
100	ASPHALT SEAL AGGREGATE 4.)	TON	21	18	19	20	18	16	**112**
291	EMULSIFIED ASPHALT RS-2 5.)	TON	2.5	2.2	2.3	2.5	2.2	1.9	**13.6**
358	ASPHALT CURING SEAL 6.)	TON			3.1	4.9	4.3	3.2	**15.5**
2058	REMOVE PCC PAVEMENT 7.)	SQYD	110	93	2,044	4,868	2,541	3,259	**12,915**
2071	JPC PAVEMENT - 11 IN	SQYD			1,881	3,337	3,207	2,126	**10,551**
2072	JPC PAVEMENT - 11 IN SHLD	SQYD			1,180	1,521	1,099	1,034	**4,834**
2086	JPC PAVEMENT - 13 IN	SQYD	84	60					**144**
2087	JPC PAVEMENT - 13 IN SHLD	SQYD	26	33					**59**
2542	CEMENT 8.)	TON			60	95	84	62	**301**
2702	SAND FOR BLOTTER 9.)	TON			8	12	11	8	**39**
20412ED	REMOVE ASPHALT SHOULDER	SQYD			1,072		914		**1,986**

NOTES:

1.) For base widening at KY 9, Ramp C
2.) These quantities for use on shoulders.
3.) Estimated at 115 pounds per square yard per inch of depth.
4.) Estimated at 20 pounds per square yard per application (2 required).
5.) Estimated at 2.40 pounds per square yard per application (2 required).
6.) Estimated at 2 pounds per square yard.
7.) Ramps A & C have asphalt overlays (4 1/2" ±) on PCC pavement.
8.) Estimated at 39.1 pounds per square yard.
9.) Estimated at 5 pounds per square yard.
10.) Quantities carried forward to Project Paving Summary.

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

KENTON COUNTY PAVING AREAS																						
ITEM	I-275 EAST	I-275 WEST	Ramp A (KY 16)	Ramp B (KY 16)	Ramp C (KY 16)	Ramp D (KY 16)	Ramp E (KY 16)	Ramp F (KY 16)	Ramp A (KY 17)	Ramp A-1 (KY 17)	Ramp B (KY 17)	Ramp C (KY 17)	Ramp D (KY 17)	Ramp C-1 (US 25)	Ramp C-2 (US 25)	Ramp E (US 25)	Ramp F (US 25)	Ramp D (KY 1303)	Ramp G (KY 1303)	Ramp J (KY 1303)	Ramp K (KY 1303)	**TOTAL**
	SQUARE YARDS																					
HIGH FRICTION SURFACE TREATMENT					2,608																	**2,608**
1 1/4" CL4 ASPH SURF 0.38A PG76-22				5,260	4,193	5,582	6,004	4,308												4,457		**29,804**
1 1/2" CL4 ASPH SURF 0.38A PG76-22 1.)	1,417	1,545																				**2,962**
1 3/4" CL4 ASPH BIND 0.50D PG76-22				5,260	4,193	5,582	6,004	4,308												4,457		**29,804**
2 1/4" CL4 ASPH BIND 0.50D PG76-22 (4 COURSES) 2.)	144	144																				**288**
1 1/2" ASPHALT PAVEMENT MILLING & TEXTURING 1.)	1,417	1,545																				**2,962**
2" ASPHALT PAVEMENT MILLING & TEXTURING				5,260	4,193	5,582	6,004	4,308												4,457		**29,804**
9" ASPHALT PAVEMENT MILLING & TEXTURING 3.)	36	36																				**72**
REMOVE ASPHALT SHOULDER			1,503						1,730	132	1,412	1,522	1,808	463	2,094	1,407	2,549	1,215	300		1,805	**17,940**
REMOVE PCC PAVEMENT	45	132	2,120						3,491	603	4,049	3,127	4,992	663	4,391	2,166	4,218	1,894	363		2,741	**34,995**
JPC PAVEMENT - 11 IN			2,109						3,225	463	3,773	3,134	4,634	672	4,853	1,923	4,183	1,910	371		2,739	**33,989**
JPC PAVEMENT - 11 IN SHLD			1,406						1,841	245	1,678	1,472	2,617	448	1,821	1,169	2,557	1,175	236		1,739	**18,404**
JPC PAVEMENT - 13 IN	36	97																				**133**
JPC PAVEMENT - 13 IN SHLD	9	35																				**44**
ASPHALT CURING SEAL			3,514						5,066	708	5,451	4,606	7,251	1,120	6,674	3,092	6,739	3,085	607		4,479	**52,392**
SAND FOR BLOTTER			3,514						5,066	708	5,451	4,606	7,251	1,120	6,674	3,092	6,739	3,085	607		4,479	**52,392**
CEMENT			3,514						5,066	708	5,451	4,606	7,251	1,120	6,674	3,092	6,739	3,085	607		4,479	**52,392**
CEMENT STABILIZED ROADBED			3,514						5,066	708	5,451	4,606	7,251	1,120	6,674	3,092	6,739	3,085	607		4,479	**52,392**
2" DGA BASE 4.)	11,950	14,226	1,123	1,327	1,741	1,300	1,538	1,208	1,476	203	1,292	1,145	1,626	359	1,673	836	1,964	939	143	726	1,391	**48,186**
EMULSIFIED ASPHALT RS-2 4.)	11,950	14,226	1,123	1,327	1,741	1,300	1,538	1,208	1,476	203	1,292	1,145	1,626	359	1,673	836	1,964	939	143	726	1,391	**48,186**
ASPHALT SEAL AGGREGATE 4.)	11,950	14,226	1,123	1,327	1,741	1,300	1,538	1,208	1,476	203	1,292	1,145	1,626	359	1,673	836	1,964	939	143	726	1,391	**48,186**

NOTES:
1.) For asphalt tapers to existing ends of I-275 twin bridges over KY 17.
2.) For repair of 6' wide strip of existing asphalt pavement at east ends of twin I-275 bridges over KY 17. This material will replace up to 9" of existing base to be milled out. The area shown includes 4 courses.
3.) For milling detailed in note 2.) above.
4.) For repairing, dressing and sealing shoulders. Use only as requested by the Engineer.

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

CAMPBELL COUNTY PAVING AREAS							
ITEM	I-275 EAST	I-275 WEST	Ramp A (KY 9)	Ramp B (KY 9)	Ramp C (KY 9)	Ramp D (KY 9)	**TOTAL**
	SQUARE YARDS						
REMOVE ASPHALT SHOULDER			1,072		914		**1,986**
REMOVE PCC PAVEMENT	110	93	2,044	4,868	2,541	3,259	**12,915**
JPC PAVEMENT - 11 IN			1,881	3,337	3,207	2,126	**10,551**
JPC PAVEMENT - 11 IN SHLD			1,180	1,521	1,099	1,034	**4,834**
JPC PAVEMENT - 13 IN	84	60					**144**
JPC PAVEMENT - 13 IN SHLD	26	33					**59**
ASPHALT CURING SEAL			3,061	4,858	4,306	3,160	**15,385**
SAND FOR BLOTTER			3,061	4,858	4,306	3,160	**15,385**
4 1/2" DGA BASE			3,061		4,306		**7,367**
CEMENT			3,061	4,858	4,306	3,160	**15,385**
CEMENT STABILIZED ROADBED			3,061	4,858	4,306	3,160	**15,385**
DGA BASE 1.)					117		**117**
2" DGA BASE 2.)	1,041	912	943	1,022	905	800	**5,623**
EMULSIFIED ASPHALT RS-2 2.)	1,041	912	943	1,022	905	800	**5,623**
ASPHALT SEAL AGGREGATE 2.)	1,041	912	943	1,022	905	800	**5,623**

NOTES:
1.) For base widening at KY 9,Ramp C. This quantity expressed in cubic yards.
2.) For repairing,dressing and sealing shoulders. Use only as requested by the Engineer.

I-265 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

CONCRETE PAVEMENT REPAIR SUMMARY						
					2086	2058
	BEGIN	END	outside lane	area	JPC PAVEMENT - 13 IN	REMOVE PCC PAVEMENT
(ROADWAY)	(STA)		(ft)	(ft^2)	(SQYD)	
KENTON CO						
I-275 WEST	966+01	966+07	12	72	8	8
I-275 WEST	974+12	974+18	12	72	8	8
I-275 WEST TOTAL					**16**	**16**
PROJECT TOTAL					**16**	**16**

NOTES:

1.) This item of work to be completed before diamond grinding.
2.) Totals carried forward to the General Summary
3.) See the Special Note for Full Depth Concrete Pavement Repair for reqirements for this work

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

DIAMOND GRINDING SUMMARY

LOCATION				width					area	ITEM 2060 PCC PAVEMENT DIAMOND GRINDING	NOTES
				inside shoulder	inside	center	outside	outside shoulder			
(ROADWAY)	(STATIONS)			(ft)					(ft^2)	(SQYD)	
KENTON CO											
I-275 EAST	BEGIN	861+94	PC 862+32	4	12	12	12		1520	169	
I-275 EAST	BEGIN	861+94	862+25					4	124	14	
I-275 EAST	PC	862+32	PT 881+12	4	12	12	12		75200	8356	
I-275 EAST		868+58	879+27					4	4276	475	
I-275 EAST	PT	881+12	TS 906+73	4	12	12	12		102440	11382	
I-275 EAST		890+11	901+93					4	4728	525	
I-275 EAST	TS	906+73	SC 911+48	4	12	12	12		19000	2111	
I-275 EAST	SC	911+48	CS 914+77	4	12	12	12		13160	1462	
I-275 EAST	SC	911+48	913+94					4	984	109	
I-275 EAST	CS	914+77	ST 919+52	4	12	12	12	4	20900	2322	
I-275 EAST	ST	919+52	922+52	4	12	12	12	4	13200	1467	3
I-275 EAST		922+85	TS 923+84	4	12	12	12	4	4356	484	3
I-275 EAST	TS	923+84	SC 928+59	4	12	12	12	4	20900	2322	
I-275 EAST	SC	928+59	CS 931+81	4	12	12	12	4	14168	1574	
I-275 EAST	CS	931+81	ST 936+56	4	12	12	12	4	20900	2322	
I-275 EAST	ST	936+56	TS 940+98	4	12	12	12	4	19448	2161	
I-275 EAST	TS	940+98	SC 945+73	4	12	12	12	4	20900	2322	
I-275 EAST	SC	945+73	CS 953+84	4	12	12	12	4	35684	3965	
I-275 EAST	CS	953+84	BRIDGE END 957+79	4	12	12	12	4	17380	1931	
I-275 EAST	BRIDGE END	959+12	TS 964+57	4	12	12	12	4	23980	2664	
I-275 EAST	TS	964+57	SC 969+32	4	12	12	12		19000	2111	
I-275 EAST	TS	964+57	967+00					4	972	108	
I-275 EAST	SC	969+32	CS 983+94	4	12	12	12		58480	6498	
I-275 EAST		972+88	983+70					4	4328	481	
I-275 EAST	CS	983+94	BRIDGE END 986+91	4	12	12	12		11880	1320	
I-275 EAST		1006+15	EQ BK PT 1017+91	4	12	12	12	4	51744	5749	
I-275 EAST	EQ AH PT	1013+26	PC 1023+32	4	12	12	12	4	44264	4918	
I-275 EAST	PC	1023+32	1025+62	4	12	12	12	4	10120	1124	3
I-275 EAST		1025+99	PT 1033+11	4	12	12	12		28480	3164	3
I-275 EAST		1025+99	1029+88					4	1556	173	
I-275 EAST	PT	1033+11	PC 1054+01	4	12	12	12		83600	9289	
I-275 EAST		1036+18	1051+47					4	6116	680	
I-275 EAST	PC	1054+01	PT 1076+70	4	12	12	12		90760	10084	
I-275 EAST		1060+23	1071+51					4	4512	501	
I-275 EAST	PT	1076+70	PC 1089+96	4	12	12	12		53040	5893	
I-275 EAST		1082+00	PC 1089+96	4	12	12	12		31840	3538	
I-275 EAST	PC	1089+96	1090+14	4	12	12	12	4	792	88	3
I-275 EAST		1090+34	PT 1100+81	4	12	12	12	4	46068	5119	3
I-275 EAST	PT	1100+81	CO LINE 1118+06	4	12	12	12	4	75900	8433	
I-275 EAST			Ramp D (KY 1303)						*11436*	1271	4
I-275 EAST			Ramp F (US 42)						*19191*	2132	4
I-275 EAST			Ramp K (KY 1303)						*24002*	2667	4
I-275 EAST			Ramp C (KY 17)						*10143*	1127	4
I-275 EAST			Ramp D (KY 17)						*13263*	1474	4
I-275 EAST			Ramp D (KY 16)						*22291*	2477	4
I-275 EAST			Ramp E (KY 16)						*16696*	1855	4
I-275 EAST			Ramp F (KY 16)						*17775*	1975	4
I-275 EAST TOTAL										**132386**	

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

DIAMOND GRINDING SUMMARY

LOCATION				width					area	ITEM 2060 PCC PAVEMENT DIAMOND GRINDING	NOTES
				inside shoulder	*inside*	*center*	*outside*	*outside shoulder*			
(ROADWAY)	(STATIONS)			*(ft)*					*(ft²)*	(SQYD)	
KENTON CO											
I-275 WEST	BEGIN	861+94	PC 862+32	4	12	12	12	4	1672	186	
I-275 WEST	PC	862+32	PT 881+12	4	12	12	12	4	82720	9191	
I-275 WEST	PT	881+12	TS 906+73	4	12	12	12		102440	11382	
I-275 WEST	PT	881+12	889+45					4	3332	370	
I-275 WEST		895+83	902+19					4	2544	283	
I-275 WEST	TS	906+73	SC 911+48	4	12	12	12		19000	2111	
I-275 WEST		908+61	SC 911+48					4	1148	128	
I-275 WEST	SC	911+48	CS 914+77	4	12	12	12		13160	1462	
I-275 WEST	SC	911+48	913+94					4	984	109	
I-275 WEST	CS	914+77	ST 919+52	4	12	12	12	4	20900	2322	
I-275 WEST	ST	919+52	922+73	4	12	12	12	4	14124	1569	3
I-275 WEST		923+14	TS 923+84	4	12	12	12	4	3080	342	3
I-275 WEST	TS	923+84	SC 928+59	4	12	12	12	4	20900	2322	
I-275 WEST	SC	928+59	CS 931+81	4	12	12	12	4	14168	1574	
I-275 WEST	CS	931+81	ST 936+56	4	12	12	12	4	20900	2322	
I-275 WEST	ST	936+56	TS 940+98	4	12	12	12	4	19448	2161	
I-275 WEST	TS	940+98	SC 945+73	4	12	12	12	4	20900	2322	
I-275 WEST	SC	945+73	CS 953+84	4	12	12	12	4	35684	3965	
I-275 WEST	CS	953+84	958+03	4	12	12	12	4	18436	2048	
I-275 WEST		959+46	TS 964+57	4	12	12	12		20440	2271	
I-275 WEST		959+46	963+37					4	1564	174	
I-275 WEST	TS	964+57	SC 969+32	4	12	12	12		19000	2111	
I-275 WEST	TS	964+57	967+00					4	972	108	
I-275 WEST	SC	969+32	CS 983+94	4	12	12	12		58480	6498	
I-275 WEST		974+76	CS 983+94					4	3672	408	
I-275 WEST	CS	983+94	BRIDGE END 986+91	4	12	12	12		11880	1320	
I-275 WEST	CS	983+94	984+84					4	360	40	
I-275 WEST		1006+15	EQ BK PT 1017+91	4	12	12	12	4	51744	5749	
I-275 WEST	EQ AH PT	1013+26	PC 1023+32	4	12	12	12	4	44264	4918	
I-275 WEST	PC	1023+32	1025+46	4	12	12	12	4	9416	1046	3
I-275 WEST		1025+84	PT 1033+11	4	12	12	12		29080	3231	3
I-275 WEST		1025+84	1030+00					4	1664	185	
I-275 WEST	PT	1033+11	PC 1054+01	4	12	12	12		83600	9289	
I-275 WEST		1041+88	1044+31					4	972	108	
I-275 WEST	PC	1054+01	PT 1076+70	4	12	12	12		90760	10084	
I-275 WEST		1056+01	1071+44					4	6172	686	
I-275 WEST	PT	1076+70	PC 1089+96	4	12	12	12		53040	5893	
I-275 WEST		1077+71	PC 1089+96					4	4900	544	
I-275 WEST	PC	1089+96	1091+42	4	12	12	12	4	6424	714	3
I-275 WEST		1091+59	PT 1100+81	4	12	12	12	4	40568	4508	3
I-275 WEST	PT	1100+81	CO LINE 1118+06	4	12	12	12	4	75900	8433	
I-275 WEST			Ramp C-1 (US 42)						*14349*	1594	4
I-275 WEST			Ramp J (KY 1303)						*13049*	1450	4
I-275 WEST			Ramp A (KY 17)						*20229*	2248	4
I-275 WEST			Ramp B (KY 17)						*5109*	568	4
I-275 WEST			Ramp A (KY 16)						*21647*	2405	4
I-275 WEST			Ramp C (KY 16)						*21644*	2405	4
I-275 WEST			Ramp B (KY 16)						*13382*	1487	4
I-275 WEST TOTAL										**126644**	
KENTON CO TOTAL										**259030**	

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

DIAMOND GRINDING SUMMARY

LOCATION				width					area	ITEM 2060 PCC PAVEMENT DIAMOND GRINDING	NOTES
				inside shoulder	inside	center	outside	outside shoulder			
(ROADWAY)	(STATIONS)			(ft)					(ft^2)	(SQYD)	
CAMPBELL CO											
I-275 EAST	CO LINE	1118+06	TS 1126+58	4	12	12	12		34080	3787	
I-275 EAST	CO LINE	1118+06	1125+00					4	2776	308	
I-275 EAST	TS	1126+58	SC 1129+58	4	12	12	12		12000	1333	
I-275 EAST	SC	1129+58	1140+58	4	12	12	12		44000	4889	
I-275 EAST		1131+38	1138+65					4	2908	323	
I-275 EAST		Ramp C (KY 9)							*15519*	1724	4
I-275 EAST		Ramp D (KY 9)							*5661*	629	4
I-275 EAST TOTAL										**12993**	
I-275 WEST	CO LINE	1118+06	TS 1126+58	4	12	12	12		34080	3787	
I-275 WEST	CO LINE	1118+06	1123+50					4	2176	242	
I-275 WEST	TS	1126+58	SC 1129+58	4	12	12	12		12000	1333	
I-275 WEST	SC	1129+58	1141+27	4	12	12	12		46760	5196	
I-275 WEST		1134+80	1141+27					4	2588	288	
I-275 WEST		Ramp A (KY 9)							*20075*	2231	4
I-275 WEST TOTAL										**13077**	
CAMPBELL CO TOTAL										**26070**	
PROJECT TOTAL										**285100**	

NOTES:

1.) A four foot shoudler width has been included in order to promote positive drainage of the mainline pavement.
2.) Do not diamond grind any bridge deck.
3.) Do not diamond grind the existing traffic data loop installation.
4.) This is a ramp acceleration or deceleration "gore area". Diamond grind the roadway surface and four feet of the shoulder surface ahead to the new pavement station.
5.) Do not diamond grind new jointed plain concrete construction on any ramp.

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

GUARDRAIL SUMMARY

LOCATION					ITEM 2381 REMOVE GUARDRAIL (LF)	ITEM 21802EN GUARDRAIL STEEL W BEAM S FACE (7 FT POST) (LF)	ITEM 2352 GUARDRAIL STEEL W BEAM D FACE (LF)	ITEM 2367 GUARDRAIL END TREATMENT TYPE 1 (EA)	ITEM 2369 GUARDRAIL END TREATMENT TYPE 2A (EA)	ITEM 2363 GUARDRAIL CONNECTOR TO BRIDGE END TY A (EA)	ITEM 2387 GUARDRAIL CONNECTOR TO BRIDGE END TY A-1 (EA)	ITEM 2365 CRASH CUSHION TYPE IX-A (EA)	ITEM 23624EC REM AND RESET CRASH CUSHION (EA)	ITEM 2360 GUARDRAIL TERMINAL SECTION NO 1 (EA)	NOTES
ROADWAY	**BEGIN STA**		**END STA**												
CAMPBELL CO															
Ramp A (KY 9)	12+32	Rt	22+97	Rt	1062.5	1062.5									
Ramp A (KY 9)	23+25	Rt	23+63	Rt	37.5	37.5									
Ramp A (KY 9)	24+01	Rt	25+01	Rt	100.0	100.0									
Ramp B (KY 9)	7+98	Rt	13+24	Rt	525.0	525.0				1					
Ramp B (KY 9)	11+56	Lt	13+43	Lt	187.5	187.5				1					
Ramp C (KY 9)	21+19	Lt	21+69	Lt				1							
Ramp C (KY 9)	11+75	Rt	20+51	Rt	875.0	875.0									
Ramp CC (KY 9)	20+48	Rt	22+33	Rt	187.5	187.5									
Ramp D (KY 9)	10+67	Lt	11+37	Lt	189.0	137.5			1						3
Ramp D (KY 9)	18+96	Rt	21+08	Rt	212.5	162.5		1		1					
I-275	1122+18	Out Rt	1122+43	Rt	25.0	25.0									
I-275	1124+49	Out Rt	1124+62	Lt	12.5	12.5									
I-275	1124+86	Out Lt	1125+35	Lt	50.0	50.0									
I-275	1124+93	Out Rt	1125+06	Rt	12.5	12.5									
I-275	1125+68	Out Rt	1125+81	Rt	12.5	12.5									
I-275	1126+89	In Lt	1127+13	MEDIAN	25.0		25.0								
I-275	1127+18	Out Rt	1127+30	Rt	12.5	12.5									
I-275	1128+74	Out Lt	1128+87	Lt	12.5	12.5									
I-275	1129+13	Out Lt	1129+26	Lt	12.5	12.5									
I-275	1129+37	Out Rt	1129+49	Rt	12.5	12.5									
I-275	1131+44	Out Lt	1131+70	Lt	25.0	25.0									
I-275	1138+00	In Lt	1143+82	Rt	587.5										
I-275	1137+91	MEDIAN	1138+35	In Rt								1			
I-275	1138+35	In Rt	1139+73	Rt			137.5								
I-275	1139+73	In Rt	1140+82	Rt		112.5				1					
I-275	1140+29	Out Rt	1143+58	Rt	325.0										

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

GUARDRAIL SUMMARY

LOCATION					ITEM 2381 REMOVE GUARDRAIL	ITEM 21802EN GUARDRAIL STEEL W BEAM S FACE (7 FT POST)	ITEM 2352 GUARDRAIL STEEL W BEAM D FACE	ITEM 2367 GUARDRAIL END TREATMENT TYPE 1	ITEM 2369 GUARDRAIL END TREATMENT TYPE 2A	ITEM 2363 GUARDRAIL CONNECTOR TO BRIDGE END TY A	ITEM 2387 GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	ITEM 2365 CRASH CUSHION TYPE IX-A	ITEM 23624EC REM AND RESET CRASH CUSHION	ITEM 2360 GUARDRAIL TERMINAL SECTION NO 1	NOTES
ROADWAY	**BEGIN STA**		**END STA**		(LF)			(EA)							
I-275	1141+00	In Lt	1146+98	Rt	600.0										
I-275	1141+06	Out Lt	1146+91	Lt	587.5										
I-275	1141+24	Out Lt	1141+49	Lt		25.0			1		1				
I-275	1143+11	Out Rt	1143+58	Rt		50.0			1		1				
I-275	1144+13	In Lt	1145+13	Lt		100.0				1					
I-275	1144+55	Out Lt	1146+67	Lt		212.5				1					
I-275	1146+67	Out Lt	1146+92	Lt			25.0								
I-275	1146+92	Out Lt											1		1
CAMPBELL CO TOTAL					**5689.0**	**3962.5**	**187.5**	**2**	**3**	**6**	**2**	**1**	**1**	**0**	
KENTON CO															
Ramp F (KY 16)	13+32	Rt	13+47	Rt	12.5	12.5			1						
Ramp A (KY 17)	15+46	Rt	19+47	Rt	400.0	350.0		1							
Ramp B (KY 17)	5+80	Rt	7+29	Rt	150.0	150.0			1						
Ramp C (KY 17)	13+62	Rt	16+41	Rt	275.0	225.0		1							
Ramp D (KY 17)	5+10	Rt	6+68	Rt	162.5	162.5			1						
Ramp C-1 (US 25)	6+60	Lt	10+27	Lt	362.5	312.5		1	1						
Ramp C-2 (US 25)	11+18	Rt	13+97	Rt	275.0	225.0		1	1						
Ramp C-2 (US 25)	17+54	Lt	31+36	Lt	1387.5	1337.5		1							
Ramp C-2 (US 25)	19+82	Rt	20+98	Rt	112.5	62.5		1							
Ramp C-2 (US 25)	28+75	Rt	31+36	Rt	262.5	212.5		1							
Ramp E (US 25)	0+02	Rt	11+44	Rt	1137.5	1137.5									
Ramp F (US 25)	12+34	Lt	15+01	Lt	262.5	212.5		1	1						
Ramp F (US 25)	13+40	Rt	16+05	Rt	262.5	212.5		1	1						

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

GUARDRAIL SUMMARY

LOCATION					ITEM 2381 REMOVE GUARDRAIL	ITEM 21802EN GUARDRAIL STEEL W BEAM S FACE (7 FT POST)	ITEM 2352 GUARDRAIL STEEL W BEAM D FACE	ITEM 2367 GUARDRAIL END TREATMENT TYPE 1	ITEM 2369 GUARDRAIL END TREATMENT TYPE 2A	ITEM 2363 GUARDRAIL CONNECTOR TO BRIDGE END TY A	ITEM 2387 GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	ITEM 2365 CRASH CUSHION TYPE IX-A	ITEM 23624EC REM AND RESET CRASH CUSHION	ITEM 2360 GUARDRAIL TERMINAL SECTION NO 1	NOTES
ROADWAY	BEGIN STA		END STA		(LF)			(EA)							
Ramp F (US 25)	1+76	Lt	1+64	Lt	150.0	150.0			1						
Ramp F-1 (US 25)	9+94	Rt	10+19	Rt	25.0	25.0			1						
Ramp D (KY 1303)	5+22	Rt	7+88	Rt	262.5	262.5			1						
Ramp D (KY 1303)	6+47	Lt	7+88	Lt	137.5	87.5		1							
Ramp D (KY 1303)	13+08	Rt	19+85	Rt	675.0	675.0			1						
Ramp D (KY 1303)	13+08	Lt	14+45	Lt	137.5	137.5			1						
Ramp J (KY 1303)	0+70	Rt	1+20	Rt	50.0			1							
Ramp J (KY 1303)	1+97	Rt	2+22	Rt	25.0	25.0									
Ramp J (KY 1303)	2+72	Rt	2+85	Rt	12.5	12.5									
Ramp K (KY 1303)	5+69	Rt	9+22	Rt	350.0	300.0		1	1						
Ramp K (KY 1303)	19+69	Rt	20+21	Rt	50.0			1							
I-275	865+94	Out Lt	866+07	Lt	12.5	12.5									
I-275	868+74	Out Lt	869+12	Lt	37.5	37.5									
I-275	872+17	Out Lt	872+55	Lt	37.5	37.5									
I-275	873+31	Out Lt	873+57	Lt	25.0	25.0									
I-275	875+10	Out Lt	875+60	Lt	50.0			1							
I-275	902+27	Out Rt	902+40	Rt	12.5	12.5									
I-275	902+89	Out Rt	903+02	Rt	12.5	12.5									
I-275	909+11	Out Rt	909+48	Rt	37.5	37.5									
I-275	910+21	Out Rt	910+46	Rt	25.0	25.0									
I-275	910+82	Out Rt	910+94	Rt	12.5	12.5									
I-275	913+23	Out Rt	913+71	Rt	50.0	50.0									
I-275	914+08	Out Rt	914+32	Rt	25.0	25.0									
I-275	915+40	Out Rt	915+76	Rt	37.5	37.5									
I-275	916+37	Out Rt	916+49	Rt	12.5	12.5									
I-275	917+10	Out Rt	917+22	Rt	12.5	12.5									
I-275	917+84	Out Rt	918+46	Rt	62.5	62.5									
I-275	920+08	Out Rt	920+33	Rt	25.0	25.0									

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

GUARDRAIL SUMMARY

LOCATION					ITEM 2381 REMOVE GUARDRAIL	ITEM 21802EN GUARDRAIL STEEL W BEAM S FACE (7 FT POST)	ITEM 2352 GUARDRAIL STEEL W BEAM D FACE	ITEM 2367 GUARDRAIL END TREATMENT TYPE 1	ITEM 2369 GUARDRAIL END TREATMENT TYPE 2A	ITEM 2363 GUARDRAIL CONNECTOR TO BRIDGE END TY A	ITEM 2387 GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	ITEM 2365 CRASH CUSHION TYPE IX-A	ITEM 23624EC REM AND RESET CRASH CUSHION	ITEM 2360 GUARDRAIL TERMINAL SECTION NO 1	NOTES
ROADWAY	BEGIN STA		END STA		(LF)			(EA)							
I-275	920+30	In Lt	920+42	Lt	12.5	12.5									
I-275	921+55	In Lt	921+80	Lt	25.0	25.0									
I-275	922+32	Out Rt	922+57	Rt	25.0	25.0									
I-275	923+20	Out Rt	923+70	Rt	50.0	50.0									
I-275	924+20	Out Lt	924+32	Lt	12.5	12.5									
I-275	924+82	Out Lt	925+19	Lt	37.5	37.5									
I-275	925+07	Out Rt	925+33	Rt	25.0	25.0									
I-275	925+80	Out Lt	926+05	Lt	25.0	25.0									
I-275	926+86	Out Rt	926+98	Rt	12.5	12.5									
I-275	926+91	Out Lt	927+27	Lt	37.5	37.5									
I-275	928+36	Out Lt	928+48	Lt	12.5	12.5									
I-275	929+32	Out Lt	929+44	Lt	12.5	12.5									
I-275	931+60	Out Lt	931+72	Lt	12.5	12.5									
I-275	932+57	Out Lt	932+81	Lt	25.0	25.0									
I-275	932+68	Out Rt	932+94	Rt	25.0	25.0									
I-275	933+20	Out Rt	933+46	Rt	25.0	25.0									
I-275	933+29	Out Lt	933+54	Lt	25.0	25.0									
I-275	933+80	In Lt	934+30	Lt	50.0	50.0			1						
I-275	935+41	In Lt	935+79	Lt	37.5	37.5									
I-275	935+74	Out Rt	936+12	Rt	37.5	37.5									
I-275	937+86	Out Rt	937+99	Rt	12.5	12.5									
I-275	938+61	Out Rt	938+86	Rt	25.0	25.0									
I-275	939+11	Out Rt	939+24	Rt	12.5	12.5									
I-275	946+97	Out Rt	947+09	Rt	12.5	12.5									
I-275	947+69	Out Rt	948+28	Rt	62.5	62.5									
I-275	949+83	Out Rt	949+95	Rt	12.5	12.5									
I-275	954+52	Out Rt	955+00	Rt	50.0	50.0									
I-275	955+09	In Lt	955+46	Rt	37.5		37.5								
I-275	955+37	Out Rt	955+49	Rt	12.5	12.5									
I-275	956+03	In Lt												1	
I-275	956+08	In Rt	956+57	Rt	50.0		50.0								
I-275	956+12	In Lt	956+37	Lt	25.0	25.0									
I-275	957+69	Out Lt	957+82	Lt	12.5	12.5									

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

GUARDRAIL SUMMARY

LOCATION					ITEM 2381 REMOVE GUARDRAIL	ITEM 21802EN GUARDRAIL STEEL W BEAM S FACE (7 FT POST)	ITEM 2352 GUARDRAIL STEEL W BEAM D FACE	ITEM 2367 GUARDRAIL END TREATMENT TYPE 1	ITEM 2369 GUARDRAIL END TREATMENT TYPE 2A	ITEM 2363 GUARDRAIL CONNECTOR TO BRIDGE END TY A	ITEM 2387 GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	ITEM 2365 CRASH CUSHION TYPE IX-A	ITEM 23624EC REM AND RESET CRASH CUSHION	ITEM 2360 GUARDRAIL TERMINAL SECTION NO 1	NOTES
ROADWAY	BEGIN STA		END STA		(LF)			(EA)							
I-275	959+45	Out Rt	959+70	Rt	25.0	25.0									
I-275	959+56	In Lt	959+69	Lt	12.5	12.5									
I-275	959+95	Out Rt	960+45	Rt	50.0	50.0									
I-275	960+31	In Lt	960+68	Lt	37.5		37.5								
I-275	961+81	Out Lt	962+05	Lt	25.0	25.0									
I-275	962+43	Out Lt	963+18	Lt	75.0	75.0									
I-275	962+82	Out Rt	962+95	Rt	12.5	12.5									
I-275	968+80	Out Lt												1	
I-275	983+66	In Rt	983+91	Rt	25.0	25.0									
I-275	985+17	In Rt	985+42	Rt	25.0	25.0									
I-275	986+17	In Rt	986+43	Rt	25.0	25.0									
I-275	1004+15	In Lt	1004+27	Lt	12.5	12.5									
I-275	1005+15	In Lt	1005+40	Lt	25.0		25.0								
I-275	1005+89	In Lt	1006+38	MEDIAN	50.0	50.0									
I-275	1007+94	Out Rt	1008+06	Rt	12.5	12.5									
I-275	1009+18	Out Rt	1009+31	Rt	12.5	12.5									
I-275	1009+56	Out Rt	1009+80	Rt	25.0	25.0									
I-275	1010+55	Out Rt	1010+80	Rt	25.0	25.0									
I-275	1016+65	Out Rt	1016+78	Rt	12.5	12.5									
I-275	1027+42	Out Lt	1027+92	Rt	50.0			1							
I-275	1031+84	Out Rt												1	
I-275	1043+56	Out Rt												1	
I-275	1052+19	In Rt	1052+56	Rt	37.5	37.5									
I-275	1054+42	In Lt	1054+55	Lt	12.5	12.5									
I-275	1077+19	Out Lt	1077+57	Lt	37.5	37.5									
I-275	1081+10	Out Rt	1081+23	Rt	12.5	12.5									
I-275	1081+60	Out Rt	1081+73	Rt	12.5	12.5									
I-275	1081+98	Out Rt	1082+23	Rt	25.0	25.0									
I-275	1083+98	Out Rt	1084+23	Rt	25.0	25.0									
I-275	1084+97	Out Rt	1085+23	Rt	25.0	25.0									
I-275	1085+84	Out Rt	1086+22	Rt	37.5	37.5									
I-275	1088+47	Out Rt	1088+72	Rt	25.0	25.0									
I-275	1099+30	Out Rt	1099+55	Rt	25.0	25.0									

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

GUARDRAIL SUMMARY

LOCATION					ITEM 2381 REMOVE GUARDRAIL	ITEM 21802EN GUARDRAIL STEEL W BEAM S FACE (7 FT POST)	ITEM 2352 GUARDRAIL STEEL W BEAM D FACE	ITEM 2367 GUARDRAIL END TREATMENT TYPE 1	ITEM 2369 GUARDRAIL END TREATMENT TYPE 2A	ITEM 2363 GUARDRAIL CONNECTOR TO BRIDGE END TY A	ITEM 2387 GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	ITEM 2365 CRASH CUSHION TYPE IX-A	ITEM 23624EC REM AND RESET CRASH CUSHION	ITEM 2360 GUARDRAIL TERMINAL SECTION NO 1	NOTES
ROADWAY	**BEGIN STA**		**END STA**		(LF)			(EA)							
I-275	1104+19	Out Rt	1104+31	Rt	12.5	12.5									
I-275	1106+44	Out Rt	1106+56	Rt	12.5	12.5									
I-275	1112+75	Out Lt	1112+99	Lt	25.0	25.0									2
I-275	1113+06	Out Rt	1117+44	Rt	437.5	437.5									
KENTON CO TOTAL					**9575.0**	**8675.0**	**150.0**	**15**	**14**	**0**	**0**	**0**	**0**	**4**	
PROJECT TOTAL					**15264.0**	**12637.5**	**337.5**	**17**	**17**	**6**	**2**	**1**	**1**	**4**	
NOTES:															
1.)	Located in the gore area of I-275 WB exit to KY 9.														
2.)	The guardrail is attached to the bridge barrier.														
3.)	Includes entire string of guardrail which ends left of Ramp C Sta 21+19														

Guardrail Delivery Verification Sheet

CID NO:

Item No: _____

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

Removed guardrail, end treatments, terminal sections, and posts shall be delivered to the Bailey Bridge Yard in Frankfort, KY and shall be neatly stacked in accordance with section 719.03.07 of the standard specifications. Contractor, engineer, and Bailey Bridge Yard representative must all sign off on this sheet before payment may be made.

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

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

CURB SUMMARY

LOCATION				ITEM 1845 ISLAND INTEGRAL CURB	ITEM 1890 ISLAND HEADER CURB TYPE 1	ITEM 1904 REMOVE CURB	ITEM 20192ED REMOVE ASPHALT WEDGE CURB
ROADWAY	**BEGIN STA**	**END STA**	**OFFSET**	(LF)			
KENTON CO							
Ramp A (KY 17)	18+00	18+92	Rt	92			
Ramp B (KY 17)	5+80	6+82	Rt	102			
Ramp C (KY 17)	0+40	1+46	Lt & Rt	378		378	
Ramp D (KY 17)	5+09	6+40	Rt	131			
Ramp E (US 25)	4+43	7+62	Rt	319			
Ramp F (US 25)	0+61	1+28	Lt & Rt	175		177	
Ramp D (KY 1303)	5+94	7+60	Rt	166			
Ramp D (KY 1303)	13+08	14+08	Lt	100			
Ramp D (KY 1303)	17+52	19+38	Rt	186			
Ramp J (KY 1303)	8+75	8+92	Rt		17		17
Ramp J (KY 1303)	9+15	17+38	Rt		823		823
Ramp J (KY 1303)	17+62	19+40	Rt		178		178
Ramp K (KY 1303)	7+02	8+83	Rt	181			
KENTON CO TOTAL				**1830**	**1018**	**555**	**1018**

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

CURB SUMMARY

LOCATION				ITEM 1845 ISLAND INTEGRAL CURB	ITEM 1890 ISLAND HEADER CURB TYPE 1	ITEM 1904 REMOVE CURB	ITEM 20192ED REMOVE ASPHALT WEDGE CURB
ROADWAY	**BEGIN STA**	**END STA**	**OFFSET**	(LF)			
CAMPBELL CO							
Ramp A (KY 9)	18+68	22+97	Rt	429			
Ramp B (KY 9)	16+05	16+14	Rt	9			
Ramp B (KY 9)	22+88	23+27	Lt	51		51	
Ramp C (KY 9)	20+79	21+98	Lt	153		173	
Ramp DD (KY 9)	10+25	11+30	Lt	291		291	
CAMPBELL CO TOTAL				**933**	**0**	**515**	**0**
PROJECT TOTAL				**2763**	**1018**	**1070**	**1018**

NOTE: The removal of existing curbs which are on pavement to be removed, will be incidental to removal of the pavement.

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

JOINT SUMMARY

LOCATION			length	ITEM 2115 SAW-CLEAN RESEAL TVERSE JOINT	ITEM 2116 SAW-CLEAN RESEAL LONGIT JOINT
(ROADWAY)	(STATIONS)		(ft)	(LF)	
KENTON CO					
I-275 EAST	BEGIN 861+94	BRIDGE END 957+79	9585		
I-275 EAST	BRIDGE END 959+12	BRIDGE END 986+98	2786		
I-275 EAST	BRIDGE END 1003+70	EQ BK PT 1017+91	1421		
I-275 EAST	EQ AH PT 1013+26	BRIDGE END 1109+19	9593		
I-275 EAST TOTAL			23385	88,629	93,540
I-275 WEST	BEGIN 861+94	BRIDGE END 957+79	9585		
I-275 WEST	BRIDGE END 959+12	BRIDGE END 986+98	2786		
I-275 WEST	BRIDGE END 1003+70	EQ BK PT 1017+91	1421		
I-275 WEST	EQ AH PT 1013+26	BRIDGE END 1109+19	9593		
I-275 WEST TOTAL			23385	88,629	93,540
ML TOTAL				177,258	187,080
Ramp Tapers & Gore Areas @ 15%				26,589	28,062
KENTON CO TOTAL				**203,847**	**215,142**
CAMPBELL CO					
I-275 EAST	BRIDGE END 1124+45	BRIDGE END 1141+00	1655		
I-275 EAST TOTAL			1655	6,274	6,620
I-275 EAST	BRIDGE END 1124+45	BRIDGE END 1141+00	1655		
I-275 WEST TOTAL			1655	6,274	6,620
ML TOTAL				12,548	13,240
Ramp Tapers & Gore Areas @ 15%				1,882	1,986
CAMPBELL CO TOTAL				**14,430**	**15,226**
PROJECT TOTAL				**218,277**	**230,368**

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
KENTON CO		
Ramp B (KY 16)	10+55	25
Ramp B (KY 16)	10+84	25
Ramp B (KY 16)	11+10	25
Ramp B (KY 16)	11+33	25
Ramp B (KY 16)	11+60	25
Ramp B (KY 16)	11+84	25
Ramp B (KY 16)	12+07	25
Ramp B (KY 16)	12+33	25
Ramp B (KY 16)	12+58	25
Ramp B (KY 16)	12+82	25
Ramp B (KY 16)	13+07	25
Ramp B (KY 16)	13+32	25
Ramp B (KY 16)	13+57	25
Ramp B (KY 16)	13+80	25
Ramp B (KY 16)	14+06	25
Ramp B (KY 16)	14+31	25
Ramp B (KY 16)	14+55	25
Ramp B (KY 16)	14+79	25
Ramp B (KY 16)	15+04	25
Ramp B (KY 16)	15+29	25
Ramp B (KY 16)	15+53	25
Ramp B (KY 16)	15+79	25
Ramp B (KY 16)	16+03	25
Ramp B (KY 16)	16+27	25
Ramp B (KY 16)	16+52	25
Ramp B (KY 16)	16+76	25
Ramp B (KY 16)	17+00	25
Ramp B (KY 16)	17+26	25
Ramp B (KY 16)	17+50	25
Ramp B (KY 16)	17+75	25
Ramp B (KY 16)	18+00	25
Ramp B (KY 16)	18+25	25
Ramp B (KY 16)	18+48	25
Ramp B (KY 16)	18+74	26
Ramp B (KY 16)	18+98	26
Ramp B (KY 16)	19+23	26
Ramp B (KY 16)	19+48	26
Ramp B (KY 16)	19+66	27

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp B (KY 16)	19+84	28
Ramp B (KY 16)	20+08	30
Ramp B (KY 16)	20+34	31
Ramp B (KY 16)	20+58	32
Ramp B (KY 16)	20+83	32
Ramp B (KY 16)	21+07	32
Ramp B (KY 16)	21+33	33
Ramp B (KY 16)	21+59	33
Ramp B (KY 16)	21+84	33
Ramp B (KY 16)	22+07	33
Ramp B (KY 16)	22+32	33
Ramp B (KY 16)	22+58	33
Ramp B (KY 16)	22+82	33
Ramp B (KY 16)	23+15	33
Ramp B (KY 16)	23+40	34
Ramp B (KY 16)	23+64	34
Ramp B (KY 16)	23+89	34
Ramp B (KY 16)	24+16	34
Ramp B (KY 16)	24+41	34
Ramp B (KY 16)	24+67	34
Ramp B (KY 16)	24+92	34
Ramp B (KY 16)	25+17	34
Ramp B (KY 16)	25+43	34
Ramp B (KY 16)	25+68	34
Ramp B (KY 16)	25+94	34
Ramp B (KY 16)	26+19	34
Ramp B (KY 16)	26+45	34
Ramp B (KY 16) TOTAL		**1847**

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp C (KY 16)	11+03	26
Ramp C (KY 16)	11+40	26
Ramp C (KY 16)	11+79	26
Ramp C (KY 16)	12+10	26
Ramp C (KY 16)	12+35	26
Ramp C (KY 16)	12+60	26
Ramp C (KY 16)	12+85	26
Ramp C (KY 16)	13+10	26
Ramp C (KY 16)	13+35	26
Ramp C (KY 16)	13+60	26
Ramp C (KY 16)	14+09	26
Ramp C (KY 16)	14+34	26
Ramp C (KY 16)	14+59	26
Ramp C (KY 16)	14+83	26
Ramp C (KY 16)	15+09	26
Ramp C (KY 16)	15+33	26
Ramp C (KY 16)	15+58	26
Ramp C (KY 16)	15+83	26
Ramp C (KY 16)	16+08	26
Ramp C (KY 16)	16+32	26
Ramp C (KY 16)	16+57	26
Ramp C (KY 16)	16+82	26
Ramp C (KY 16)	17+82	26
Ramp C (KY 16)	18+07	26
Ramp C (KY 16)	18+31	26
Ramp C (KY 16)	18+56	26
Ramp C (KY 16)	18+81	26
Ramp C (KY 16)	19+06	26
Ramp C (KY 16)	19+31	26
Ramp C (KY 16)	19+56	26
Ramp C (KY 16)	19+81	26
Ramp C (KY 16)	20+06	26
Ramp C (KY 16)	20+31	26
Ramp C (KY 16)	20+56	26
Ramp C (KY 16)	20+81	26
Ramp C (KY 16)	21+06	26
Ramp C (KY 16)	21+31	26
Ramp C (KY 16)	21+56	26
Ramp C (KY 16)	21+81	26

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp C (KY 16)	22+06	26
Ramp C (KY 16)	22+31	26
Ramp C (KY 16)	22+56	26
Ramp C (KY 16)	22+81	26
Ramp C (KY 16)	23+06	26
Ramp C (KY 16)	23+31	26
Ramp C (KY 16)	23+56	26
Ramp C (KY 16)	23+81	26
Ramp C (KY 16)	24+06	26
Ramp C (KY 16)	24+31	26
Ramp C (KY 16)	24+56	26
Ramp C (KY 16)	24+75	26
Ramp C (KY 16) TOTAL		**1326**

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp D (KY 16)	11+57	25
Ramp D (KY 16)	11+77	25
Ramp D (KY 16)	12+02	25
Ramp D (KY 16)	12+25	25
Ramp D (KY 16)	12+50	25
Ramp D (KY 16)	12+74	25
Ramp D (KY 16)	12+99	25
Ramp D (KY 16)	13+22	25
Ramp D (KY 16)	13+46	25
Ramp D (KY 16)	13+70	25
Ramp D (KY 16)	13+94	25
Ramp D (KY 16)	14+17	25
Ramp D (KY 16)	14+41	25
Ramp D (KY 16)	14+64	25
Ramp D (KY 16)	14+88	25
Ramp D (KY 16)	15+11	25
Ramp D (KY 16)	15+35	25
Ramp D (KY 16)	15+58	25
Ramp D (KY 16)	15+82	25
Ramp D (KY 16)	16+06	25
Ramp D (KY 16)	16+29	25
Ramp D (KY 16)	16+52	25
Ramp D (KY 16)	16+76	25
Ramp D (KY 16)	17+00	25
Ramp D (KY 16)	17+23	25
Ramp D (KY 16)	17+46	25
Ramp D (KY 16)	17+70	25
Ramp D (KY 16)	17+93	25
Ramp D (KY 16)	18+17	25
Ramp D (KY 16)	18+41	25
Ramp D (KY 16)	18+65	25
Ramp D (KY 16)	18+88	25
Ramp D (KY 16)	19+11	25
Ramp D (KY 16)	19+35	25
Ramp D (KY 16)	19+61	25
Ramp D (KY 16)	19+86	25
Ramp D (KY 16)	20+11	25
Ramp D (KY 16)	20+36	25
Ramp D (KY 16)	20+61	25

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp D (KY 16)	20+86	25
Ramp D (KY 16)	21+11	25
Ramp D (KY 16)	21+36	25
Ramp D (KY 16)	21+61	25
Ramp D (KY 16)	21+86	25
Ramp D (KY 16)	22+11	25
Ramp D (KY 16)	22+36	25
Ramp D (KY 16)	22+61	25
Ramp D (KY 16)	22+87	25
Ramp D (KY 16)	23+11	25
Ramp D (KY 16)	23+36	25
Ramp D (KY 16)	23+61	25
Ramp D (KY 16)	23+86	25
Ramp D (KY 16)	24+11	25
Ramp D (KY 16)	24+36	25
Ramp D (KY 16)	24+61	25
Ramp D (KY 16)	24+86	25
Ramp D (KY 16)	25+11	25
Ramp D (KY 16)	25+36	25
Ramp D (KY 16)	25+61	25
Ramp D (KY 16)	25+86	25
Ramp D (KY 16)	26+10	25
Ramp D (KY 16)	26+36	25
Ramp D (KY 16)	26+60	25
Ramp D (KY 16)	26+85	25
Ramp D (KY 16)	27+10	25
Ramp D (KY 16)	27+35	25
Ramp D (KY 16)	27+60	25
Ramp D (KY 16)	27+85	25
Ramp D (KY 16)	27+95	25
Ramp D (KY 16)	28+10	25
Ramp D (KY 16)	28+35	25
Ramp D (KY 16)	28+60	25
Ramp D (KY 16)	28+85	25
Ramp D (KY 16)	29+10	25
Ramp D (KY 16)	29+35	25
Ramp D (KY 16)	29+59	25
Ramp D (KY 16)	29+84	25
Ramp D (KY 16)	30+21	25
Ramp D (KY 16) TOTAL		**1950**

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp E (KY 16)	11+95	25
Ramp E (KY 16)	12+41	25
Ramp E (KY 16)	12+66	25
Ramp E (KY 16)	12+91	25
Ramp E (KY 16)	13+16	25
Ramp E (KY 16)	13+41	25
Ramp E (KY 16)	13+65	25
Ramp E (KY 16)	13+90	25
Ramp E (KY 16)	14+15	25
Ramp E (KY 16)	14+40	25
Ramp E (KY 16)	14+65	25
Ramp E (KY 16)	14+90	25
Ramp E (KY 16)	15+15	25
Ramp E (KY 16)	15+40	25
Ramp E (KY 16)	15+65	25
Ramp E (KY 16)	15+90	25
Ramp E (KY 16)	16+14	25
Ramp E (KY 16)	16+40	25
Ramp E (KY 16)	16+64	25
Ramp E (KY 16)	16+89	25
Ramp E (KY 16)	17+14	25
Ramp E (KY 16)	17+39	25
Ramp E (KY 16)	17+64	25
Ramp E (KY 16)	17+89	25
Ramp E (KY 16)	18+14	25
Ramp E (KY 16)	18+39	25
Ramp E (KY 16)	18+63	25
Ramp E (KY 16)	18+88	25
Ramp E (KY 16)	19+13	26
Ramp E (KY 16)	19+38	26
Ramp E (KY 16)	19+63	25
Ramp E (KY 16)	19+88	25
Ramp E (KY 16)	20+13	25
Ramp E (KY 16)	20+38	25
Ramp E (KY 16)	20+63	25
Ramp E (KY 16)	20+88	25
Ramp E (KY 16)	21+13	26
Ramp E (KY 16)	21+38	26
Ramp E (KY 16)	21+63	27

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp E (KY 16)	21+86	27
Ramp E (KY 16)	22+12	28
Ramp E (KY 16)	22+37	28
Ramp E (KY 16)	22+62	29
Ramp E (KY 16)	22+87	30
Ramp E (KY 16)	23+12	31
Ramp E (KY 16)	23+37	32
Ramp E (KY 16)	23+62	33
Ramp E (KY 16)	23+87	33
Ramp E (KY 16)	24+16	34
Ramp E (KY 16)	24+42	35
Ramp E (KY 16)	24+66	36
Ramp E (KY 16)	24+92	38
Ramp E (KY 16)	25+17	40
Ramp E (KY 16)	25+42	41
Ramp E (KY 16)	25+67	43
Ramp E (KY 16)	25+91	45
Ramp E (KY 16)	26+17	46
Ramp E (KY 16)	26+42	46
Ramp E (KY 16)	26+67	46
Ramp E (KY 16)	26+92	46
Ramp E (KY 16)	27+16	46
Ramp E (KY 16)	27+42	46
Ramp E (KY 16)	27+67	46
Ramp E (KY 16)	27+92	46
Ramp E (KY 16)	28+17	46
Ramp E (KY 16)	28+41	46
Ramp E (KY 16)	28+67	46
Ramp E (KY 16)	28+92	46
Ramp E (KY 16)	29+17	46
Ramp E (KY 16)	29+47	46
Ramp E (KY 16)		**2208**

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp F (KY 16)	10+49	26
Ramp F (KY 16)	10+73	26
Ramp F (KY 16)	10+98	26
Ramp F (KY 16)	11+23	26
Ramp F (KY 16)	11+49	26
Ramp F (KY 16)	11+75	26
Ramp F (KY 16)	11+97	26
Ramp F (KY 16)	12+22	26
Ramp F (KY 16)	12+45	26
Ramp F (KY 16)	12+70	26
Ramp F (KY 16)	12+94	26
Ramp F (KY 16)	13+19	26
Ramp F (KY 16)	13+42	26
Ramp F (KY 16)	13+66	26
Ramp F (KY 16)	13+90	26
Ramp F (KY 16)	14+14	26
Ramp F (KY 16)	14+36	26
Ramp F (KY 16)	14+61	26
Ramp F (KY 16)	14+85	26
Ramp F (KY 16)	15+09	26
Ramp F (KY 16)	15+35	26
Ramp F (KY 16)	15+57	26
Ramp F (KY 16)	15+80	26
Ramp F (KY 16)	16+04	26
Ramp F (KY 16)	16+28	26
Ramp F (KY 16)	16+52	26
Ramp F (KY 16)	16+75	26
Ramp F (KY 16)	16+99	26
Ramp F (KY 16)	17+23	26
Ramp F (KY 16)	17+46	26
Ramp F (KY 16)	17+70	26
Ramp F (KY 16)	17+94	26
Ramp F (KY 16)	18+18	26
Ramp F (KY 16)	18+39	26
Ramp F (KY 16)	18+65	26
Ramp F (KY 16)	18+88	26
Ramp F (KY 16)	19+12	26
Ramp F (KY 16)	19+36	26
Ramp F (KY 16)	19+59	26

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp F (KY 16)	19+83	26
Ramp F (KY 16)	20+07	26
Ramp F (KY 16)	20+30	26
Ramp F (KY 16)	20+53	26
Ramp F (KY 16)	20+77	26
Ramp F (KY 16)	21+01	26
Ramp F (KY 16)	21+24	26
Ramp F (KY 16)	21+47	26
Ramp F (KY 16)	21+72	26
Ramp F (KY 16)	21+95	26
Ramp F (KY 16)	22+18	26
Ramp F (KY 16)	22+42	26
Ramp F (KY 16)	22+66	26
Ramp F (KY 16)	22+90	26
Ramp F (KY 16)	23+13	26
Ramp F (KY 16)	23+37	26
Ramp F (KY 16)	23+62	26
Ramp F (KY 16)	23+87	26
Ramp F (KY 16)	24+10	26
Ramp F (KY 16)	24+35	26
Ramp F (KY 16)	24+58	26
Ramp F (KY 16)	24+87	26
Ramp F (KY 16)	25+27	26
Ramp F (KY 16) TOTAL		**1612**

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp J (KY 1303)	5+43	25
Ramp J (KY 1303)	5+68	25
Ramp J (KY 1303)	5+92	25
Ramp J (KY 1303)	6+18	25
Ramp J (KY 1303)	6+43	26
Ramp J (KY 1303)	6+68	25
Ramp J (KY 1303)	6+93	26
Ramp J (KY 1303)	7+18	25
Ramp J (KY 1303)	7+43	25
Ramp J (KY 1303)	7+67	25
Ramp J (KY 1303)	7+92	25
Ramp J (KY 1303)	8+18	25
Ramp J (KY 1303)	8+43	26
Ramp J (KY 1303)	8+67	26
Ramp J (KY 1303)	9+17	25
Ramp J (KY 1303)	9+42	25
Ramp J (KY 1303)	9+67	25
Ramp J (KY 1303)	9+92	25
Ramp J (KY 1303)	10+17	25
Ramp J (KY 1303)	10+42	25
Ramp J (KY 1303)	10+67	25
Ramp J (KY 1303)	10+92	25
Ramp J (KY 1303)	11+16	25
Ramp J (KY 1303)	11+41	25
Ramp J (KY 1303)	11+66	25
Ramp J (KY 1303)	11+91	25
Ramp J (KY 1303)	12+16	25
Ramp J (KY 1303)	12+42	25
Ramp J (KY 1303)	12+66	26
Ramp J (KY 1303)	12+92	26
Ramp J (KY 1303)	13+16	27
Ramp J (KY 1303)	13+42	27
Ramp J (KY 1303)	13+67	28
Ramp J (KY 1303)	13+92	29
Ramp J (KY 1303)	14+17	30
Ramp J (KY 1303)	14+42	30
Ramp J (KY 1303)	14+67	31
Ramp J (KY 1303)	14+91	32
Ramp J (KY 1303)	15+16	32

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No 6-2027.00 AND 6-2025.00

SAW AND SEAL ASPHALT JOINT SUMMARY		
		ITEM
		23845EC
LOCATION		SAW AND SEAL ASPHALT JOINT
(ROADWAY)	(STA)	(LF)
Ramp J (KY 1303)	15+41	33
Ramp J (KY 1303)	15+66	33
Ramp J (KY 1303)	15+92	33
Ramp J (KY 1303)	16+17	33
Ramp J (KY 1303)	16+41	34
Ramp J (KY 1303)	16+66	33
Ramp J (KY 1303)	16+91	33
Ramp J (KY 1303)	17+16	33
Ramp J (KY 1303)	17+66	33
Ramp J (KY 1303)	17+90	34
Ramp J (KY 1303)	18+16	34
Ramp J (KY 1303)	18+41	34
Ramp J (KY 1303)	18+65	34
Ramp J (KY 1303)	18+91	34
Ramp J (KY 1303)	19+15	34
Ramp J (KY 1303) TOTAL		**1524**
KENTON CO TOTAL		**10467**
CAMPBELL CO TOTAL		**0**
PROJECT TOTAL		**10467**

NOTES:

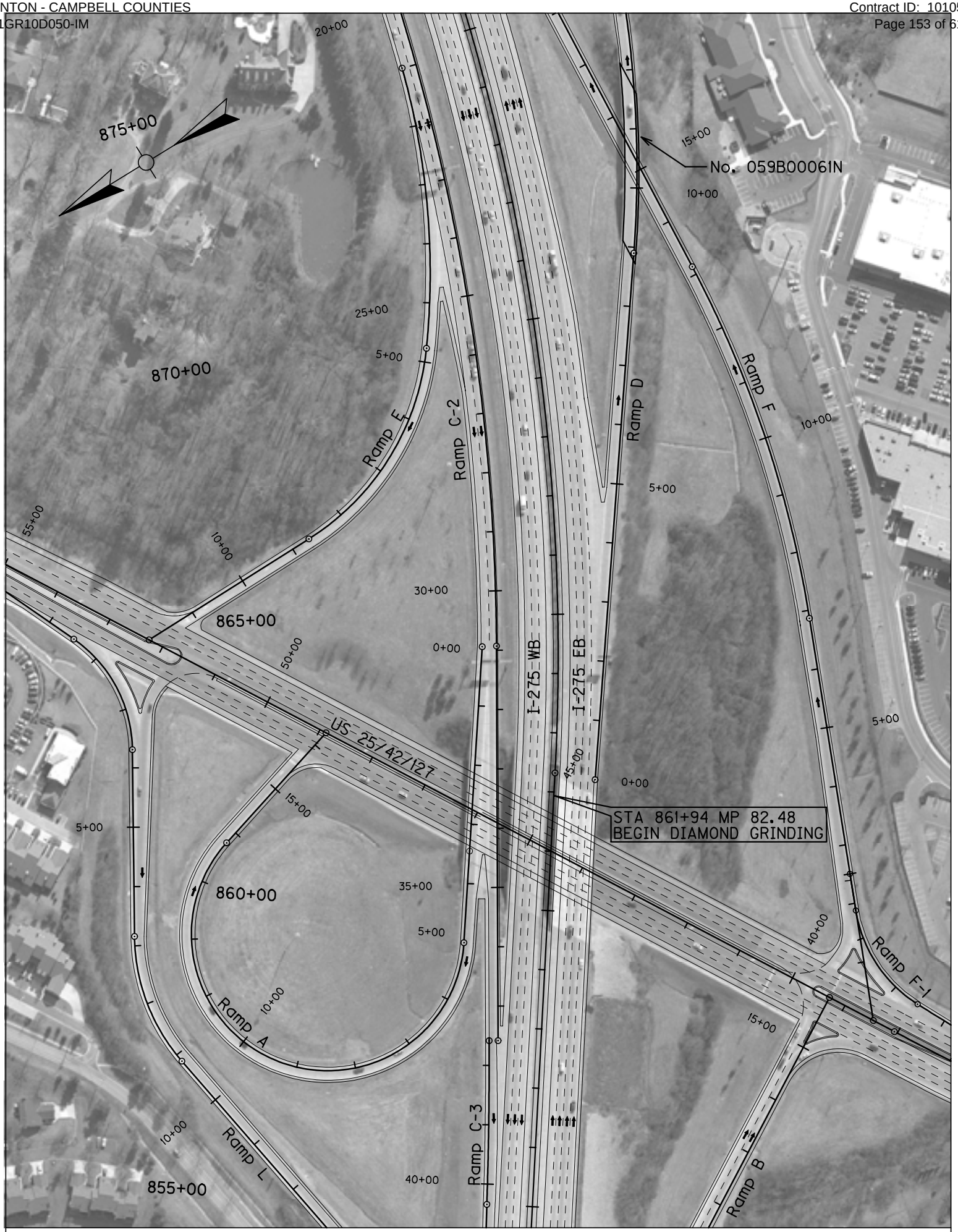
The locations shown in this summary are based on a field survey of the existing saw and seal joints. The Engineer may require additional saw and seal joints at any transverse cracks that are visible after milling of the ramp is completed. See the "Saw and Seal Transverse Joints in Asphalt Overlay" detail shown in the Proposal for additional information.

I-275 PAVEMENT REHABILITATION
KENTON AND CAMPBELL COUNTIES
ITEM No. 6-2027.00 AND 6-2025.00

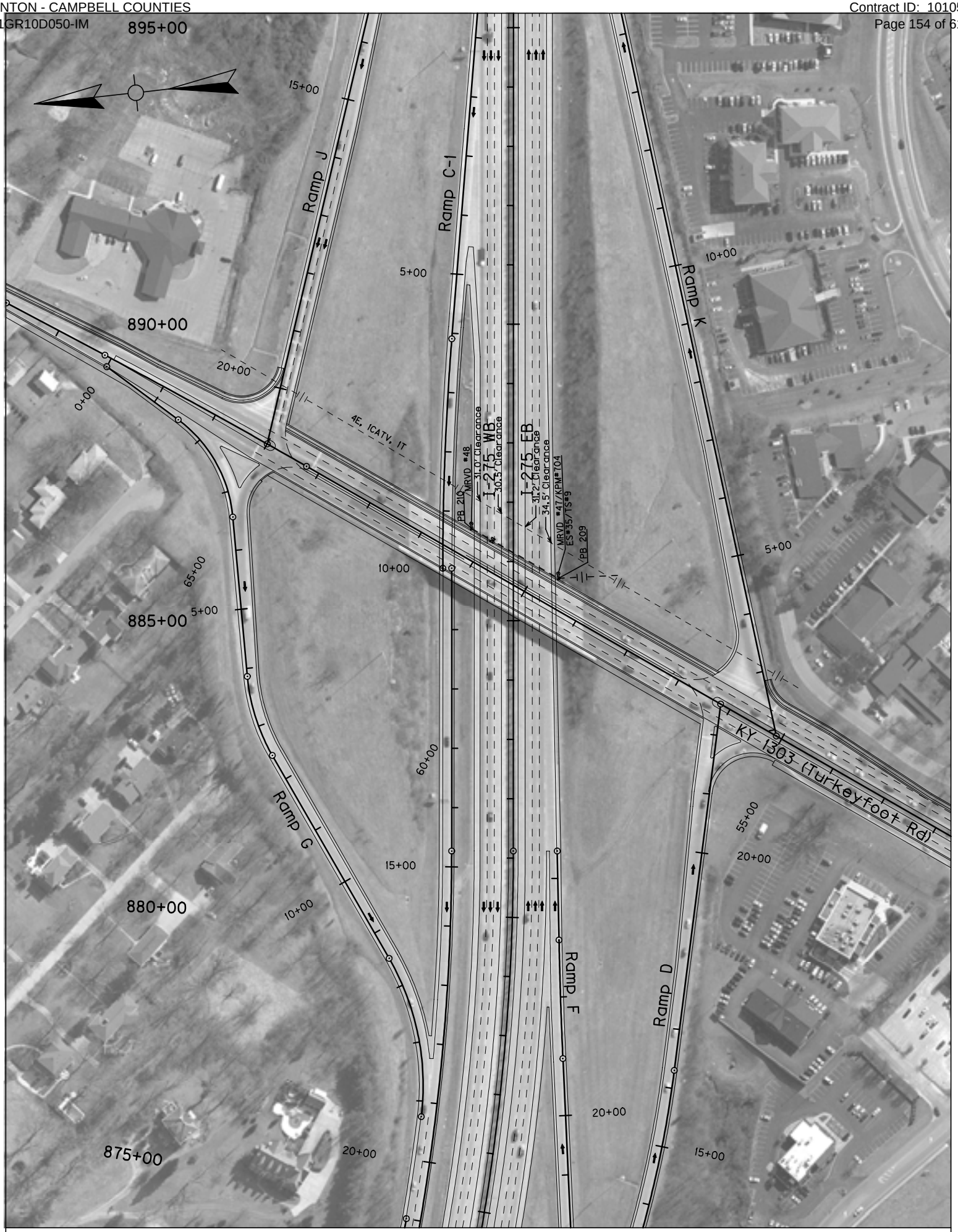
CLEAN DRAIN SUMMARY			
			ITEM 3260
LOCATION			CLEAN ROADWAY DRAINS
ROADWAY	STA	OFFSET	(EACH)
CAMPBELL CO			
Ramp A (KY 9)	10+45	Rt	1
Ramp A (KY 9)	10+56	Rt	1
Ramp B (KY 9)	16+25	Rt	1
Ramp B (KY 9)	23+52	Lt	1
Ramp D (KY 9)	10+43	Rt	1
Ramp D (KY 9)	11+19	Rt	1
CAMPBELL CO TOTAL			**6**
PROJECT TOTAL			**6**

NOTE:

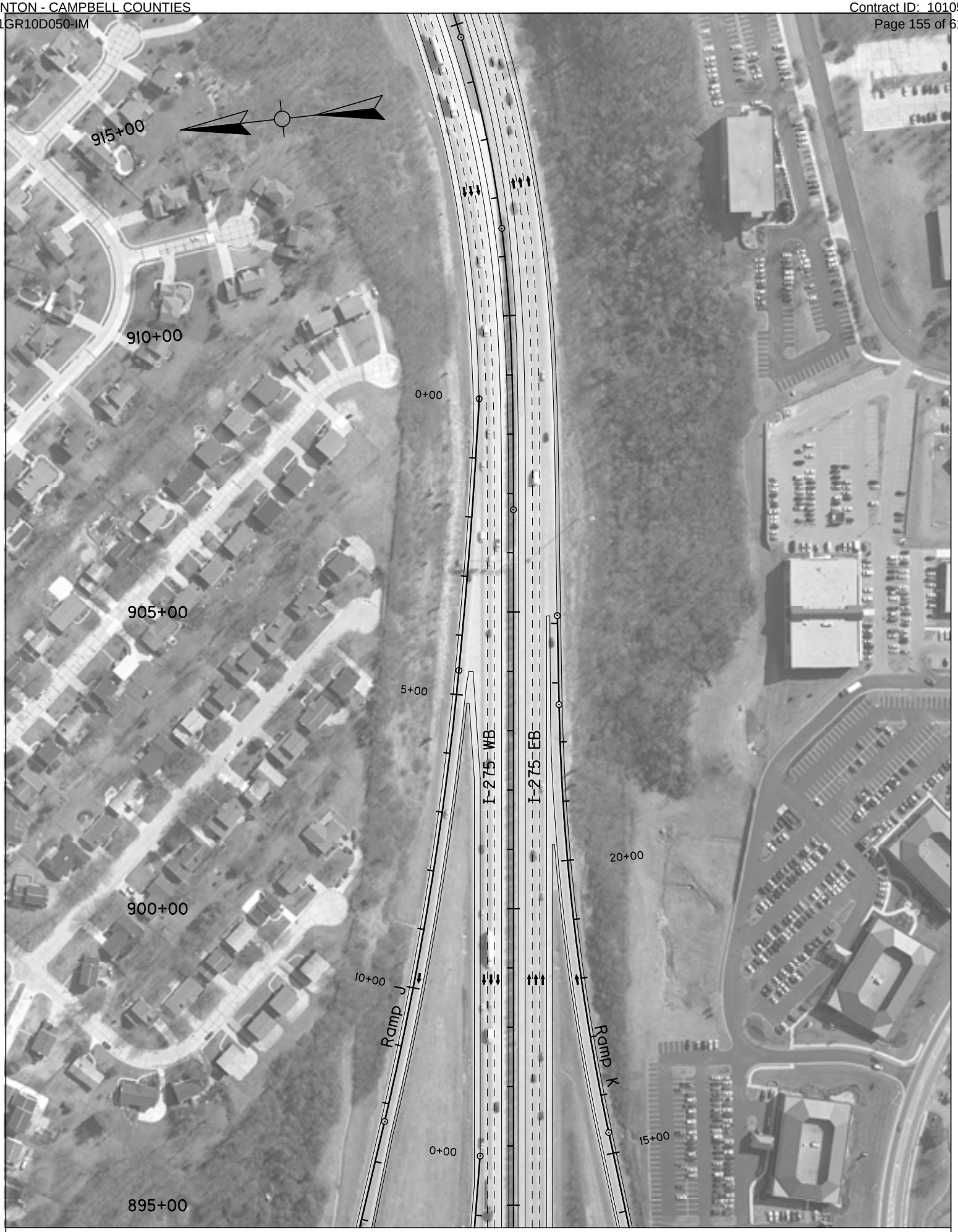
Includes all pipe, inlet and outlet structures such that the system is clear from debris and functions correctly.



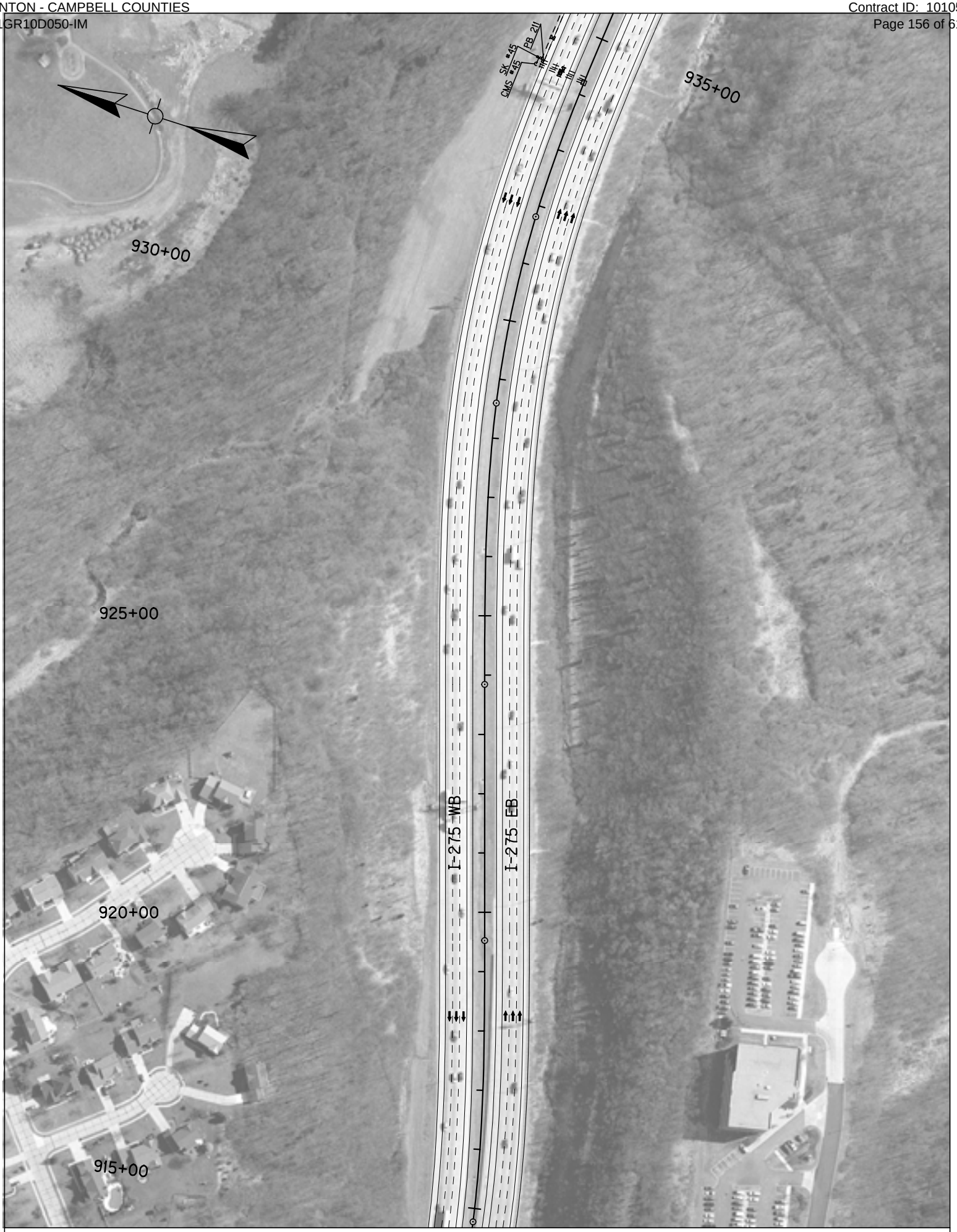
I-275 Plan - Scale 1" = 200' - Sheet 1 of 16 - Sta 855+00 to Sta 875+00



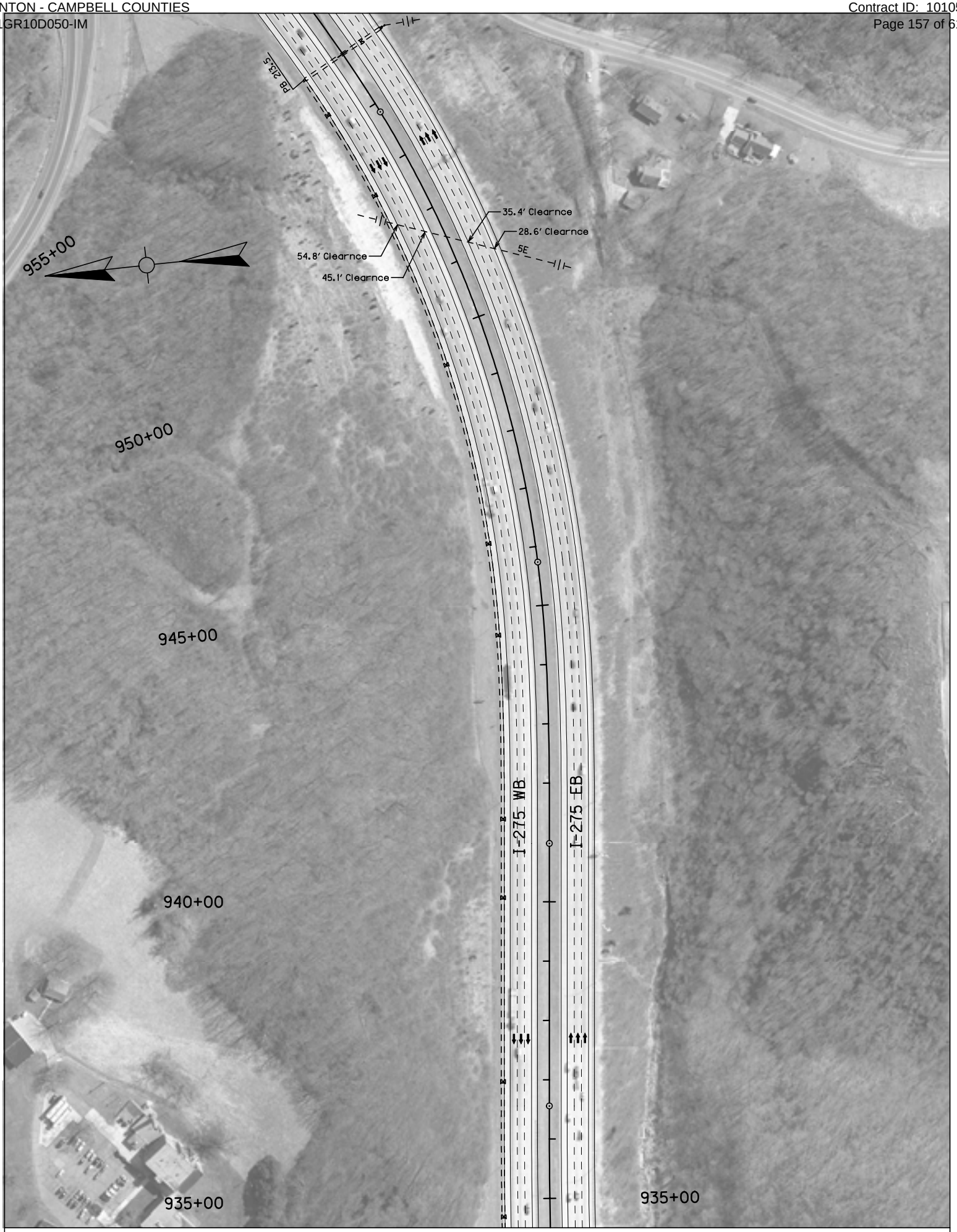
I-275 Plan - Scale 1" = 200' - Sheet 2 of 16 - Sta 875+00 to Sta 895+00



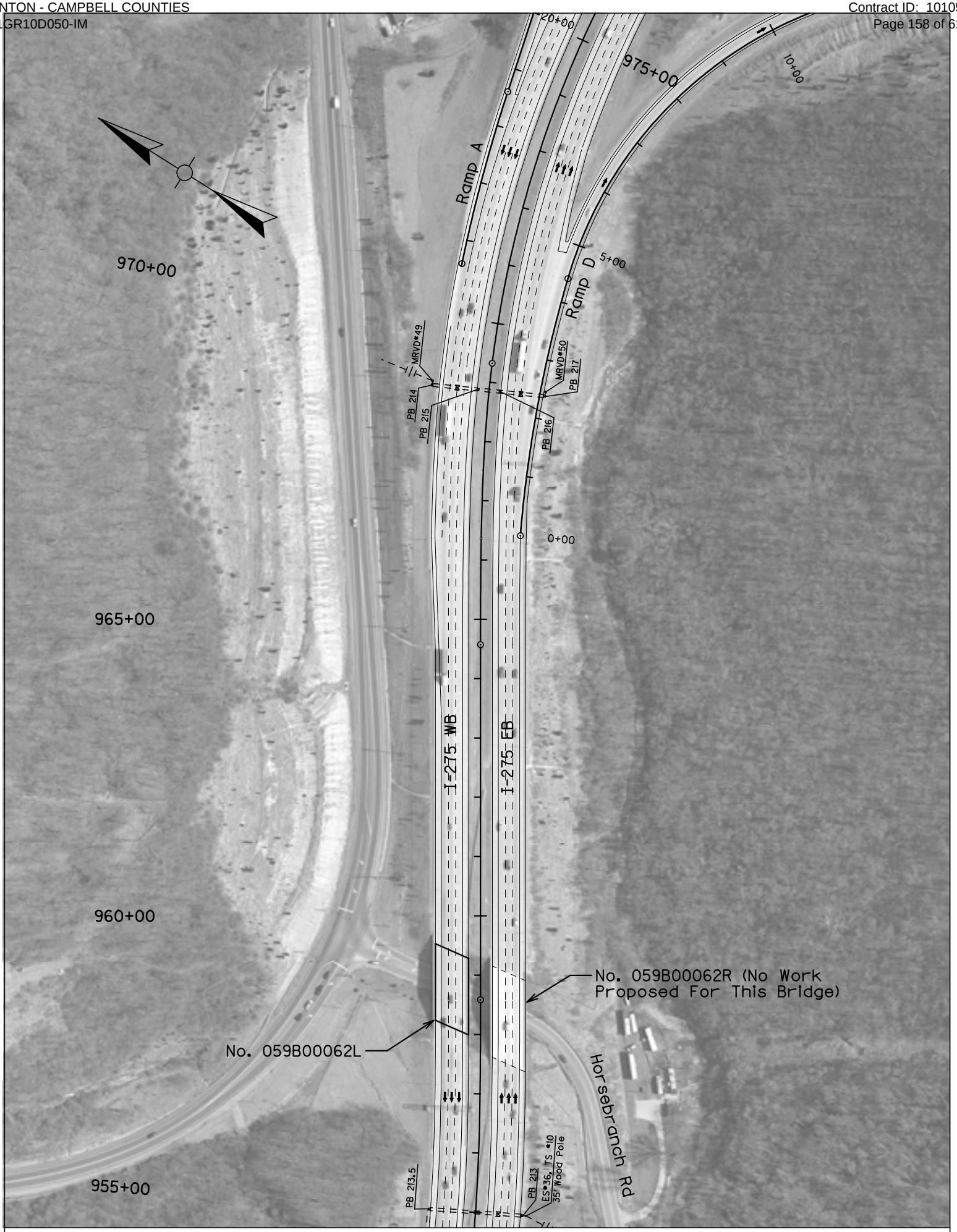
I-275 Plan - Scale 1" = 200' - Sheet 3 of 16 - Sta 895+00 to Sta 915+00



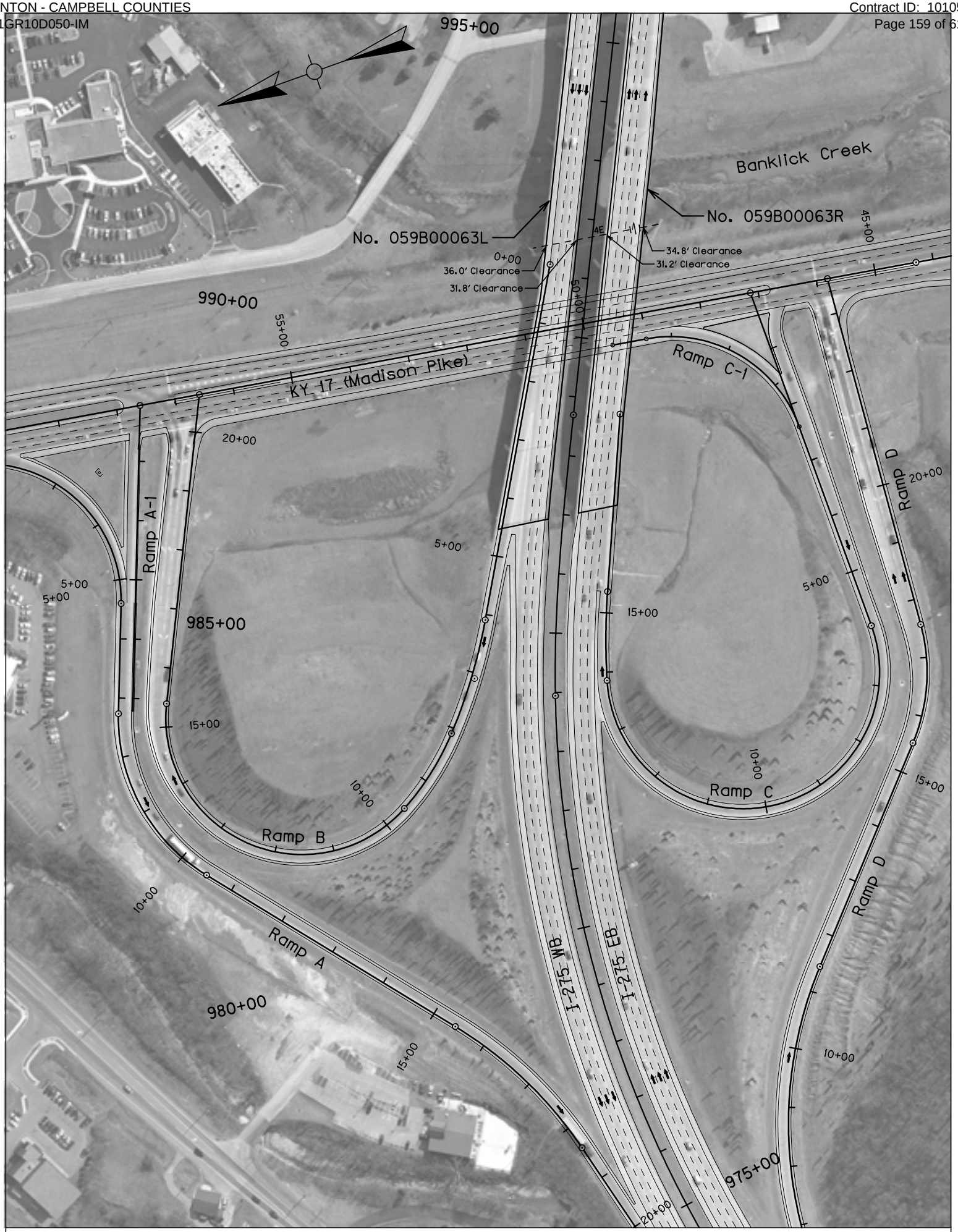
I-275 Plan - Scale 1" = 200' - Sheet 4 of 16 - Sta 915+00 to Sta 935+00



I-275 Plan - Scale 1" = 200' - Sheet 5 of 16 - Sta 935+00 to Sta 955+00



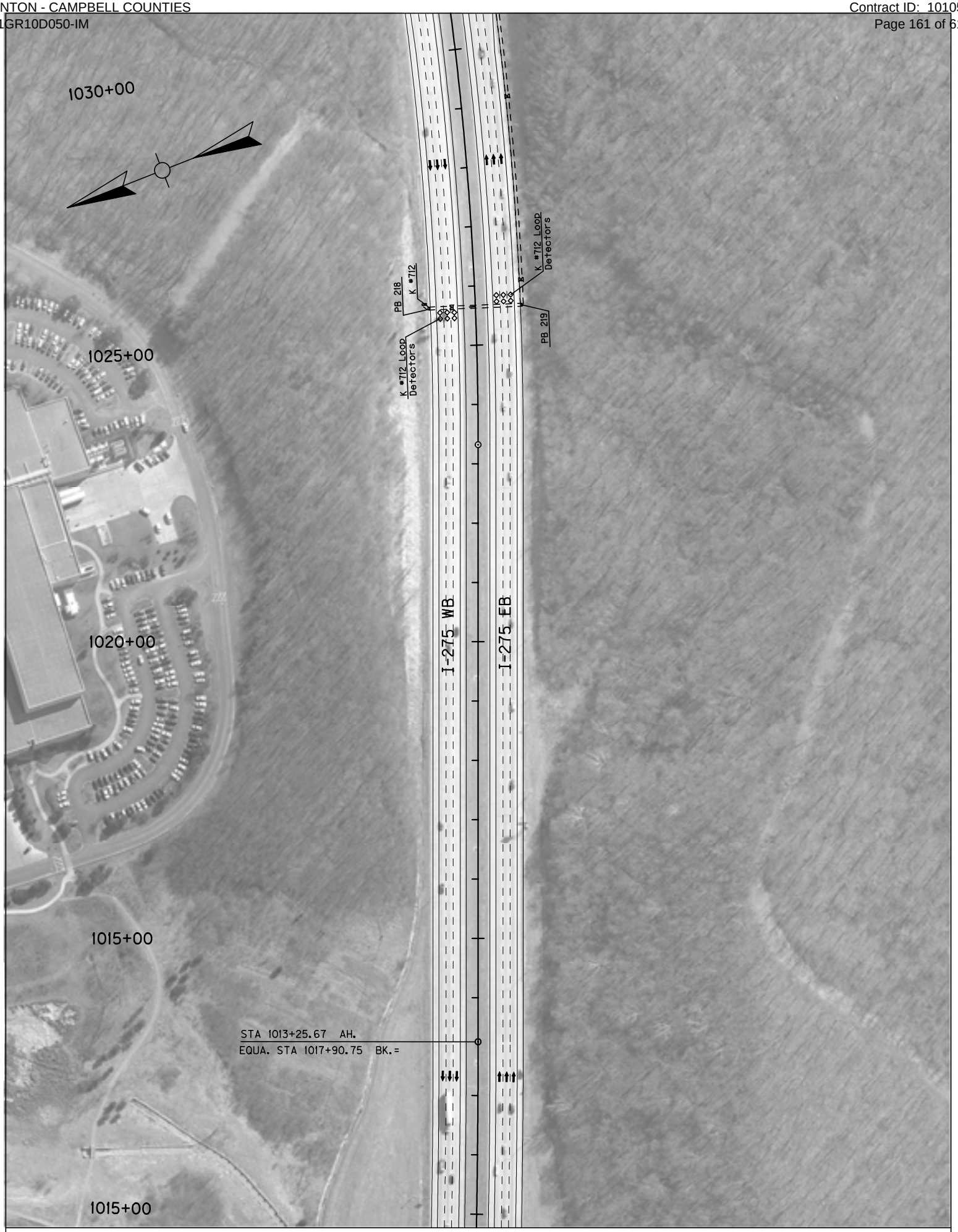
I-275 Plan - Scale 1" = 200' - Sheet 6 of 16 - Sta 955+00 to Sta 975+00



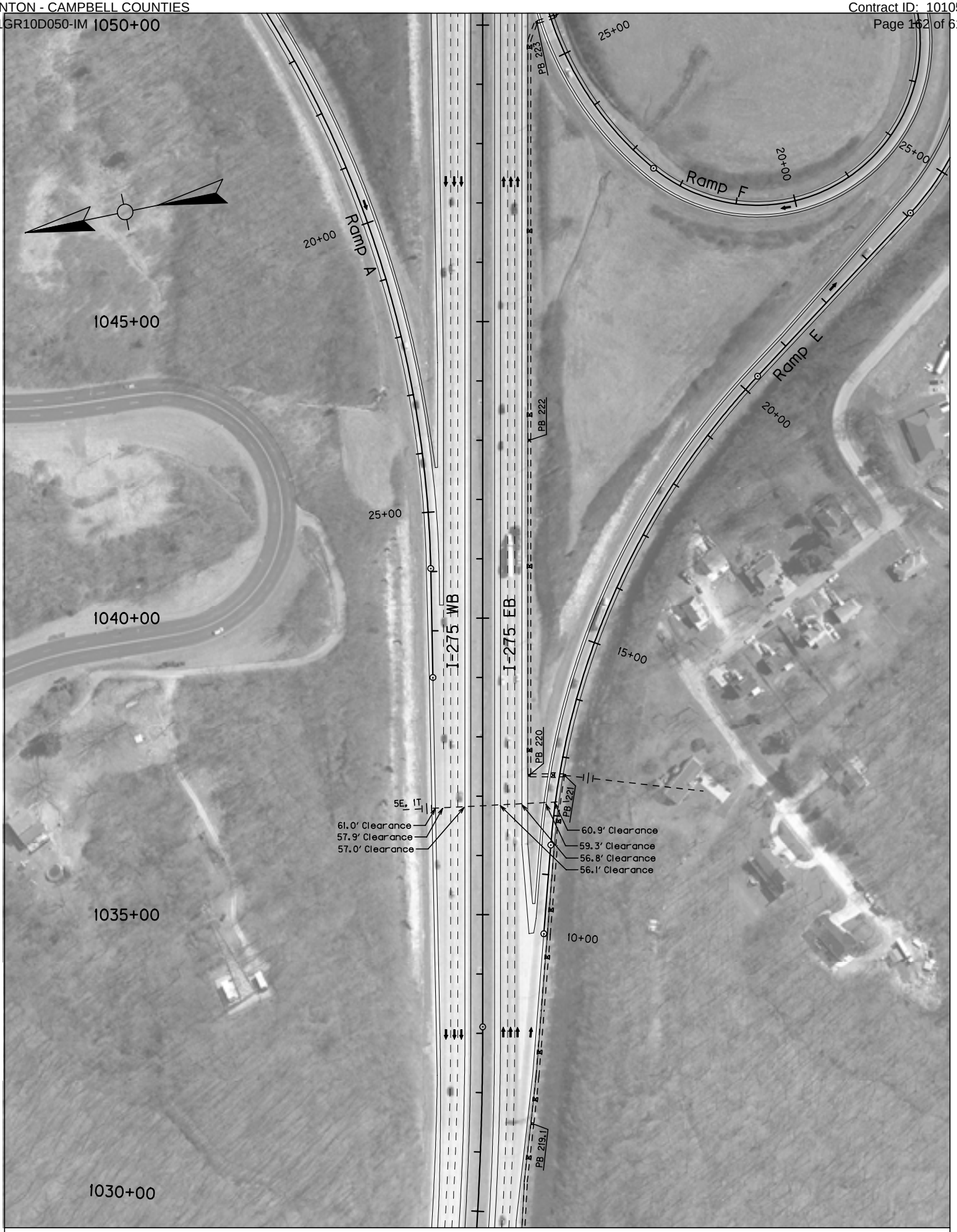
I-275 Plan - Scale 1" = 200' - Sheet 7 of 16 - Sta 975+00 to Sta 995+00



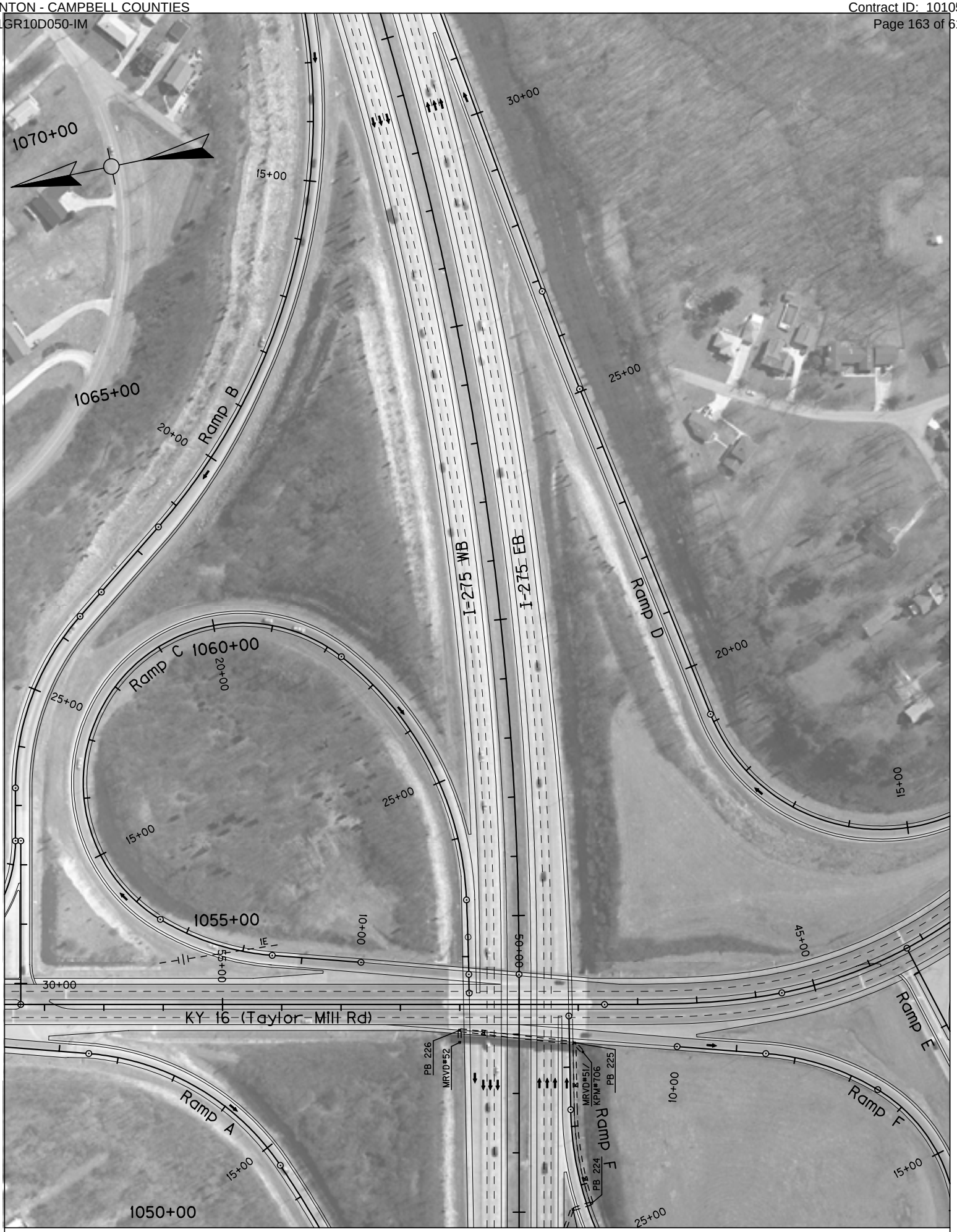
I-275 Plan - Scale 1" = 200' - Sheet 8 of 16 - Sta 995+00 to Sta 1015+00



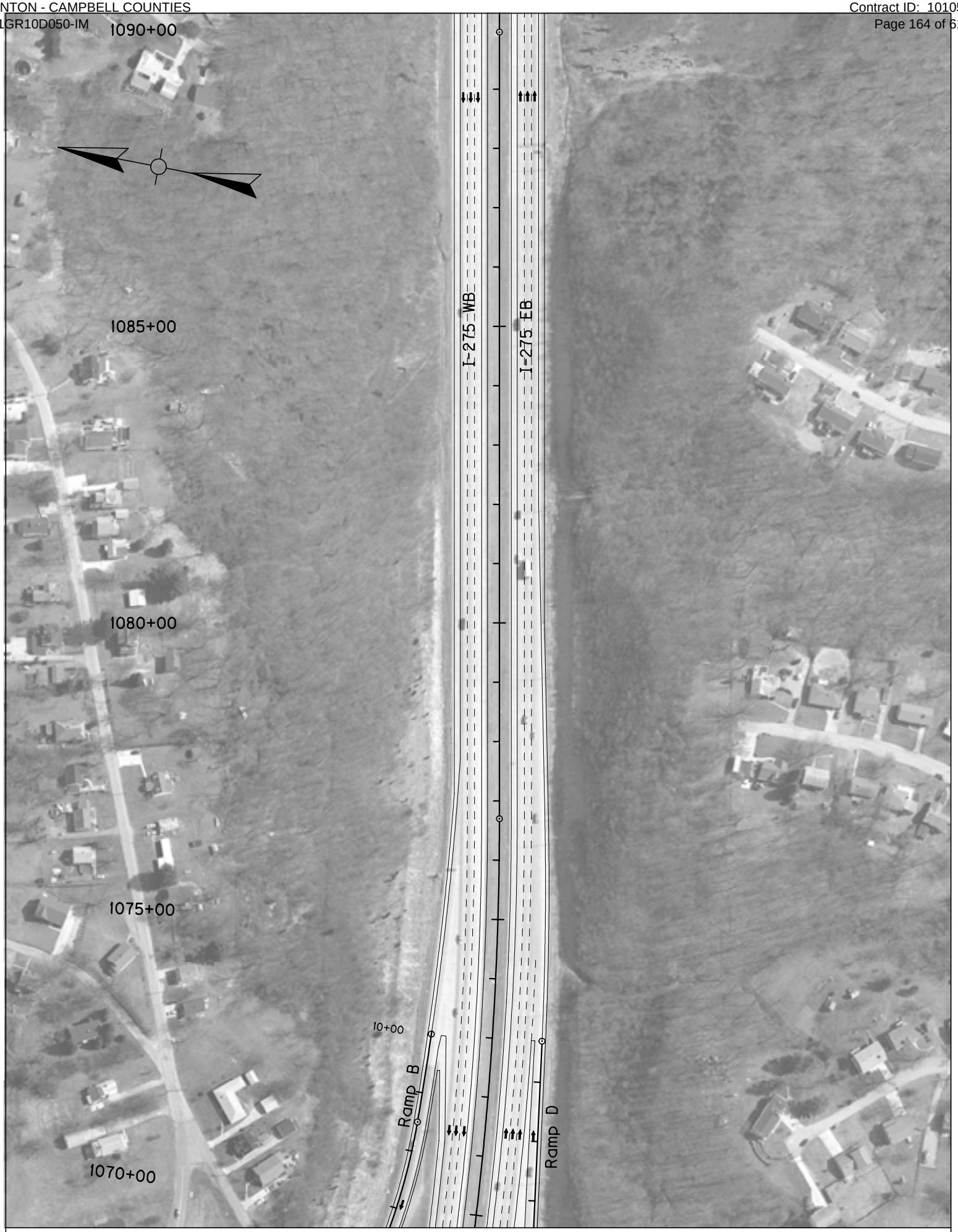
I-275 Plan - Scale 1" = 200' - Sheet 9 of 16 - Sta 1015+00 to Sta 1030+00



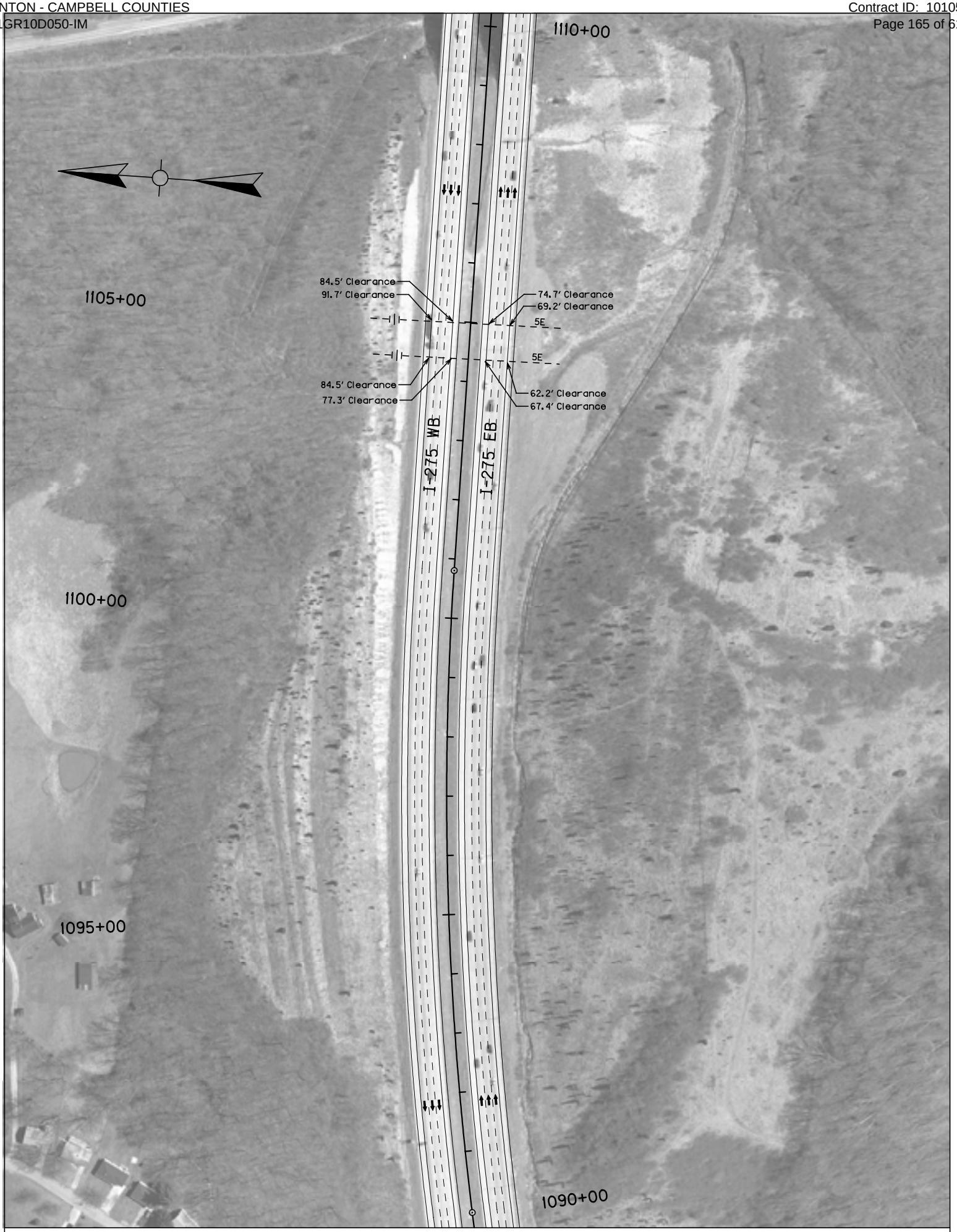
I-275 Plan - Scale 1" = 200' - Sheet 10 of 16 - Sta 1030+00 to Sta 1050+00



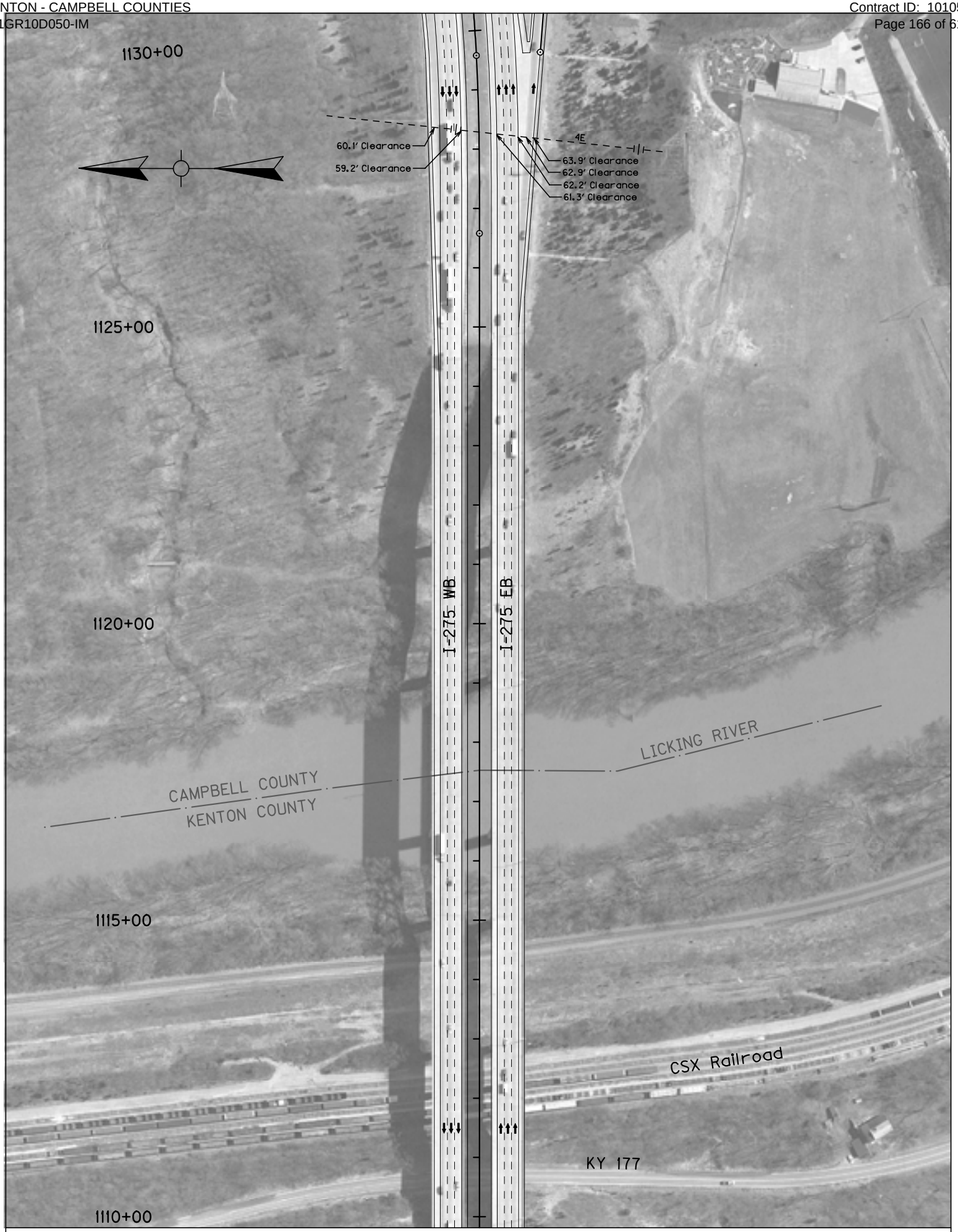
I-275 Plan - Scale 1" = 200' - Sheet 11 of 16 - Sta 1050+00 to Sta 1070+00



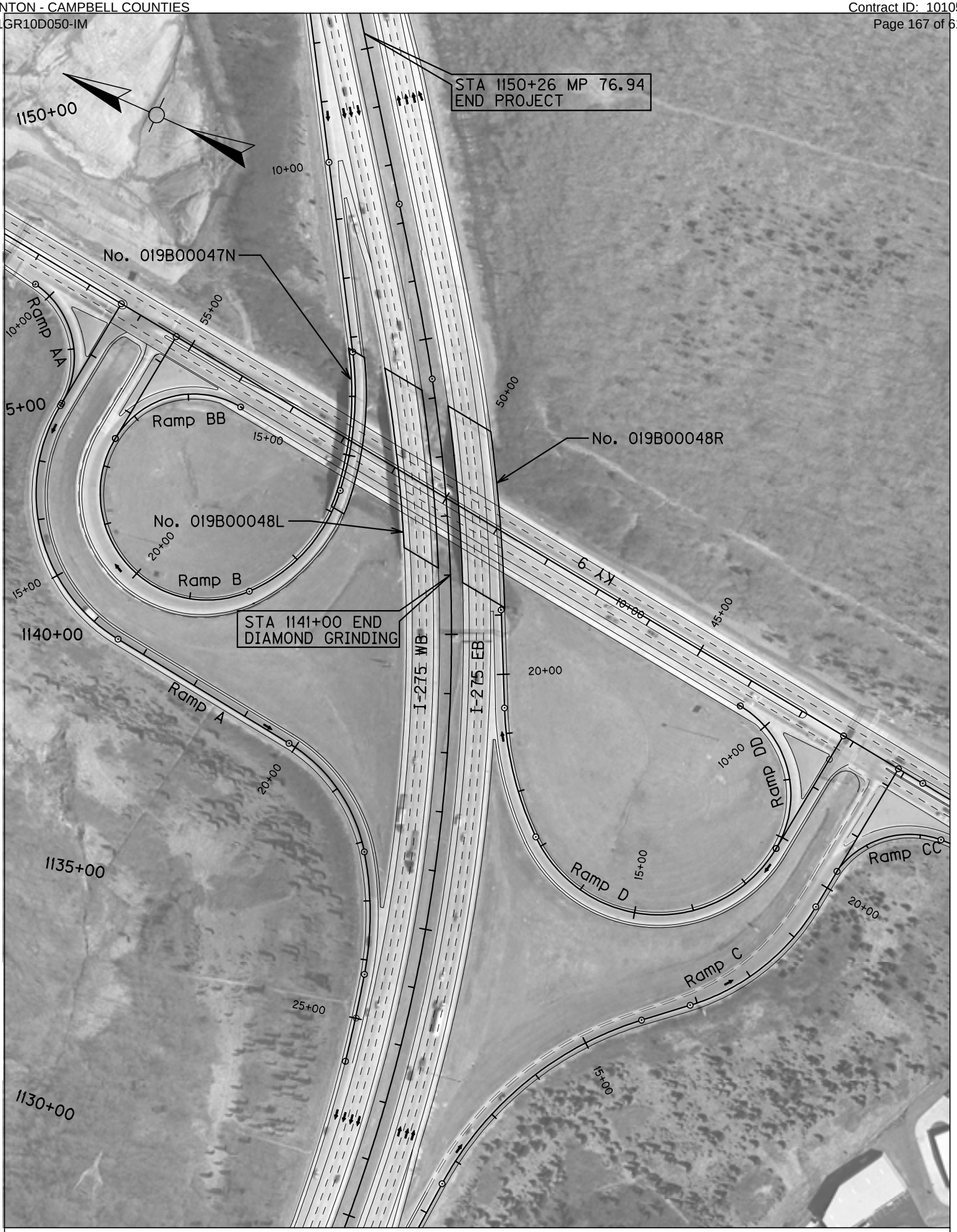
I-275 Plan - Scale 1" = 200' - Sheet 12 of 16 - Sta 1070+00 to Sta 1090+00



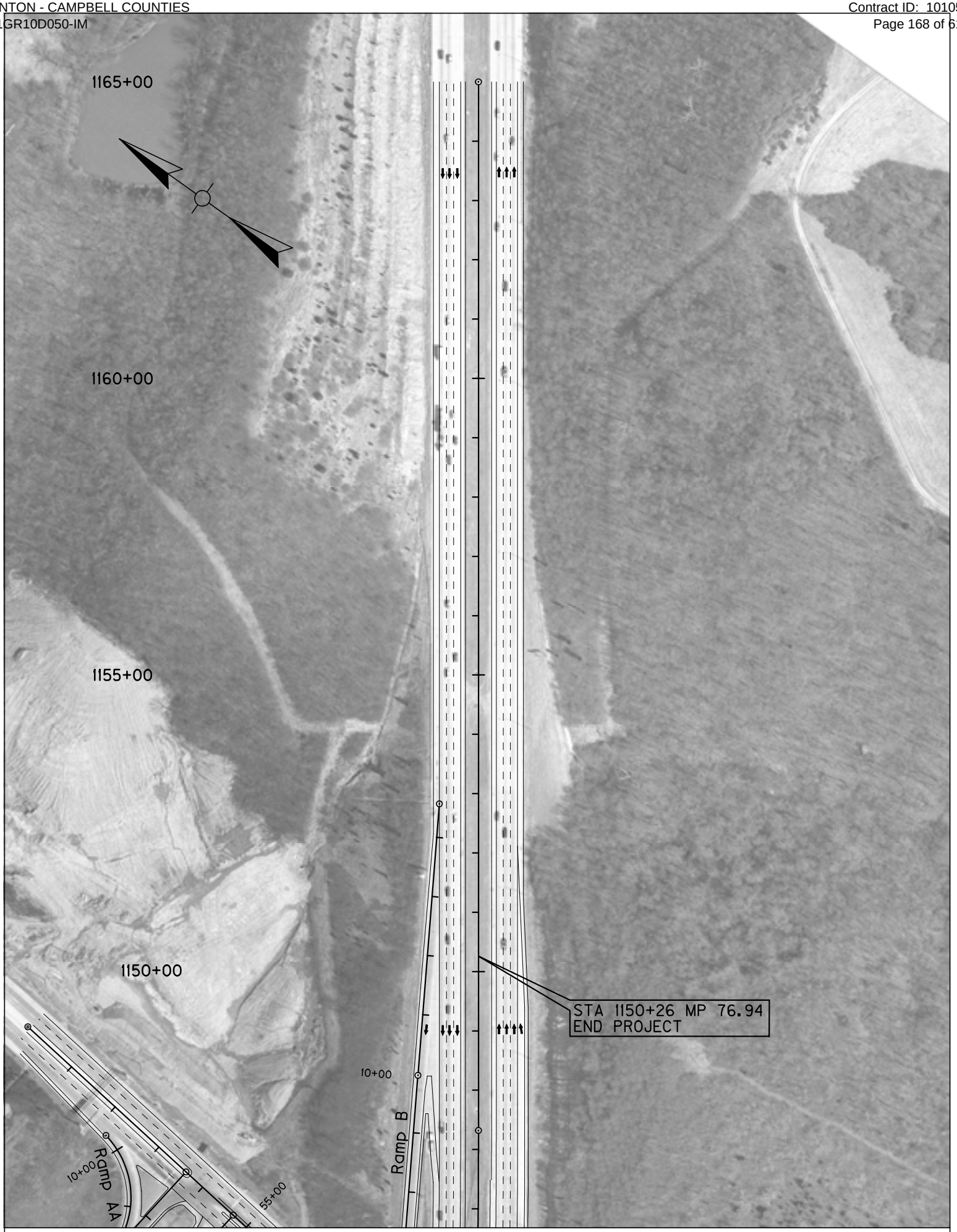
I-275 Plan - Scale 1" = 200' - Sheet 13 of 16 - Sta 1090+00 to Sta 1110+00



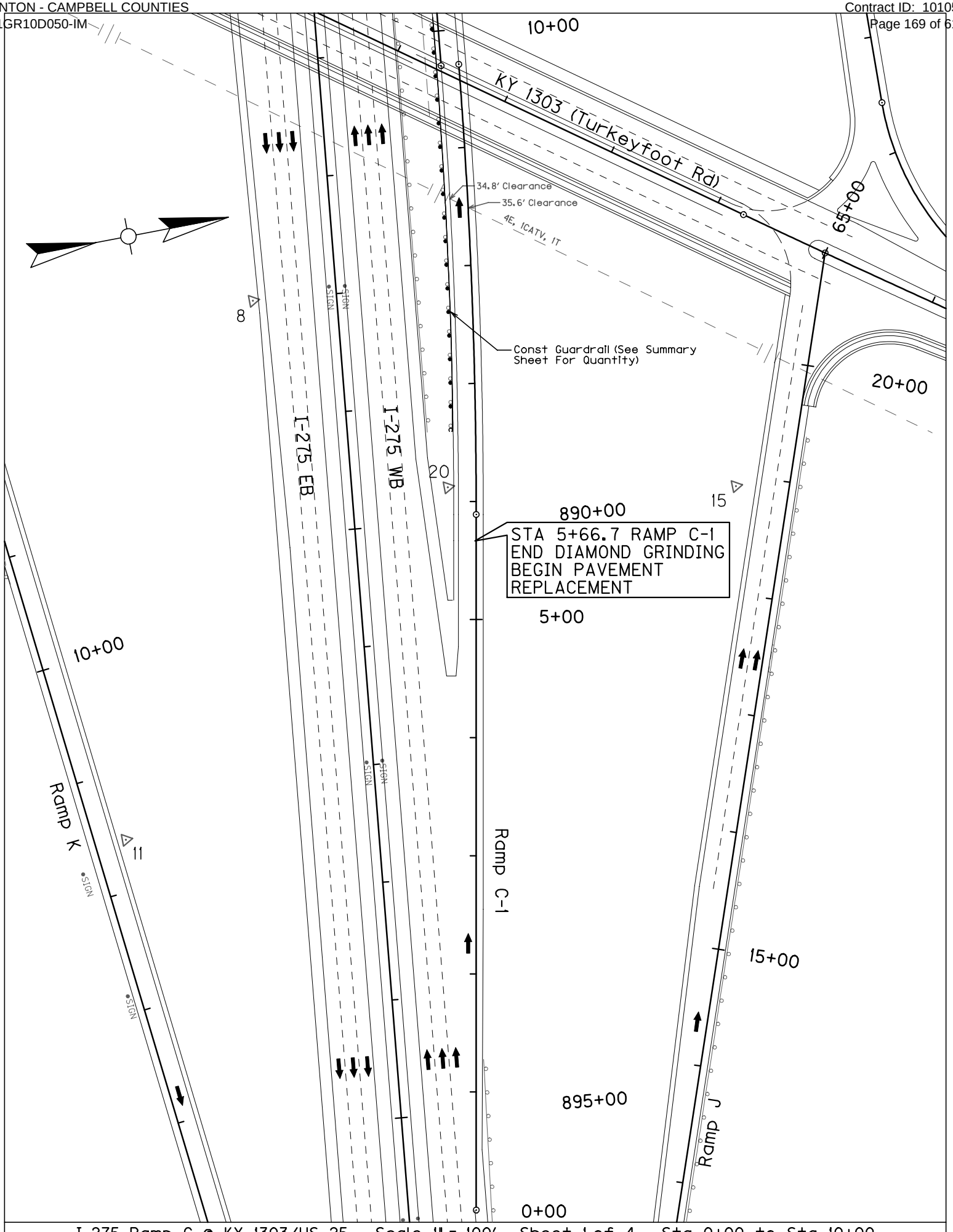
I-275 Plan - Scale 1" = 200' - Sheet 14 of 16 - Sta 1110+00 to Sta 1130+00



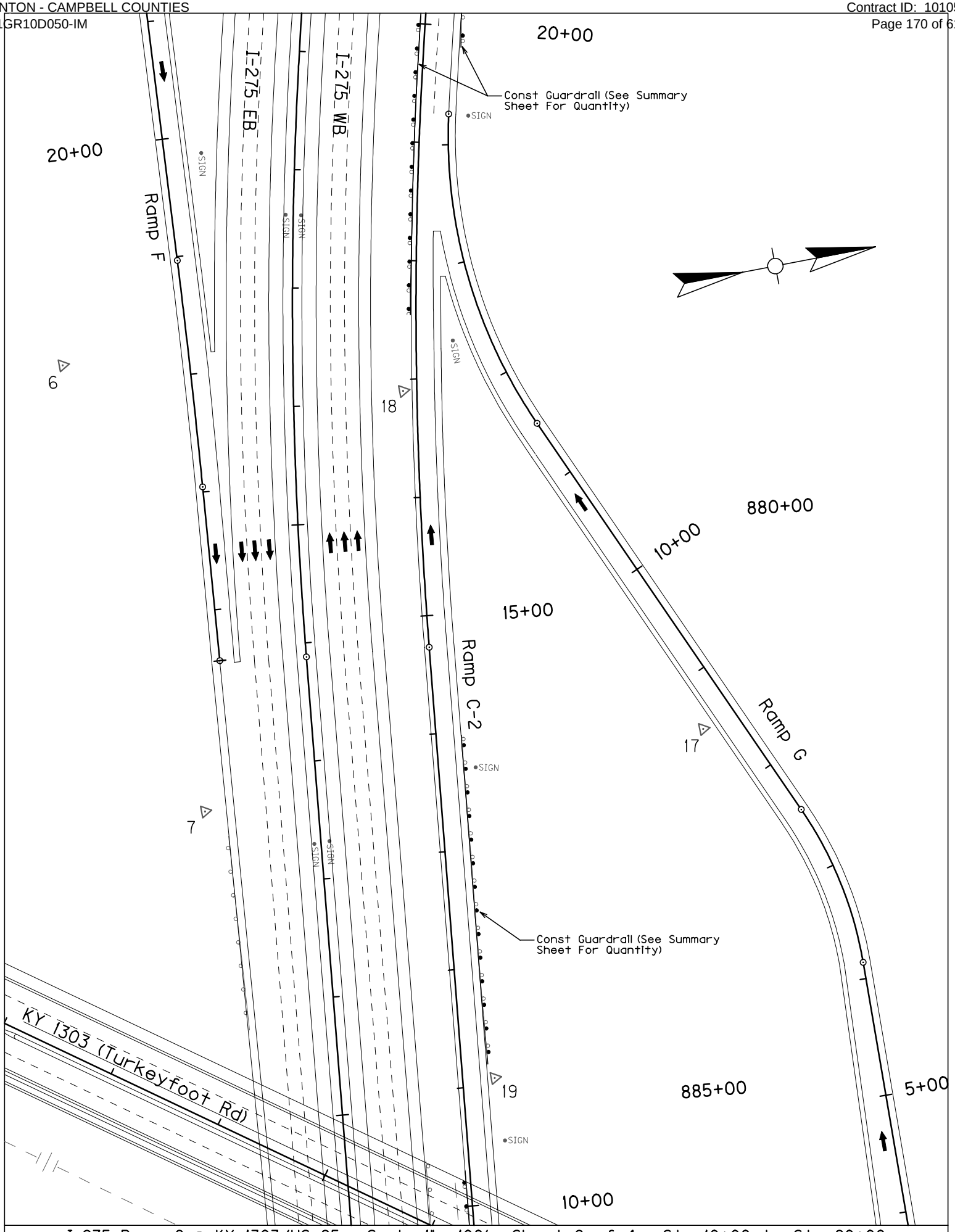
I-275 Plan - Scale 1" = 200' - Sheet 15 of 16 - Sta 1130+00 to Sta 1150+00



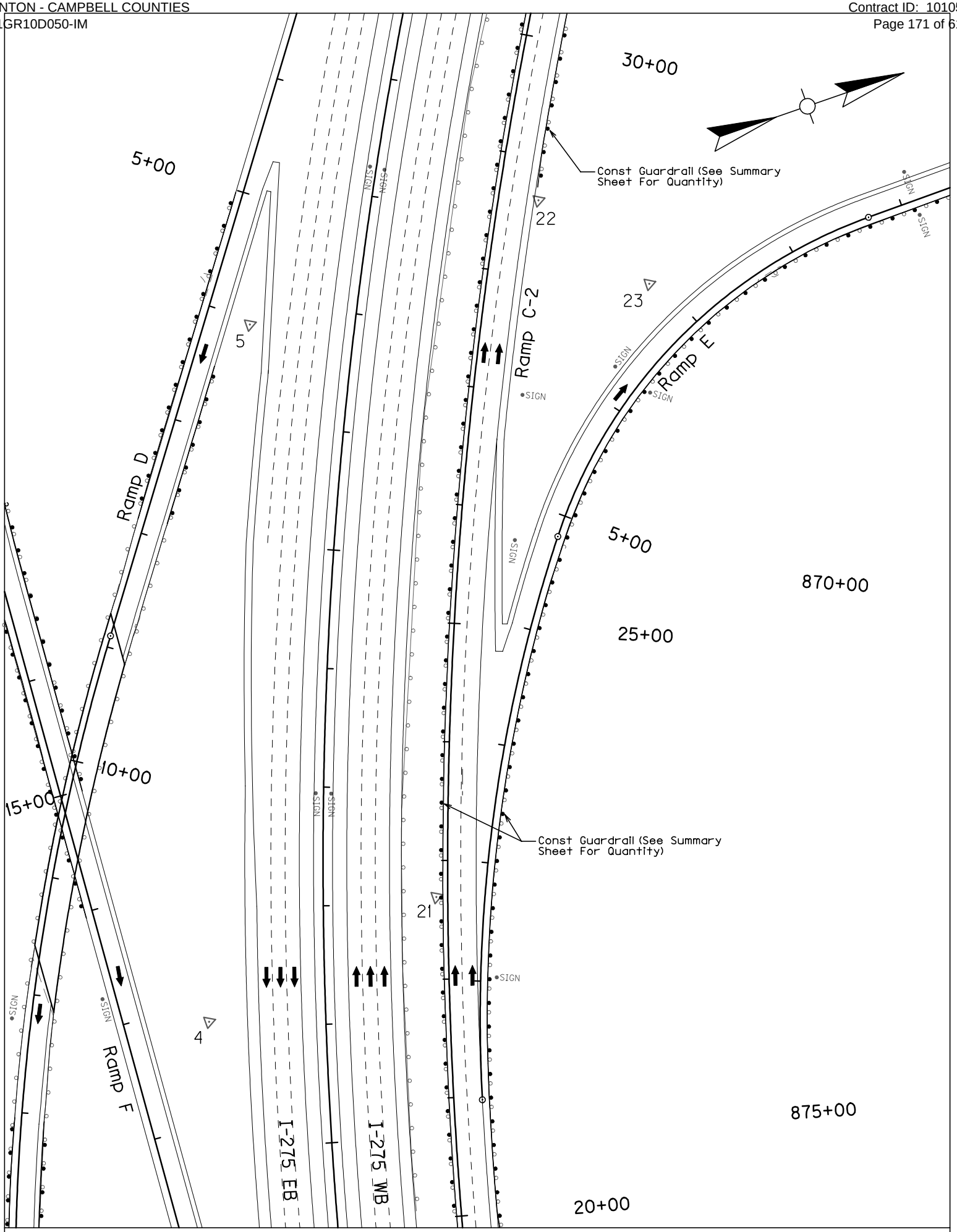
I-275 Plan - Scale 1" = 200' - Sheet 16 of 16 - Sta 1150+00 to Sta 1165+00



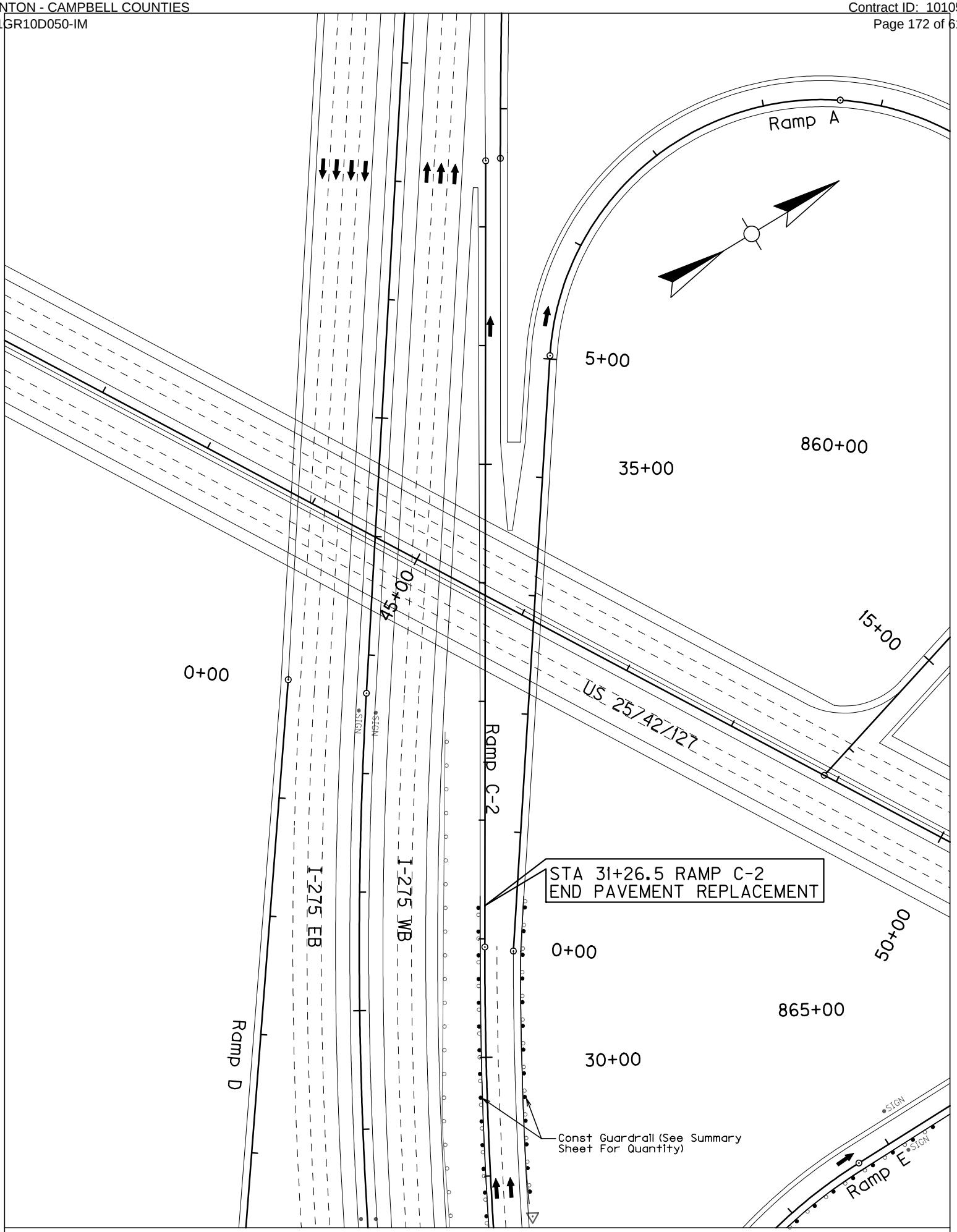
I-275 Ramp C @ KY 1303/US 25 - Scale 1" = 100' - Sheet 1 of 4 - Sta 0+00 to Sta 10+00



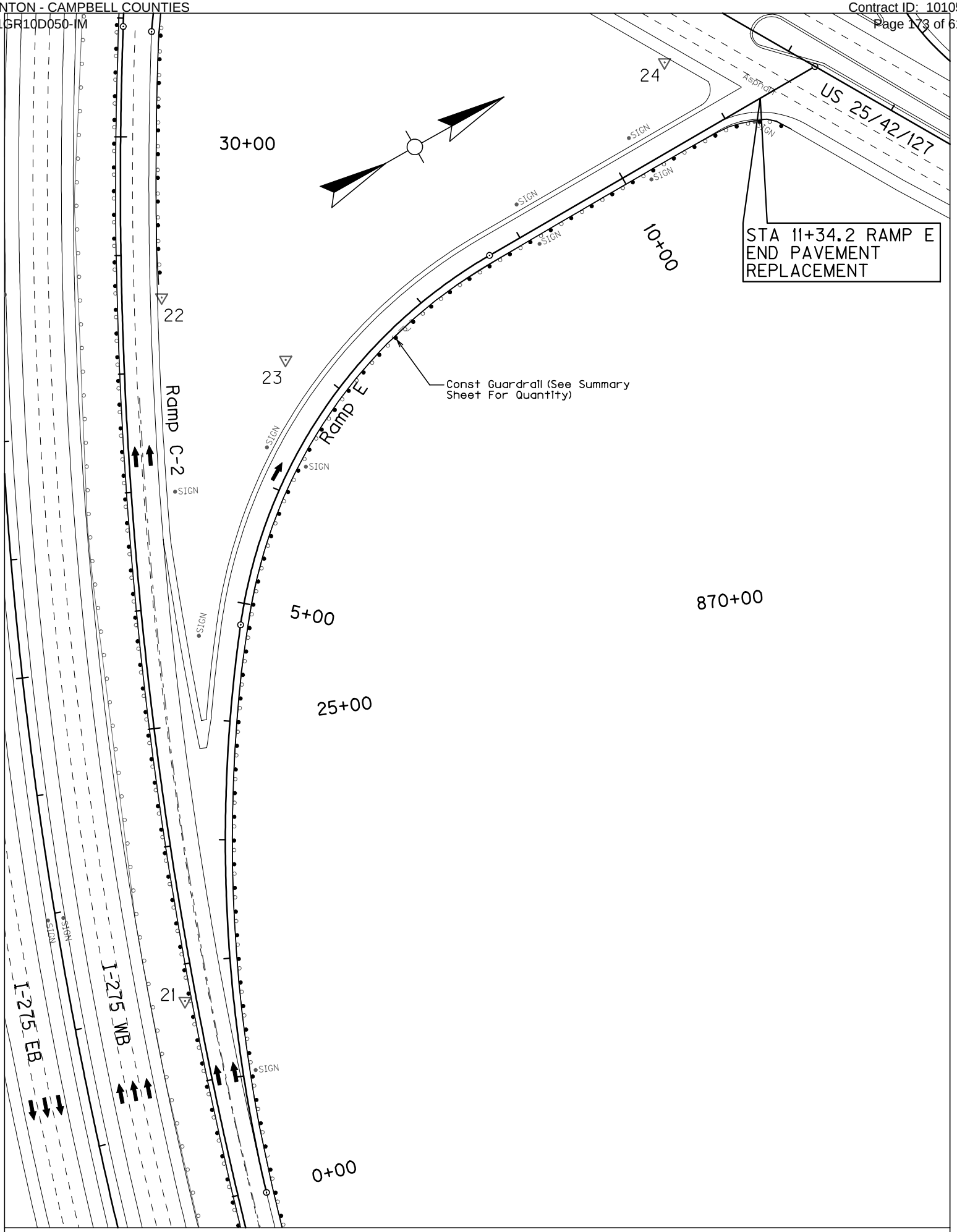
I-275 Ramp C @ KY 1303/US 25 - Scale 1" = 100' - Sheet 2 of 4 - Sta 10+00 to Sta 20+00



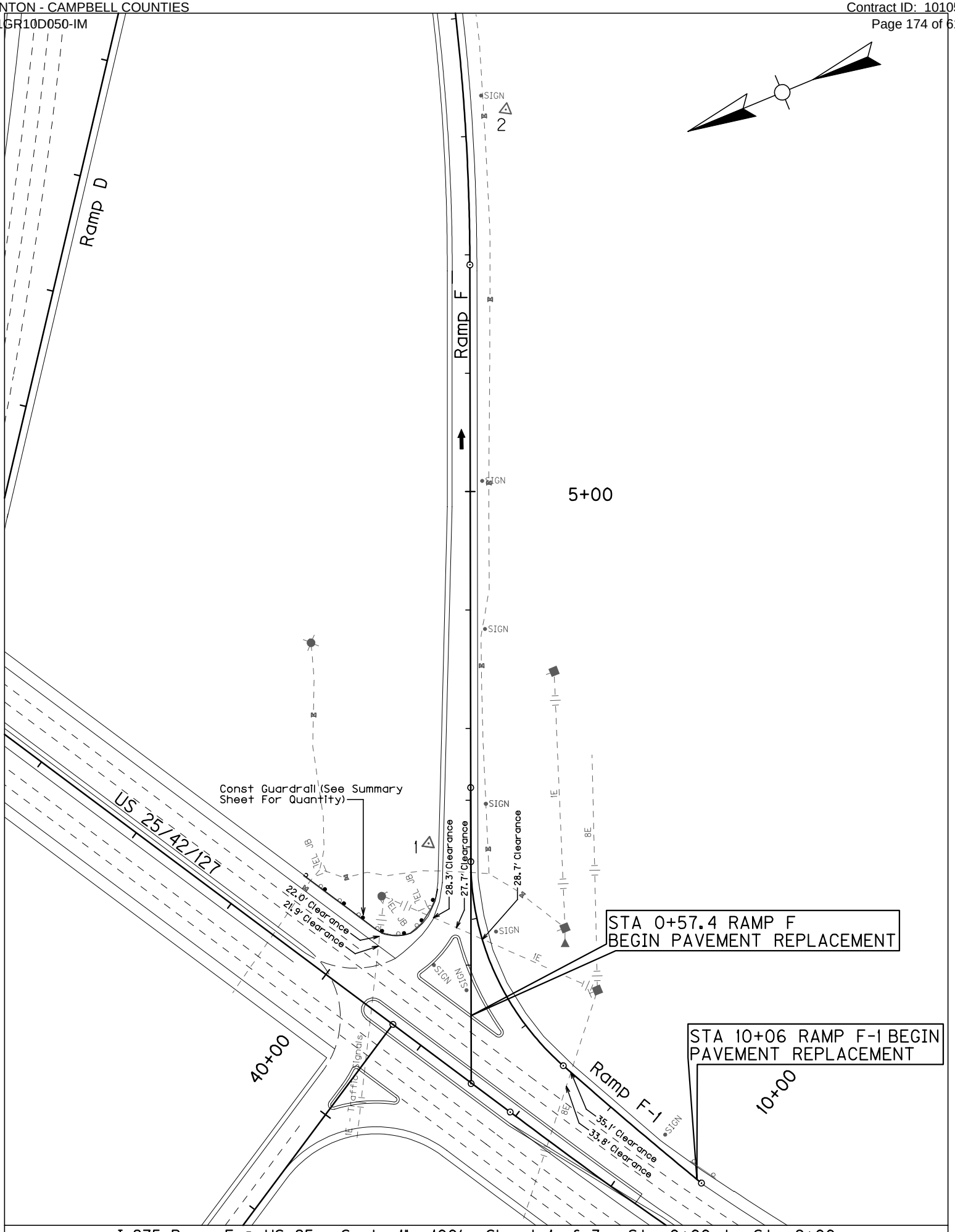
I-275 Ramp C @ KY 1303/US 25 - Scale 1" = 100' - Sheet 3 of 4 - Sta 20+00 to Sta 30+00



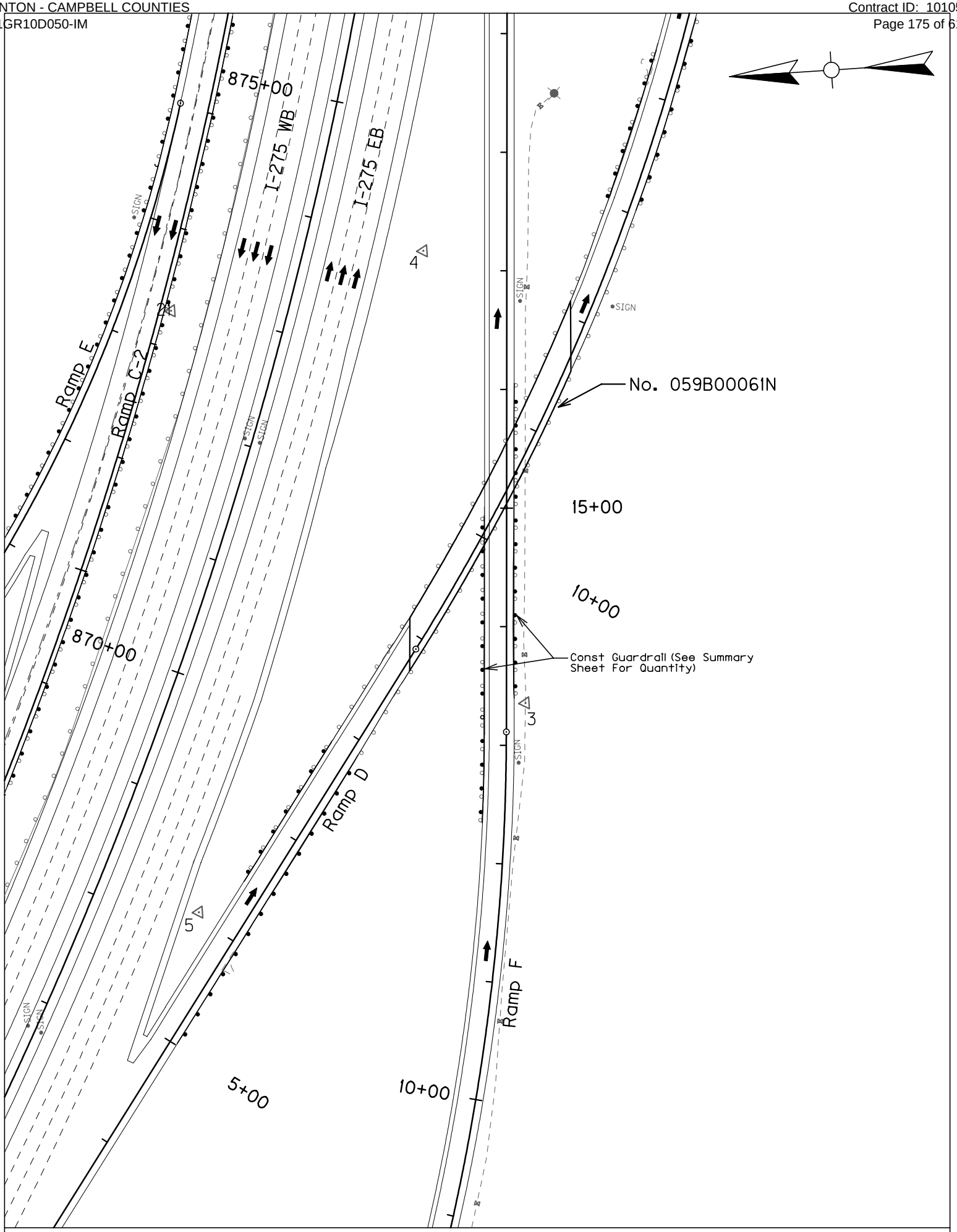
I-275 Ramp C @ KY 1303/US 25 - Scale 1" = 100' - Sheet 4 of 4 - Sta 30+00 to Sta 37+38.25



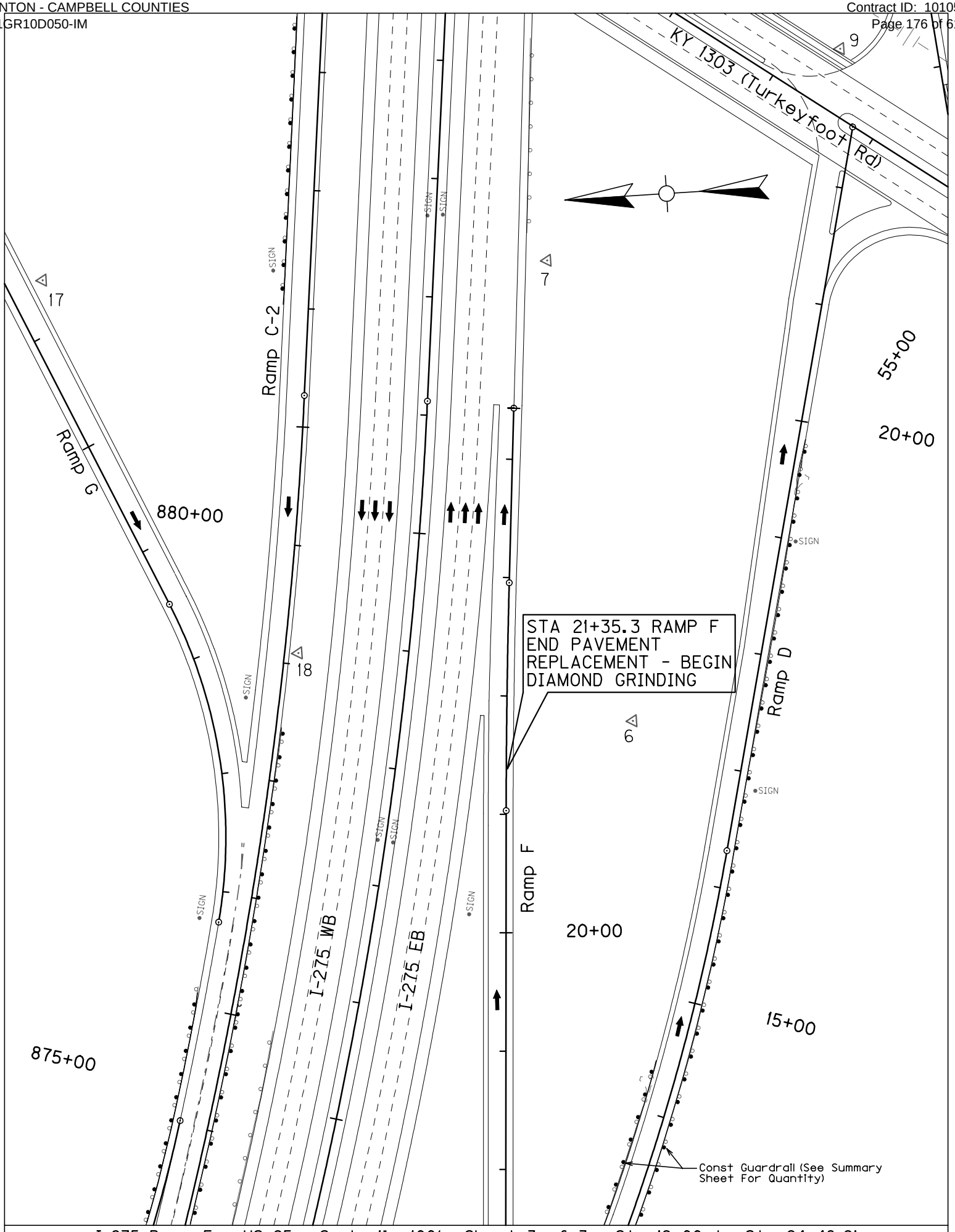
I-275 Ramp E @ US 25 - Scale 1" = 100' - Sheet 1 of 1 - Sta 0+00 to Sta 11+86.30



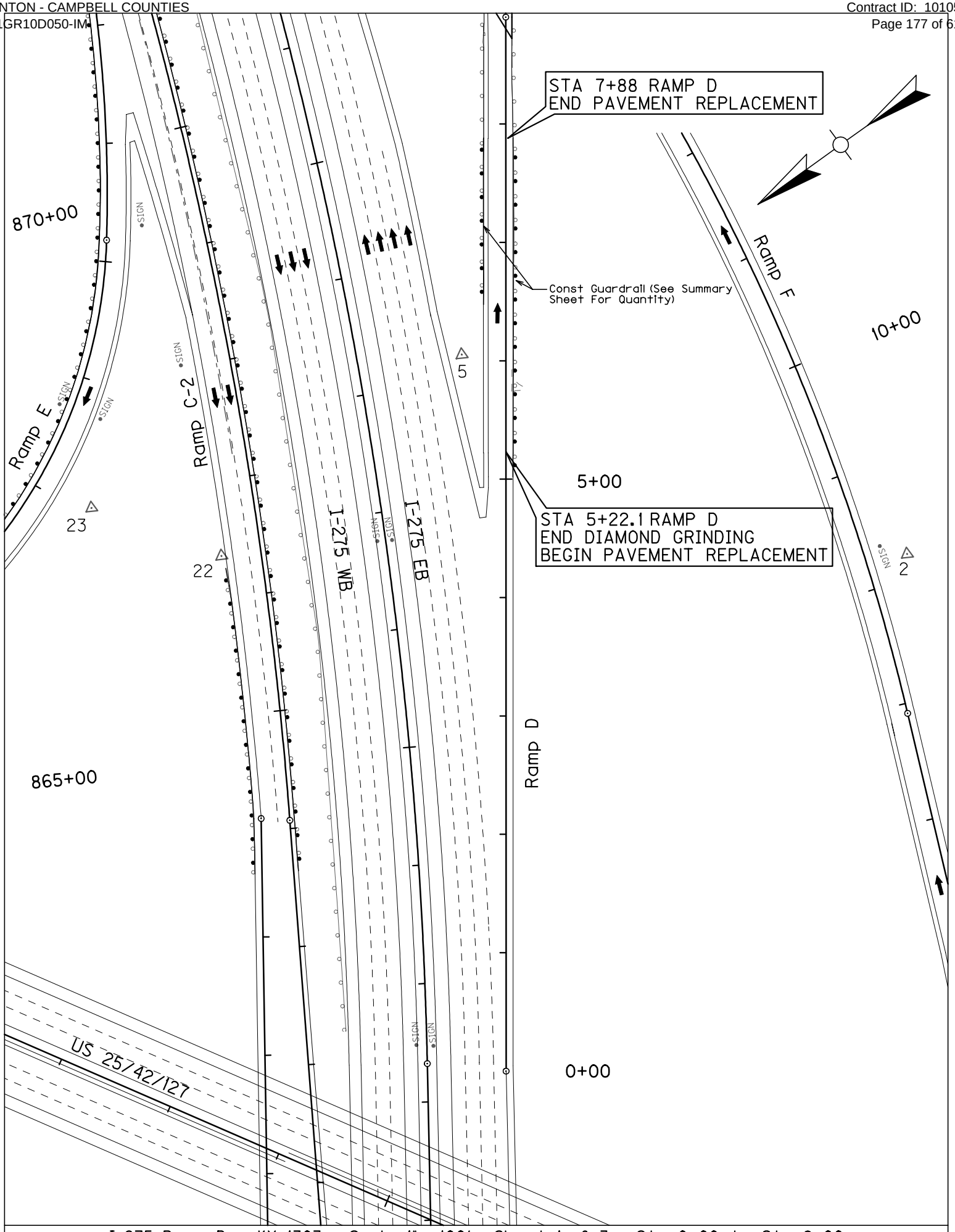
I-275 Ramp F @ US 25 - Scale 1" = 100' - Sheet 1 of 3 - Sta 0+00 to Sta 9+00



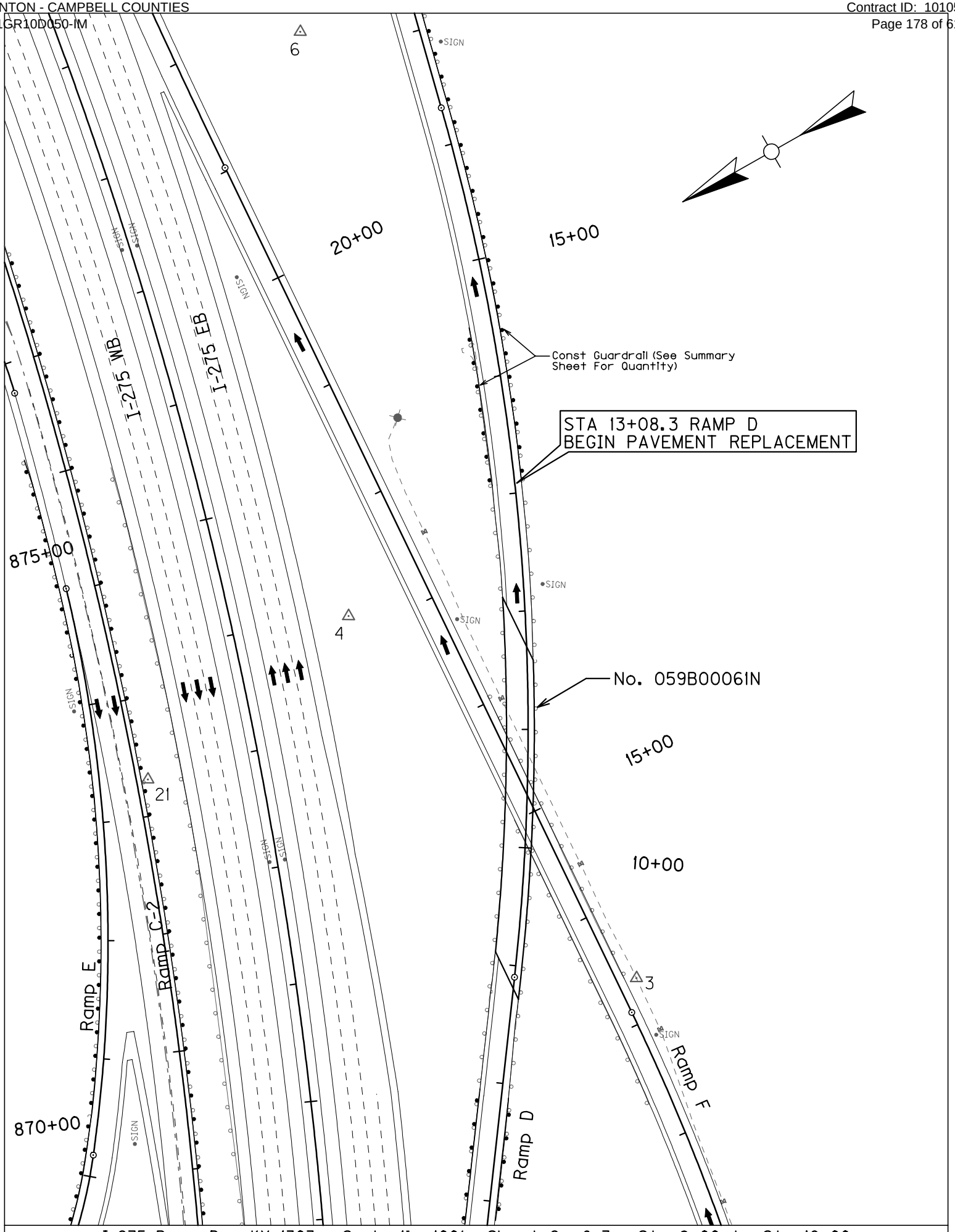
I-275 Ramp F @ US 25 - Scale 1" = 100' - Sheet 2 of 3 - Sta 9+00 to Sta 19+00



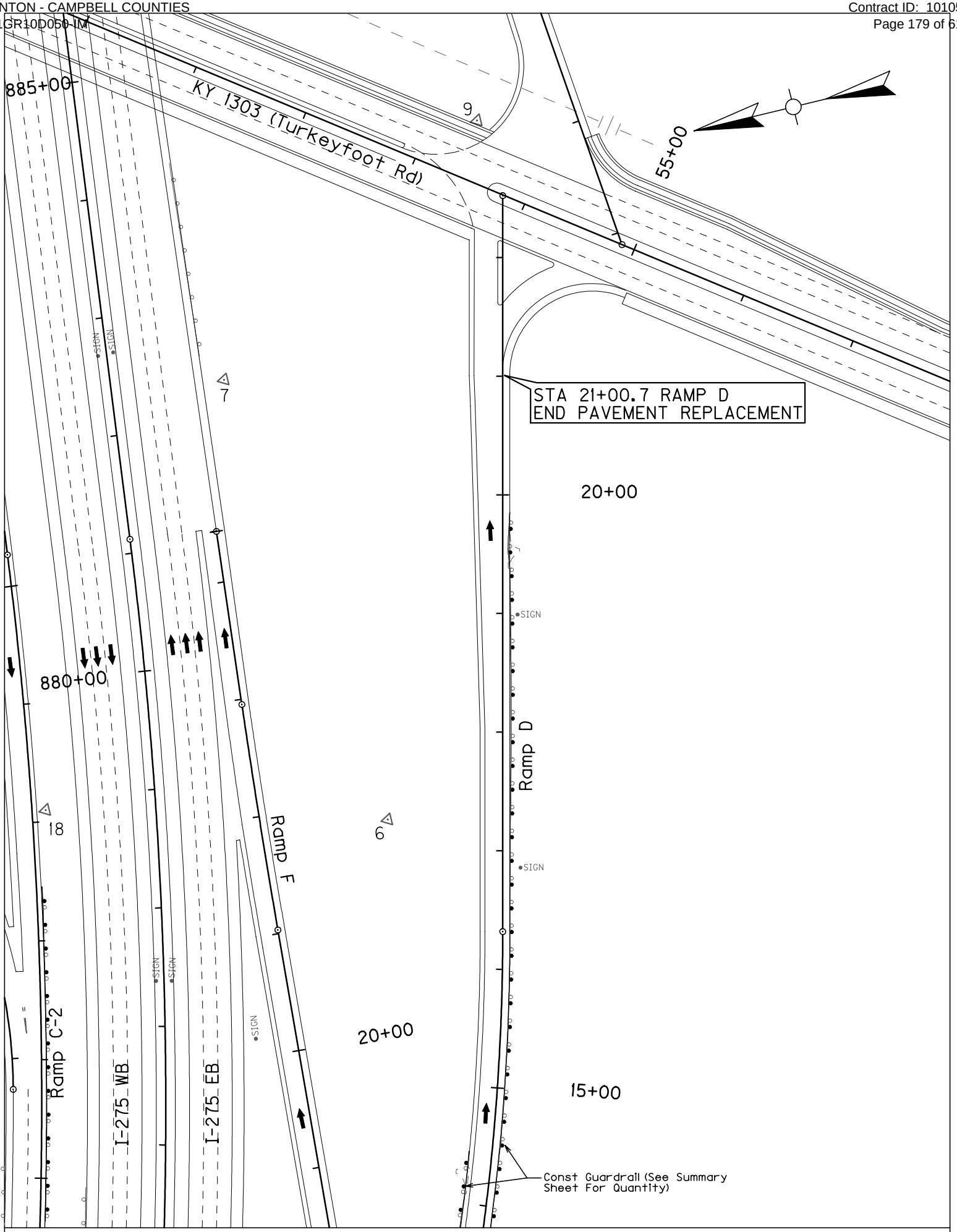
I-275 Ramp F @ US 25 - Scale 1" = 100' - Sheet 3 of 3 - Sta 19+00 to Sta 24+46.21



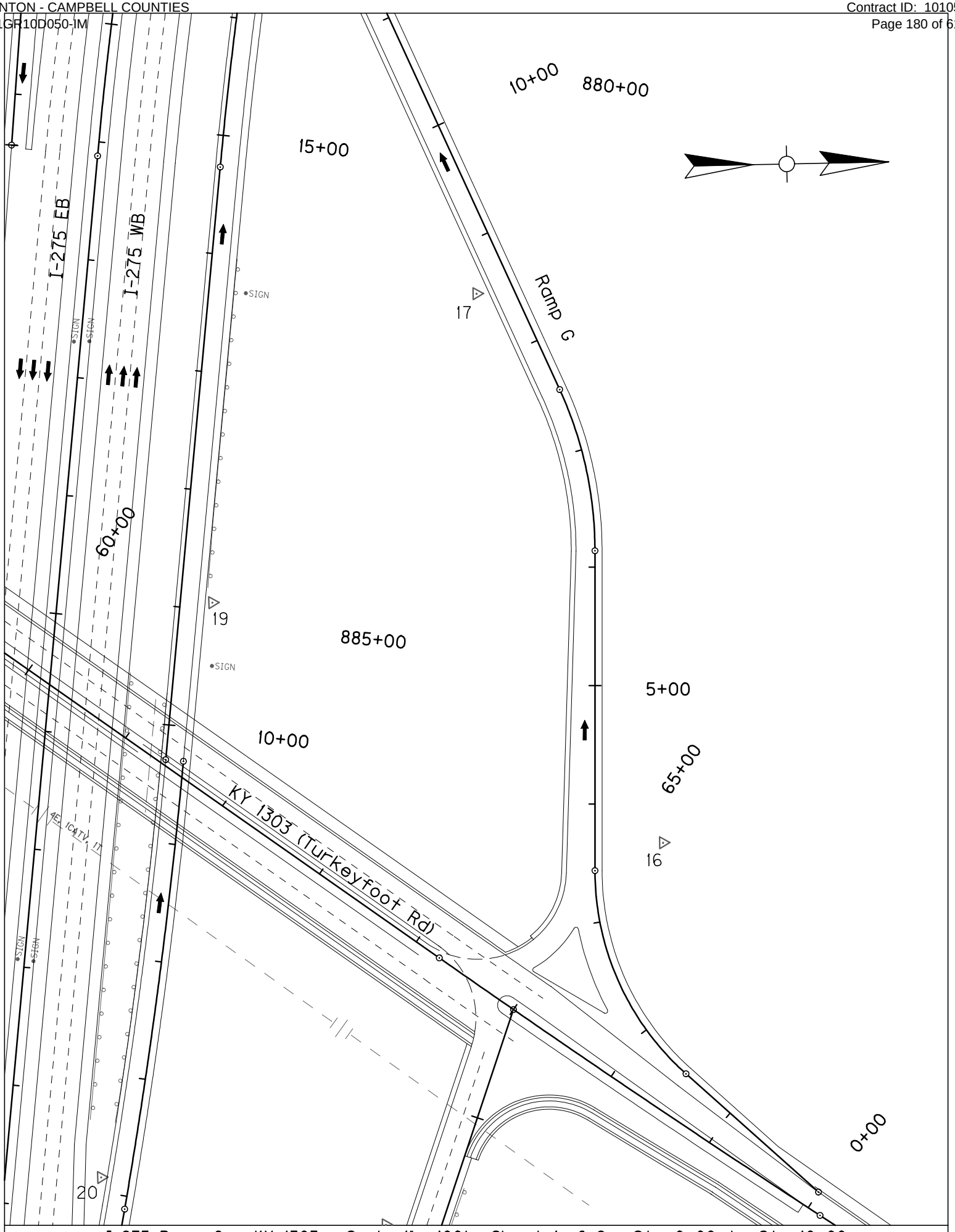
I-275 Ramp D @ KY 1303 - Scale 1" = 100' - Sheet 1 of 3 - Sta 0+00 to Sta 8+00



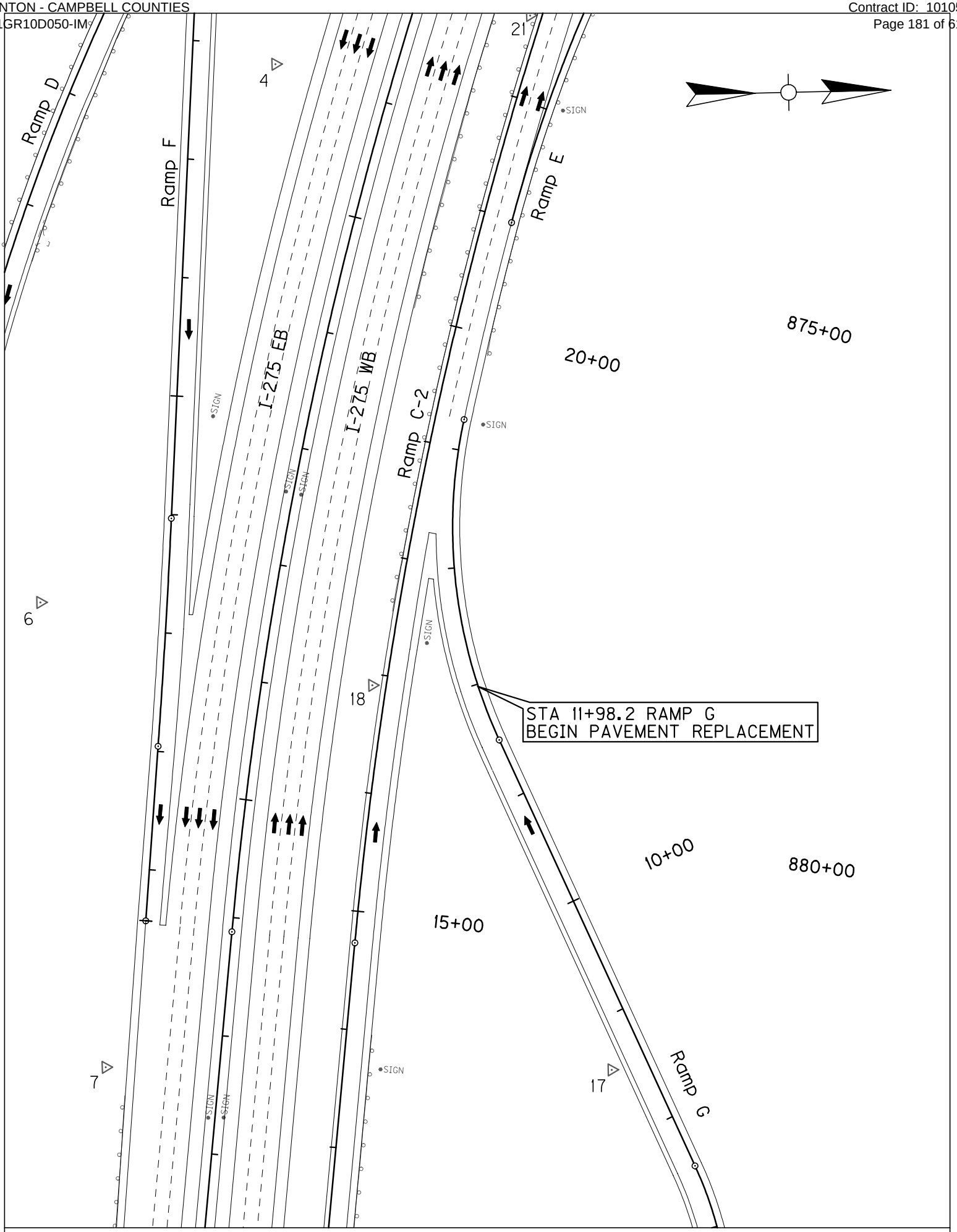
I-275 Ramp D @ KY 1303 - Scale 1" = 100' - Sheet 2 of 3 - Sta 8+00 to Sta 16+00



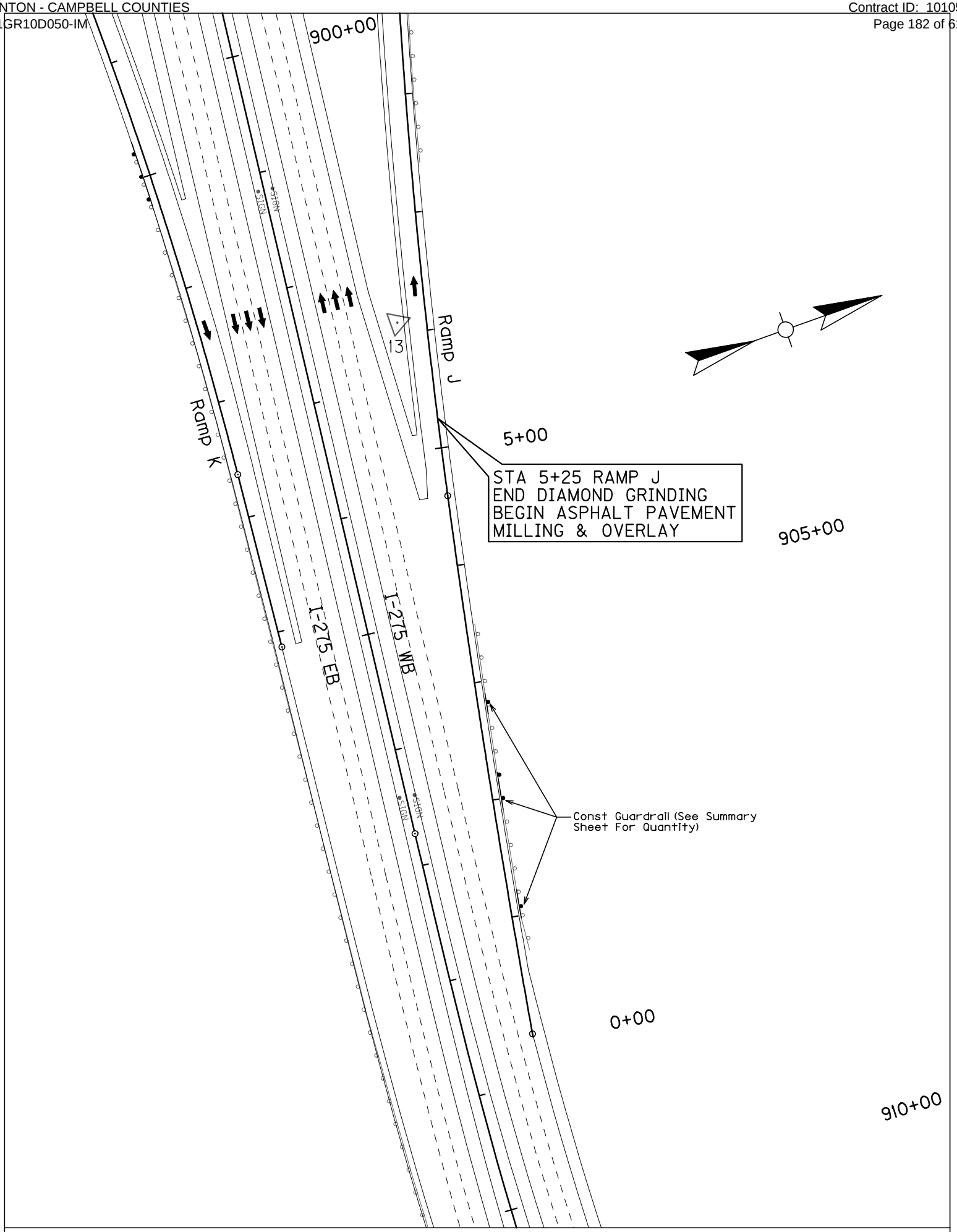
I-275 Ramp D @ KY 1303 - Scale 1" = 100' - Sheet 3 of 3 - Sta 15+00 to Sta 22+52.91



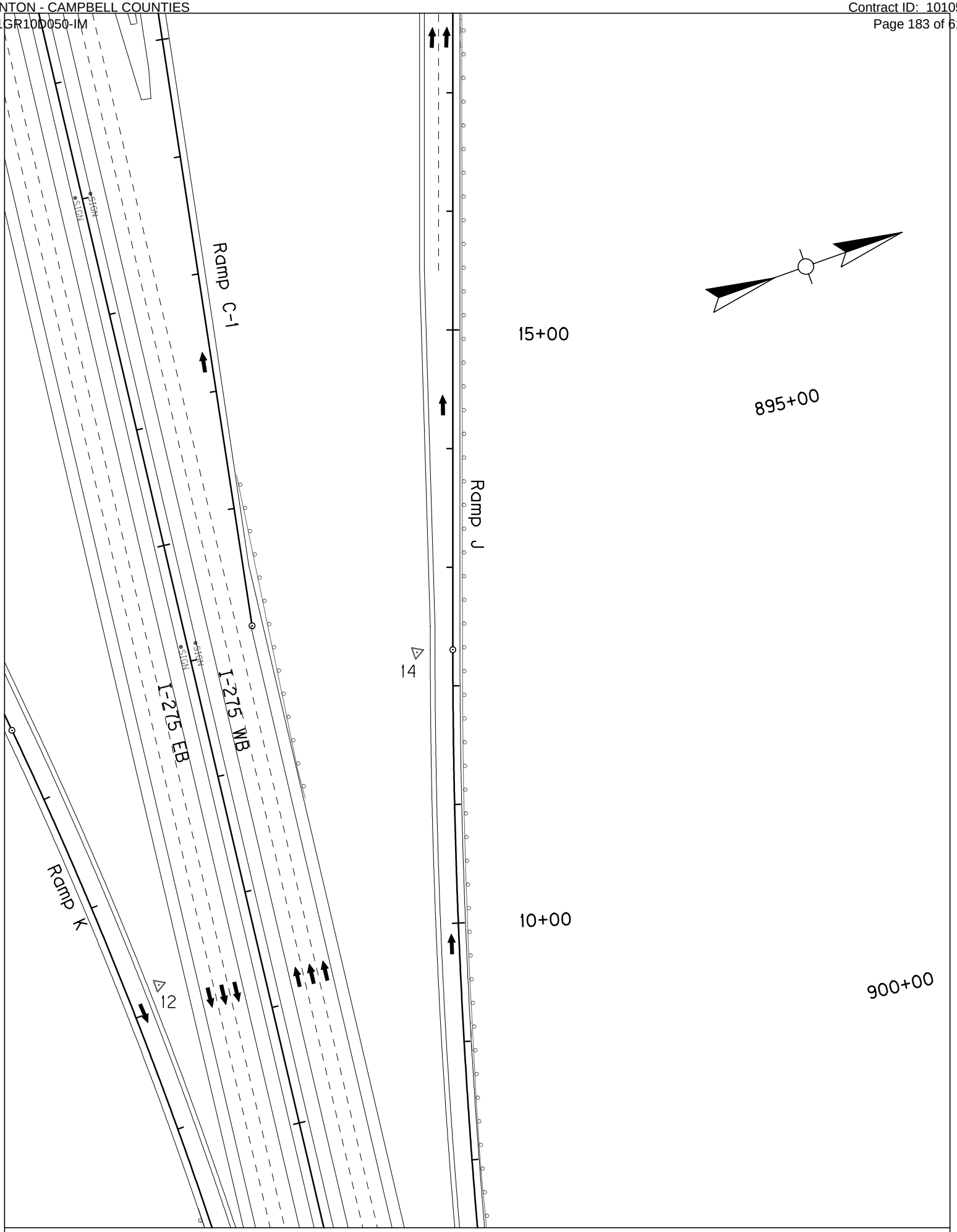
I-275 Ramp G @ KY 1303 - Scale 1" = 100' - Sheet 1 of 2 - Sta 0+00 to Sta 10+00



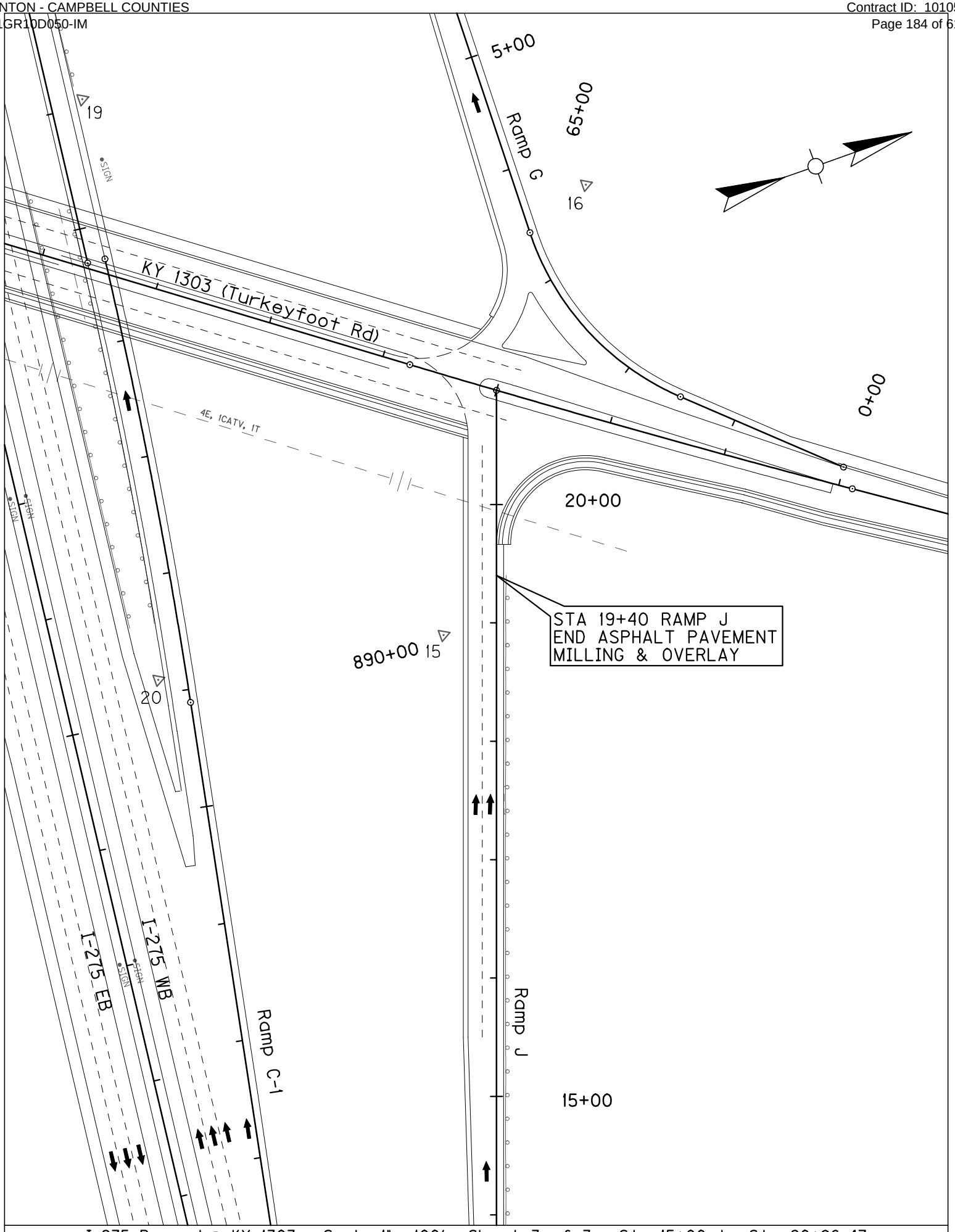
I-275 Ramp G @ KY 1303 - Scale 1" = 100' - Sheet 2 of 2 - Sta 8+00 to Sta 14+26.26



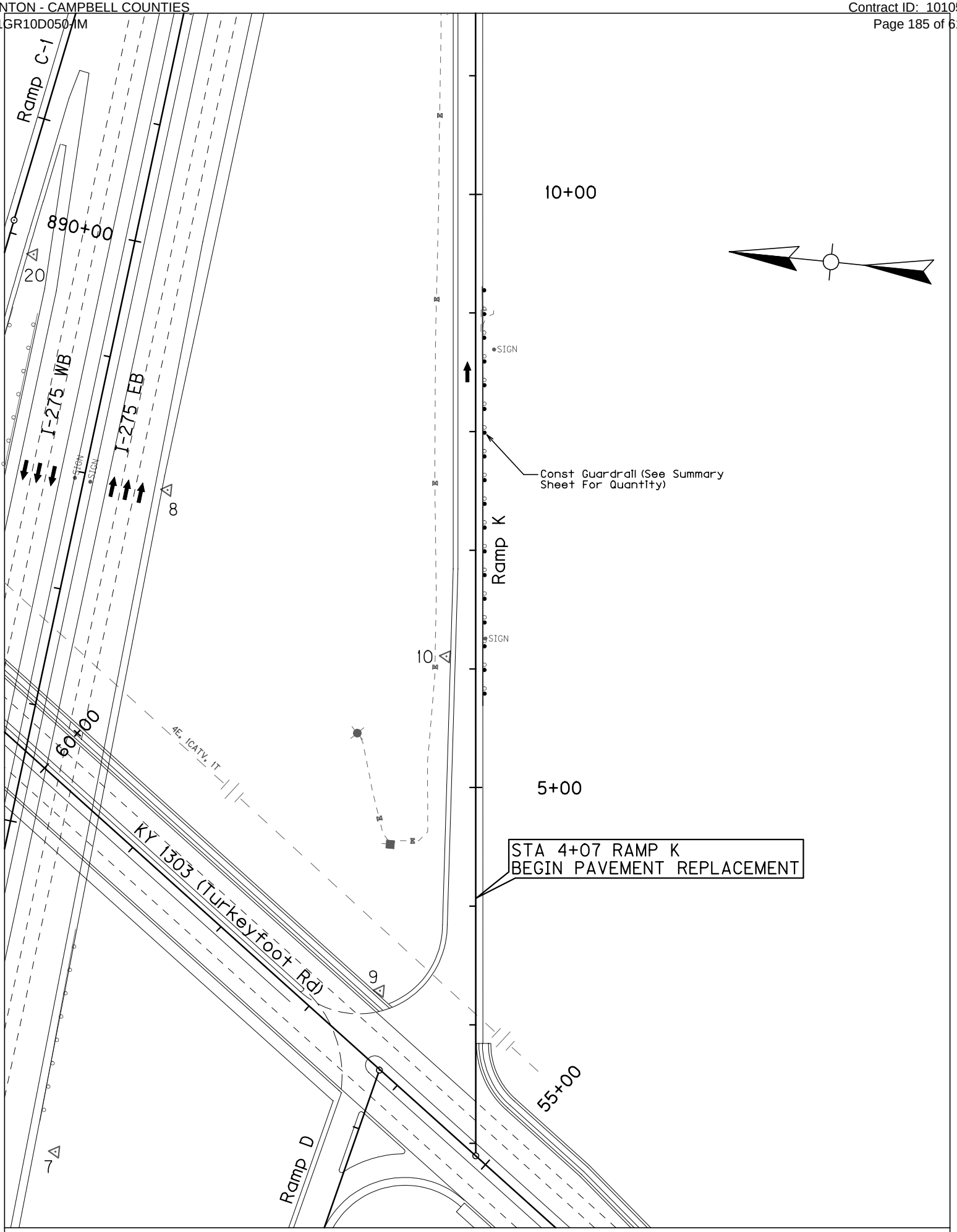
I-275 Ramp J @ KY 1303 - Scale 1" = 100' - Sheet 1 of 3 - Sta 0+00 to Sta 8+00



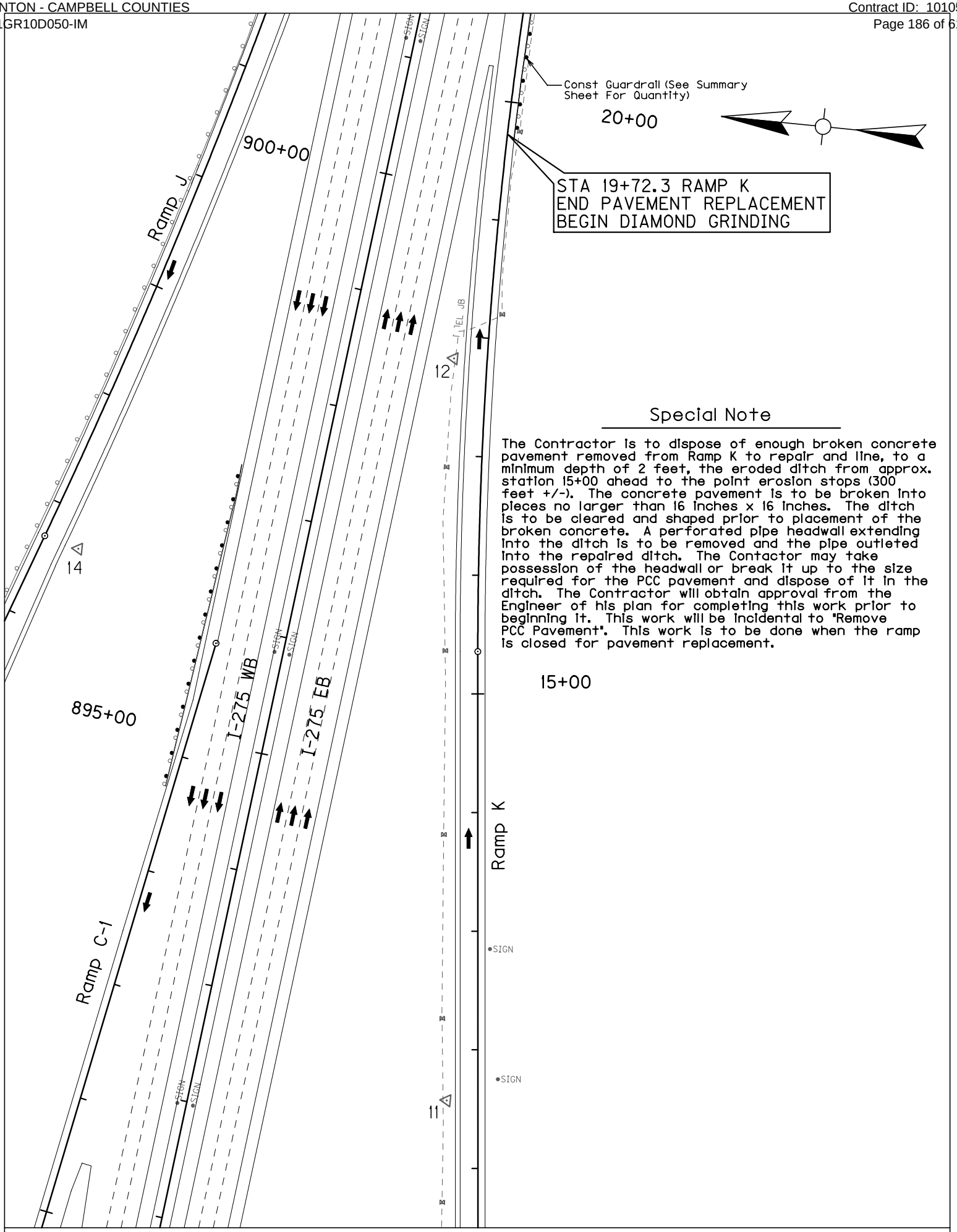
I-275 Ramp J @ KY 1303 - Scale 1" = 100' - Sheet 2 of 3 - Sta 8+00 to Sta 17+00



I-275 Ramp J @ KY 1303 - Scale 1" = 100' - Sheet 3 of 3 - Sta 15+00 to Sta 20+96.47



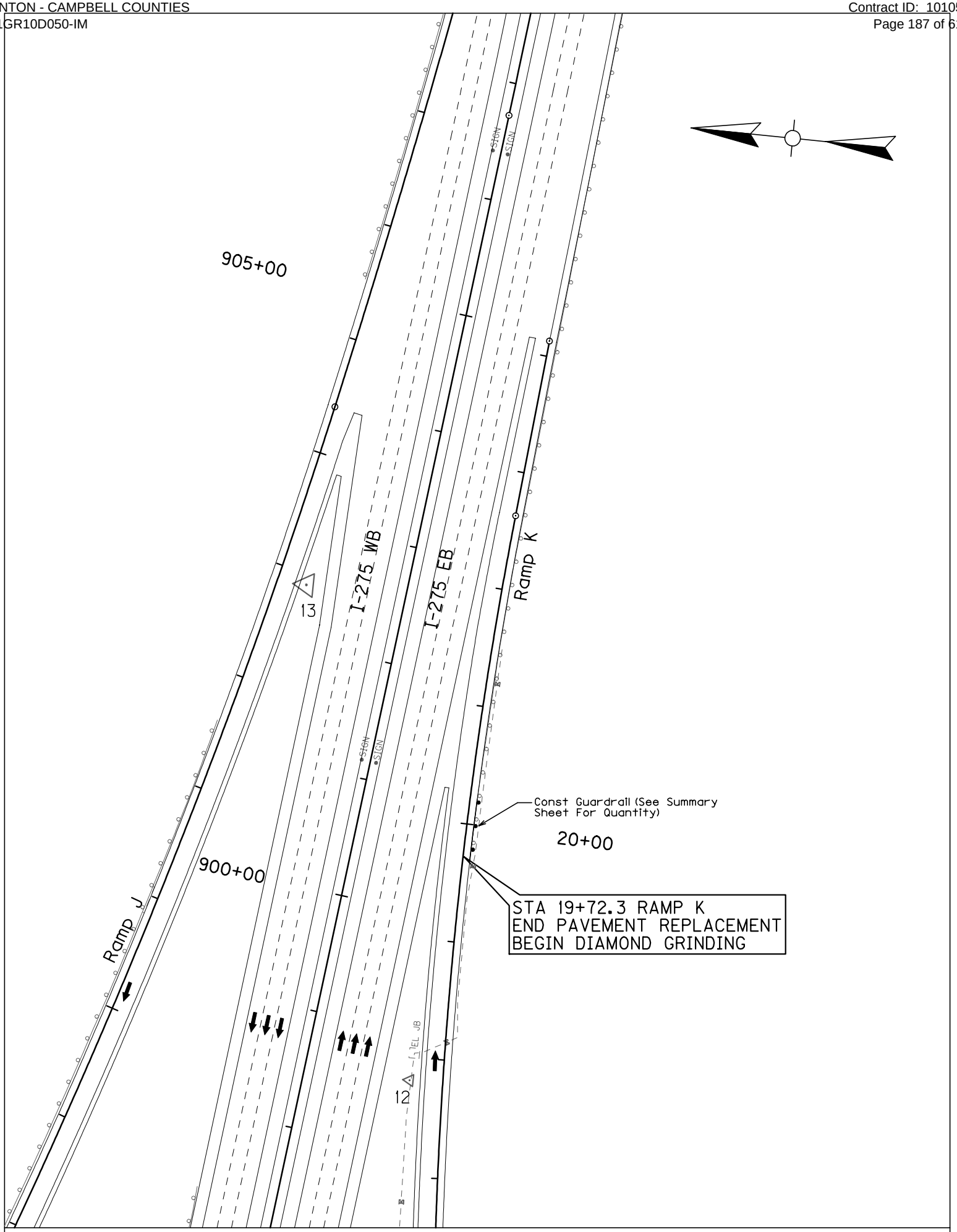
I-275 Ramp K @ KY 1303 - Scale 1" = 100' - Sheet 1 of 3 - Sta 0+00 to Sta 11+00



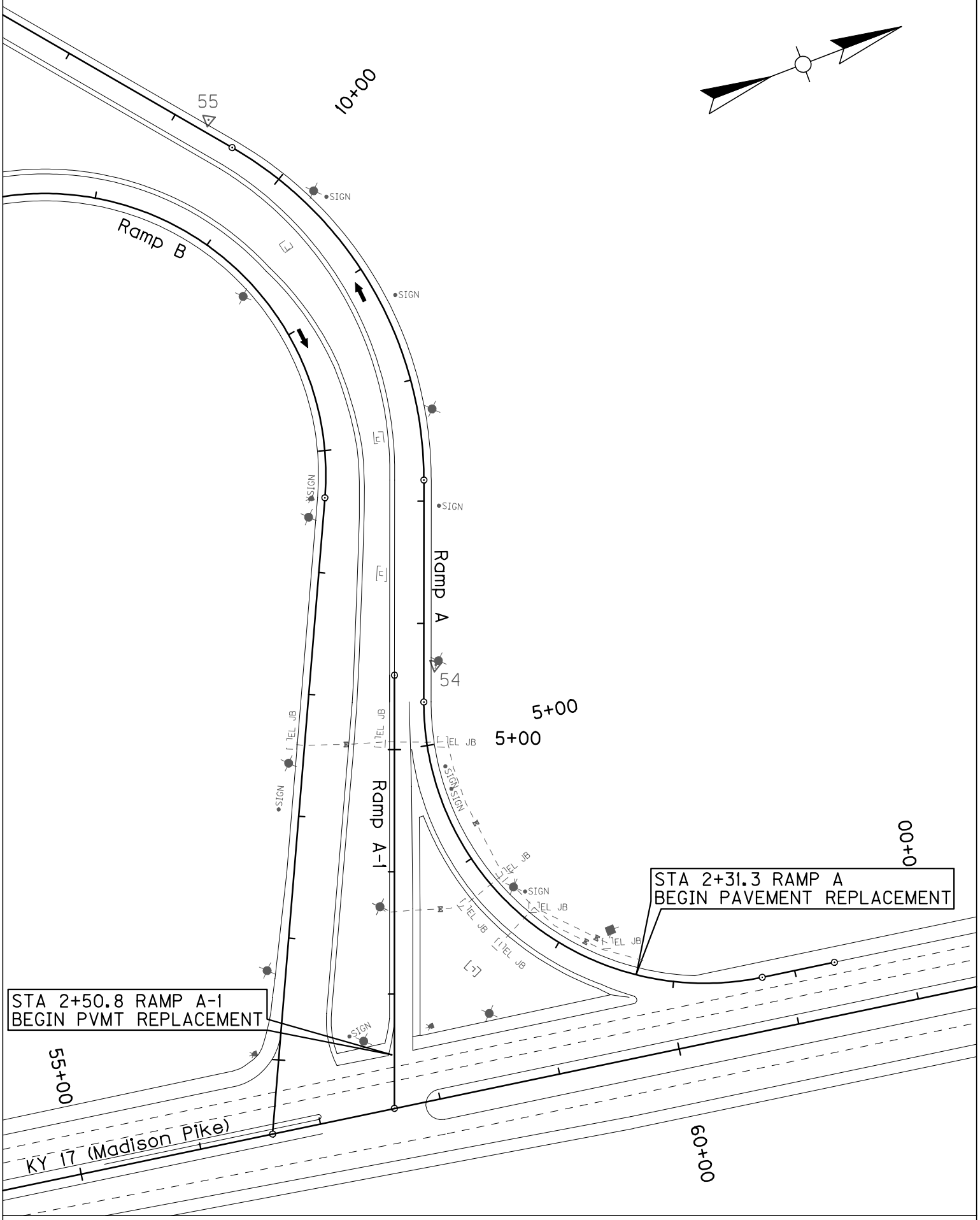
Special Note

The Contractor is to dispose of enough broken concrete pavement removed from Ramp K to repair and line, to a minimum depth of 2 feet, the eroded ditch from approx. station 15+00 ahead to the point erosion stops (300 feet +/-). The concrete pavement is to be broken into pieces no larger than 16 inches x 16 inches. The ditch is to be cleared and shaped prior to placement of the broken concrete. A perforated pipe headwall extending into the ditch is to be removed and the pipe outleted into the repaired ditch. The Contactor may take possession of the headwall or break it up to the size required for the PCC pavement and dispose of it in the ditch. The Contractor will obtain approval from the Engineer of his plan for completing this work prior to beginning it. This work will be incidental to "Remove PCC Pavement". This work is to be done when the ramp is closed for pavement replacement.

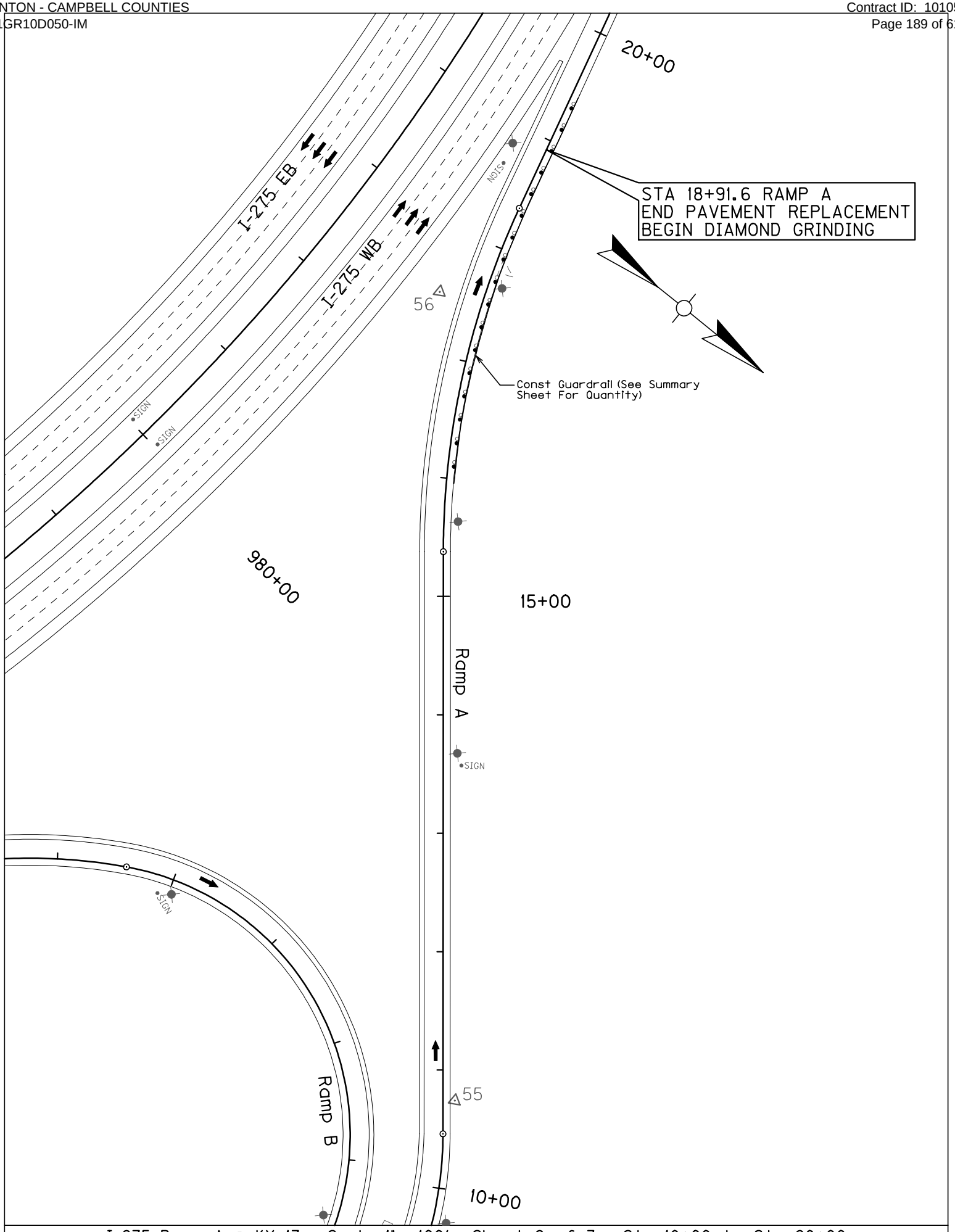
I-275 Ramp K @ KY 1303 - Scale 1" = 100' - Sheet 2 of 3 - Sta 11+00 to Sta 20+00



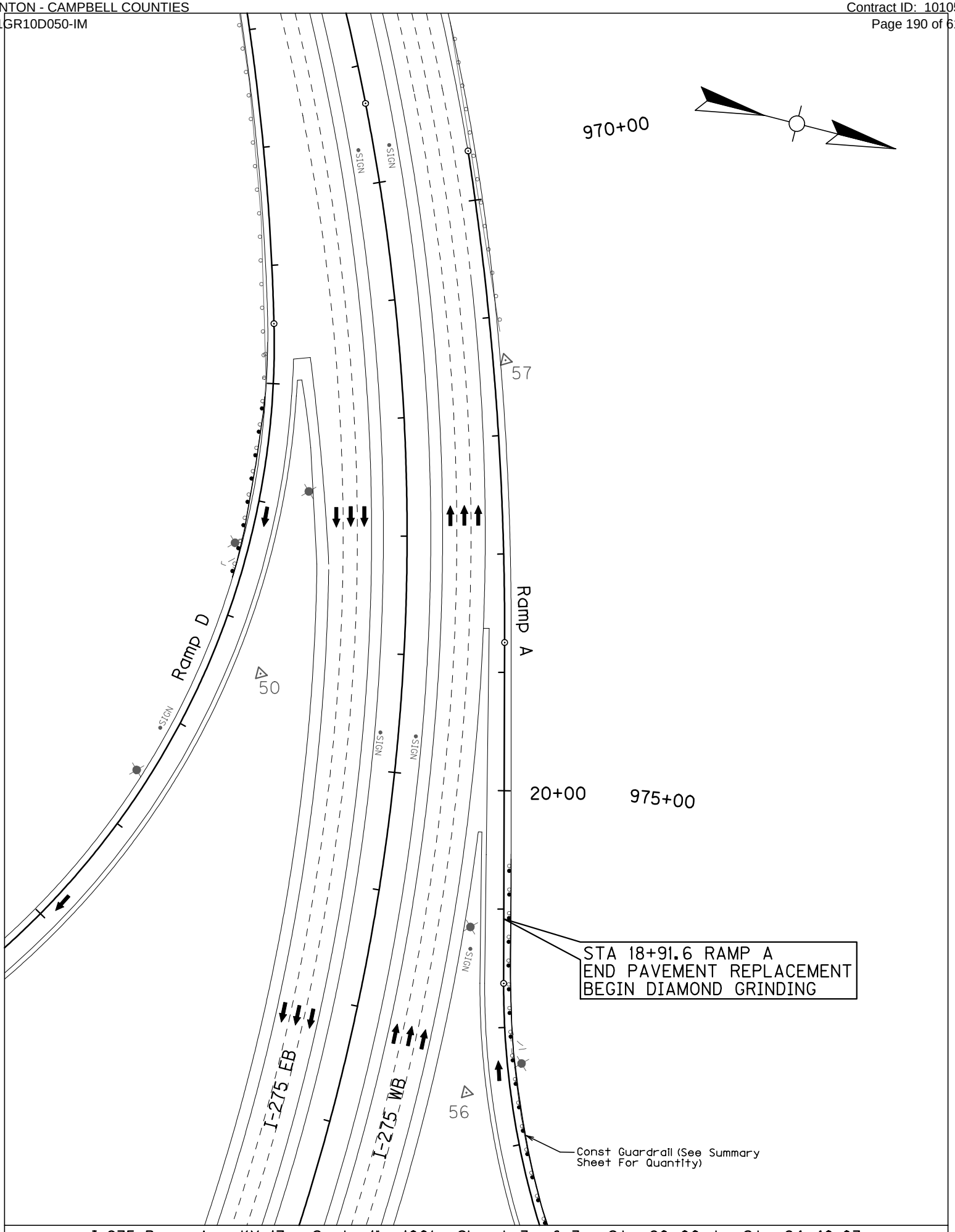
I-275 Ramp K @ KY 1303 - Scale 1" = 100' - Sheet 3 of 3 - Sta 20+00 to Sta 24+13.07



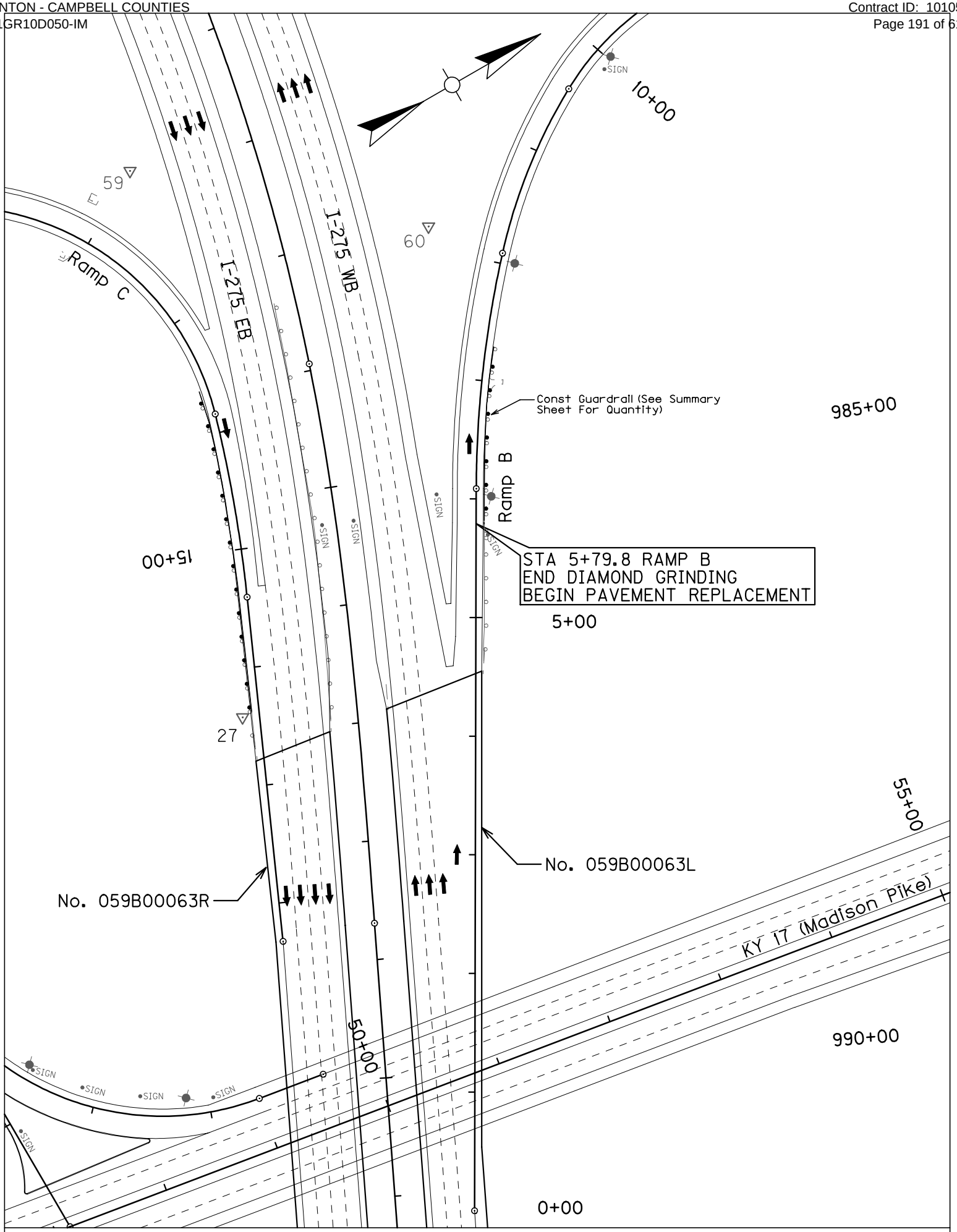
I-275 Ramp A @ KY 17 - Scale 1" = 100' - Sheet 1 of 3 - Sta 0+00 to Sta 10+00



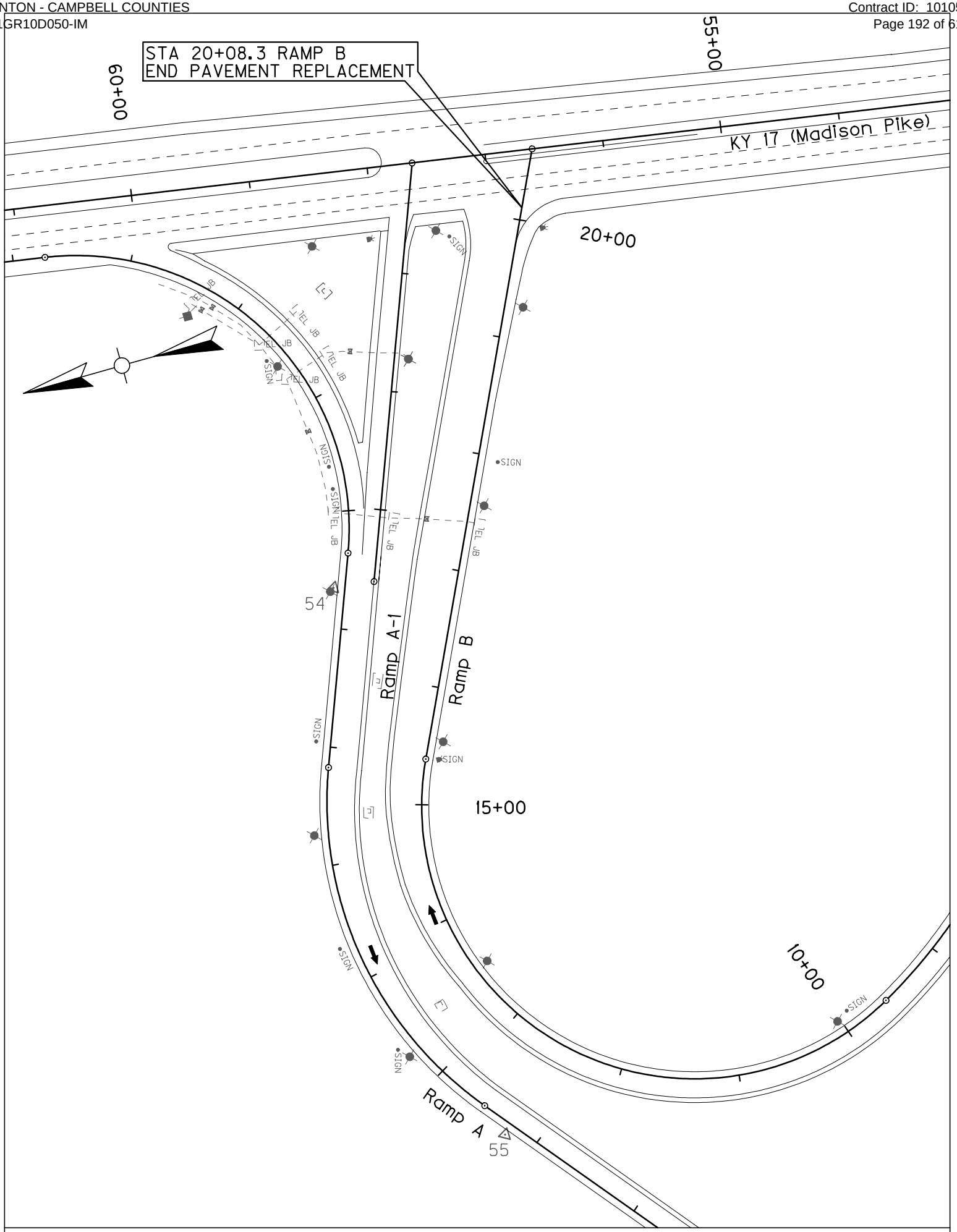
I-275 Ramp A @ KY 17 - Scale 1" = 100' - Sheet 2 of 3 - Sta 10+00 to Sta 20+00



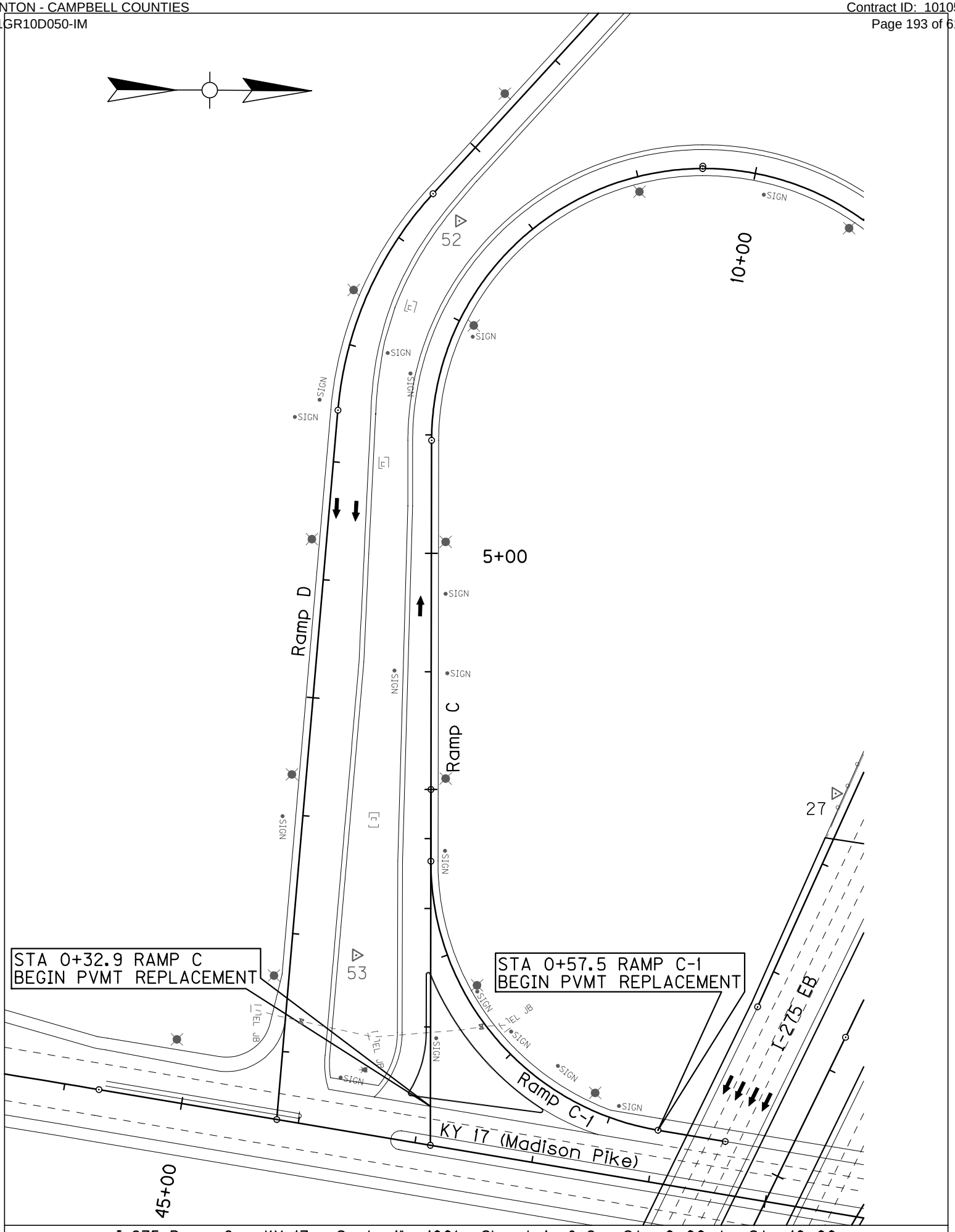
I-275 Ramp A @ KY 17 - Scale 1" = 100' - Sheet 3 of 3 - Sta 20+00 to Sta 24+40.03



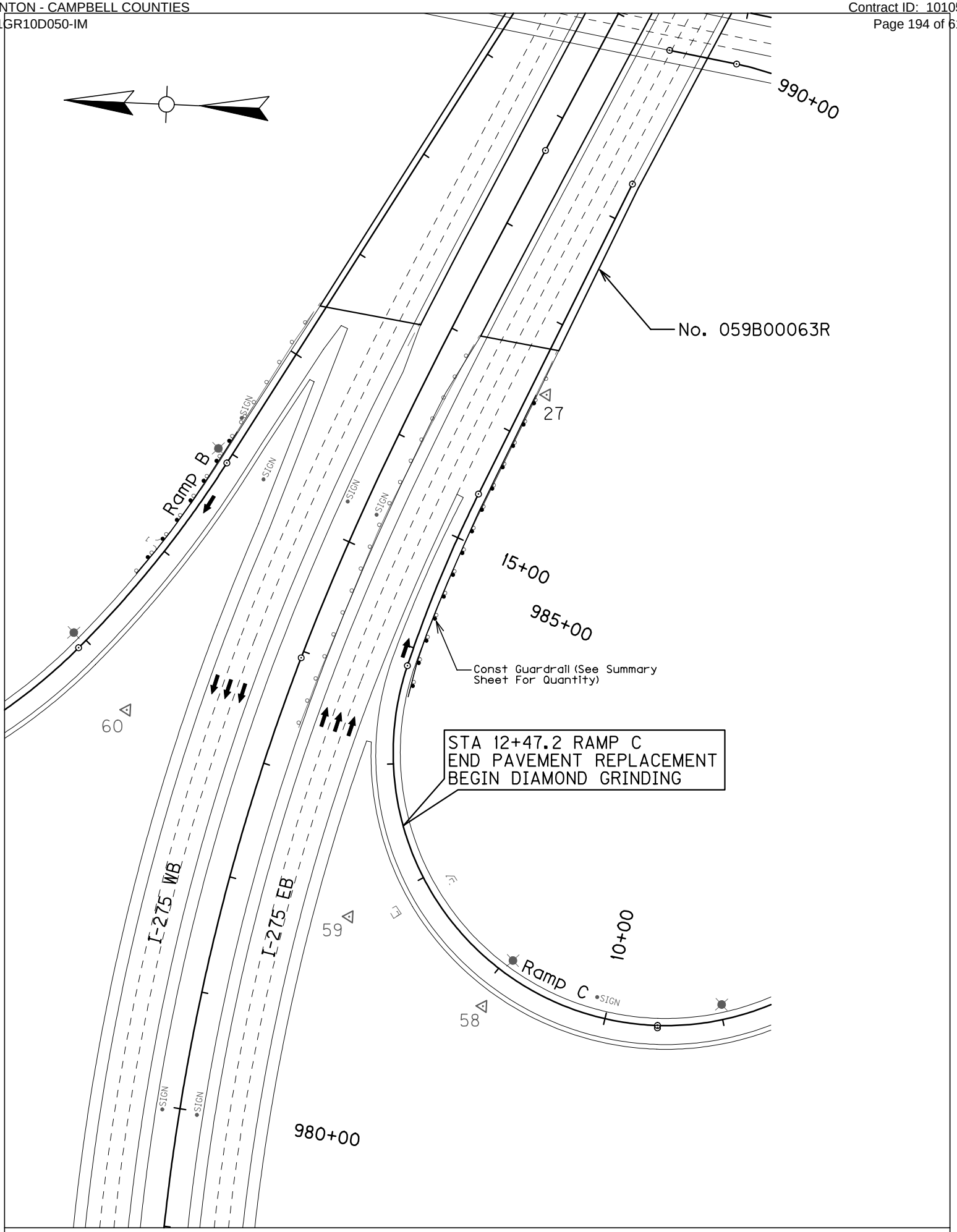
I-275 Ramp B @ KY 17 - Scale 1" = 100' - Sheet 1 of 2 - Sta 0+00 to Sta 10+00



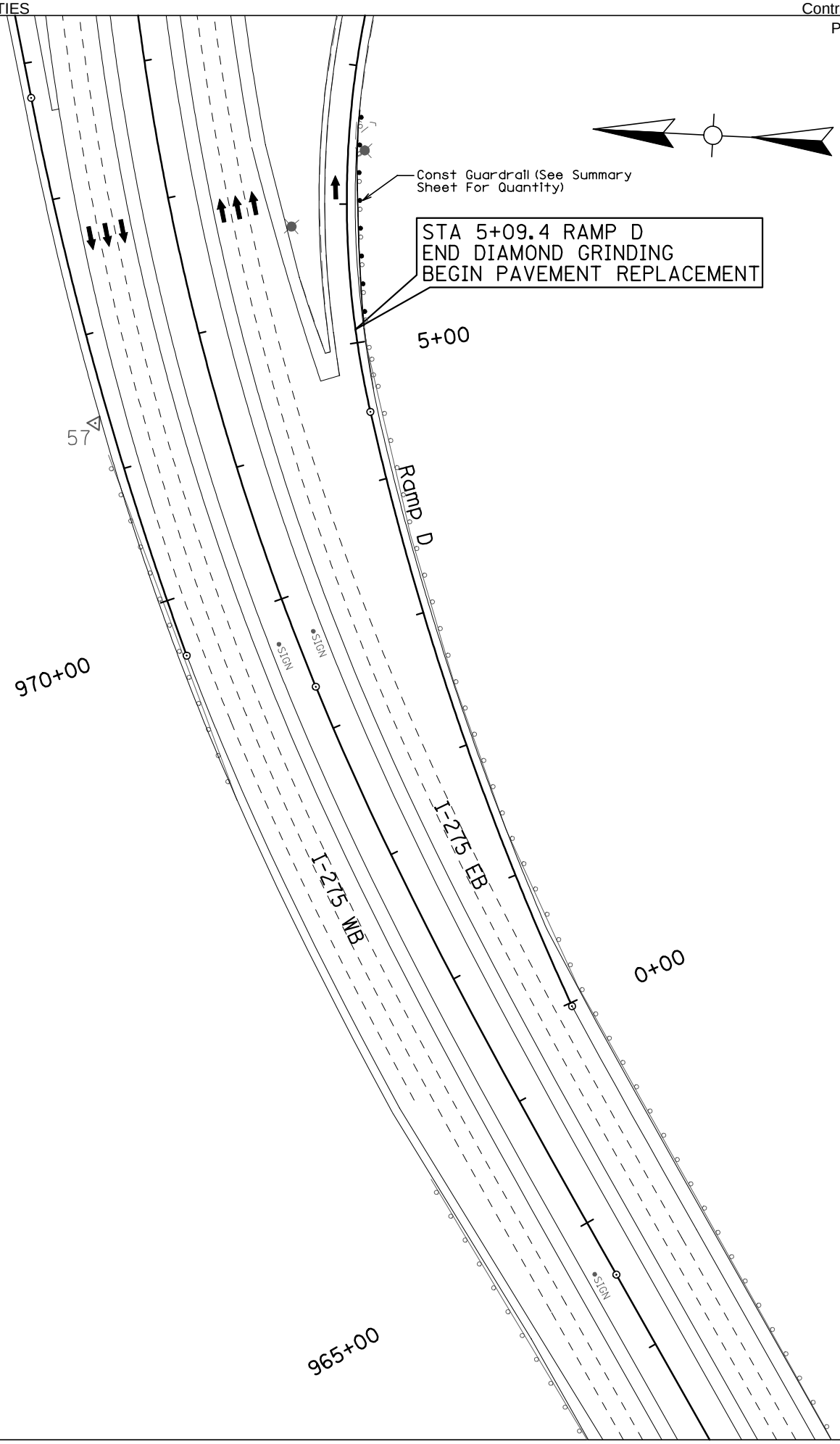
I-275 Ramp B @ KY 17 - Scale 1" = 100' - Sheet 2 of 2 - Sta 10+00 to Sta 20+63.76



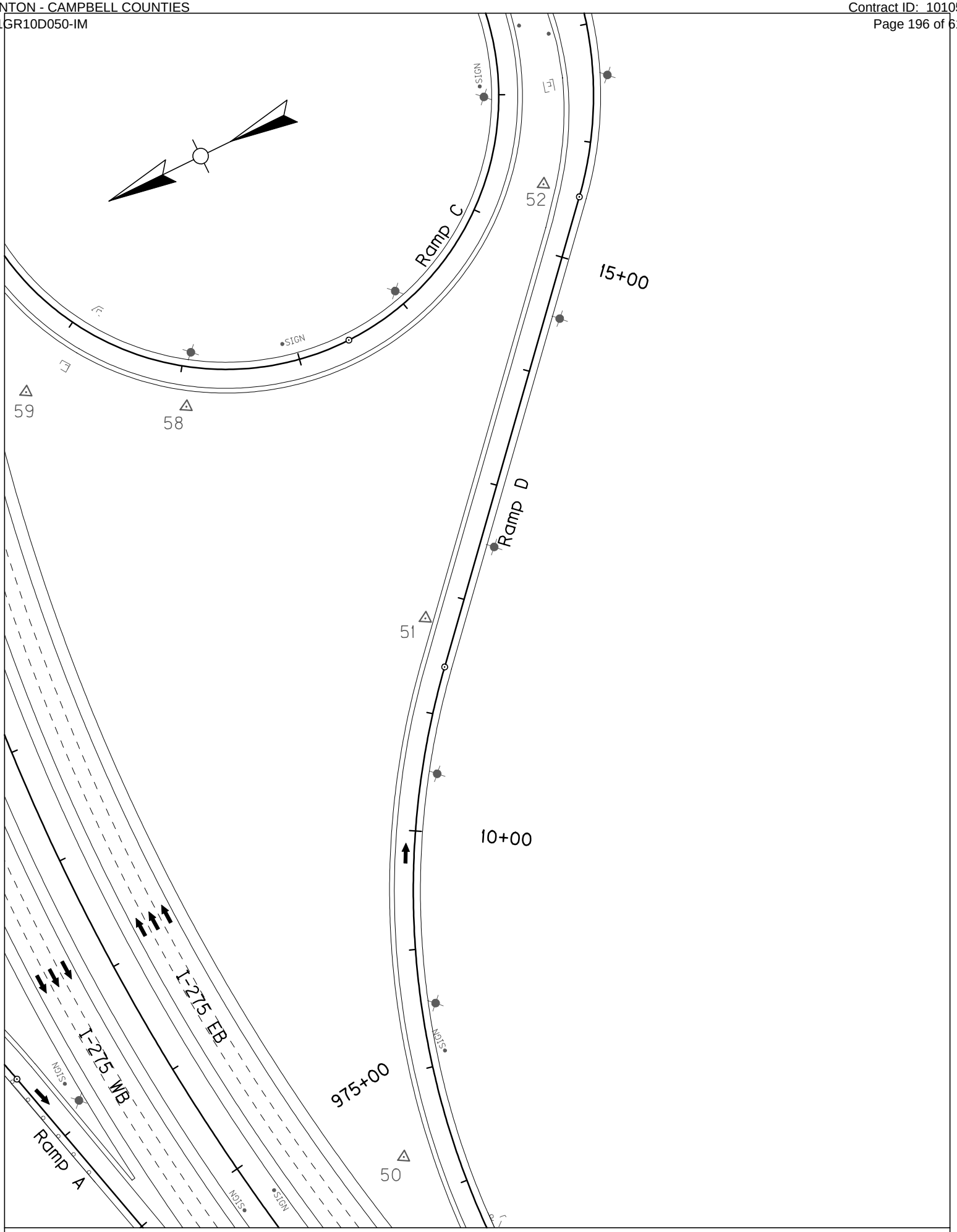
I-275 Ramp C @ KY 17 - Scale 1" = 100' - Sheet 1 of 2 - Sta 0+00 to Sta 10+00



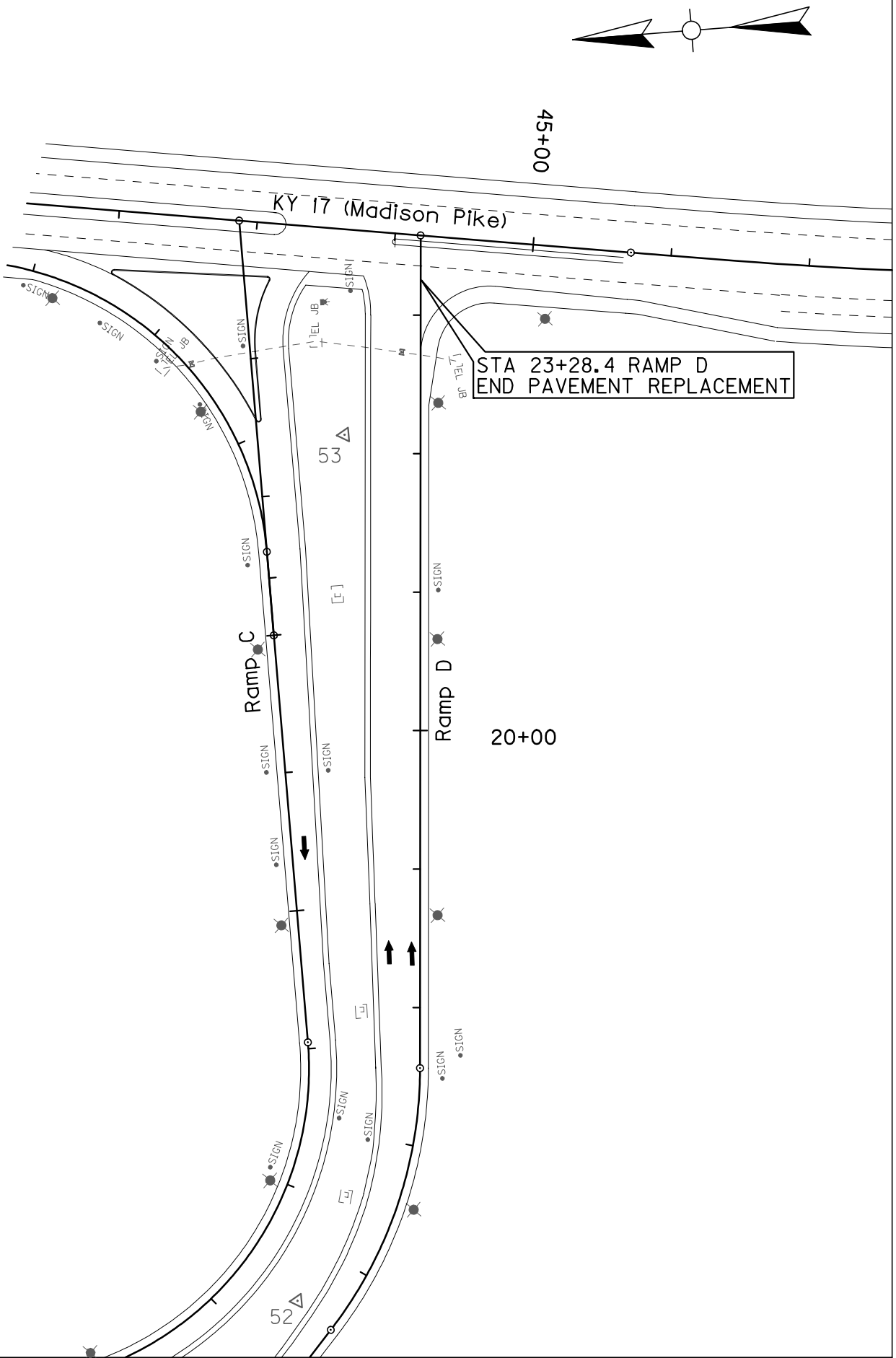
I-275 Ramp C @ KY 17 - Scale 1" = 100' - Sheet 2 of 2 - Sta 10+00 to Sta 18+36.01



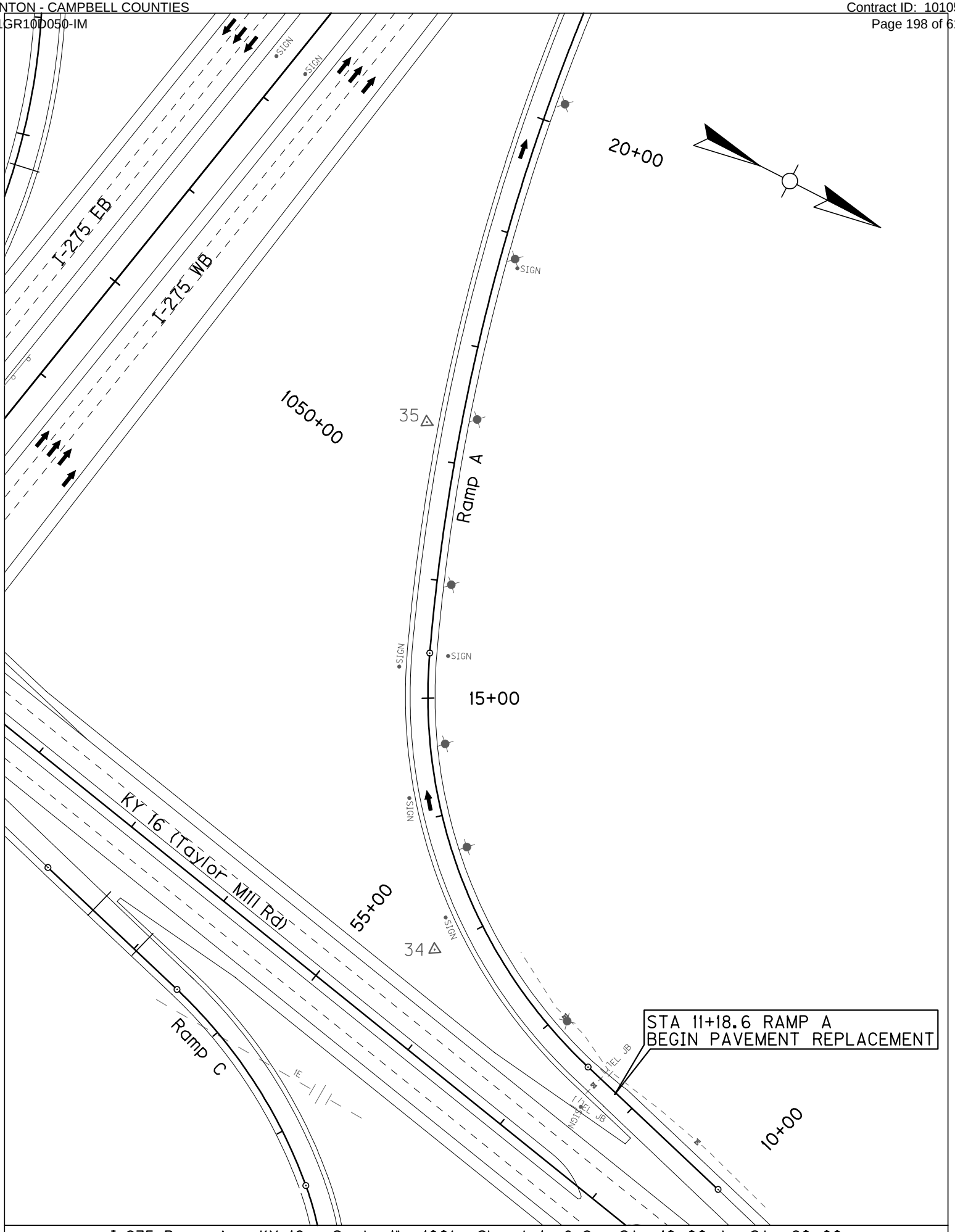
I-275 Ramp D @ KY 17 - Scale 1" = 100' - Sheet 1 of 3 - Sta 0+00 to Sta 7+00



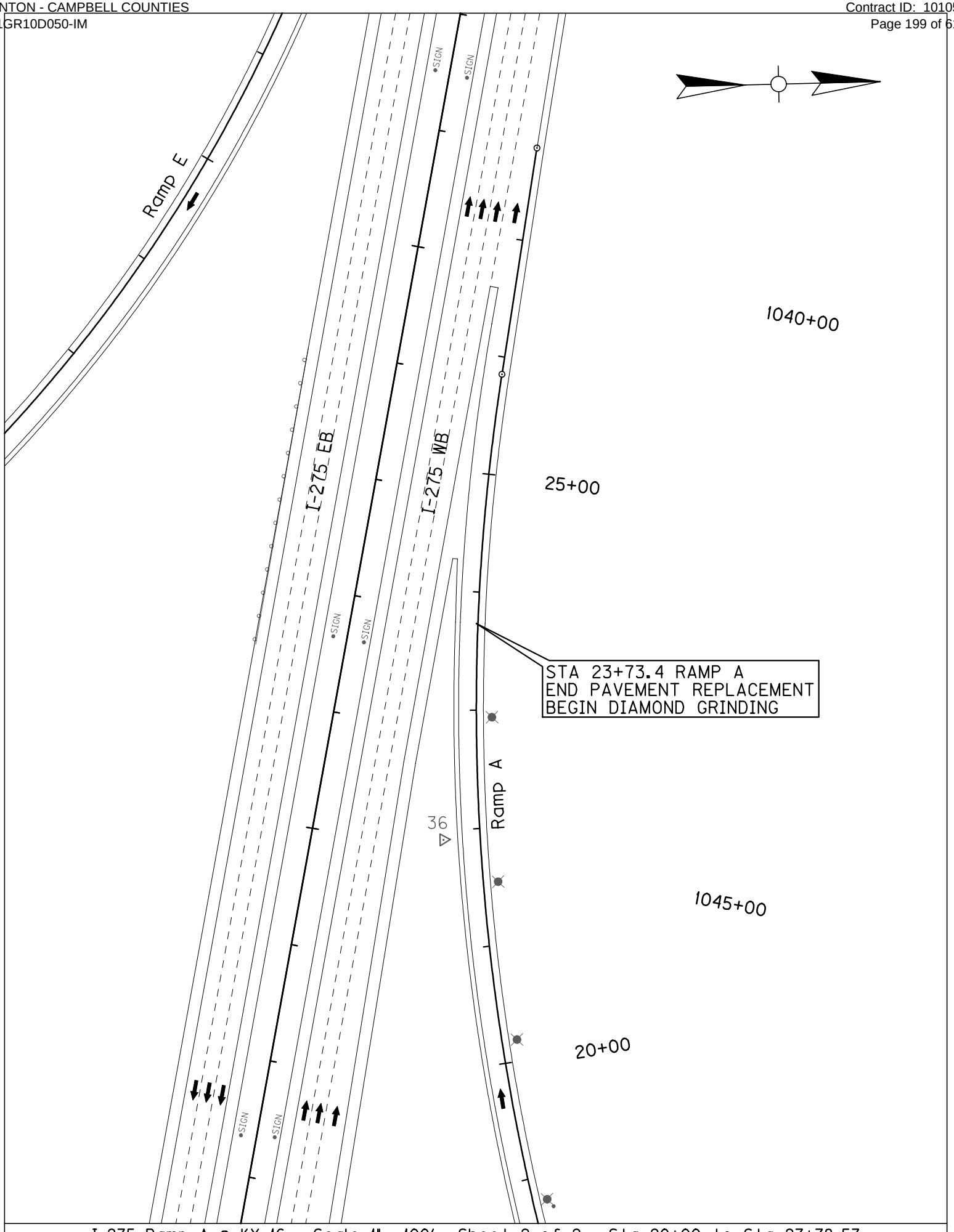
I-275 Ramp D @ KY 17 - Scale 1" = 100' - Sheet 2 of 3 - Sta 7+00 to Sta 16+00



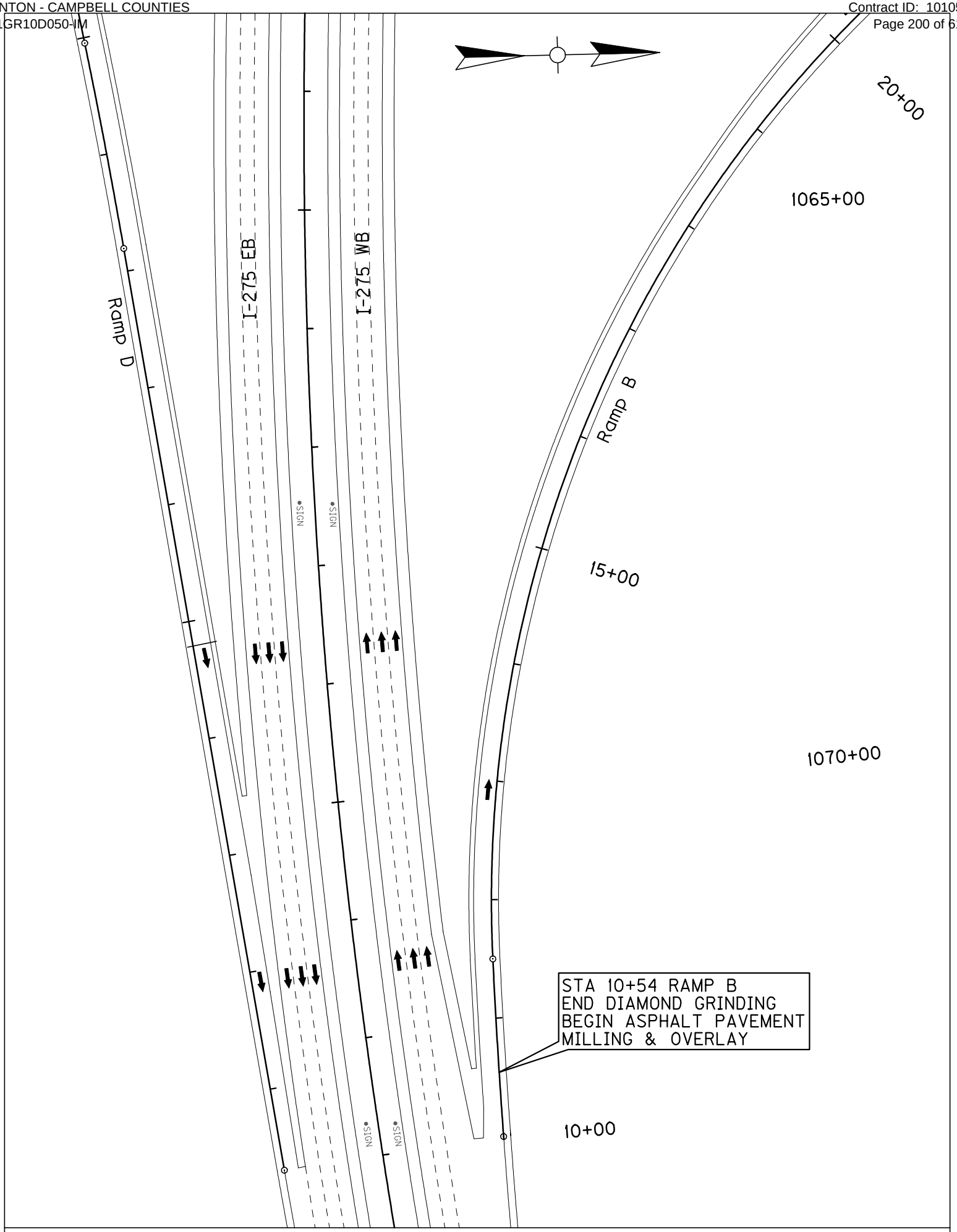
I-275 Ramp D @ KY 17 - Scale 1" = 100' - Sheet 3 of 3 - Sta 16+00 to Sta 23+60.24



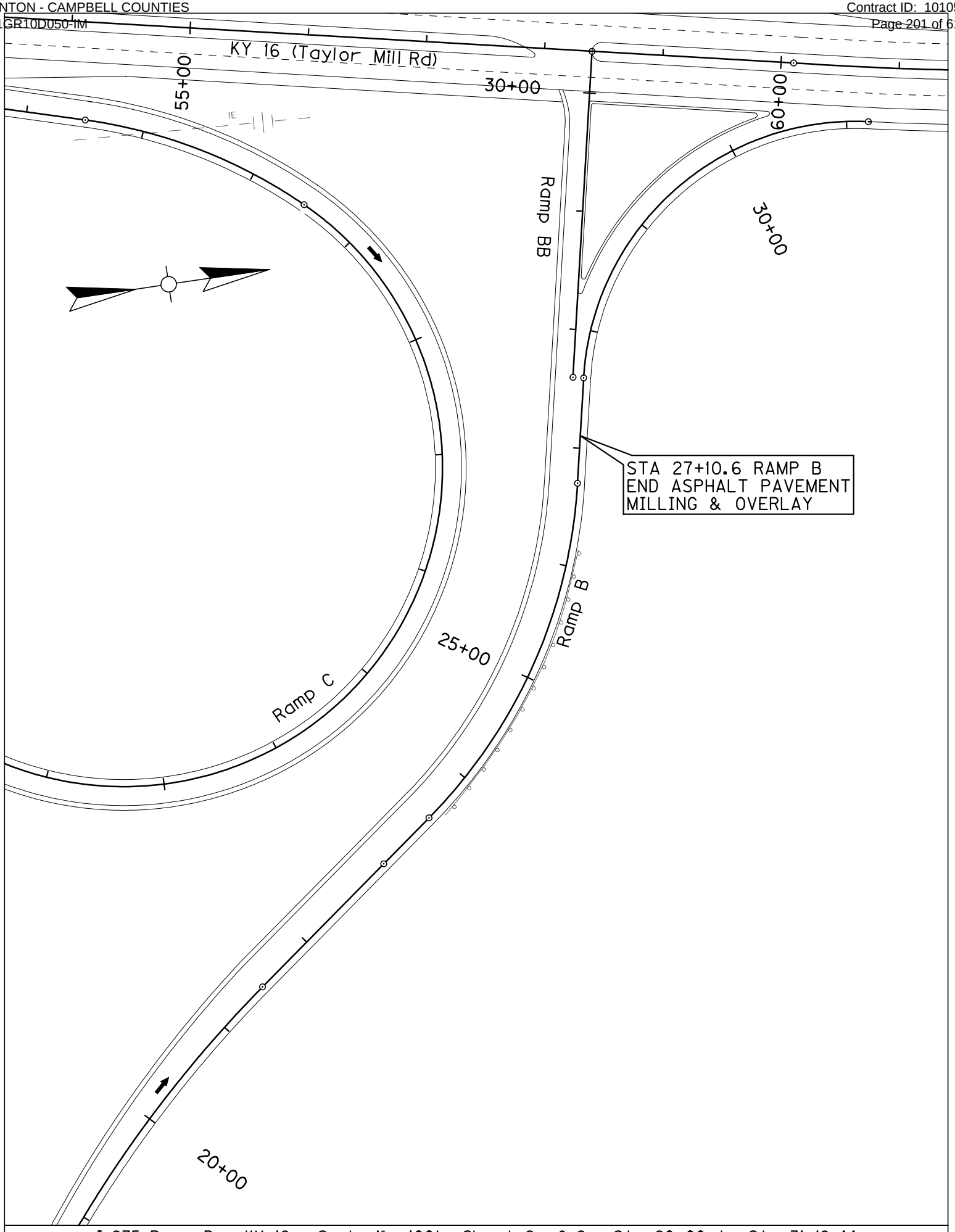
I-275 Ramp A @ KY 16 - Scale 1" = 100' - Sheet 1 of 2 - Sta 10+00 to Sta 20+00



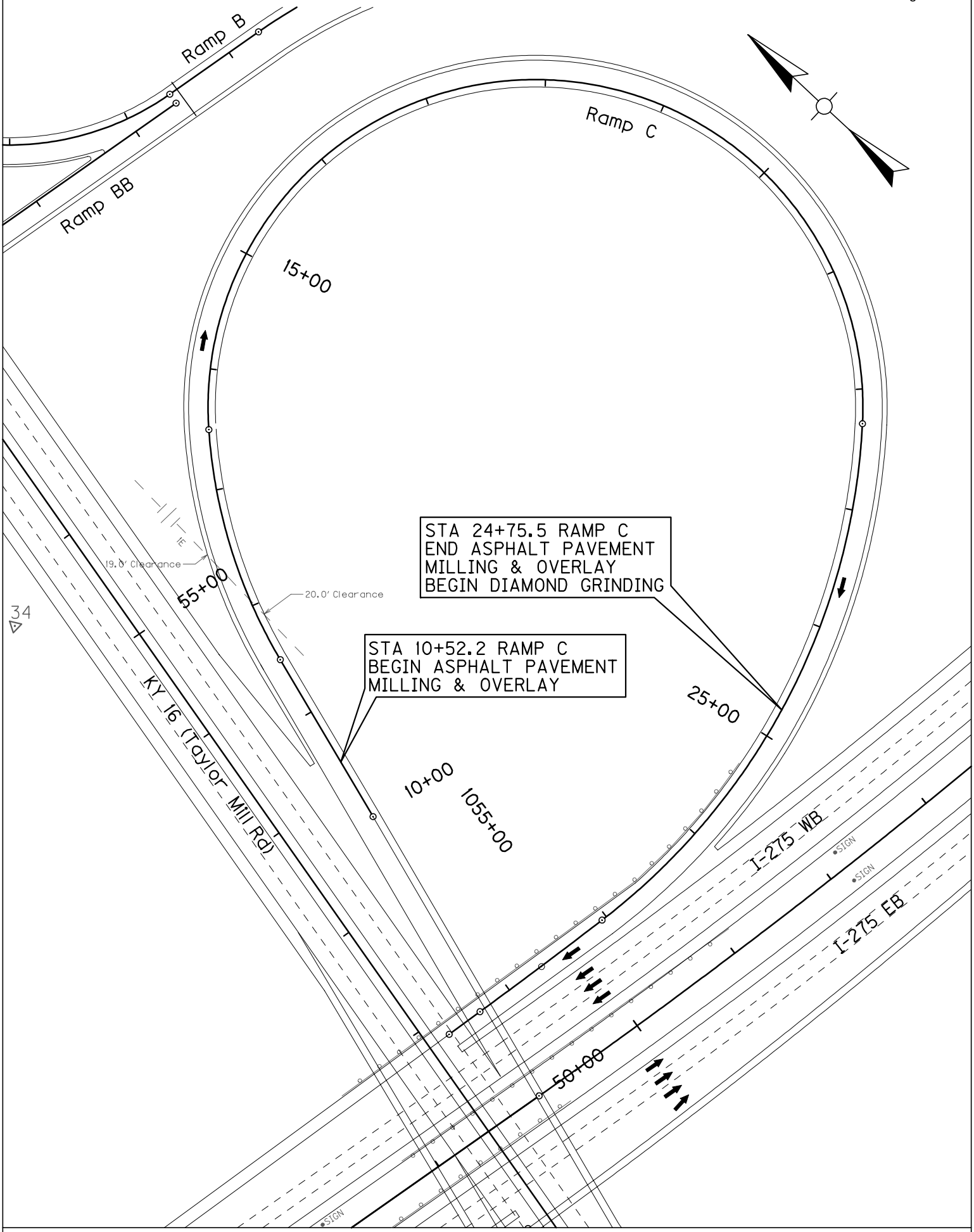
I-275 Ramp A @ KY 16 - Scale 1" = 100' - Sheet 2 of 2 - Sta 20+00 to Sta 27+78.57



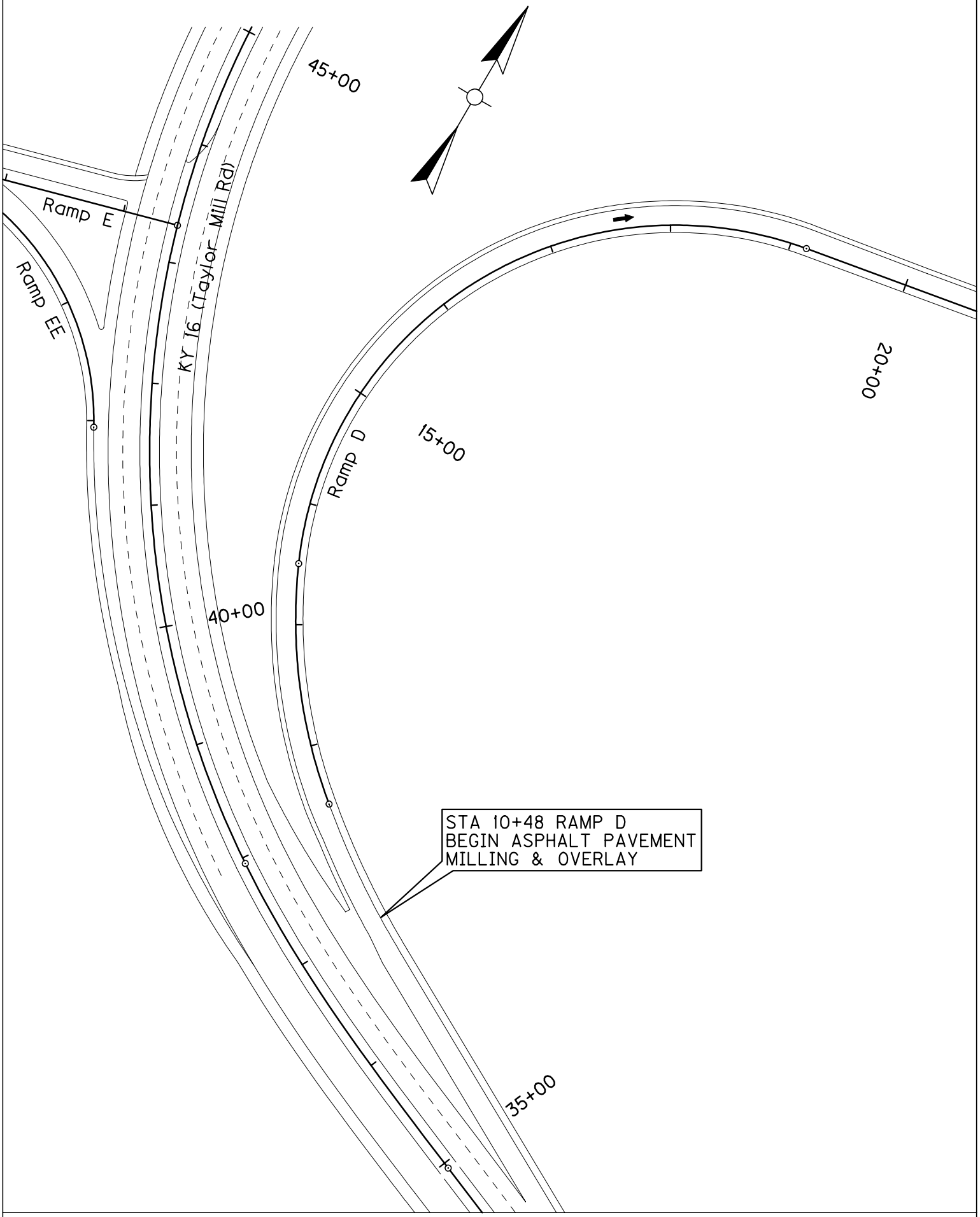
I-275 Ramp B @ KY 16 - Scale 1" = 100' - Sheet 1 of 2 - Sta 10+00 to Sta 20+00



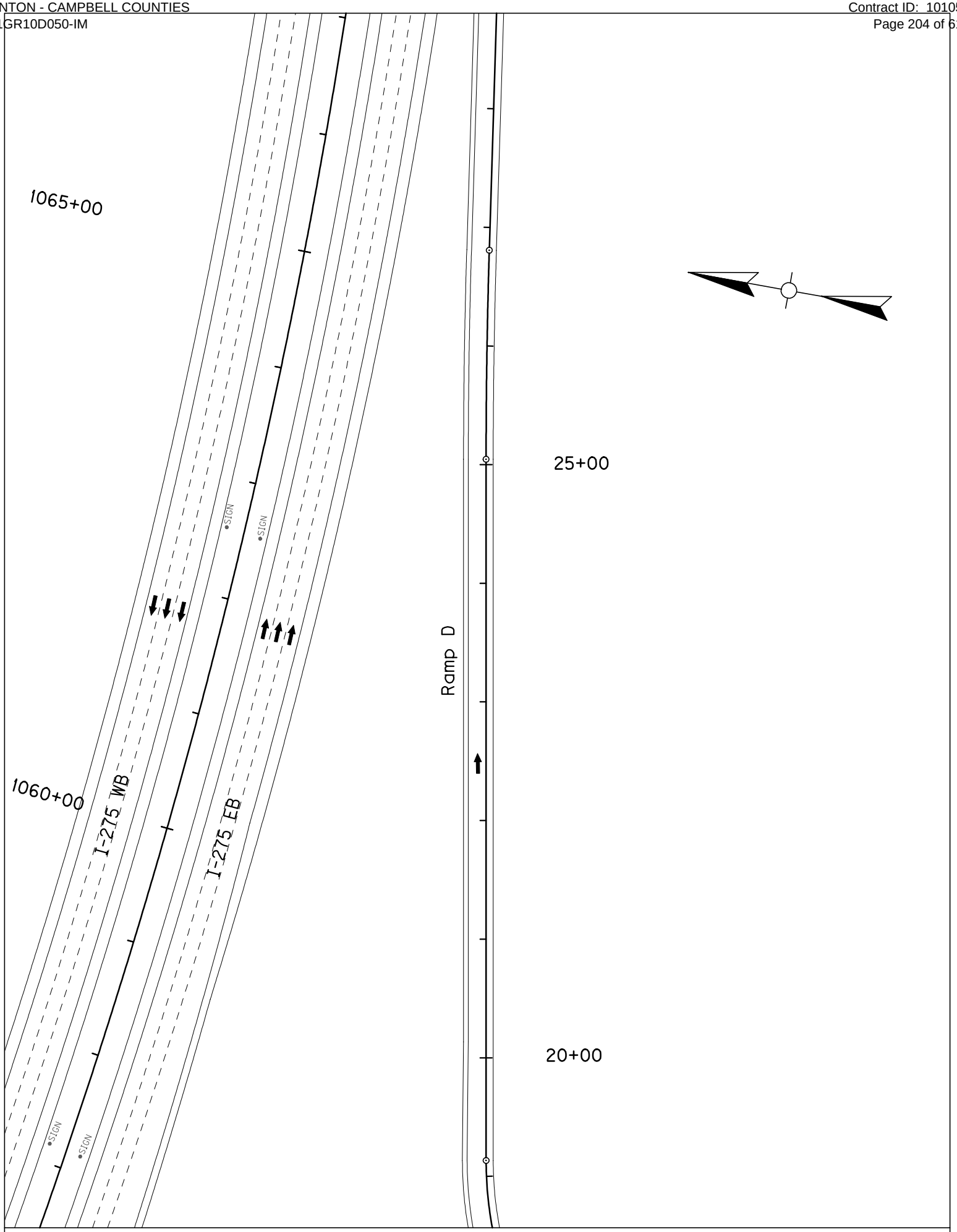
I-275 Ramp B @ KY 16 - Scale 1" = 100' - Sheet 2 of 2 - Sta 20+00 to Sta 31+18.44



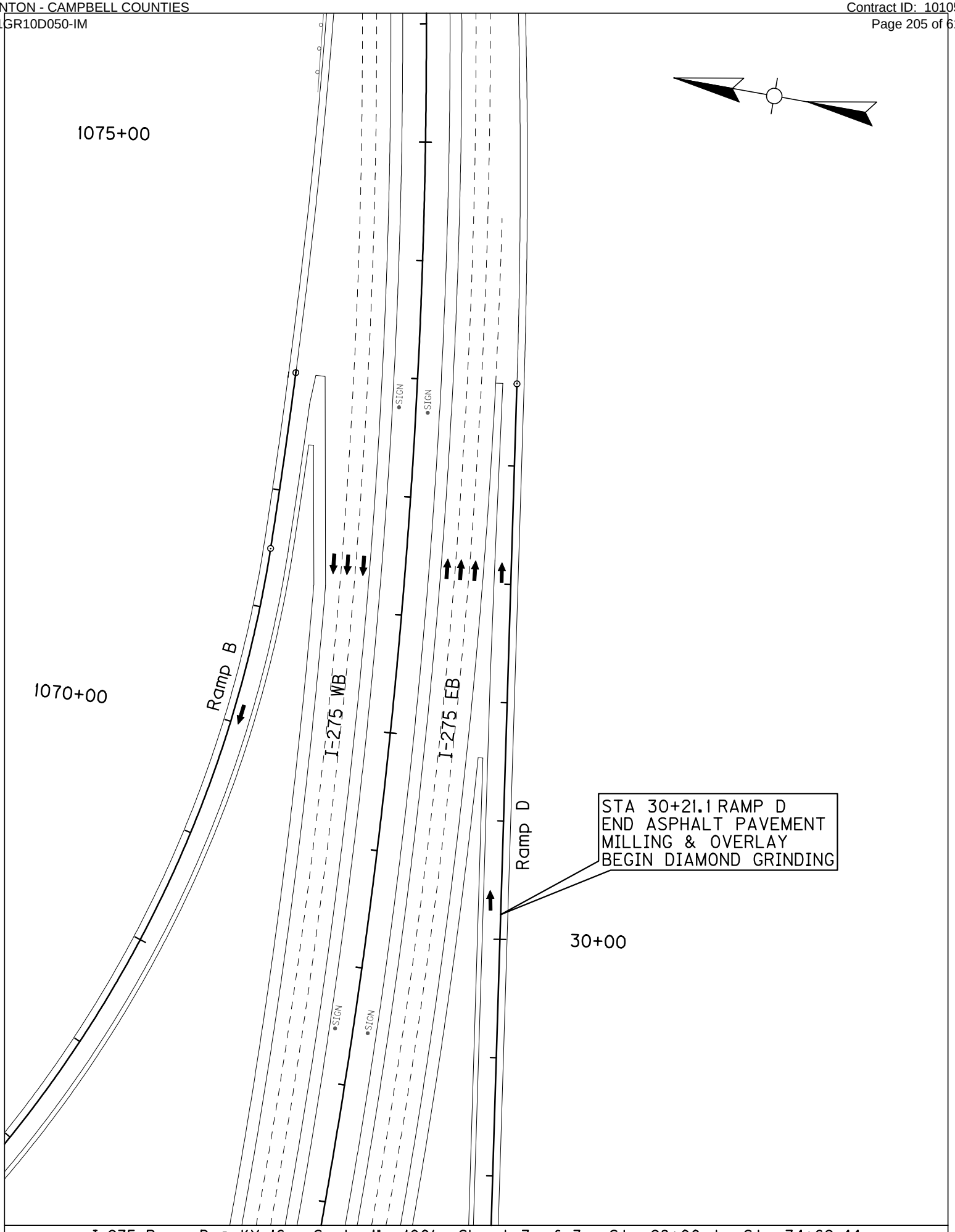
I-275 Ramp C @ KY 16 - Scale 1" = 100' - Sheet 1 of 1 - Sta 10+00 to Sta 28+30.01



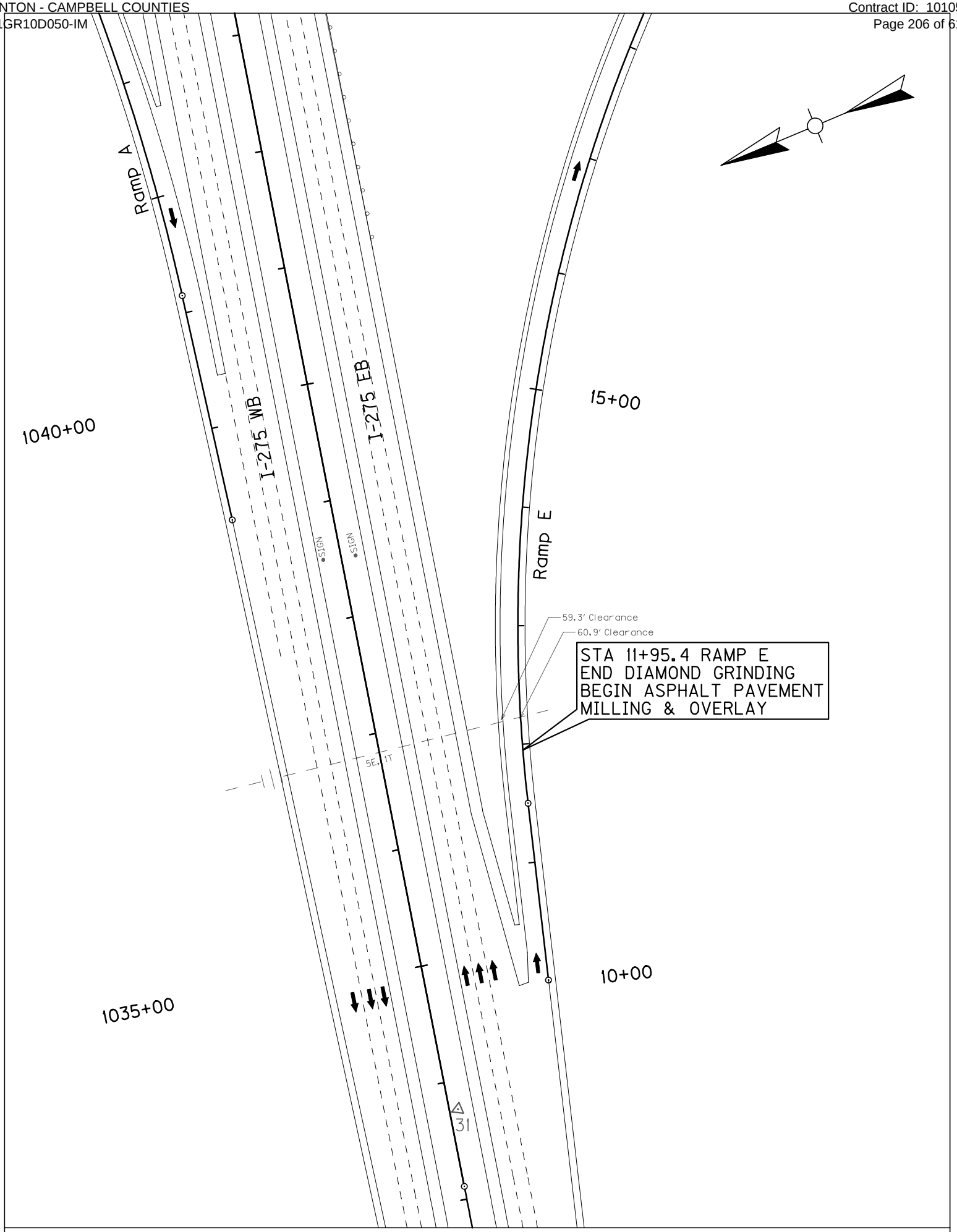
I-275 Ramp D @ KY 16 - Scale 1" = 100' - Sheet 1 of 3 - Sta 11+50 to Sta 20+00



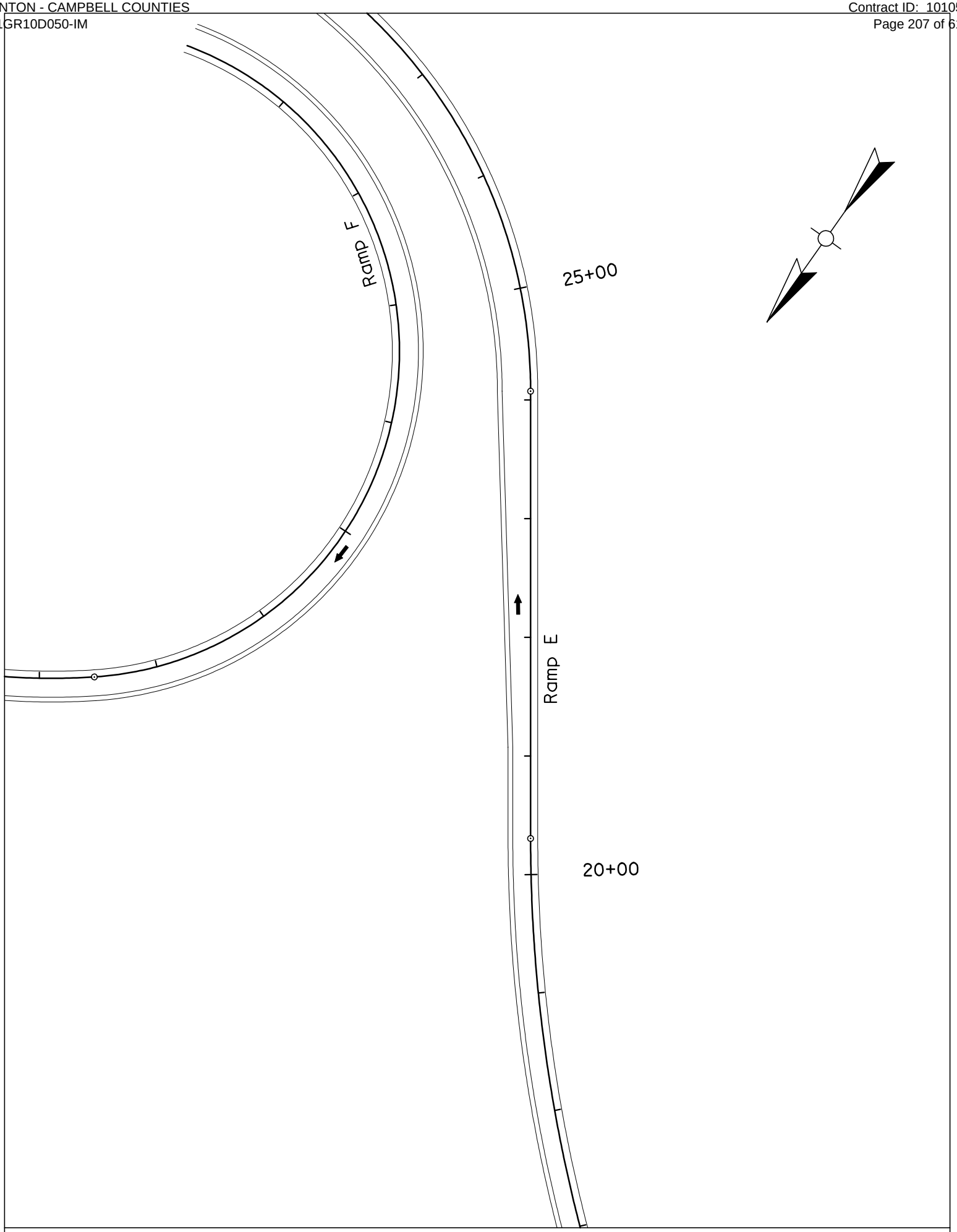
I-275 Ramp D @ KY 16 - Scale 1" = 100' - Sheet 2 of 3 - Sta 20+00 to Sta 28+00



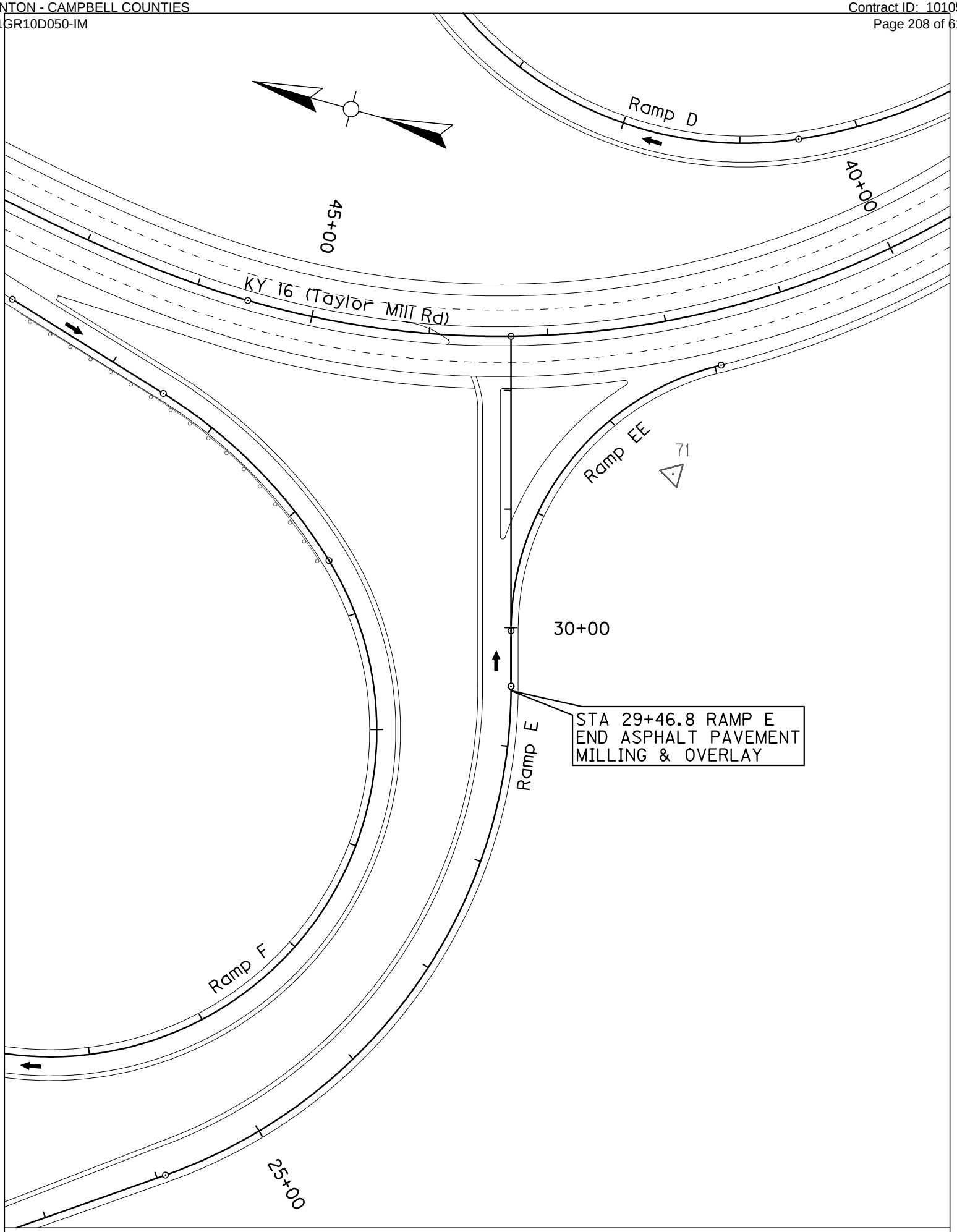
I-275 Ramp D @ KY 16 - Scale 1" = 100' - Sheet 3 of 3 - Sta 28+00 to Sta 34+69.44



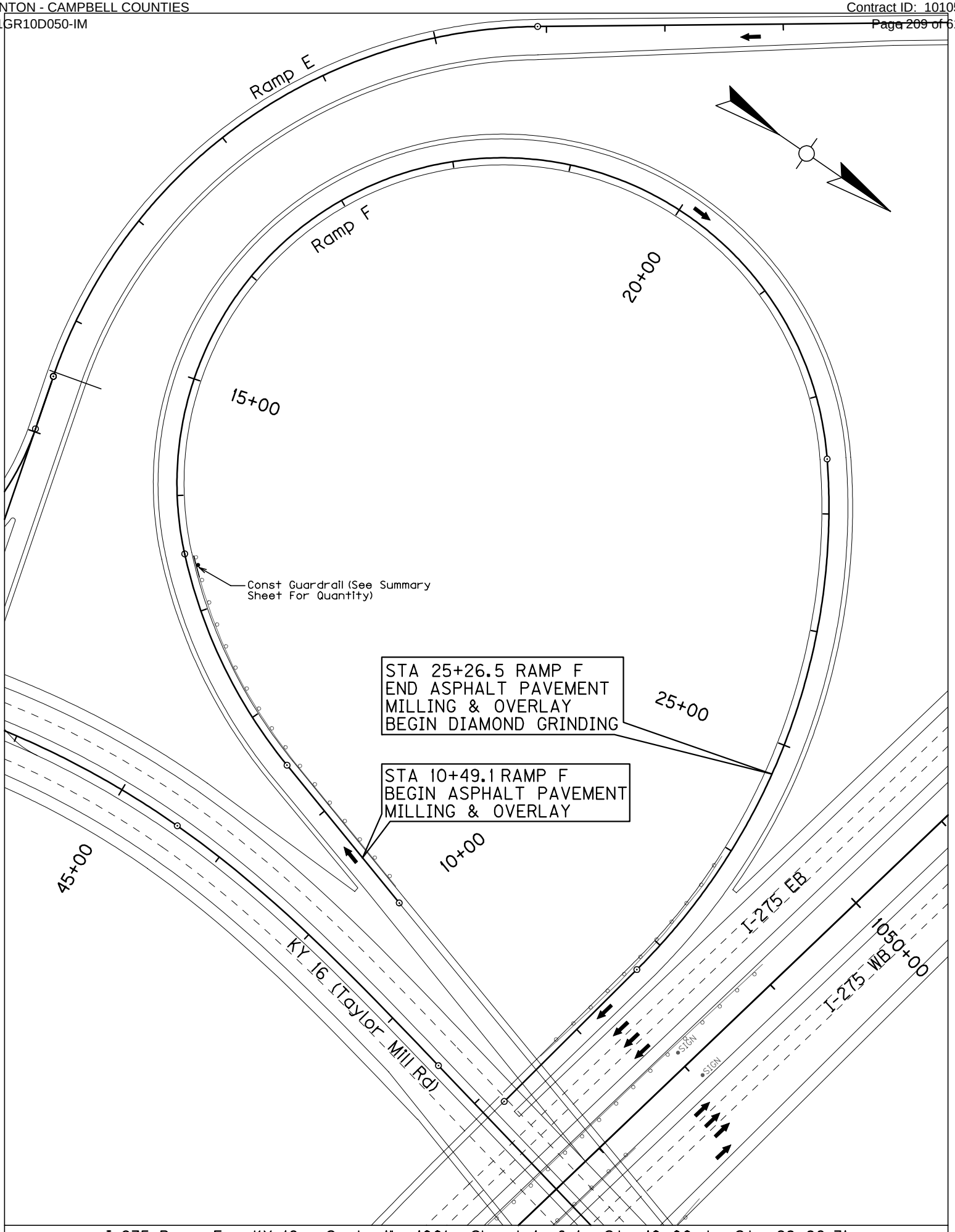
I-275 Ramp E @ KY 16 - Scale 1" = 100' - Sheet 1 of 3 - Sta 10+00 to Sta 18+00



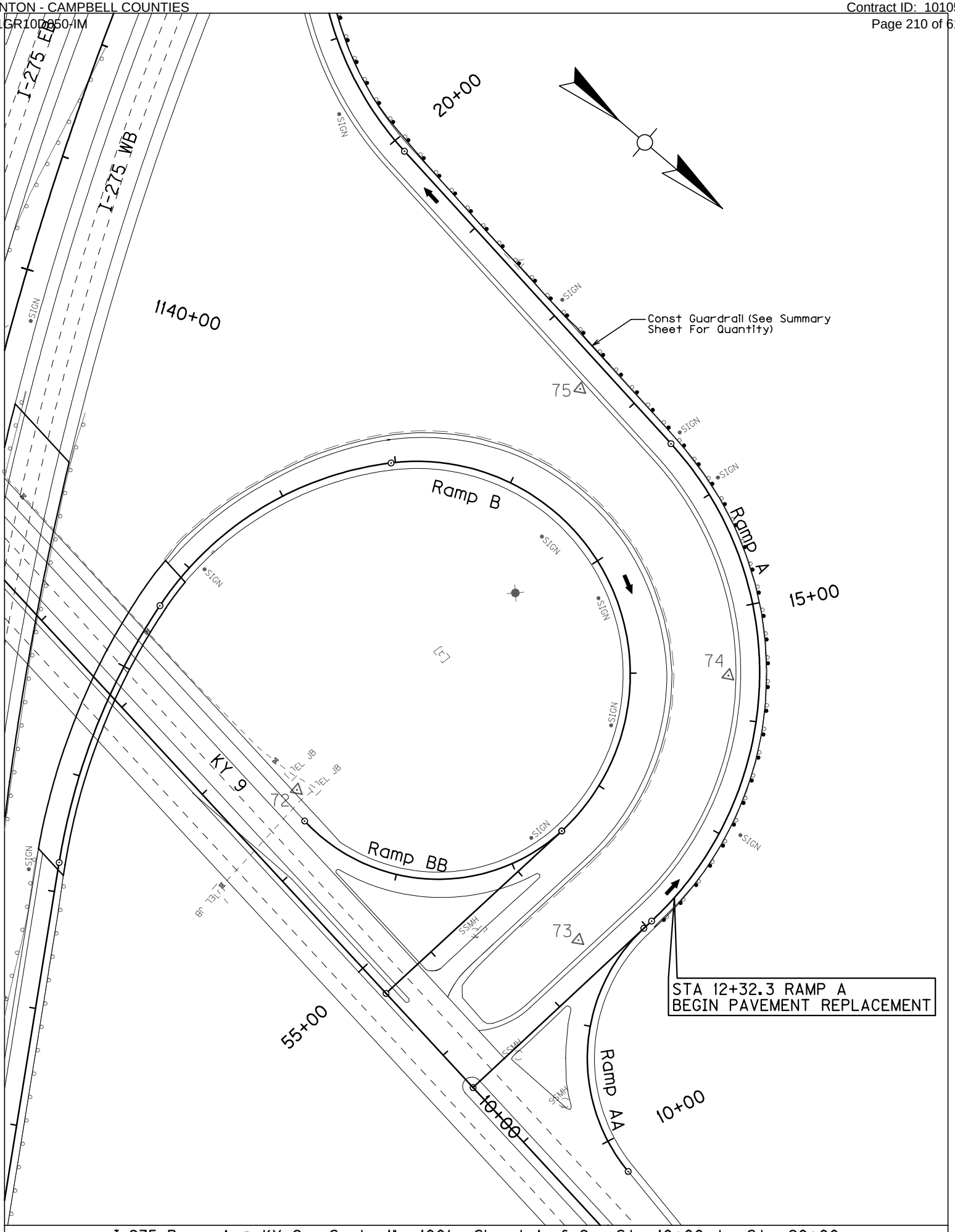
I-275 Ramp E @ KY 16 - Scale 1" = 100' - Sheet 2 of 3 - Sta 18+00 to Sta 26+00



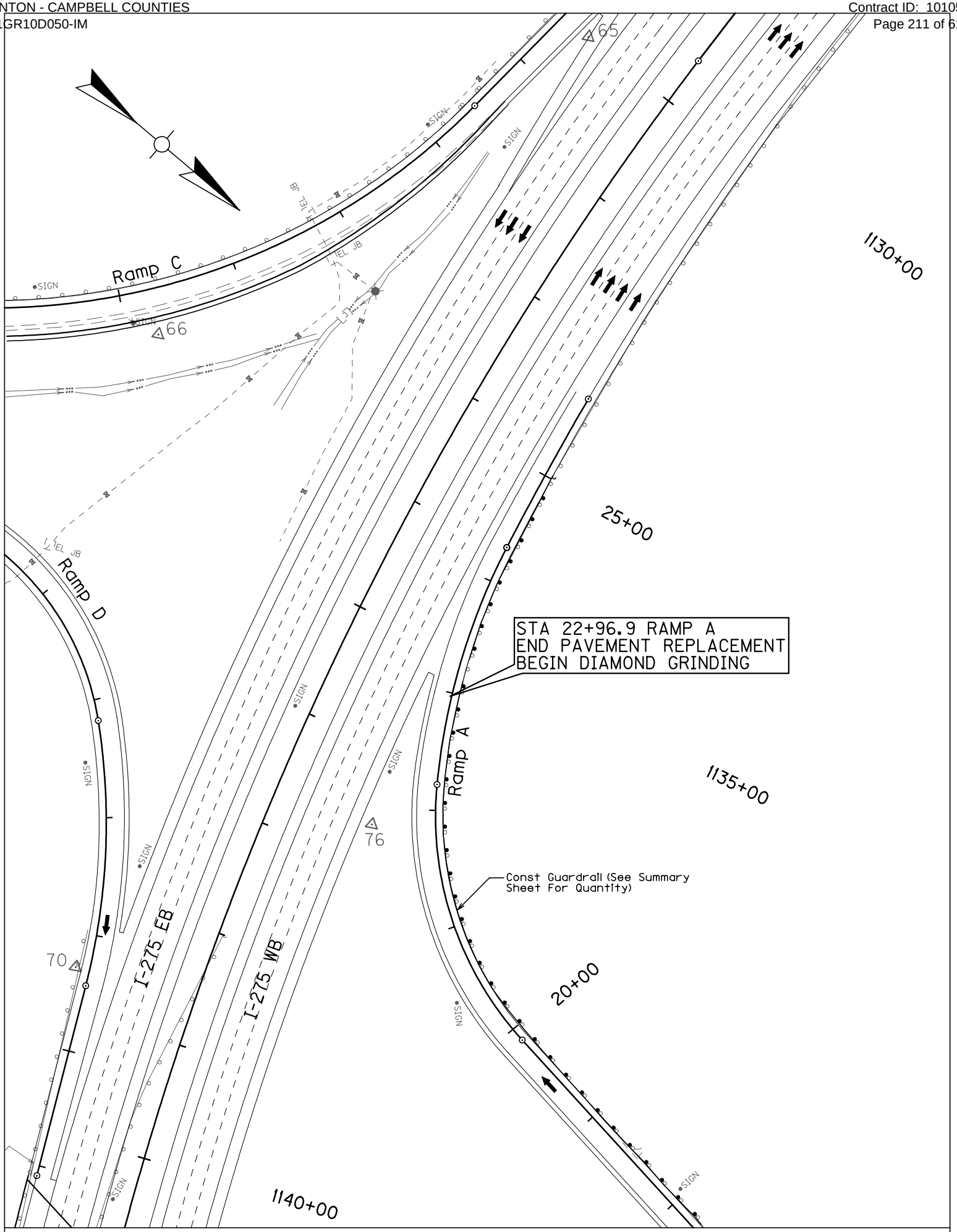
I-275 Ramp E @ KY 16 - Scale 1" = 100' - Sheet 3 of 3 - Sta 26+00 to Sta 32+45.60



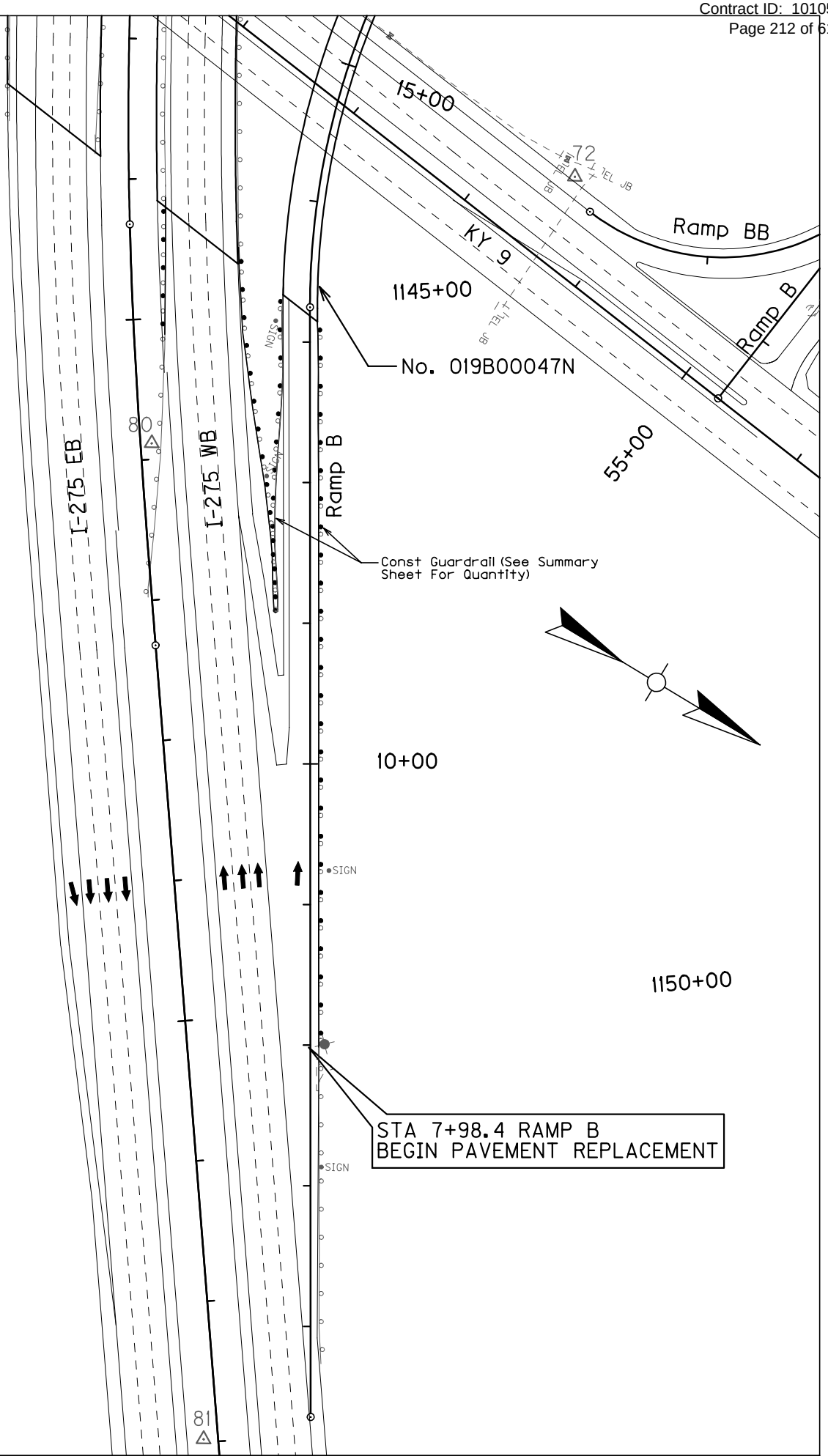
I-275 Ramp F @ KY 16 - Scale 1" = 100' - Sheet 1 of 1 - Sta 10+00 to Sta 28+86.31



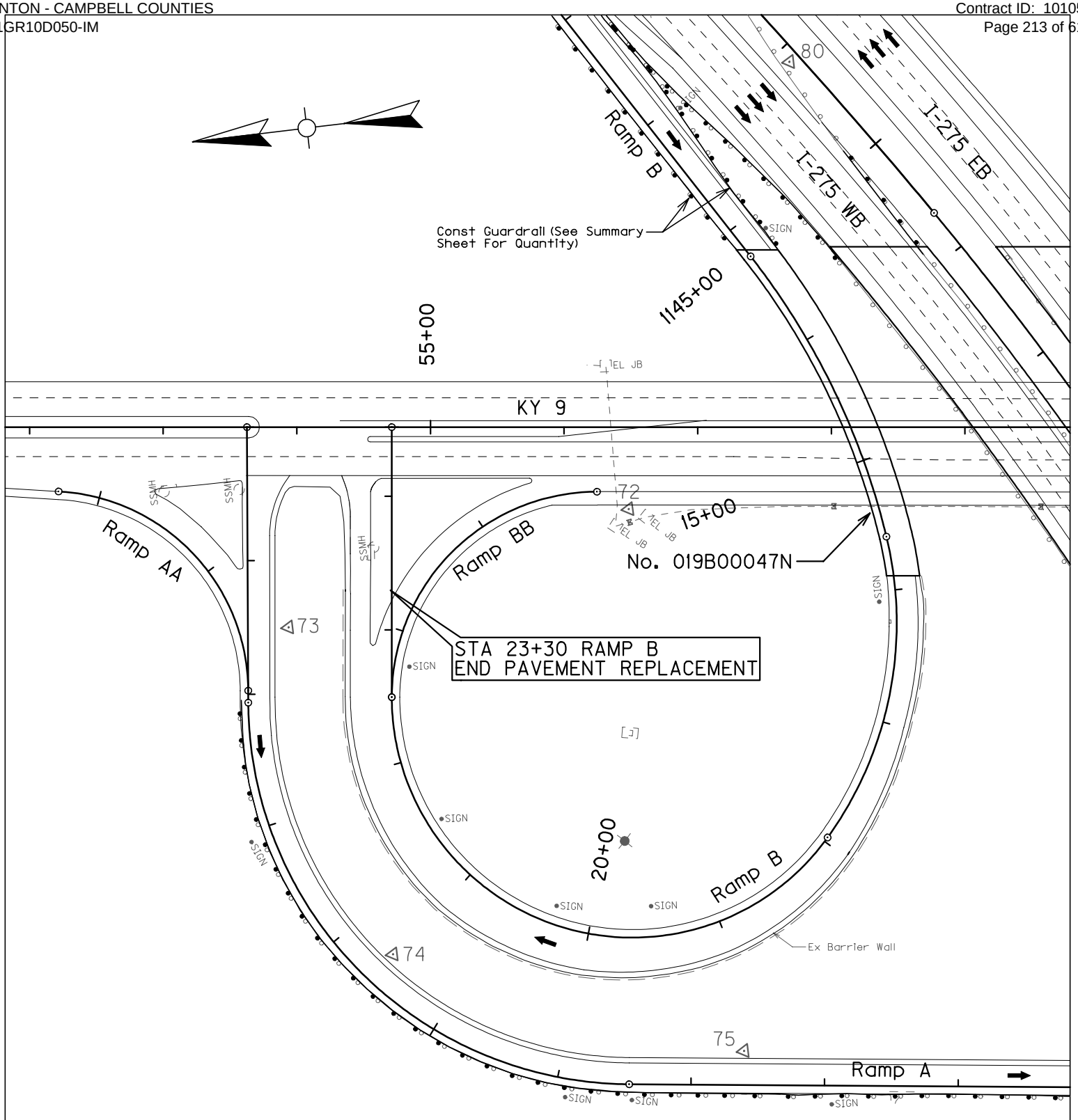
I-275 Ramp A @ KY 9 - Scale 1" = 100' - Sheet 1 of 2 - Sta 10+00 to Sta 20+00



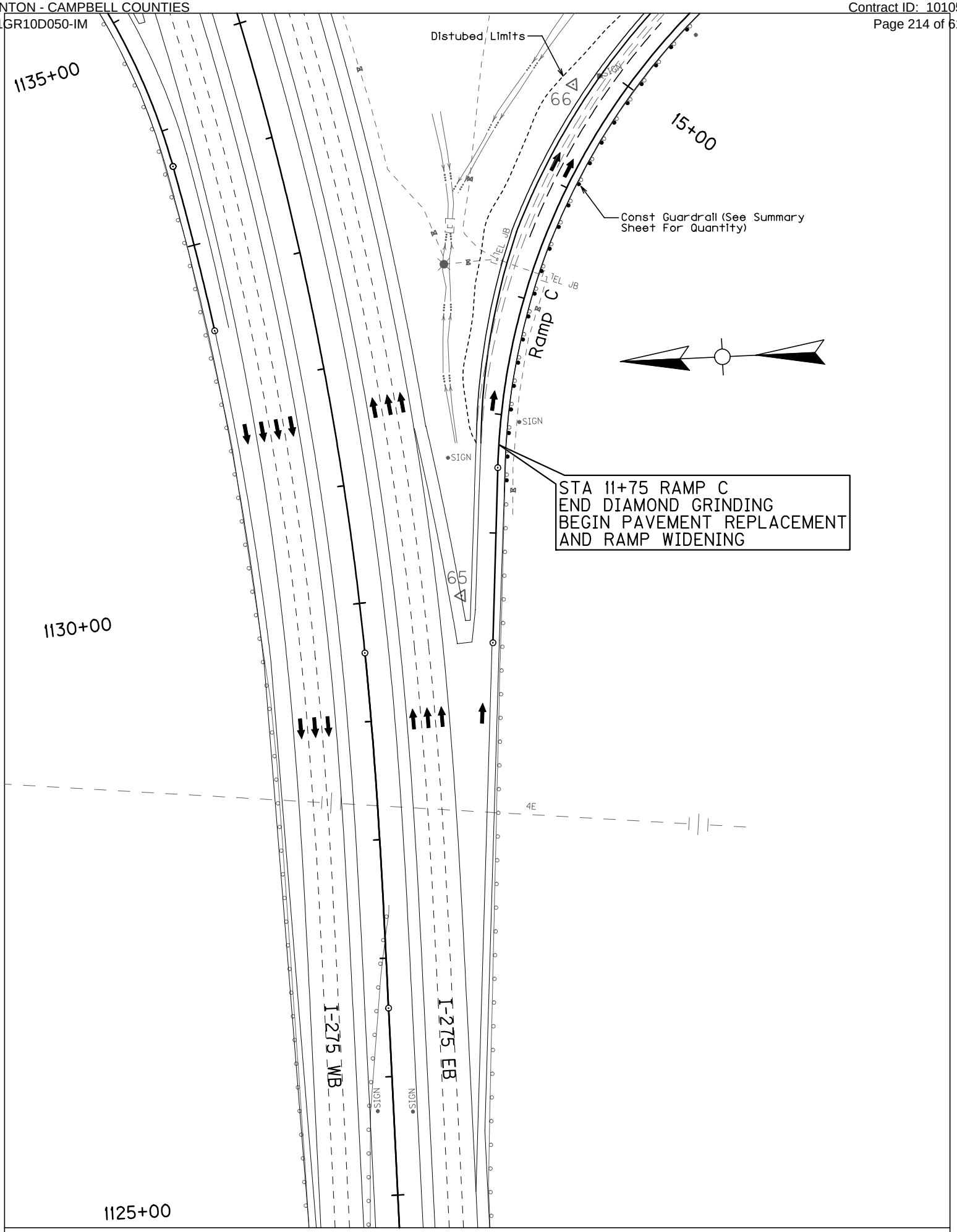
I-275 Ramp A @ KY 9 - Scale 1" = 100' - Sheet 2 of 2 - Sta 20+00 to Sta 25+74.54



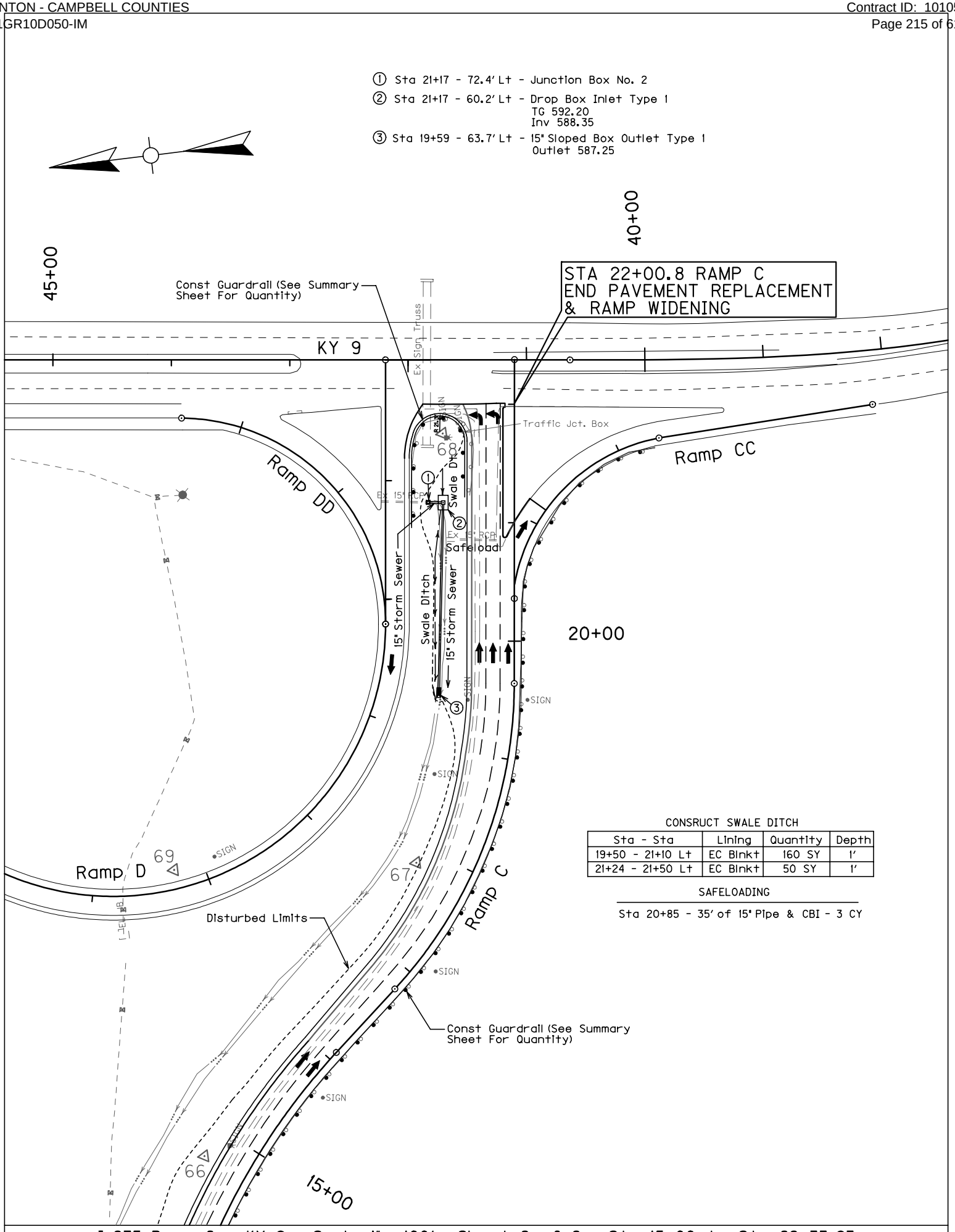
I-275 Ramp B @ KY 9 - Scale 1" = 100' - Sheet 1 of 2 - Sta 10+00 to Sta 15+00



I-275 Ramp B @ KY 9 - Scale 1" = 100' - Sheet 2 of 2 - Sta 15+00 to Sta 24+50.42



I-275 Ramp C @ KY 9 - Scale 1" = 100' - Sheet 1 of 2 - Sta 10+00 to Sta 15+00



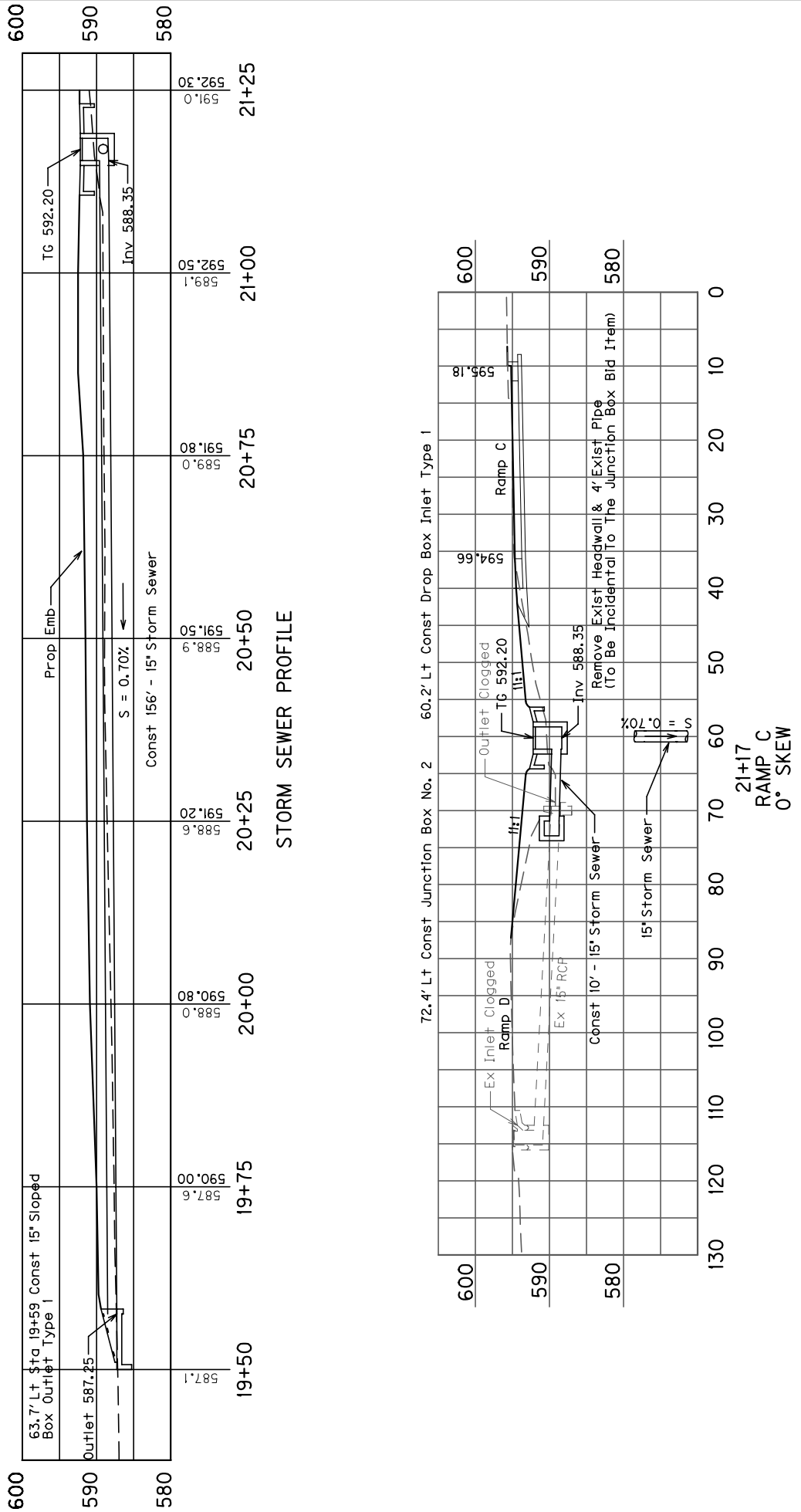
CONSRUCT SWALE DITCH

Sta - Sta	Lining	Quantity	Depth
19+50 - 21+10 Lt	EC Blnkt	160 SY	1'
21+24 - 21+50 Lt	EC Blnkt	50 SY	1'

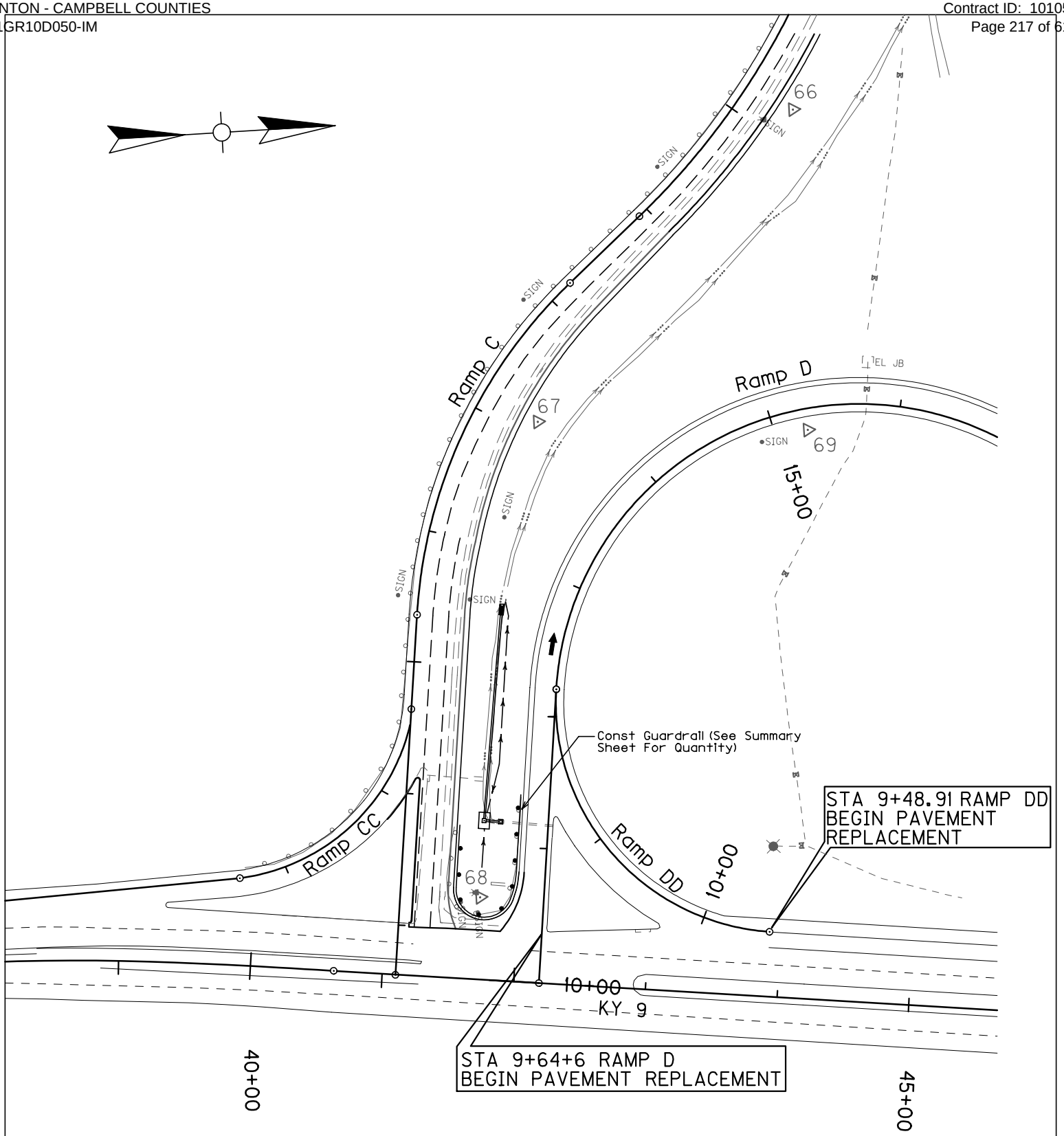
SAFELOADING

Sta 20+85 - 35' of 15" Pipe & CBI - 3 CY

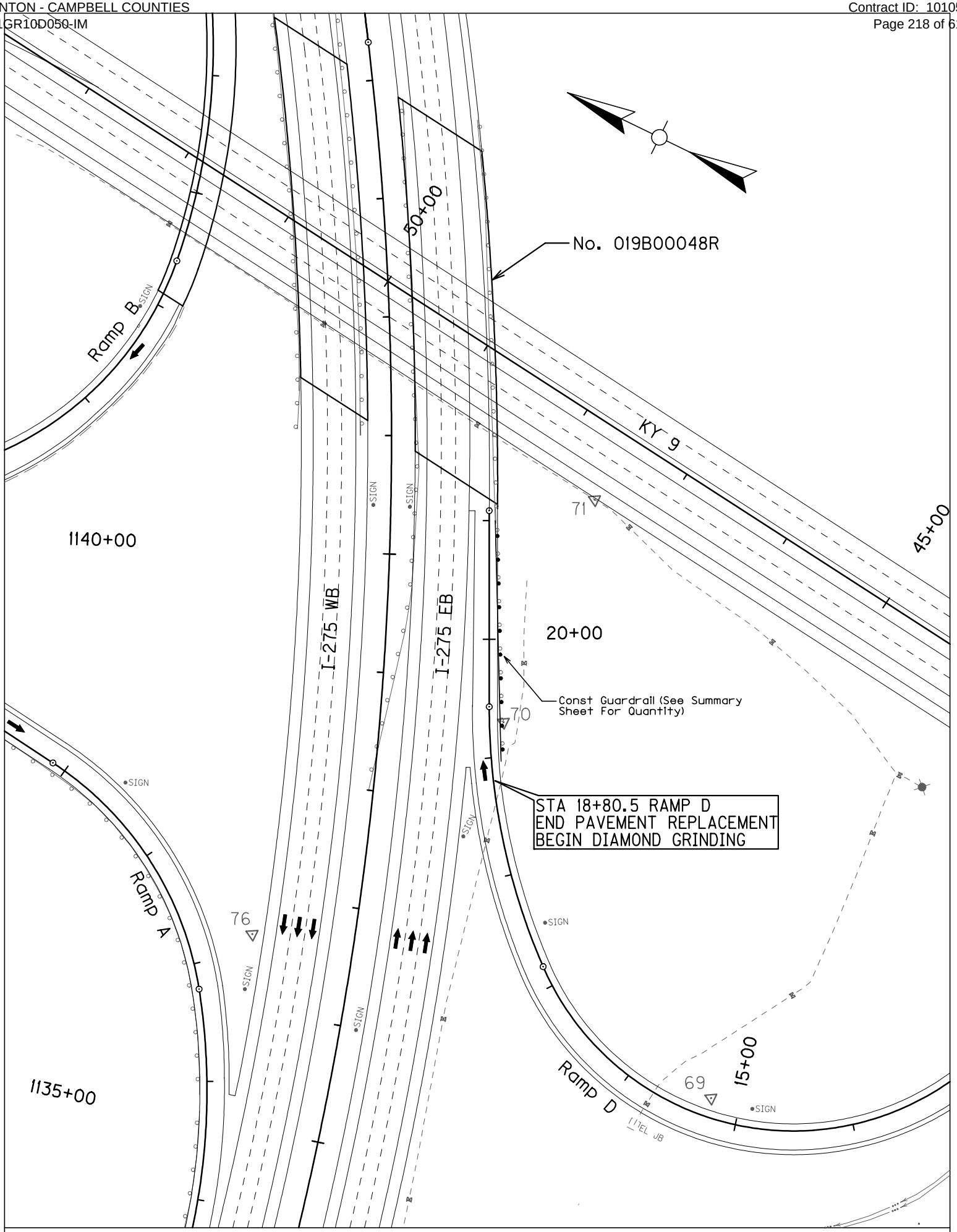
I-275 Ramp C @ KY 9 - Scale 1" = 100' - Sheet 2 of 2 - Sta 15+00 to Sta 22+33.93



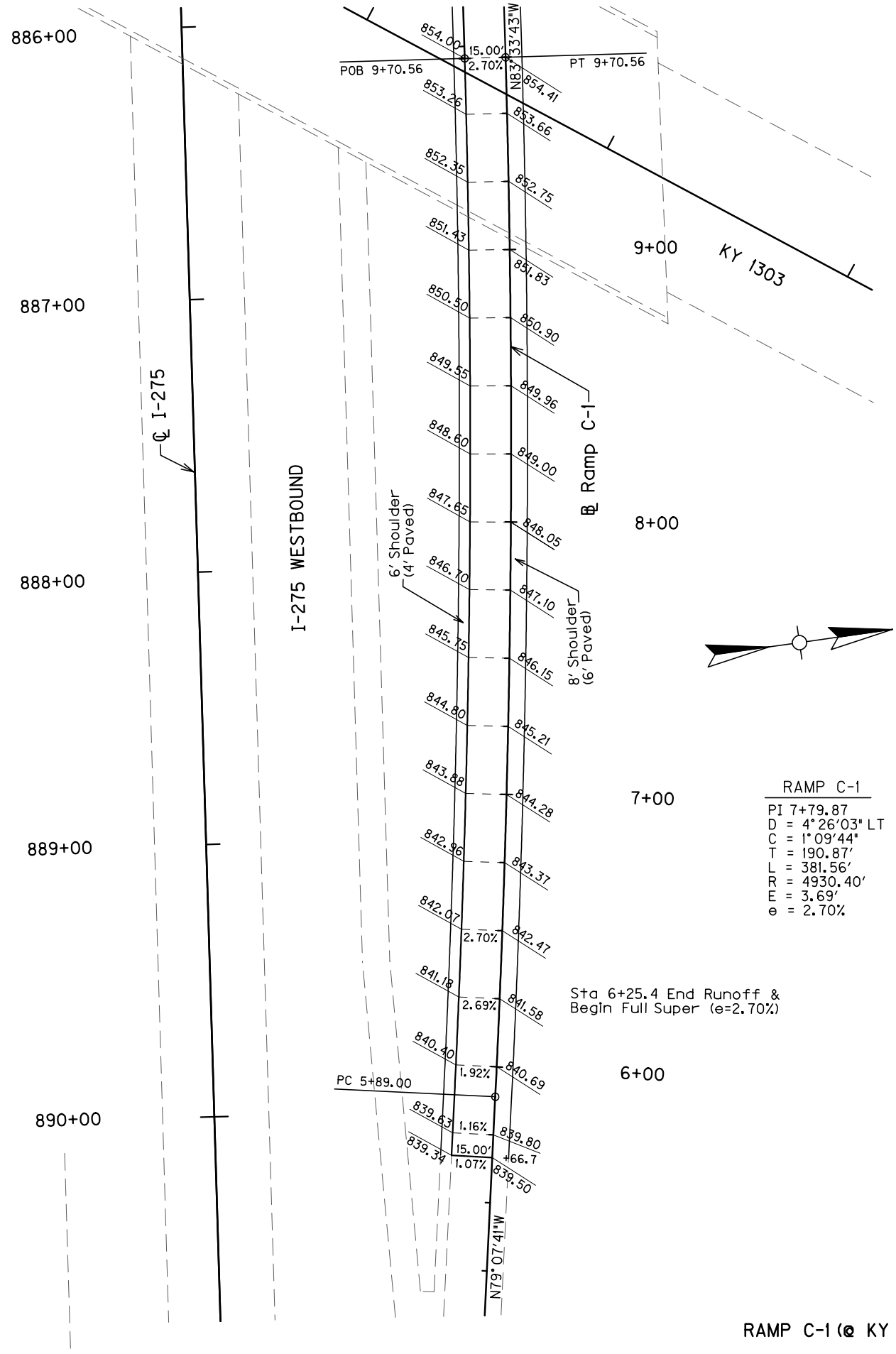
Ramp C @ KY 9 Storm Sewer Section - Scale 1" = 20'



I-275 Ramp D @ KY 9 - Scale 1" = 100' - Sheet 1 of 2 - Sta 10+00 to Sta 15+00

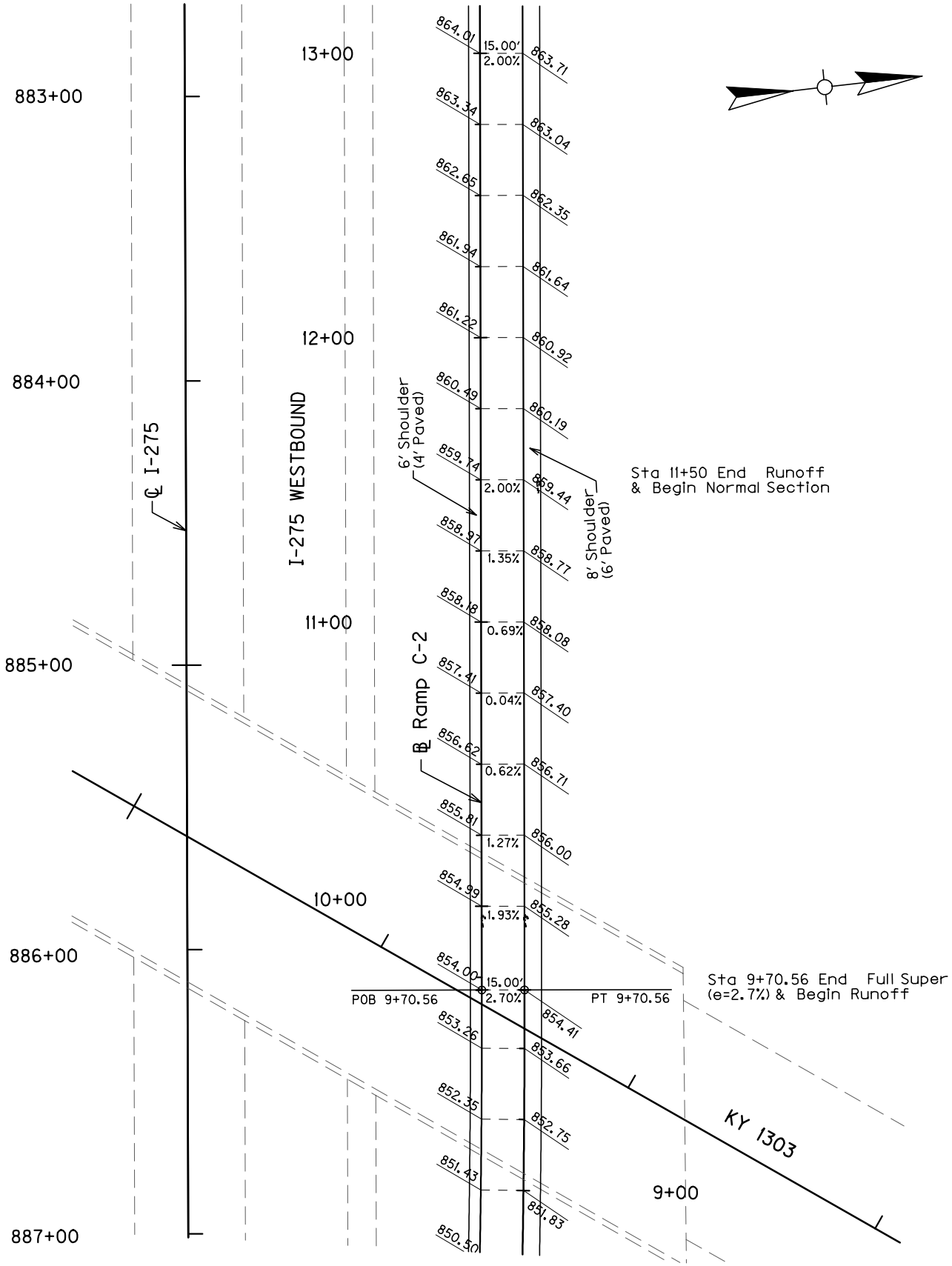


I-275 Ramp D @ KY 9 - Scale 1" = 100' - Sheet 2 of 2 - Sta 15+00 to Sta 21+08.46



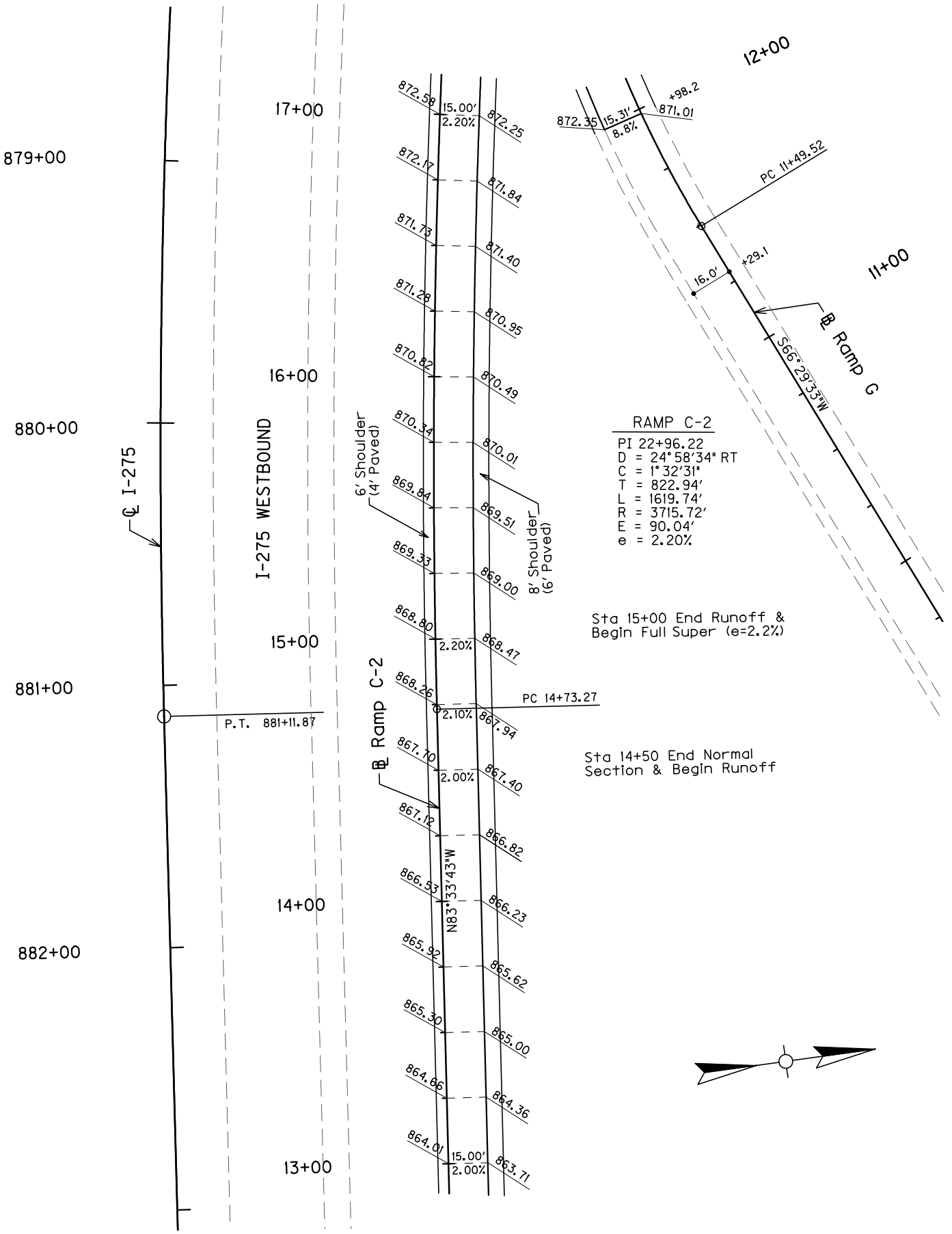
RAMP C-1 (@ KY 1303)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 1 - Sta 6+00 to Sta 10+00



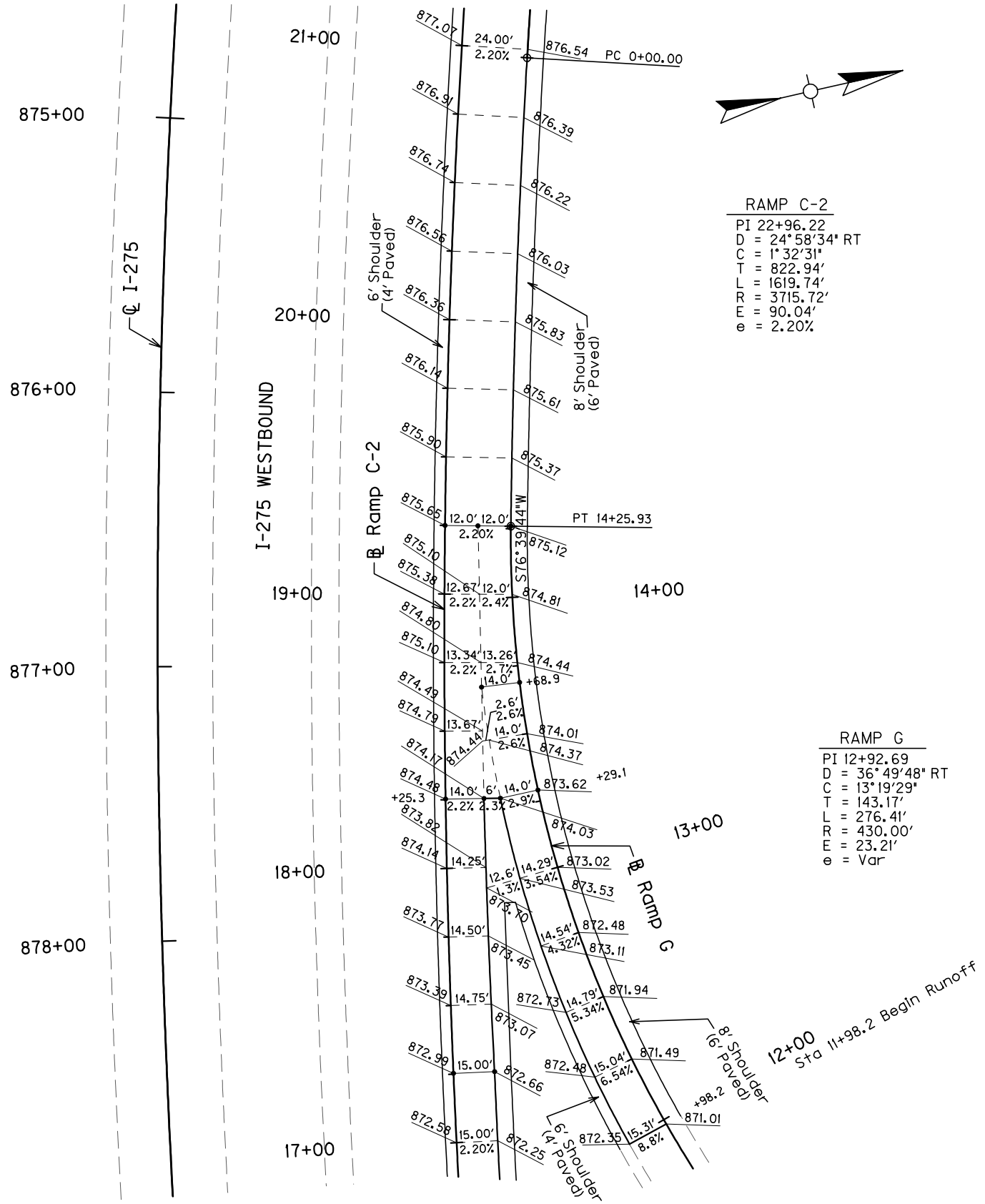
RAMP C-2 (@ KY 1303)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 6- Sta 9+00 to Sta 13+00



RAMP C-2 (@ KY 1303)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 2 of 6- Sta 13+00 to Sta 17+00

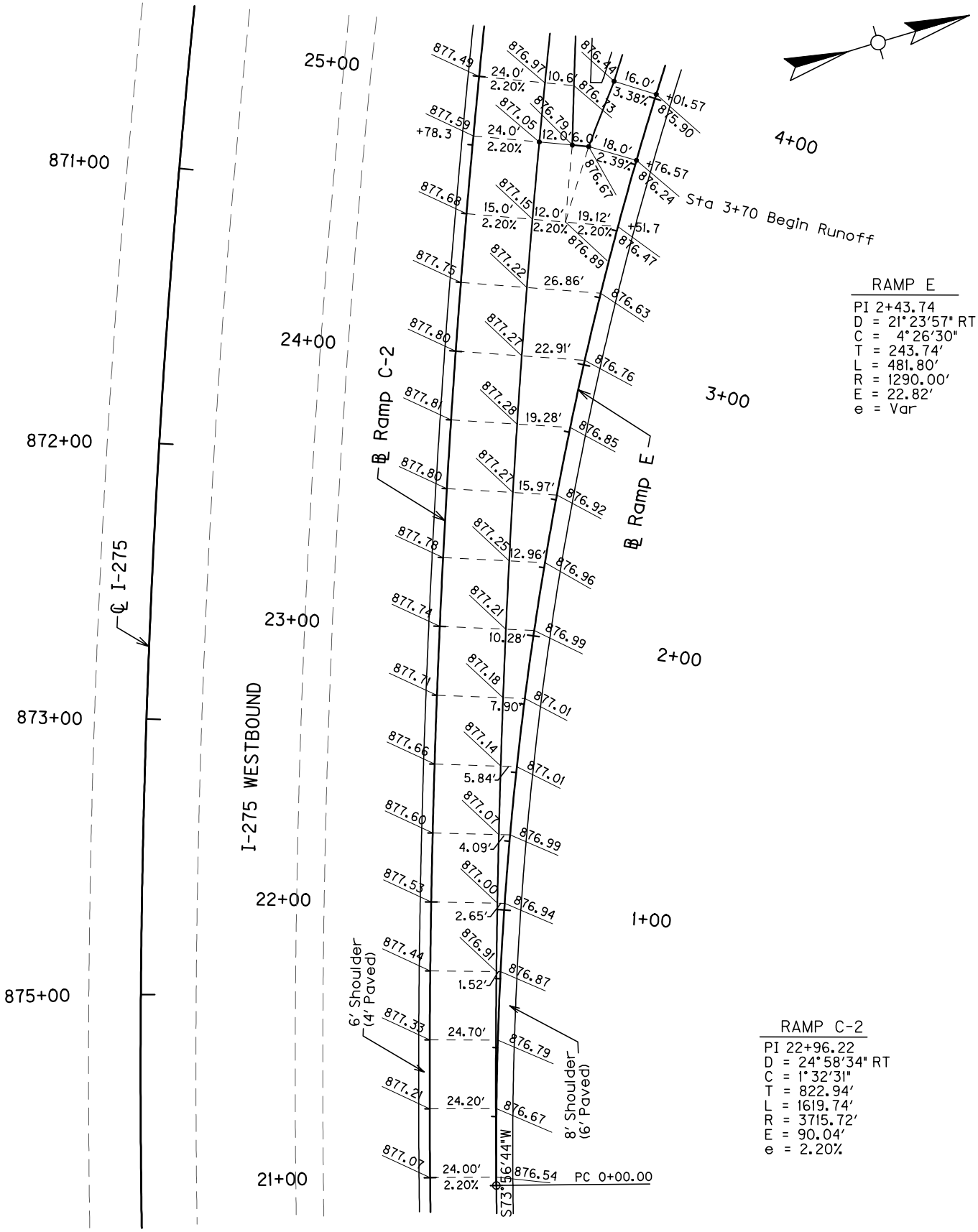


RAMP C-2
PI 22+96.22
D = 24°58'34" RT
C = 1°32'31"
T = 822.94'
L = 1619.74'
R = 3715.72'
E = 90.04'
e = 2.20%

RAMP G
PI 12+92.69
D = 36°49'48" RT
C = 13°19'29"
T = 143.17'
L = 276.41'
R = 430.00'
E = 23.21'
e = Var

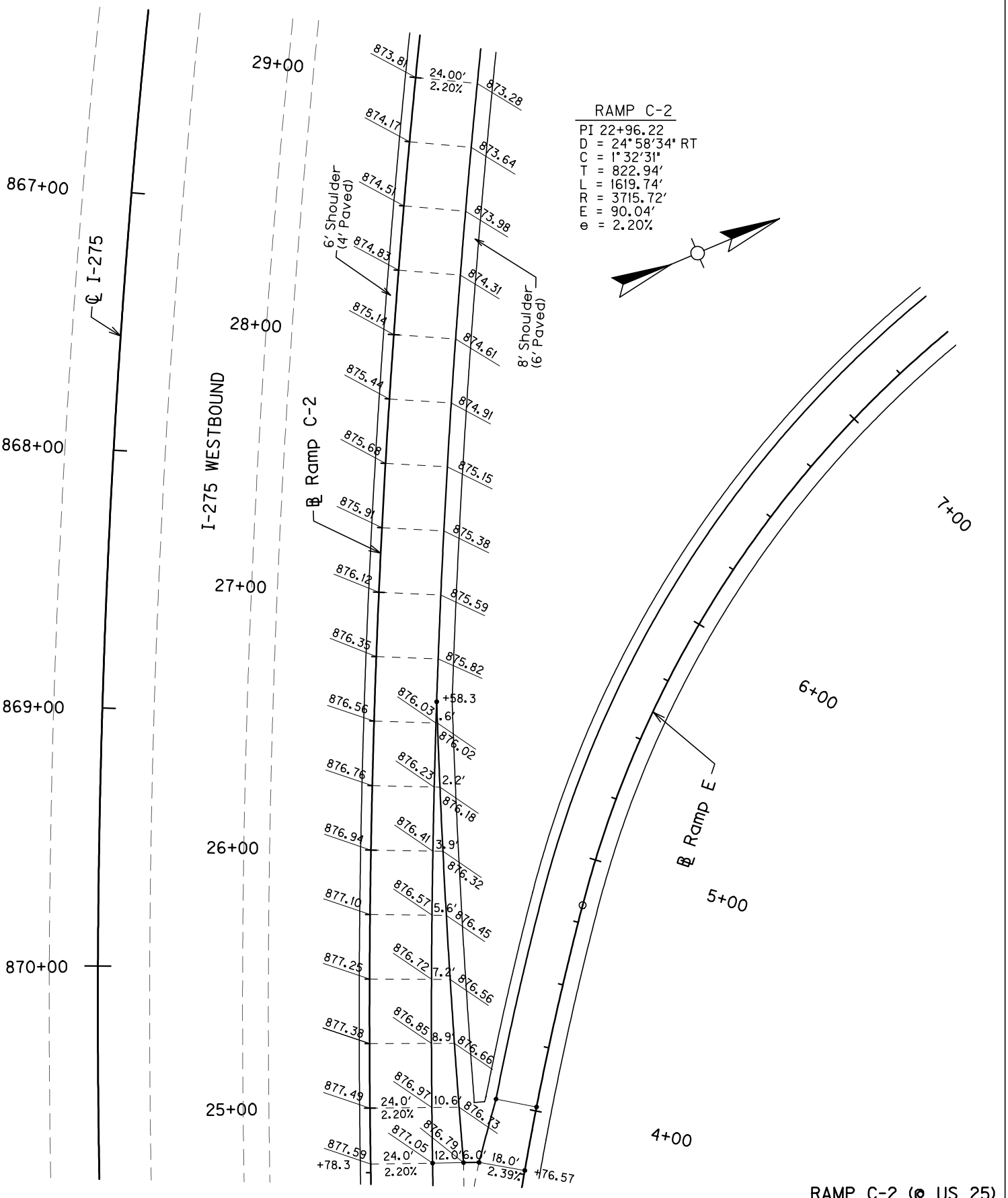
RAMP C-2 (@ KY 1303)
RAMP G (@ KY 1303)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 3 of 6- Sta 17+00 to Sta 21+00



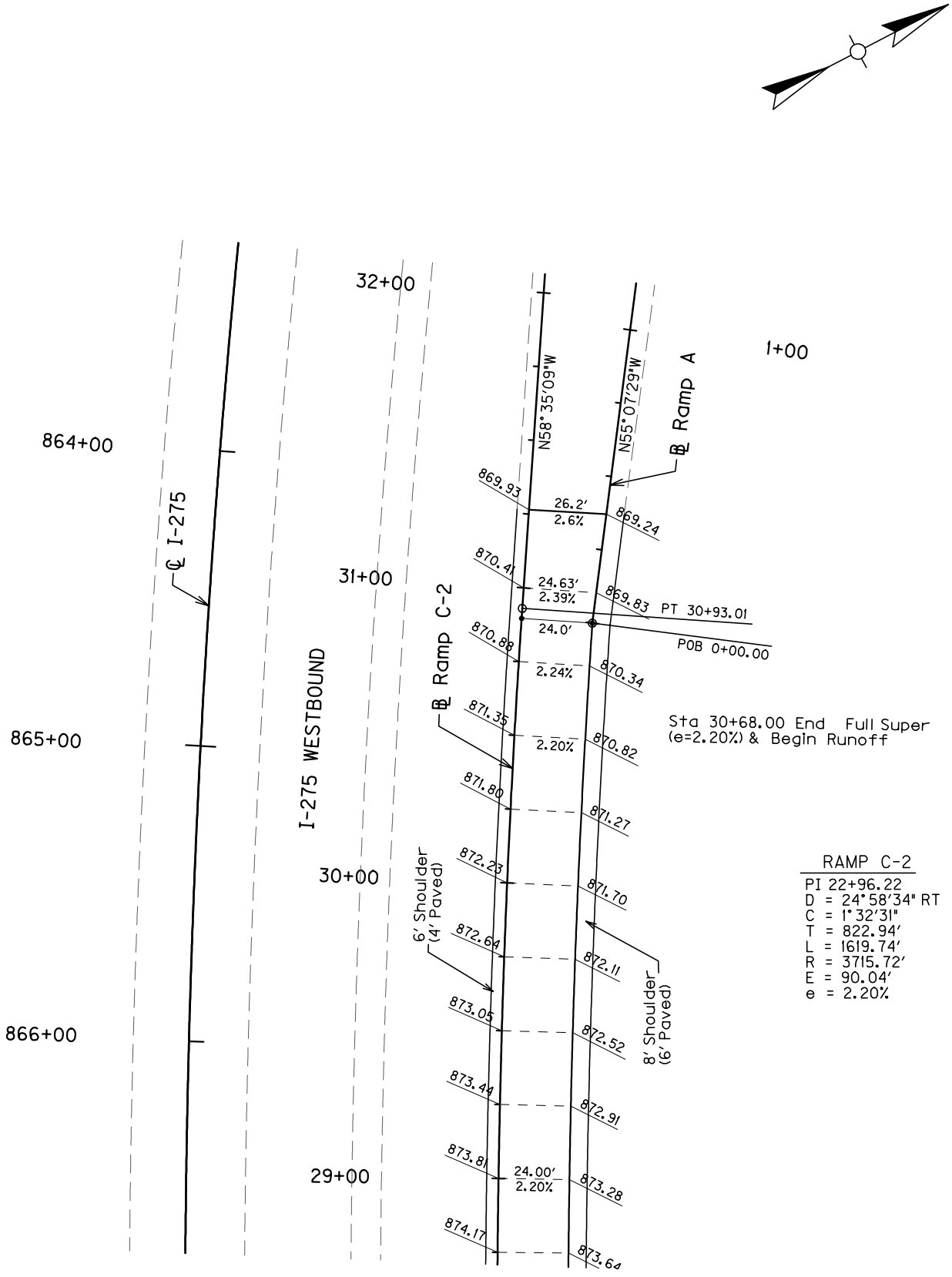
RAMP C-2 (@ US 25)
RAMP E (@ US 25)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 4 of 6- Sta 21+00 to Sta 25+00



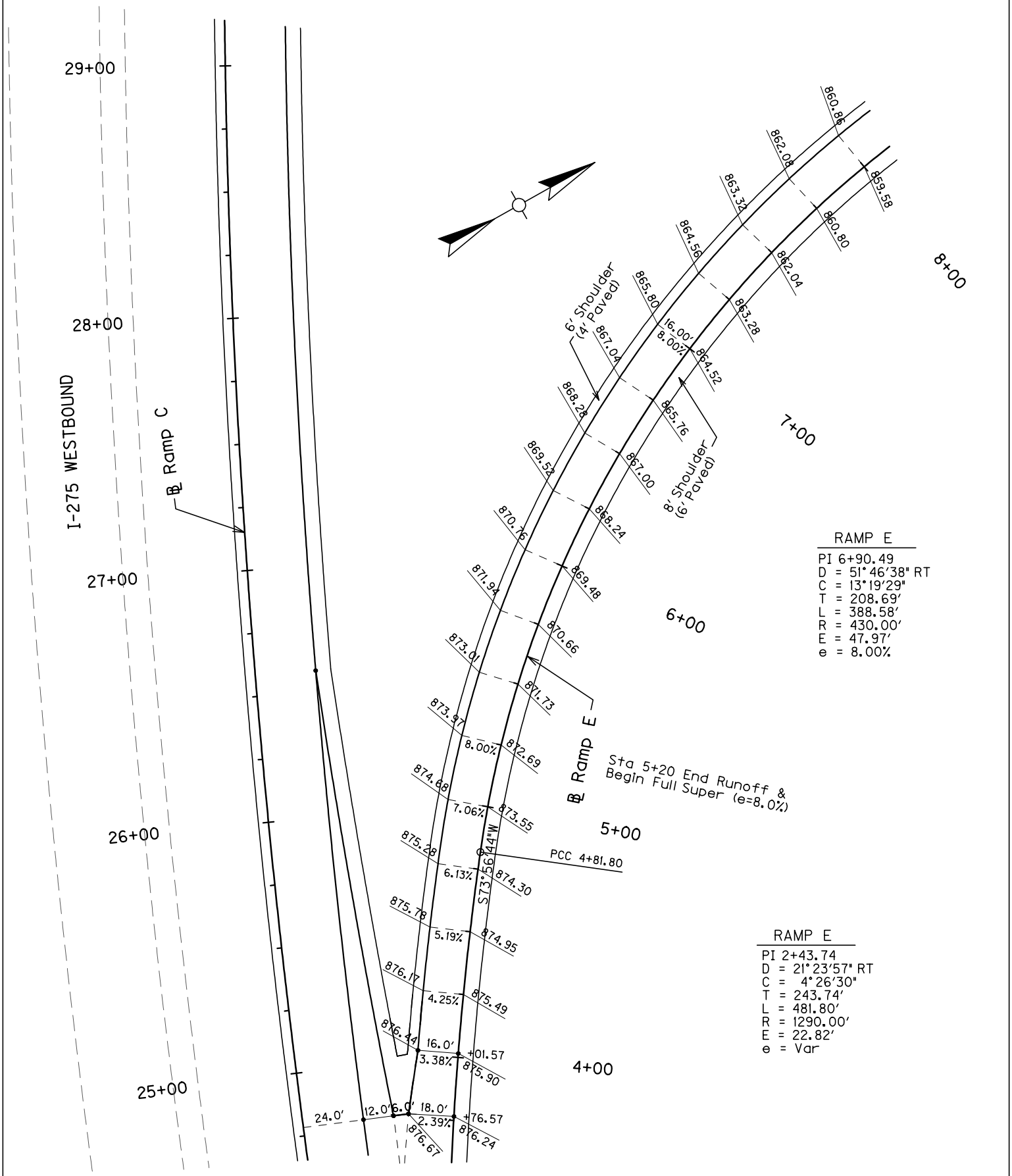
RAMP C-2 (℄ US 25)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 5 of 6- Sta 25+00 to Sta 29+00



RAMP C-2 (@ US 25)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 6 of 6- Sta 29+00 to Sta 32+00

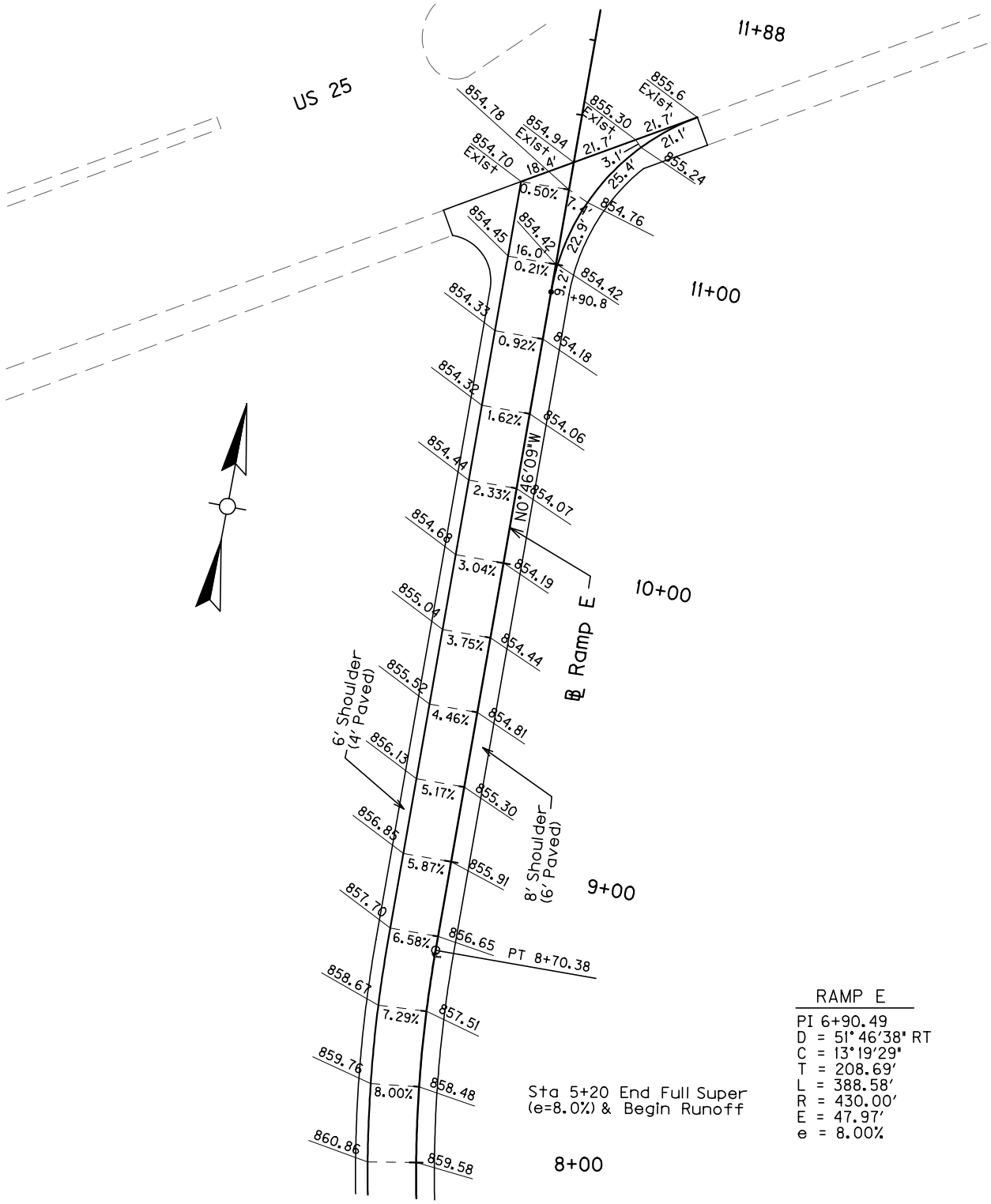


RAMP E
PI 6+90.49
D = 51°46'38" RT
C = 13°19'29"
T = 208.69'
L = 388.58'
R = 430.00'
E = 47.97'
e = 8.00%

RAMP E
PI 2+43.74
D = 21°23'57" RT
C = 4°26'30"
T = 243.74'
L = 481.80'
R = 1290.00'
E = 22.82'
e = Var

RAMP E (℄ US 25)

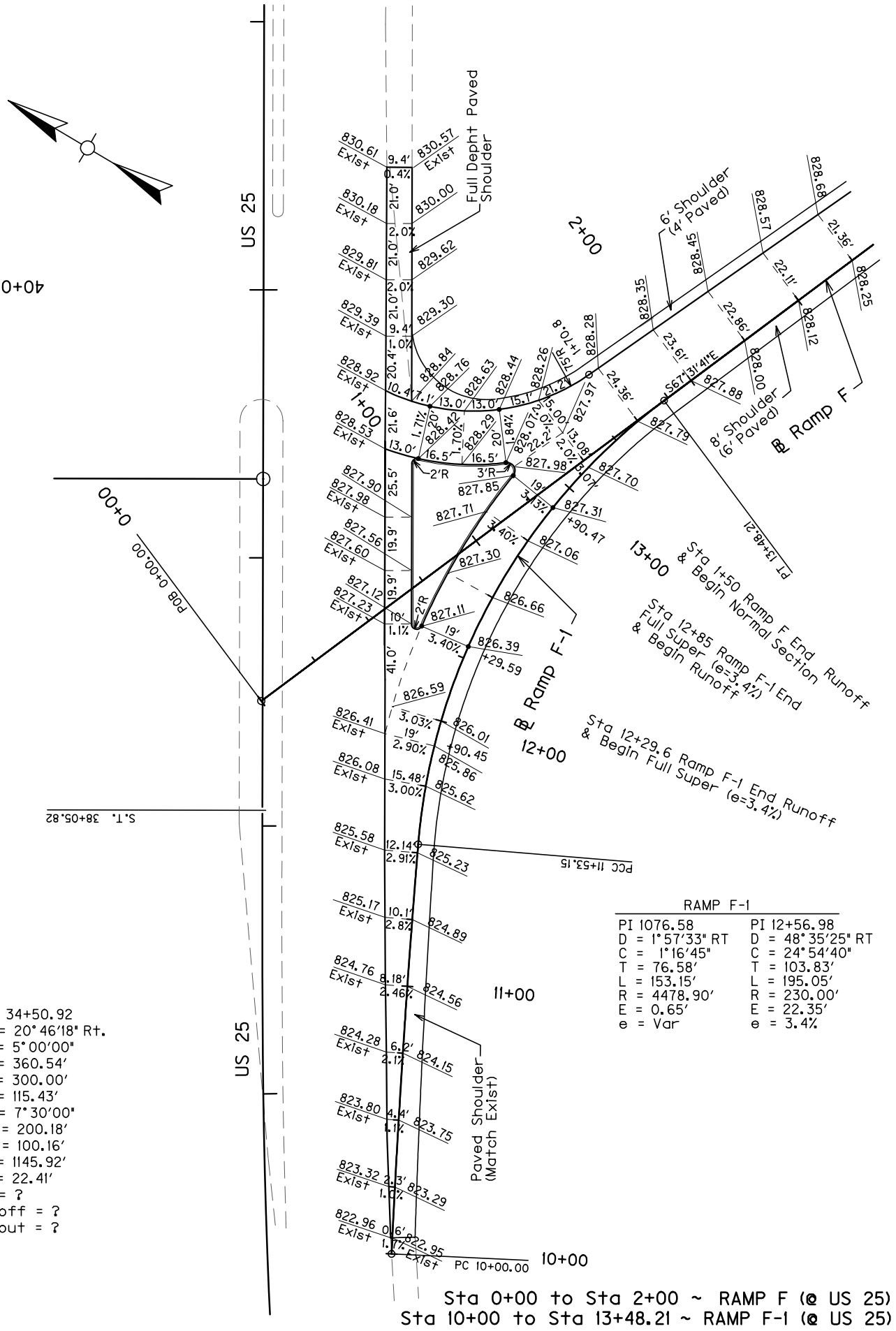
Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 2 - Sta 4+00 to Sta 8+00



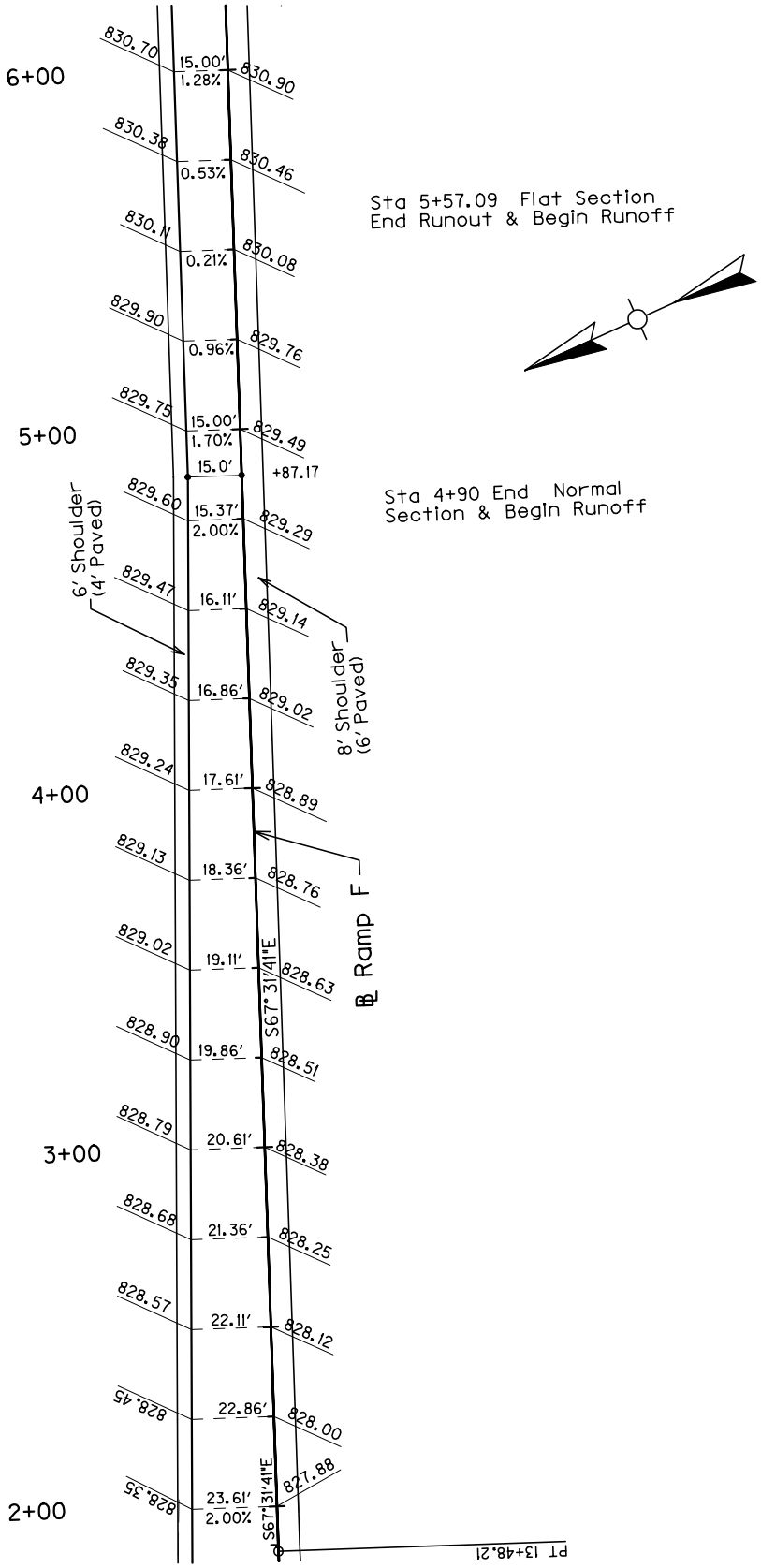
RAMP E
PI 6+90.49
D = 51°46'38" RT
C = 13°19'29"
T = 208.69'
L = 388.58'
R = 430.00'
E = 47.97'
e = 8.00%

RAMP E (℄ US 25)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 2 of 2 - Sta 8+00 to Sta 11+00

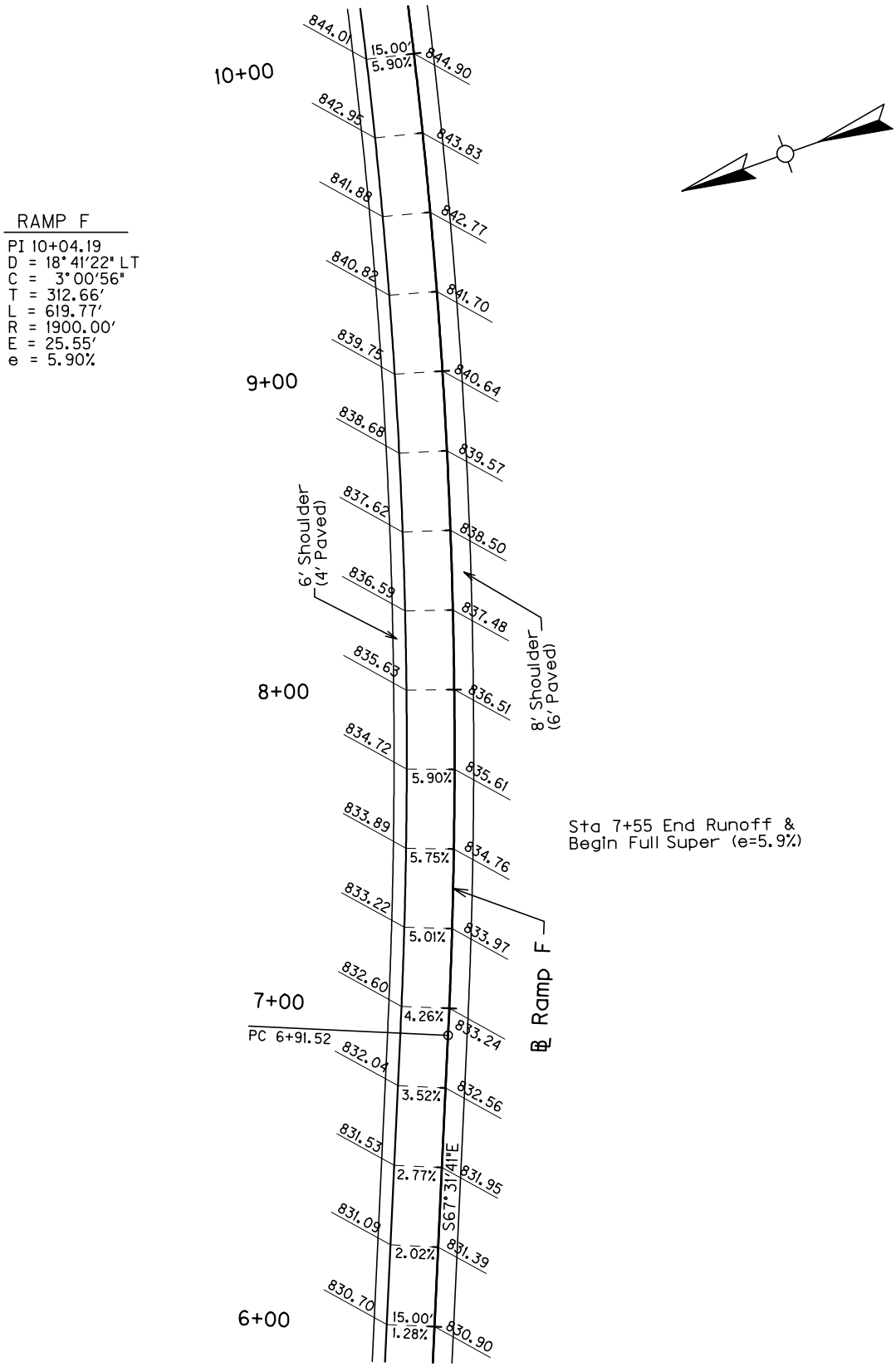


Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 6



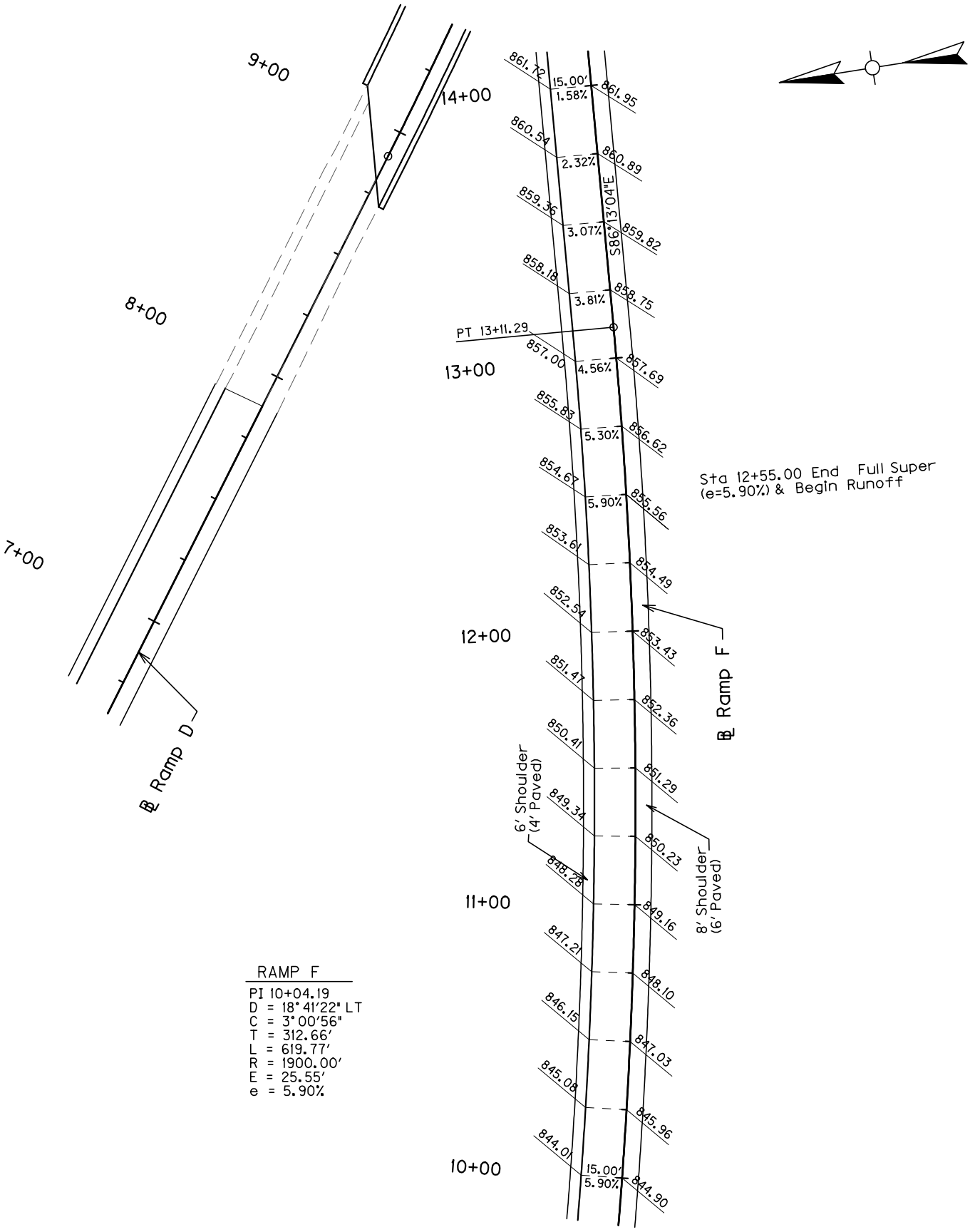
RAMP F (@ US 25)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 2 of 6 - Sta 2+00 to Sta 6+00



RAMP F (@ US 25)

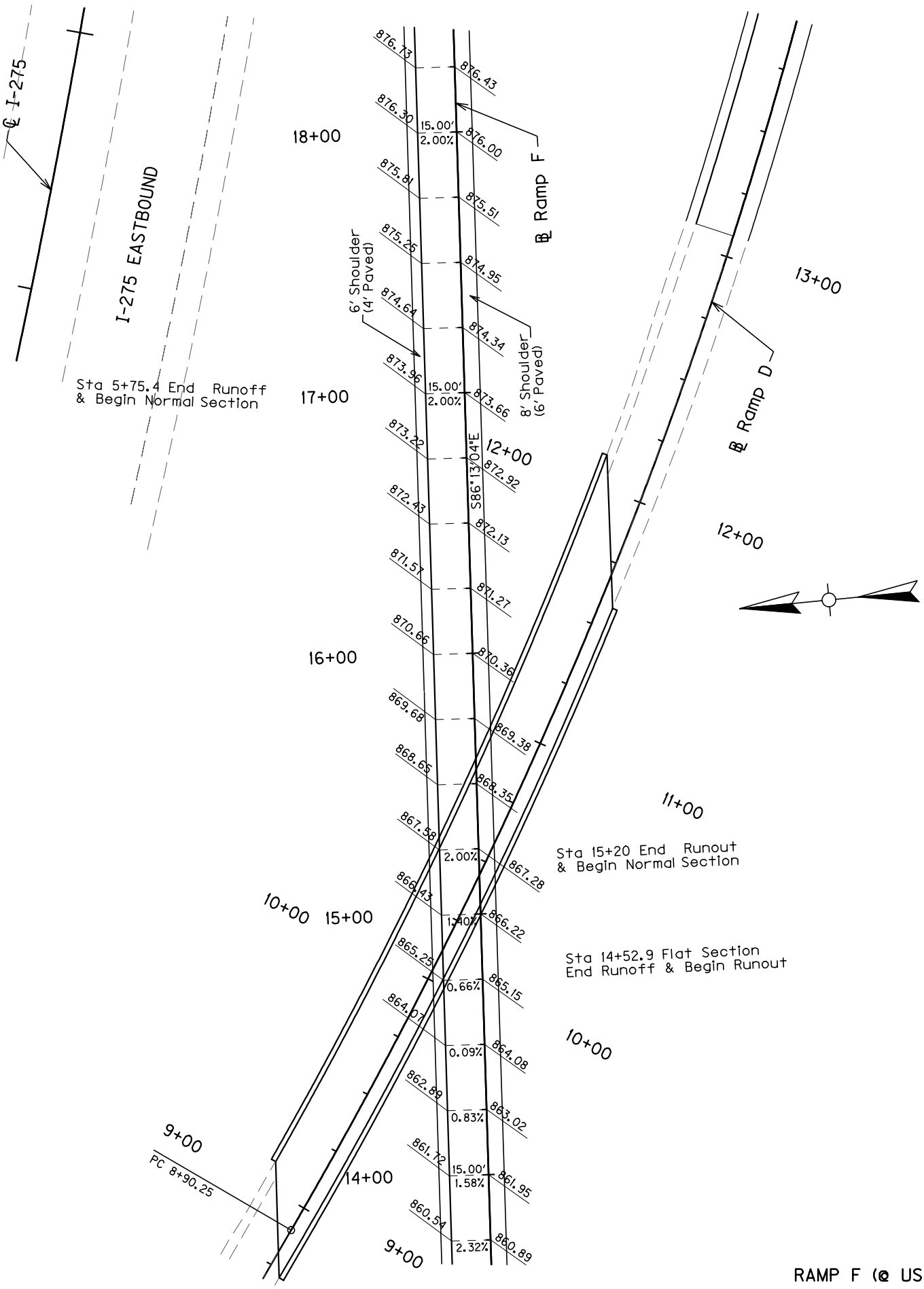
Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 3 of 6 - Sta 6+00 to Sta 10+00



RAMP F
PI 10+04.19
D = 18° 41' 22" LT
C = 3° 00' 56"
T = 312.66'
L = 619.77'
R = 1900.00'
E = 25.55'
e = 5.90%

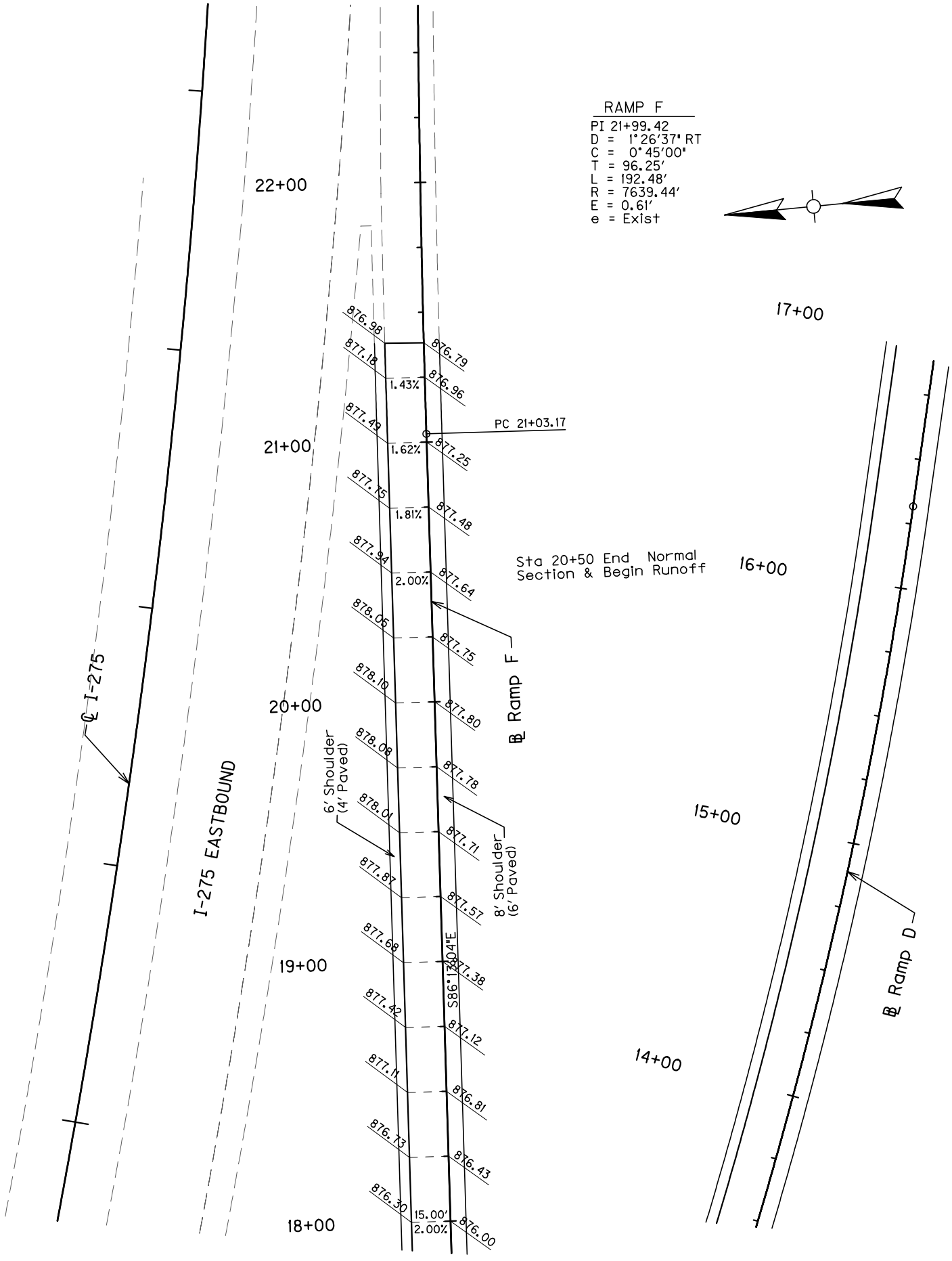
RAMP F (℄ US 25)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 4 of 6 - Sta 10+00 to Sta 14+00



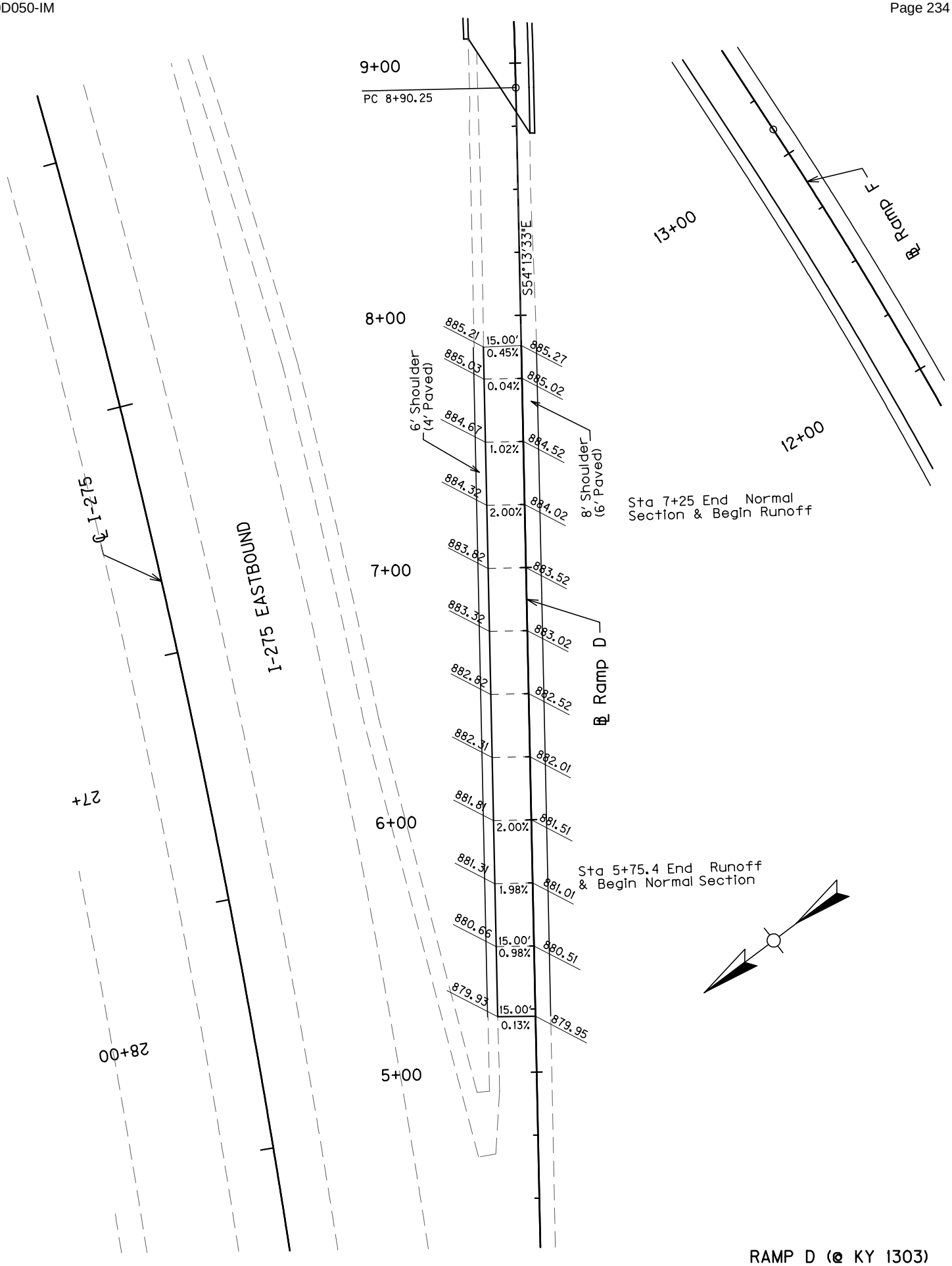
RAMP F (@ US 25)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 5 of 6 - Sta 14+00 to Sta 18+00

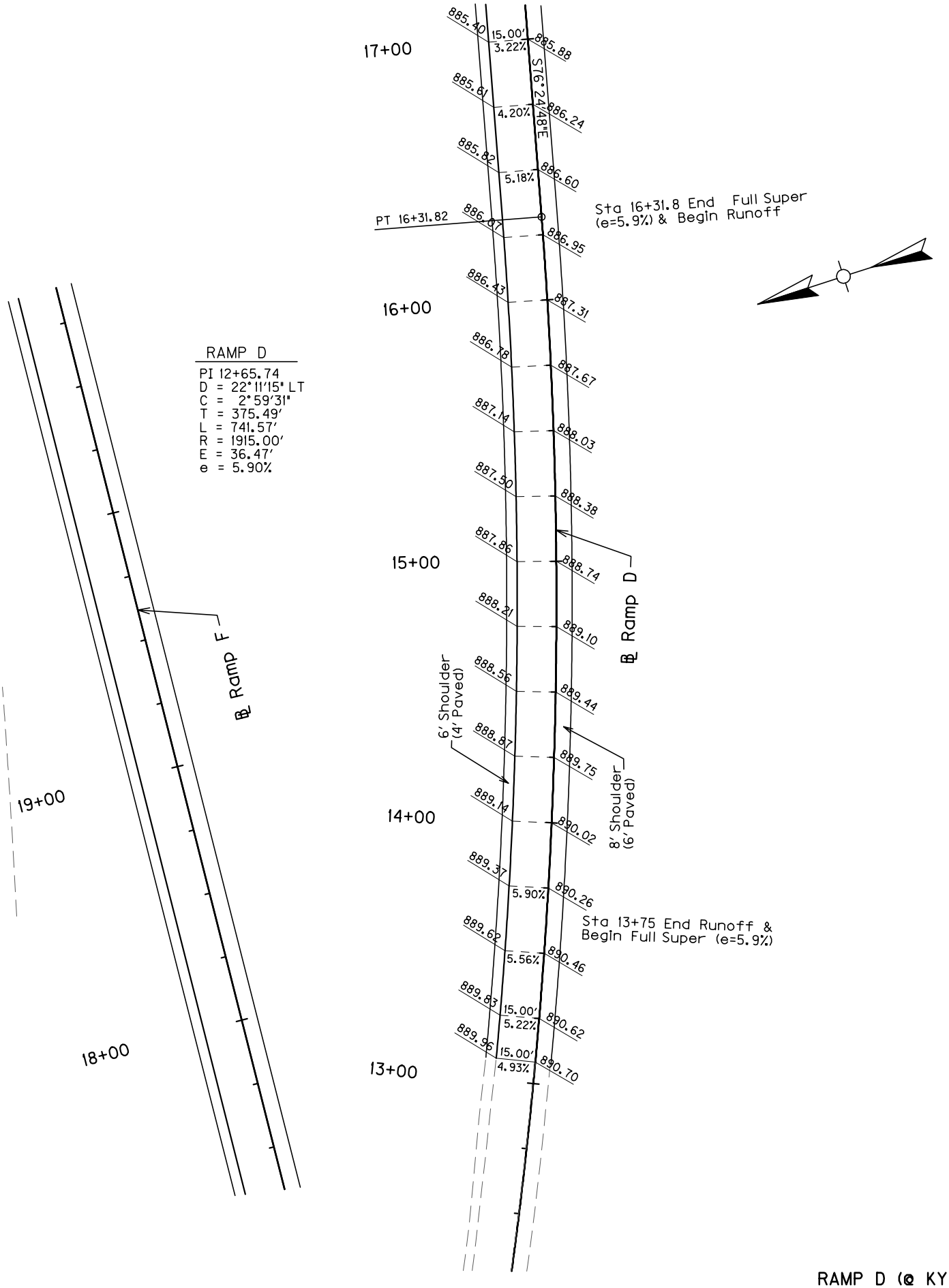


RAMP F (@ US 25)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 6 of 6 - Sta 18+00 to Sta 22+00

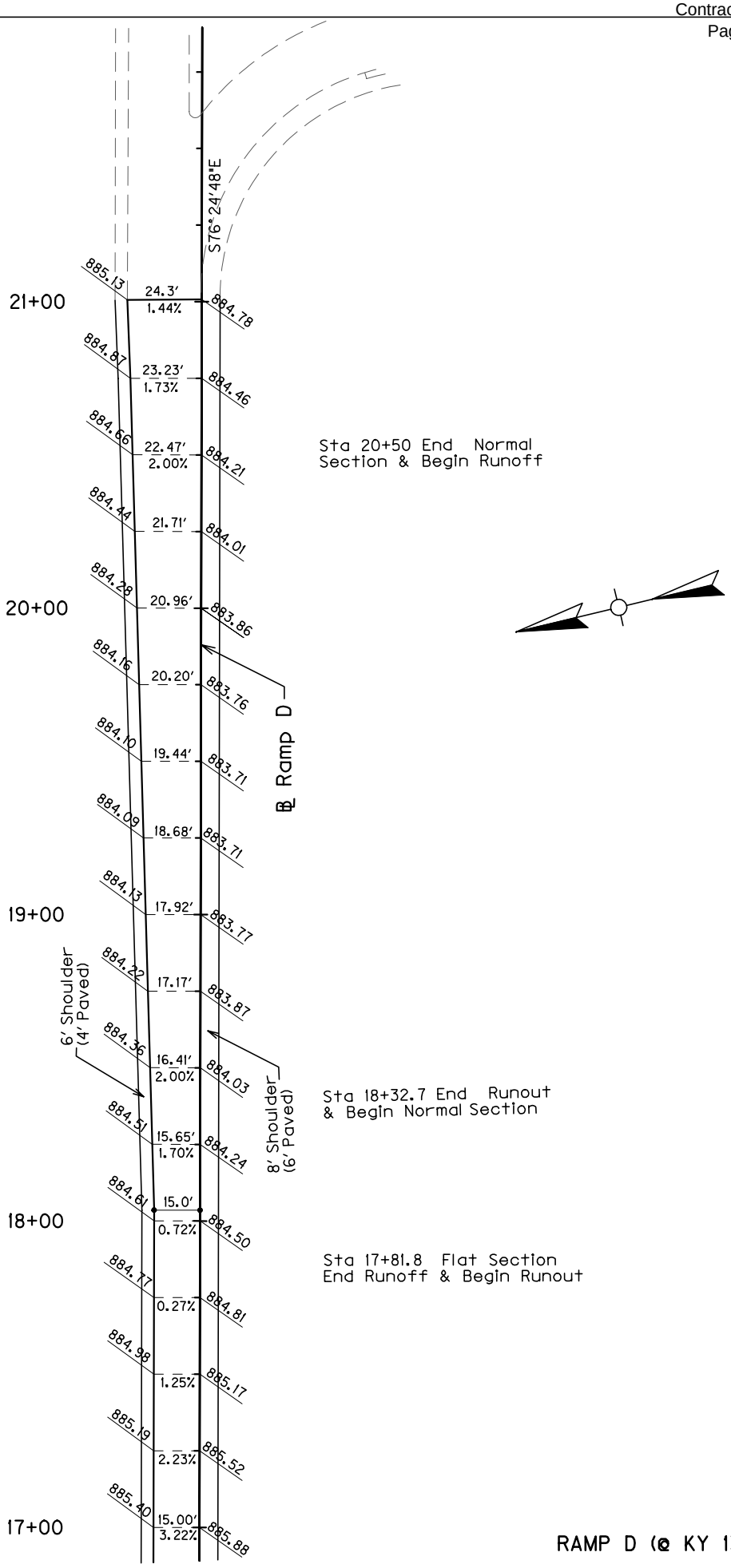


Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 3 - Sta 5+00 to Sta 9+00

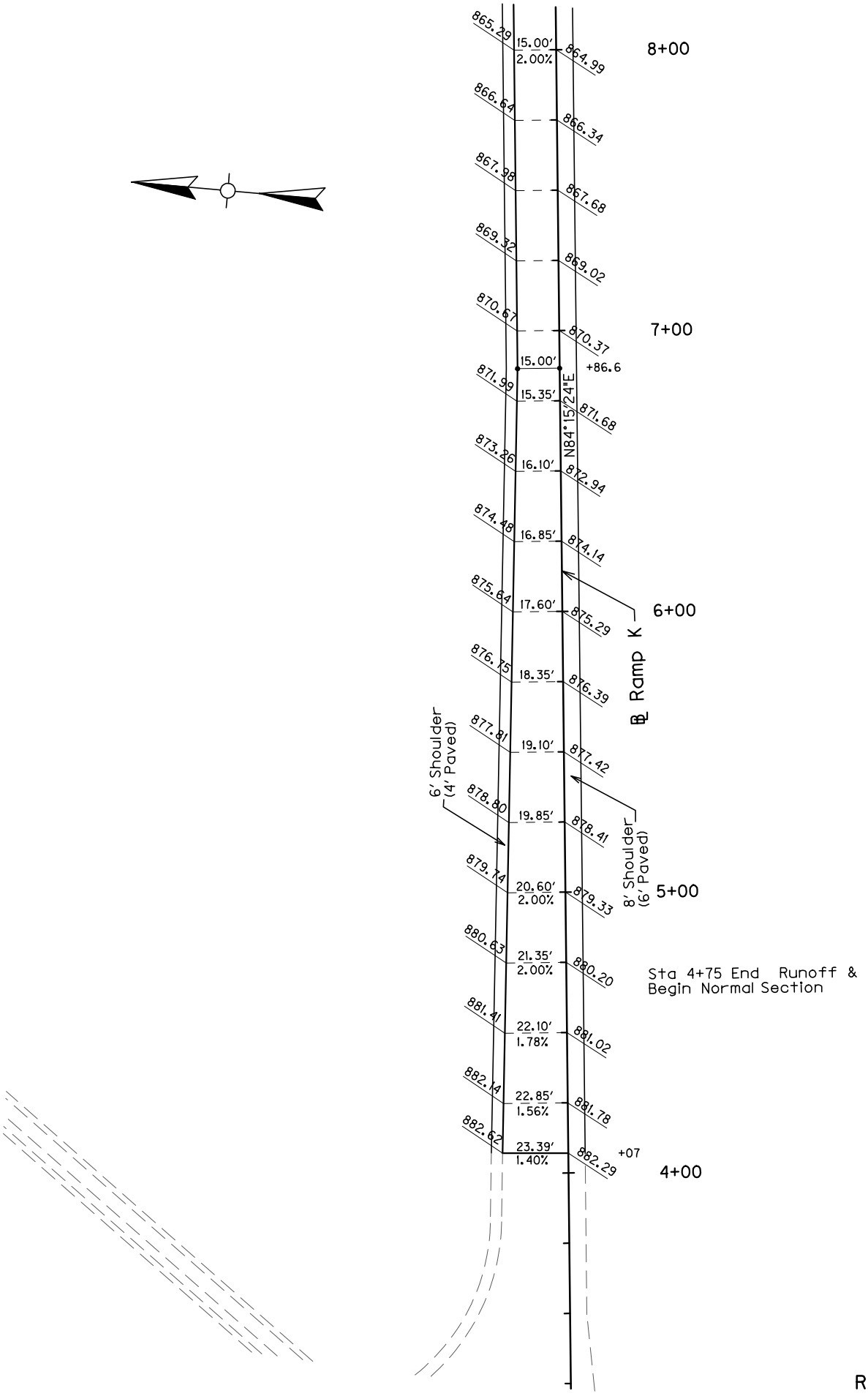


RAMP D (@ KY 1303)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 2 of 3 - Sta 13+00 to Sta 17+00

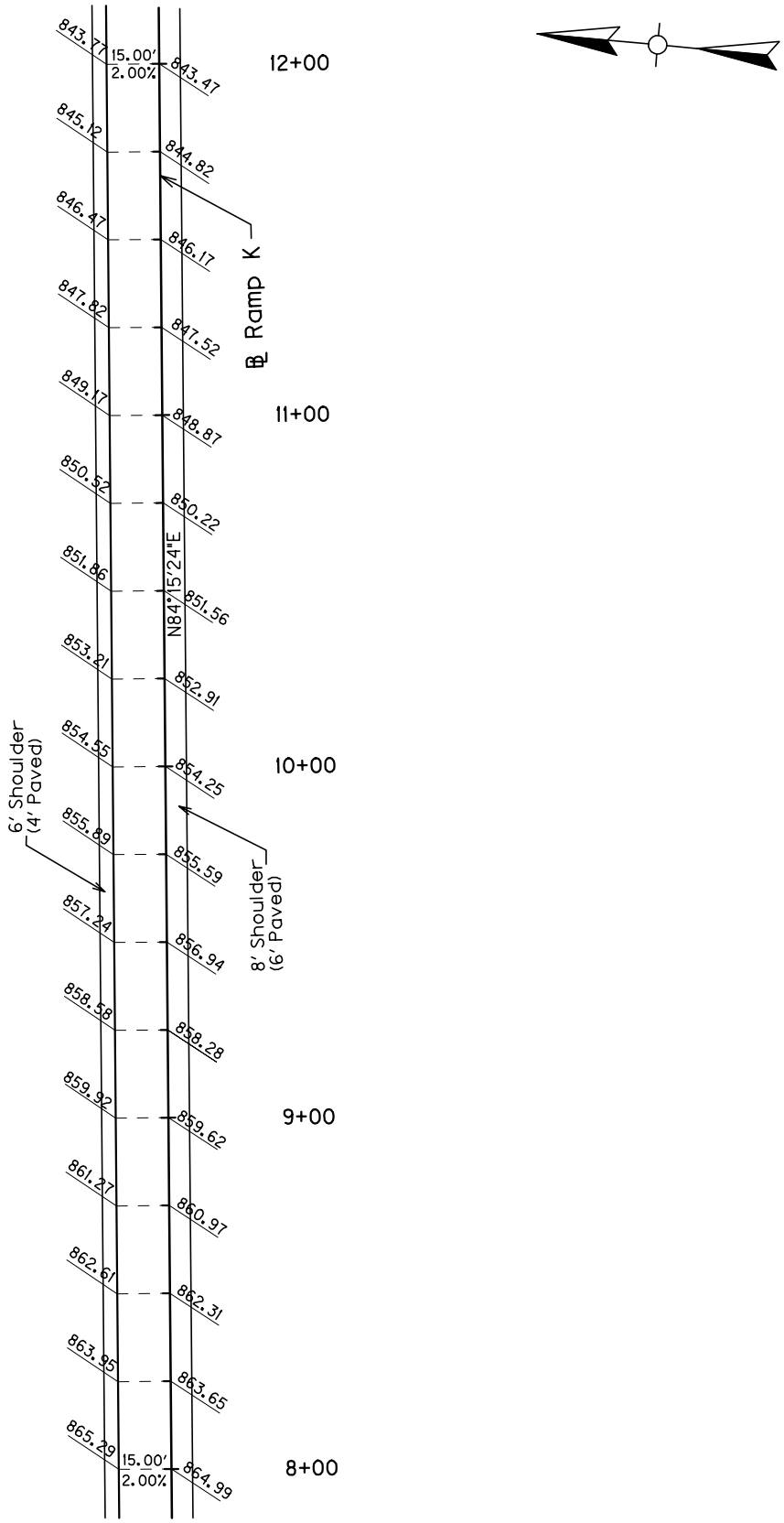


Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 3 of 3 - Sta 17+00 to Sta 21+00



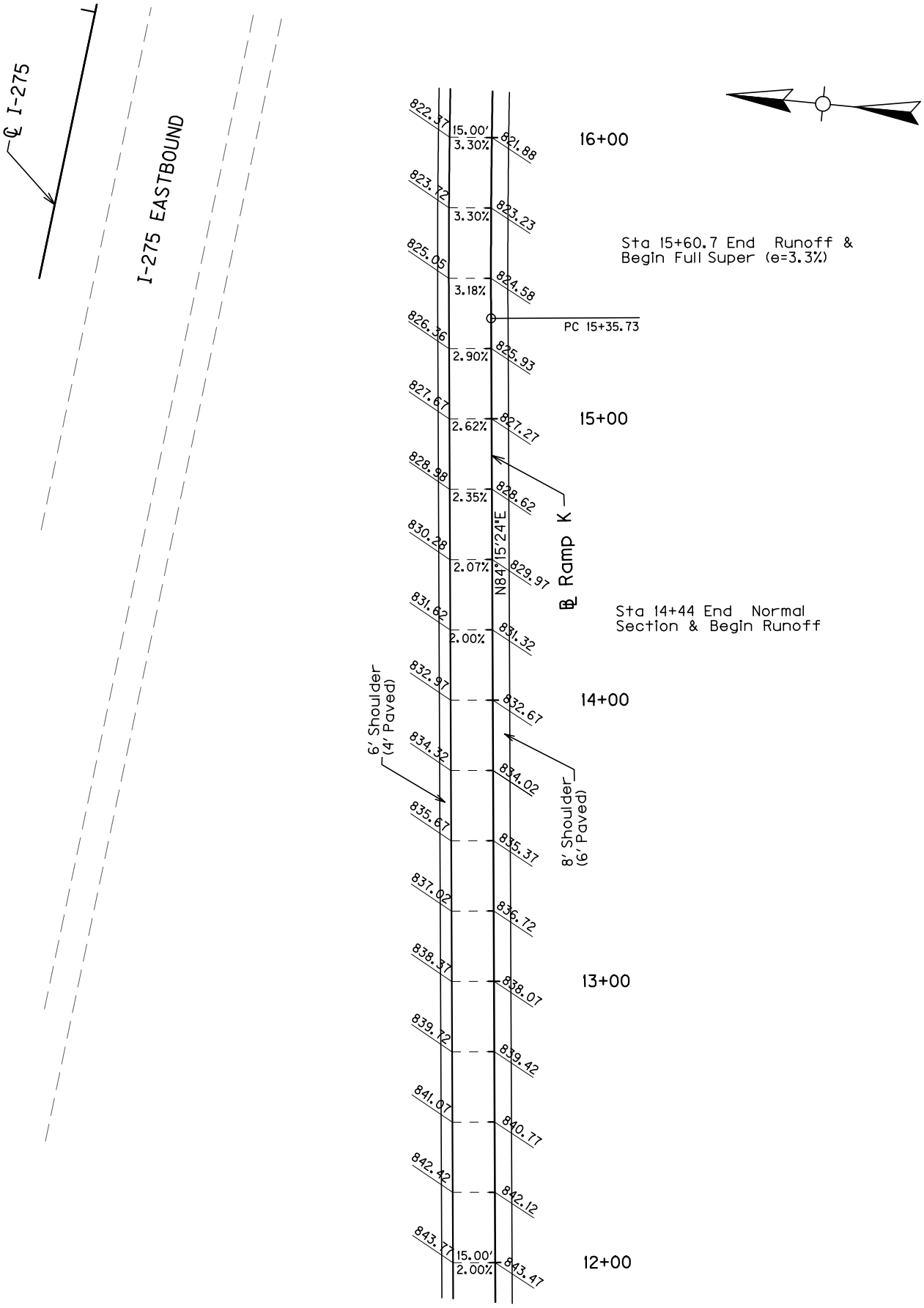
RAMP K (@ KY 1303)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 4 - Sta 4+00 to Sta 8+00



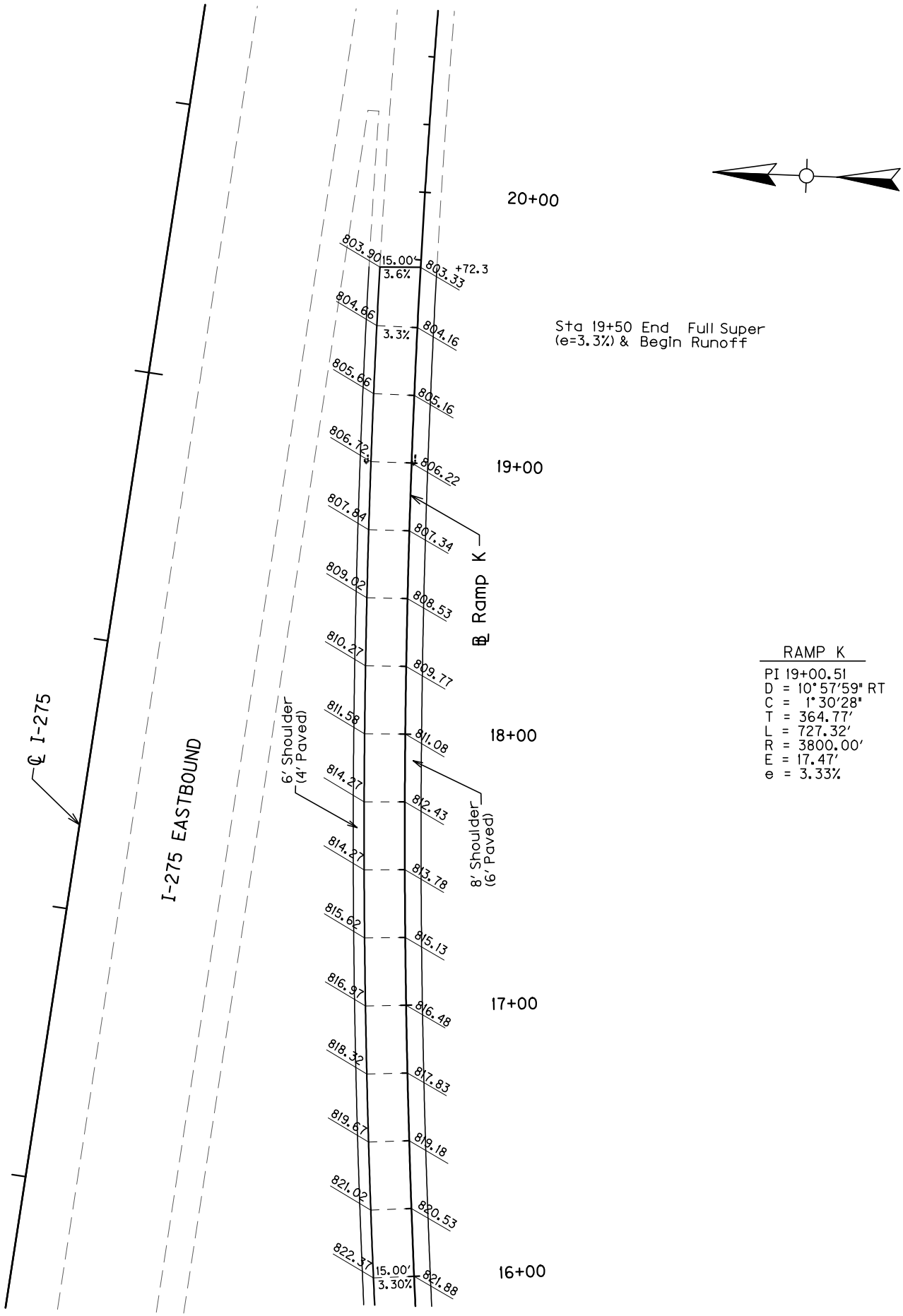
RAMP K (@ KY 1303)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 2 of 4 - Sta 8+00 to Sta 12+00

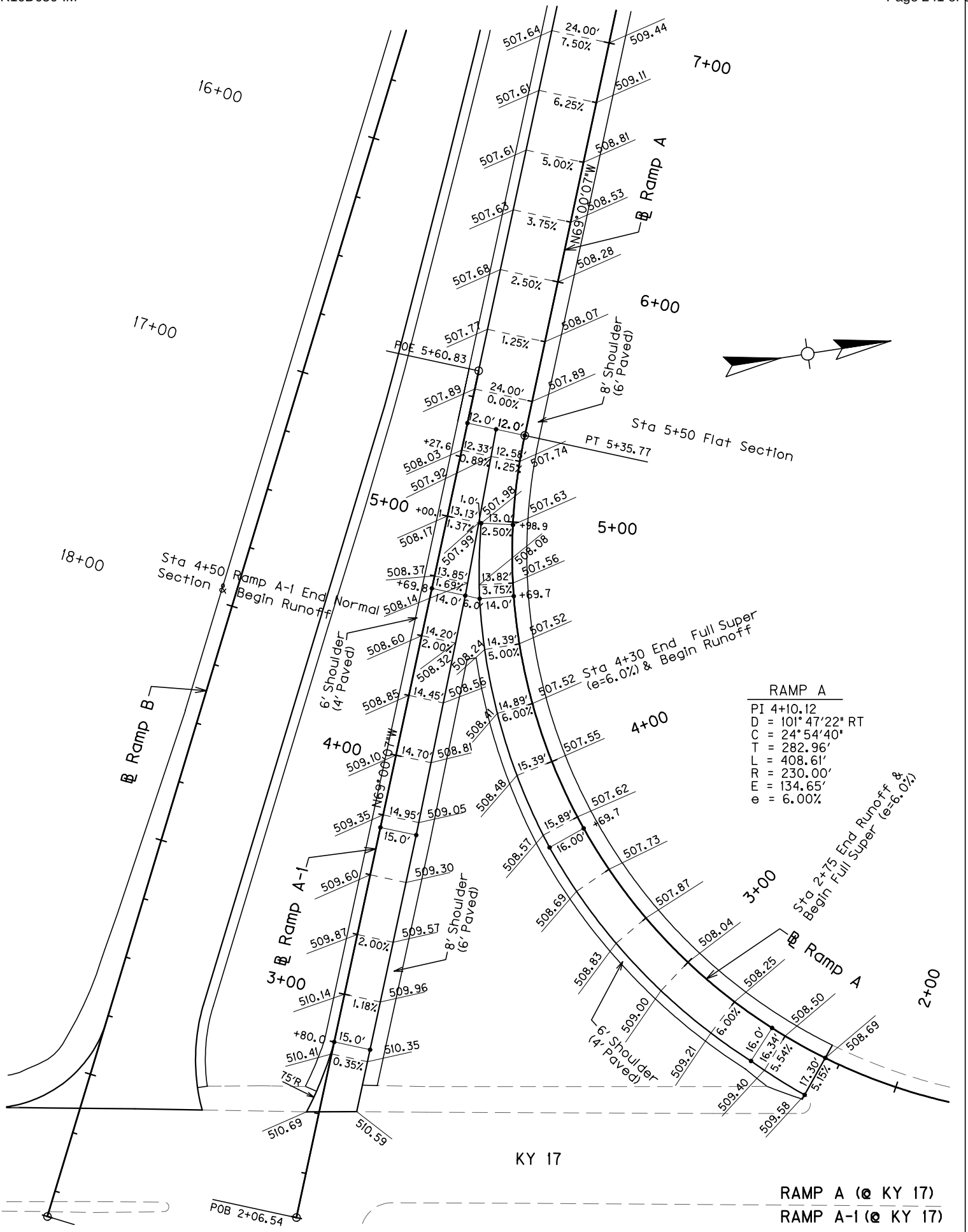


RAMP K (@ KY 1303)

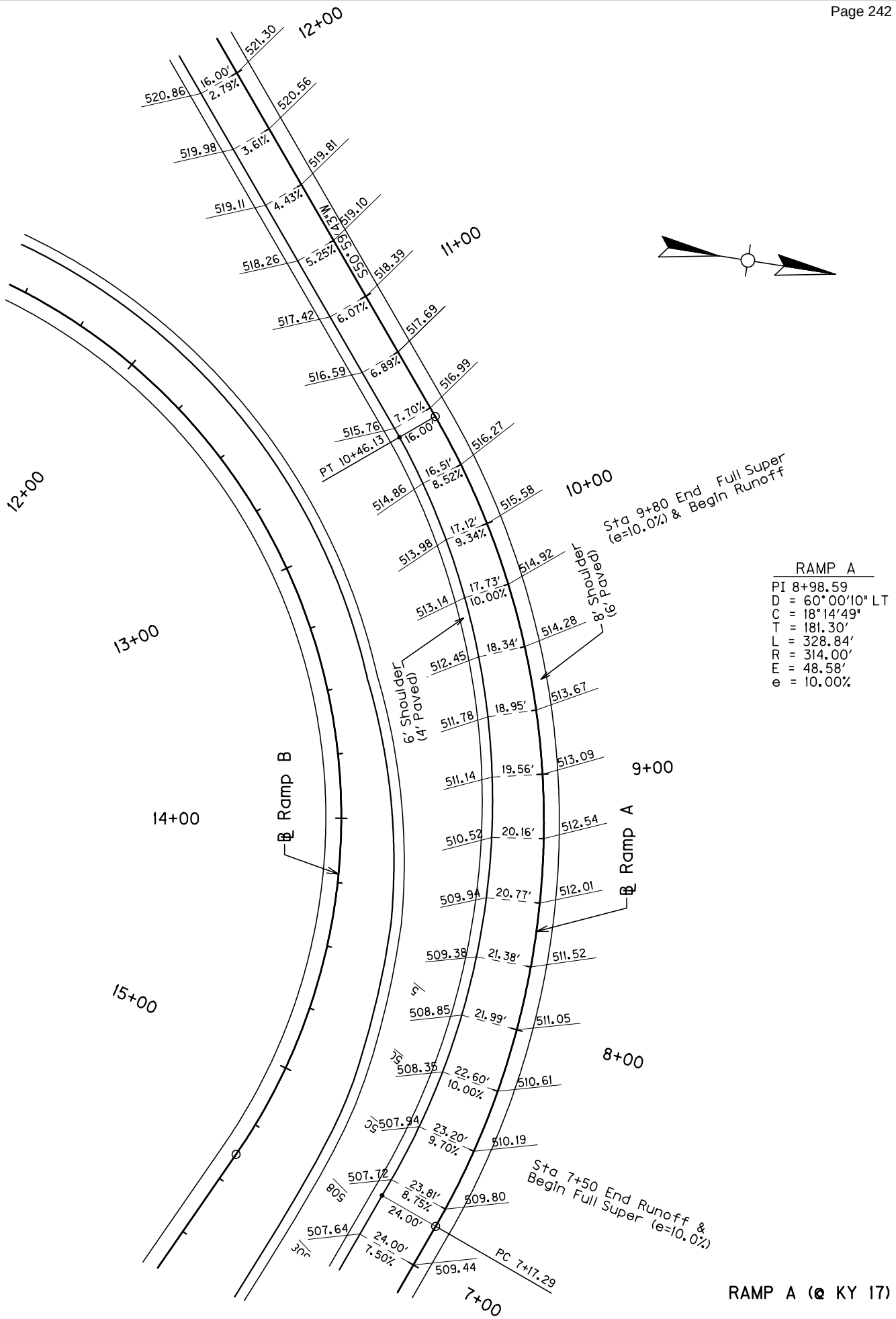
Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 3 of 4 - Sta 12+00 to Sta 16+00



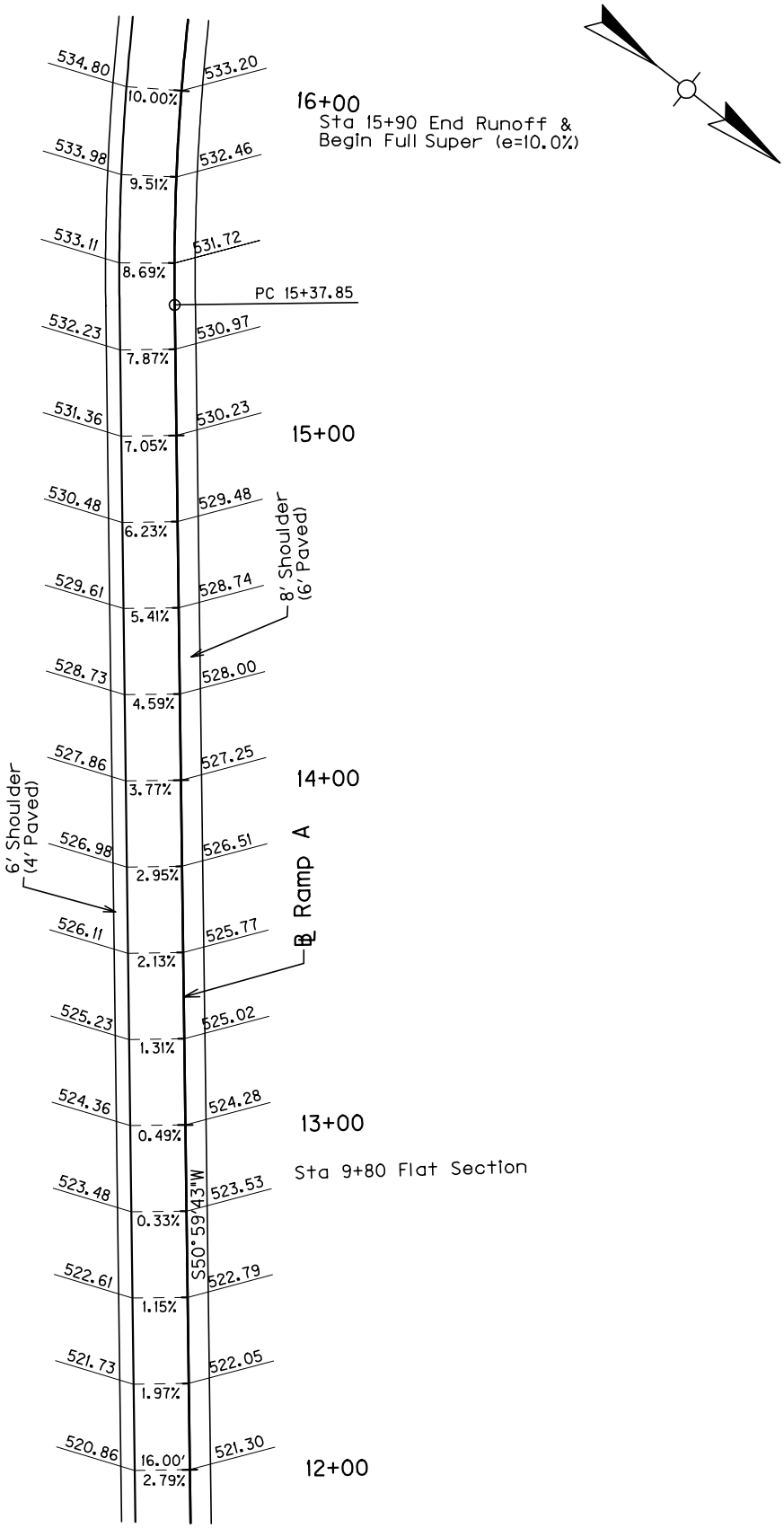
Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 4 of 4 - Sta 16+00 to Sta 20+00



Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 4 - Sta 2+00 to Sta 7+00

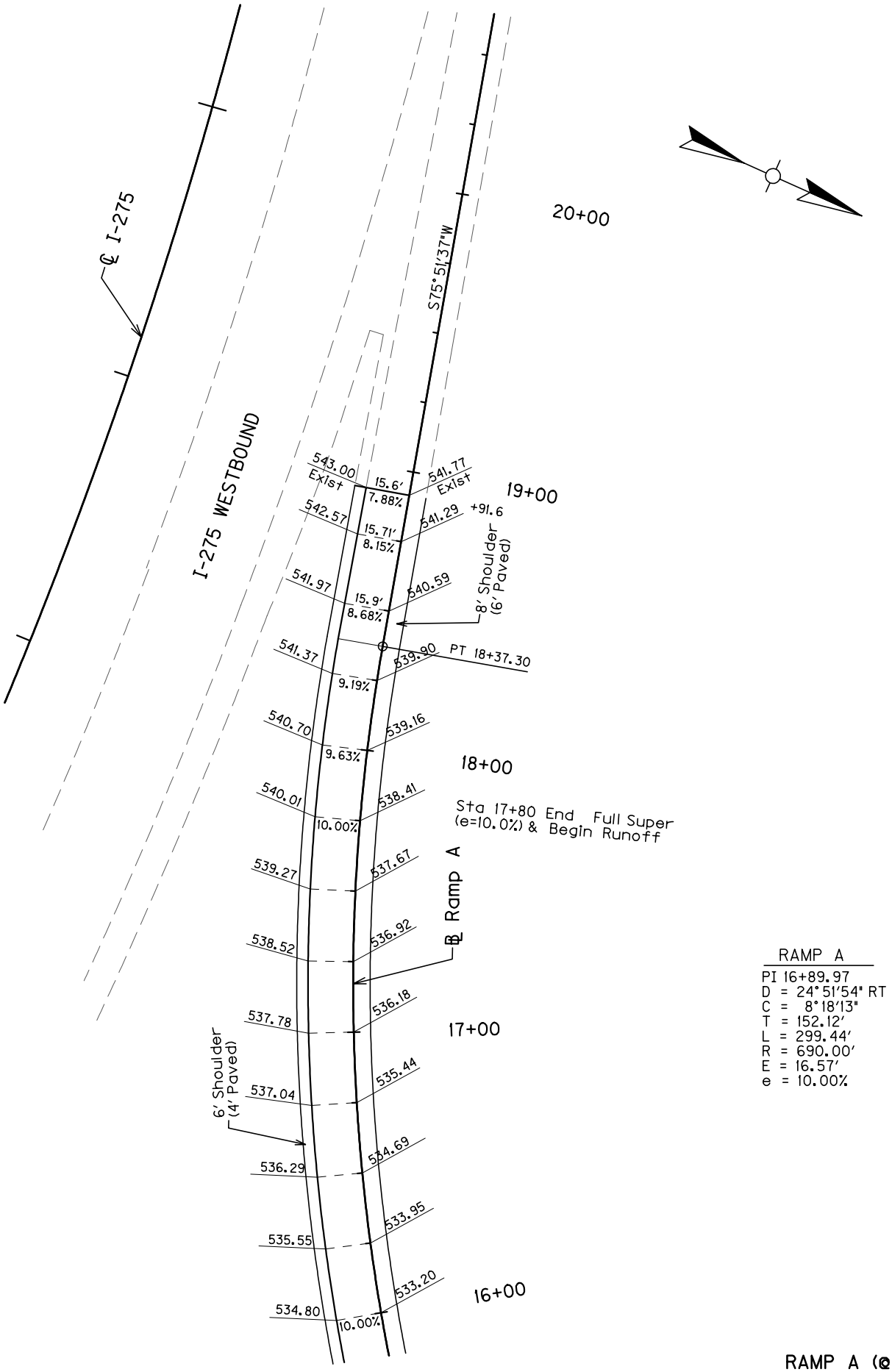


Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 2 of 4 - Sta 7+00 to Sta 12+00



RAMP A (@ KY 17)

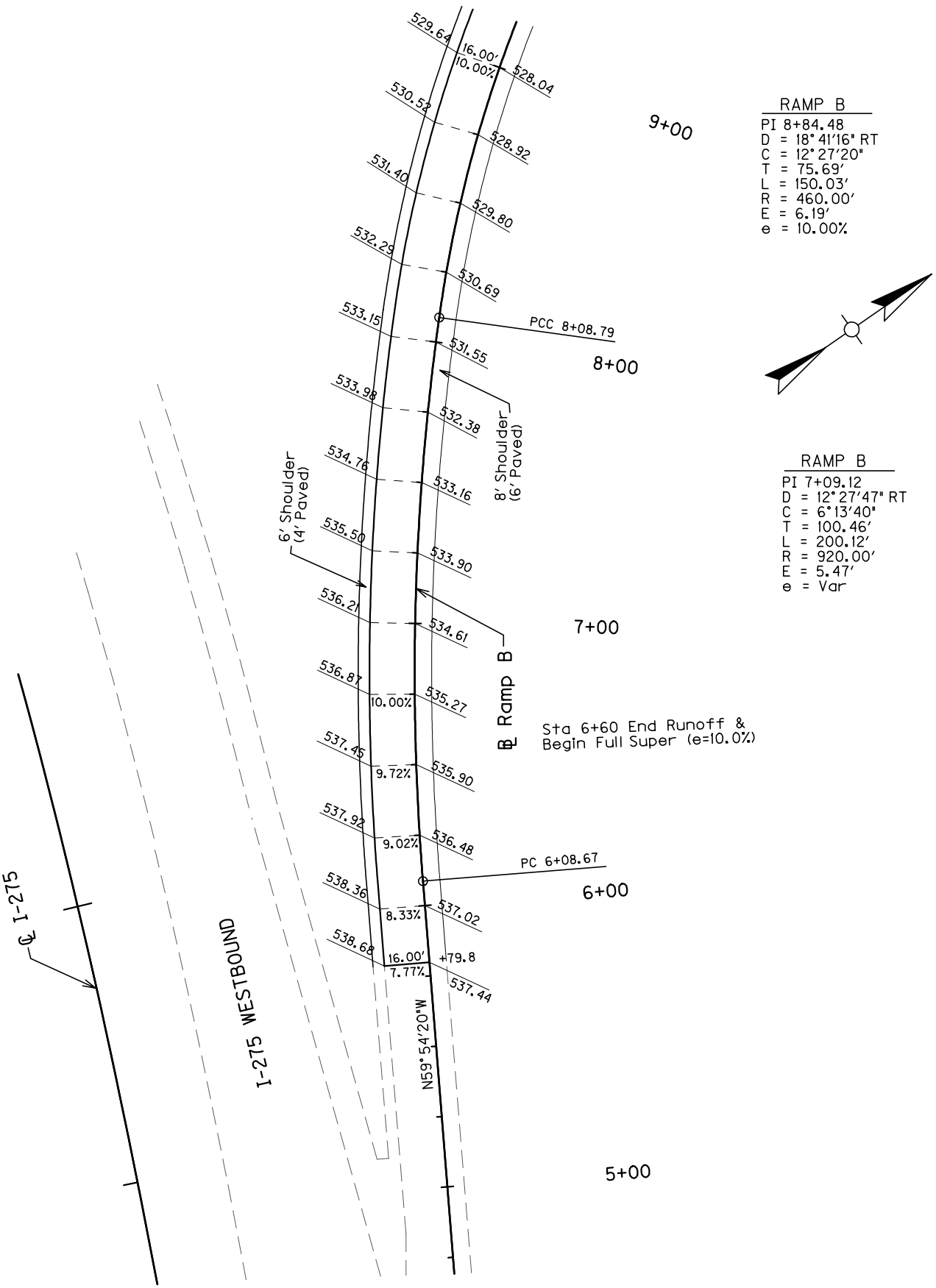
Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 3 of 4 - Sta 12+00 to Sta 16+00



RAMP A
PI 16+89.97
D = 24° 51'54" RT
C = 8° 18'13"
T = 152.12'
L = 299.44'
R = 690.00'
E = 16.57'
e = 10.00%

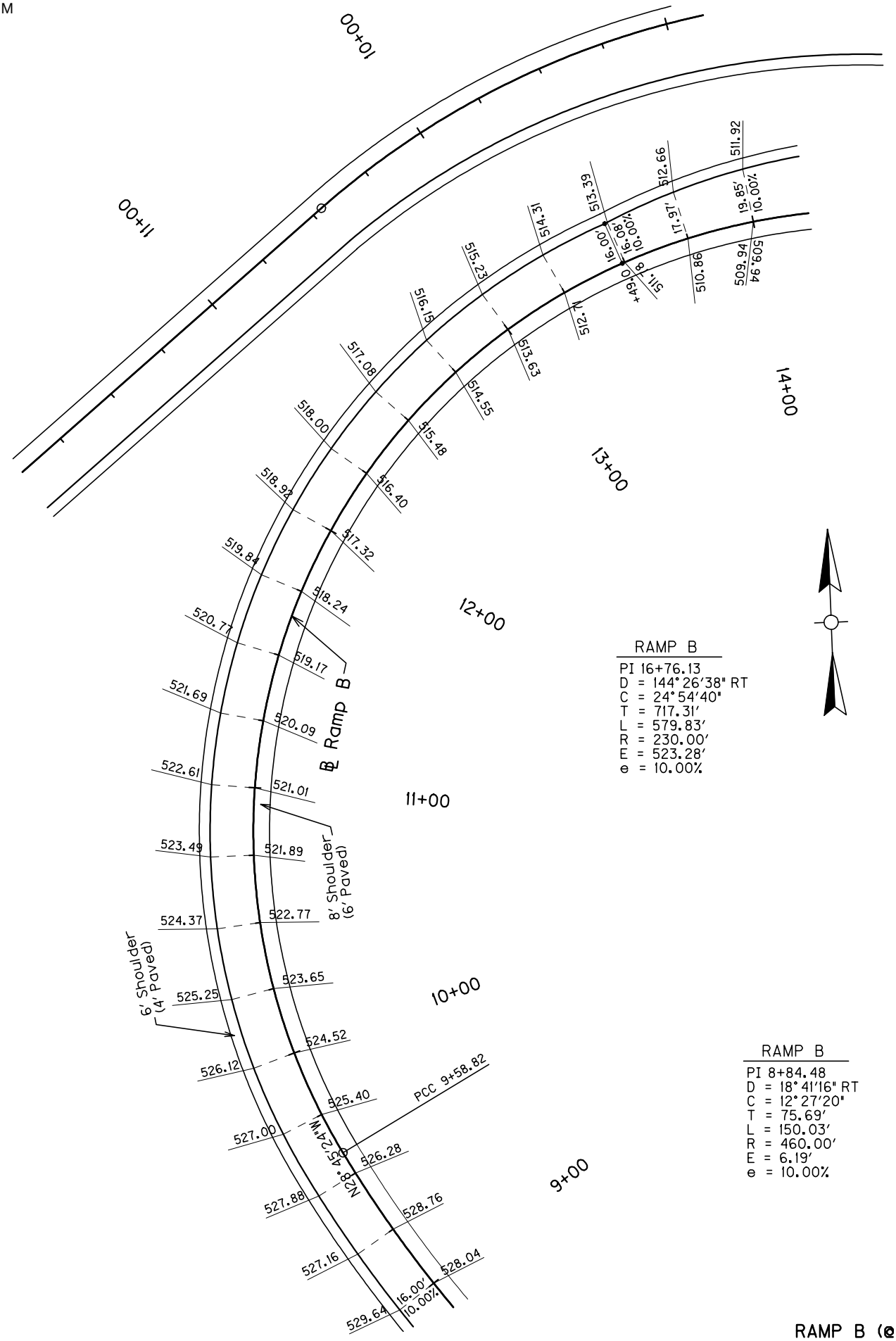
RAMP A (@ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 4 of 4 - Sta 16+00 to Sta 20+00



RAMP B (@ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 4 - Sta 5+00 to Sta 9+00

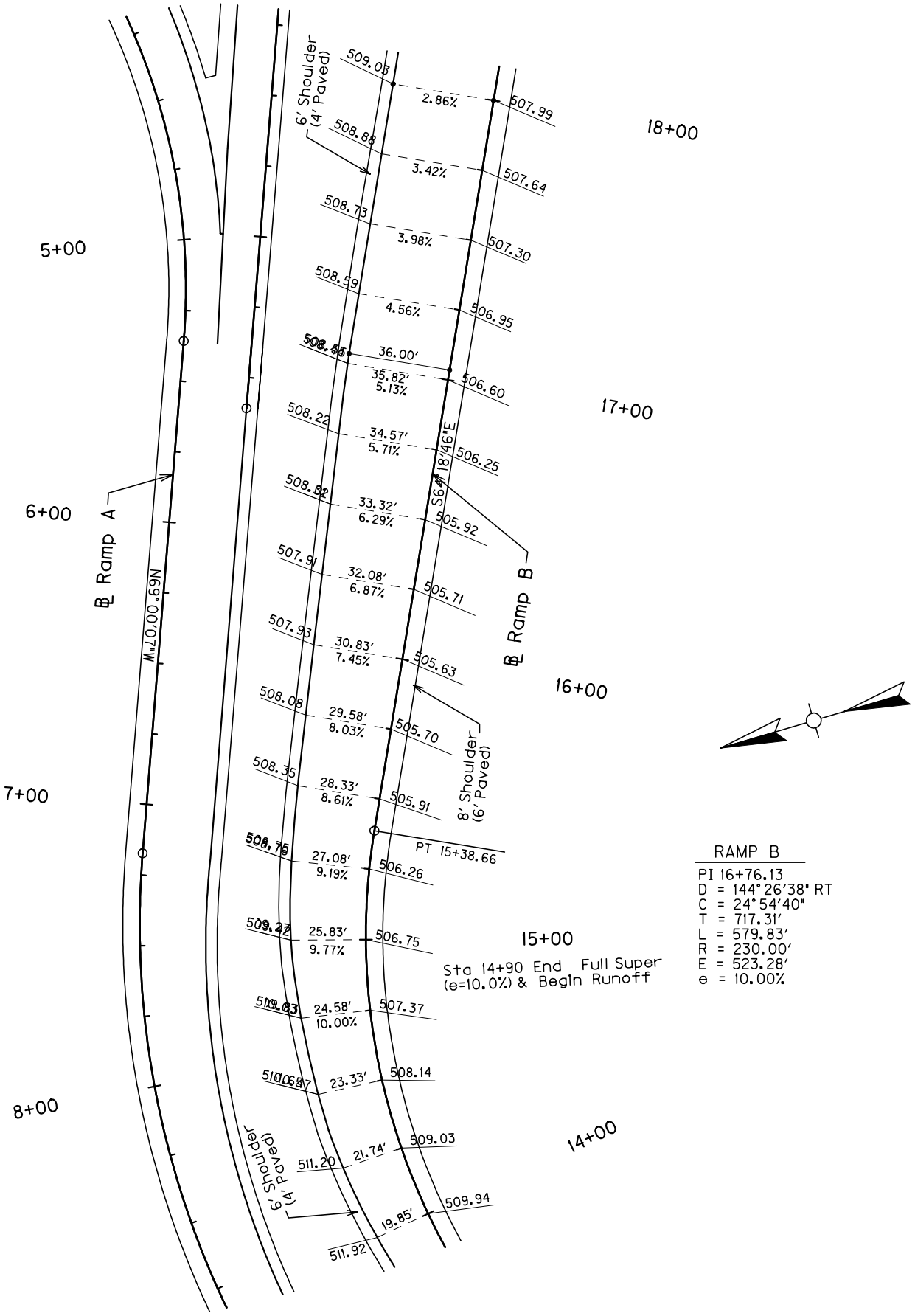


RAMP B
PI 16+76.13
D = 144°26'38" RT
C = 24°54'40"
T = 717.31'
L = 579.83'
R = 230.00'
E = 523.28'
e = 10.00%

RAMP B
PI 8+84.48
D = 18°41'16" RT
C = 12°27'20"
T = 75.69'
L = 150.03'
R = 460.00'
E = 6.19'
e = 10.00%

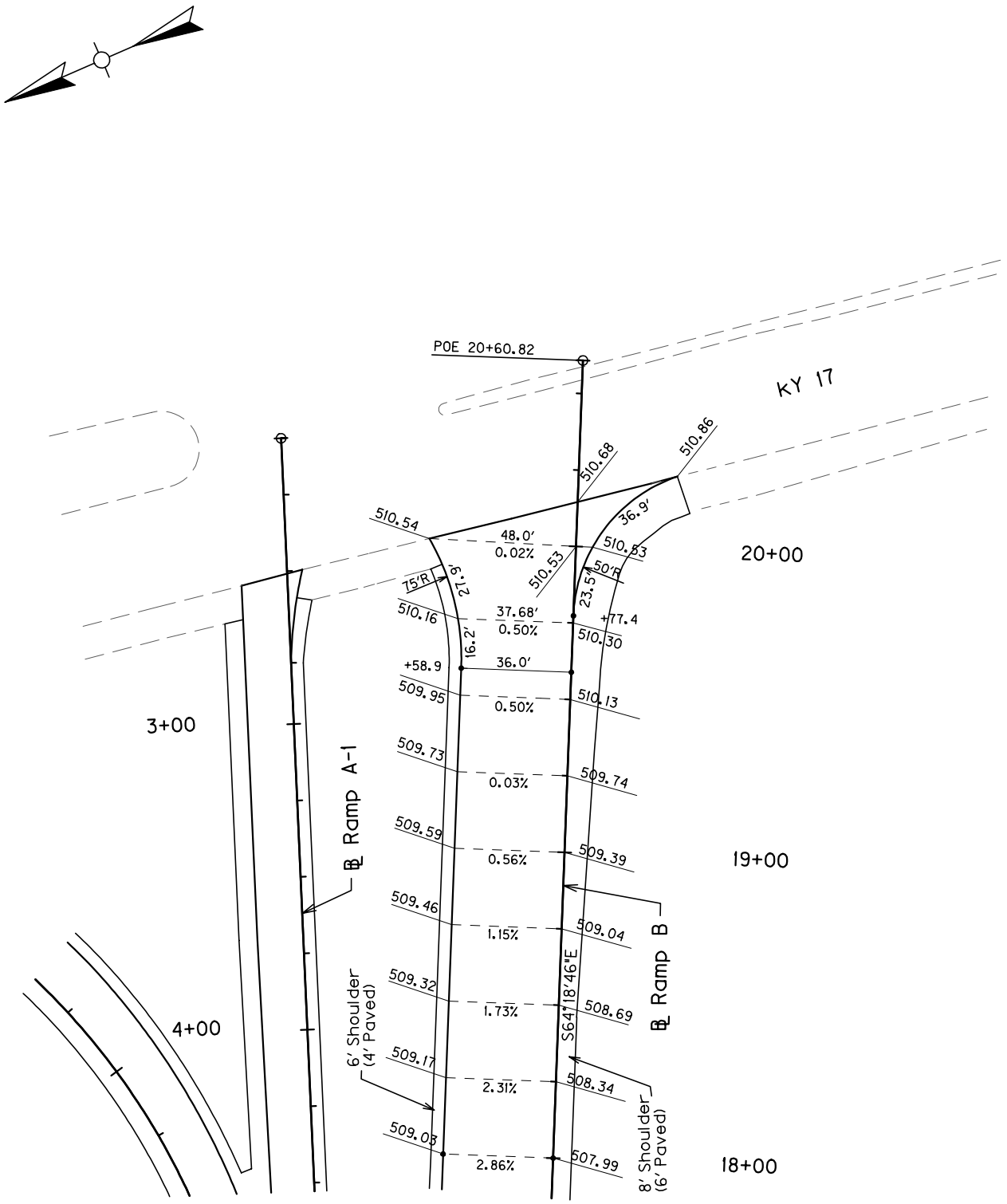
RAMP B (@ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 2 of 4 - Sta 9+00 to Sta 14+00



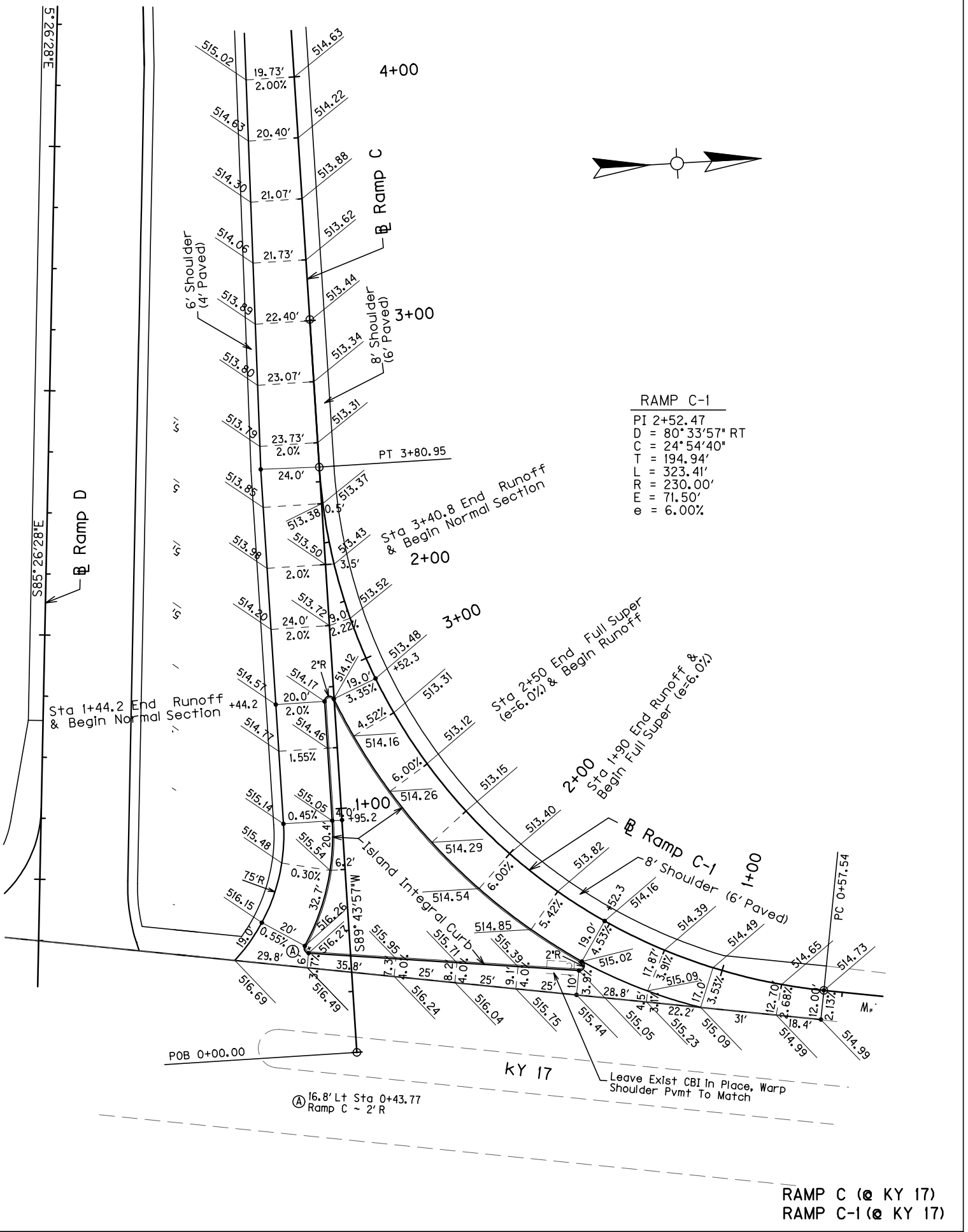
RAMP B (℄ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 3 of 4 - Sta 14+00 to Sta 18+00

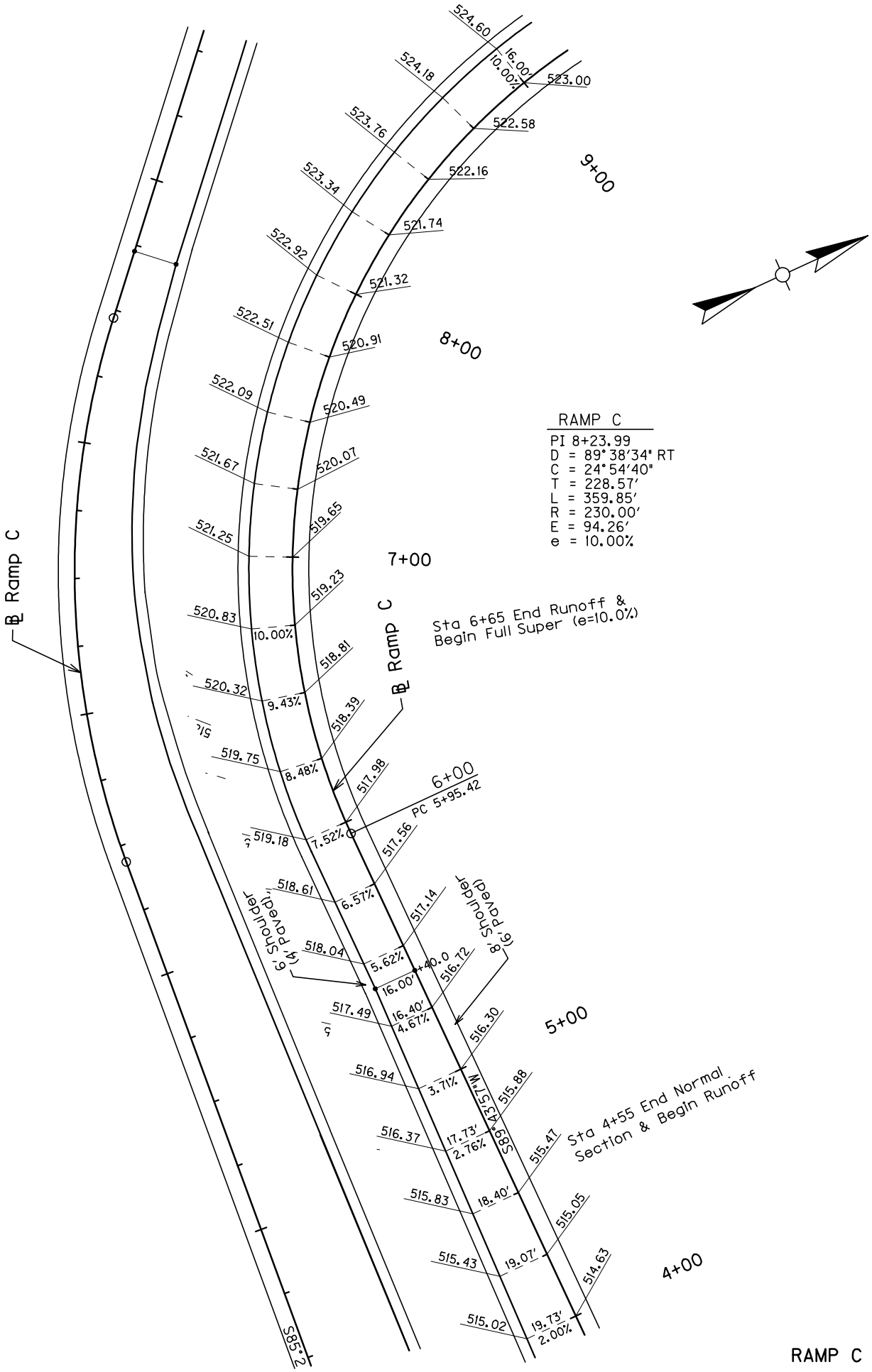


RAMP B (@ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 4 of 4 - Sta 18+00 to Sta 21+00

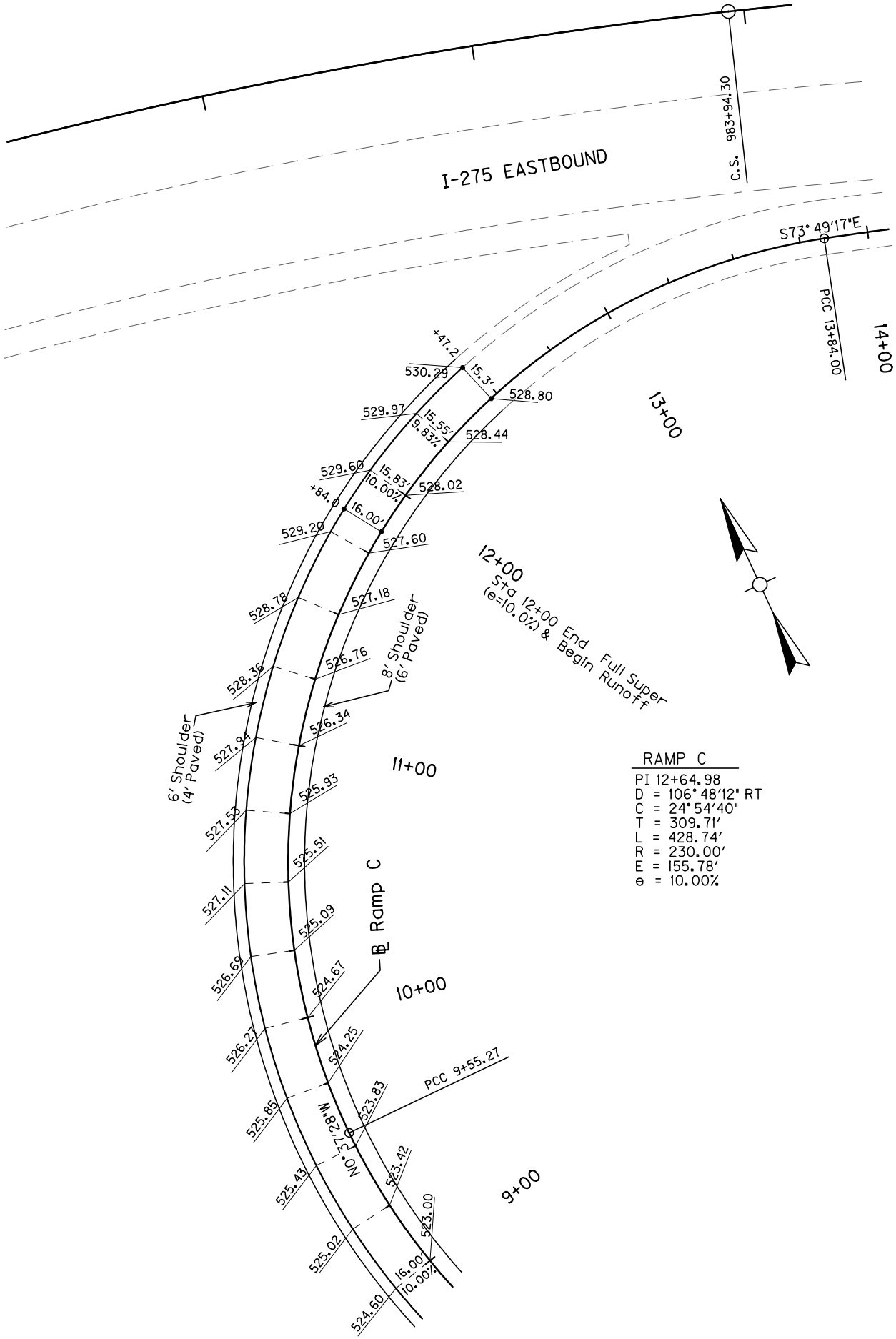


Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 3 - Sta 0+00 to Sta 4+00



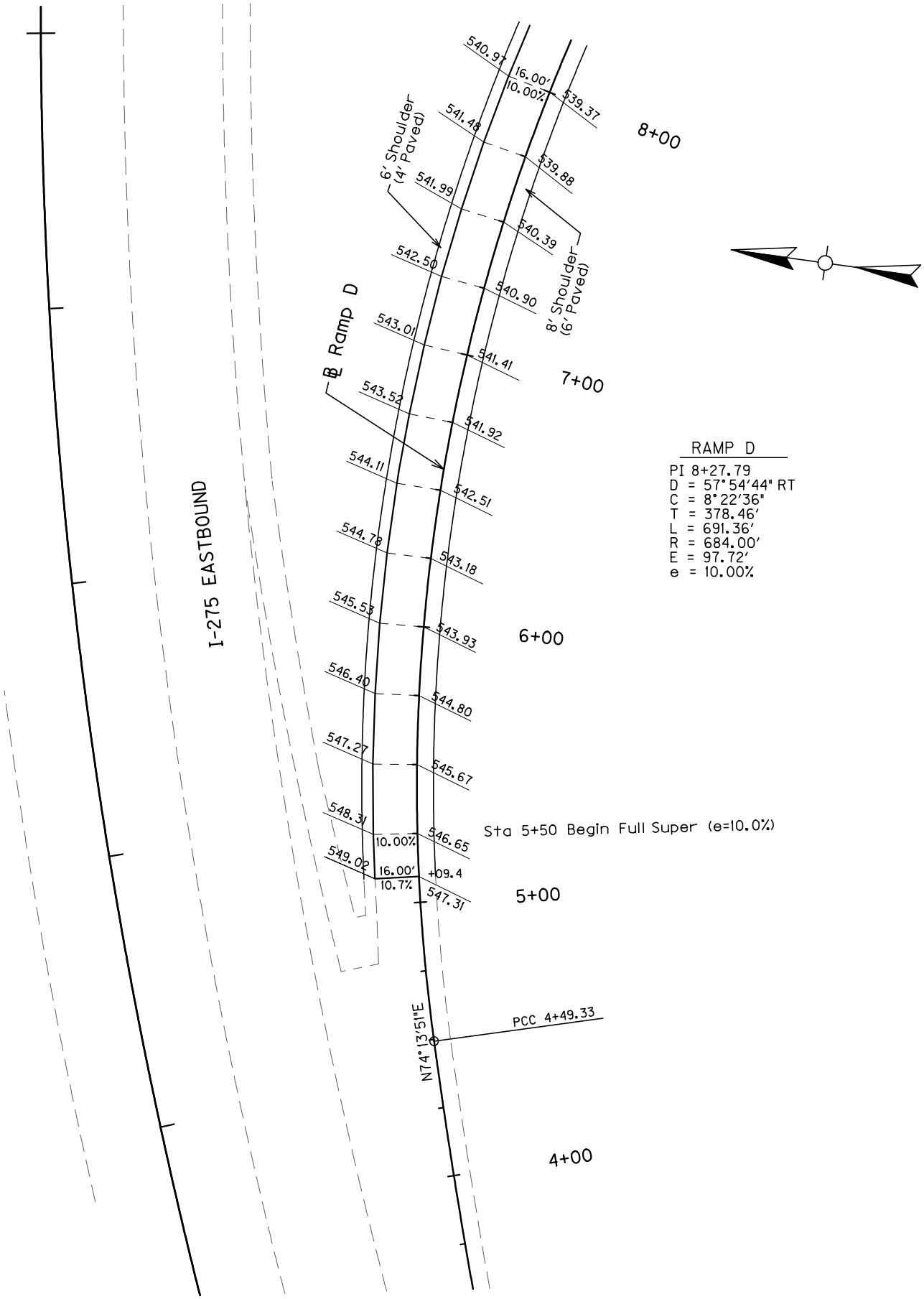
RAMP C (@ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 2 of 3 - Sta 4+00 to Sta 9+00



RAMP C (@ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 3 of 3 - Sta 9+00 to Sta 14+00

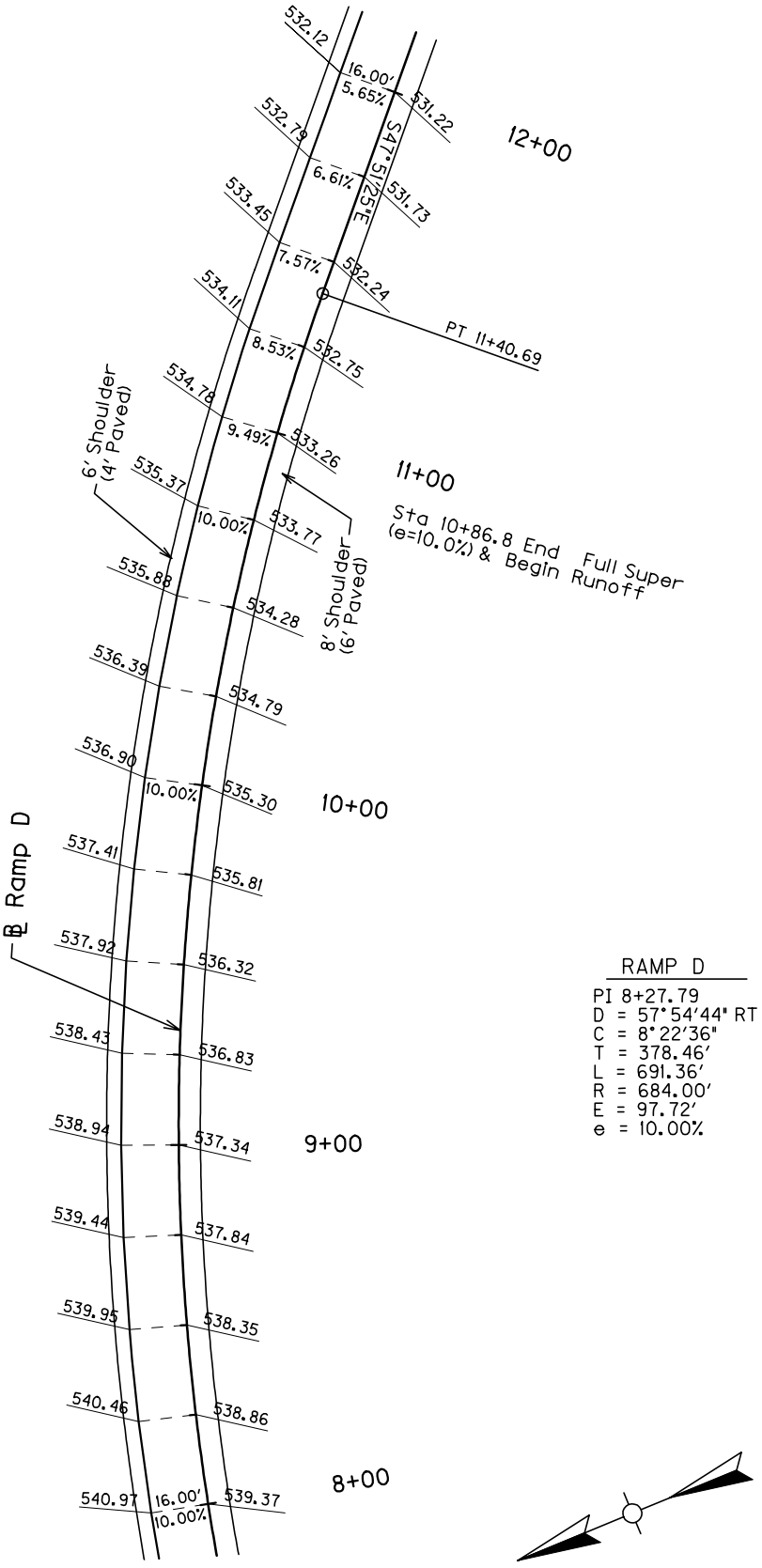


RAMP D

PI 8+27.79
D = 57°54'44" RT
C = 8°22'36"
T = 378.46'
L = 691.36'
R = 684.00'
E = 97.72'
e = 10.00%

RAMP D (℄ KY 17)

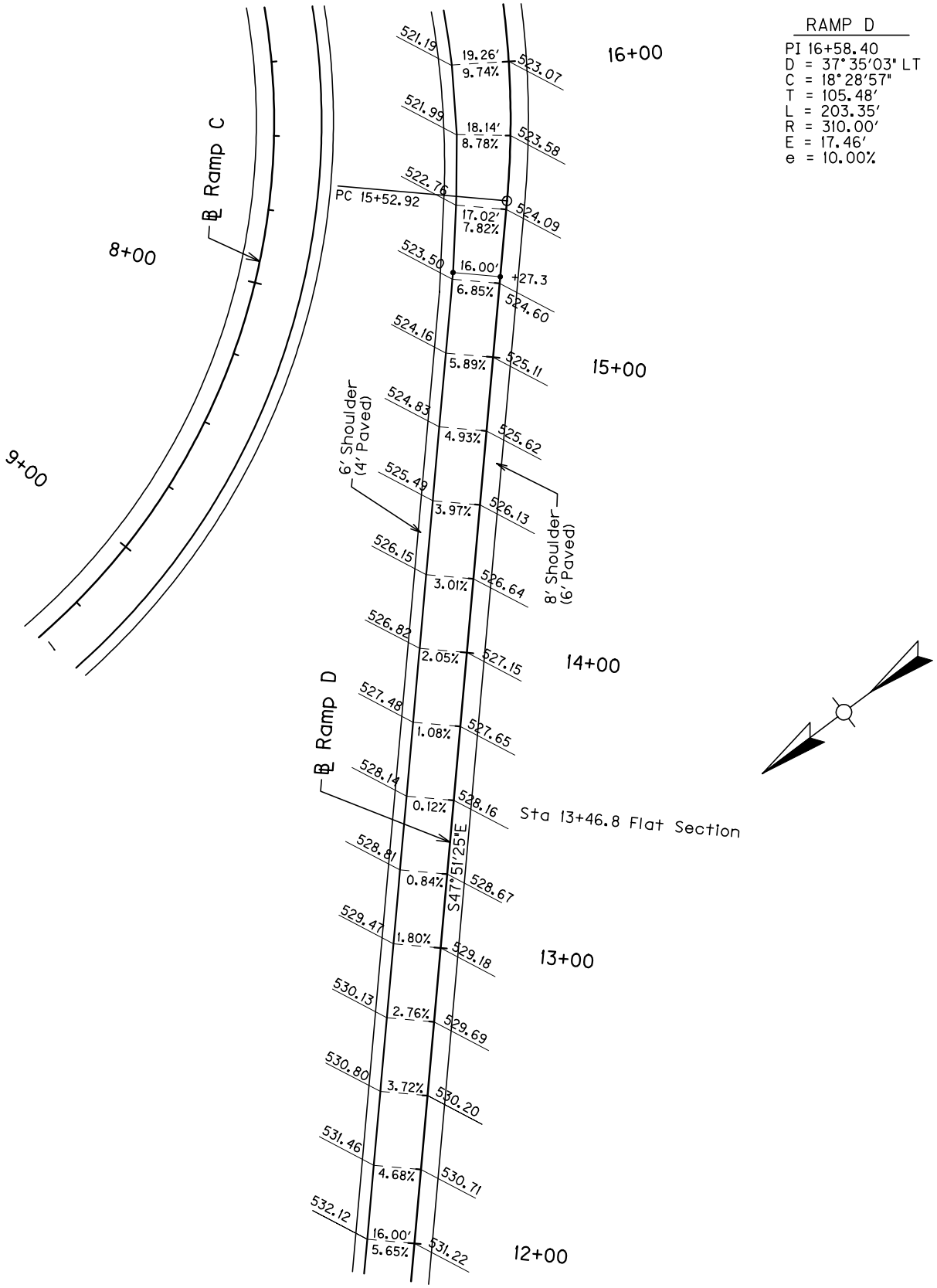
Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 5 - Sta 4+00 to Sta 8+00



RAMP D
PI 8+27.79
D = 57°54'44" RT
C = 8°22'36"
T = 378.46'
L = 691.36'
R = 684.00'
E = 97.72'
e = 10.00%

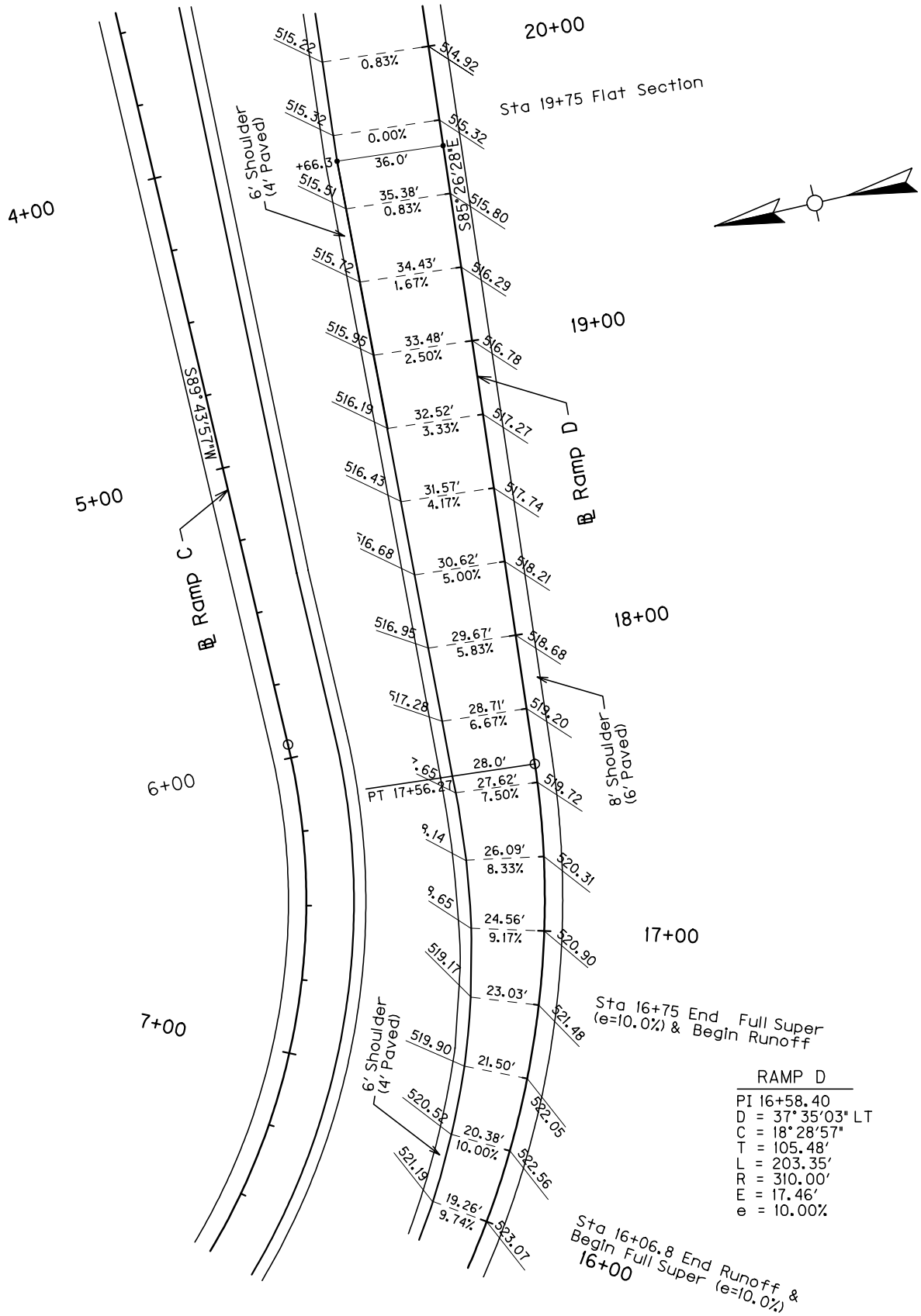
RAMP D (℄ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 2 of 5 - Sta 8+00 to Sta 12+00



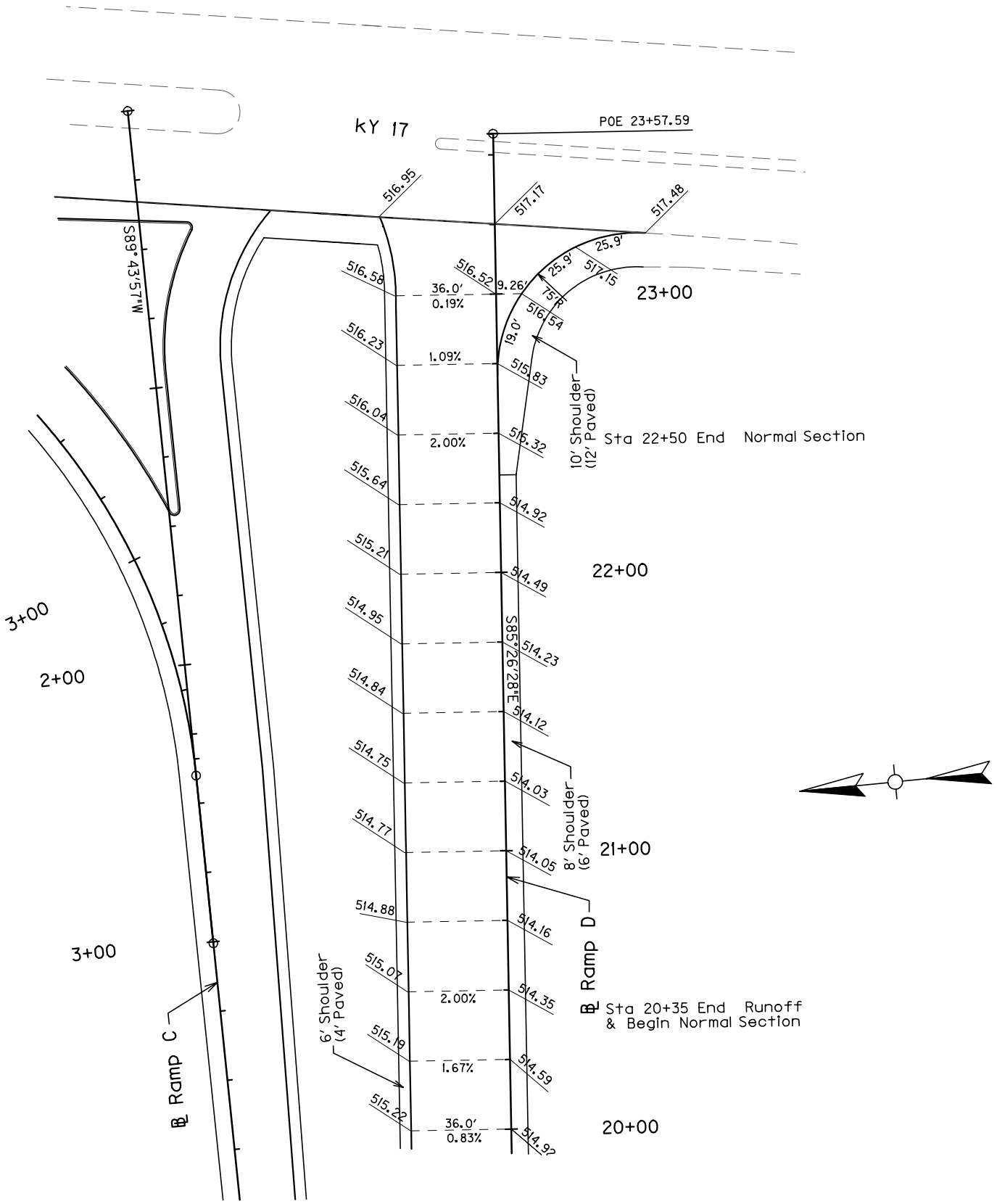
RAMP D (@ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 3 of 5 - Sta 12+00 to Sta 16+00



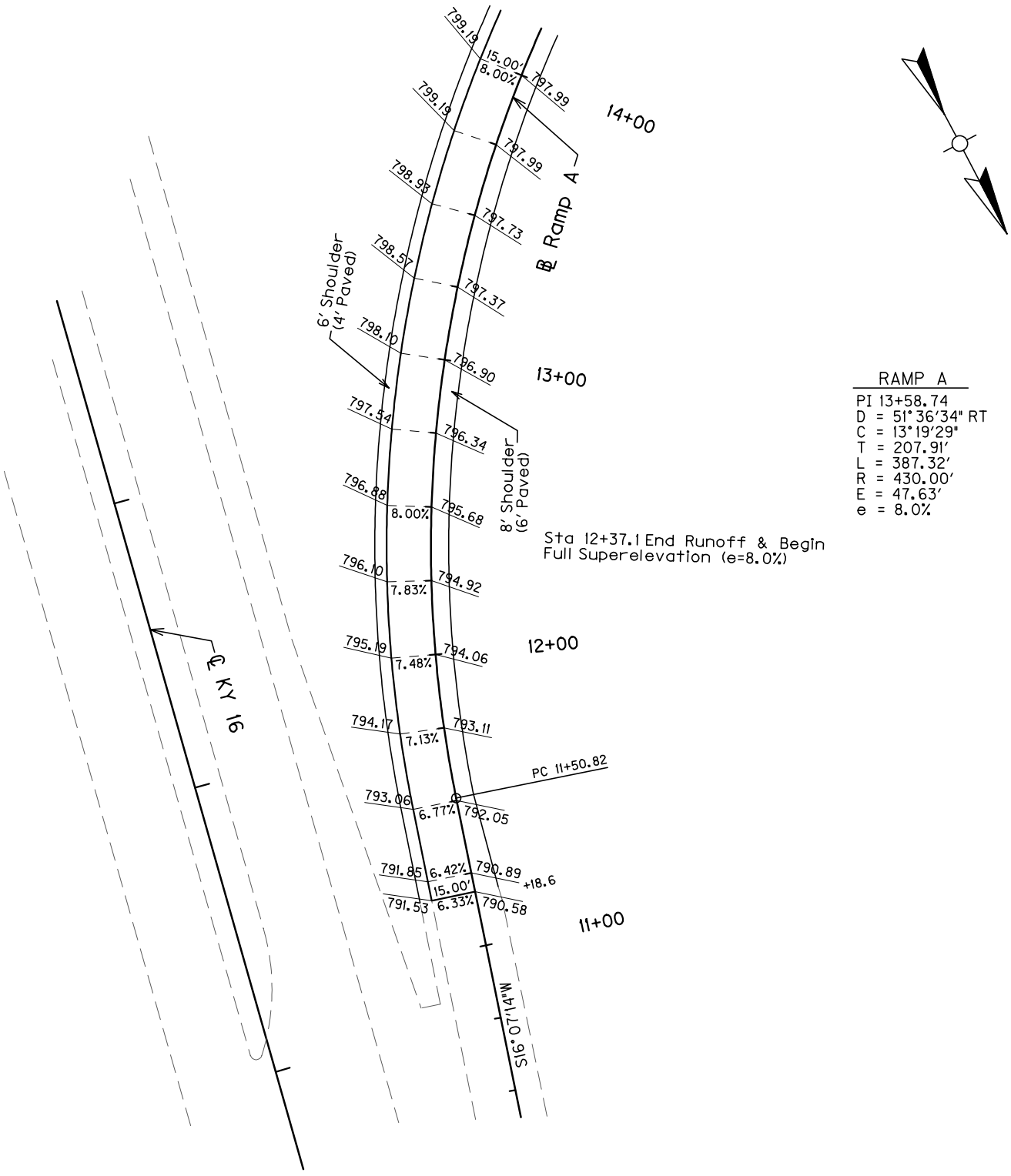
RAMP D (@ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 4 of 5 - Sta 16+00 to Sta 20+00



RAMP D (@ KY 17)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 5 of 5 - Sta 20+00 to Sta 24+00

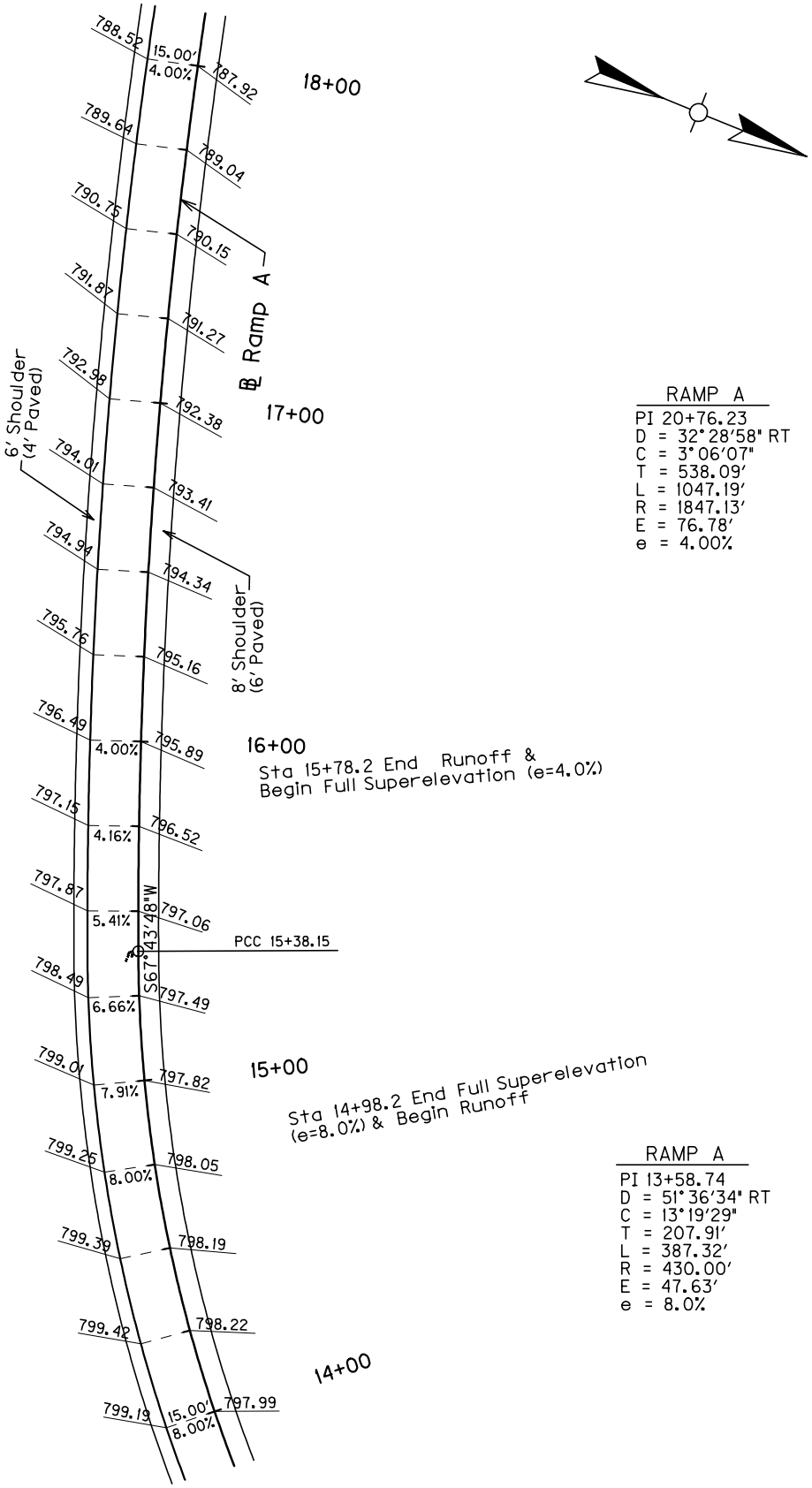


RAMP A

PI 13+58.74
D = 51° 36' 34" RT
C = 13° 19' 29"
T = 207.91'
L = 387.32'
R = 430.00'
E = 47.63'
e = 8.0%

RAMP A (℄ KY 16)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 1 of 4 - Sta 11+00 to Sta 14+00

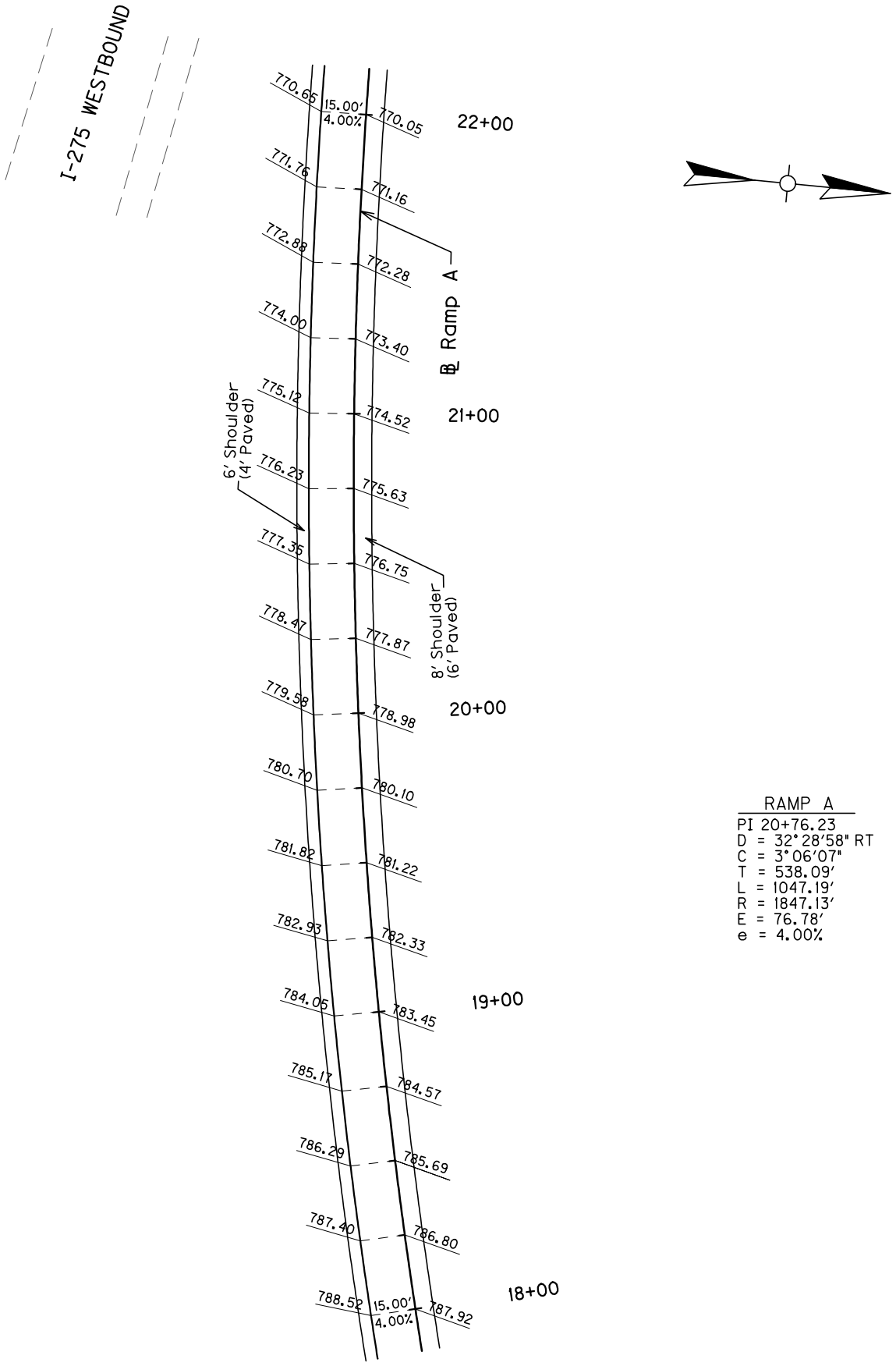


RAMP A
PI 20+76.23
D = 32°28'58" RT
C = 3°06'07"
T = 538.09'
L = 1047.19'
R = 1847.13'
E = 76.78'
e = 4.00%

RAMP A
PI 13+58.74
D = 51°36'34" RT
C = 13°19'29"
T = 207.91'
L = 387.32'
R = 430.00'
E = 47.63'
e = 8.0%

RAMP A (@ KY 16)

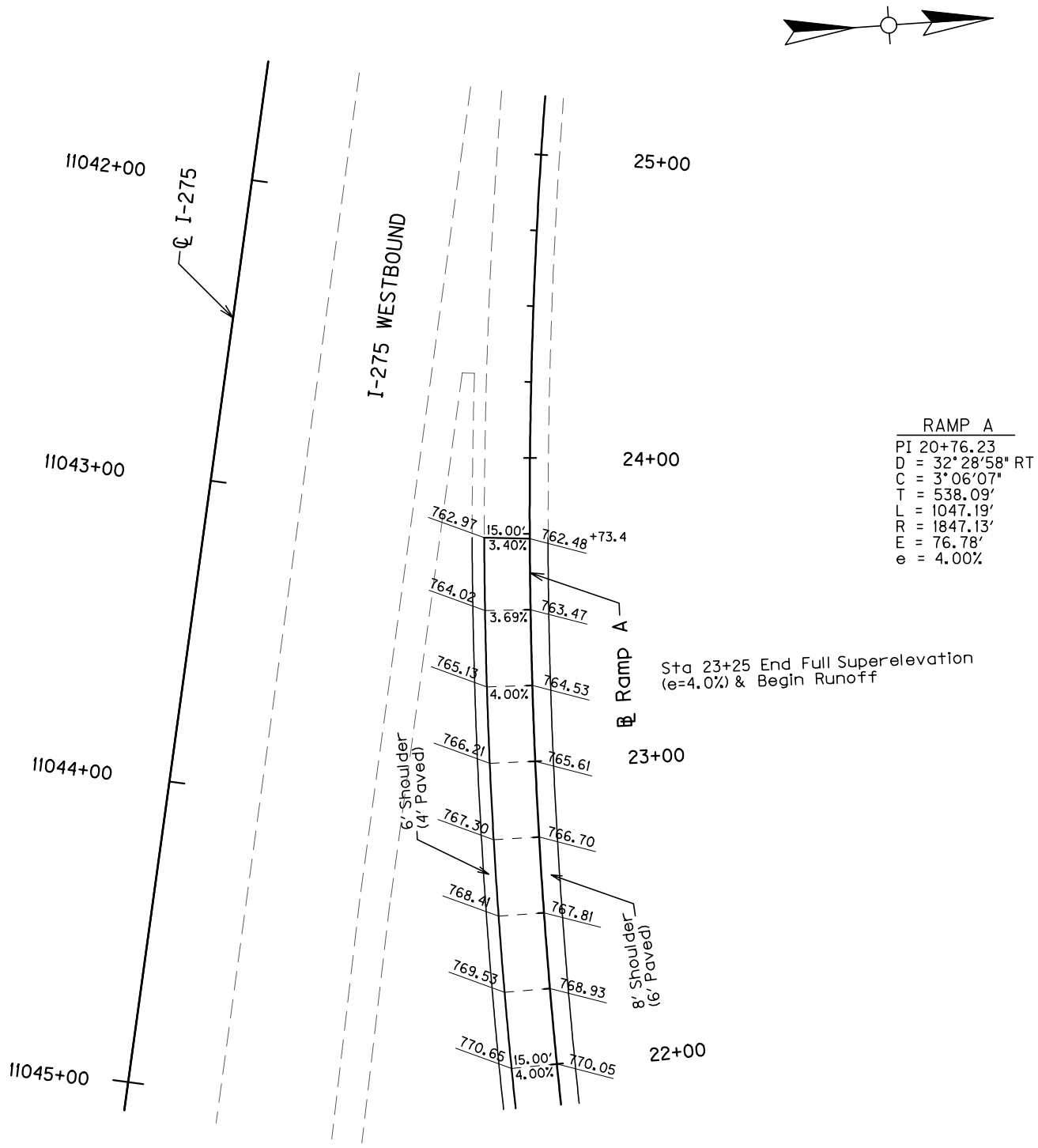
Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 2 of 4 - Sta 14+00 to Sta 18+00



RAMP A
PI 20+76.23
D = 32°28'58" RT
C = 3°06'07"
T = 538.09'
L = 1047.19'
R = 1847.13'
E = 76.78'
e = 4.00%

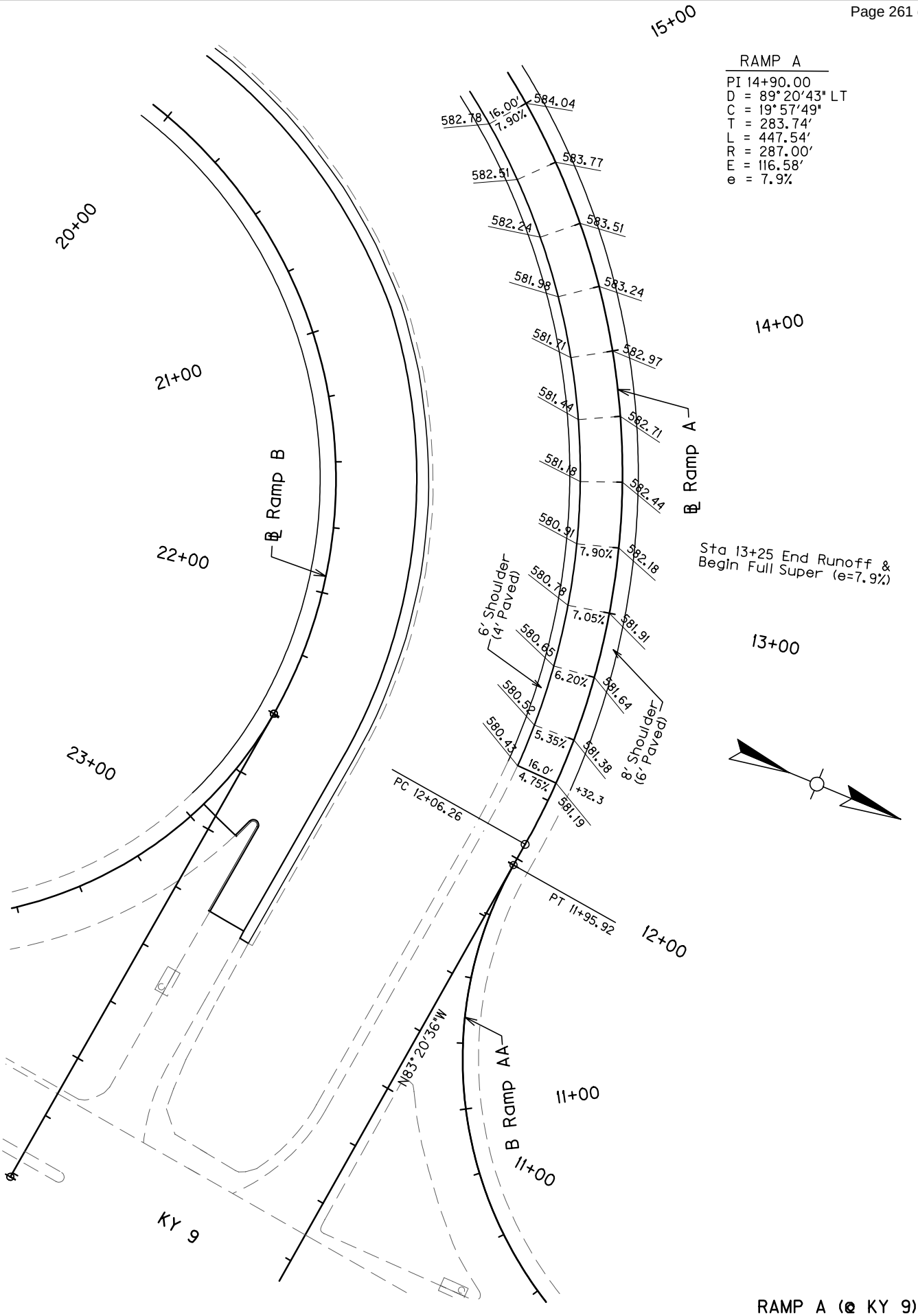
RAMP A (@ KY 16)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 3 of 4 - Sta 18+00 to Sta 22+00

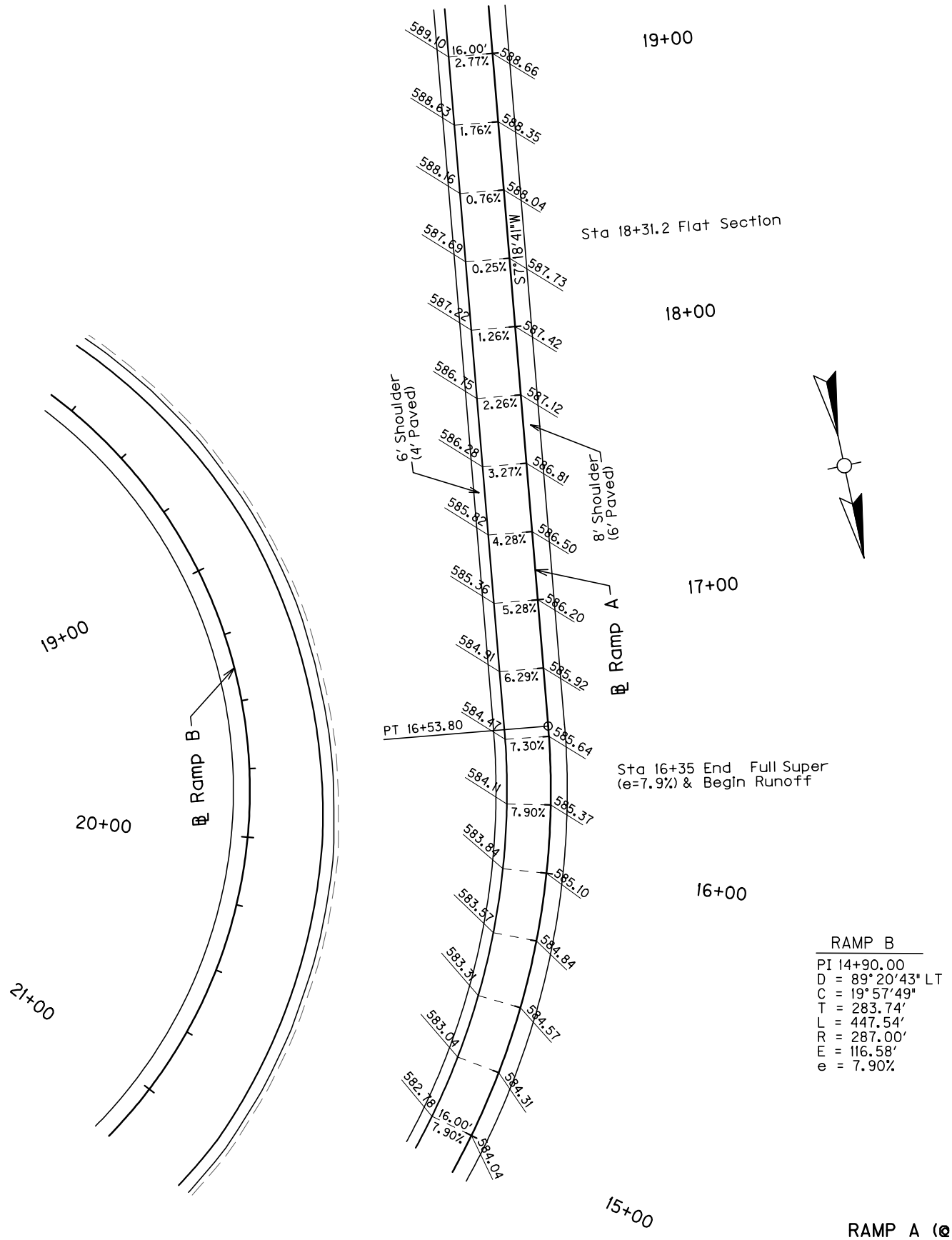


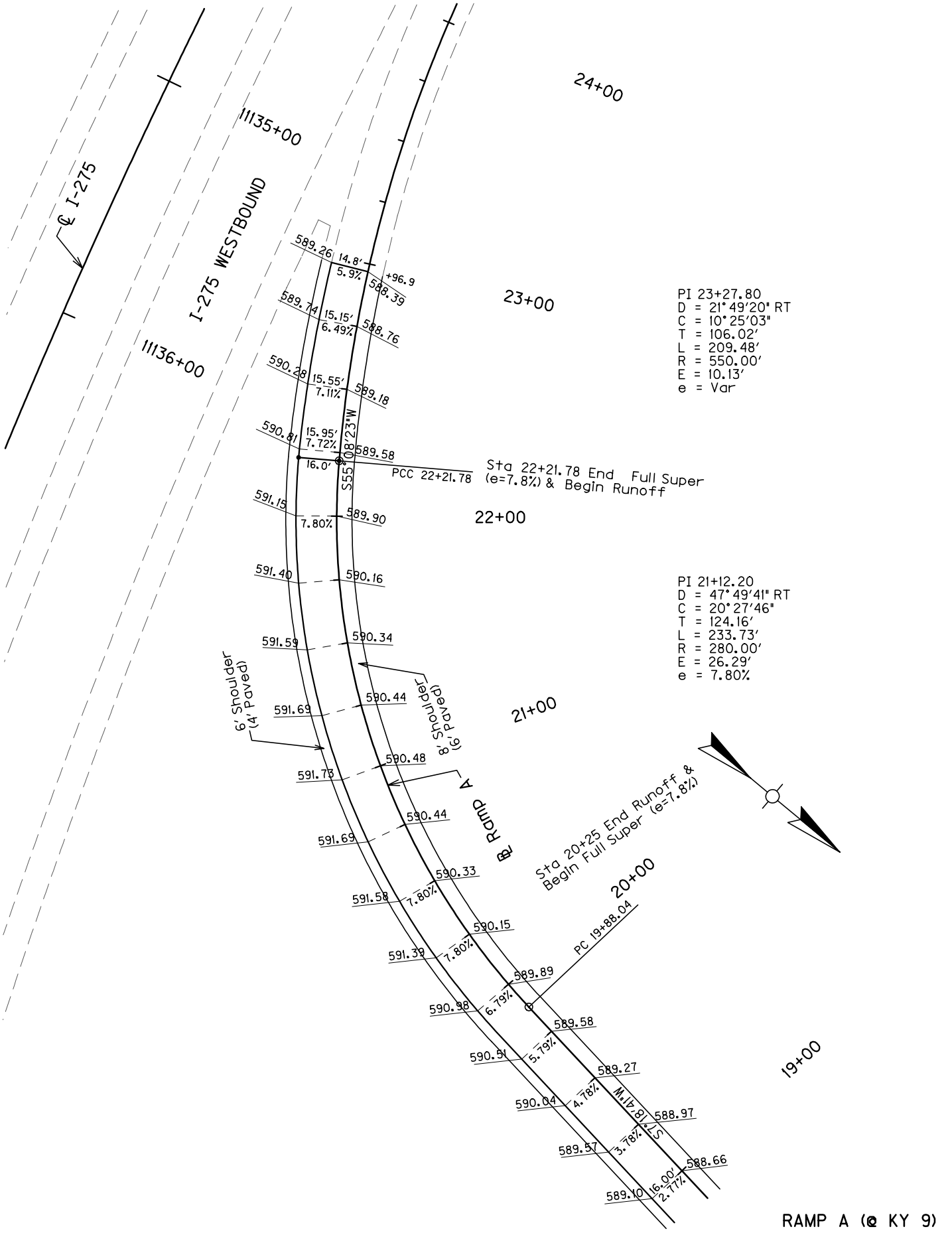
RAMP A (@ KY 16)

Item No. 6-2027.00 - Development - Scale 1" = 50' - Sheet 4 of 4 - Sta 22+00 to Sta 25+00

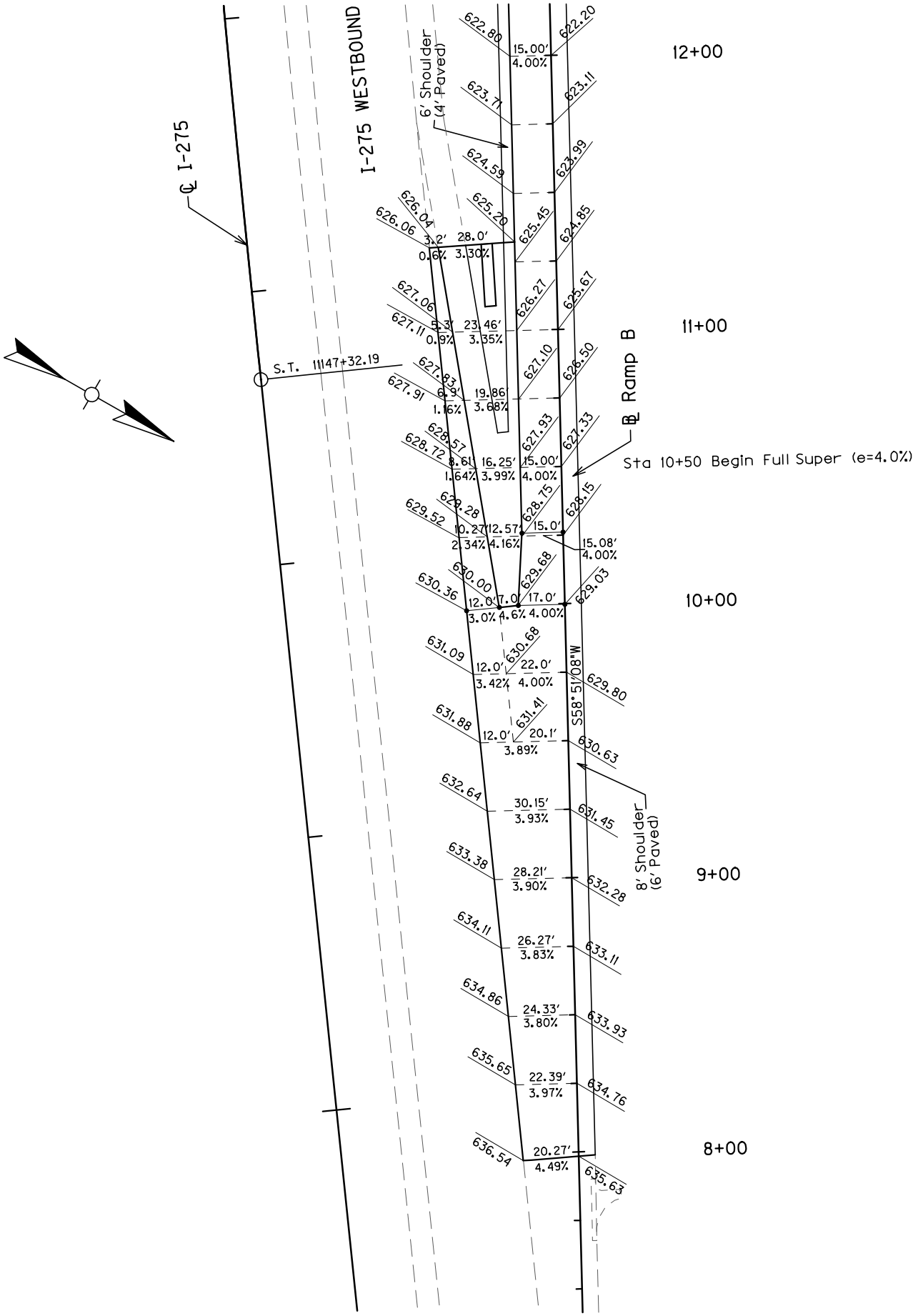

RAMP A
PI 14+90.00
D = 89°20'43" LT
C = 19°57'49"
T = 283.74'
L = 447.54'
R = 287.00'
E = 116.58'
e = 7.9%
15+00
14+00
13+00
12+00
11+00
20+00
21+00
22+00
23+00
℄ Ramp A
℄ Ramp B
B Ramp AA
582.78
16.00'
7.90%
584.04
582.51
583.77
582.24
583.51
581.98
583.24
581.71
582.97
581.44
582.71
581.18
582.44
580.91
7.90%
582.18
Sta 13+25 End Runoff &
Begin Full Super (e=7.9%)
6' Shoulder
(4' Paved)
580.78
7.05%
581.91
580.65
6.20%
581.64
8' Shoulder
(6' Paved)
580.52
5.35%
581.38
580.43
16.0'
4.75%
+32.3
581.19
PC 12+06.26
PT 11+95.92
N83°20'36"W
KY 9

RAMP A (@ KY 9)


19+00
18+00
17+00
16+00
15+00
20+00
21+00
589.10
16.00'
2.77%
588.66
588.63
1.76%
588.35
588.16
0.76%
588.04
587.69
0.25%
587.73
587.32
1.26%
587.42
586.75
2.26%
587.12
586.28
3.27%
586.81
585.82
4.28%
586.50
585.36
5.28%
586.20
584.31
6.29%
585.92
584.47
7.30%
585.64
584.11
7.90%
585.37
583.84
585.10
583.57
584.84
583.31
584.57
583.04
584.31
582.78
16.00'
7.90%
584.04
S 78°18'41" W
PT 16+53.80
℄ Ramp A
℄ Ramp B
6' Shoulder (4' Paved)
8' Shoulder (6' Paved)
Sta 18+31.2 Flat Section
Sta 16+35 End Full Super (e=7.9%) & Begin Runoff
RAMP B
PI 14+90.00
D = 89°20'43" LT
C = 19°57'49"
T = 283.74'
L = 447.54'
R = 287.00'
E = 116.58'
e = 7.90%
RAMP A (@ KY 9)

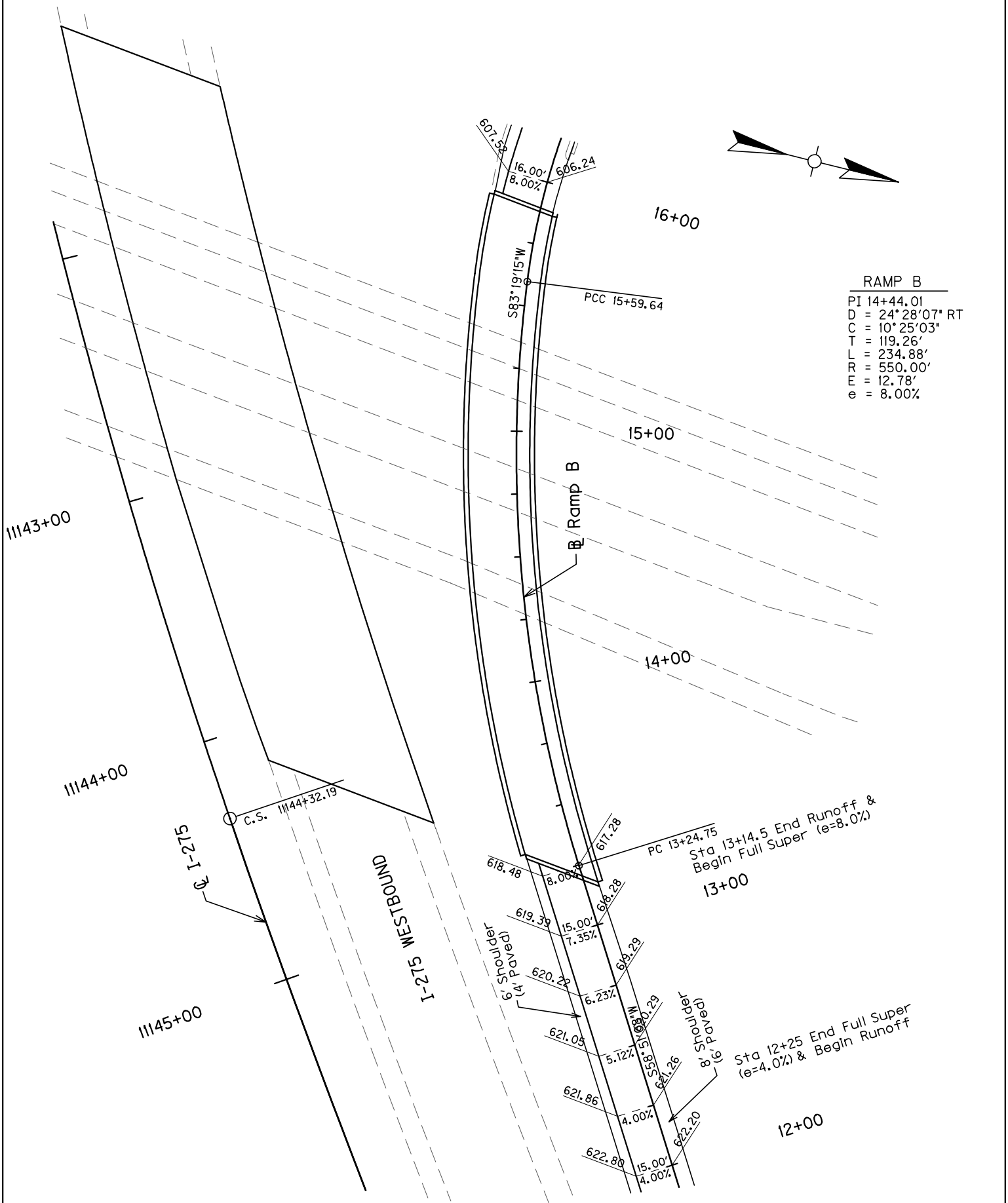


Item No. 6-2025.00 - Development - Scale 1" = 50' - Sheet 3 of 3 - Sta 19+00 to Sta 24+00

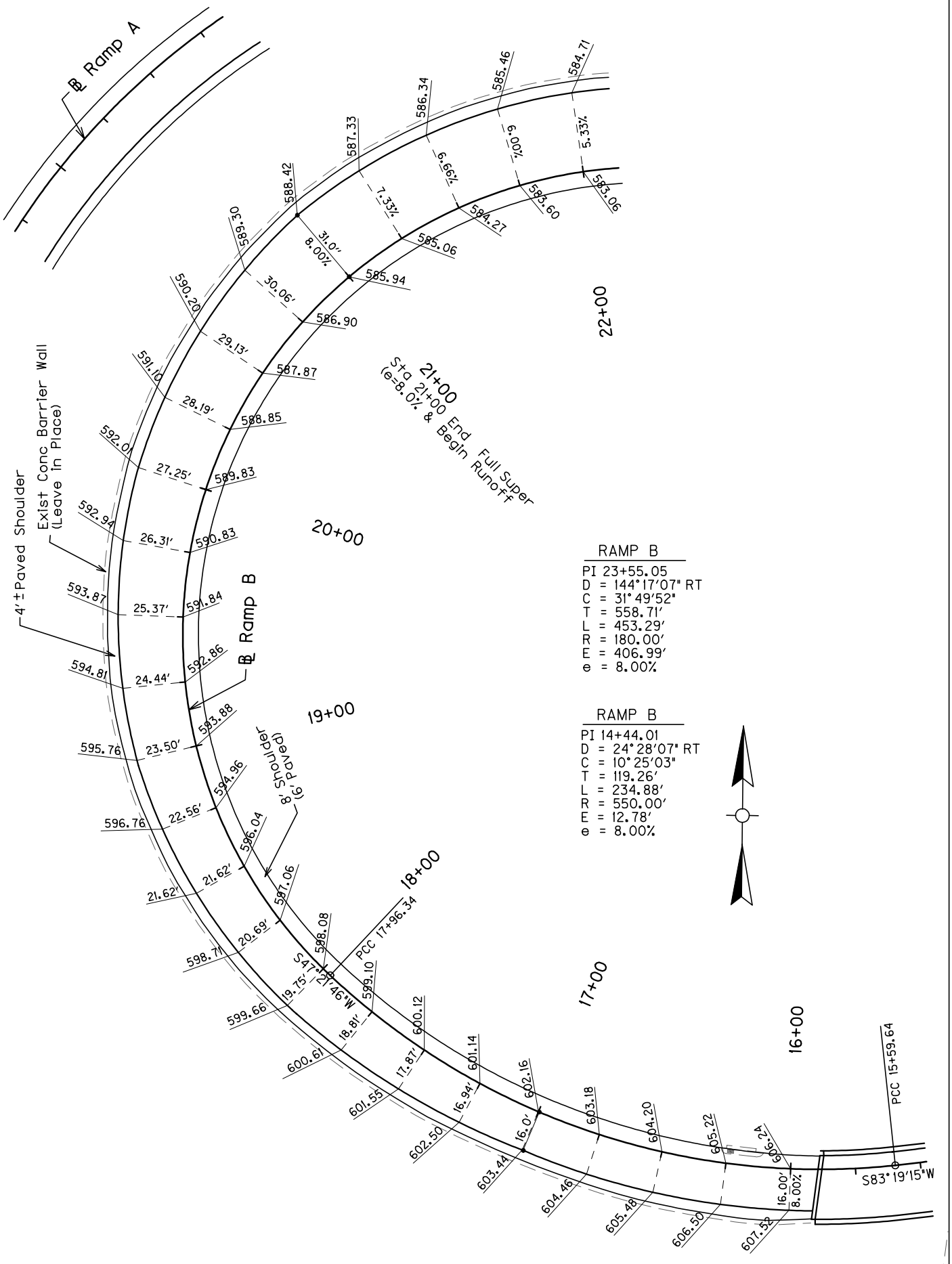


RAMP B (@ KY 9)

Item No. 6-2025.00 - Development - Scale 1" = 50' - Sheet 1 of 4 - Sta 8+00 to Sta 12+00

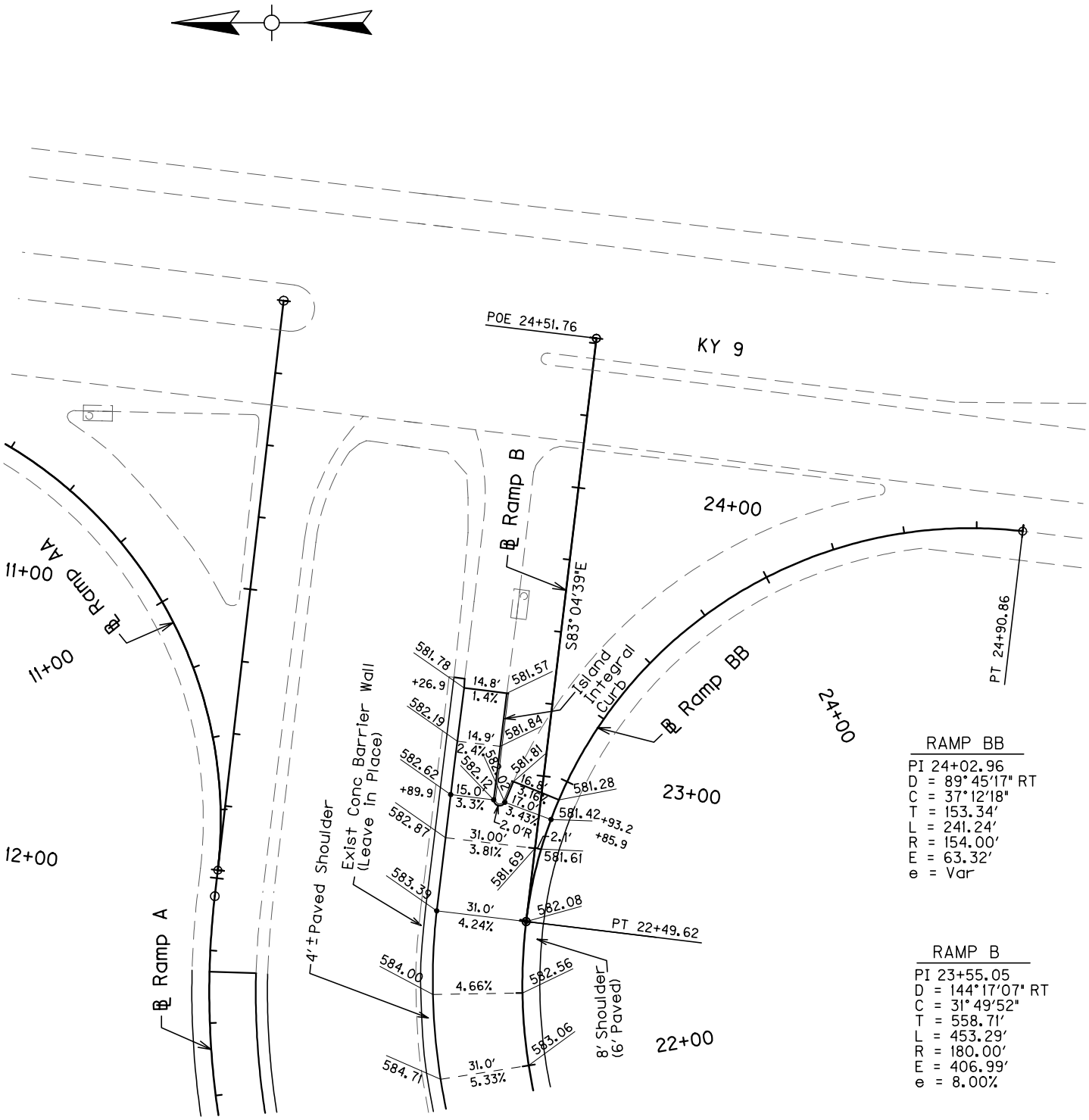


Item No. 6-2025.00 - Development - Scale 1" = 50' - Sheet 2 of 4 - Sta 12+00 to Sta 16+00



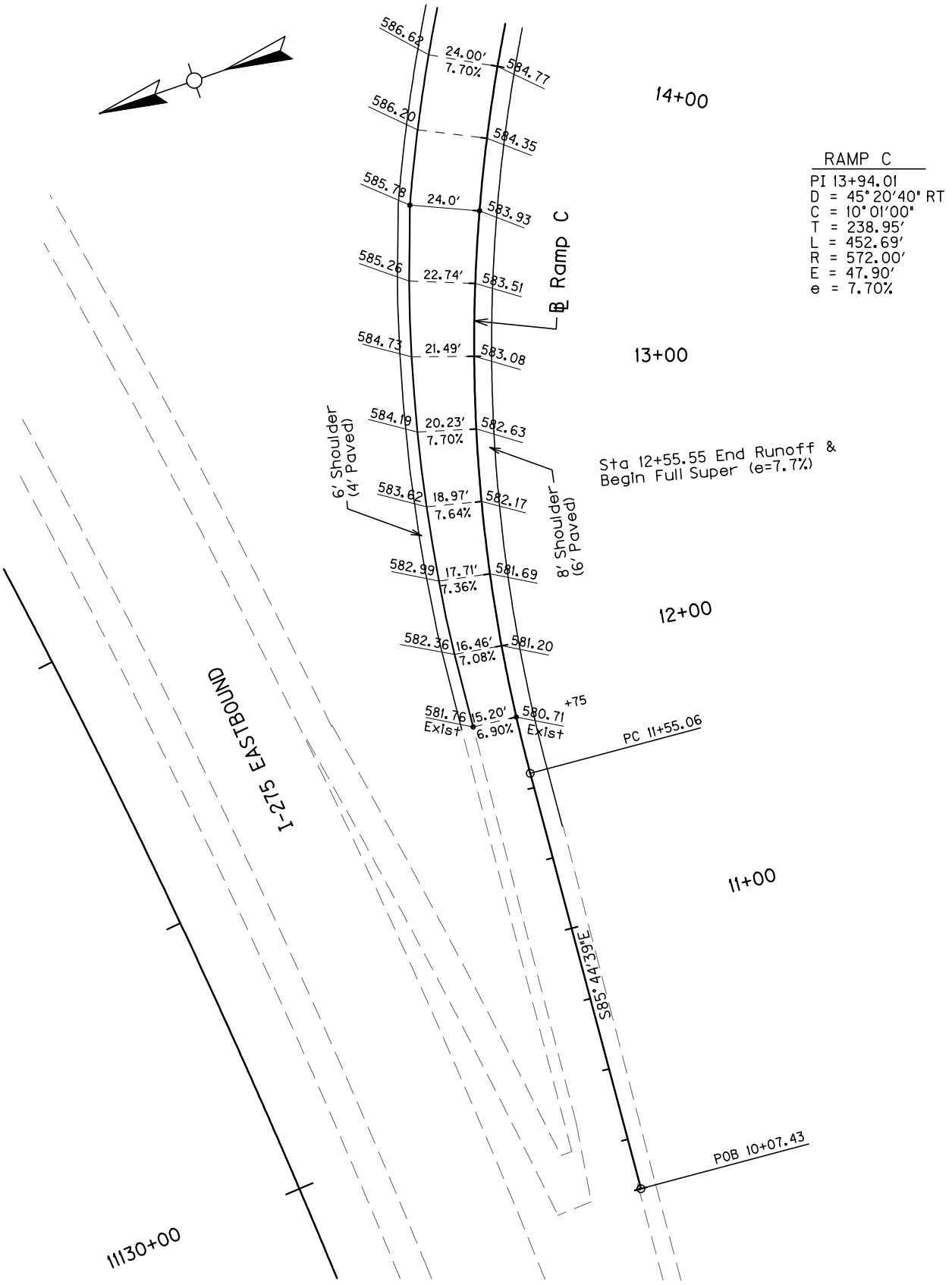
RAMP B (℄ KY 9)

Item No. 6-2025.00 - Development - Scale 1" = 50' - Sheet 3 of 4 - Sta 16+00 to Sta 22+00



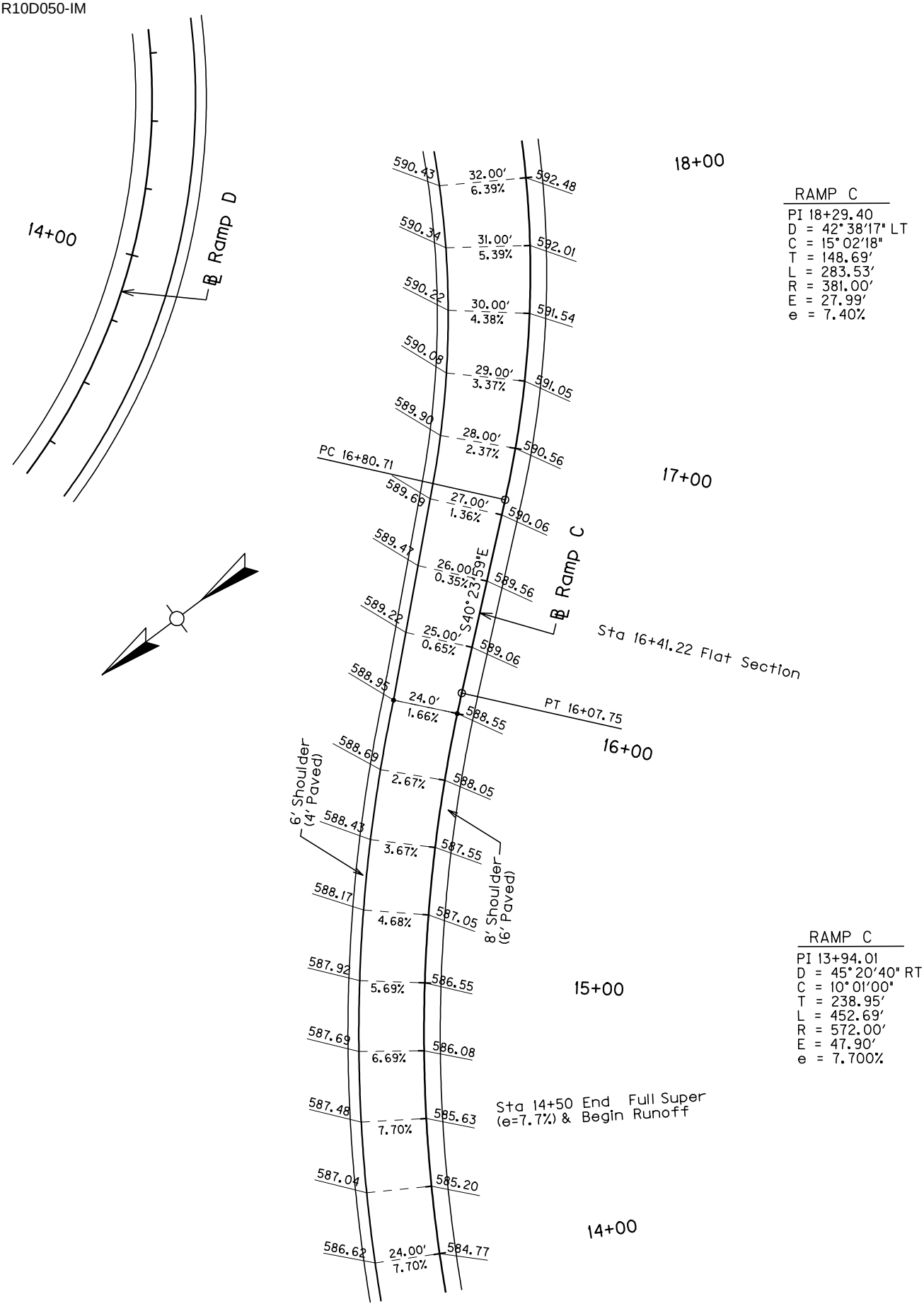
RAMP B (℄ KY 9)

Item No. 6-2025.00 - Development - Scale 1" = 50' - Sheet 4 of 4 - Sta 22+00 to Sta 24+00



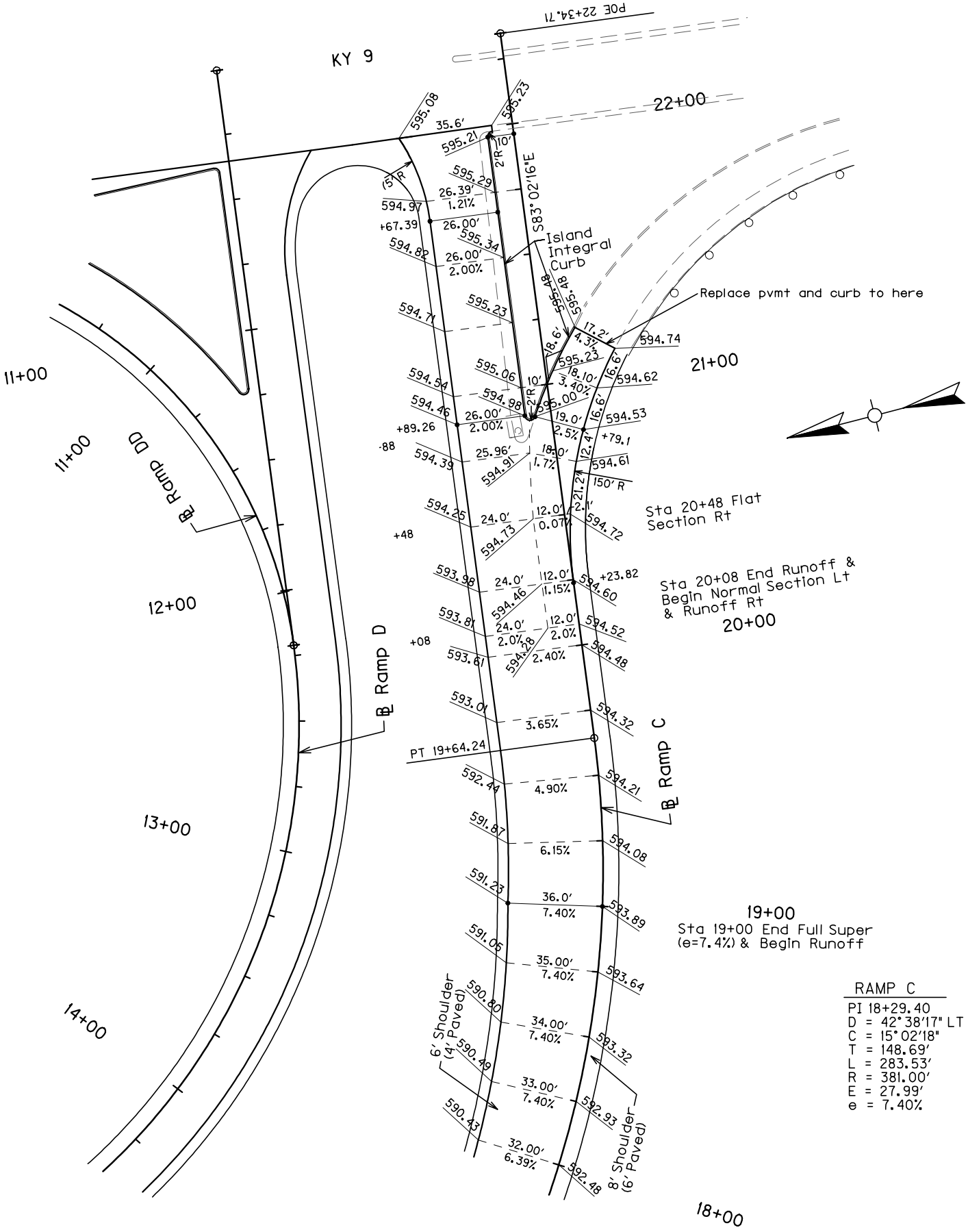
RAMP C (@ KY 9)

Item No. 6-2025.00 - Development - Scale 1" = 50' - Sheet 1 of 3 - Sta 11+00 to Sta 14+00



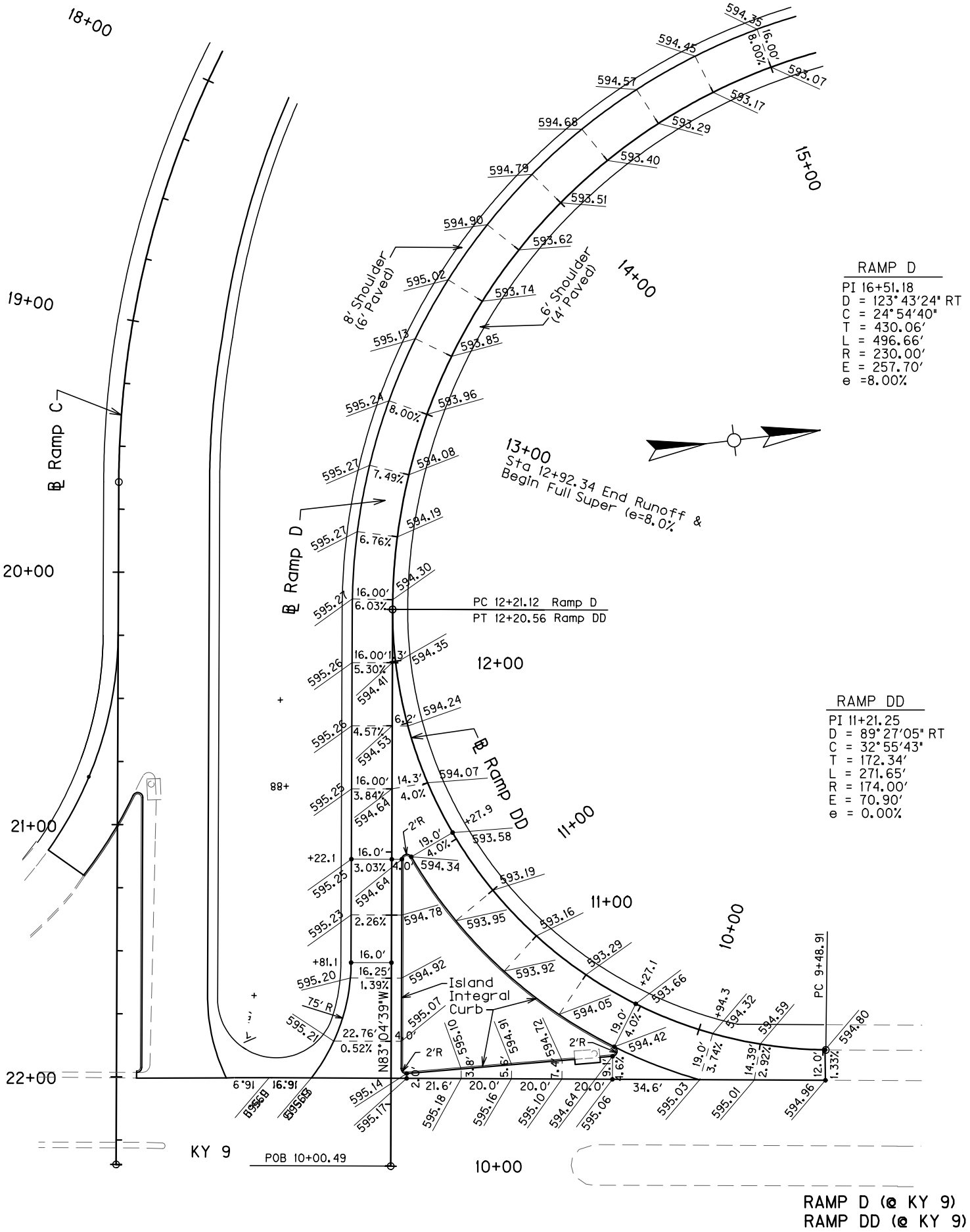
RAMP C (@ KY 9)

Item No. 6-2025.00 - Development - Scale 1" = 50' - Sheet 2 of 3 - Sta 14+00 to Sta 18+00

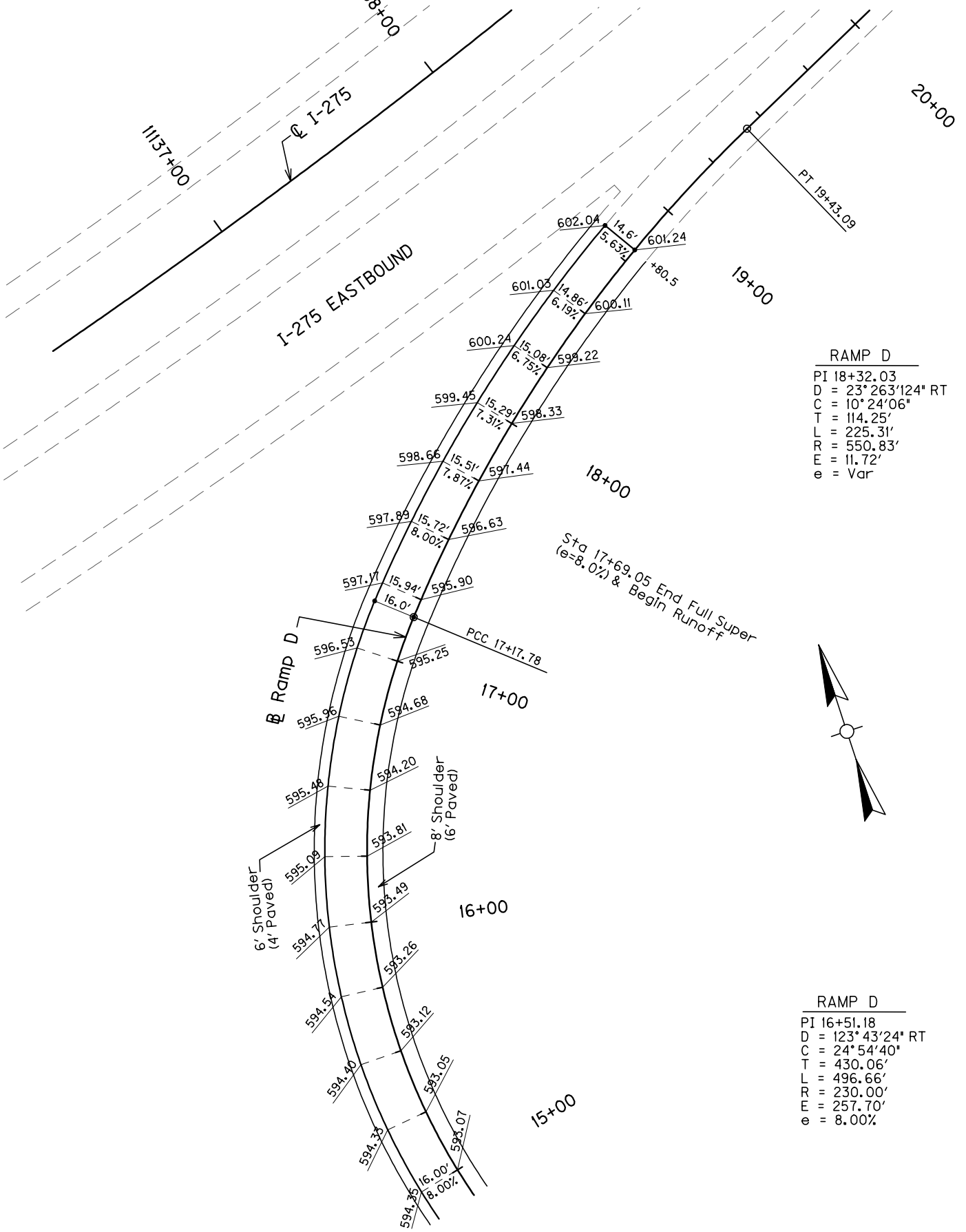


RAMP C (@ KY 9)

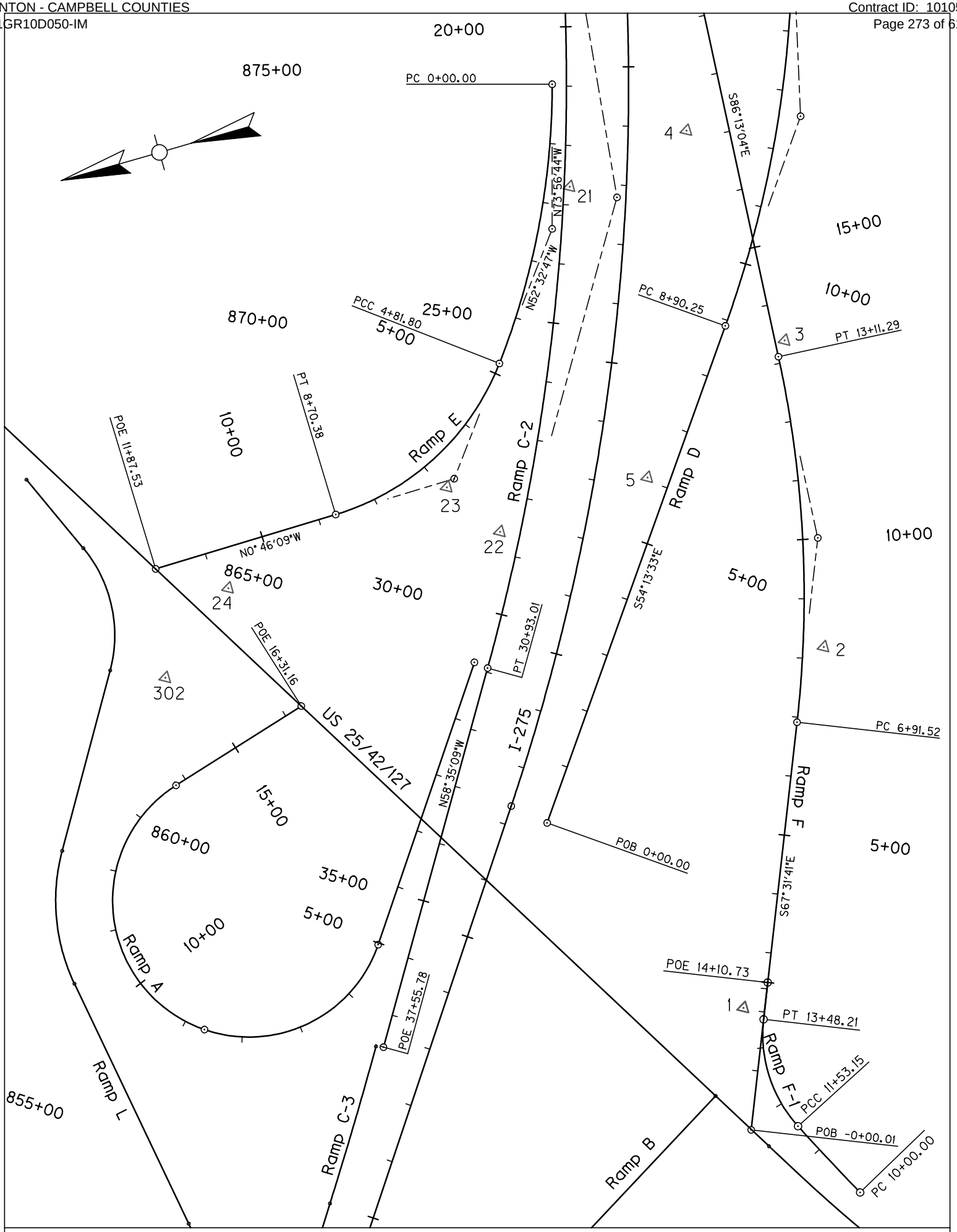
Item No. 6-2025.00 - Development - Scale 1" = 50' - Sheet 3 of 3 - Sta 18+00 to Sta 22+00



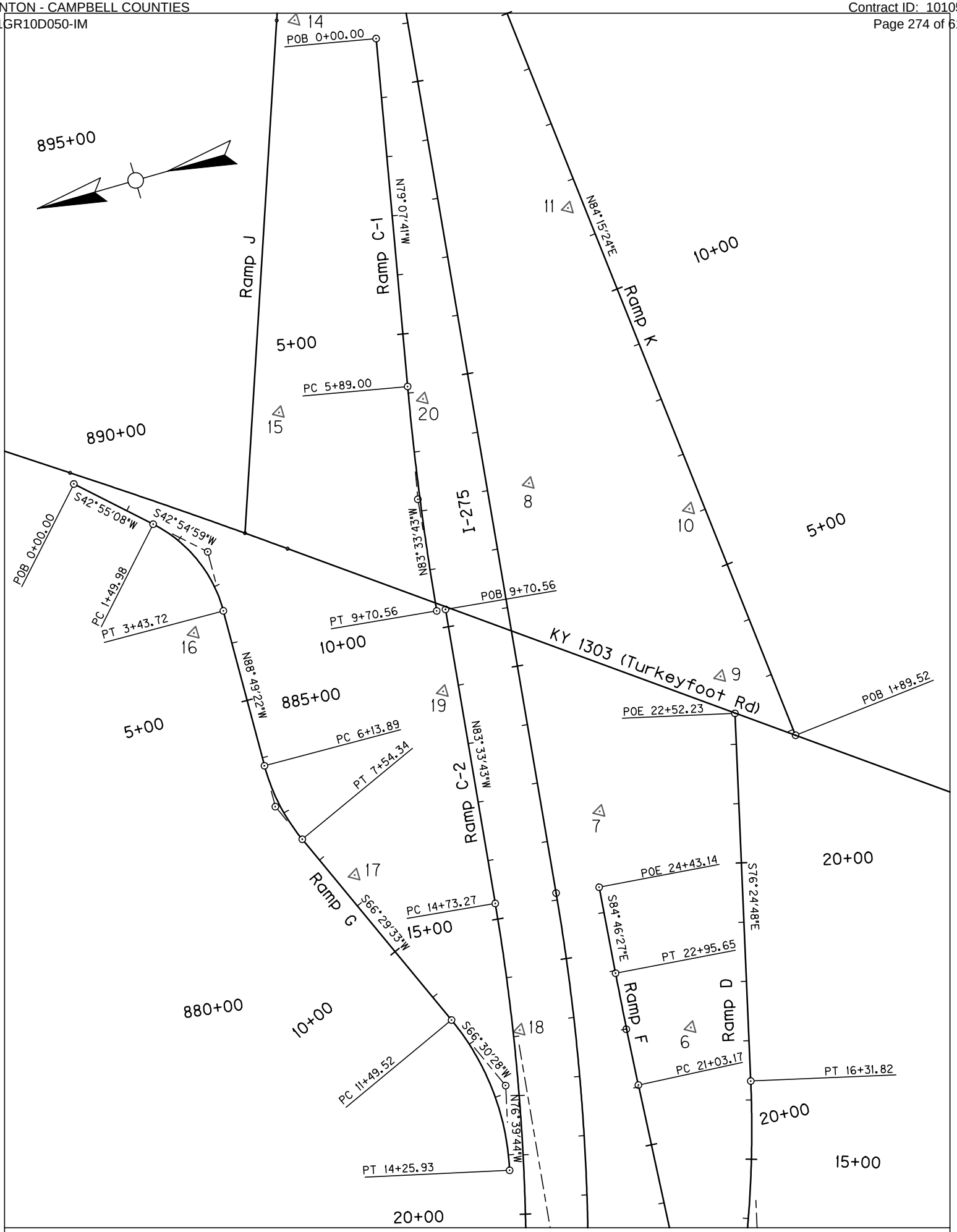
Item No. 6-2025.00 - Development - Scale 1" = 50' - Sheet 1 of 2 - Sta 10+00 to Sta 15+00



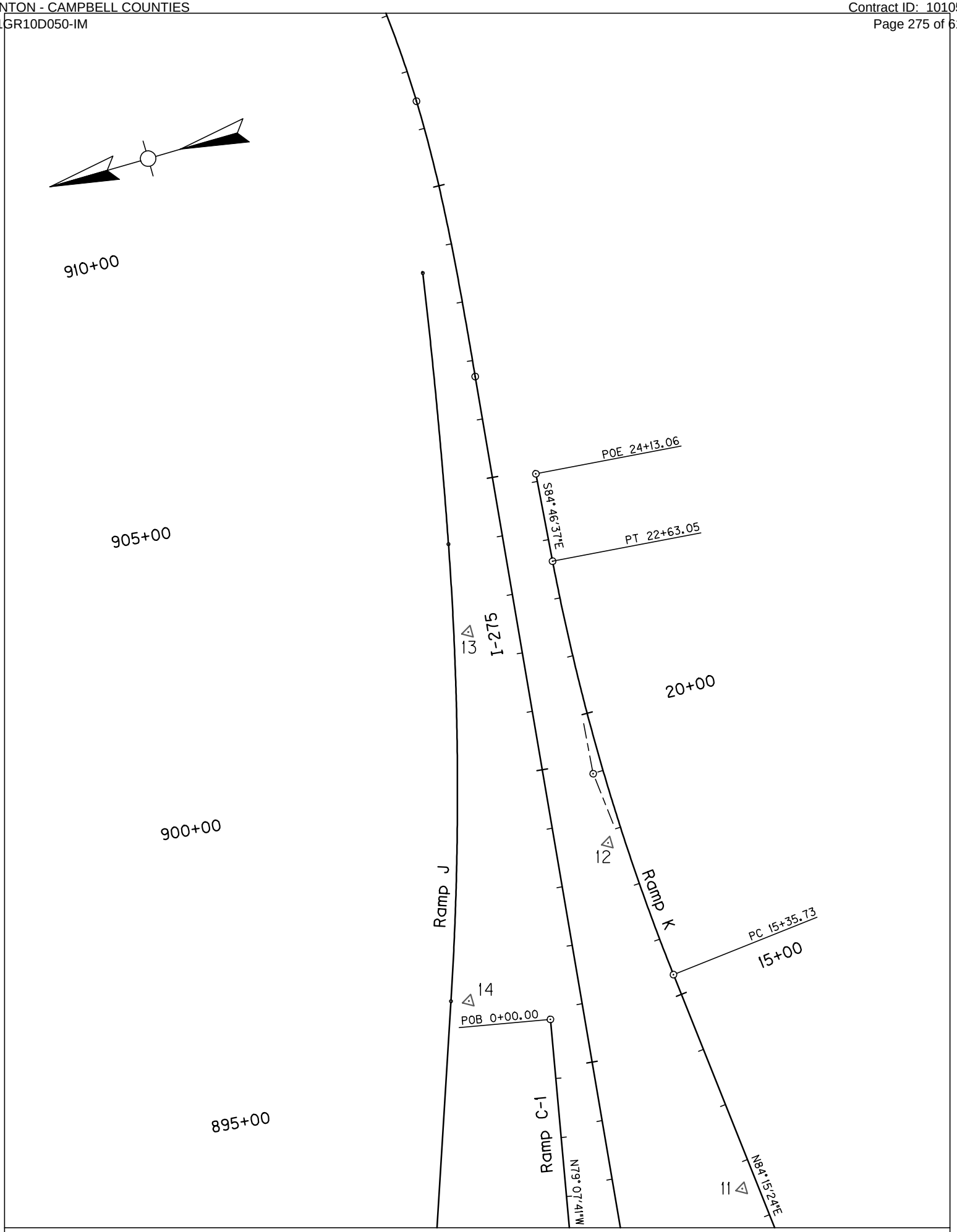
Item No. 6-2025.00 - Development - Scale 1" = 50' - Sheet 2 of 2 - Sta 15+00 to Sta 20+00



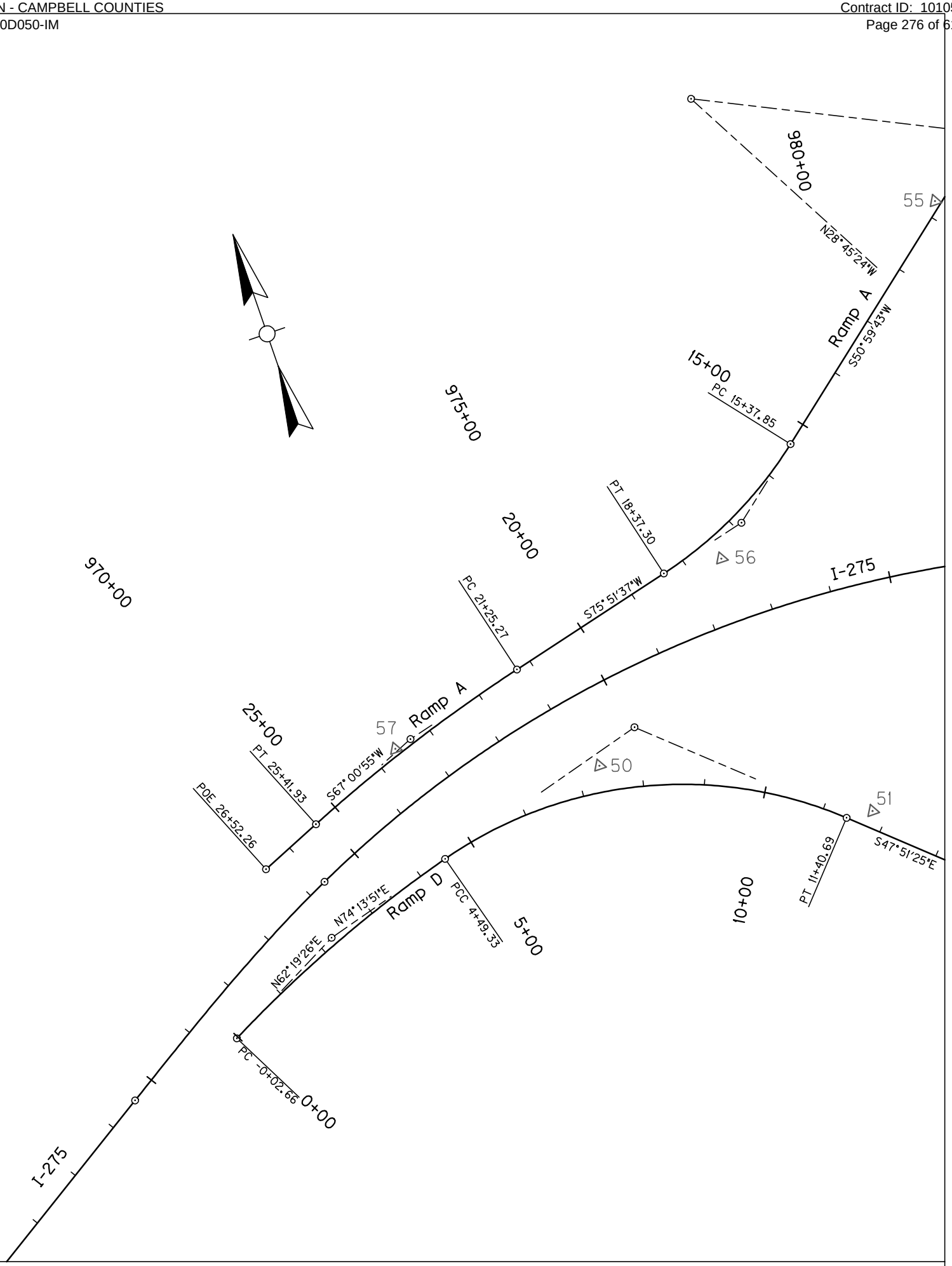
I-275 Alignment & Coordinate Control - Scale 1" = 200' - Sheet 1 of 23



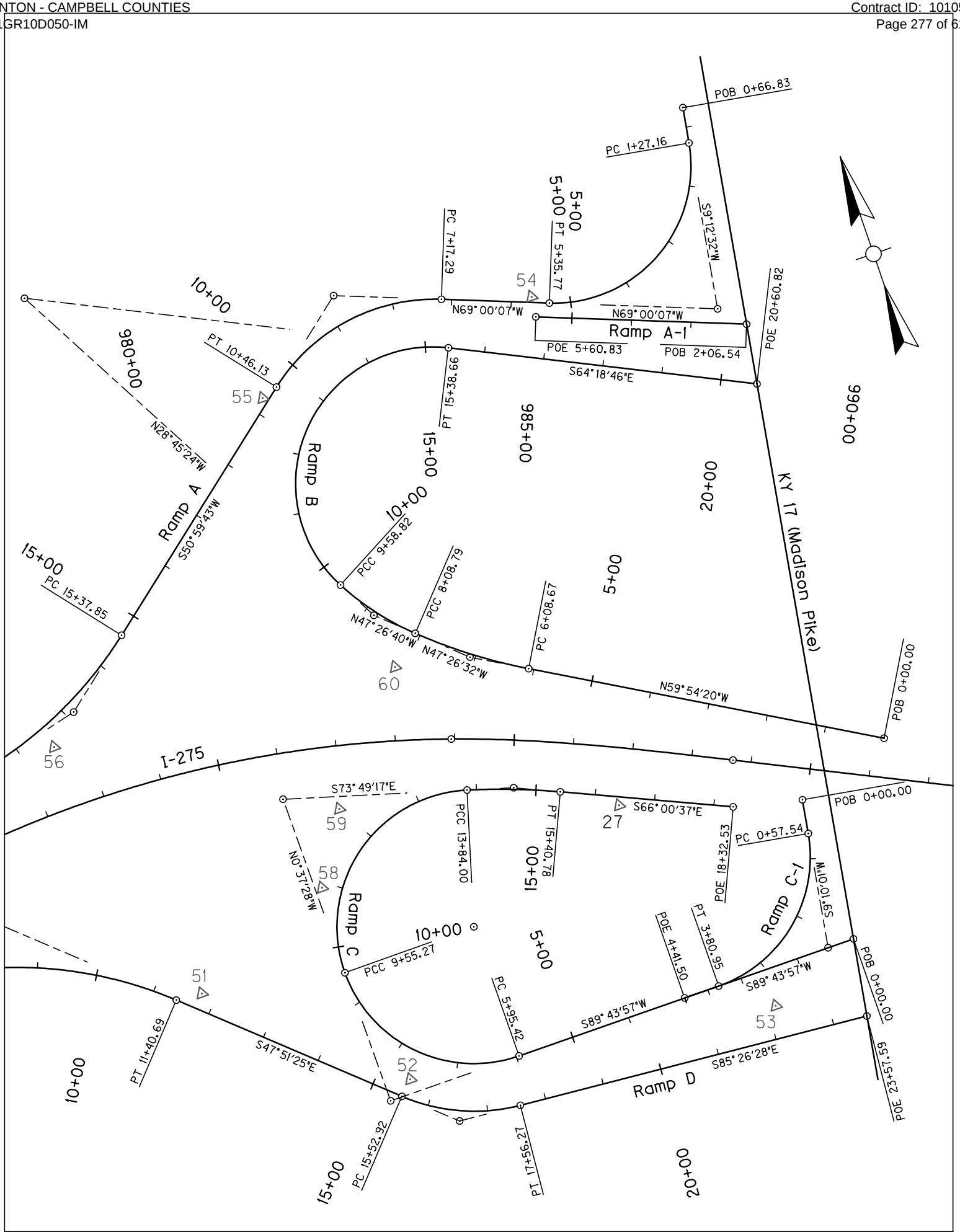
I-275 Alignment & Coordinate Control - Scale 1" = 200' - Sheet 2 of 23



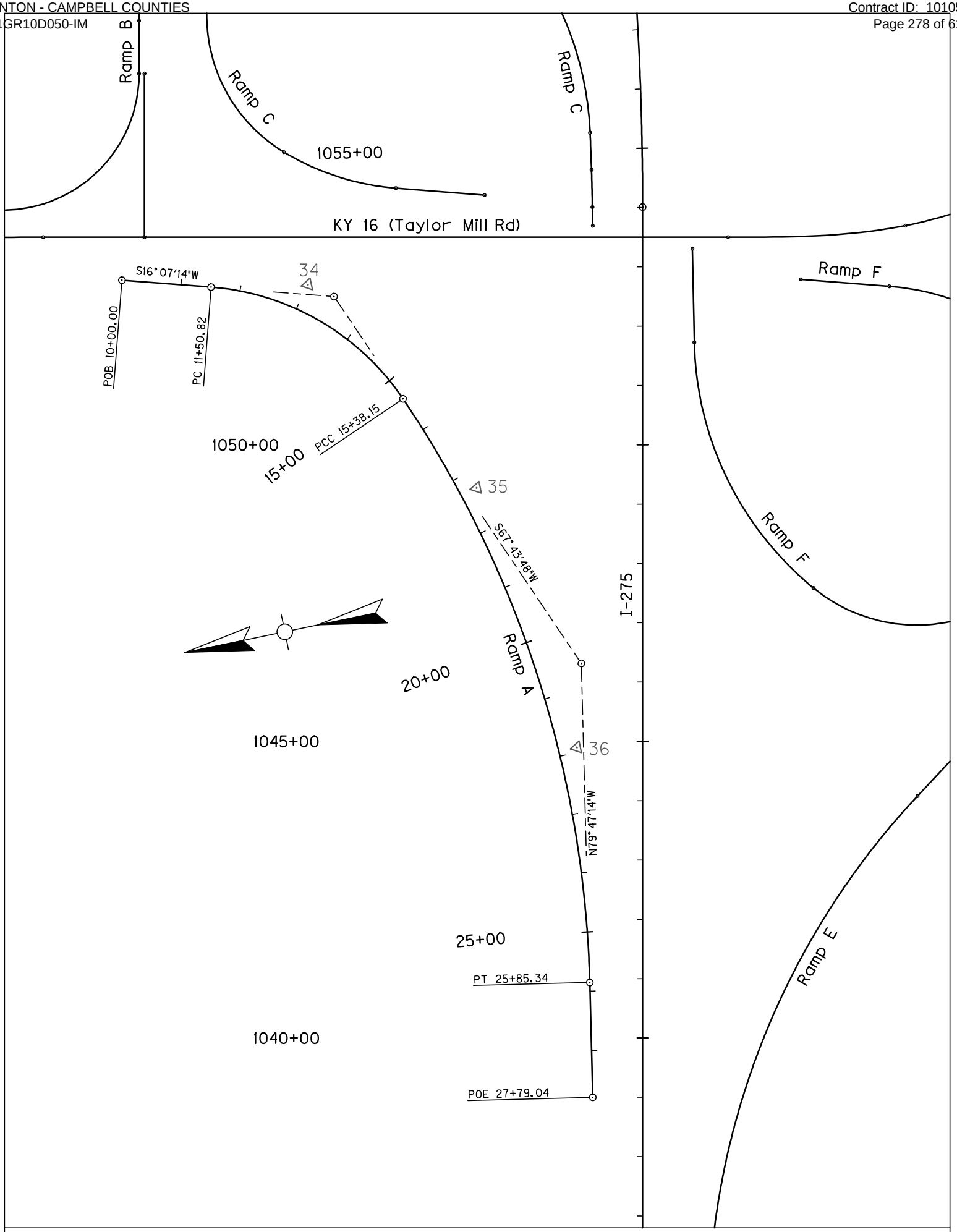
I-275 Alignment & Coordinate Control - Scale 1" = 200' - Sheet 3 of 23



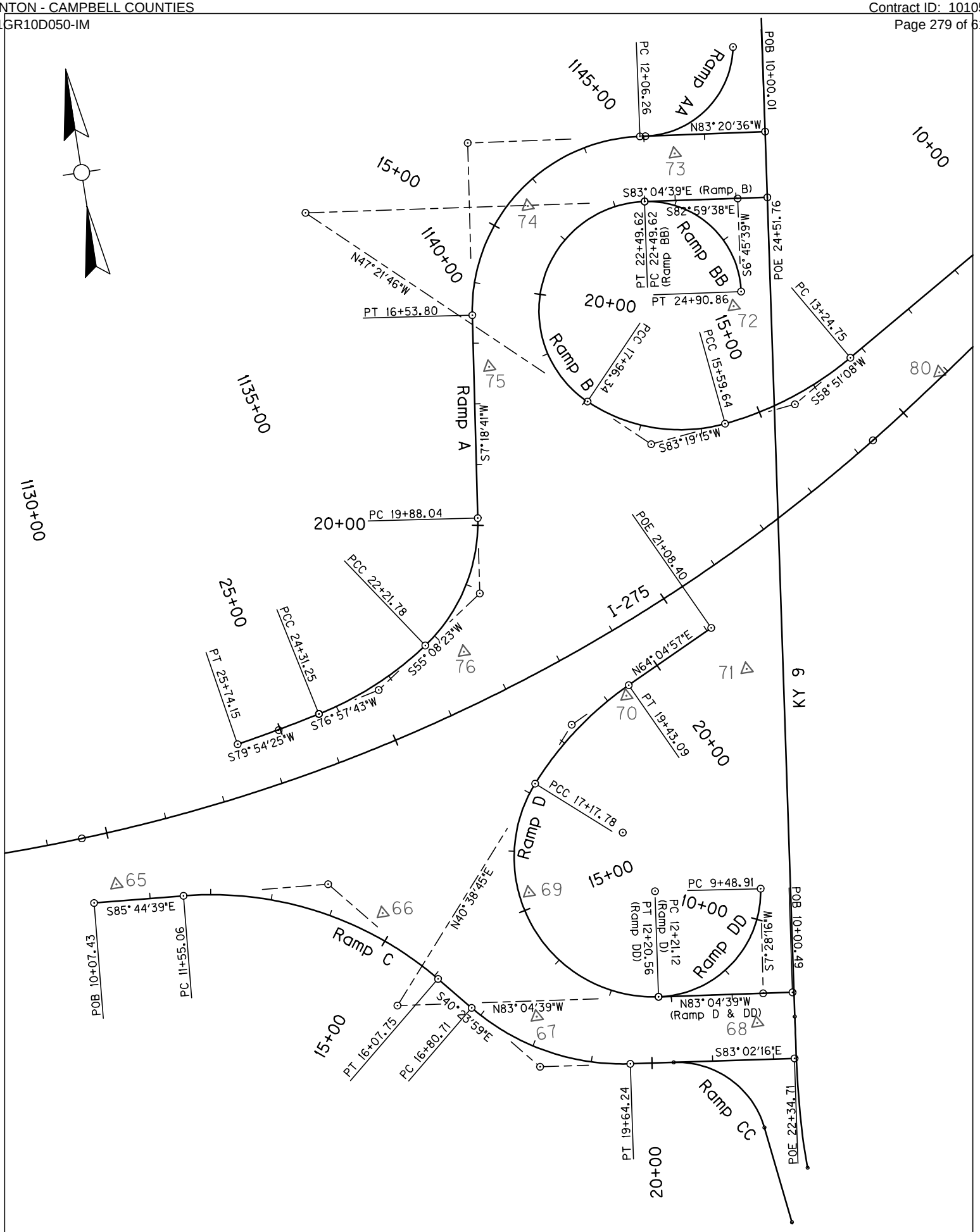
I-275 Alignment & Coordinate Control - Scale 1" = 200' - Sheet 4 of 23



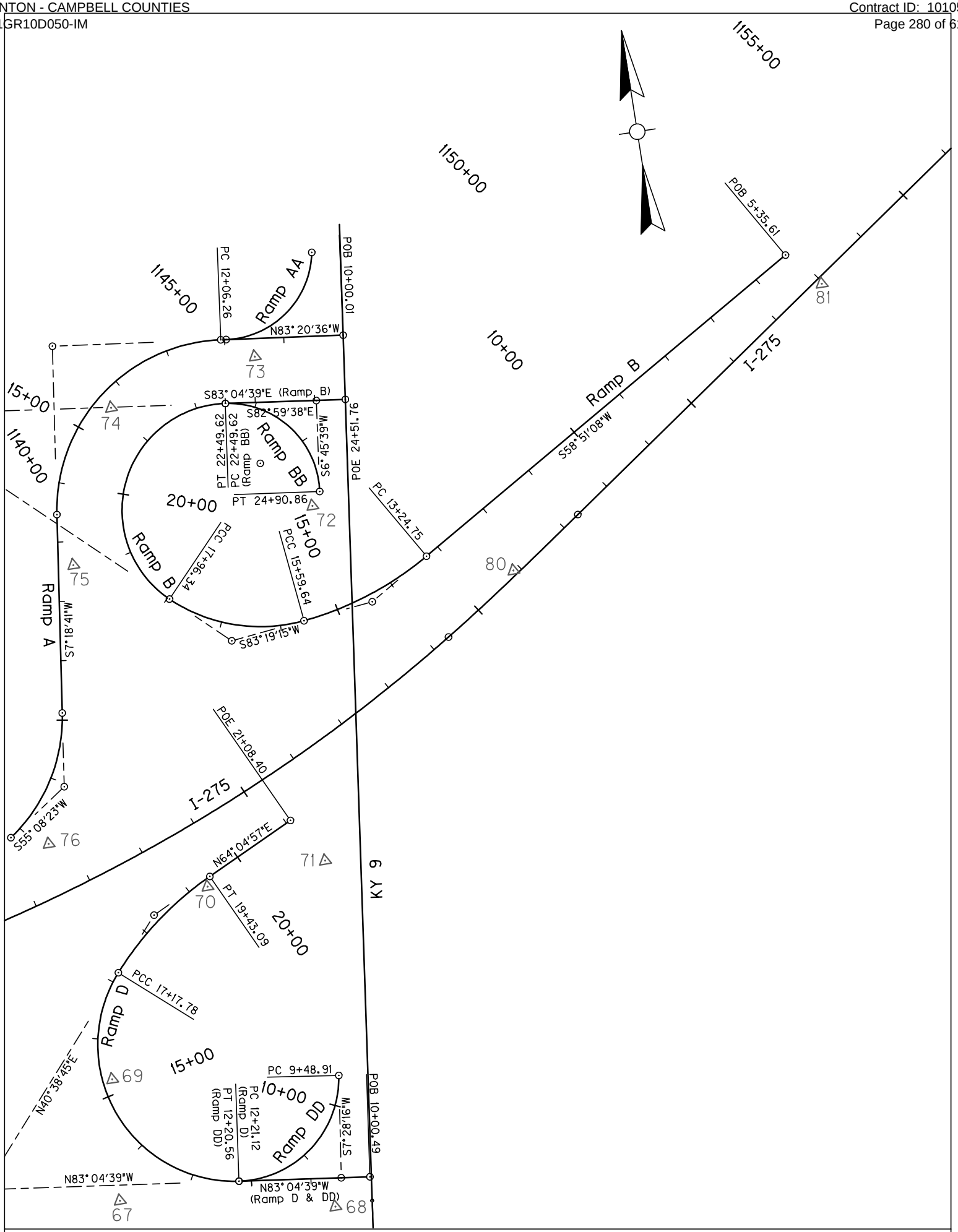
I-275 Alignment & Coordinate Control - Scale 1" = 200' - Sheet 5 of 23



I-275 Alignment & Coordinate Control - Scale 1" = 200' - Sheet 6 of 23



I-275 Alignment & Coordinate Control - Scale 1" = 200' - Sheet 7 of 23



I-275 Alignment & Coordinate Control - Scale 1" = 200' - Sheet 8 of 23

COORDINATE CONTROL POINTS

MONUMENT NO.	DESCRIPTION	State Plane Coordinates			CENTERLINE	STATION and OFFSET	ORIGIN OF LEVELS
		NORTH (Y)	EAST (X)	ELEV. (Z)			
302	NKCN Aluminum Cap In Conc	4264774.513	5254833.429	855.99	US25 Ramp C-2	32+52.76, 519.31' Rt	Published El.
1	5/8" Rebar & 1 1/2" Aluminum Cap	4263991.605	5254029.231	827.55	US 25 Ramp F	2+02.87, 35.63' Lt	302
2	5/8" Rebar & 1 1/2" Aluminum Cap	4263693.561	5254576.582	836.71	US 25 Ramp F	8+20.31, 35.01' Rt	302
3	5/8" Rebar & 1 1/2" Aluminum Cap	4263614.029	5255091.310	858.01	US 25 Ramp F	13+35.66, 16.17' Rt	302
4	5/8" Rebar & 1 1/2" Aluminum Cap	4263675.154	5255477.209	877.65	US 25 Ramp F	17+16.69, 70.28' Lt	302
5	5/8" Rebar & 1 1/2" Aluminum Cap	4263900.184	5254933.205	879.61	KY1303 Ramp D	6+05.19, 37.22' Lt	302
6	5/8" Rebar & 1 1/2" Aluminum Cap	4263467.691	5255926.842	876.28	KY1303 Ramp D	17+26.18, 96.94' Lt	302
7	5/8" Rebar & 1 1/2" Aluminum Cap	4263514.701	5256319.651	868.47	KY1303 Ramp D	20+96.96, 234.91' Lt	GPS Obs.
8	5/8" Rebar & 1 1/2" Aluminum Cap	4263476.444	5256884.075	848.19	I-275	888+00.44, 70.99' Rt	GPS Obs.
9	5/8" Rebar & 1 1/2" Aluminum Cap	4263256.039	5256481.981	885.40	KY1303 Ramp K	3+28.64, 80.64' Lt	302
10	5/8" Rebar & 1 1/2" Aluminum Cap	4263228.554	5256767.992	874.97	KY1303 Ramp K	6+10.46, 24.67' Lt	302
11	5/8" Rebar & 1 1/2" Aluminum Cap	4263284.756	5257311.987	845.09	KY1303 Ramp K	11+57.35, 26.15' Lt	302
12	5/8" Rebar & 1 1/2" Aluminum Cap	4263341.240	5257934.866	811.21	KY1303 Ramp K	17+81.12, 27.99' Lt	302
13	5/8" Rebar & 1 1/2" Aluminum Cap	4263469.588	5258341.613	797.51	KY1303 Ramp J	6+09.06, 24.48' Lt	GPS Obs.
14	5/8" Rebar & 1 1/2" Aluminum Cap	4263640.297	5257743.563	833.18	KY1303 Ramp J	12+28.31, 30.29' Lt	GPS Obs.
15	5/8" Rebar & 1 1/2" Aluminum Cap	4263848.357	5257115.389	870.28	KY1303 Ramp J	18+89.87, 44.83' Lt	GPS Obs.
16	5/8" Rebar & 1 1/2" Aluminum Cap	4264089.092	5256797.497	881.43	KY1303 Ramp G	3+67.26, 57.54' Rt	302
17	5/8" Rebar & 1 1/2" Aluminum Cap	4263941.119	5256330.653	869.49	KY1303 Ramp G	8+57.20, 29.99' Lt	302
18	5/8" Rebar & 1 1/2" Aluminum Cap	4263746.006	5256002.375	870.97	US25 Ramp C-2	16+90.29, 11.63' Lt	302
19	5/8" Rebar & 1 1/2" Aluminum Cap	4263712.537	5256586.872	857.67	US25 Ramp C-2	11+06.28, 27.01' Rt	302
20	5/8" Rebar & 1 1/2" Aluminum Cap	4263608.690	5257070.335	840.62	US25 Ramp C-1	6+12.16, 24.02' Lt	302
21	5/8" Rebar & 1 1/2" Aluminum Cap	4263890.649	5255440.604	877.23	US25 Ramp C-2	22+69.30, 9.70' Lt	302
22	5/8" Rebar & 1 1/2" Aluminum Cap	4264164.304	5254913.990	873.310	US25 Ramp C-2	28+63.75, 33.52' Rt	302
23	5/8" Rebar & 1 1/2" Aluminum Cap	4264229.627	5255011.094	865.57	US 25 Ramp E	6+92.80, 50.55' Lt	302
24	5/8" Rebar & 1 1/2" Aluminum Cap	4264630.968	5254949.183	852.96	US 25 Ramp E	10+79.66, 66.67' Lt	302
27	5/8" Rebar & 1 1/2" Aluminum Cap	4264512.761	5266351.397	538.17	KY 17 Ramp C	16+41.19, 14.27' Rt	GPS Obs.
34	5/8" Rebar & 1 1/2" Aluminum Cap	4262804.384	5273114.929	798.83	KY 16 Ramp A	13+00.83, 45.16' Lt	Held GPS Obs.
35	5/8" Rebar & 1 1/2" Aluminum Cap	4262595.339	5272721.633	790.69	KY 16 Ramp A	17+29.53, 29.08' Lt	34
36	5/8" Rebar & 1 1/2" Aluminum Cap	4262518.724	5272258.873	770.11	KY 16 Ramp A	21+92.28, 31.09' Lt	34
50	5/8" Rebar & 1 1/2" Aluminum Cap	4264659.012	5265185.711	541.60	KY 17 Ramp D	7+35.05, 43.56' Lt	Held GPS Obs.
51	5/8" Rebar & 1 1/2" Aluminum Cap	4264442.445	5265585.288	533.00	KY 17 Ramp D	11+75.66, 26.86' Lt	50
52	5/8" Rebar & 1 1/2" Aluminum Cap	4264191.745	5265869.763	520.27	KY 17 Ramp D	15+55.02, 31.84' Lt	50
53	5/8" Rebar & 1 1/2" Aluminum Cap	4264108.561	5266490.570	513.14	KY 17 Ramp D	22+13.57, 54.85' Lt	50
54	5/8" Rebar & 1 1/2" Aluminum Cap	4265368.943	5266490.990	508.24	KY 17 Ramp A	5+66.12, 9.47' Rt	50
55	5/8" Rebar & 1 1/2" Aluminum Cap	4265355.198	5266008.198	518.13	KY 17 Ramp A	10+74.23, 9.97' Rt	50
56	5/8" Rebar & 1 1/2" Aluminum Cap	4264915.059	5265485.707	538.72	KY 17 Ramp A	17+49.37, 37.11' Lt	50
57	5/8" Rebar & 1 1/2" Aluminum Cap	4264794.222	5264878.096	558.12	KY 17 Ramp A	23+63.00, 10.54' Rt	50
58	5/8" Rebar & 1 1/2" Aluminum Cap	4264544.695	5265834.269	526.37	KY 17 Ramp C	10+91.94, 33.56' Lt	50
59	5/8" Rebar & 1 1/2" Aluminum Cap	4264660.509	5265904.880	529.13	KY 17 Ramp C	11+99.50, 70.70' Lt	50
60	5/8" Rebar & 1 1/2" Aluminum Cap	4264855.194	5266071.177	543.35	KY 17 Ramp B	8+16.10, 65.82' Lt	50

NOTE

Ramps receiving full depth pavement replacement were field surveyed to create a best-fit alignment from the survey data. The alignment information for these ramps is provided on the "I-275 Alignment & Coordinate Control" sheets. The other alignments shown in this proposal, including I-275, are based on previous construction plans and their alignment information has not been provided. The contractor should use the stations stamped in the existing pavement for these alignments.

STATE PLANE COORDINATES

Coordinates for horizontal control were obtained from GPS methods and adjusted to the NAD 83 State Plane Coordinate System, Kentucky Single Zone in U.S. Survey Feet using monuments in the Northern Kentucky Control Network to control the GPS Site Calibration Used to Determine the Coordinates of the Monuments For This Project. These are State Plane Coordinates.

BASIS OF ELEVATIONS

Elevations are NAVD 88 in U.S. Survey Feet. There are four different Origin of Levels for four sets of control points for this project. The GPS elevations of all points were determined first using GEOID03 and a site calibration tied to Northern KY Control Network Monuments. Differential Level Loops were run for four areas where accurate elevations were required for pavement replacement. The four areas are the US 25 & KY 1303 interchange, the KY 17 interchange, Ramp A of the KY 16 interchange and the KY 9 interchange. The table above includes the origin of levels for each control point or if it is based on the GPS site calibatation elevation only. Northern Kentucky Control Network monument 302 is the origin or levels for all monuments in the US 25 and KY 1303 interchanges. A control information sheet for this monument follows this listing of control coordinate information. The coordinates shown on the information sheet are in KY North Zone but were converted to KY Single Zone by Corpscon for this project.

COORDINATE CONTROL POINTS

MONUMENT NO.	DESCRIPTION	State Plane Coordinates			CENTERLINE	STATION and OFFSET	ORIGIN OF LEVELS
		NORTH (Y)	EAST (X)	ELEV. (Z)			
65	5/8" Rebar & 1 1/2" Aluminum Cap	4262495.902	5280684.102	579.03	KY 9 Ramp C	10+46.38, 27.55' Lt	Held GPS Obs.
66	5/8" Rebar & 1 1/2" Aluminum Cap	4262381.770	5281110.046	584.67	KY 9 Ramp C	14+75.55, 38.72' Lt	65
67	5/8" Rebar & 1 1/2" Aluminum Cap	4262174.164	5281334.440	588.50	KY 9 Ramp C	17+85.23, 46.30' Lt	65
68	5/8" Rebar & 1 1/2" Aluminum Cap	4262108.383	5281691.633	594.36	KY 9 Ramp C	21+75.24, 60.56' Lt	65
69	5/8" Rebar & 1 1/2" Aluminum Cap	4262378.081	5281353.118	590.64	KY 9 Ramp D	15+26.63, 16.08' Rt	65
70	5/8" Rebar & 1 1/2" Aluminum Cap	4262673.882	5281561.633	602.43	KY 9 Ramp D	19+29.70, 11.94' Rt	65
71	5/8" Rebar & 1 1/2" Aluminum Cap	4262686.812	5281763.975	592.03	KY 9 Ramp D	10+58.13, 534.63' Rt	65
72	5/8" Rebar & 1 1/2" Aluminum Cap	4263280.510	5281834.840	582.58	KY 9 Ramp B	14+62.76, 176.73' Rt	65
73	5/8" Rebar & 1 1/2" Aluminum Cap	4263543.930	5281777.610	578.42	KY 9 Ramp A	11+50.06, 30.44' Lt	65
74	5/8" Rebar & 1 1/2" Aluminum Cap	4263495.846	5281525.189	580.79	KY 9 Ramp A	14+39.00, 26.36' Lt	65
75	5/8" Rebar & 1 1/2" Aluminum Cap	4263243.774	5281421.744	585.22	KY 9 Ramp A	17+39.62, 25.49' Lt	65
76	5/8" Rebar & 1 1/2" Aluminum Cap	4262786.356	5281308.393	591.84	KY 9 Ramp A	21+89.21, 53.77' Lt	65
80	5/8" Rebar & 1 1/2" Aluminum Cap	4263120.769	5282152.655	623.49	KY 9 Ramp B	12+28.06, 112.68' Lt	65
81	5/8" Rebar & 1 1/2" Aluminum Cap	4263518.299	5282739.937	645.30	KY 9 Ramp B	5+19.83, 76.23' Lt	65

NOTE

Ramps receiving full depth pavement replacement were field surveyed to create a best–fit alignment from the survey data. The alignment information for these ramps is provided on the "I–275 Alignment & Coordinate Control" sheets. The other alignments shown in this proposal, including I–275, are based on previous construction plans and their alignment information has not been provided. The contractor should use the stations stamped in the existing pavement for these alignments.

STATE PLANE COORDINATES

Coordinates for horizontal control were obtained from GPS methods and adjusted to the NAD 83 State Plane Coordinate System, Kentucky Single Zone in U.S. Survey Feet using monuments in the Northern Kentucky Control Network to control the GPS Site Calibration Used to Determine the Coordinates of the Monuments For This Project. These are State Plane Coordinates.

BASIS OF ELEVATIONS

Elevations are NAVD 88 in U.S. Survey Feet. There are four different Origin of Levels for four sets of control points for this project. The GPS elevations of all points were determined first using GEOID03 and a site calibration tied to Northern KY Control Network Monuments. Differential Level Loops were run for four areas where accurate elevations were required for pavement replacement. The four areas are the US 25 & KY 1303 interchange, the KY 17 interchange, Ramp A of the KY 16 interchange and the KY 9 interchange. The table above includes the origin of levels for each control point or if it is based on the GPS site calibatation elevation only. Northern Kentucky Control Network monument 302 is the origin or levels for all monuments in the US 25 and KY 1303 interchanges. A control information sheet for this monument follows this listing of control coordinate information. The coordinates shown on the information sheet are in KY North Zone but were converted to KY Single Zone by Corpscon for this project.

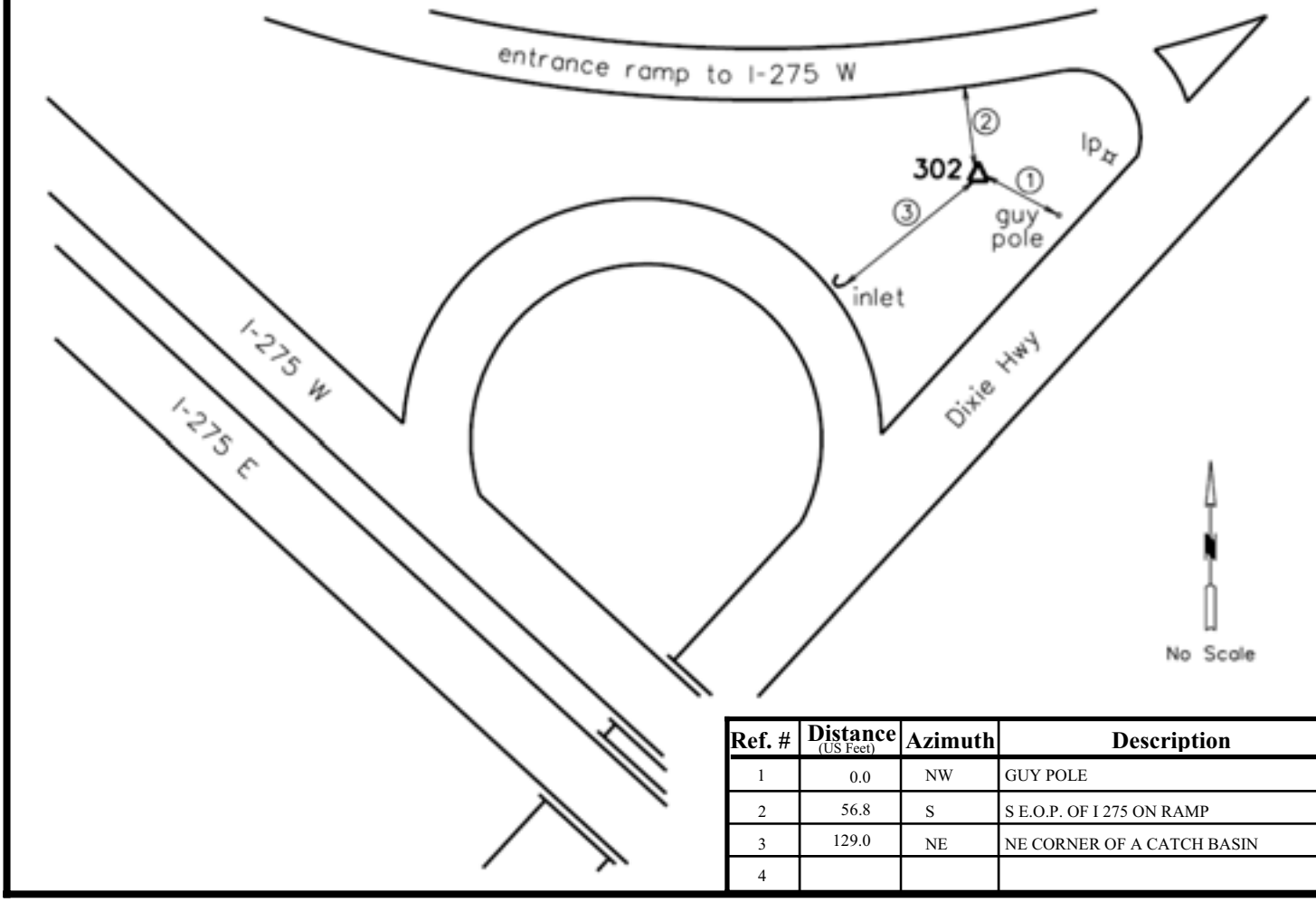
Control Monument Information Sheet

Northern Kentucky Control Network

County	Established By Agency	Established Date	PID	Designation
Kenton	Woolpert LLP	2000	AI8990	**302**
Horizontal Datum-Accuracy NAD 83 (1993) First Order	**State Plane Zone** KY N 1601	**Vertical Datum-Accuracy** NAVD 88 GPS Derived (Third Order)	**Convergance Angle** -0° 12' 09.8"	**Stamping on Mark** 302 SET 2000
Latitude 39° 01' 46.73901"N	**Longitude** 84° 34' 33.13350"W	**Geoid** Geoid 99	**Ellips Hgt** 744.49 (US FT)	**Grid Factor** 1.0000101825
Grid Northing 557226.47 (US FT)	**Grid Easting** 1547840.00 (US FT)	**Grid Elevation** 855.99 (US FT)	**To Station** I275 L 9 RESET	**Grid Azimuth** 68°02'37.9"	**Grid Distance** 1042.15 (US FT)

Station Description

The station is +/- 3.30 mi NE of Florence, in the median between Dixie Hwy and on ramp for I 275 From the junction of I 71/75 with Dixie Hwy (St. Hwy. 42 and 25), go SW 2.35 mi on I 71/75 to the station on the right. The station is a concrete monument w/ an aluminum disk and is set flush w/ the ground.



Ref. #	Distance (US Feet)	Azimuth	Description
1	0.0	NW	GUY POLE
2	56.8	S	S E.O.P. OF I 275 ON RAMP
3	129.0	NE	NE CORNER OF A CATCH BASIN
4			

Alignment Name: Ramp C-1
Alignment Description: Westbound I-275 Collector/Distributor

		Station	Northing	Easting
Element: Linear				
POB	( )	0+00.0000	4263516.88857	5257675.93299
PC	( )	5+88.9983	4263627.98341	5257097.50678
Tangential Direction:		N 79°07'40.6" W		
Tangential Length:		589.00		
Element: Circular				
PC	( )	5+88.9983	4263627.98341	5257097.50678
PI	( )	7+79.8728	4263663.98552	5256910.05828
CC	( )		4258786.08013	5256167.55153
PT	( )	9+70.5568	4263685.38790	5256720.38742
Radius:		4930.40		
Delta:		4°26'02.6" Left		
Degree of Curvature (Arc):		1°09'43.5"		
Length:		381.56		
Tangent:		190.87		
Chord:		381.46		
Middle Ordinate:		3.69		
External:		3.69		
Tangent Direction:		N 79°07'40.6" W		
Radial Direction:		N 10°52'19.4" E		
Chord Direction:		N 81°20'41.9" W		
Radial Direction:		N 6°26'16.8" E		
Tangent Direction:		N 83°33'43.2" W		

Alignment Name: Ramp C-2
Alignment Description: Westbound I-275 Collector/Distributor

		Station	Northing	Easting
Element: Linear				
POB	( )	9+70.5600	4263670.48249	5256718.70550
PC	( )	14+73.2736	4263726.85076	5256219.16214
Tangential Direction:		N 83°33'43.2" W		
Tangential Length:		502.71		
Element: Circular				
PC	( )	14+73.2736	4263726.85076	5256219.16214
PI	( )	22+96.2162	4263819.12567	5255401.40916
CC	( )		4267419.13856	5256635.79838
PT	( )	30+93.0131	4264248.05970	5254699.09143
Radius:		3715.72		
Delta:		24°58'34.0" Right		
Degree of Curvature (Arc):		1°32'31.1"		
Length:		1619.74		
Tangent:		822.94		
Chord:		1606.95		
Middle Ordinate:		87.91		
External:		90.04		
Tangent Direction:		N 83°33'43.2" W		
Radial Direction:		N 6°26'16.8" E		
Chord Direction:		N 71°04'26.2" W		
Radial Direction:		N 31°24'50.8" E		
Tangent Direction:		N 58°35'09.2" W		

Alignment Name: Ramp C-2
Alignment Description: Westbound I-275 Collector/Distributor

		Station	Northing	Easting
Element: Linear				
PT	( )	30+93.0131	4264248.05970	5254699.09143
POE	( )	37+55.7752	4264593.50449	5254133.47531
Tangential Direction:		N 58°35'09.2" W		
Tangential Length:		662.76		

Alignment Name: Ramp E
Alignment Description: Ramp C-2 to US 25 NB

		Station	Northing	Easting
Element: Circular				
PC	( )	0+00.0000	4263871.39781	5255614.85181
PI	( )	2+43.7377	4263938.80357	5255380.62000
CC	( )		4265111.08706	5255971.60180
PCC	( )	4+81.7957	4264087.02485	5255187.12962
Radius:		1290.00		
Delta:		21°23'56.8" Right		
Degree of Curvature (Arc):		4°26'29.5"		
Length:		481.80		
Tangent:		243.74		
Chord:		479.00		
Middle Ordinate:		22.43		
External:		22.82		
Tangent Direction:		N 73°56'44.1" W		
Radial Direction:		N 16°03'15.9" E		
Chord Direction:		N 63°14'45.7" W		
Radial Direction:		N 37°27'12.8" E		
Tangent Direction:		N 52°32'47.2" W		
Element: Circular				
PCC	( )	4+81.7957	4264087.02485	5255187.12962
PI	( )	6+90.4873	4264213.93397	5255021.46048
CC	( )		4264428.37892	5255448.62035
PT	( )	8+70.3801	4264422.60677	5255018.65909
Radius:		430.00		
Delta:		51°46'38.3" Right		
Degree of Curvature (Arc):		13°19'28.6"		
Length:		388.58		
Tangent:		208.69		
Chord:		375.50		
Middle Ordinate:		43.15		
External:		47.97		
Tangent Direction:		N 52°32'47.2" W		
Radial Direction:		N 37°27'12.8" E		
Chord Direction:		N 26°39'28.1" W		
Radial Direction:		N 89°13'51.1" E		
Tangent Direction:		N 0°46'08.9" W		
Element: Linear				
PT	( )	8+70.3801	4264422.60677	5255018.65909
POE	( )	11+87.5342	4264739.73235	5255014.40174
Tangential Direction:		N 0°46'08.9" W		
Tangential Length:		317.15		

Ramp C-1 (@ KY 1303 & US 25)
Ramp C-2 (@ KY 1303 & US 25)
Ramp E (@ US 25)

Alignment Name: Ramp F
Alignment Description: US 25 to I-275 EB

		Station	Northing	Easting
Element: Linear				
POB	( )	-0+00.0050	4264036.22215	5253828.14254
PC	( )	6+91.5248	4263771.89952	5254467.16296
Tangential Direction:		S 67°31'41.5" E		
Tangential Length:		691.53		
Element: Circular				
PC	( )	6+91.5248	4263771.89952	5254467.16296
PI	( )	10+04.1853	4263652.39166	5254756.08246
CC	( )		4265527.62817	5255193.39769
PT	( )	13+11.2914	4263631.76664	5255068.06197
Radius:		1900.00		
Delta:		18°41'22.1" Left		
Degree of Curvature (Arc):		3°00'56.0"		
Length:		619.77		
Tangent:		312.66		
Chord:		617.02		
Middle Ordinate:		25.21		
External:		25.55		
Tangent Direction:		S 67°31'41.5" E		
Radial Direction:		S 22°28'18.5" W		
Chord Direction:		S 76°52'22.6" E		
Radial Direction:		S 3°46'56.4" W		
Tangent Direction:		S 86°13'03.6" E		
Element: Linear				
PT	( )	13+11.2914	4263631.76664	5255068.06197
PC	( )	21+03.1687	4263579.52952	5255858.21448
Tangential Direction:		S 86°13'03.6" E		
Tangential Length:		791.88		
Element: Circular				
PC	( )	21+03.1687	4263579.52952	5255858.21448
PI	( )	21+99.4152	4263573.18051	5255954.25131
CC	( )		4255956.72929	5255354.26987
PT	( )	22+95.6515	4263564.41404	5256050.09770
Radius:		7639.44		
Delta:		1°26'37.0" Right		
Degree of Curvature (Arc):		0°45'00.0"		
Length:		192.48		
Tangent:		96.25		
Chord:		192.48		
Middle Ordinate:		0.61		
External:		0.61		
Tangent Direction:		S 86°13'03.6" E		
Radial Direction:		S 3°46'56.4" W		
Chord Direction:		S 85°29'45.1" E		
Radial Direction:		S 5°13'33.4" W		
Tangent Direction:		S 84°46'26.6" E		
Element: Linear				
PT	( )	22+95.6515	4263564.41404	5256050.09770
POE	( )	24+43.1427	4263550.98000	5256196.97582
Tangential Direction:		S 84°46'26.6" E		
Tangential Length:		147.49		

Alignment Name: Ramp D
Alignment Description: I-275 EB to KY 1303

		Station	Northing	Easting
Element: Linear				
POB	( )	0+00.0038	4264223.77734	5254420.43923
PC	( )	8+90.2516	4263703.34588	5255142.72181
Tangential Direction:		S 54°13'33.1" E		
Tangential Length:		890.25		
Element: Circular				
PC	( )	8+90.2516	4263703.34588	5255142.72181
PI	( )	12+65.7405	4263483.83815	5255447.36636
CC	( )		4265257.03829	5256262.21496
PT	( )	16+31.8214	4263395.62911	5255812.34734
Radius:		1915.00		
Delta:		22°11'14.5" Left		
Degree of Curvature (Arc):		2°59'31.0"		
Length:		741.57		
Tangent:		375.49		
Chord:		736.95		
Middle Ordinate:		35.78		
External:		36.47		
Tangent Direction:		S 54°13'33.1" E		
Radial Direction:		S 35°46'26.9" W		
Chord Direction:		S 65°19'10.3" E		
Radial Direction:		S 13°35'12.4" W		
Tangent Direction:		S 76°24'47.6" E		
Element: Linear				
PT	( )	16+31.8214	4263395.62911	5255812.34734
POE	( )	22+52.2299	4263249.88408	5256415.39391
Tangential Direction:		S 76°24'47.6" E		
Tangential Length:		620.41		

Ramp F (@ US 25)
Ramp D (@ KY 1303)

Alignment Name: Ramp F-1
Alignment Description: US 25 NB to Ramp F

		Station	Northing	Easting
Element: Circular				
PC	( )	10+00.0000	4263888.78109	5253675.88535
PI	( )	10+76.5840	4263924.82662	5253743.45630
CC	( )		4259936.99982	5255783.95149
PCC	( )	11+53.1531	4263958.54098	5253812.22008
Radius:		4478.90		
Delta:		1°57'33.1" Right		
Degree of Curvature (Arc):		1°16'45.3"		
Length:		153.15		
Tangent:		76.58		
Chord:		153.15		
Middle Ordinate:		0.65		
External:		0.65		
Tangent Direction:		N 61°55'20.8" E		
Radial Direction:		S 28°04'39.2" E		
Chord Direction:		N 62°54'07.3" E		
Radial Direction:		S 26°07'06.1" E		
Tangent Direction:		N 63°52'53.9" E		
Element: Circular				
PCC	( )	11+53.1531	4263958.54098	5253812.22008
PI	( )	12+56.9784	4264004.24765	5253905.44336
CC	( )		4263752.02708	5253913.47229
PT	( )	13+48.2066	4263964.56266	5254001.38491
Radius:		230.00		
Delta:		48°35'24.6" Right		
Degree of Curvature (Arc):		24°54'40.4"		
Length:		195.05		
Tangent:		103.83		
Chord:		189.26		
Middle Ordinate:		20.37		
External:		22.35		
Tangent Direction:		N 63°52'53.9" E		
Radial Direction:		S 26°07'06.1" E		
Chord Direction:		N 88°10'36.2" E		
Radial Direction:		S 22°26'18.5" W		
Tangent Direction:		S 67°31'41.5" E		
Element: Linear				
PT	( )	13+48.2066	4263964.56266	5254001.38491
POE	( )	14+10.7337	4263940.66302	5254059.16414
Tangential Direction:		S 67°31'41.5" E		
Tangential Length:		62.53		

Ramp F-1 @ US 25

Alignment Name: Ramp G
Alignment Description: KY 1303 to Ramp C-2

		Station	Northing	Easting
Element: Linear				
POB	( )	0+00.0000	4264214.25550	5257095.15580
PC	( )	1+49.9847	4264104.41915	5256993.02164
Tangential Direction:		S 42°55'08.4" W		
Tangential Length:		149.98		
Element: Circular				
PC	( )	1+49.9847	4264104.41915	5256993.02164
PI	( )	2+53.0157	4264028.96451	5256922.86481
CC	( )		4264261.03292	5256824.58138
PT	( )	3+43.7169	4264031.08148	5256819.85557
Radius:		230.00		
Delta:		48°15'39.7" Right		
Degree of Curvature (Arc):		24°54'40.4"		
Length:		193.73		
Tangent:		103.03		
Chord:		188.06		
Middle Ordinate:		20.10		
External:		22.02		
Tangent Direction:		S 42°54'58.7" W		
Radial Direction:		N 47°05'01.3" W		
Chord Direction:		S 67°02'48.6" W		
Radial Direction:		N 1°10'38.4" E		
Tangent Direction:		N 88°49'21.6" W		
Element: Linear				
PT	( )	3+43.7169	4264031.08148	5256819.85557
PC	( )	6+13.8876	4264036.63268	5256549.74190
Tangential Direction:		N 88°49'21.6" W		
Tangential Length:		270.17		
Element: Circular				
PC	( )	6+13.8876	4264036.63268	5256549.74190
PI	( )	6+85.2200	4264038.09835	5256478.42452
CC	( )		4263710.70150	5256543.04358
PT	( )	7+54.3388	4264009.64601	5256413.01212
Radius:		326.00		
Delta:		24°41'05.5" Left		
Degree of Curvature (Arc):		17°34'31.4"		
Length:		140.45		
Tangent:		71.33		
Chord:		139.37		
Middle Ordinate:		7.53		
External:		7.71		
Tangent Direction:		N 88°49'21.6" W		
Radial Direction:		N 1°10'38.4" E		
Chord Direction:		S 78°50'05.7" W		
Radial Direction:		N 23°30'27.1" W		
Tangent Direction:		S 66°29'32.9" W		
Element: Linear				
PT	( )	7+54.3388	4264009.64601	5256413.01212
PC	( )	11+49.5226	4263852.01923	5256050.62554
Tangential Direction:		S 66°29'32.9" W		
Tangential Length:		395.18		

Ramp G (@ KY 1303)
Ramp K (@ KY 1303)

Alignment Name: Ramp G
Alignment Description: KY 1303 to Ramp C-2

		Station	Northing	Easting
Element: Circular				
PC	( )	11+49.5226	4263852.01924	5256050.62553
PI	( )	12+92.6897	4263794.94963	5255919.32491
CC	( )		4264246.37872	5255879.21779
PT	( )	14+25.9287	4263827.97732	5255780.01961
Radius:		430.00		
Delta:		36°49'48.0" Right		
Degree of Curvature (Arc):		13°19'28.6"		
Length:		276.41		
Tangent:		143.17		
Chord:		271.67		
Middle Ordinate:		22.02		
External:		23.21		
Tangent Direction:		S 66°30'28.4" W		
Radial Direction:		N 23°29'31.6" W		
Chord Direction:		S 84°55'22.4" W		
Radial Direction:		N 13°20'16.4" E		
Tangent Direction:		N 76°39'43.6" W		

Alignment Name: Ramp K
Alignment Description: KY 1303 to I-275 EB

		Station	Northing	Easting
Element: Linear				
POB	( )	1+89.5181	4263161.88594	5256351.63002
PC	( )	15+35.7344	4263296.60736	5257691.08836
Tangential Direction:		N 84°15'23.6" E		
Tangential Length:		1346.22		
Element: Circular				
PC	( )	15+35.7344	4263296.60736	5257691.08836
PI	( )	19+00.5079	4263333.11174	5258054.03068
CC	( )		4259515.68345	5258071.37001
PT	( )	22+63.0529	4263299.90587	5258417.28964
Radius:		3800.00		
Delta:		10°57'59.0" Right		
Degree of Curvature (Arc):		1°30'28.0"		
Length:		727.32		
Tangent:		364.77		
Chord:		726.21		
Middle Ordinate:		17.39		
External:		17.47		
Tangent Direction:		N 84°15'23.6" E		
Radial Direction:		S 5°44'36.4" E		
Chord Direction:		N 89°44'23.1" E		
Radial Direction:		S 5°13'22.6" W		
Tangent Direction:		S 84°46'37.4" E		
Element: Linear				
PT	( )	22+63.0529	4263299.90587	5258417.28964
POE	( )	24+13.0579	4263286.25069	5258566.67186
Tangential Direction:		S 84°46'37.4" E		
Tangential Length:		150.01		

Alignment Name: Ramp A
Alignment Description: KY 17 to I-275 WB

		Station	Northing	Easting
Element: Linear				
POB	( )	0+66.8294	4265586.70307	5266835.03708
PC	( )	1+27.1602	4265527.14982	5266825.38221
Tangential Direction:		S 9°12'31.5" W		
Tangential Length:		60.33		
Element: Circular				
PC	( )	1+27.1602	4265527.14982	5266825.38221
PI	( )	4+10.1213	4265247.83556	5266780.09935
CC	( )		4265563.95721	5266598.34650
PT	( )	5+35.7687	4265349.23097	5266515.92901
Radius:		230.00		
Delta:		101°47'21.6" Right		
Degree of Curvature (Arc):		24°54'40.4"		
Length:		408.61		
Tangent:		282.96		
Chord:		356.95		
Middle Ordinate:		84.93		
External:		134.65		
Tangent Direction:		S 9°12'31.5" W		
Radial Direction:		N 80°47'28.5" W		
Chord Direction:		S 60°06'12.3" W		
Radial Direction:		N 20°59'53.1" E		
Tangent Direction:		N 69°00'06.9" W		
Element: Linear				
PT	( )	5+35.7687	4265349.23097	5266515.92901
PC	( )	7+17.2945	4265414.27835	5266346.45792
Tangential Direction:		N 69°00'06.9" W		
Tangential Length:		181.53		
Element: Circular				
PC	( )	7+17.2945	4265414.27835	5266346.45792
PI	( )	8+98.5927	4265479.24416	5266177.19937
CC	( )		4265121.13035	5266233.94014
PT	( )	10+46.1298	4265365.13803	5266036.31358
Radius:		314.00		
Delta:		60°00'10.0" Left		
Degree of Curvature (Arc):		18°14'49.4"		
Length:		328.84		
Tangent:		181.30		
Chord:		314.01		
Middle Ordinate:		42.07		
External:		48.58		
Tangent Direction:		N 69°00'06.9" W		
Radial Direction:		N 20°59'53.1" E		
Chord Direction:		S 80°59'48.1" W		
Radial Direction:		N 39°00'16.9" W		
Tangent Direction:		S 50°59'43.1" W		
Element: Linear				
PT	( )	10+46.1298	4265365.13803	5266036.31358
PC	( )	15+37.8538	4265055.65486	5265654.19760
Tangential Direction:		S 50°59'43.1" W		
Tangential Length:		491.72		

Alignment Name: Ramp A
Alignment Description: KY 17 to I-275 WB

		Station	Northing	Easting
Element: Circular				
PC	( )	15+37.8538	4265055.65486	5265654.19760
PI	( )	16+89.9708	4264959.91485	5265535.98830
CC	( )		4265591.85006	5265219.92268
PT	( )	18+37.2979	4264922.75481	5265388.47994
Radius:		690.00		
Delta:		24°51'54.2" Right		
Degree of Curvature (Arc):		8°18'13.5"		
Length:		299.44		
Tangent:		152.12		
Chord:		297.10		
Middle Ordinate:		16.18		
External:		16.57		
Tangent Direction:		S 50°59'43.1" W		
Radial Direction:		N 39°00'16.9" W		
Chord Direction:		S 63°25'40.2" W		
Radial Direction:		N 14°08'22.7" W		
Tangent Direction:		S 75°51'37.3" W		
Element: Linear				
PT	( )	18+37.2979	4264922.75481	5265388.47994
PC	( )	21+25.2715	4264852.40693	5265109.23101
Tangential Direction:		S 75°51'37.3" W		
Tangential Length:		287.97		
Element: Circular				
PC	( )	21+25.2715	4264852.40693	5265109.23101
PI	( )	23+34.0172	4264801.41329	5264906.80955
CC	( )		4263235.17784	5265768.55861
PT	( )	25+41.9335	4264719.90094	5264714.63636
Radius:		2699.00		
Delta:		8°50'42.4" Left		
Degree of Curvature (Arc):		2°07'22.3"		
Length:		416.66		
Tangent:		208.75		
Chord:		416.25		
Middle Ordinate:		8.04		
External:		8.06		
Tangent Direction:		S 75°51'37.3" W		
Radial Direction:		N 14°08'22.7" W		
Chord Direction:		S 71°26'16.1" W		
Radial Direction:		N 22°59'05.1" W		
Tangent Direction:		S 67°00'54.9" W		
Element: Linear				
PT	( )	25+41.9335	4264719.90094	5264714.63636
POE	( )	26+52.2626	4264676.81896	5264613.06644
Tangential Direction:		S 67°00'54.9" W		
Tangential Length:		110.33		

Ramp A (@ KY 17)

Alignment Name: Ramp A-1
Alignment Description: KY 17 NB to Ramp A

		Station	Northing	Easting
Element: Linear				
POB	( )	2+06.5422	4265207.71930	5266817.64010
POE	( )	5+60.8280	4265334.67298	5266486.88156
Tangential Direction:		N 69°00'06.9" W		
Tangential Length:		354.29		

Alignment Name: Ramp B
Alignment Description: I-275 WB to KY 17

		Station	Northing	Easting
Element: Linear				
POB	( )	0+00.0000	4264474.46390	5266809.33480
PC	( )	6+08.6651	4264779.66593	5266282.71826
Tangential Direction:		N 59°54'19.6" W		
Tangential Length:		608.67		
Element: Circular				
PC	( )	6+08.6651	4264779.66593	5266282.71826
PI	( )	7+09.1223	4264830.03798	5266195.80286
CC	( )		4265575.64916	5266744.03247
PCC	( )	8+08.7885	4264897.98039	5266121.80651
Radius:		920.00		
Delta:		12°27'47.4" Right		
Degree of Curvature (Arc):		6°13'40.1"		
Length:		200.12		
Tangent:		100.46		
Chord:		199.73		
Middle Ordinate:		5.44		
External:		5.47		
Tangent Direction:		N 59°54'19.6" W		
Radial Direction:		N 30°05'40.4" E		
Chord Direction:		N 53°40'25.9" W		
Radial Direction:		N 42°33'27.8" E		
Tangent Direction:		N 47°26'32.2" W		
Element: Circular				
PCC	( )	8+08.7885	4264897.98039	5266121.80651
PI	( )	8+84.4759	4264949.16957	5266066.05219
CC	( )		4265236.82582	5266432.90747
PCC	( )	9+58.8208	4265015.52423	5266029.63878
Radius:		460.00		
Delta:		18°41'15.6" Right		
Degree of Curvature (Arc):		12°27'20.2"		
Length:		150.03		
Tangent:		75.69		
Chord:		149.37		
Middle Ordinate:		6.10		
External:		6.19		
Tangent Direction:		N 47°26'39.6" W		
Radial Direction:		N 42°33'20.4" E		
Chord Direction:		N 38°06'01.7" W		
Radial Direction:		N 61°14'36.1" E		
Tangent Direction:		N 28°45'23.9" W		

Alignment Name: Ramp B
Alignment Description: I-275 WB to KY 17

		Station	Northing	Easting
Element: Circular				
PCC	( )	9+58.8208	4265015.52423	5266029.63878
PI	( )	10+76.1305	4265644.36877	5265684.54801
CC	( )		4265126.17501	5266231.27311
PT	( )	15+38.6557	4265333.44495	5266330.96852
Radius:		230.00		
Delta:		144°26'38.0" Right		
Degree of Curvature (Arc):		24°54'40.4"		
Length:		579.83		
Tangent:		717.31		
Chord:		438.03		
Middle Ordinate:		159.77		
External:		523.28		
Tangent Direction:		N 28°45'23.9" W		
Radial Direction:		N 61°14'36.1" E		
Chord Direction:		N 43°27'55.1" E		
Radial Direction:		S 25°41'14.0" W		
Tangent Direction:		S 64°18'46.0" E		
Element: Linear				
PT	( )	15+38.6557	4265333.44495	5266330.96852
POE	( )	20+60.8238	4265107.10686	5266801.53260
Tangential Direction:		S 64°18'46.0" E		
Tangential Length:		522.17		

Ramp A-1 (@ KY 17)
Ramp B (@ KY 17)

Alignment Name: Ramp C-1
Alignment Description: KY 17 SB to Ramp C

			Station	Northing	Easting
Element: Linear					
	POB	( )	0+00.0000	4264421.34733	5266645.92613
	PC	( )	0+57.5387	4264364.54353	5266636.75961
	Tangential Direction:		S 9°10'00.8" W		
	Tangential Length:		57.54		
Element: Circular					
	PC	( )	0+57.5387	4264364.54353	5266636.75961
	PI	( )	2+52.4745	4264172.09729	5266605.70425
	CC	( )		4264401.18498	5266409.69705
	PT	( )	3+80.9501	4264171.18749	5266410.77051
	Radius:		230.00		
	Delta:		80°33'56.5" Right		
	Degree of Curvature (Arc):		24°54'40.4"		
	Length:		323.41		
	Tangent:		194.94		
	Chord:		297.42		
	Middle Ordinate:		54.54		
	External:		71.50		
	Tangent Direction:		S 9°10'00.8" W		
	Radial Direction:		N 80°49'59.2" W		
	Chord Direction:		S 49°26'59.1" W		
	Radial Direction:		N 0°16'02.7" W		
	Tangent Direction:		S 89°43'57.3" W		
Element: Linear					
	PT	( )	3+80.9501	4264171.18749	5266410.77051
	POE	( )	4+41.5008	4264170.90488	5266350.22049
	Tangential Direction:		S 89°43'57.3" W		
	Tangential Length:		60.55		

Alignment Name: Ramp C
Alignment Description: KY 17 to I-275 EB

			Station	Northing	Easting
Element: Linear					
	POB	( )	0+00.0000	4264172.30746	5266650.73450
	PC	( )	5+95.4185	4264169.52852	5266055.32249
	Tangential Direction:		S 89°43'57.3" W		
	Tangential Length:		595.42		
Element: Circular					
	PC	( )	5+95.4185	4264169.52852	5266055.32249
	PI	( )	8+23.9894	4264168.46174	5265826.75404
	CC	( )		4264399.52602	5266054.24904
	PCC	( )	9+55.2681	4264397.01910	5265824.26270
	Radius:		230.00		
	Delta:		89°38'34.4" Right		
	Degree of Curvature (Arc):		24°54'40.4"		
	Length:		359.85		
	Tangent:		228.57		
	Chord:		324.25		
	Middle Ordinate:		66.86		
	External:		94.26		
	Tangent Direction:		S 89°43'57.3" W		

Alignment Name: Ramp C
Alignment Description: KY 17 to I-275 EB

			Station	Northing	Easting
	Radial Direction:		N 0°16'02.7" W		
	Chord Direction:		N 45°26'45.5" W		
	Radial Direction:		N 89°22'31.7" E		
	Tangent Direction:		N 0°37'28.3" W		
Element: Circular					
	PCC	( )	9+55.2681	4264397.01910	5265824.26270
	PI	( )	12+64.9817	4264706.71428	5265820.88694
	CC	( )		4264399.52602	5266054.24904
	PCC	( )	13+84.0038	4264620.41738	5266118.33499
	Radius:		230.00		
	Delta:		105°48'11.7" Right		
	Degree of Curvature (Arc):		24°54'40.4"		
	Length:		428.74		
	Tangent:		309.71		
	Chord:		369.30		
	Middle Ordinate:		92.87		
	External:		155.78		
	Tangent Direction:		N 0°37'28.3" W		
	Radial Direction:		N 89°22'31.7" E		
	Chord Direction:		N 52°46'37.6" E		
	Radial Direction:		S 16°10'43.4" W		
	Tangent Direction:		S 73°49'16.6" E		
Element: Circular					
	PCC	( )	13+84.0038	4264620.41738	5266118.33499
	PI	( )	14+62.5131	4264598.54197	5266193.73509
	CC	( )		4263515.98059	5265797.90524
	PT	( )	15+40.7792	4264566.62232	5266265.46266
	Radius:		1150.00		
	Delta:		7°48'39.3" Right		
	Degree of Curvature (Arc):		4°58'56.1"		
	Length:		156.78		
	Tangent:		78.51		
	Chord:		156.65		
	Middle Ordinate:		2.67		
	External:		2.68		
	Tangent Direction:		S 73°49'16.6" E		
	Radial Direction:		S 16°10'43.4" W		
	Chord Direction:		S 69°54'56.9" E		
	Radial Direction:		S 23°59'22.8" W		
	Tangent Direction:		S 66°00'37.2" E		
Element: Linear					
	PT	( )	15+40.7792	4264566.62232	5266265.46266
	POE	( )	18+32.5263	4264448.00622	5266532.00832
	Tangential Direction:		S 66°00'37.2" E		
	Tangential Length:		291.75		

Ramp C-1 (@ KY 17)
Ramp C (@ KY 17)

Alignment Name: Ramp D
Alignment Description: I-275 EB to KY 17

		Station	Northing	Easting
Element: Circular				
PC	( )	-0+02.6646	4264430.09423	5264477.35669
PI	( )	2+24.1492	4264535.44292	5264678.22016
CC	( )		4262503.94104	5265487.58384
PCC	( )	4+49.3292	4264597.08269	5264896.49754
Radius:		2175.00		
Delta:		11°54'24.6" Right		
Degree of Curvature (Arc):		2°38'03.4"		
Length:		451.99		
Tangent:		226.81		
Chord:		451.18		
Middle Ordinate:		11.73		
External:		11.79		
Tangent Direction:		N 62°19'26.1" E		
Radial Direction:		S 27°40'33.9" E		
Chord Direction:		N 68°16'38.4" E		
Radial Direction:		S 15°46'09.3" E		
Tangent Direction:		N 74°13'50.7" E		
Element: Circular				
PCC	( )	4+49.3292	4264597.08269	5264896.49754
PI	( )	8+27.7927	4264699.93538	5265260.71718
CC	( )		4263938.82573	5265082.38399
PT	( )	11+40.6895	4264445.99236	5265541.33716
Radius:		684.00		
Delta:		57°54'44.4" Right		
Degree of Curvature (Arc):		8°22'35.7"		
Length:		691.36		
Tangent:		378.46		
Chord:		662.30		
Middle Ordinate:		85.51		
External:		97.72		
Tangent Direction:		N 74°13'50.7" E		
Radial Direction:		S 15°46'09.3" E		
Chord Direction:		S 76°48'47.1" E		
Radial Direction:		S 42°08'35.0" W		
Tangent Direction:		S 47°51'25.0" E		
Element: Linear				
PT	( )	11+40.6895	4264445.99236	5265541.33716
PC	( )	15+52.9156	4264169.39518	5265846.99114
Tangential Direction:		S 47°51'25.0" E		
Tangential Length:		412.23		
Element: Circular				
PC	( )	15+52.9156	4264169.39518	5265846.99114
PI	( )	16+58.4003	4264098.61662	5265925.20506
CC	( )		4264399.25140	5266054.99622
PT	( )	17+56.2653	4264090.23221	5266030.35602
Radius:		310.00		
Delta:		37°35'02.9" Left		
Degree of Curvature (Arc):		18°28'57.0"		
Length:		203.35		
Tangent:		105.48		

Alignment Name: Ramp D
Alignment Description: I-275 EB to KY 17

		Station	Northing	Easting
Radial Direction:		S 42°08'35.0" W		
Chord Direction:		S 66°38'56.4" E		
Radial Direction:		S 4°33'32.2" W		
Tangent Direction:		S 85°26'27.8" E		
Element: Linear				
PT	( )	17+56.2653	4264090.23221	5266030.35602
POE	( )	23+57.5888	4264042.43629	5266629.77698
Tangential Direction:		S 85°26'27.8" E		
Tangential Length:		601.32		

Alignment Name: Ramp A
Alignment Description: KY 16 SB to I-275 WB

		Station	Northing	Easting
Element: Linear				
POB	( )	10+00.0000	4263109.90101	5273186.01284
PC	( )	11+50.8224	4262965.00902	5273144.13556
Tangential Direction:		S 16°07'14.1" W		
Tangential Length:		150.82		
Element: Circular				
PC	( )	11+50.8224	4262965.00902	5273144.13556
PI	( )	13+58.7363	4262765.27034	5273086.40626
CC	( )		4263084.46264	5272731.04336
PCC	( )	15+38.1471	4262686.47697	5272894.00090
Radius:		430.00		
Delta:		51°36'34.1" Right		
Degree of Curvature (Arc):		13°19'28.6"		
Length:		387.32		
Tangent:		207.91		
Chord:		374.36		
Middle Ordinate:		42.88		
External:		47.63		
Tangent Direction:		S 16°07'14.1" W		
Radial Direction:		N 73°52'45.9" W		
Chord Direction:		S 41°55'31.1" W		
Radial Direction:		N 22°16'11.9" W		
Tangent Direction:		S 67°43'48.1" W		
Element: Circular				
PCC	( )	15+38.1471	4262686.47697	5272894.00090
PI	( )	20+76.2330	4262482.55799	5272396.05161
CC	( )		4264395.82683	5272193.99213
PT	( )	25+85.3391	4262577.96209	5271866.49095
Radius:		1847.13		
Delta:		32°28'57.5" Right		
Degree of Curvature (Arc):		3°06'06.8"		
Length:		1047.19		
Tangent:		538.09		
Chord:		1033.22		
Middle Ordinate:		73.71		
External:		76.78		
Tangent Direction:		S 67°43'48.1" W		
Radial Direction:		N 22°16'11.9" W		
Chord Direction:		S 83°58'16.9" W		
Radial Direction:		N 10°12'45.7" E		
Tangent Direction:		N 79°47'14.3" W		
Element: Linear				
PT	( )	25+85.3391	4262577.96209	5271866.49095
POE	( )	27+79.0400	4262612.30579	5271675.85894
Tangential Direction:		N 79°47'14.3" W		
Tangential Length:		193.70		

Alignment Name: Ramp A
Alignment Description: KY 9 to I-275 WB

		Station	Northing	Easting
Element: Linear				
POB	( )	10+00.0139	4263556.77405	5281930.17636
PC	( )	12+06.2578	4263580.68221	5281725.32285
Tangential Direction:		N 83°20'35.5" W		
Tangential Length:		206.24		
Element: Circular				
PC	( )	12+06.2578	4263580.68221	5281725.32285
PI	( )	14+89.9969	4263613.57377	5281443.49658
CC	( )		4263295.61707	5281692.05329
PT	( )	16+53.7969	4263332.14173	5281407.38691
Radius:		287.00		
Delta:		89°20'43.1" Left		
Degree of Curvature (Arc):		19°57'49.3"		
Length:		447.54		
Tangent:		283.74		
Chord:		403.55		
Middle Ordinate:		82.90		
External:		116.58		
Tangent Direction:		N 83°20'35.5" W		
Radial Direction:		N 6°39'24.5" E		
Chord Direction:		S 51°59'02.9" W		
Radial Direction:		N 82°41'18.6" W		
Tangent Direction:		S 7°18'41.4" W		
Element: Linear				
PT	( )	16+53.7969	4263332.14173	5281407.38691
PC	( )	19+88.0435	4263000.61291	5281364.84948
Tangential Direction:		S 7°18'41.4" W		
Tangential Length:		334.25		
Element: Circular				
PC	( )	19+88.0435	4263000.61291	5281364.84948
PI	( )	21+12.2047	4262877.46130	5281349.04628
CC	( )		4263036.24672	5281087.12618
PCC	( )	22+21.7758	4262806.49344	5281247.16815
Radius:		280.00		
Delta:		47°49'41.3" Right		
Degree of Curvature (Arc):		20°27'46.0"		
Length:		233.73		
Tangent:		124.16		
Chord:		227.00		
Middle Ordinate:		24.04		
External:		26.29		
Tangent Direction:		S 7°18'41.4" W		
Radial Direction:		N 82°41'18.6" W		
Chord Direction:		S 31°13'32.0" W		
Radial Direction:		N 34°51'37.3" W		
Tangent Direction:		S 55°08'22.7" W		

Ramp A (@ KY 16)
Ramp A (@ KY 9)

Alignment Name: Ramp A
Alignment Description: KY 9 to I-275 WB

			Station	Northing	Easting
Element: Circular					
	PCC	( )	22+21.7758	4262806.49344	5281247.16815
	PI	( )	23+27.7998	4262745.89246	5281160.17050
	CC	( )		4263257.79452	5280932.79999
	PCC	( )	24+31.2541	4262721.97348	5281056.87987
	Radius:		550.00		
	Delta:		21°49'20.0" Right		
Degree of Curvature (Arc):			10°25'02.7"		
Length:			209.48		
Tangent:			106.02		
Chord:			208.21		
Middle Ordinate:			9.84		
External:			10.13		
Tangent Direction:			S 55°08'22.7" W		
Radial Direction:			N 34°51'37.3" W		
Chord Direction:			S 66°03'02.7" W		
Radial Direction:			N 13°02'17.3" W		
Tangent Direction:			S 76°57'42.7" W		
Element: Circular					
	PCC	( )	24+31.2541	4262721.98467	5281056.87728
	PI	( )	25+02.7167	4262705.86274	5280987.25702
	CC	( )		4263430.31646	5280429.70989
	PT	( )	25+74.1478	4262693.33904	5280916.90040
	Radius:		2780.00		
	Delta:		2°56'42.1" Right		
Degree of Curvature (Arc):			2°03'39.6"		
Length:			142.89		
Tangent:			71.46		
Chord:			142.88		
Middle Ordinate:			0.92		
External:			0.92		
Tangent Direction:			S 76°57'42.7" W		
Radial Direction:			N 13°02'17.3" W		
Chord Direction:			S 78°26'03.7" W		
Radial Direction:			N 10°05'35.2" W		
Tangent Direction:			S 79°54'24.8" W		

Alignment Name: Ramp BB
Alignment Description: Ramp B to KY 9 SB

			Station	Northing	Easting
Element: Circular					
	PC	( )	22+49.6200	4263473.56918	5281716.46725
	PI	( )	24+02.9622	4263454.86531	5281868.66447
	CC	( )		4263320.71912	5281697.68314
	PT	( )	24+90.8634	4263302.58942	5281850.61221
	Radius:		154.00		
	Delta:		89°45'17.1" Right		
Degree of Curvature (Arc):			37°12'18.2"		
Length:			241.24		
Tangent:			153.34		
Chord:			217.32		
Middle Ordinate:			44.87		
External:			63.32		
Tangent Direction:			S 82°59'38.1" E		
Radial Direction:			S 7°00'21.9" W		
Chord Direction:			S 38°06'59.5" E		
Radial Direction:			N 83°14'21.0" W		
Tangent Direction:			S 6°45'39.0" W		

Ramp A (@ KY 9)
Ramp BB (@ KY 9)

Alignment Name: Ramp B
Alignment Description: I-275 WB to KY 9

		Station	Northing	Easting
Element: Linear				
POB	( )	5+35.6090	4263575.37561	5282686.99957
PC	( )	13+24.7531	4263167.19273	5282011.62180
Tangential Direction:		S 58°51'07.9" W		
Tangential Length:		789.14		
Element: Circular				
PC	( )	13+24.7531	4263167.19273	5282011.62180
PI	( )	14+44.0121	4263105.50628	5281909.55565
CC	( )		4263637.90242	5281727.13563
PCC	( )	15+59.6351	4263091.63528	5281791.10604
Radius:		550.00		
Delta:		24°28'07.1" Right		
Degree of Curvature (Arc):		10°25'02.7"		
Length:		234.88		
Tangent:		119.26		
Chord:		233.10		
Middle Ordinate:		12.49		
External:		12.78		
Tangent Direction:		S 58°51'07.9" W		
Radial Direction:		N 31°08'52.1" W		
Chord Direction:		S 71°05'11.4" W		
Radial Direction:		N 6°40'45.0" W		
Tangent Direction:		S 83°19'15.0" W		
Element: Circular				
PCC	( )	15+59.6351	4263091.63528	5281791.10604
PI	( )	16+85.8782	4263076.95196	5281665.71967
CC	( )		4263364.76875	5281759.12084
PCC	( )	17+96.3373	4263162.46348	5281572.84814
Radius:		275.00		
Delta:		49°18'59.5" Right		
Degree of Curvature (Arc):		20°50'05.4"		
Length:		236.70		
Tangent:		126.24		
Chord:		229.46		
Middle Ordinate:		25.08		
External:		27.59		
Tangent Direction:		S 83°19'15.0" W		
Radial Direction:		N 6°40'45.0" W		
Chord Direction:		N 72°01'15.3" W		
Radial Direction:		N 42°38'14.4" E		
Tangent Direction:		N 47°21'45.6" W		
Element: Circular				
PCC	( )	17+96.3373	4263162.46347	5281572.84814
PI	( )	23+55.0491	4263540.90998	5281161.82857
CC	( )		4263294.88148	5281694.77209
PT	( )	22+49.6227	4263473.56918	5281716.46725
Radius:		180.00		
Delta:		144°17'07.0" Right		
Degree of Curvature (Arc):		31°49'51.6"		
Length:		453.29		
Tangent:		558.71		
Chord:		342.66		
Middle Ordinate:		124.80		
External:		406.99		
Tangent Direction:		N 47°21'45.6" W		
Radial Direction:		N 42°38'14.4" E		
Chord Direction:		N 24°46'47.9" E		
Radial Direction:		S 6°55'21.4" W		
Tangent Direction:		S 83°04'38.6" E		
Element: Linear				
PT	( )	22+49.6227	4263473.56918	5281716.46725
POE	( )	24+51.7579	4263449.20609	5281917.12688
Tangential Direction:		S 83°04'38.6" E		
Tangential Length:		202.14		

Alignment Name: Ramp C
Alignment Description: I-275 EB to KY 9

		Station	Northing	Easting
Element: Linear				
POB	( )	10+07.4309	4262471.31854	5280643.21951
PC	( )	11+55.0616	4262460.36282	5280790.44313
Tangential Direction:		S 85°44'38.9" E		
Tangential Length:		147.63		
Element: Circular				
PC	( )	11+55.0616	4262460.36282	5280790.44313
PI	( )	13+94.0087	4262442.63049	5281028.73139
CC	( )		4261889.94005	5280747.99485
PT	( )	16+07.7482	4262260.66224	5281183.59679
Radius:		572.00		
Delta:		45°20'40.1" Right		
Degree of Curvature (Arc):		10°01'00.3"		
Length:		452.69		
Tangent:		238.95		
Chord:		440.96		
Middle Ordinate:		44.20		
External:		47.90		
Tangent Direction:		S 85°44'38.9" E		
Radial Direction:		S 4°15'21.1" W		
Chord Direction:		S 63°04'18.9" E		
Radial Direction:		S 49°36'01.1" W		
Tangent Direction:		S 40°23'58.9" E		
Element: Linear				
PT	( )	16+07.7482	4262260.66224	5281183.59679
PC	( )	16+80.7073	4262205.10084	5281230.88272
Tangential Direction:		S 40°23'58.9" E		
Tangential Length:		72.96		
Element: Circular				
PC	( )	16+80.7073	4262205.10084	5281230.88272
PI	( )	18+29.3991	4262091.86581	5281327.25222
CC	( )		4262452.03293	5281521.03017
PT	( )	19+64.2383	4262073.84228	5281474.84763
Radius:		381.00		

Ramp B (@ KY 9)
Ramp C (@ KY 9)

Alignment Name: Ramp C
Alignment Description: I-275 EB to KY 9

		Station	Northing	Easting
Delta:		42°38'17.3" Left		
Degree of Curvature (Arc):		15°02'17.7"		
Length:		283.53		
Tangent:		148.69		
Chord:		277.03		
Middle Ordinate:		26.07		
External:		27.99		
Tangent Direction:		S 40°23'58.9" E		
Radial Direction:		S 49°36'01.1" W		
Chord Direction:		S 61°43'07.5" E		
Radial Direction:		S 6°57'43.8" W		
Tangent Direction:		S 83°02'16.2" E		
Element: Linear				
	POB	19+64.2383	4262073.84228	5281474.84763
	POE	22+34.7111	4262041.05719	5281743.32601
Tangential Direction:		S 83°02'16.2" E		
Tangential Length:		270.47		

Alignment Name: Ramp DD
Alignment Description: KY 9 SB to Ramp D

		Station	Northing	Easting
Element: Circular				
	PC	9+48.9114	4262325.82932	5281731.23217
	PI	11+21.2532	4262154.95065	5281708.82282
	CC		4262348.45429	5281558.70939
	PT	12+20.5639	4262175.72278	5281537.73740
Radius:		174.00		
Delta:		89°27'04.9" Right		
Degree of Curvature (Arc):		32°55'43.0"		
Length:		271.65		
Tangent:		172.34		
Chord:		244.89		
Middle Ordinate:		50.38		
External:		70.90		
Tangent Direction:		S 7°28'16.5" W		
Radial Direction:		N 82°31'43.5" W		
Chord Direction:		S 52°11'48.9" W		
Radial Direction:		N 6°55'21.4" E		
Tangent Direction:		N 83°04'38.6" W		

Alignment Name: Ramp D
Alignment Description: KY 9 to I-275 EB

		Station	Northing	Easting
Element: Linear				
	POB	10+00.4882	4262149.13009	5281756.76264
	PC	12+21.1224	4262175.72285	5281537.73687
Tangential Direction:		N 83°04'38.6" W		
Tangential Length:		220.63		
Element: Circular				
	PC	12+21.1224	4262175.72285	5281537.73687
	PI	16+51.1812	4262227.55728	5281110.81324
	CC		4262404.04603	5281565.45846
	PCC	17+17.7795	4262553.86405	5281390.94621
Radius:		230.00		
Delta:		123°43'24.0" Right		
Degree of Curvature (Arc):		24°54'40.4"		
Length:		496.66		
Tangent:		430.06		
Chord:		405.63		
Middle Ordinate:		121.53		
External:		257.70		
Tangent Direction:		N 83°04'38.6" W		
Radial Direction:		N 6°55'21.4" E		
Chord Direction:		N 21°12'56.6" W		
Radial Direction:		S 49°21'14.6" E		
Tangent Direction:		N 40°38'45.4" E		
Element: Circular				
	PCC	17+17.7795	4262553.86405	5281390.94621
	PI	18+32.0345	4262640.55491	5281465.36995
	CC		4262195.06364	5281808.88703
	PT	19+43.0944	4262690.49286	5281568.13374
Radius:		550.83		
Delta:		23°26'12.0" Right		
Degree of Curvature (Arc):		10°24'06.3"		
Length:		225.31		
Tangent:		114.25		
Chord:		223.75		
Middle Ordinate:		11.48		
External:		11.72		
Tangent Direction:		N 40°38'45.4" E		
Radial Direction:		S 49°21'14.6" E		
Chord Direction:		N 52°21'51.4" E		
Radial Direction:		S 25°55'02.6" E		
Tangent Direction:		N 64°04'57.4" E		
Element: Linear				
	PT	19+43.0944	4262690.49286	5281568.13374
	POE	21+08.3982	4262762.74301	5281716.81222
Tangential Direction:		N 64°04'57.4" E		
Tangential Length:		165.30		

Ramp C (@ KY 9)
Ramp DD (@ KY 9)
Ramp D (@ KY 9)

TRAFFIC CONTROL PLAN
KENTON AND CAMPBELL COUNTIES
I-275
FD 52 059 0275 080-083
IM 2759(121)
FD 52 019 0275 077-078
IM 2759(117)
Item No. 6-2025.00 & 6-2027.00

THIS PROJECT IS A FULLY CONTROLLED ACCESS HIGHWAY

TRAFFIC CONTROL GENERAL

Except as provided herein, maintain and control traffic in accordance with the 2008 Standard Specifications and the Standard Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic". All lane closures used on the Project will be in compliance with the appropriate Standard Drawings.

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 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 the signs will be incidental to Maintain and Control Traffic.

Night work is required on this project. Obtain approval from the Engineer for the method of lighting prior to its use.

PROJECT PHASING & CONSTRUCTION PROCEDURES

Phase 1 roadway construction will be on the inside lane and the center lane of I-275 in the Eastbound and Westbound directions. Phase 1 bridge work for the bridge over Horsebranch Road will be on the inside lane and one half of the center lane of I-275 Westbound. Phase 1 bridge work for the bridges

over KY 17 and KY 9 will be on the inside lane and 8.25' of the center lane of I-275 in the Eastbound and Westbound directions. Phase 2 roadway construction will be on the outside lane of I-275 in the Eastbound and Westbound directions. Phase 2 bridge work for the bridge over Horsebranch Road will be on the outside lane and half of the center lane of I-275 Westbound. Phase 2 bridge work for the bridges over KY 17 and KY 9 will be on the outside lane and 3.75' of the center lane of I-275 in the Eastbound and Westbound directions. Phase 2 construction will also include work on the ramps given in the proposal at the US 25, KY 1303, KY 17, KY 16 and KY 9 interchanges.

Phases 1 and 2 will require weekday nights and weekend lane closures on I-275 for the lanes under construction. Ramp work in Phase 2 will require a temporary closure for the ramp under construction.

No lane closures will be allowed during the following days:

November 24 – 28	Thanksgiving Day Weekend, 2010
December 24 – 26	Christmas Day Weekend, 2010
December 31 – January 2	New Year's Day Weekend, 2010/2011
May 27 - 30	Memorial Day Weekend, 2011
July 1 – 4	Independence Day Weekend, 2011
September 2 – 5	Labor Day Weekend, 2011
November 23 – 27	Thanksgiving Day Weekend, 2011

The minimum number of traffic lanes that must be maintained and their times are:

Weekdays
3 Lanes - From 7 AM to 7 PM
2 Lanes - From 7 PM to 11 PM & From 5 AM to 7 AM
1 Lane - From 11 PM to 5 AM

Weekends
2 Lanes - From 8 AM to 11 PM
1 Lane - From 11 PM to 8 AM

The normal three lane traffic configuration must be maintained at all other times. No additional lane closures will be allowed for the median cable barrier installation.

Due to coordination with an I-75 project, all work on the westbound I-275 bridges must be completed by July 1, 2011 and work on the eastbound I-275 bridges may not start until after July 1, 2011. See 'Special Note For Project Coordination With I-75 Construction' for further details relating to the I-75 project.

Liquidated damages will be assessed when lane closures are in place at times other than those given above or if the project is not completed by the fixed completion date of December 1, 2011. See 'Special Note For Fixed Completion Date and Liquidated Damages'.

Lane closures may only be in the active work area. Only one work area will be permitted in each direction and at a maximum distance of 2.5 miles per area. The clear lane width will be a minimum of 11 feet; however, make provisions for the passage of wide loads up to 16' in width. The DGA shoulders

are to be inspected and low spots refilled to the satisfaction of the Engineer prior to placing traffic on the shoulders. See special note "Shoulder Preparation and Restoration". A quantity of DGA has been estimated for repairing the DGA shoulders and is provided in the "Paving Summary". The actual quantities used may vary, use only as approved or directed by the Engineer. Daytime shoulder closures will be permitted to repair the DGA shoulders. Install delineators on the existing guardrail and bridge barrier walls before shifting traffic onto the shoulders.

During the days and hours when a lane closure is allowed, maintain traffic as specified in the phasing notes. Any other work not requiring traffic lane widths to be restricted due to barrels or equipment encroaching into the existing traffic lanes can be done during the remaining hours when the required number of traffic lanes must be maintained. Please refer to the "Special Note for Fixed Completion Date and Liquidated Damages" for damage rates per hour associated with failure to maintain the required number of lanes during the specified time period.

The Contractor must notify the Engineer within the following time frames of pending changes in their work schedule which will affect traffic patterns:

- At least fourteen (14) days prior to beginning Phase 1 construction
- At least five (5) days prior to a ramp closure
- If a decision is made not to close a ramp, notice must be given to the Engineer by Wednesday at noon prior to the proposed closure

Rideability will apply to this project. See special note for rideability in this proposal.

PHASE 1

At the beginning of Phase 1, use an outside lane and shoulder closure to cover the existing outside lane white edge line with temporary black tape, place a new white dashed lane line 1' inside the existing line and place a solid white line at the outside edge of the shoulder. Shift traffic to the outside by using traffic drums and use the newly striped outside shoulder as a traffic lane to maintain three lanes of traffic. While following the minimum lane requirements and times given in the Traffic Control Plan, close traffic lane(s) using drums and diamond grind and seal joints in the available lane(s). Refer to the Maintenance of Traffic Typical Sections for lane configuration details.

The diamond grinding area will also include at least four feet of the inside shoulder to allow the shoulders to be ground down to the elevation of the adjacent driving lane pavement and allow for surface water runoff from the pavement. The shoulders may be ground to a depth of ¾ inch. **The diamond grind area will not include traffic loops.** After Diamond Grinding, Saw, Clean, and Seal the joints and cracks with Hot-Poured Elastic Joint Sealant.

Perform all additional work on the inside shoulder, such as guardrail and guardrail end treatment replacement and DGA shoulder repair indicated in the Proposal.

Phase 1 Bridge Work

The Contractor will be allowed to reduce traffic to two lanes over the I-275 WB bridge over Horsebranch Rd, the I-275 bridges over KY 17, and the I-275 bridges over KY 9 continuously for three weekends and two weeks, from 7 PM on a Friday to 7 AM of the third Monday following the closing, to perform the Phase 1 bridge work for these bridges. When the work on the I-275 bridges is to be done, reduce traffic to two lanes by using traffic drums and shift traffic to the outside lane and shoulder prior to the bridge. Maintain two lanes of traffic across the bridge using temporary barrier wall to separate traffic from the work zone. Beyond the bridge working area and lane shift or drop area, maintain the required number of lanes at detailed in the "PROJECT PHASING & CONSTRUCTION PROCEDURES" section of the "TRAFFIC CONTROL PLAN", or as directed by the Engineer. Work on the I-275 Westbound bridge over KY 17 and the bridge over Horsebranch Road is to be done at the same time and the Contractor is to maintain the two lane traffic configuration between the bridges while the work is being done.

Perform the Phase 1 bridge work for the area of the bridge not under traffic. Refer to the Maintenance of Traffic Typical Sections and plan sheets for the lane configuration across the Horsebranch Road and KY 17 bridges. A similar plan is to be used for the I-275 twin bridges over KY 9.

PHASE 2

At the beginning of Phase 2 from Sta 920+25 (end of the raised median) to the end of the project, use an inside lane and shoulder closure to cover the existing inside lane yellow edge line with temporary black tape, place a new white dashed lane line 1' inside the existing line and place a solid yellow line at the outside edge of the shoulder. Shift traffic to the inside by using traffic drums and use the newly striped inside shoulder as a traffic lane to maintain three lanes of traffic. While following the minimum lane requirements and times given in the Traffic Control Plan, close traffic lane(s) using drums and diamond grind and seal joints in the available lane(s) that were not worked on in Phase 1. Refer to the Maintenance of Traffic Typical Sections for lane configuration details.

The diamond grinding area will also include at least four feet of the outside shoulder to allow the shoulders to be ground down to the elevation of the adjacent driving lane pavement and allow for surface water runoff from the pavement. The shoulders may be ground to a depth of ¾ inch. **The diamond grind area will not include traffic loops.** After Diamond Grinding, Saw, Clean, and Seal the joints and cracks with Hot-Poured Elastic Joint Sealant.

Perform all additional work on the outside shoulder, such as guardrail and guardrail end treatment replacement and DGA shoulder repair indicated in the Proposal.

Phase 2 Bridge Work

The Contractor will be allowed to reduce traffic to two lanes over the I-275 WB bridge over Horsebranch Rd, the I-275 bridge over KY 17, and the I-275 bridges over KY 9 continuously for three weekends and two weeks, from 7 PM on a Friday to 7 AM of the third Monday following the closure, to perform the Phase 2 bridge work for these bridges. When the work on the I-275 bridges is to be done, reduce traffic to two lanes by using traffic drums and shift traffic to the inside lane and shoulder prior to the bridge. Maintain two lanes of traffic across the bridge using temporary barrier wall to separate

traffic from the work zone. Beyond the bridge working area and lane shift or drop area, maintain the required number of lanes at detailed in the "PROJECT PHASING & CONSTRUCTION PROCEDURES" section of the "TRAFFIC CONTROL PLAN", or as directed by the Engineer. Work on the I-275 Westbound bridge over KY 17 and the bridge over Horsebranch Road is to be done at the same time and the Contractor is to maintain the two lane traffic configuration between the bridges while the work is being done.

Perform the Phase 2 bridge work for the area of the bridge not under traffic. Refer to the Maintenance of Traffic Typical Sections and detail sheets for the lane configuration across the bridges. A similar plan is to be used for the I-275 twin bridges over KY 9.

Closure of some ramps will be required to complete the bridge work in the area of the ramp. At the KY 17 interchange, close Ramp C while working on the I-275 Eastbound bridge and close Ramp B while working on the I-275 Westbound bridge. Closure of these ramps will be for the duration of the Phase 2 bridge closure of the I-275 bridge over KY 17 and all work for the ramp is to be completed during this time. At the KY 9 interchange, close Ramp D while working on the I-275 Eastbound bridge over KY 9. Closing Ramp D to perform the bridge work shall begin the 9 day period to complete all work required on the ramp. Bridge work in the area of the ramp must also be completed in this 9 day period so that the ramp may be opened at the end of the 9 days. See the following paragraph for details on allowable ramp closure times.

Phase 2 Ramp Work

Ramp work listed in the proposal is to be performed in Phase 2. The Contractor will be permitted to close each ramp that is to receive full depth replacement for 9 days, from 7 PM on Friday to 6 AM of the second Monday following the closure, to perform all work listed on the ramp with the exception of Ramps B and C at the KY 17 interchange as detailed in the above paragraph. Ramps C-1, C-2, E and G at the US 25/KY 1303 Interchanges are to all be closed for the same 9 day period and all work is to be performed on those ramps during that time. The bridge work listed in the Proposal for the KY 9 Ramp B and the KY 1303 Ramp D bridges is to be completed during the time the ramp is closed for pavement replacement. Ramps that are to be milled and overlain will be permitted to be closed one weekend, from 7 PM on Friday to 6 AM the following Monday.

The Contractor will only be permitted to close one ramp at a time unless otherwise approved by the Engineer; with exception to Ramps C-1, C-2, E and G at the US 25/KY 1303 Interchanges as stated in the above paragraph.

PERMANENT STRIPING

After all other work is completed, place permanent striping. Mobile operations may be utilized. In addition to diamond ground areas, place permanent striping on bridge decks and asphalt pavement within the project limits. All ramps are to be striped.

LANE CLOSURES

Limit the lengths of lane closures to only that needed for actual operations in accordance with the phasing specified herein, or as directed by the Engineer. Contrary to Section 112, lane closures will NOT be measured for payment, but are considered incidental to Maintain and Control Traffic.

All ramp access is to be maintained except when the ramp is closed.

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 TRUCKS USE LEFT/RIGHT LANE, LEFT/RIGHT LANE CLOSED 1 MILE, LEFT/RIGHT LANE CLOSED 2 MILE, LEFT/RIGHT LANE CLOSED 3 MILE, 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.

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 only once no matter how many times they are moved or relocated.

FLASHING ARROWS

Flashing arrows will be paid for once, no matter how many times they are moved or relocated.

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 at all times. 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.

TRUCK MOUNTED ATTENUATORS

Furnish and install MUTCD approved Truck Mounted Attenuators 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 will be approved by the Engineer. Truck Mounted Attenuators 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.

CONTRACTOR'S AND CONTRACTOR'S EMPLOYEE'S VEHICLES

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

PAVEMENT MARKINGS & RAISED PAVMENT MARKERS

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, 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. Estimated quantities of the three colors of removable lane tape are included as bid items but will only be used if approved by the Engineer.
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.
5. Permanent striping will be HD21 Paint.

PAVEMENT EDGE DROP-OFFS

Pavement edge drop-offs will be protected by a lane or shoulder closure. Lane closures will be protected with plastic drums, vertical panels, or barricades as shown on the Standard Drawings. It may be necessary to saw or excavate small areas in an adjacent lane to allow room for forms to pour a new slab to the proper grade. Any hole will be filled with DGA when adjacent to traffic or there exists a possibility that a vehicle may drop a wheel into the hole.

BARRELS

Barrels are to be used for channelization or delineation and will be incidental to "MAINTAIN AND CONTROL TRAFFIC" according to Section 112.04.0 1. Replacements for damaged barrels directed by the Engineer to be replaced due to poor condition or reflectivity will not be measured for payment. Barrels will be used to delineate the closed/active lane lines and tapers.

TRAFFIC COORDINATOR

Designate an employee to be Traffic Coordinator. The designated Traffic Coordinator must be certified by the American Traffic Safety Services Association (ATSSA). 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 at all times.

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

COORDINATION OF WORK

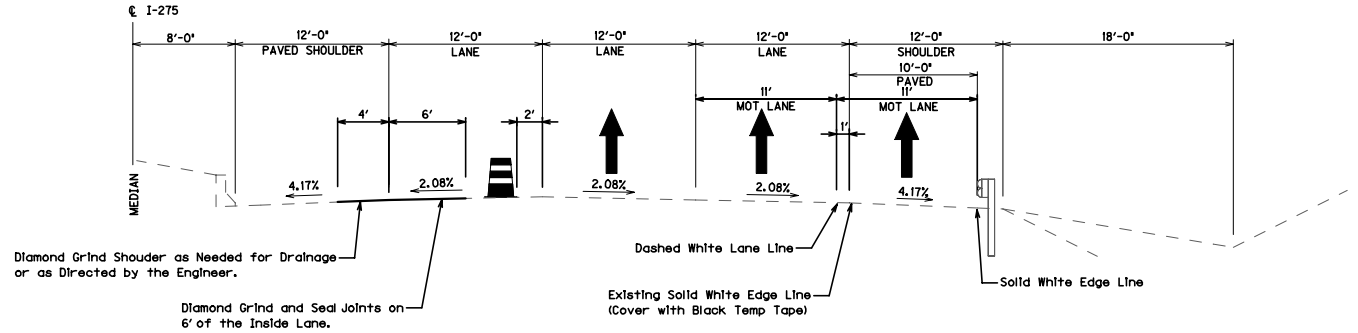
The Contractor is advised that other projects may be in progress within or in the near vicinity of this project. The traffic control of those projects may affect this project and the traffic control of this project may affect those projects. The Contractor will coordinate the work on this project with the work of the other contractors. The Department may call in Drain Cleaners on contract to clean curb box inlets and drop boxes while lane closures are in place.

RAMP CLOSURES, LANE CLOSURES AND LANE SHIFTS

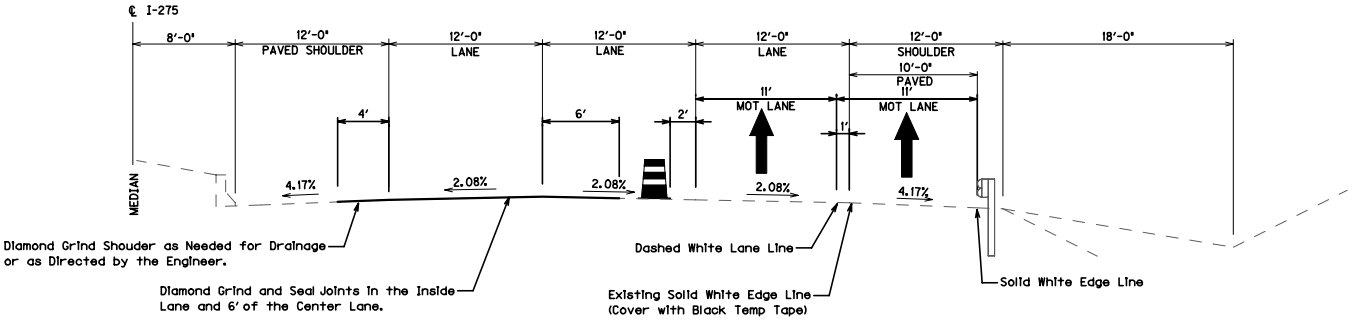
All lane closures, lane shifts and tapers shall be in accordance with the standard drawings or the Manual of Uniform Traffic Control Devices (M.U.T.C.D.). Any ramp closure, lane closure or lane shift must be approved by the Engineer prior to the closure or lane shift. The Contractor must notify the Engineer at least five (5) days prior to any proposed closure or traffic pattern shift.

I-275 MAINTENANCE OF TRAFFIC TYPICALS SECTIONS
ITEM NUMBER: 6-2025.00 & 6-2027.00

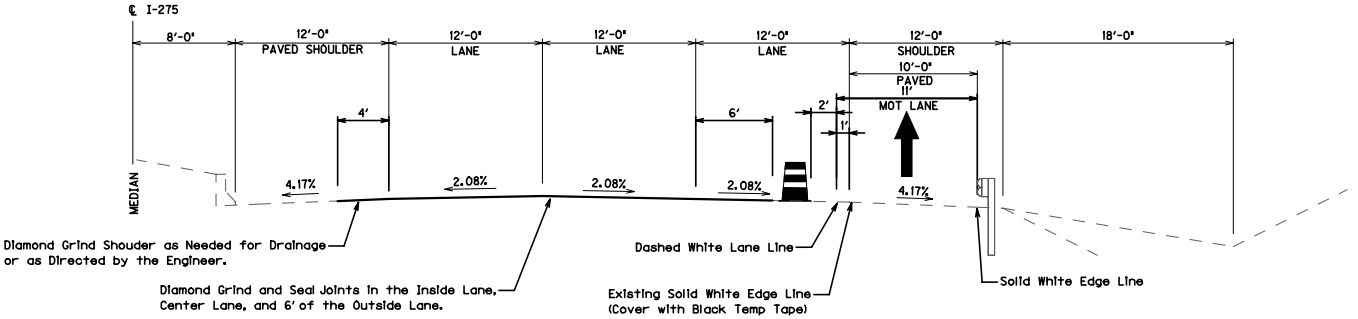
BEGIN PROJECT TO STA 920+25



I-275 (EASTBOUND OR WESTBOUND)
PHASE I - THREE LANE CONFIGURATION



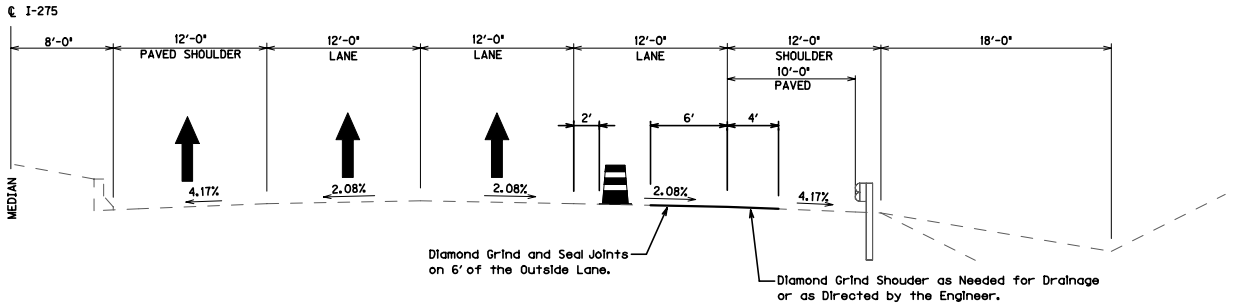
I-275 (EASTBOUND OR WESTBOUND)
PHASE I - TWO LANE CONFIGURATION



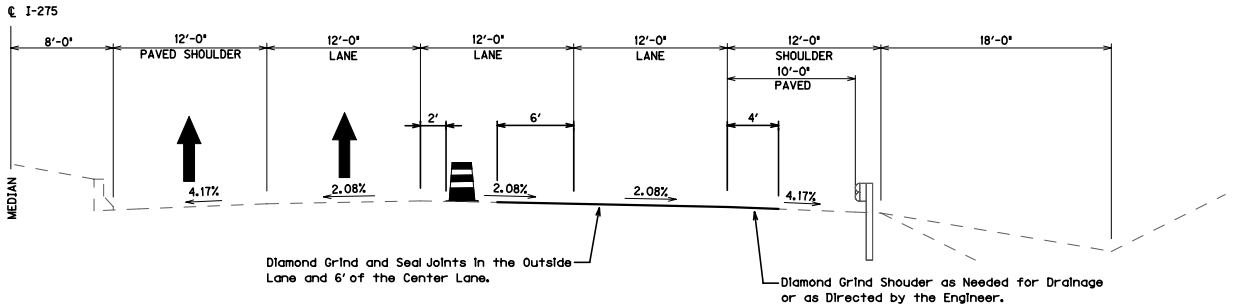
I-275 (EASTBOUND OR WESTBOUND)
PHASE I - ONE LANE CONFIGURATION

I-275 MAINTENANCE OF TRAFFIC TYPICALS SECTIONS
ITEM NUMBER: 6-2025.00 & 6-2027.00

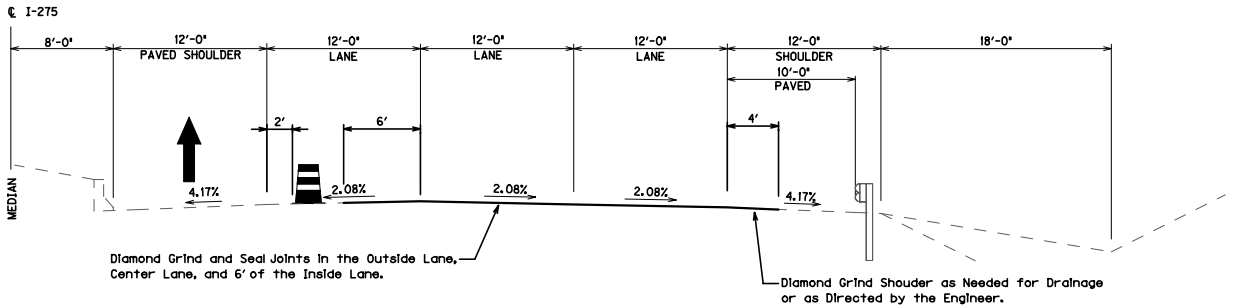
BEGIN PROJECT TO STA 920+25



I-275 (EASTBOUND OR WESTBOUND)
PHASE II - THREE LANE CONFIGURATION



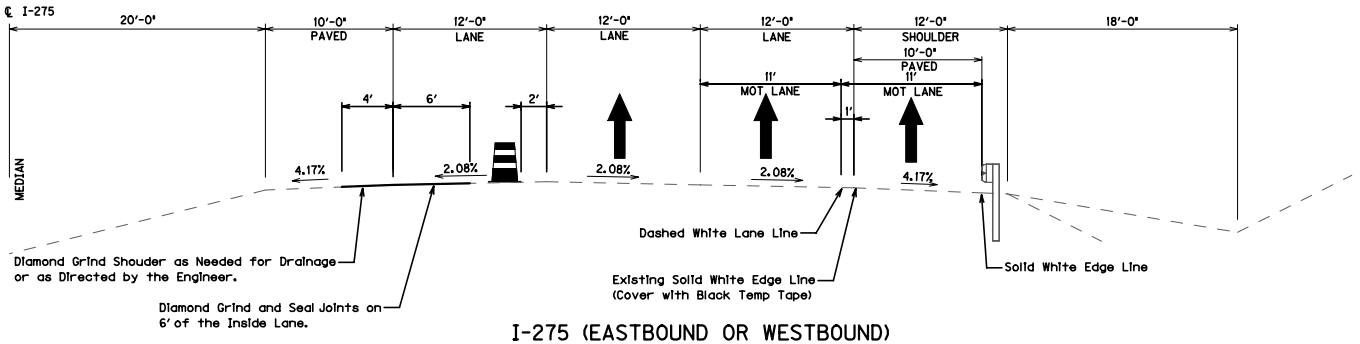
I-275 (EASTBOUND OR WESTBOUND)
PHASE II - TWO LANE CONFIGURATION



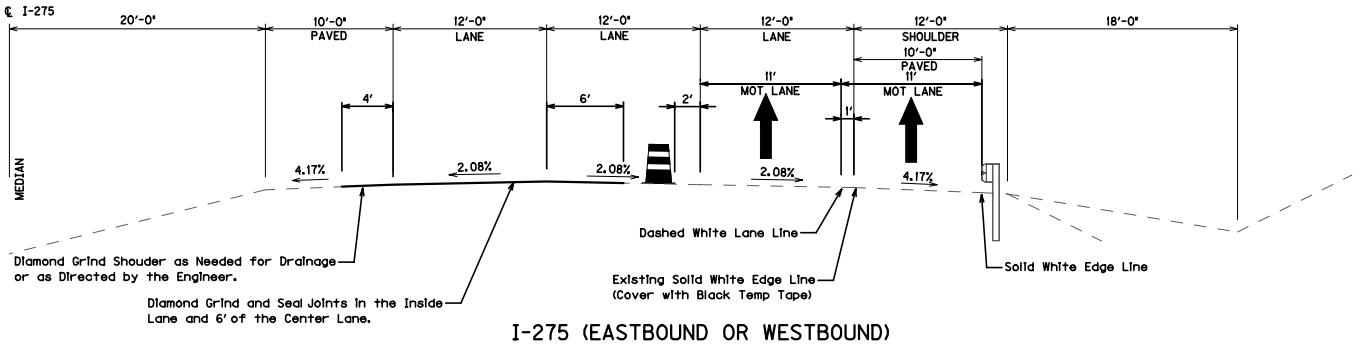
I-275 (EASTBOUND OR WESTBOUND)
PHASE II - ONE LANE CONFIGURATION

I-275 MAINTENANCE OF TRAFFIC TYPICALS SECTIONS
ITEM NUMBER: 6-2025.00 & 6-2027.00

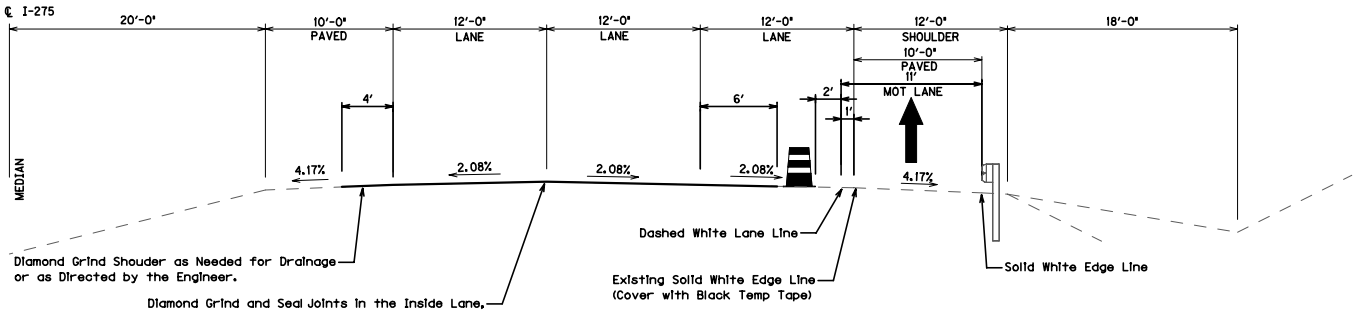
STA 920+25 TO END PROJECT



I-275 (EASTBOUND OR WESTBOUND)
PHASE I - THREE LANE CONFIGURATION



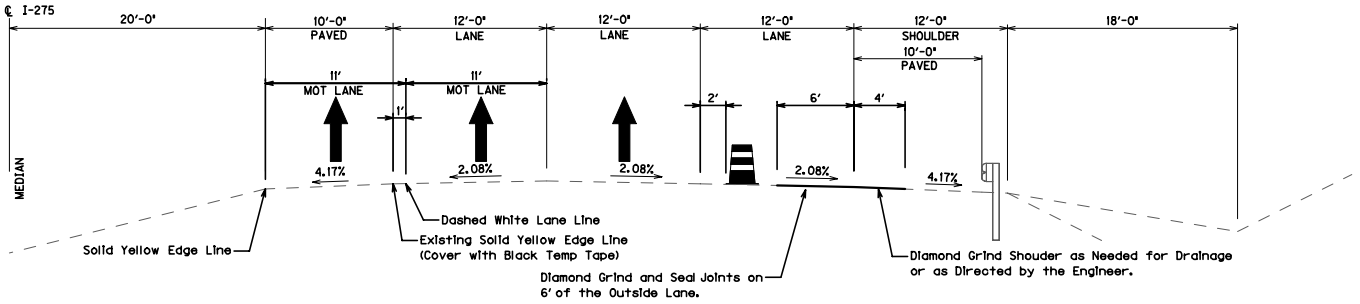
I-275 (EASTBOUND OR WESTBOUND)
PHASE I - TWO LANE CONFIGURATION



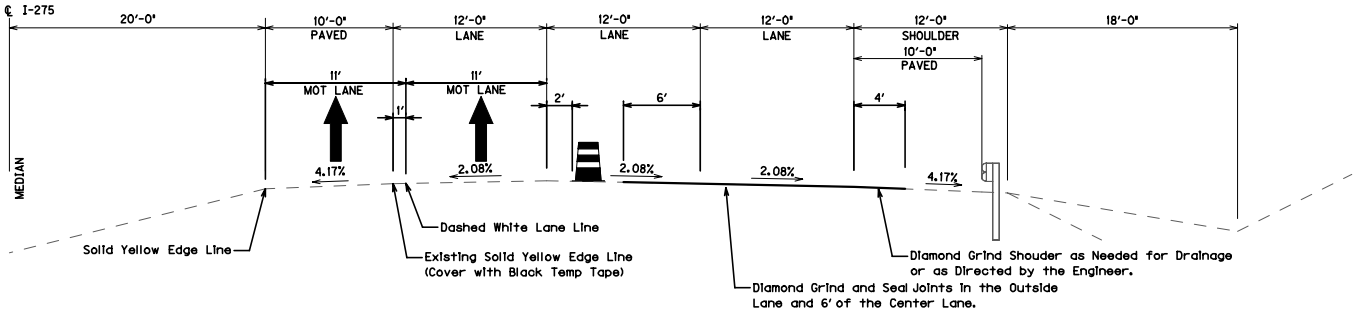
I-275 (EASTBOUND OR WESTBOUND)
PHASE I - ONE LANE CONFIGURATION

I-275 MAINTENANCE OF TRAFFIC TYPICALS SECTIONS
ITEM NUMBER: 6-2025.00 & 6-2027.00

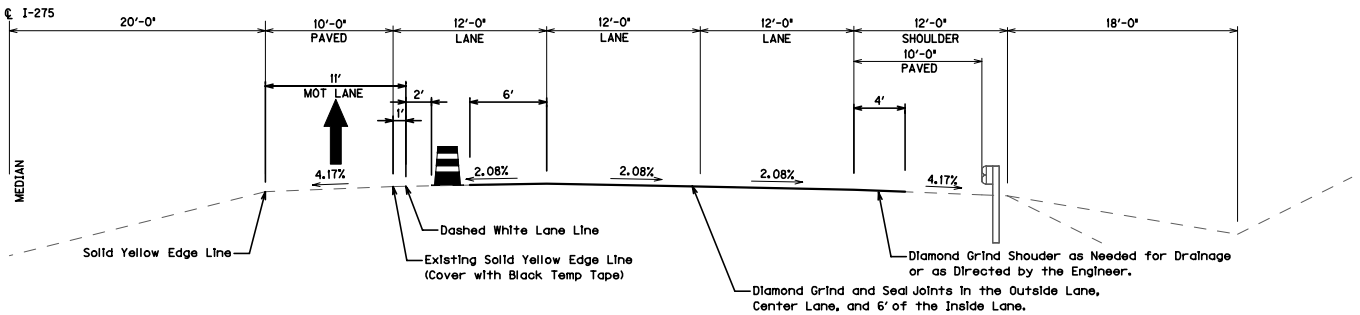
STA 920+25 TO END PROJECT



I-275 (EASTBOUND OR WESTBOUND)
PHASE II - THREE LANE CONFIGURATION

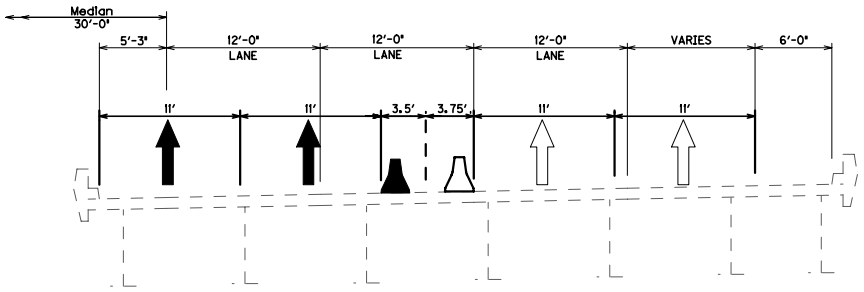


I-275 (EASTBOUND OR WESTBOUND)
PHASE II - TWO LANE CONFIGURATION

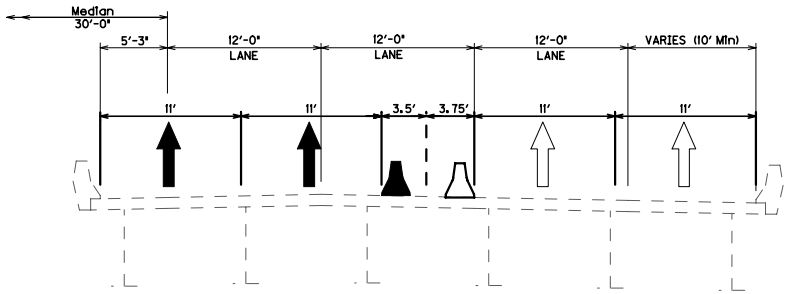


I-275 (EASTBOUND OR WESTBOUND)
PHASE II - ONE LANE CONFIGURATION

I-275 MAINTENANCE OF TRAFFIC TYPICALS SECTIONS
FOR WORK ON BRIDGES
ITEM NUMBER: 6-2025.00 & 6-2027.00



Eastbound Or Westbound I-275 Bridge Over KY 9



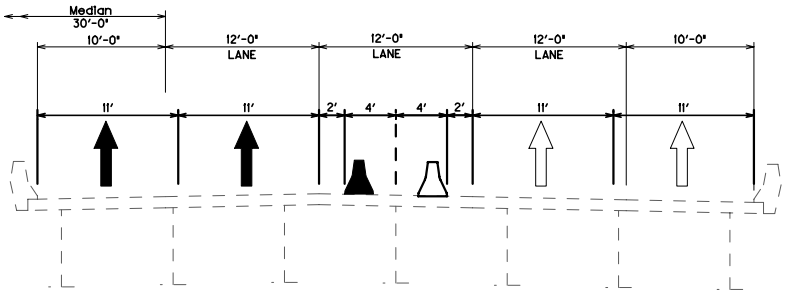
Eastbound Or Westbound I-275 Bridge Over KY 17



Phase I

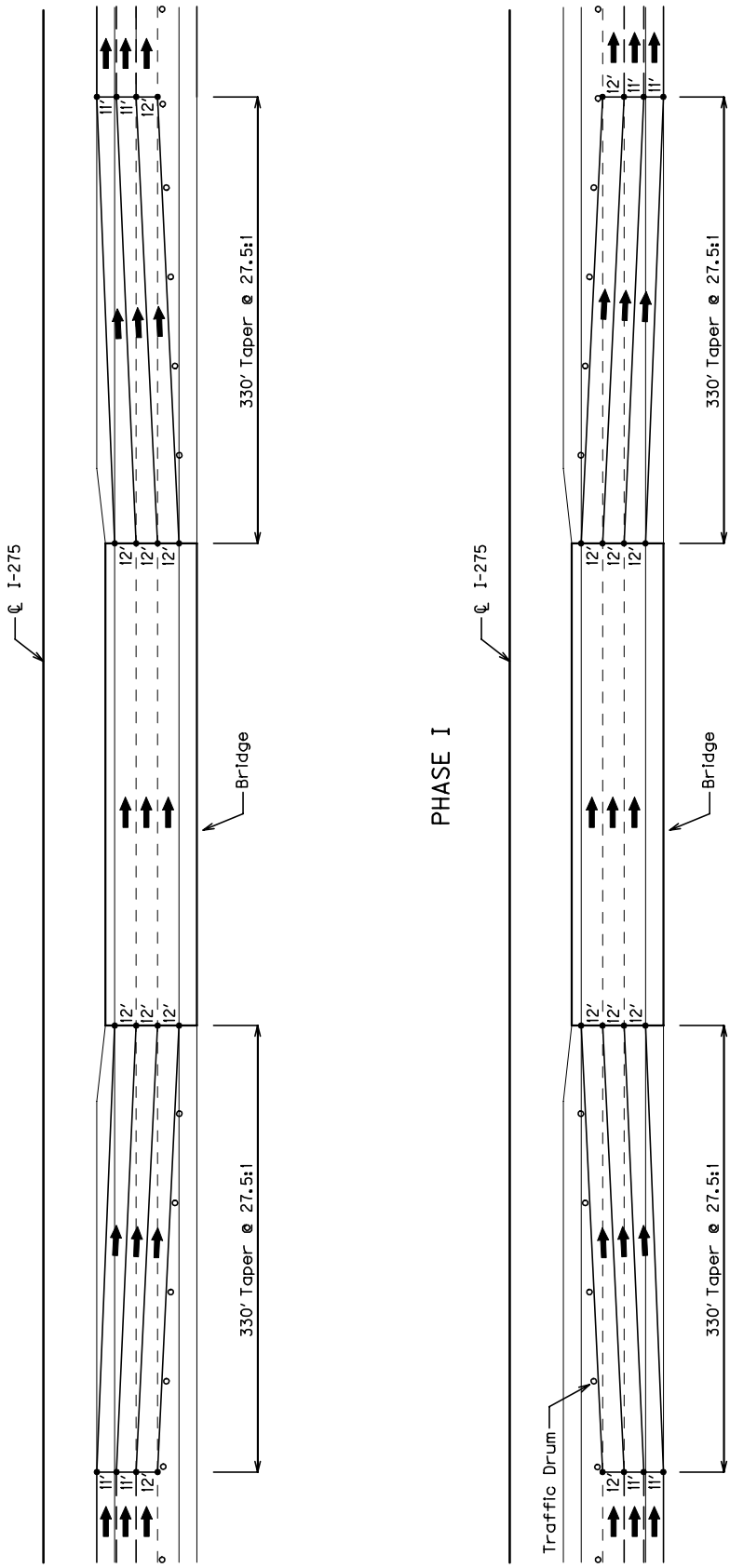
Phase II

NOTE: Use the Normal Traffic Lanes When Not Working on a Bridge. Traffic Drums May be Used in Place of the Temporary Concrete Median Barrier to Reduce the Number of Lanes Across the Bridge. See "MOT Bridge Plan - When Not Working On Bridge" for Details.



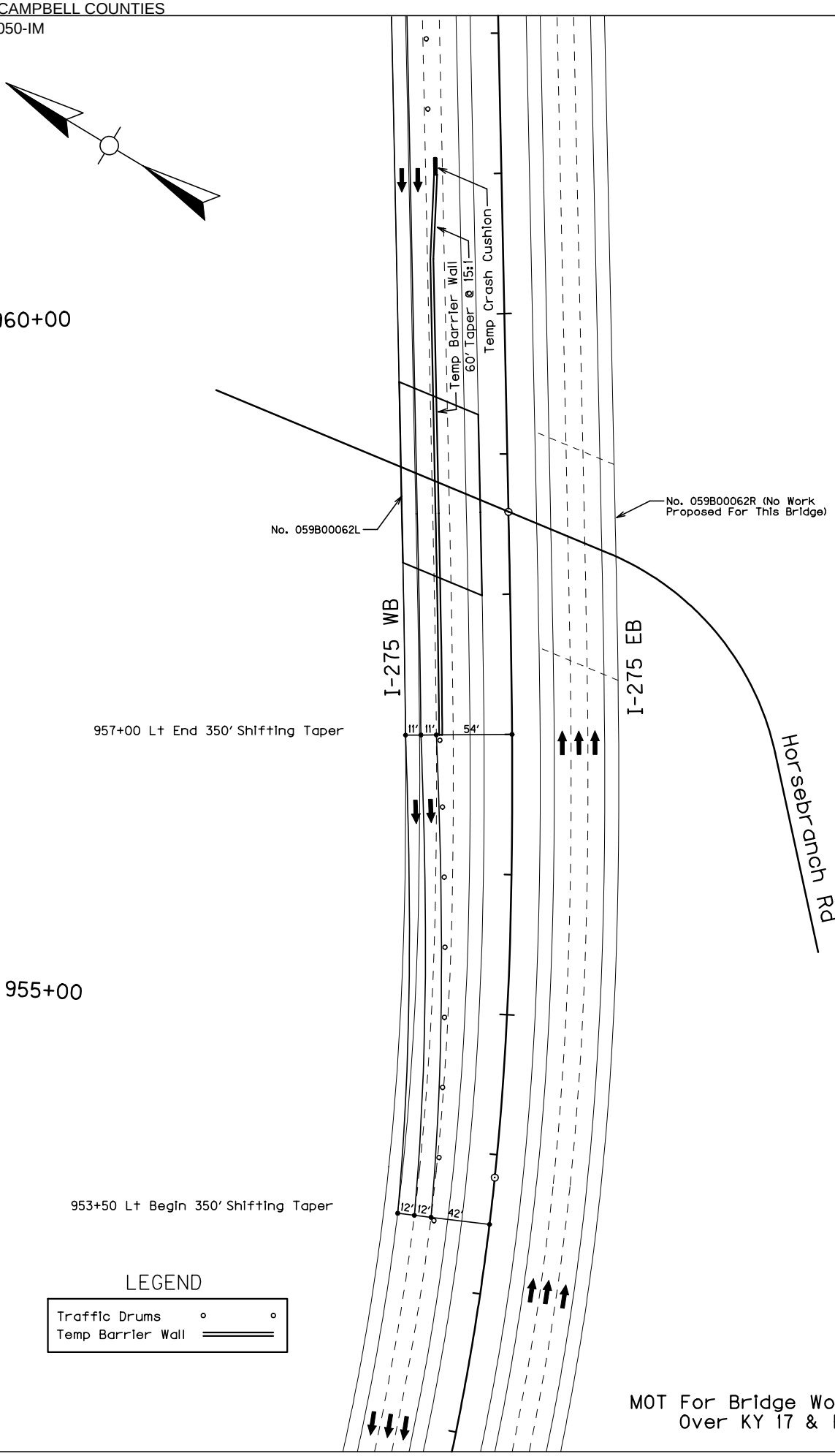
Westbound I-275 Bridge Over Horsebranch Rd

I-275 MOT BRIDGE PLAN - WHEN NOT WORKING ON BRIDGE



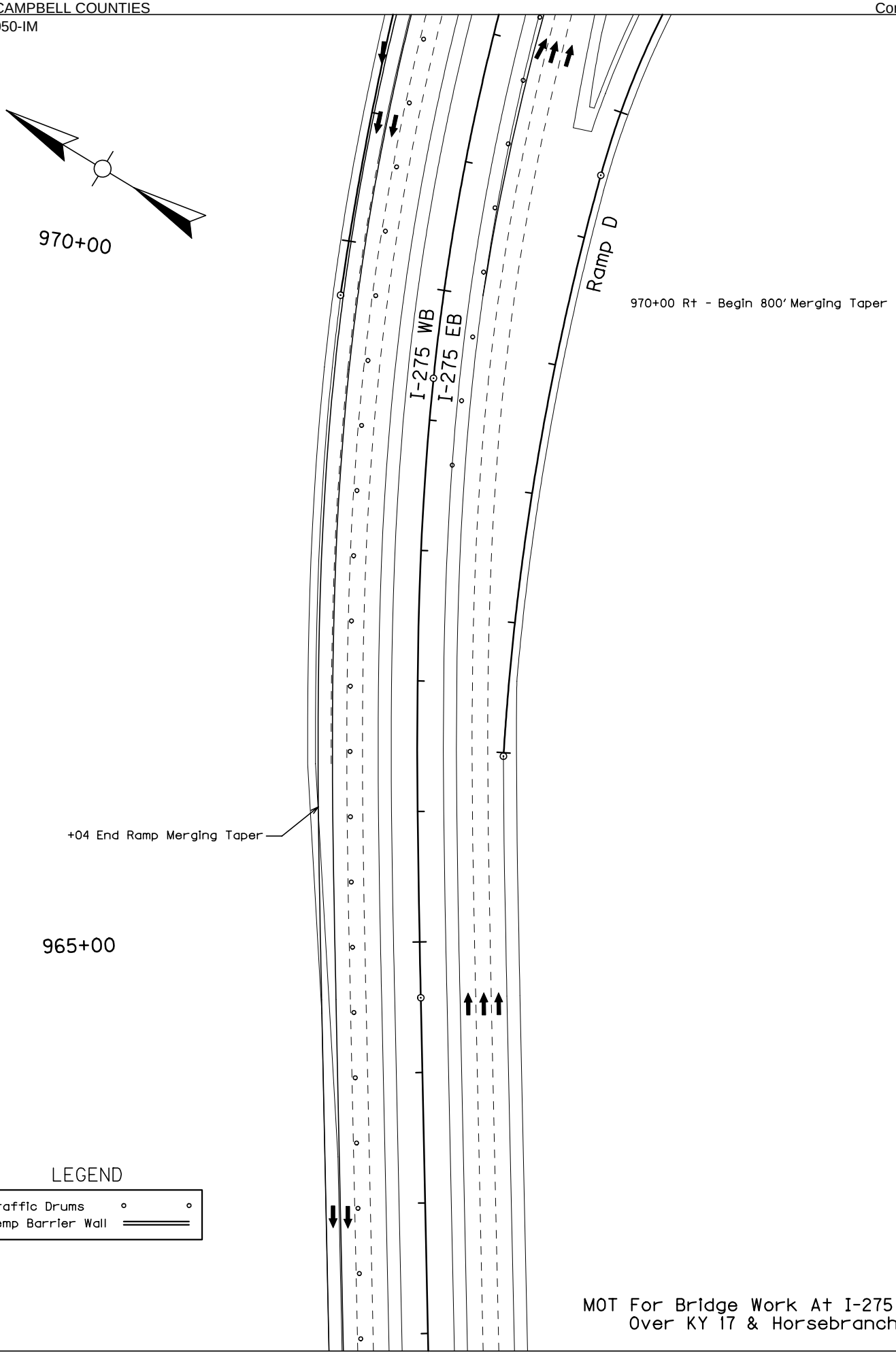
NOTE: Three Lane MOT Configuration Shown. Use Traffic Drums Across Bridge to Reduce Lanes in Other MOT Configurations.

Not to Scale



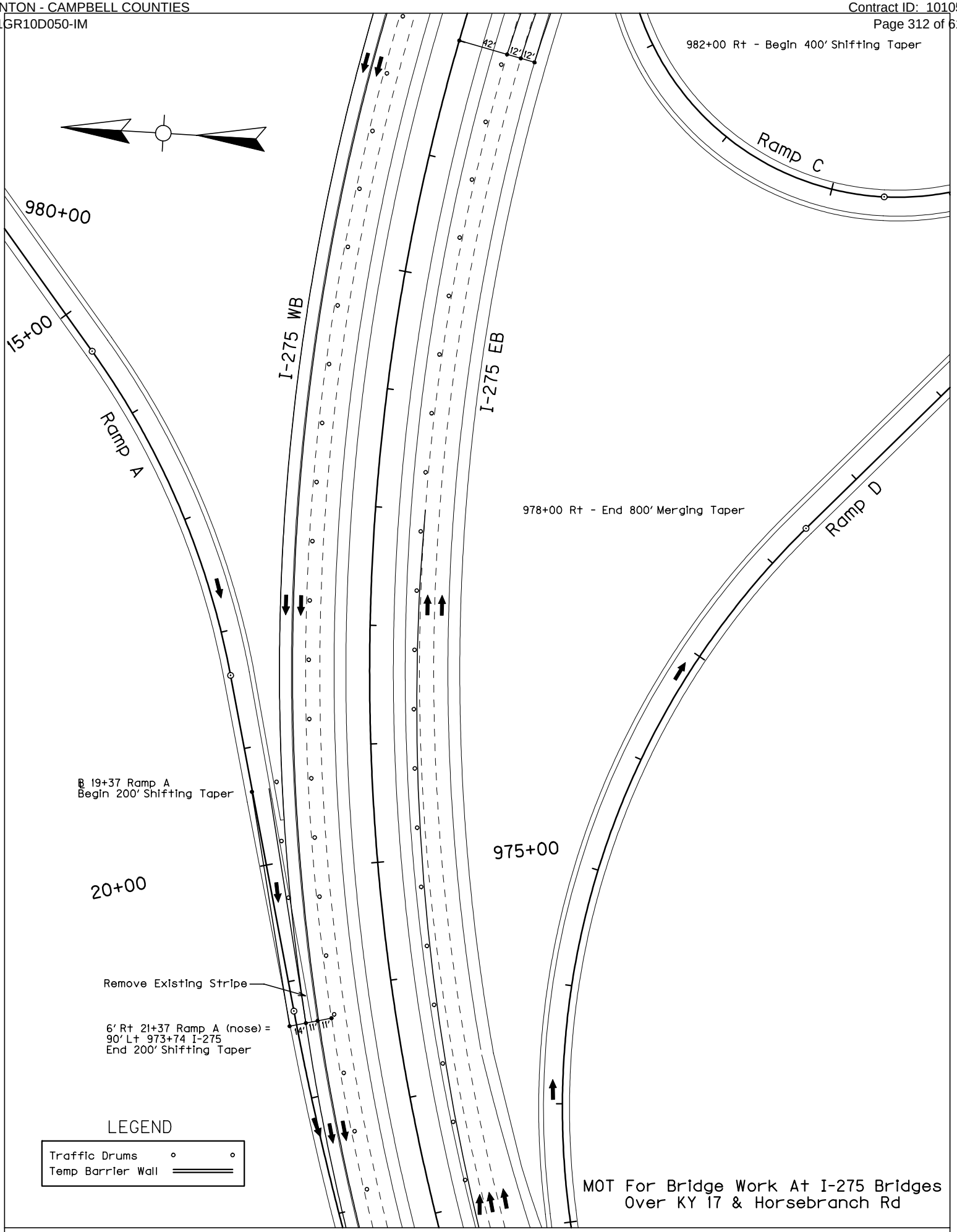
MOT For Bridge Work At I-275 Bridges Over KY 17 & Horsebranch Rd

I-275 MOT Phase I - Scale 1" = 100' - Sheet 1 of 7 - Sta 952+00 to Sta 962+00

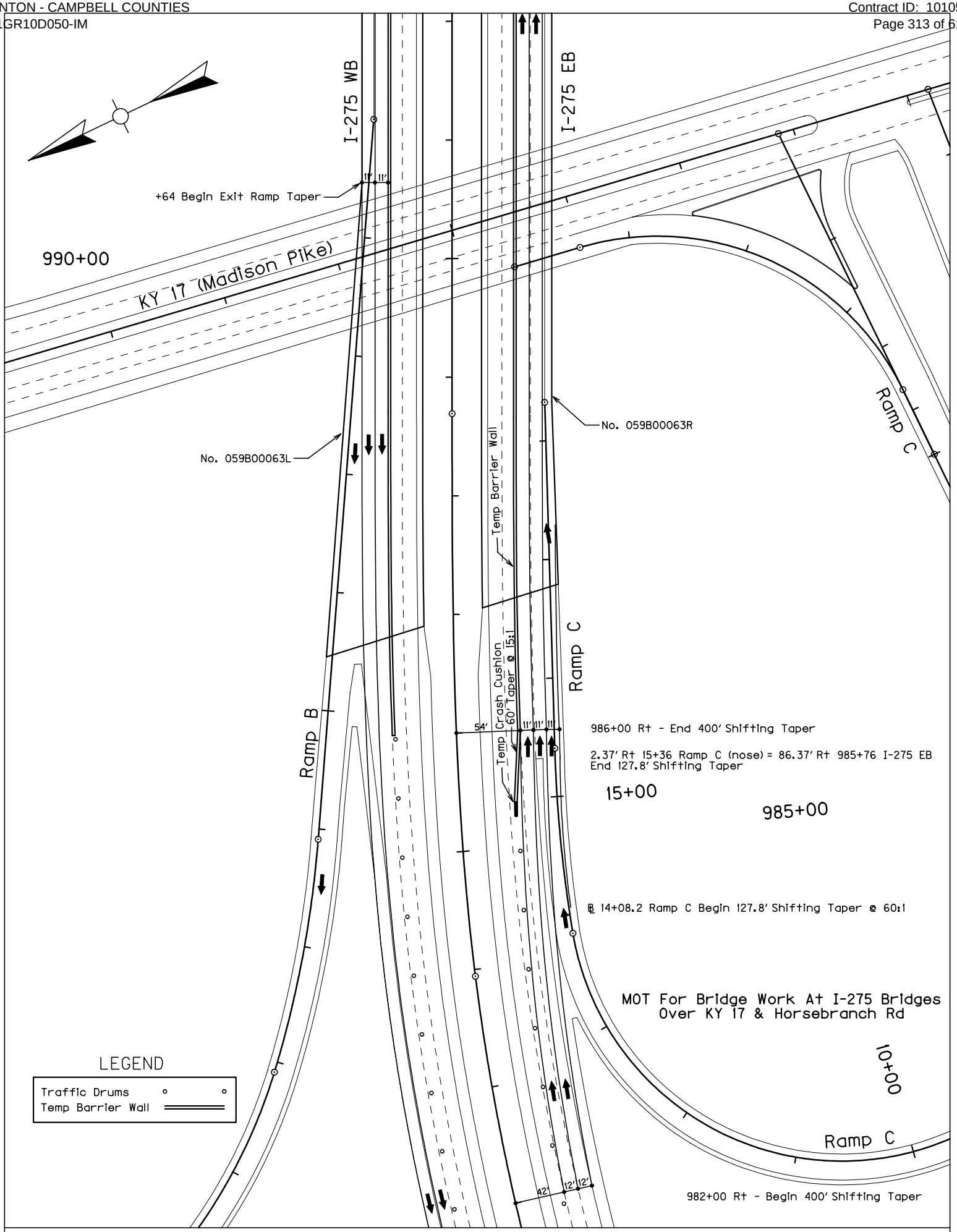


MOT For Bridge Work At I-275 Bridges
Over KY 17 & Horsebranch Rd

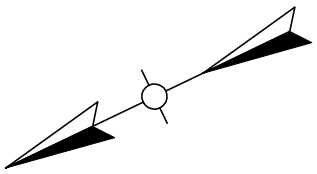
I-275 MOT Phase I - Scale 1" = 100' - Sheet 2 of 7 - Sta 962+00 to Sta 972+00



I-275 MOT Phase I - Scale 1" = 100' - Sheet 3 of 7 - Sta 972+00 to Sta 982+00



I-275 MOT Phase I - Scale 1" = 100' - Sheet 4 of 7 - Sta 982+00 to Sta 992+00



1000+00

No. 059B00063L

I-275 WB

No. 059B00063R

I-275 EB

11' 11'

+29 End Merging Taper With Ramp

995+00

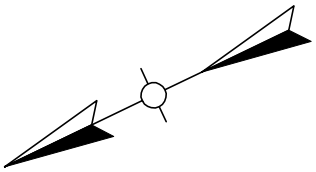
LEGEND

Traffic Drums

Temp Barrier Wall

MOT For Bridge Work At I-275 Bridges
Over KY 17 & Horsebranch Rd

I-275 MOT Phase I - Scale 1" = 100' - Sheet 5 of 7 - Sta 992+00 to Sta 1002+00



1010+00

I-275 WB

I-275 EB

1009+00 Lt - End 400' Shifting Taper

1009+00 Rt - End 400' Shifting Taper

12' 12' 42' 42' 12' 12'

Temp Crash Cushion

1005+00

1005+00 Lt - Begin 400' Shifting Taper

1005+00 Rt - Begin 400' Shifting Taper

11' 11' 54' 54' 11' 11'

60' Taper @ 15:1

Temp Barrier Wall

No. 059B00063L

No. 059B00063R

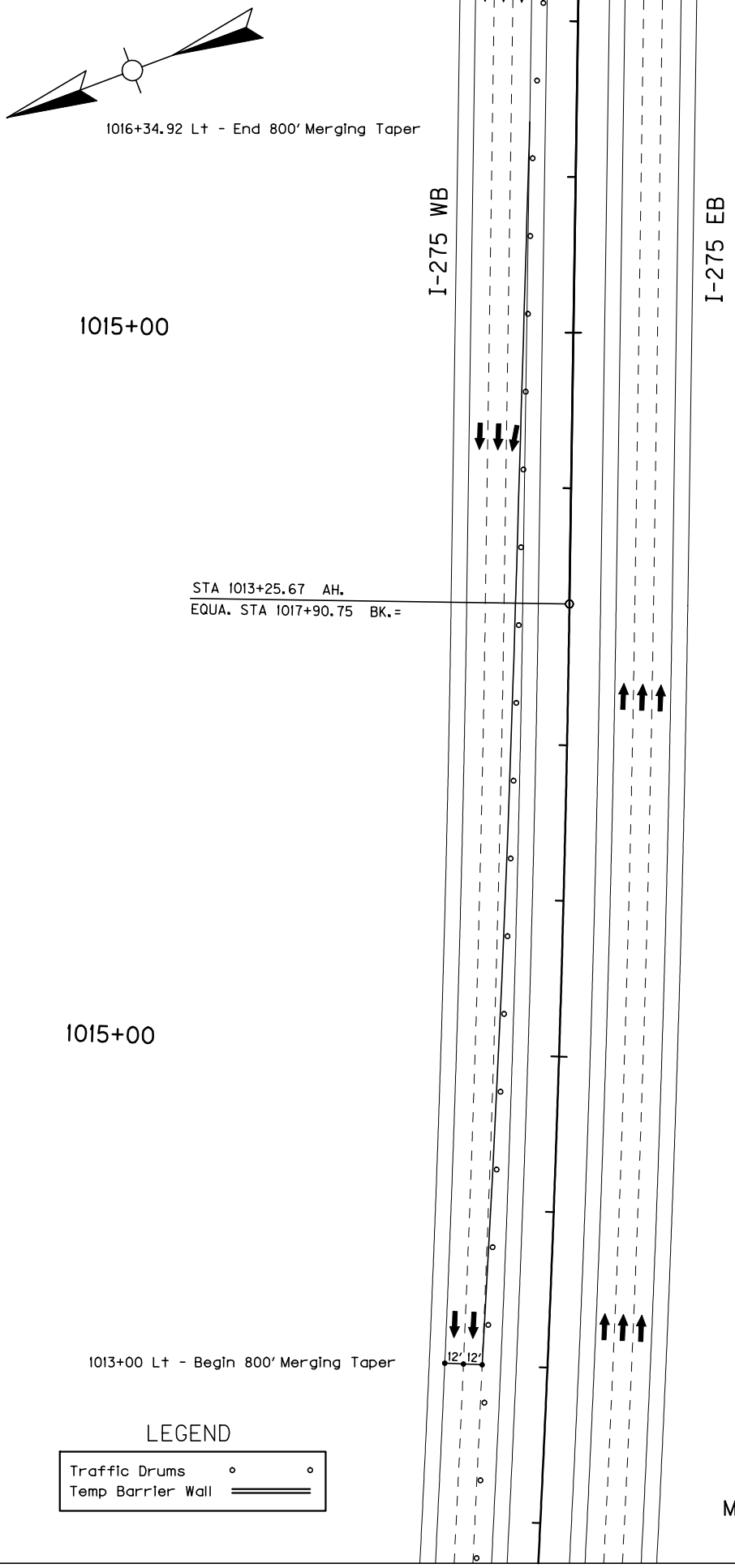
LEGEND

Traffic Drums

Temp Barrier Wall

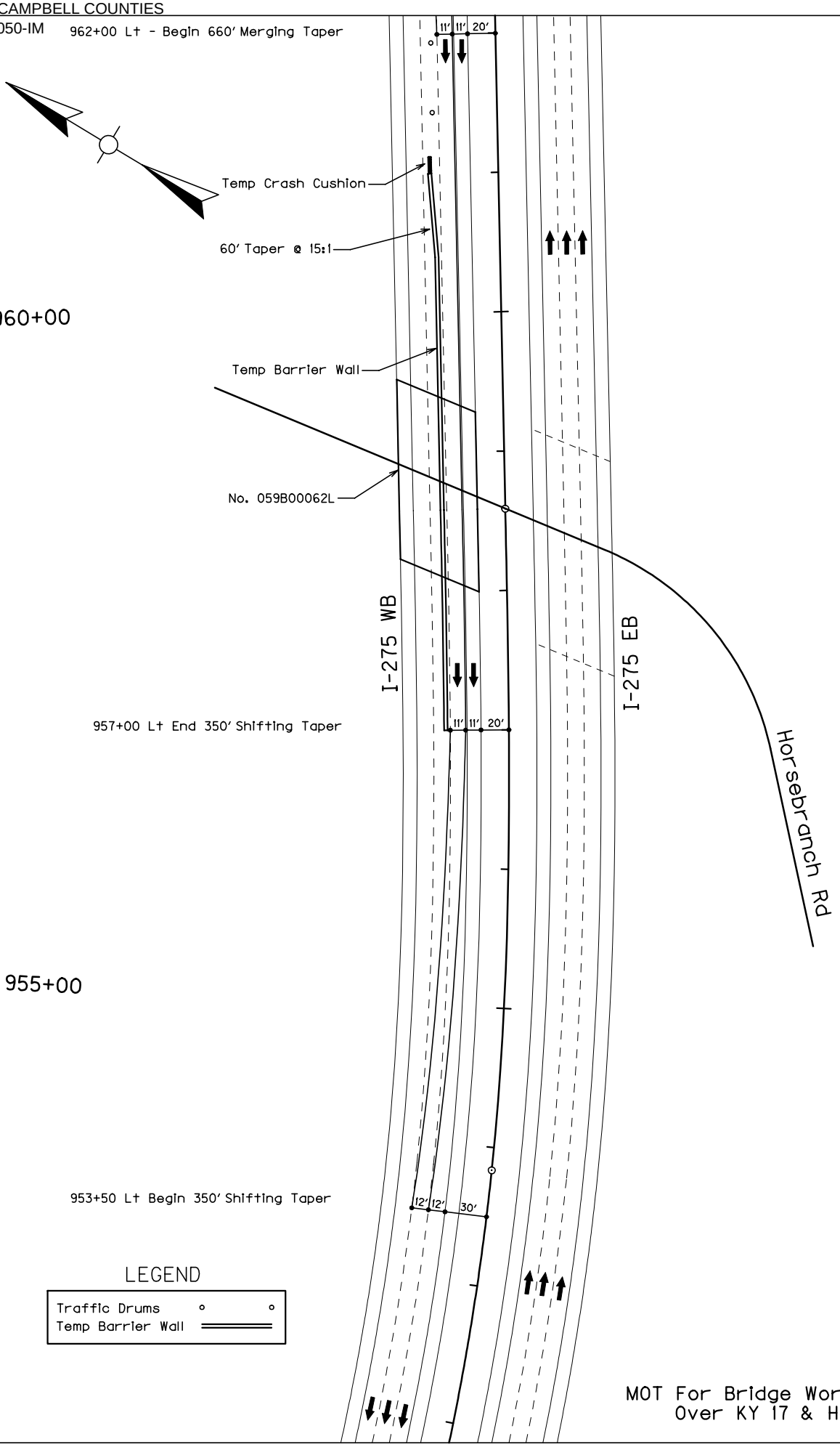
MOT For Bridge Work At I-275 Bridges
Over KY 17 & Horsebranch Rd

I-275 MOT Phase I - Scale 1" = 100' - Sheet 6 of 7 - Sta 1002+00 to Sta 1012+00



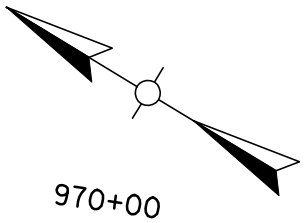
MOT For Bridge Work At I-275 Bridges
Over KY 17 & Horsebranch Rd

I-275 MOT Phase I - Scale 1" = 100' - Sheet 7 of 7 - Sta 1012+00 to Sta 1017+00



MOT For Bridge Work At I-275 Bridges
Over KY 17 & Horsebranch Rd

I-275 MOT Phase II - Scale 1" = 100' - Sheet 1 of 7 - Sta 952+00 to Sta 962+00



970+00

Ramp A

971+00 Rt - Begin 800' Merging Taper

Ramp D

I-275 WB

I-275 EB

968+60 Lt - End 660' Merging Taper
Begin 515' Shifting Taper

12' 11' 11' 20'

965+00

LEGEND

Traffic Drums

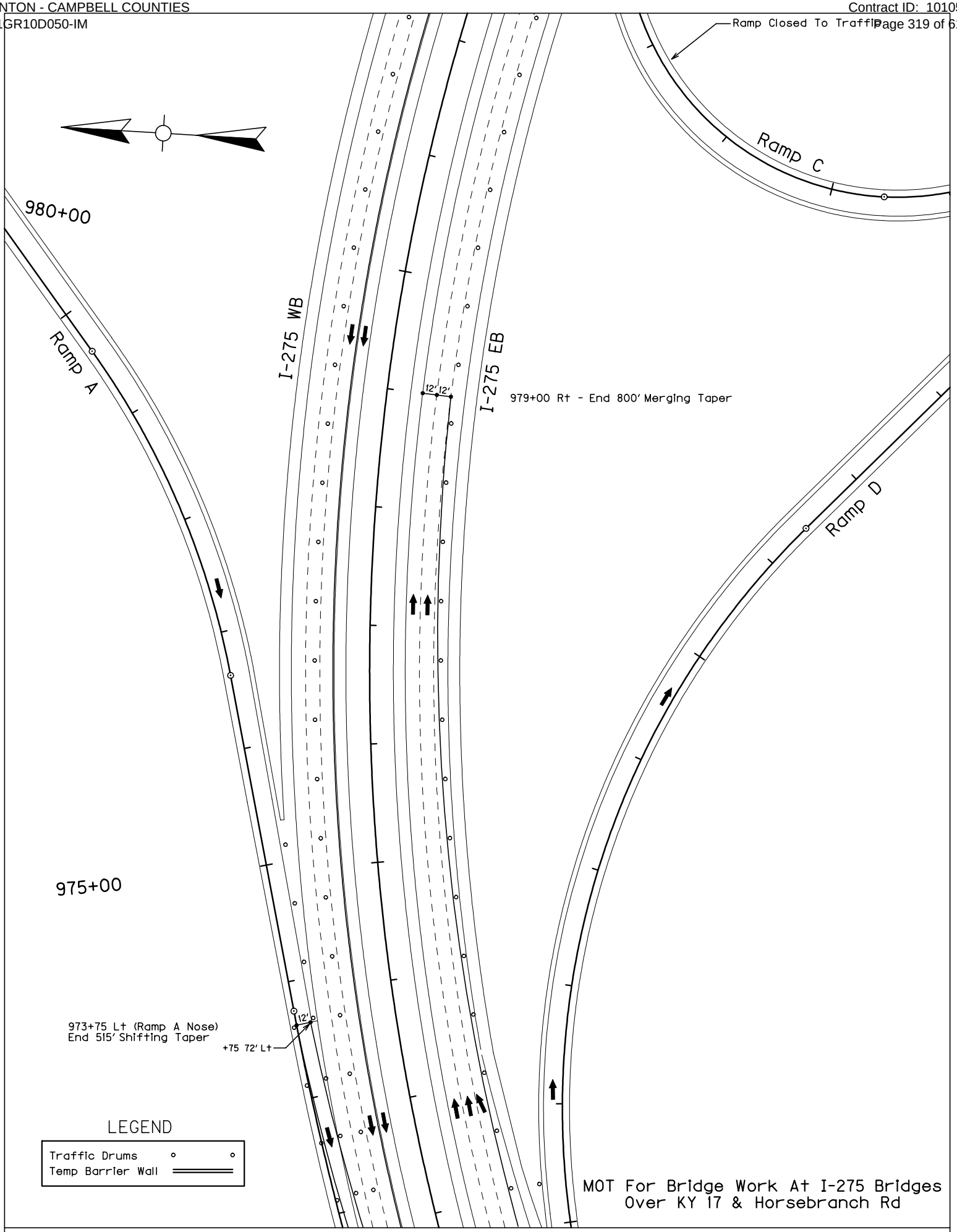
Temp Barrier Wall

11' 11' 20'

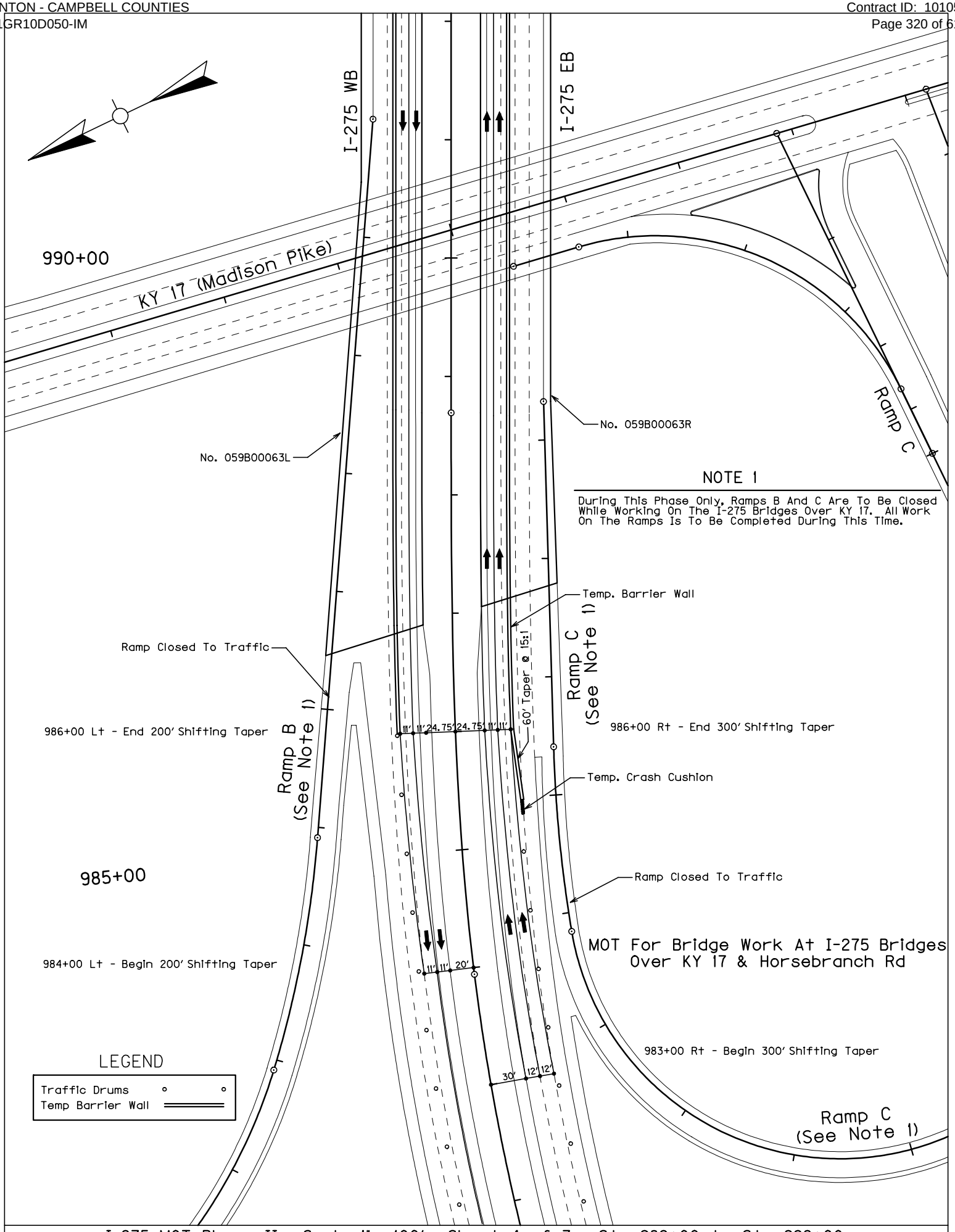
962+00 Lt - Begin 660' Merging Taper

MOT For Bridge Work At I-275 Bridges
Over KY 17 & Horsebranch Rd

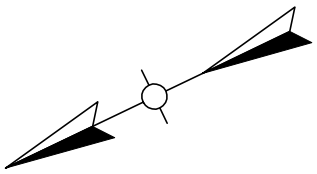
I-275 MOT Phase II - Scale 1" = 100' - Sheet 2 of 7 - Sta 962+00 to Sta 972+00



I-275 MOT Phase II - Scale 1" = 100' - Sheet 3 of 7 - Sta 972+00 to Sta 982+00



I-275 MOT Phase II - Scale 1" = 100' - Sheet 4 of 7 - Sta 982+00 to Sta 992+00



1000+00

No. 059B00063L

No. 059B00063R

I-275 WB

I-275 EB

995+00

I-275 WB

I-275 EB

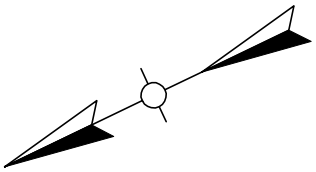
LEGEND

Traffic Drums

Temp Barrier Wall

MOT For Bridge Work At I-275 Bridges
Over KY 17 & Horsebranch Rd

I-275 MOT Phase II - Scale 1" = 100' - Sheet 5 of 7 - Sta 992+00 to Sta 1002+00



1012+00 Lt - Begin 800' Merging Taper

1010+00

I-275 WB

I-275 EB

1008+00 Lt - End 300' Shifting Taper

1008+00 Rt - End 300' Shifting Taper

12' 12' 30' 30' 12' 12'

Temp Crash Cushion

60' Taper @ 15:1

1005+00

1005+00 Lt - Begin 300' Shifting Taper

1005+00 Rt - Begin 300' Shifting Taper

11' 11' 24.75' 24.75' 11' 11'

Temp Barrier Wall

No. 059B00063L

No. 059B00063R

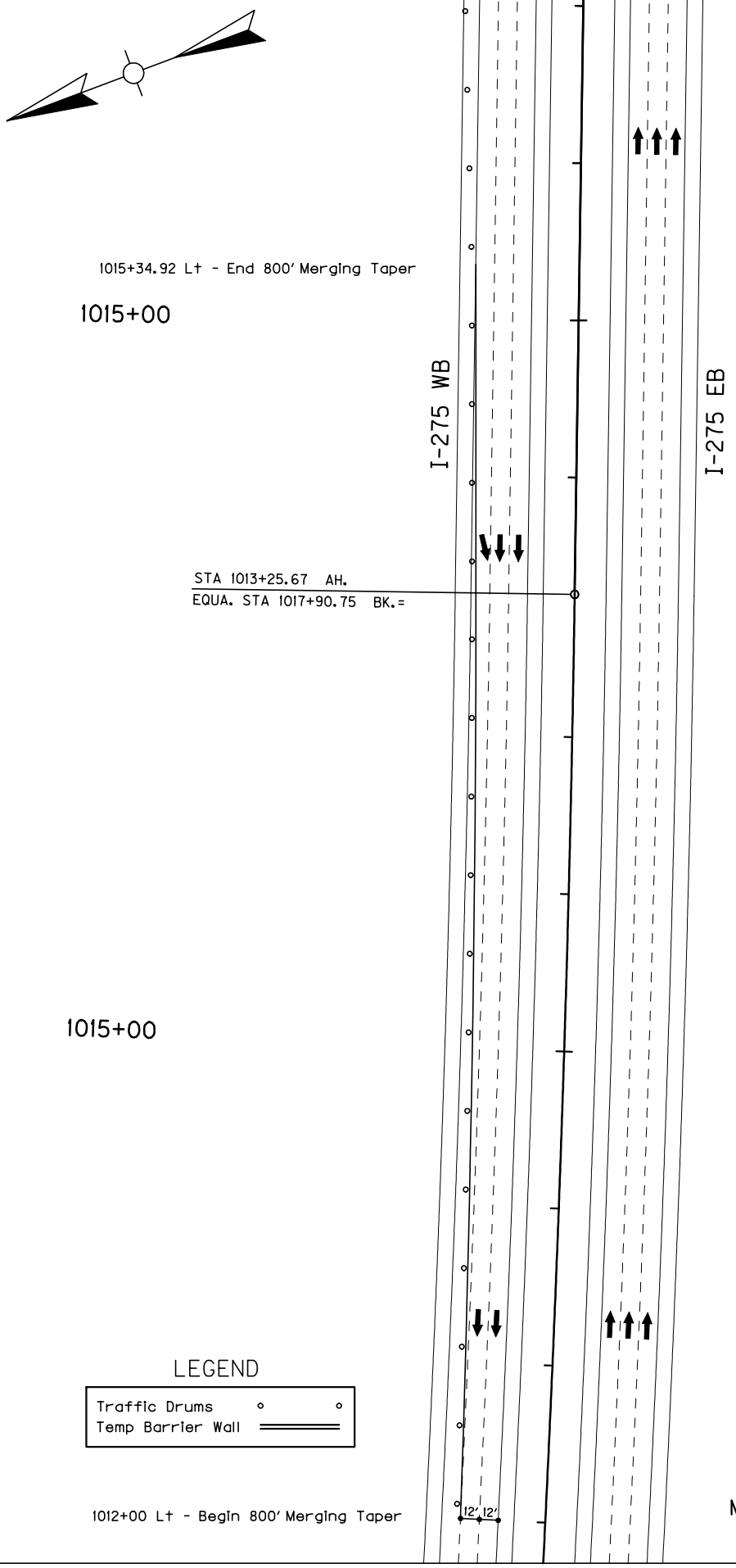
LEGEND

Traffic Drums

Temp Barrier Wall

MOT For Bridge Work At I-275 Bridges
Over KY 17 & Horsebranch Rd

I-275 MOT Phase II - Scale 1" = 100' - Sheet 6 of 7 - Sta 1002+00 to Sta 1012+00



MOT For Bridge Work At I-275 Bridges
Over KY 17 & Horsebranch Rd

I-275 MOT Phase II - Scale 1" = 100' - Sheet 7 of 7 - Sta 1012+00 to Sta 1017+00

KENTON - CAMPBELL COUNTIES
I-275 MP 76.94 TO MP 82.48

PROJECT NUMBERS
FD52 019 0275 077-078
IM 2759 (117)
FD 52 059 0275 080-083
NH 2759 (121)

ITEM NUMBERS
6-2025.00
6-2027.00

BRIDGE REHABILITATION
(7 LOCATIONS)

STATION 861 + 94
TO
STATION 1150 + 26



DATE 9/10/10

PREPARED BY

WMB, INC. CONSULTING ENGINEERS
1950 HAGGARD COURT
LEXINGTON, KY. 40505
PHONE 859/299-5226

KENTON - CAMPBELL COUNTIES, I-275
I-75 MP 76.94 TO MP 82.48

PROJECT NUMBERS
FD52 019 0275 077-078
IM 2759 (117)
FD52 059 0275 080-083
IM 2759 (121)

ITEM NUMBERS
6-2025.00
6-2027.00

BRIDGE REHABILITATION
(7 LOCATIONS)

STATION 861 + 94
TO
STATION 1150 + 26

INDEX

ITEM

INDEX

SUMMARY OF BRIDGE QUANTITIES

REFERENCES

SPECIAL NOTE FOR REPLACING EXPANSION DAMS AND/OR INSTALLING ARMORED EDGES FOR CONCRETE ON BRIDGES

SPECIAL NOTE FOR ELIMINATING TRANSVERSE JOINTS ON BRIDGES

SPECIAL NOTE FOR STRUCTURAL CONCRETE REPAIRS USING EPOXY MORTAR

SPECIAL NOTE FOR REPLACING COMPRESSION SEAL IN EXISTING EXPANSION JOINT

SPECIAL NOTE FOR BRIDGE RESTORATION AND WATER-PROOFING WITH CONCRETE OVERLAYS

SPECIAL NOTE FOR CONCRETE SEALANT

INDEX (CONTINUED)

KENTON & CAMPBELL COUNTIES, I-275
PROJECT NUMBERS FD52 019 0275 077-078 IM 2759 (117) &
FD52 059 0275 080-083 IM 2759 (121)
ITEM NUMBERS 6-2025.00 & 6-2027.00
BRIDGE REHABILITATION (7 LOCATIONS)

BRIDGE NO. 059B00061N I-275 EB EXIT RAMP D TO KY 1303
OVER I-275 EB ENTRANCE RAMP F FROM US 25

BRIDGE NO. 059B00062L I-275 WB OVER HORSE BRANCH RD

BRIDGE NO. 059B00063L I-275 WB OVER KY 17

BRIDGE NO. 059B00063R I-275 EB OVER KY 17

BRIDGE NO. 019B00048L I-275 WB OVER KY 9

BRIDGE NO. 019B00048R I-275 EB OVER KY 9

BRIDGE NO. 019B00047N I-275 WB EXIT RAMP B OVER KY 9

SUMMARY OF BRIDGE QUANTITIES FOR I-275 PROJECT
PROJECT NO. FD52 019 0275 077-078 IM 2759(117) & FD52 059 0275 080-083 IM 2759(121)
ITEM NO. 6-2025.00 & 6-2027.00
KENTON - CAMPBELL COUNTIES

ESTIMATED QUANTITIES REQUIRED

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
(1) 8510	REM EPOXY BIT FOREIGN OVERLAY	21139.0	SQ. YD.
8551	MACHINE PREP OF EXISTING SLAB	4273.0	SQ. YD.
8549	BLAST CLEANING	28659.0	SQ.YD.
8504	EPOXY SAND SLURRY	4599.0	SQ. YD.
8534	CONCRETE OVERLAY-LATEX	900.0	CU.YD.
8526	CONC. CLASS M FULL DEPTH PATCH	113.0	CU. YD.
3300	ELIMINATE TRANS. JT. METHOD 1	420.0	LIN. FT.
3300	ELIMINATE TRANS. JT. METHOD 2	108.0	LIN. FT.
3294	EXPANSION JT. REPLACEMENT 1 1/2"	598.4	LIN. FT.
3296	EXPANSION JT. REPLACEMENT 2 1/2"	140.3	LIN. FT.
3298	EXPANSION JT. REPLACEMENT 4" (METHOD 1)	55.0	LIN. FT.
3298	EXPANSION JT. REPLACEMENT 4" (METHOD 2)	165.0	LIN. FT.
23386EC	JOINT SEAL REPLACEMENT	269.0	LIN. FT.
23032EN	BRIDGE BARRIER RETROFIT	1863.0	LIN. FT.
8821	8" PVC PIPE (INCLUDES REMOVE PIPE)	900.0	LIN. FT.
22146EN	CONCRETE PATCHING REPAIR	100.0	SQ FT
23031EN	PIER REPAIR	1500.0	SQ. FT.
1000	4" PERFORATED PVC PIPE	120.0	LIN. FT.
1010	4" NON PERFORATED PVC PIPE	240.0	LIN. FT.

(1) FOR REMOVING EXISTING 1 1/4" CONCRETE OVERLAY
(APPLIES TO I-275 WB OVER HORSEBRANCH ROAD & EB & WB OVER KY 17)

SUMMARY OF BRIDGE QUANTITIES FOR I-275 PROJECT
PROJECT NO. FD52 059 0275 080-083 NH 2759 (121)
ITEM NO. 6-2025.00 & 6-2027.00
KENTON COUNTY

ESTIMATED QUANTITIES REQUIRED

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
(1) 8510	REM EPOXY BIT FOREIGN OVERLAY	21139.0	SQ. YD.
8549	BLAST CLEANING	23787.0	SQ.YD.
8504	EPOXY SAND SLURRY	3699.0	SQ. YD.
8534	CONCRETE OVERLAY-LATEX	739.0	CU.YD.
8526	CONC. CLASS M FULL DEPTH PATCH	89.0	CU. YD.
3300	ELIMINATE TRANS. JT. METHOD 1	255.0	LIN. FT.
3300	ELIMINATE TRANS. JT. METHOD 2	108.0	LIN. FT.
3294	EXPANSION JT. REPLACEMENT 1 1/2"	65.0	LIN. FT.
3298	EXPANSION JT. REPLACEMENT 4" (METHOD 1)	110.0	LIN. FT.
3298	EXPANSION JT. REPLACEMENT 4" (METHOD 2)	55.0	LIN. FT.
23386EC	JOINT SEAL REPLACEMENT	269.0	LIN. FT.
8821	8" PVC PIPE (INCLUDES REMOVE PIPE)	900.0	LIN. FT.
22146EN	CONCRETE PATCHING REPAIR	100.0	SQ FT
23031EN	PIER REPAIR	1500.0	SQ FT
1000	4" PERFORATED PVC PIPE	120.0	LIN. FT.
1010	4" NON-PERFORATED PVC PIPE	240.0	LIN. FT.

(1) FOR REMOVING EXISTING 1 1/4" CONCRETE OVERLAY
(APPLIES TO I-275 WB OVER HORSEBRANCH ROAD & EB & WB OVER KY 17 ONLY)

SUMMARY OF BRIDGE QUANTITIES FOR I-275 PROJECT
PROJECT NO. FD52 019 0275 077-078 NH 2759 (117)
ITEM NO. 6-2025.00 & 6-2027.00
CAMPBELL COUNTY

ESTIMATED QUANTITIES REQUIRED

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
8551	MACHINE PREP OF EXISTING SLAB	4273.0	SQ. YD.
8549	BLAST CLEANING	4872.0	SQ.YD.
8504	EPOXY SAND SLURRY	900.0	SQ. YD.
8534	CONCRETE OVERLAY-LATEX	161.0	CU.YD.
8526	CONC. CLASS M FULL DEPTH PATCH	24.0	CU. YD.
3300	ELIMINATE TRANS. JT. METHOD 1	165.0	LIN. FT.
3294	EXPANSION JT. REPLACEMENT 1 1/2"	533.4	LIN. FT.
3296	EXPANSION JT. REPLACEMENT 2 1/2"	140.3	LIN. FT.
23032EN	BRIDGE BARRIER RETROFIT	1863.0	LIN. FT.

REFERENCES

THE SUPPLEMENTAL SPECIFICATIONS TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2008 EDITION AND THE FOLLOWING SPECIAL NOTES THAT APPLY TO ALL BRIDGES ARE FOUND IN THE ROADWAY PLANS FOR THIS PROJECT:

- **SPECIAL NOTE FOR CONTRACT COMPLETION DATE AND LIQUIDATED DAMAGES**
- **SPECIAL NOTE FOR COORDINATION WITH I-75 CONSTRUCTION**
- **PROJECT PHASING AND MAINTENANCE OF TRAFFIC PLAN**

SPECIAL NOTE FOR REPLACING EXPANSION DAMS AND/OR INSTALLING ARMORED EDGES FOR CONCRETE ON BRIDGES

I. DESCRIPTION.

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2008 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawings. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove existing concrete and expansion device(s) and/or bridge ends; (3) Install armored edges and new concrete as specified and in accordance with the attached detail drawings; (4) Install new joint seals (where required); (5) Maintain and control traffic; and (6) Any other work specified as part of this contract.

II. MATERIALS.

A. Class "M" Concrete. Use either "M1" or "M2". See Section 601.

B. Structural Steel. Use new, commercial grade steel suitable for welding. The Engineer will base acceptance on visual inspection. See Standard Drawing BJE-001, current edition.

C. Stud Anchors. The armored edge stud anchors are ¾" x 6" embedded stud shear connectors conforming to ASTM A108, Grade 1015 (Nelson Studs or equal).

D. Steel Reinforcement. Use Grade 60. See Section 602.

E. Epoxy Bond Coat. See Section 511.

F. Neoprene Joint Sealers (Compression Seals). See Section 807.

G. Silicone Rubber Sealant. See Section 807.

H. Neoprene Strip Seals. See attached detail drawings and Section 807.

III. CONSTRUCTION.

A. Remove Existing Materials. Remove the existing expansion dam/bridge end and specified areas of concrete as shown on the attached sketches. Remove debris and/or expansion joint filler as directed by the Engineer. Dispose of all removed material entirely away from the job site. This work is incidental to the contract unit price for "Expansion Joint Replacement" or "Armored Edge for Concrete".

Clean and leave all existing steel reinforcement encountered in place.

B. Place New Concrete and Armored Edges. After all specified existing materials have been removed; place new armored edges to match the grade of the proposed overlay or to match the original grade (See attached detail drawings). Place the new Class “M” concrete to the scarified grade and finish to receive the new overlay or place the new Class “M” concrete to the original grade and finish with broom strokes drawn transversely from curb to curb. No accelerants are to be added to Class “M” Concrete as specified in Section 601 of the Standard Specifications.

All new structural steel shall be cleaned and painted with two coats of commercial primer paint red orange in color, except that surfaces to come in contact with concrete are not to be painted.

Blast clean all areas of existing concrete and structural steel to come in contact with new concrete until free of all laitance and deleterious substances immediately prior to the placement of the Class "M" Concrete. The surface areas of existing concrete to come in contact with the new Class "M" Concrete are to be coated with an epoxy bond coat immediately prior to placing new concrete in accordance with Section 511. The interfaces of the new and old concrete shall be as nearly vertical and horizontal as possible.

C. Additional Steel Reinforcement. Furnish for replacement, as directed by the Engineer, 0 linear feet of steel reinforcing bars ½” diameter by 20’ lengths. Place these bars in areas deemed by the Engineer to require additional reinforcement. Field cutting and bending is permitted. Do not place any additional steel reinforcement above the height of the top row of Nelson Studs on the armored edges. Ensure that all exposed steel reinforcement is tied in accordance with Section 602.03.04 prior to pouring the new Class “M” concrete. Deliver unused bars to the Local County Maintenance Barn. Reinforcement is incidental to the contract unit price for “Expansion Joint Replacement”.

D. Stage Construction. Installation of concrete and armored edges in two (or more if specified) stages is necessary. Join the armored edges at or near the centerline of the roadway or lane line, field weld and grind smooth.

E. Preformed Neoprene Joint Seal. Place the preformed joint seal in one continuous, unbroken length. Place neoprene compression seals as recommended by the manufacturer and in accordance with Section 609.03.04 (D). Place neoprene strip seals as recommended by the manufacturer and in accordance with Section 609.03.04 (E), except that shop drawings will not be required.

F. Silicone Rubber Sealant. Place the silicone sealant as recommended by the manufacturer and in accordance with Section 609.03.04 (C).

G. Shop Plans. Shop plans will <u>not</u> be required. The Contractor is responsible for obtaining field measurements and supplying properly sized materials to complete the work.

IV. MEASUREMENT.

A. Expansion Joint Replacement - 1 ½", 2", 2 ½", 4". The Department will measure the quantity in linear feet from gutterline to gutterline along the centerline of the joint.

B. Armored Edge for Concrete. The Department will measure the quantity in linear feet from gutterline to gutterline along the face of the bridge end.

C. Steel Reinforcement. See Section 602.

V. PAYMENT.

A. Expansion Joint Replacement - 1 ½", 2", 2 ½", 4". Payment at the contract unit price per linear foot is full compensation for removing specified existing materials, furnishing and installing the new armored edges, concrete, neoprene joint seal, and all incidental items necessary to complete the work (except the overlay material) within the specified pay limits as specified by this note and as shown on the attached detail drawings.

B. Armored Edge for Concrete. Payment at the contract unit price per linear foot is full compensation for removing specified existing materials, furnishing and installing the new armored edges, concrete and all incidental items necessary to complete the work (except the overlay material) within the specified pay limits as specified by this note and as shown on the attached detail drawings.

C. Steel Reinforcement. Reinforcement is incidental to the contract unit price for "Expansion Joint Replacement".

The Department will consider payment as full compensation for all work required by this note and the attached detail drawings.

SPECIAL NOTE FOR ELIMINATING TRANSVERSE JOINTS ON BRIDGES

I. DESCRIPTION. Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2008 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawings. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove existing concrete to eliminate the transverse joint; (3) Install additional steel reinforcement, new armored edge and new concrete as specified and in accordance with the attached detail drawings; (4) Maintain and control traffic; and (5) Any other work specified as part of this contract.

II. MATERIALS.

A. Class "M" Concrete. Use either "M1" or "M2". See Section 601.

B. Steel Reinforcement. Use Grade 60. See Section 602.

C. Epoxy Bond Coat. See Section 511.

III. CONSTRUCTION.

A. Remove Existing Materials. Remove the existing transverse joints, joint filler, and specified areas of concrete as shown on the attached detail drawings or as directed by the Engineer. Dispose of all removed material entirely away from the job site. This work is incidental to the contract unit price for "Eliminate Transverse Joint".

Clean and leave all existing steel reinforcement encountered in place. Damaged steel reinforcement will be repaired/replaced as directed by the Engineer at no additional cost to the Department.

B. Place New Concrete and Armored Edges. After all specified existing materials have been removed; place new armored edges to match the original grade (See attached detail drawings). Place the new Class "M" concrete to the original grade and finish with broom strokes drawn transversely from gutterline to gutterline. No accelerants are to be added to Class "M" Concrete as specified in Section 601 of the Standard Specifications.

All new structural steel shall be cleaned and painted with two coats of commercial primer paint red orange in color, except that surfaces to come in contact with concrete are not to be painted.

Blast clean all areas of existing concrete and structural steel to come in contact with new concrete until free of all laitance and deleterious substances immediately prior to the placement of the Class "M" Concrete. The surface areas of existing concrete to

come in contact with the new Class "M" Concrete are to be coated with an epoxy bond coat immediately prior to placing new concrete in accordance with Section 511. The interfaces of the new and old concrete shall be as nearly vertical and horizontal as possible.

C. Steel Reinforcement. Furnish for this work steel reinforcement as shown in the individual bridge packages. Splice these bars to the existing reinforcement in the deck and backwall in the areas of removed concrete as shown on the attached detail drawings or directed by the Engineer. Ensure that all exposed steel reinforcement is tied in accordance with Section 602.03.04 prior to pouring the new Class “M” concrete. Reinforcement is incidental to the contract unit price for “Eliminate Transverse Joint”.

IV MEASUREMENT.

A. Eliminate Transverse Joint. The Department will measure the quantity in linear feet from gutterline to gutterline along the centerline of the joint.

V. PAYMENT.

A. Eliminate Transverse Joint. Payment at the contract unit price per linear foot is full compensation for removing and disposing of the specified existing materials, furnishing and installing the concrete, steel reinforcement, armored edge and all incidental items necessary to complete the work within the specified pay limits as specified by this note and as shown on the attached detail drawings.

The Department will consider payment as full compensation for all work required by this note and the attached detail drawings.

SPECIAL NOTE FOR STRUCTURAL CONCRETE REPAIRS USING EPOXY MORTAR

I. DESCRIPTION. Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2004 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawing(s). Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Provide safe access to the repair area in accordance with Section 107.01.01 for the Engineer to sound for possible deterioration and for workers to complete the construction; (3) Remove the deteriorated concrete from the repair area of each specified location as determined by the Engineer, as shown on the detail drawing(s), or as specified herein; (4) Blast clean and prepare the surfaces for patching; (5) Prime the areas immediately prior to patching; (6) Apply the epoxy mortar patches; (7) Finish the patched surface; (8) If applicable, apply an epoxy seal coat as directed and in accordance with the manufacturer's instructions; (9) Maintain and control traffic; and (10) Any other work specified as part of this contract.

Furnish to the Engineer copies of the epoxy manufacturer's technical data sheets, installation guidelines, material safety data sheets, and other pertinent data at least two (2) days prior to beginning the concrete repairs. All materials furnished will be in conformance with and all work completed will be in accordance with Section 510 for "Sealing and Patching Concrete with Epoxy Resin" and the epoxy resin manufacturer's recommendations as approved by the Engineer. Provide epoxy patching material(s) and procedures which are recommended by the manufacturer for patching small horizontal and vertical areas as well as larger patch areas ($10ft^2$ to $40ft^2$) with patch thicknesses varying from 1" to 4".

II. MATERIALS.

A. Epoxy Resin. Conform to Section 826.

B. Mortar Sand. Conform to Section 804.

III. CONSTRUCTION.

A. Remove Deteriorated Concrete. Prior to beginning the concrete repairs, provide safe access to the concrete to be repaired, in accordance with Section 107.01.01, for the Engineer to sound and visually inspect possible repair areas. The Engineer will sound the concrete with a hammer as well as visually inspect the concrete and will mark the areas of concrete to be removed and patched. All areas of deteriorated concrete found will be repaired as part of this work. Final payment for "Concrete Patching Repair" will be the field-measured quantity of patching completed in accordance with this Note and as designated by the Engineer.

Prior to removing deteriorated concrete, saw-cut the existing concrete to a depth of 1" along the perimeter of the area to be repaired to provide neat lines delineating the area to be patched. Remove specified areas of deteriorated concrete as shown on the attached detail drawing(s) and/or as directed by the Engineer. The removal of unsound material shall be accomplished with hand tools or pneumatic hammers that do not exceed twenty (20) pounds. Precautions shall be exercised to protect the underlying sound material. Saw, rout, gouge, or otherwise manipulate the surfaces and sides of the patch area so that the interface between the old concrete and the

repair material is perpendicular to the finished surface and the patch will be at least one (1) inch thick. Insure that concrete removal in the patch area extends at least three-quarters (3/4) inch beyond and below any steel reinforcement more than 50 percent exposed by deterioration or the repair operations. Dispose of all removed material entirely away from the job site or as directed by the Engineer.

Clean and leave all existing steel reinforcement encountered in place. Wire brushing may be required to thoroughly clean exposed steel reinforcement. Repair or replace any damaged, broken, or heavily deteriorated (30% or more section area loss) steel reinforcement as directed by the Engineer. Lap new #4 deformed bars to existing reinforcement having less than 30% deterioration (16" min lap or approved welded splice). Remove concrete as necessary to achieve a minimum lap to relatively sound reinforcement. It may be necessary to provide 'stirrup' bends and continue the new reinforcement around corners to provide minimum lap with sound reinforcement. Ensure that all exposed steel reinforcement is tied in accordance with Section 602.03.04 prior to placing the epoxy resin prime coat or the epoxy mortar.

B. Prepare Concrete Surfaces for Patching. Prepare concrete surfaces to be patched in accordance with Section 510.03.01. Final blast cleaning shall be completed within twelve (12) hours prior to placement of the epoxy mortar patch. Concrete must be sound, dry, and clean prior to placement of epoxy resin prime coat unless otherwise required by the manufacturer's installation data.

C. Apply Epoxy Mortar for Patching. Place the epoxy resin prime and the epoxy mortar in accordance with Section 510.03.04 and the manufacturer's recommendations. Place epoxy mortar in accordance with the manufacturer's specifications to restore the concrete to it's original dimensions as shown on the detail drawing(s), as determined in the field, or as directed by the Engineer. Applying the patch material may require multiple coats or levels, forming and pressure grouting the surface to be repaired or other means as necessary to achieve a neat and structurally effective patch.

D. Apply Epoxy Resin Seal Coat. After the epoxy mortar has hardened for the amount of time specified by the manufacturer for curing, apply an additional coat of epoxy resin over the entire patch and overlapping the adjacent old concrete a minimum of two (2) inches. Work the epoxy resin seal coat thoroughly into any cracks that may have developed in the patch or in the interface between the patch and the old concrete. Place masking tape on the old concrete prior to applying this sealing coat of epoxy resin to insure a neat line. Remove tape after the sealing coat has cured adequately.

IV MEASUREMENT.

A. Concrete Patching Repair. The Department will measure the quantity in square feet within the neat patch lines.

V. PAYMENT.

A. Concrete Patching Repair. Payment at the contract unit price per square foot is full compensation for removal of deteriorated concrete, preparation of the concrete surface, application of the epoxy mortar patch, application of the epoxy resin seal coat, and all incidental items necessary to complete the work in accordance with this Note and as shown on the attached detail drawing(s).

B. Steel Reinforcement. Reinforcement is incidental to contract unit price for structural concrete repairs.

The Department will consider payment as full compensation for all work required by this note and the attached detail drawings.

SPECIAL NOTE FOR REPLACING COMPRESSION SEAL IN EXISTING EXPANSION JOINT

I. DESCRIPTION.

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2008 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawings. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove existing compression seal; (3) Install new compression seal; (4) Maintain and control traffic; and (5) Any other work specified as part of this contract.

II. MATERIALS.

A. Neoprene Joint Sealers (Compression Seals). See Section 807.

B. Silicone Rubber Sealant. See Section 807.

III. CONSTRUCTION.

A. Remove Existing Materials. Remove the existing compression seal as shown on the attached sketches. Remove debris and/or expansion joint filler as directed by the Engineer. Dispose of all removed material entirely away from the job site. This work is incidental to the contract unit price for "Expansion Joint Seal Replacement".

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B. Blast Clean Armored Edges. Blast clean all areas of existing armored edges until free of all laitance and deleterious substances immediately prior to the placement of the Compression Seal.

C. Preformed Neoprene Joint Seal. Place the preformed joint seal in one continuous, unbroken length. Place neoprene compression seals as recommended by the manufacturer and in accordance with Section 609.03.04 (D).

D. Silicone Rubber Sealant. Place the silicone sealant as recommended by the manufacturer and in accordance with Section 609.03.04 (C).

E. Shop Plans. Shop plans will <u>not</u> be required. The Contractor is responsible for obtaining field measurements and supplying properly sized materials to complete the work.

IV. MEASUREMENT.

A. Expansion Joint Seal Replacement - The Department will measure the quantity in linear feet from gutterline to gutterline along the centerline of the joint.

V. PAYMENT.

A. Expansion Joint Seal Replacement - Payment at the contract unit price per linear foot is full compensation for removing specified existing materials, furnishing and installing the neoprene compression joint seal, and all incidental items necessary to complete the work within the specified pay limits as specified by this note and as shown on the attached detail drawings.

The Department will consider payment as full compensation for all work required by this note and the attached detail drawings.

SPECIAL NOTE FOR BRIDGE RESTORATION AND WATERPROOFING WITH CONCRETE OVERLAYS

I. DESCRIPTION. Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2008 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawings. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Machine preparation of existing slab or remove the existing overlay; (3) Place new concrete overlay and epoxy-sand slurry in accordance with Section 606; (4) Maintain and control traffic; and (5) Any other work specified as part of this contract.

All construction will be in accordance with Section 606 unless otherwise specified.

II. MATERIALS.

A. Latex Concrete. See Section 606.03.17.

B. Low Slump Concrete. See Section 606.03.18.

C. Class "M" Concrete. Use either "M1" or "M2". See Section 601.

D. Epoxy-Sand Slurry. See Section 606.03.18

III. CONSTRUCTION.

A. Remove Existing Overlay. In addition to Section 606.03.03, verify the presence and depth of the existing overlay and totally remove the existing concrete overlay by grinding or scarifying the deck to a depth slightly below or equal to the original bridge slab surface as required. In areas where the existing overlay has been removed, additional machine preparation of the existing slab is NOT required. When removal of an existing overlay is a pay item, no payment will be allowed for "Machine Preparation of Existing Slab". This work is incidental to the pay item "Removal of Existing Overlay – Square Yard".

B. Overlay. Place new overlay in accordance with Section 606.

C. Surface Texturing. Texture the concrete surface of the overlay in accordance with Section 609.03.10. The minimum thickness of the textured overlay shall be as follows:

Latex Cement Concrete – 1 ¼"

D. Approach Pavement Repair. The Contractor shall repair any damage to the approach pavement due to the construction. Quantities have been included to replace 6 linear feet of the concrete approaches to each bridge end which is to receive a latex cement concrete overlay in the roadway repair quantities. Asphalt quantities have also been included in the roadway plans to mill and overlay the existing asphalt tapers at the east end of the twin I-275 bridges over KY. 17.

IV. MEASUREMENT. See Section 606.

V. PAYMENT. See Section 606.

470
D-TECH™
By Imco ®

DESCRIPTION
A ready-to-use, clear, water-based penetrating sealer designed for application to the surface of concrete, above or below grade, interior or exterior.

BASIC USES
Brushed, rolled or sprayed on concrete for sealing, hardening, dust proofing, waterproofing and weatherproofing. Protects concrete surfaces from abrasion and freeze-thaw damage and stops water seepage where it is not caused by cracking or other structural failure.

MAJOR ADVANTAGES OF D-TECH™
- Increases concrete density and hardness
- Prevents chemical corrosion and physical abrasion of the treated surface
- Effective in reducing freeze-thaw spalling
- Treatment is permanent and does not require subsequent re-application every few years
- Effective as a negative side waterproofing against a hydrostatic head of over 115 ft/35 m
- Reduces or eliminates efflorescence and leaching in concrete
- Effective barrier (without loss of breathability) of water-vapor emission through concrete
- Solvent-free, odor-free, non-toxic and non-flammable
- Improves the bonding of cementitious toppings, coatings and paints
- Ultra-violet stability

TECHNICAL AND PRODUCT DATA

D- TECH™ penetrates deeply into the capillary pores of the concrete and crystallizes, becoming part of the concrete itself.
D- TECH™ will not change the appearance of the concrete surface to which it is applied.
D- TECH™ has been tested as a chemical hardener by the Schmidt hammer rebound test with the following results:

10 year old slab			
- untreated	2000 psi (13.8 MPa)	No. of Components	One
- one coat 470	3000 psi (20.7 MPa)		
		Packaging	20L pails & 200L drum
- two coats	4600 psi (31.7 MPa)		
		Pot Life	Indefinite
New Pour Treated	4900 psi (33.7 MPa)		
- one coat 470	6000 psi (41.3 MPa)	Shelf Life	12 months at 5-24°C (41-75°F)
Flash Point	None	Clean-up	Water

Imco® Technologies Inc., 350 Wentworth Street North, Hamilton, ON, Canada, L8L 5W3
905-546-5225, Fax 905-527-0606, Toll Free 888-818-4626
info@imcotechnologies.com
www.imcotechnologies.com

470
D-TECH™
By Imco ®

APPLICATION INSTRUCTIONS

Mix **D-TECH™** thoroughly before using and keep it agitated during use as the active ingredients are in suspension and will settle. Do not thin in any way.

Fresh Concrete - D-TECH™ is applied to green concrete as soon as the surface water sheen has disappeared and the concrete can be walked upon. On vertical, formed surfaces, **D-TECH™** is applied as soon as the forms have been stripped.

Old concrete - Surfaces to be treated should be swept or brushed clean and then tested for absorption by sprinkling water on them. If the water drops bead up and are not readily absorbed by the concrete, the surface must have been previously coated or oiled and it must therefore be cleaned before **D-TECH™** application. **D-TECH™** must be absorbed into the slab to be effective. Oil or other stains must be removed before applying **D-TECH™**. Wash the surface with a strong stripper such as a 7:1 solution of muriatic acid and/or a strong detergent such as trisodium phosphate. Rinse thoroughly with water and remove excess water. Puddled water must be removed.

COVERAGE

D-TECH™ is best applied by low pressure spray, although it can be applied with a roller or brush. **470** is normally applied in two light coats, the second as soon as the surface is dry to the eye, with each coat averaging between 300 and 400 square feet per gallon (75 and 100sf/L). If the application is in one coat, coverage should be about 190 square feet per gallon (50 sf/L). Absorption amounts will vary according to the porosity of the concrete. For a harder surface apply one coat of **470** at the rate of 300 square feet per gallon (75 sf/L) followed by one coat of **473** at the rate of 300 square feet per gallon (75 sf/L). For chemical hardening, for very porous concrete, or to maximize resistance to stains or mild acids apply a 2nd coat of **473** until the surface is saturated. The surface will show a light sheen when saturation is reached. A blooming or whitish deposit sometimes forms on the surface if ponded areas are left to dry. To avoid this blooming effect make sure that **D-TECH™** is not allowed to pond on the surface or flush the surface with clear water 30 to 45 minutes after application to remove any ponding residue. If residue remains after drying, brush with a stiff broom and dilute with **D-TECH™** to remove if necessary.

SPECIAL HANDLING

Do not spray or allow overspray on glass or aluminum, it causes etching. Any compound sprayed on glass or aluminum should be immediately rinsed off. Do not allow the product to puddle or allow water to stand on the surface immediately after application, it can leave a residue that is difficult to remove. Rinse the job thoroughly after application whenever possible and use lighter coats if necessary. If difficult residue is formed, try scrubbing with a stiff brush and water pressure, and if necessary, dilute the residue with more **D-TECH™**. Tilt up slabs or other preformed units treated with **D-TECH™** and stacked in contact with one another may be bonded together unless a bond breaker is applied, after the **D-TECH™**, over the surface that will be in contact. **D-TECH™** is compatible with most bond breaker systems, check with manufacturer. **D-TECH™** should not be applied when ambient temperature is at or below freezing. **D-TECH™** should not be applied where rain or other water is running over the surface or while there are puddles of water on the surface or when rain is imminent.

Do not allow **D-TECH™** to freeze and do not use any **D-TECH™** that has been previously frozen.

SAFETY

Please refer to MSDS at www.imcotechnologies.com

WARRANTY DISCLAIMER

The information herein is to assist customers in determining whether our products are suitable for their application. Our products are intended for sale to industrial and commercial customers. We request that customers inspect and test our products before use and satisfy themselves as to the contents and suitability. We warrant that our products will meet our written specifications. Nothing herein shall constitute a warranty expressed or implied, including any warranty of merchantability or fitness, nor is protection from any loss or patent to be inferred. The exclusive remedy for all proven claims is replacement of our materials and in no event shall we be liable for special, incidental or consequential damages.

Imco® Technologies Inc., 350 Wentworth Street North, Hamilton, ON, Canada, L8L 5W3
905-546-5225, Fax 905-527-0606, Toll Free 888-818-4626
info@imcotechnologies.com
www.imcotechnologies.com

KENTON COUNTY

059B00061N
I-275 EXIT RAMP D (EXIT 82) TO
KY 1303 OVER I-275 EB ENTRANCE
RAMP F FROM US 25 (DIXIE HIGHWAY)



Approximate Location Information
Latitude: 39°01'35"
Longitude: 84°34'28"
MP 0.229

BRIDGE #1 (059BOO061N) SUMMARY OF QUANTITIES

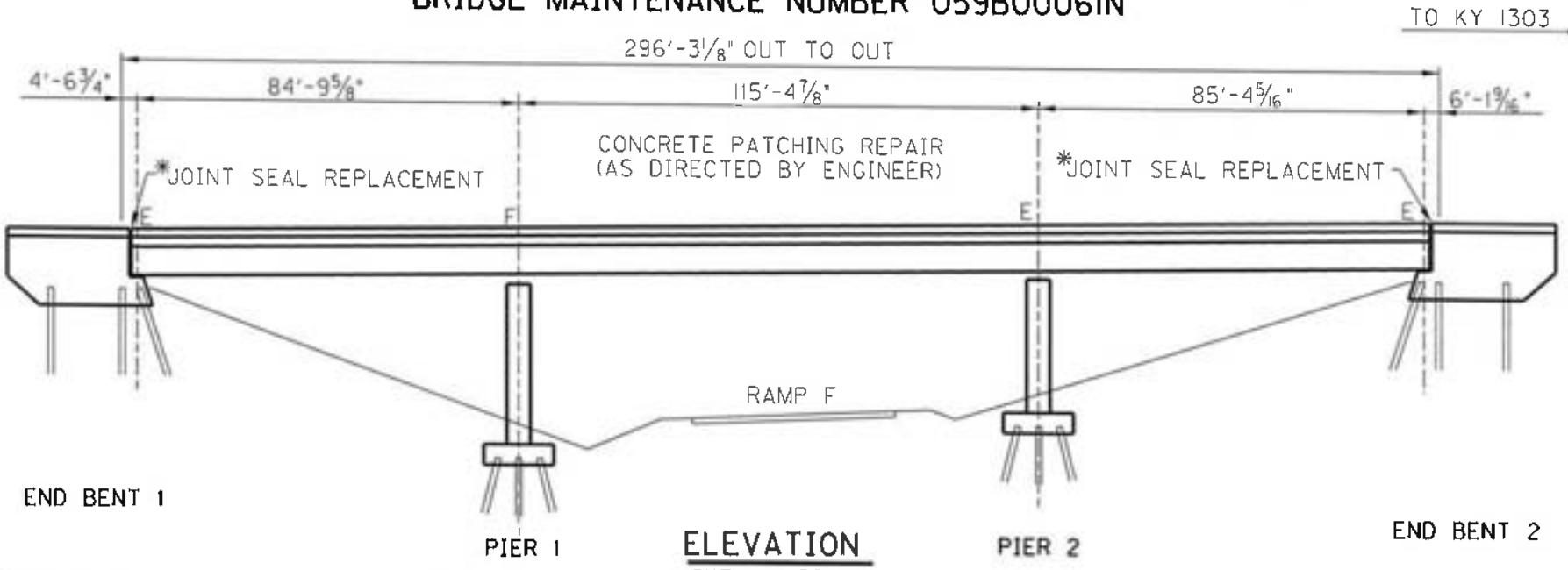
1. DISTRICT: 6
2. COUNTY: KENTON
3. ROUTE: I-275
4. PROJECT NUMBER: FD52 059 0275 080-083
5. ROAD NAME: I-275
6. DESCRIPTION: I-275 EASTBOUND RAMP D TO KY 1303 OVER I-275 EB ENTRANCE RAMP F
7. TYPE OF WORK: PATCH DECK :JOINT SEAL REPLACEMENT
8. LENGTH (FT.): 296.3 **BRIDGE WIDTH (FT.):** 23.5 **SURFACE AREA (SQ. YD.): 774**
SKEW (DEGREES): VARIES **DECK THICKNESS (INCHES):** 8

ESTIMATED QUANTITIES REQUIRED

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
22146EN	CONCRETE PATCHING REPAIR	100.0	SQ FT
23386EC	JOINT SEAL REPLACEMENT	104.0	LIN FT

I-275 EASTBOUND EXIT RAMP D TO KY 1303 OVER I-275 EB ENTR. RAMP F
BRIDGE MAINTENANCE NUMBER 059B00061N

B1

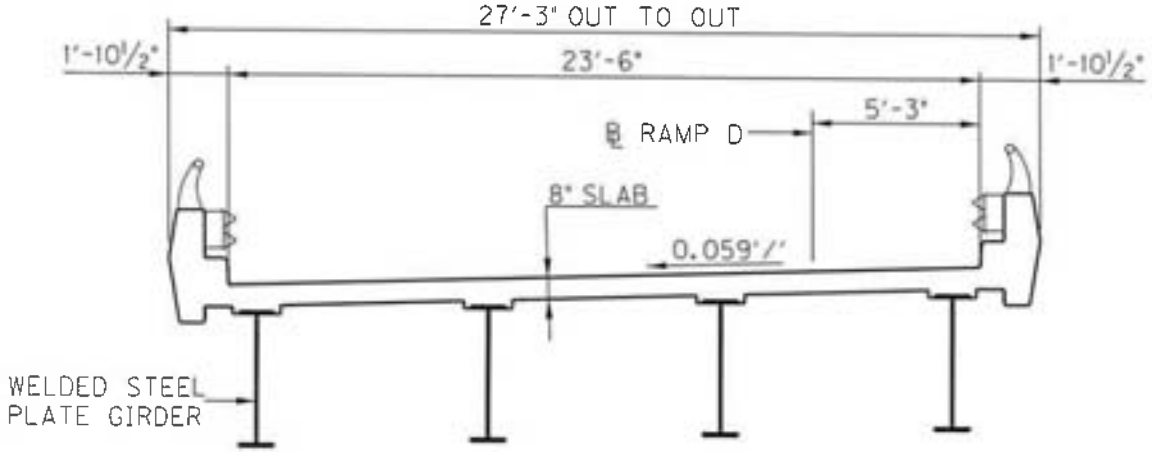


ELEVATION
SKEW VARIES
NOT TO SCALE

NOTE:
SEAL TOP OF CAP AND EXPOSED SURFACES OF END BENT CAPS WITH CONCRETE SEALANT (INCIDENTAL TO "JOINT SEAL REPLACEMENT"). USE D-TECH 470 BY IMCO TECHNOLOGIES OR AN APPROVED EQUAL. THIS TYPE PRODUCT IS DESCRIBED IN THE SPECIAL NOTE SECTION OF THESE PLANS. ALL AREAS TO BE SEALED SHALL BE CLEANED IN ACCORDANCE WITH THE SEALANT MANUFACTURER'S RECOMMENDATIONS.

*SEE STD. DRWG. BJE-001-11

NOTE:
CONTRACTOR RESPONSIBLE FOR VERIFYING SIZE OF SEAL



TYPICAL SECTION

KENTON COUNTY

059B00062L
I-275 WESTBOUND OVER
HORSEBRANCH ROAD



Approximate Location Information
Latitude: 39^01'39"
Longitude: 84^32'40"
MP 80.652

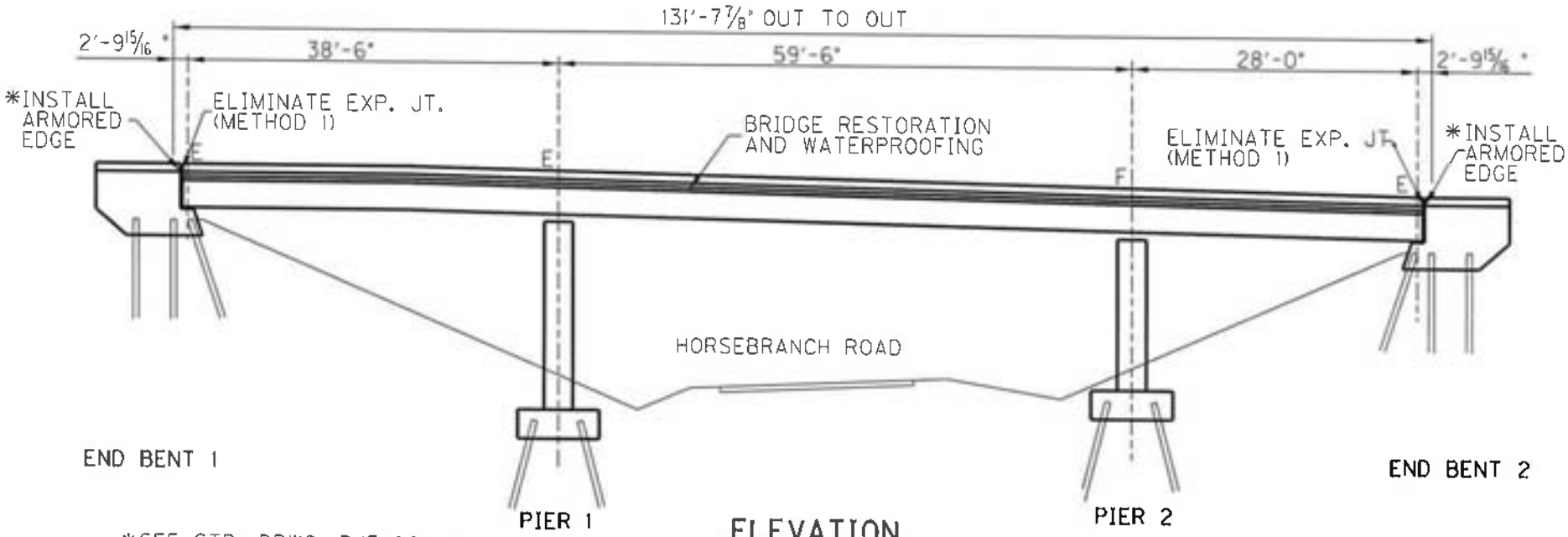
BRIDGE #2 (059B00062L) SUMMARY OF QUANTITIES

1. DISTRICT: 6
2. COUNTY: KENTON
3. ROUTE: I-275
4. PROJECT NUMBER: FD52 059 0275 080-083
5. ROAD NAME: I-275
6. DESCRIPTION: I-275 WESTBOUND OVER HORSEBRANCH ROAD
7. TYPE OF WORK: BRIDGE DECK RESTORATION AND WATERPROOFING:ELIMINATE TRANSVERSE JOINT
8. LENGTH (FT.): 131.6 **BRIDGE WIDTH (FT.):** 56.0 **SURFACE AREA (SQ. YD.):** 819
SKEW (DEGREES): 24.01 **DECK THICKNESS (INCHES):** 8.75

ESTIMATED QUANTITIES REQUIRED

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
8510	REM EPOXY BIT FOREIGN MATERIAL	819.0	SQ YD
8504	EPOXY SAND SLURRY	169.0	SQ YD
8549	BLAST CLEANING	990.0	SQ YD
8534	CONCRETE OVERLAY-LATEX	29.0	CU YD
8526	CONC CLASS M FULL DEPTH PATCH	4.0	CU YD
3300	ELIMINATE TRANS. JT.(METHOD 1)	122.0	LIN FT

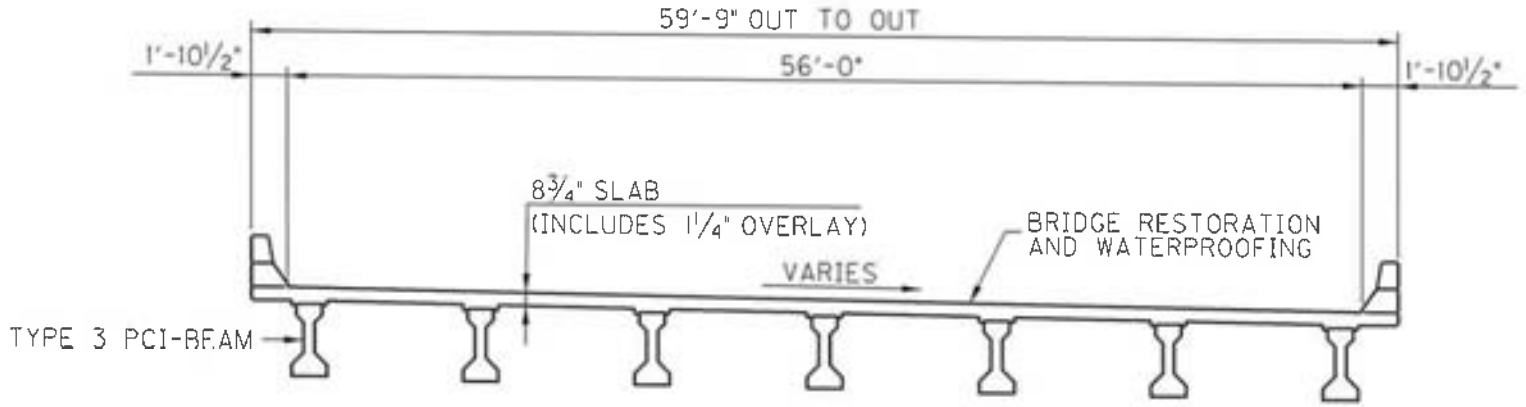
I-275 WESTBOUND OVER HORSEBRANCH ROAD
BRIDGE MAINTENANCE NUMBER 05900062L



*SEE STD. DRWG. BJE-001-11

ELEVATION

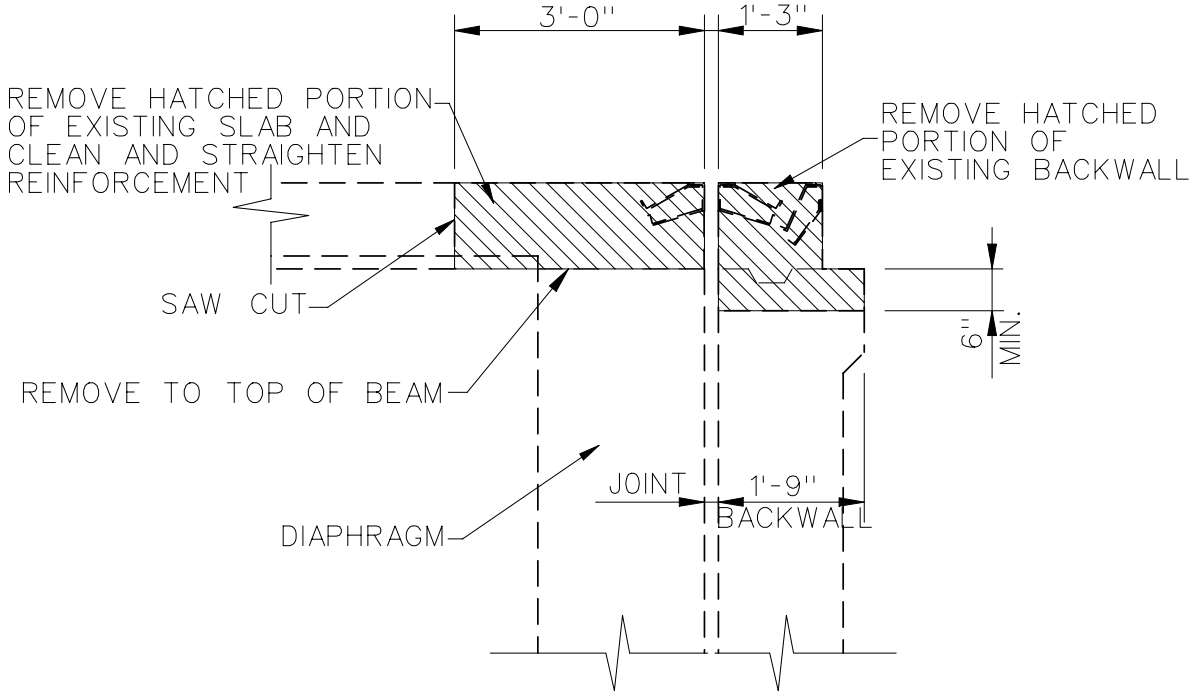
24° 00' 22" SKEW RT.
NOT TO SCALE



TYPICAL SECTION

KENTON - CAMPBELL COUNTIES
121GR10D050-IM

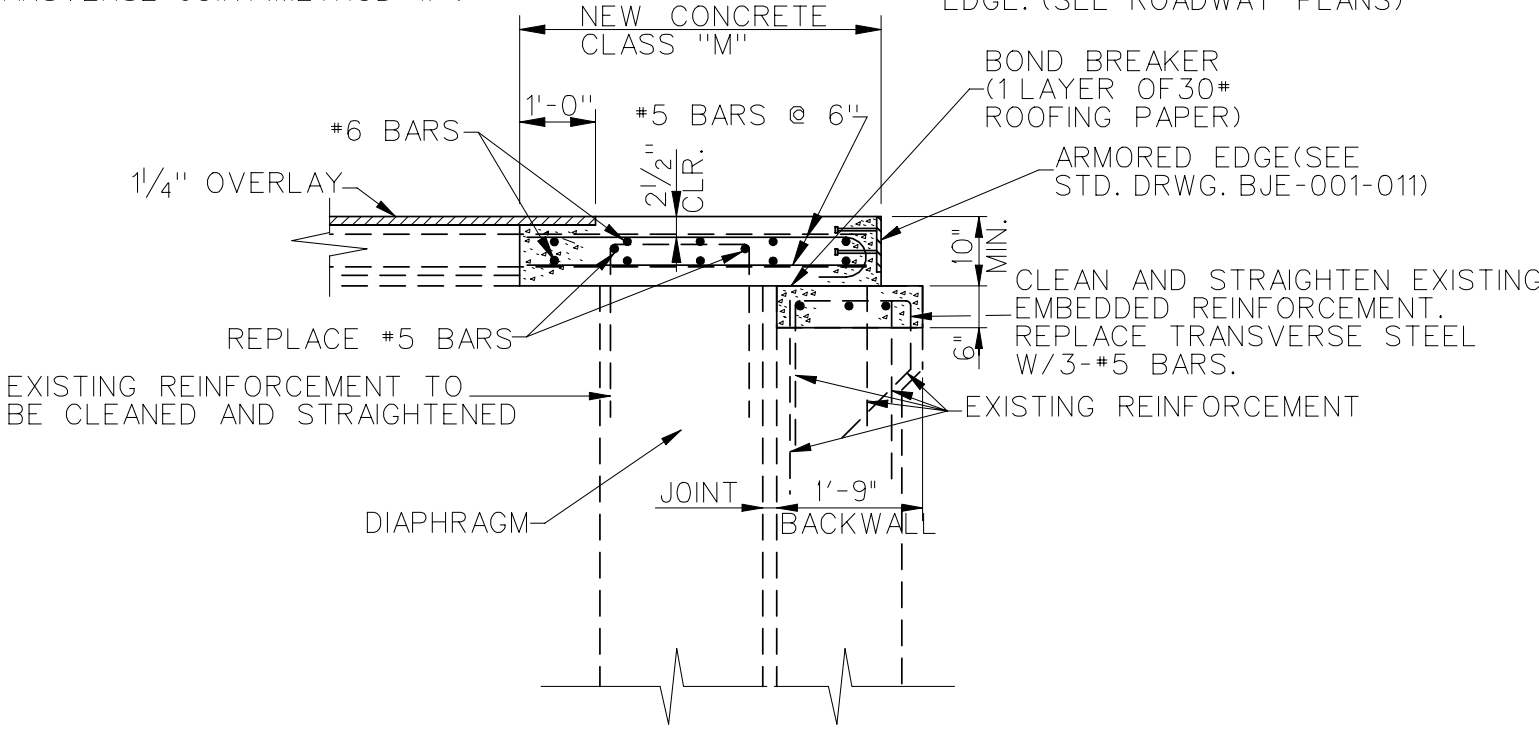
METHOD 1
ELIMINATE JOINT @ END BENTS



EXISTING SECTION
@ END BENT

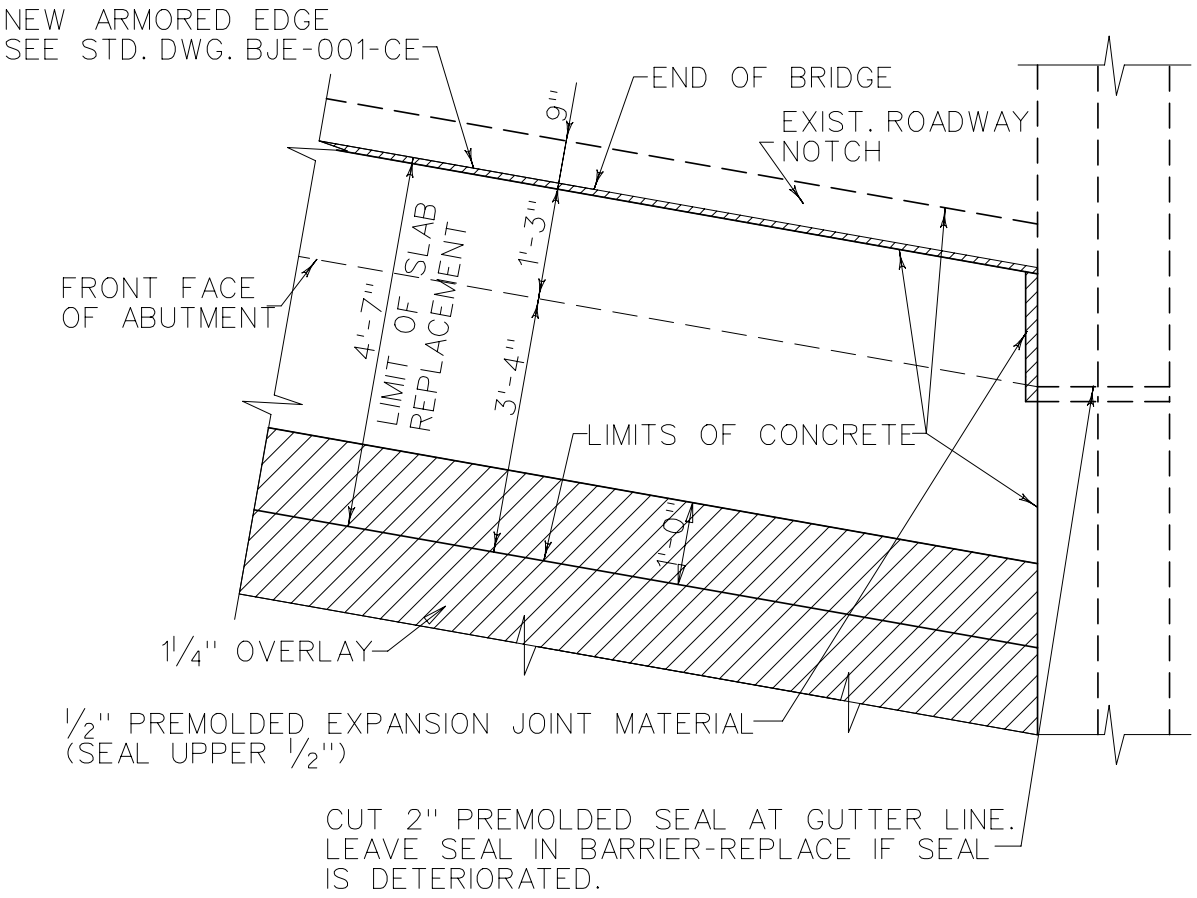
NOTE:
WHERE A NORMAL LAP CANNOT BE ATTAINED ON REBARS USE MECHANICAL SPLICES. SPLICES ARE INCIDENTAL TO "ELIMINATE TRANSVERSE JOINT(METHOD 1)".

NOTE:
REMOVE 6' OF ROADWAY PAVEMENT, PLACE 1/2" PREMOLDED EXPANSION JOINT MATERIAL AGAINST ARMORED EDGE. (SEE ROADWAY PLANS)

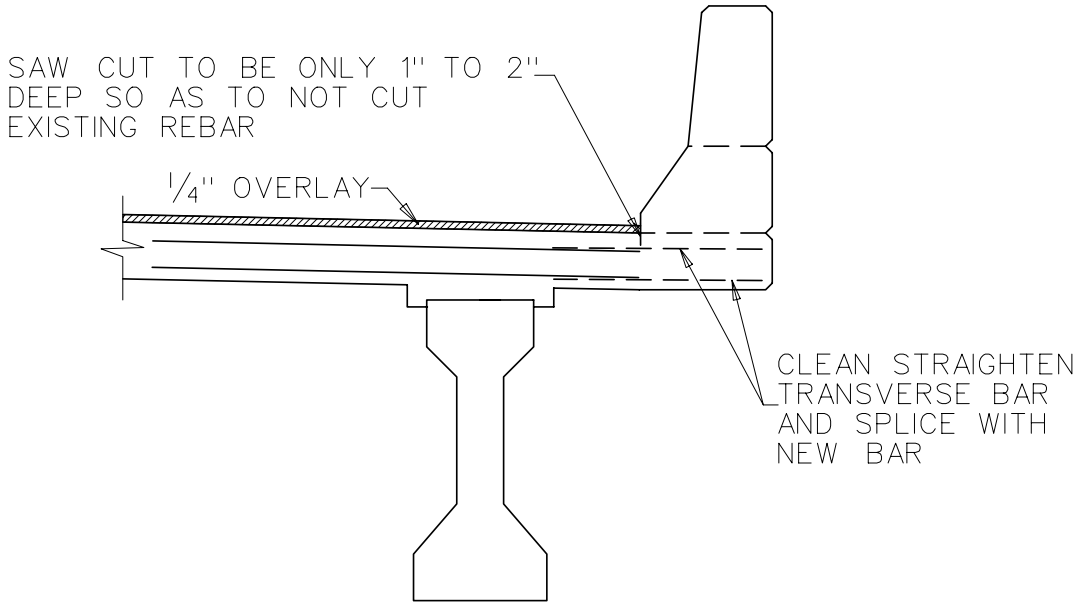


PROPOSED SECTION
@ END BENT

CURB SECTION @ END BENT

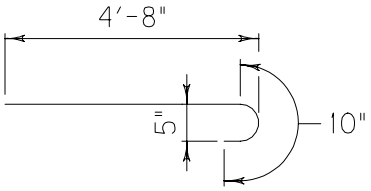


PROPOSED PLAN @ END BENT

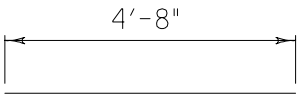


PROPOSED SECTION @ END BENT

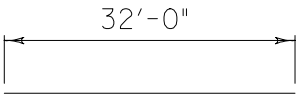
REINFORCEMENT



#5 BENT BAR
112 REQ'D EACH END BENT



#5 STRAIGHT BAR
112 REQ'D EACH END BENT



#6 STRAIGHT BAR
20 REQ'D EACH END BENT

2,125 LBS EACH END BENT

END BENT REINFORCEMENT

300 LIN. FT. #4 BARS IN 20'-0" LENGTHS

200 LBS. EACH END BENT

MISCELLANEOUS REINFORCEMENT

TOTAL REINFORCEMENT 2,525 LBS.

KENTON COUNTY

059B00063L
I-275 WESTBOUND OVER KY 17,
BANKLICK CREEK & CSX RR



Approximate Location Information
Latitude: 39°01'40"
Longitude: 84°31'57"
MP 79.809

BRIDGE #3 (059B00063L) SUMMARY OF QUANTITIES

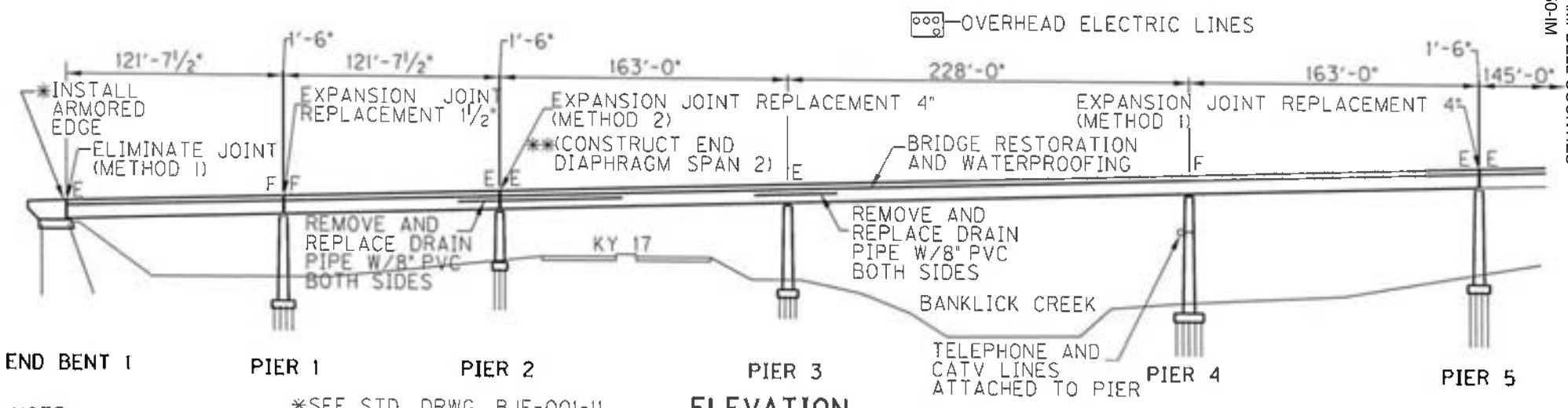
1. DISTRICT: 6
2. COUNTY: KENTON
3. ROUTE: I-275
4. PROJECT NUMBER: FD52 059 0275 080-083
5. ROAD NAME: I-275
6. DESCRIPTION: I-275 WESTBOUND OVER KY 17, BANKLICK CREEK & CSX RR
7. TYPE OF WORK: BRIDGE DECK RESTORATION AND WATERPROOFING:ELIMINATE TRANSVERSE JOINT: EXPANSION JOINT REPLACEMENT
8. LENGTH (FT.): 1676.95 **BRIDGE WIDTH (FT.):** VARIES **SURFACE AREA (SQ. YD.):** 10176
SKEW (DEGREES): 16.51 **DECK THICKNESS (INCHES):** 9.0

ESTIMATED QUANTITIES REQUIRED

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
8510	REM EPOXY BIT FOREIGN MATERIAL	10176.0	SQ YD
8504	EPOXY SAND SLURRY	1765.0	SQ YD
8549	BLAST CLEANING	11600	SQ YD
8534	CONCRETE OVERLAY-LATEX	360.0	CU YD
8526	CONC CLASS M FULL DEPTH PATCH	43.0	CU YD
3300	ELIMINATE TRANS. JT.(METHOD 1)	66.0	LIN FT
3300	ELIMINATE TRANS. JT.(METHOD 2)	54.0	LIN FT
3294	EXPANSION JT. REPLACEMENT 1 1/2"	65.0	LIN FT
3298	EXP. JT. REPLACEMENT 4" (METHOD 1)	110.0	LIN FT
3298	EXP. JT. REPLACEMENT 4" (METHOD 2)	55.0	LIN FT
8821	8" PVC PIPE(INCLUDES REMOVE PIPE)	455.0	LIN FT
23031EN	PIER REPAIR	700.0	SQ FT
1000	4" PERFORATED PVC PIPE	60.0	LIN FT
1010	4" NON-PERFORATED PVC PIPE	120.0	LIN FT

I-275 WESTBOUND OVER KY 17, BANKLICK CREEK & CSX RAILROAD
BRIDGE MAINTENANCE NUMBER 059B00063L

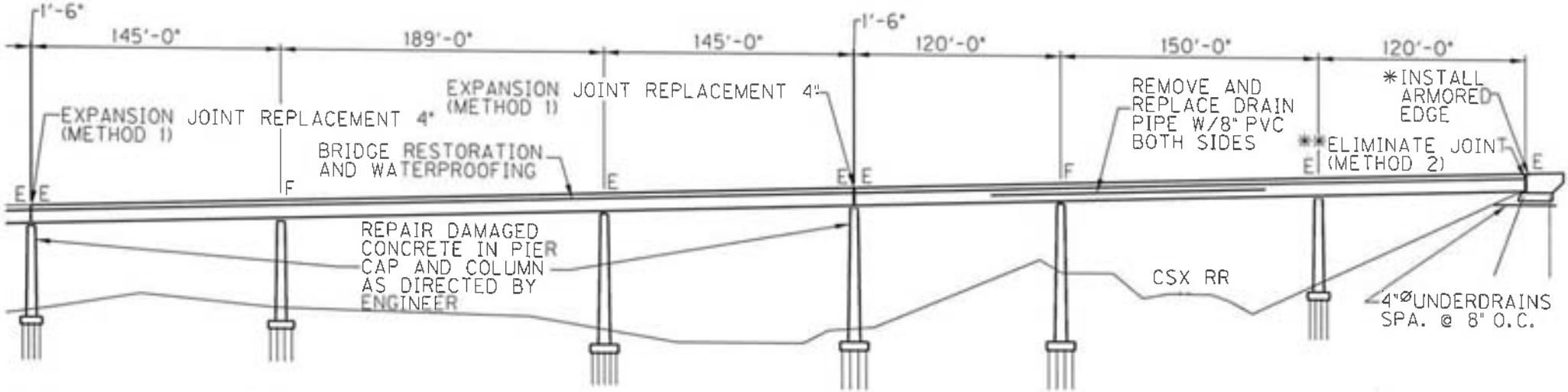
B3



*SEE STD. DRWG. BJE-001-11

NOTE:
CONTRACTOR RESPONSIBLE FOR VERIFYING SIZE OF JOINTS

ELEVATION
16°30'28" SKEW LT.
SPANS 1 THRU 5
NOT TO SCALE



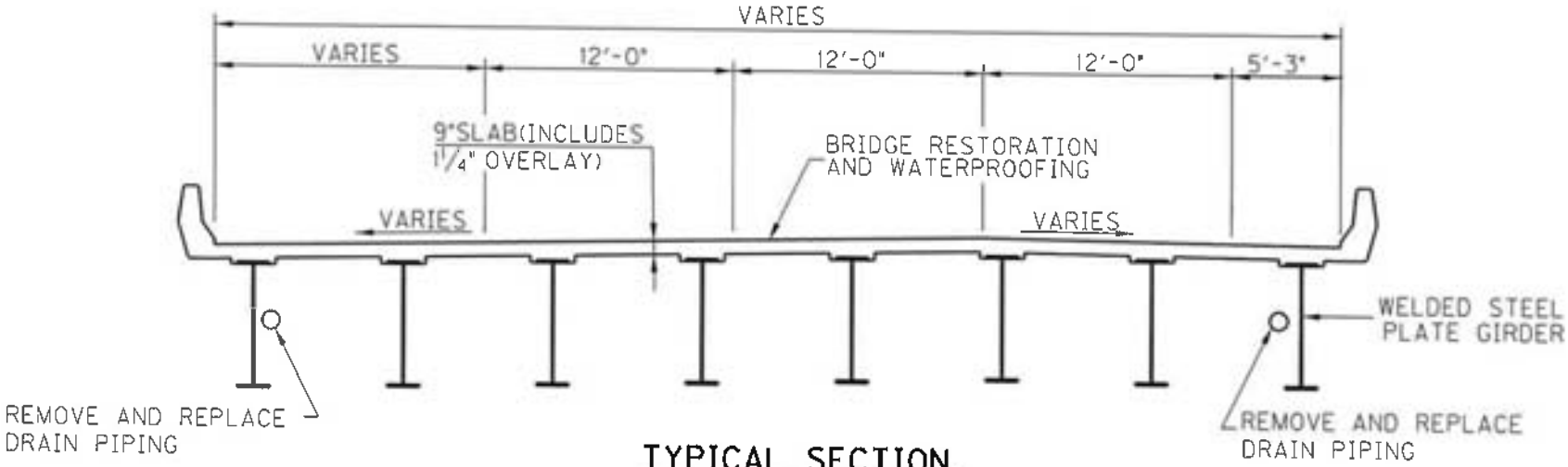
NOTE:
CONTRACTOR WILL SUBMIT A PLAN FOR INSTALLING 8" PVC PIPING FROM THE DECK DRAINS. BENDS ARE LIMITED TO 45° BENDS. HANGERS MUST BE USED TO SUPPORT PIPES. PIPES ARE NOT ALLOWED TO BE ATTACHED TO STEEL BEAMS OR CROSS-FRAMES.

ELEVATION
16°30'28" SKEW LT.
SPANS 6 THRU 11
NOT TO SCALE

**THESE DIAPHRAGMS ARE TO BE CONSTRUCTED BEFORE ANY OTHER JOINT WORK IS TO BE DONE. (INCIDENTAL TO EITHER "EXPANSION JOINT REPLACEMENT" OR "ELIMINATE TRANSVERSE JOINTS".)

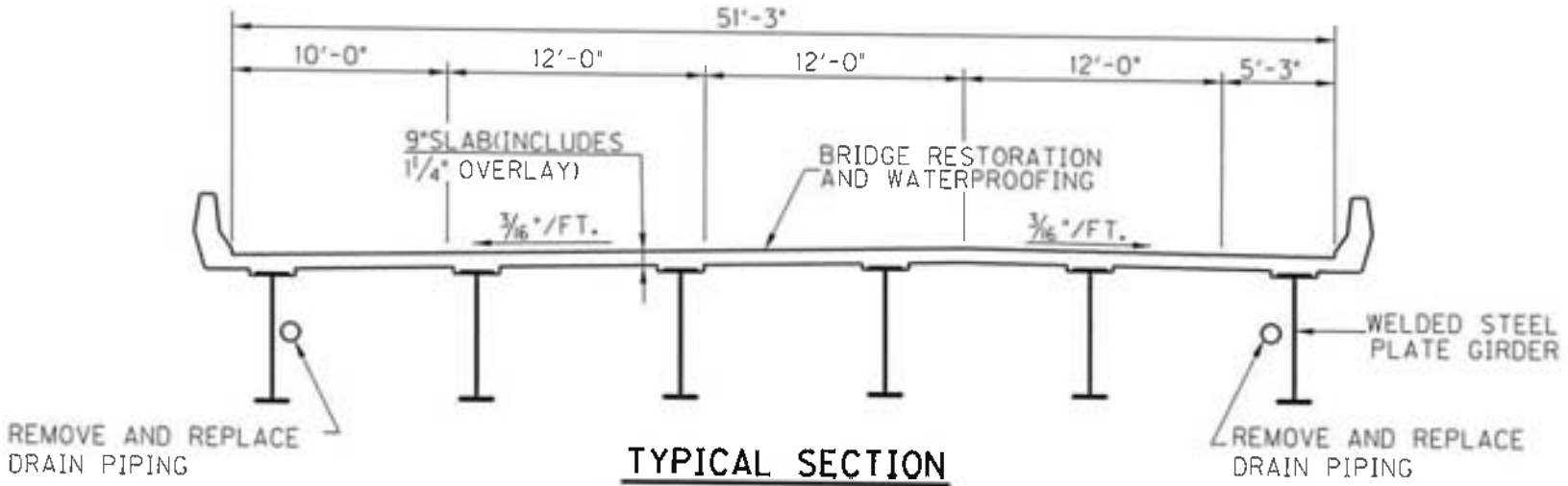
KENTON - CAMPBELL COUNTIES
121GR10D050-IM
Contract ID: 101050
Page 355 of 616

I-275 WESTBOUND OVER KY 17, BANKLICK CREEK & CSX RAILROAD
BRIDGE MAINTENANCE NUMBER 059B00063L



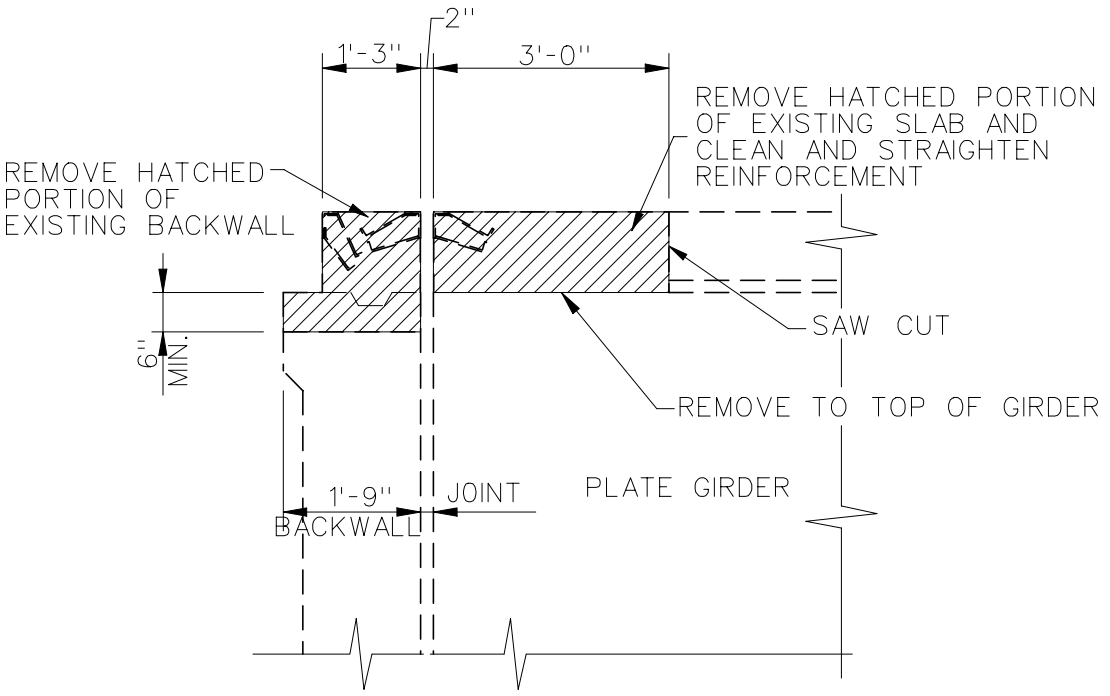
TYPICAL SECTION
SPANS 1 THRU 4

NOTE:
SEAL TOP OF CAP AND EXPOSED SURFACES OF PIER CAPS WITH CONCRETE SEALANT (INCIDENTAL TO "EXPANSION JOINT REPLACEMENT"). USE D-TECH 470 BY IMCO TECHNOLOGIES OR AN APPROVED EQUAL. THIS TYPE PRODUCT IS DESCRIBED IN THE SPECIAL NOTE SECTION OF THESE PLANS. ALL AREAS TO BE SEALED SHALL BE CLEANED IN ACCORDANCE WITH THE SEALANT MANUFACTURER'S RECOMMENDATIONS.



TYPICAL SECTION
SPANS 5 THRU 11

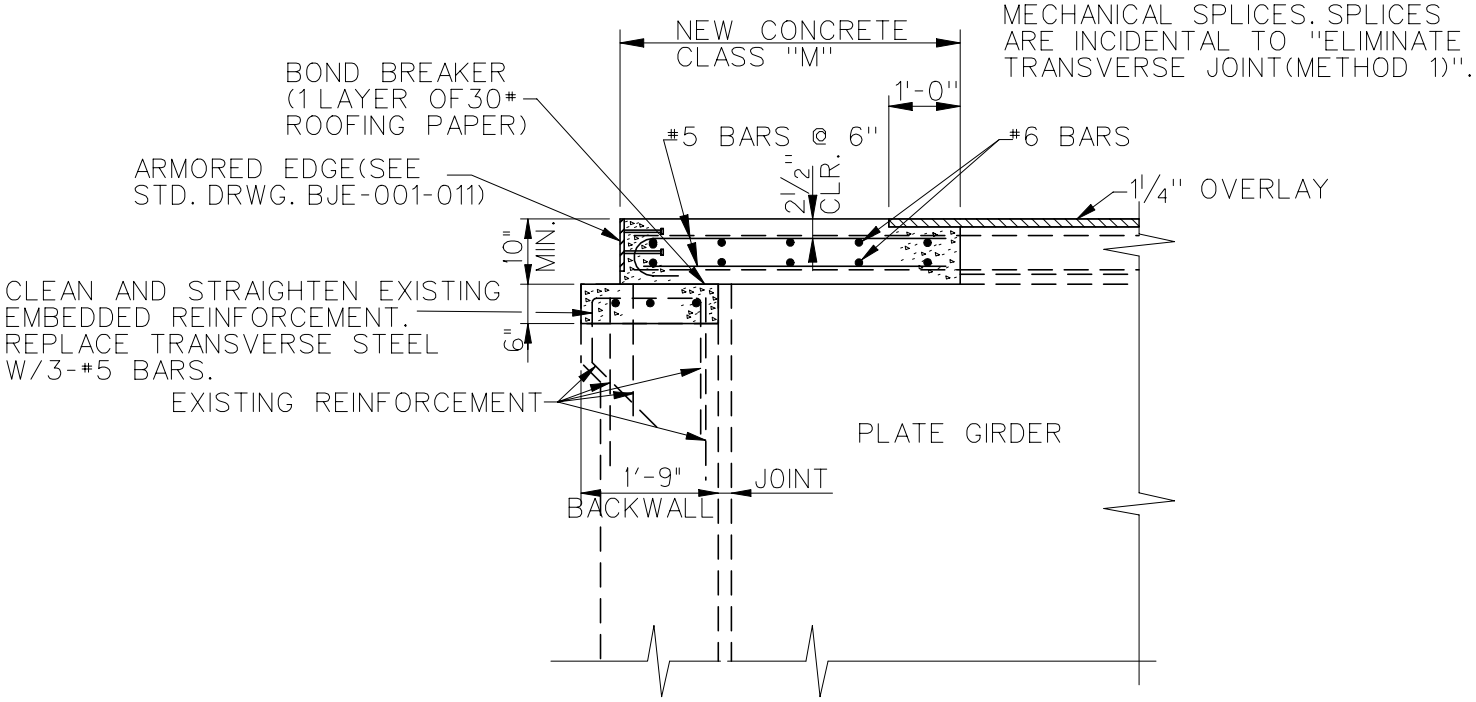
METHOD 1
ELIMINATE JOINT @ END BENT 1



EXISTING SECTION
@ END BENT

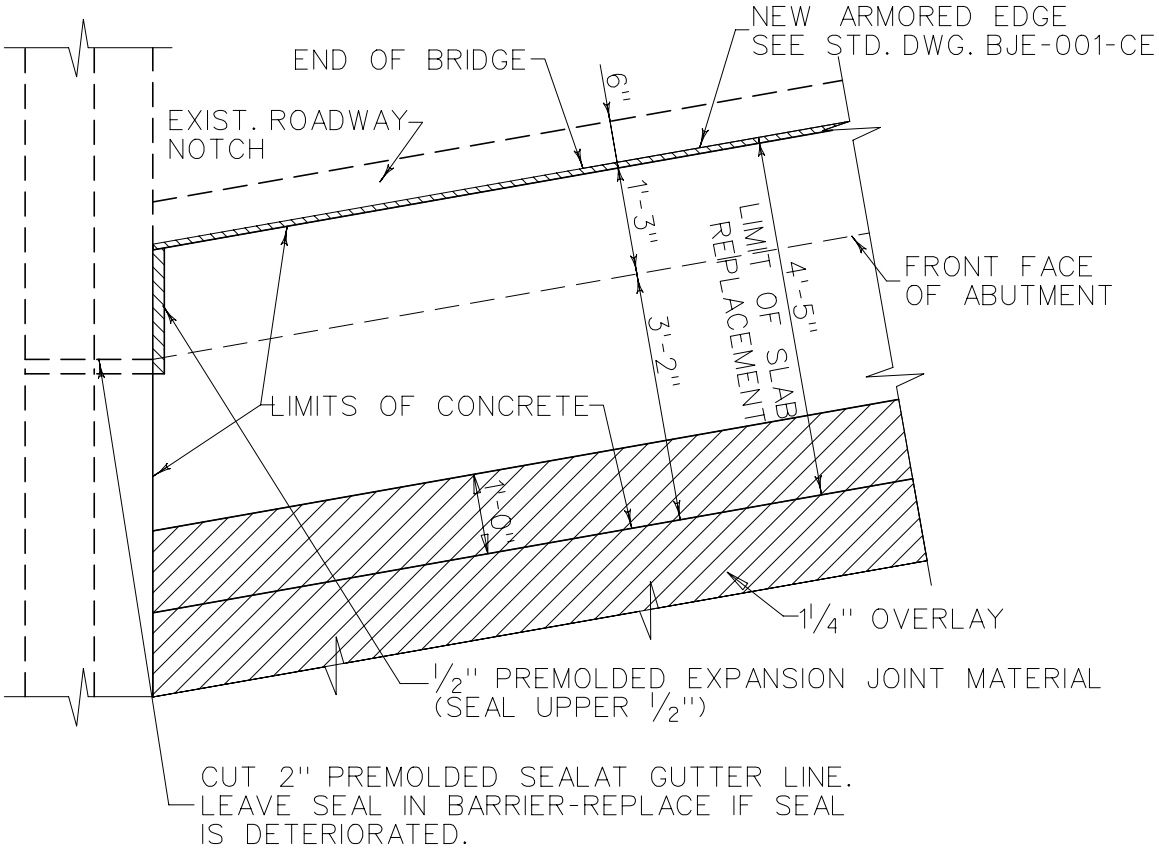
NOTE:
REMOVE 6' OF ROADWAY PAVEMENT, PLACE 1/2" PREMOLDED EXPANSION JOINT MATERIAL AGAINST ARMORED EDGE. (SEE ROADWAY PLANS)

NOTE:
WHERE A NORMAL LAP CANNOT BE ATTAINED ON REBARS USE MECHANICAL SPLICES. SPLICES ARE INCIDENTAL TO "ELIMINATE TRANSVERSE JOINT(METHOD 1)".

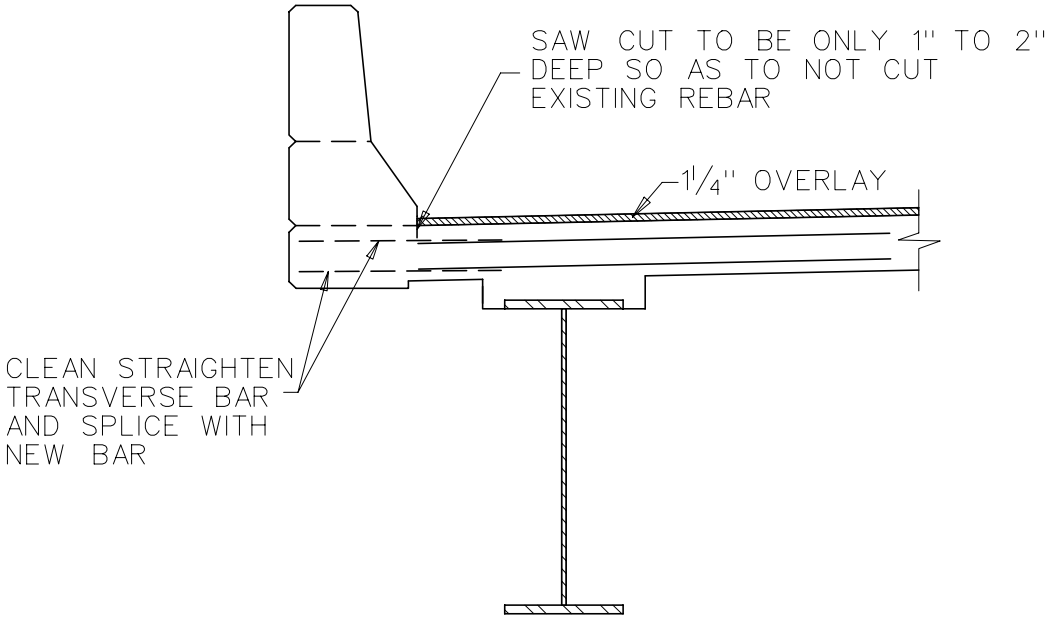


PROPOSED SECTION
@ END BENT

CURB SECTION @ END BENT 1

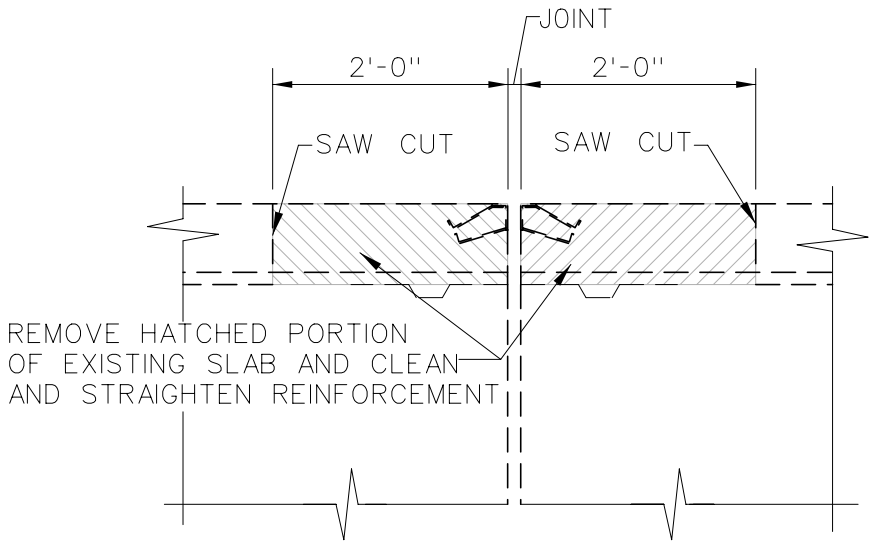


PROPOSED PLAN @ END BENT

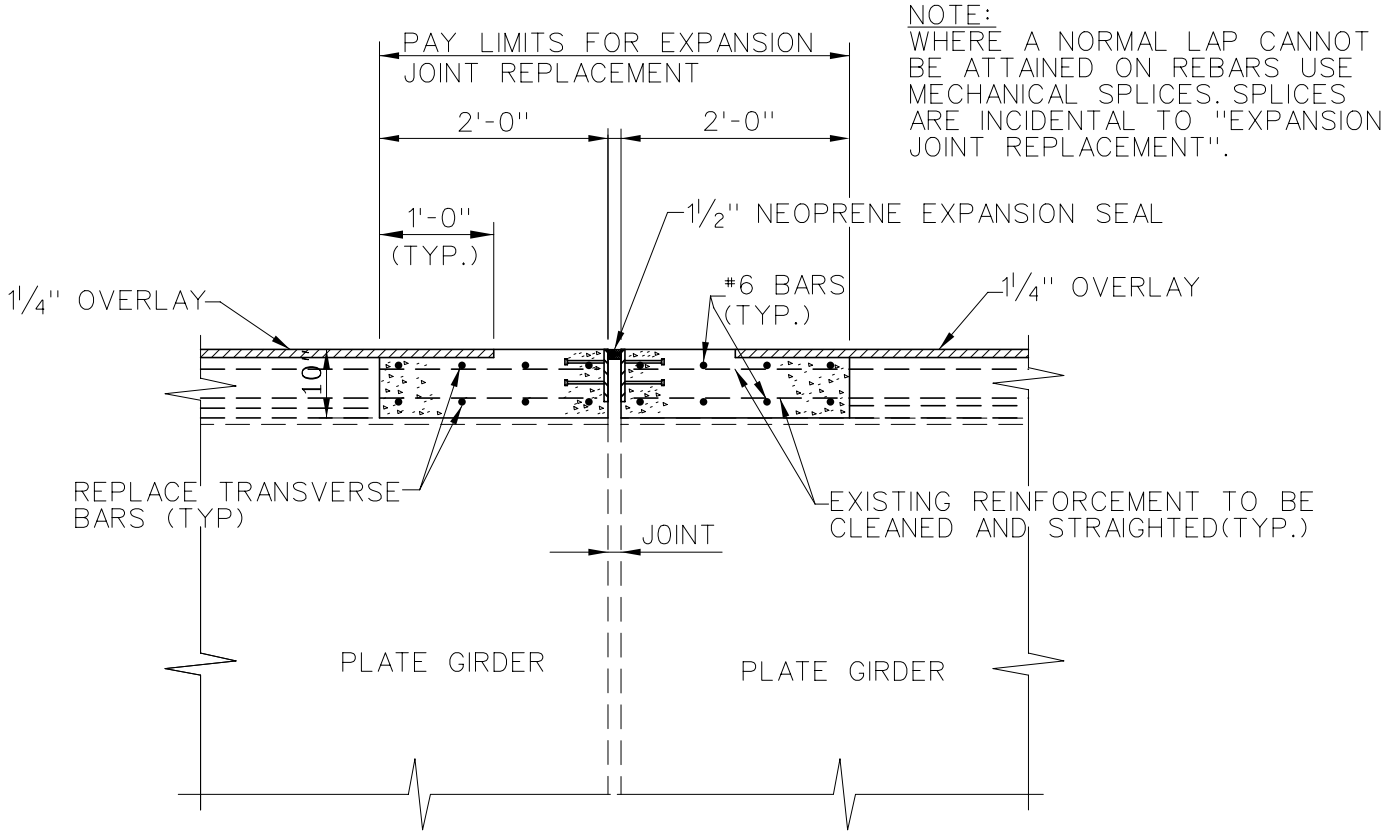


PROPOSED SECTION @ END BENT

REPLACE JOINT @ PIER 1

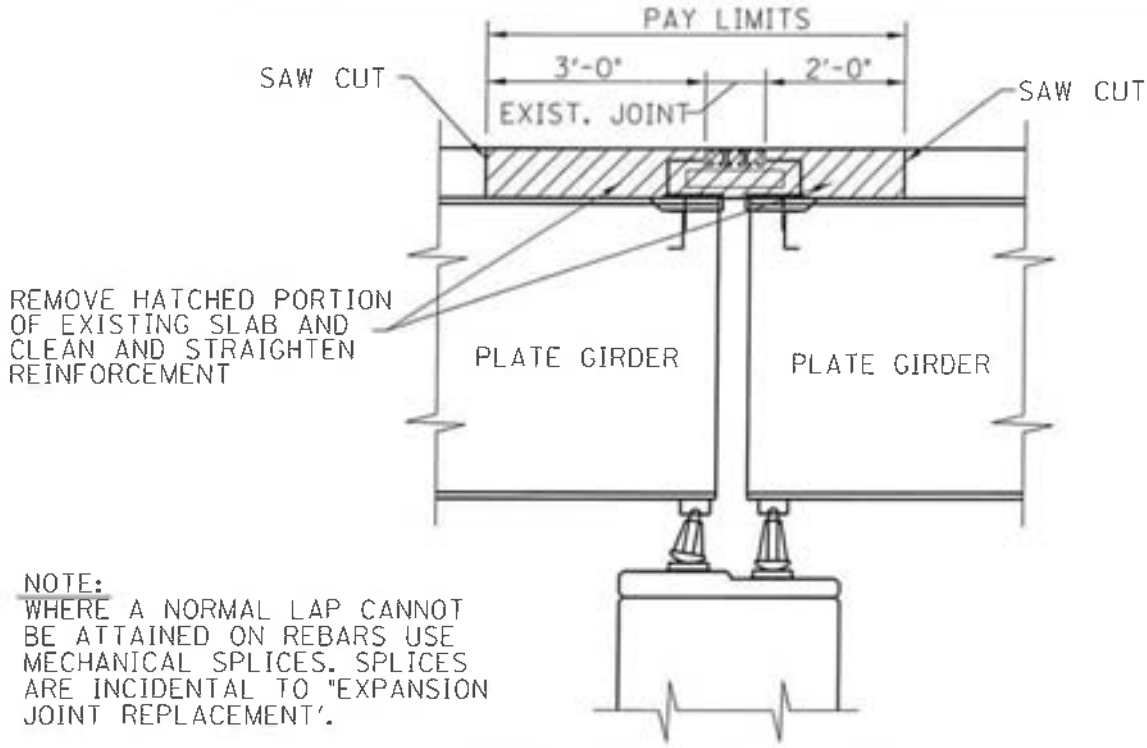


EXISTING SECTION @ PIER

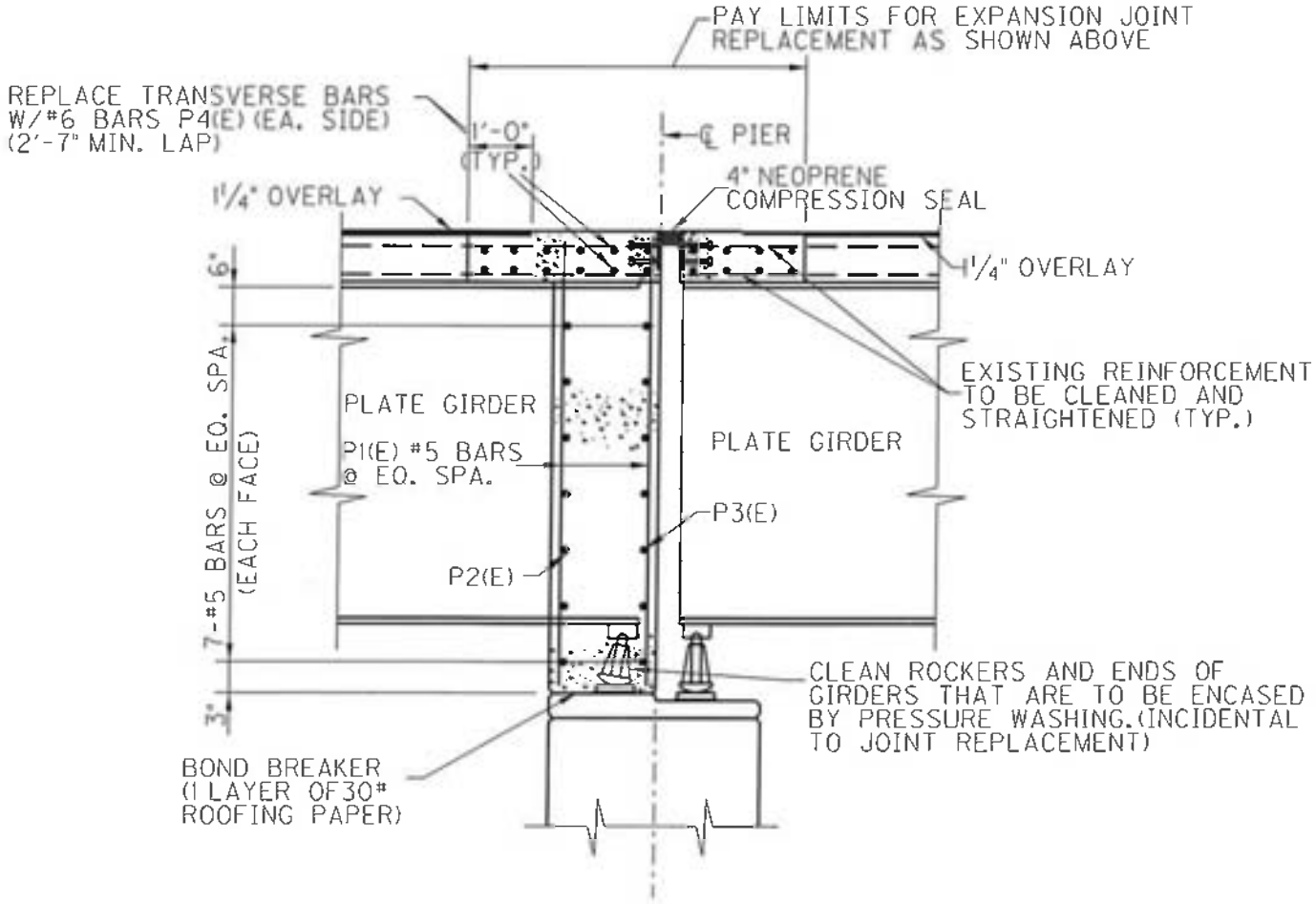


PROPOSED SECTION @ PIER

METHOD 2
REPLACE EXPANSION JOINT @ PIER 2

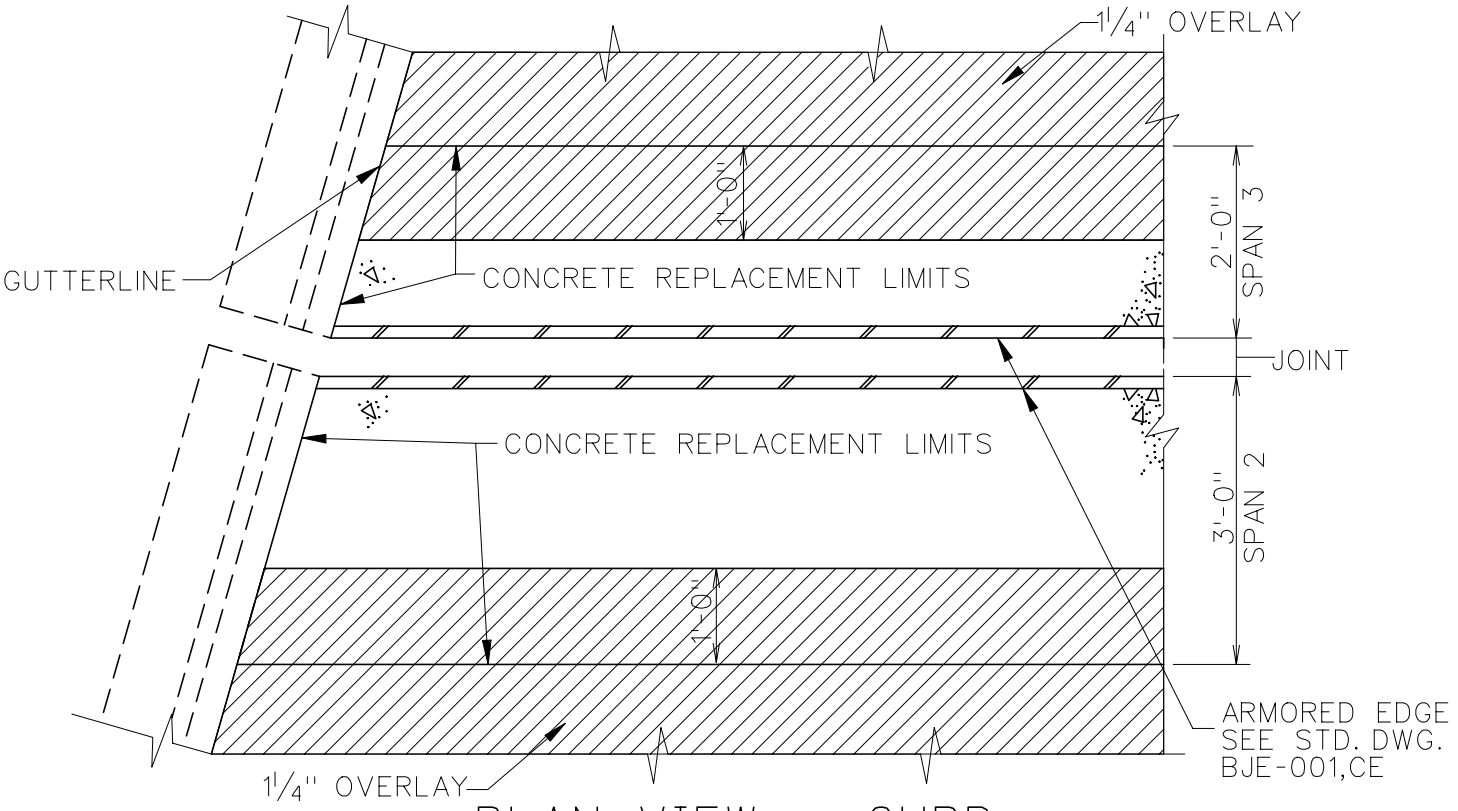


EXISTING SECTION @ PIER

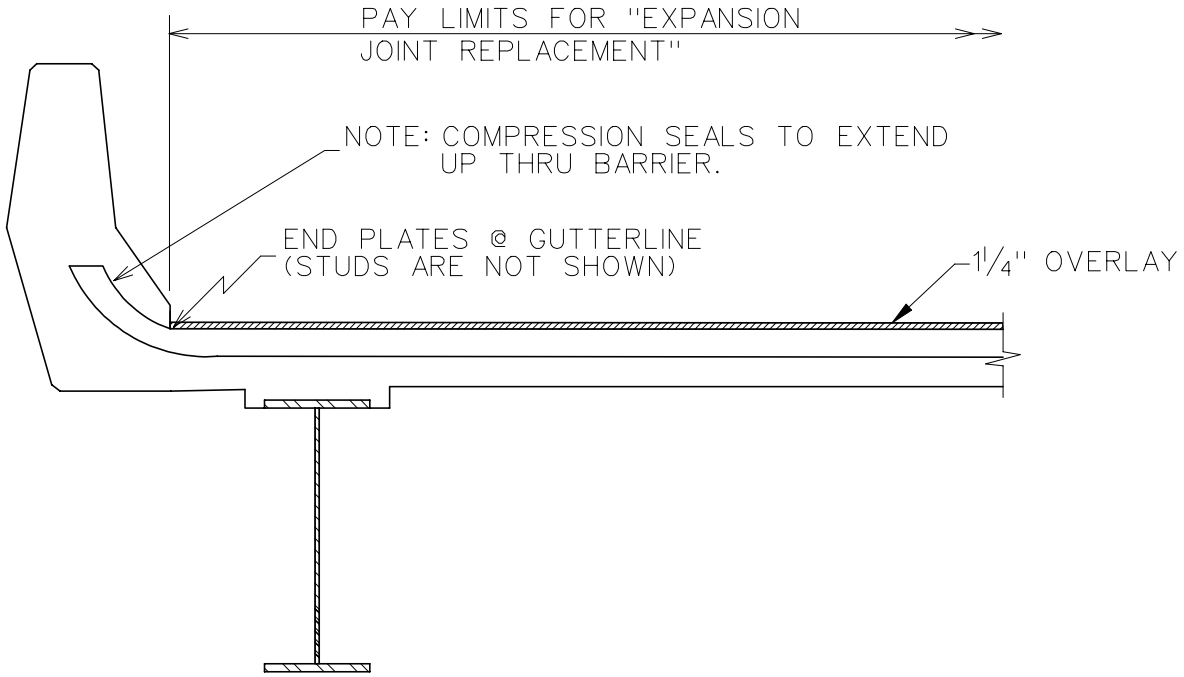


PROPOSED SECTION @ PIER

REPLACE EXPANSION JOINT
PIER 2 CURB SECTION

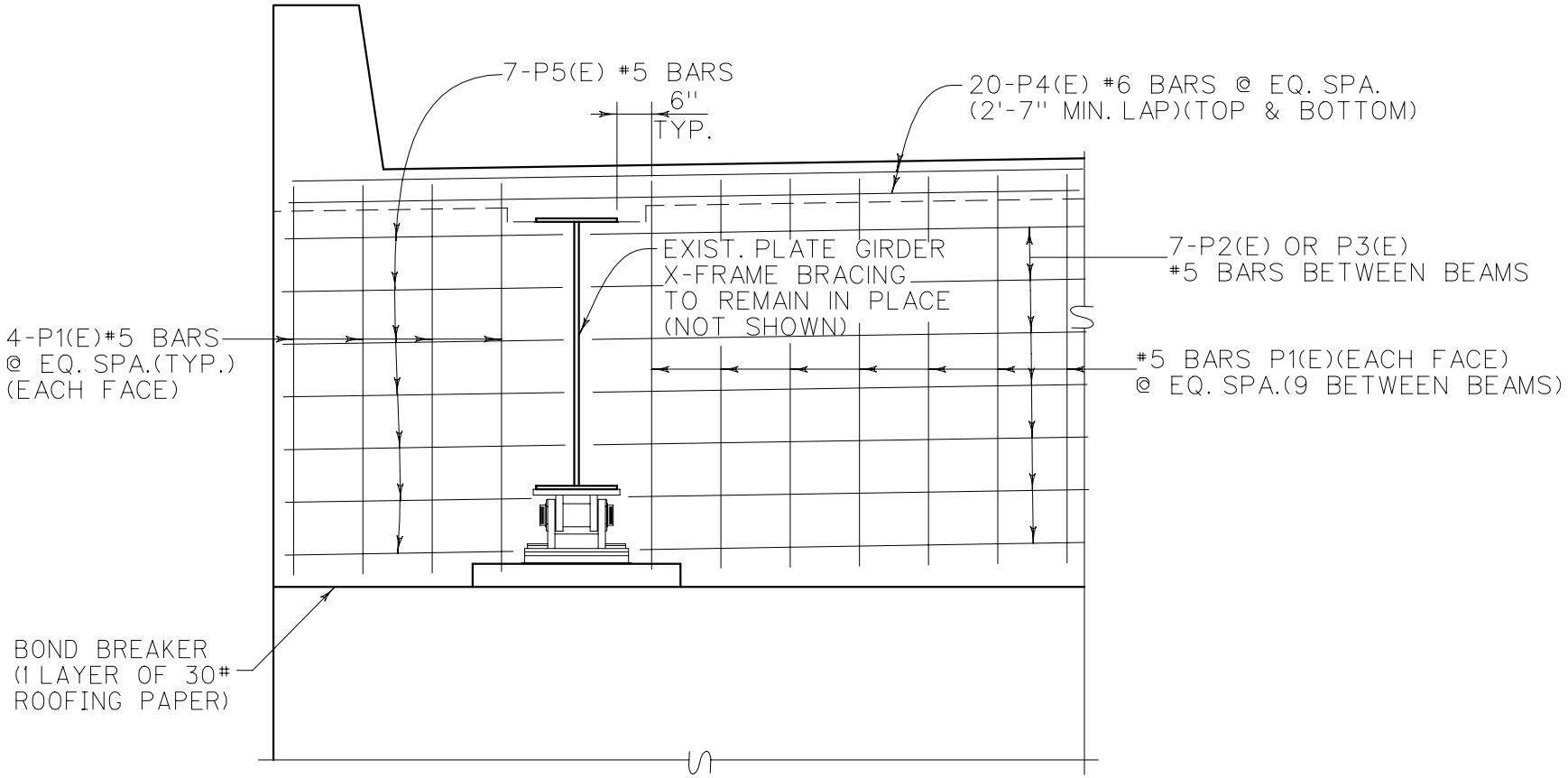


PLAN VIEW @ CURB
REPLACE EXPANSION JOINT



PROPOSED SECTION @ CURB

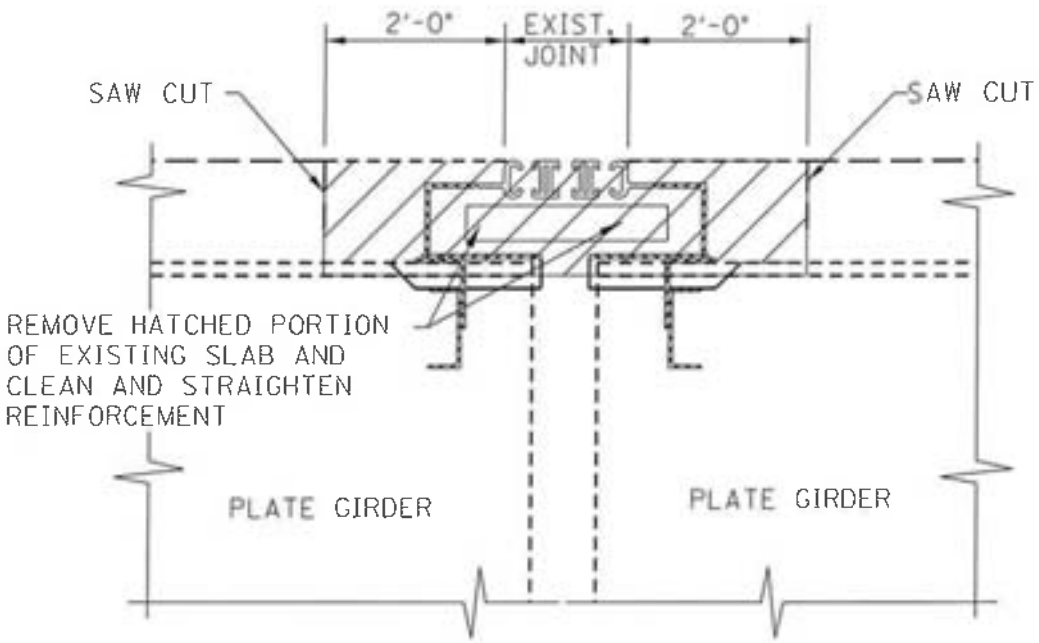
REPLACE EXPANSION JOINT @ PIER 2



PROPOSED SECTION ALONG ℄ DIAPHRAGM

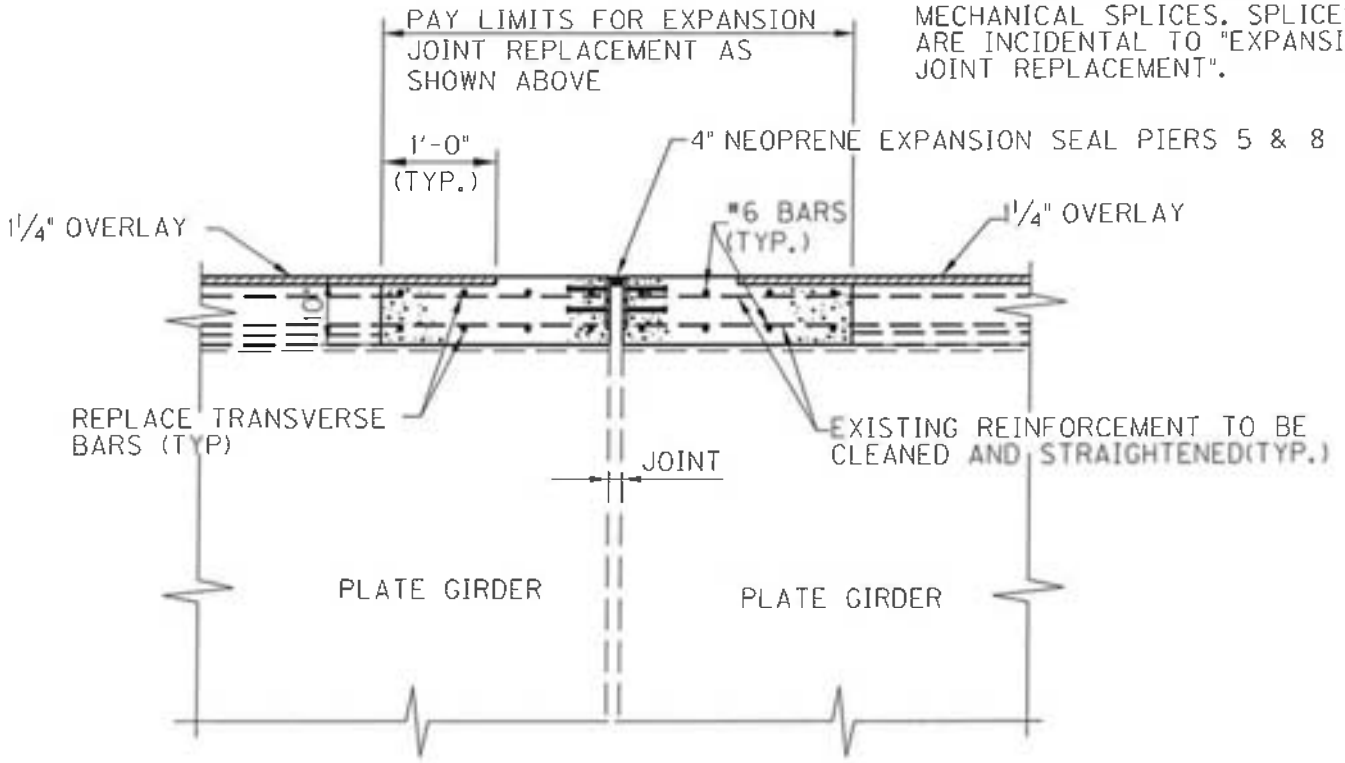
KENTON - CAMPBELL COUNTIES
121GR10D050-IM
Contract ID: 101050
Page 362 of 616

METHOD 1
REPLACE JOINT @ PIERS 5 & 8



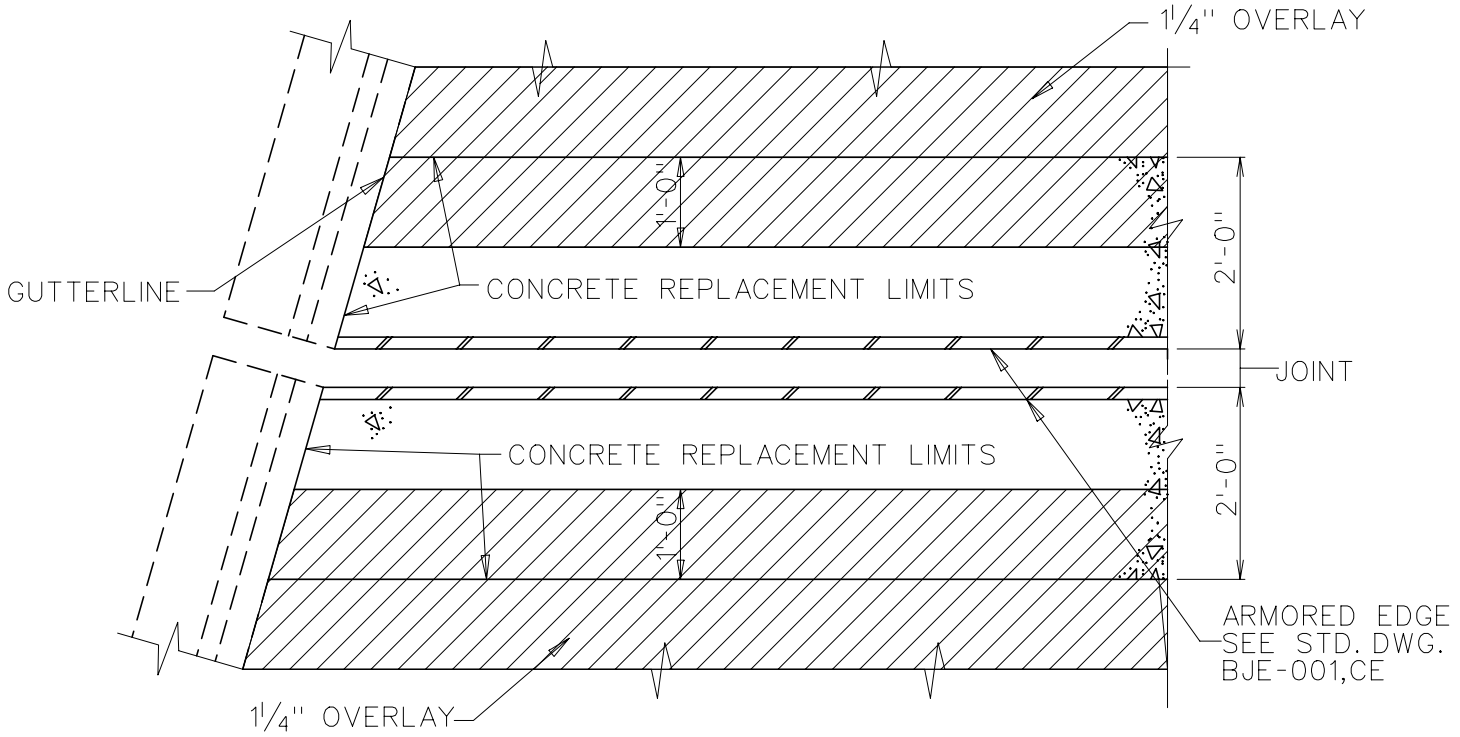
EXISTING SECTION @ PIERS 5 & 8

NOTE:
WHERE A NORMAL LAP CANNOT BE ATTAINED ON REBARS USE MECHANICAL SPLICES. SPLICES ARE INCIDENTAL TO "EXPANSION JOINT REPLACEMENT".



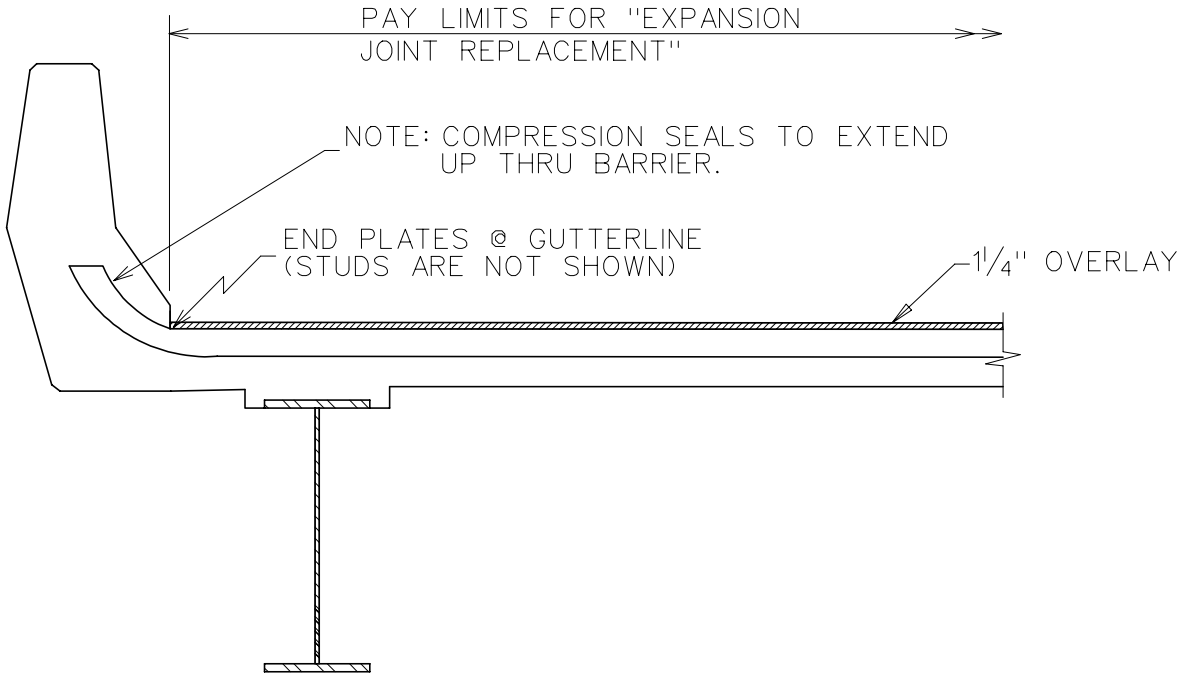
PROPOSED SECTION @ PIER

REPLACE EXPANSION JOINT
PIER CURB SECTION



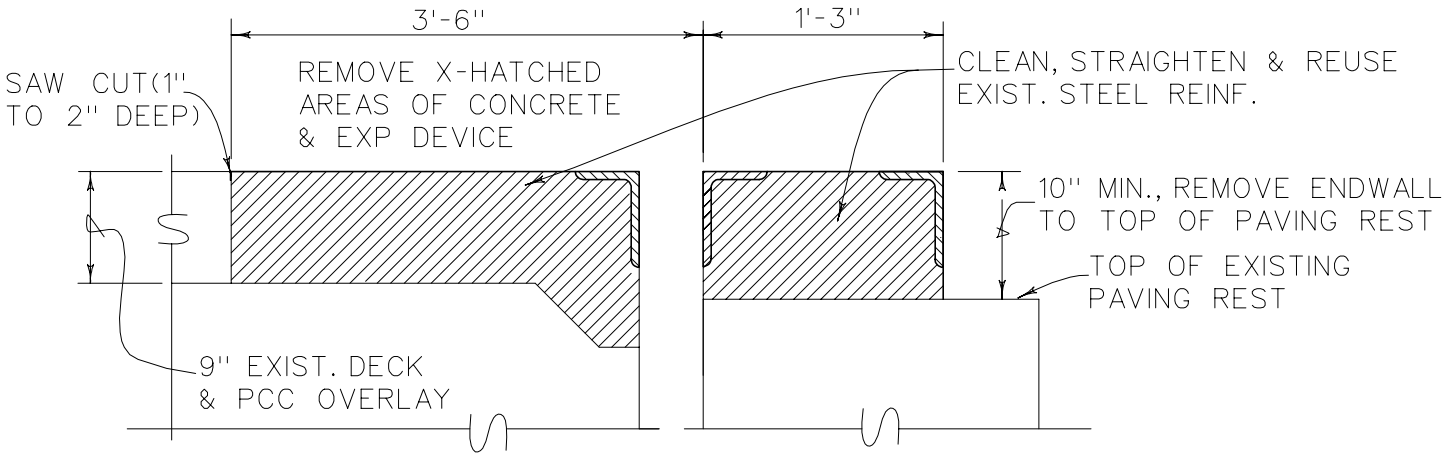
PLAN VIEW @ CURB

REPLACE EXPANSION JOINT



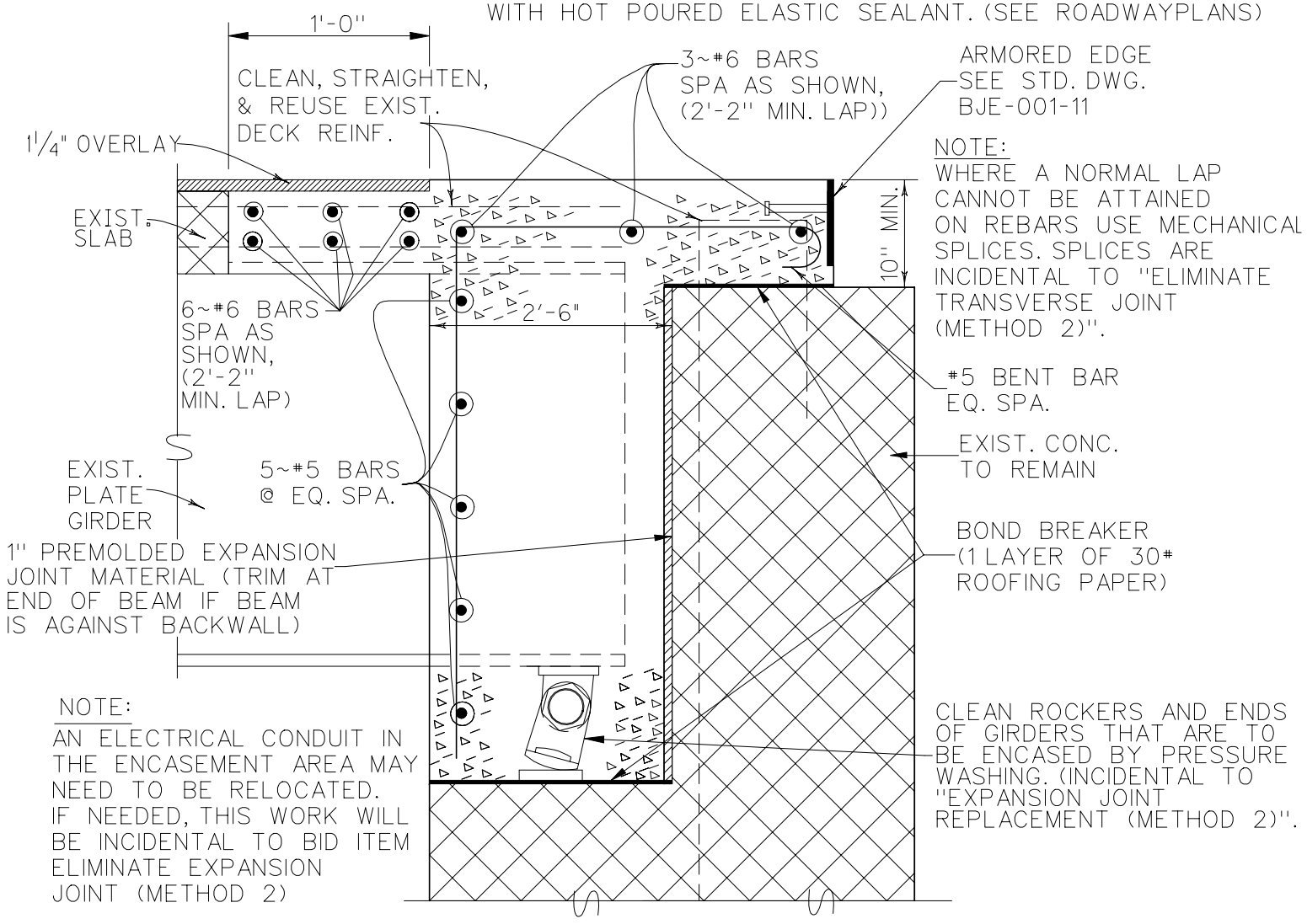
PROPOSED SECTION @ CURB

METHOD 2
EXPANSION JOINT ELIMINATION @ END BENT 2



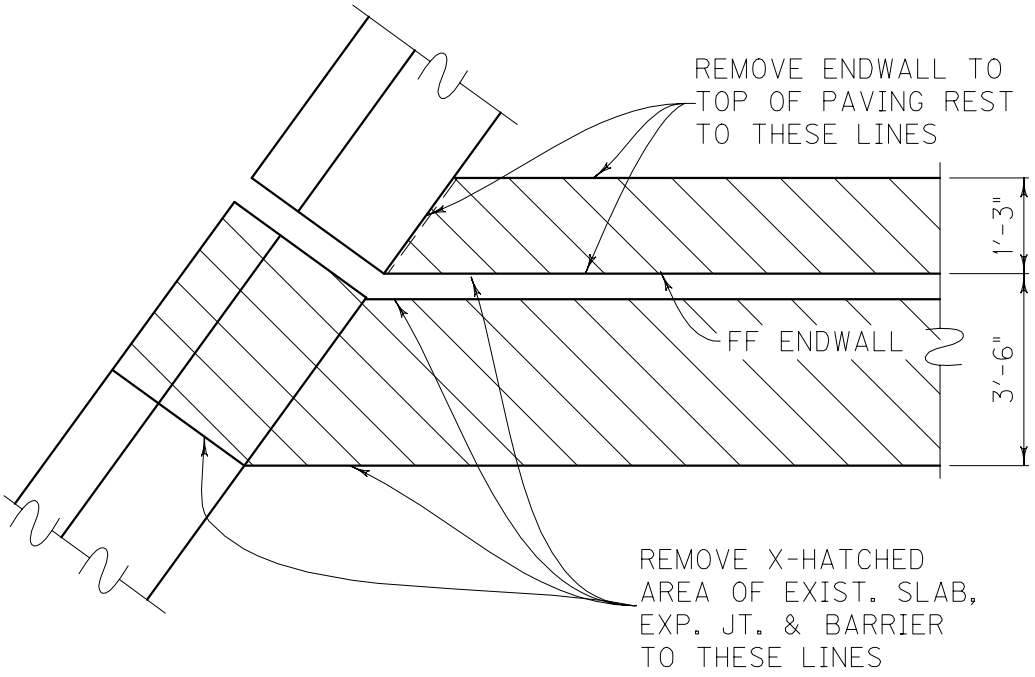
EXISTING SECTION @ END BENT

NOTE: REMOVE 6' OF ROADWAY PAVEMENT, NO EXPANSION MATERIAL REQUIRED. IF A VISIBLE JOINT DEVELOPES, SEAL WITH HOT POURED ELASTIC SEALANT. (SEE ROADWAYPLANS)

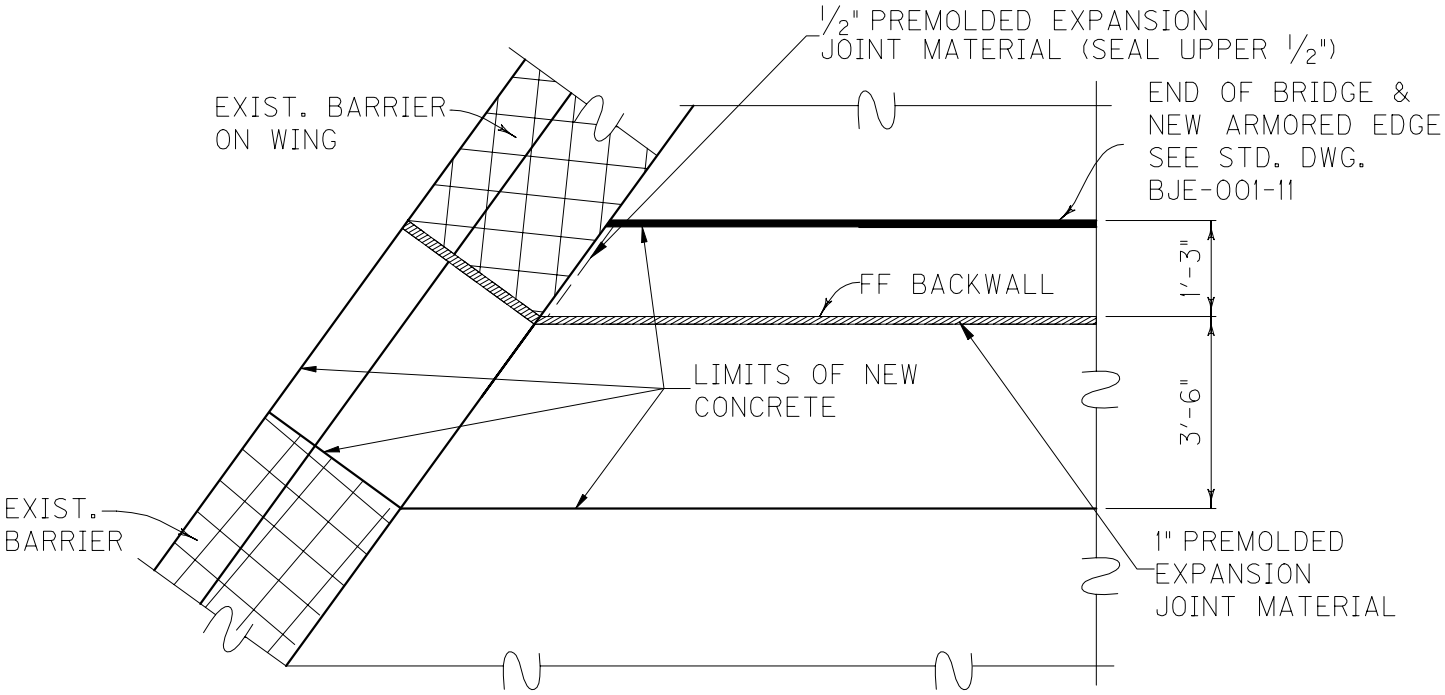


PROPOSED SECTION @ END BENT
TO ELIMINATE EXPANSION JOINT

EXPANSION JOINT ELIMINATION @ END BENT 2

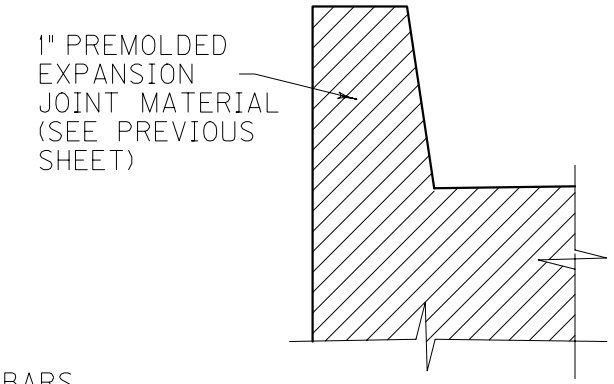


EXISTING CURB @ END BENT 2

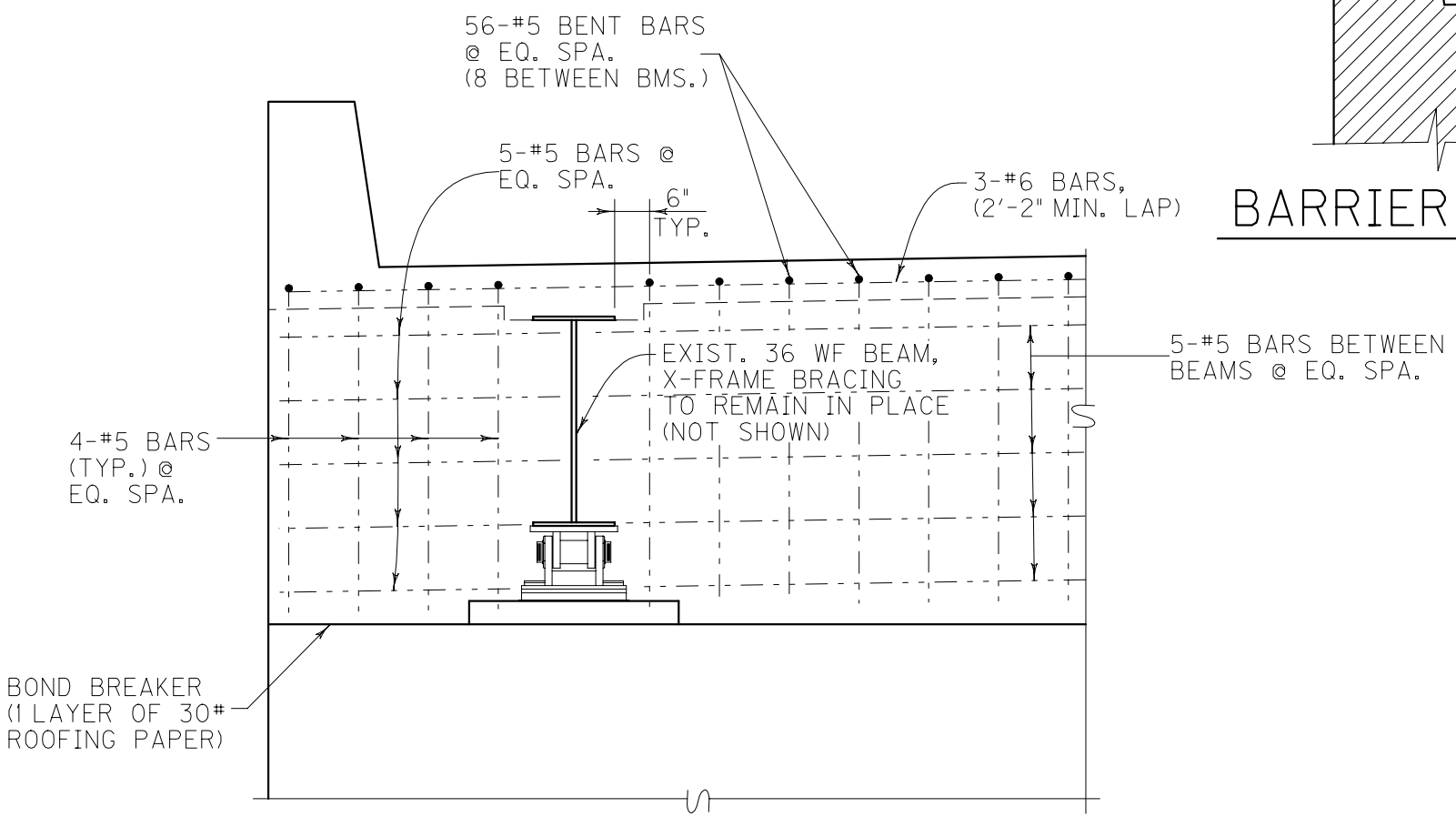


PROPOSED CURB @ END BENT 2
TO ELIMINATE EXPANSION JOINT

EXPANSION JOINT ELIMINATION @ END BENT 2

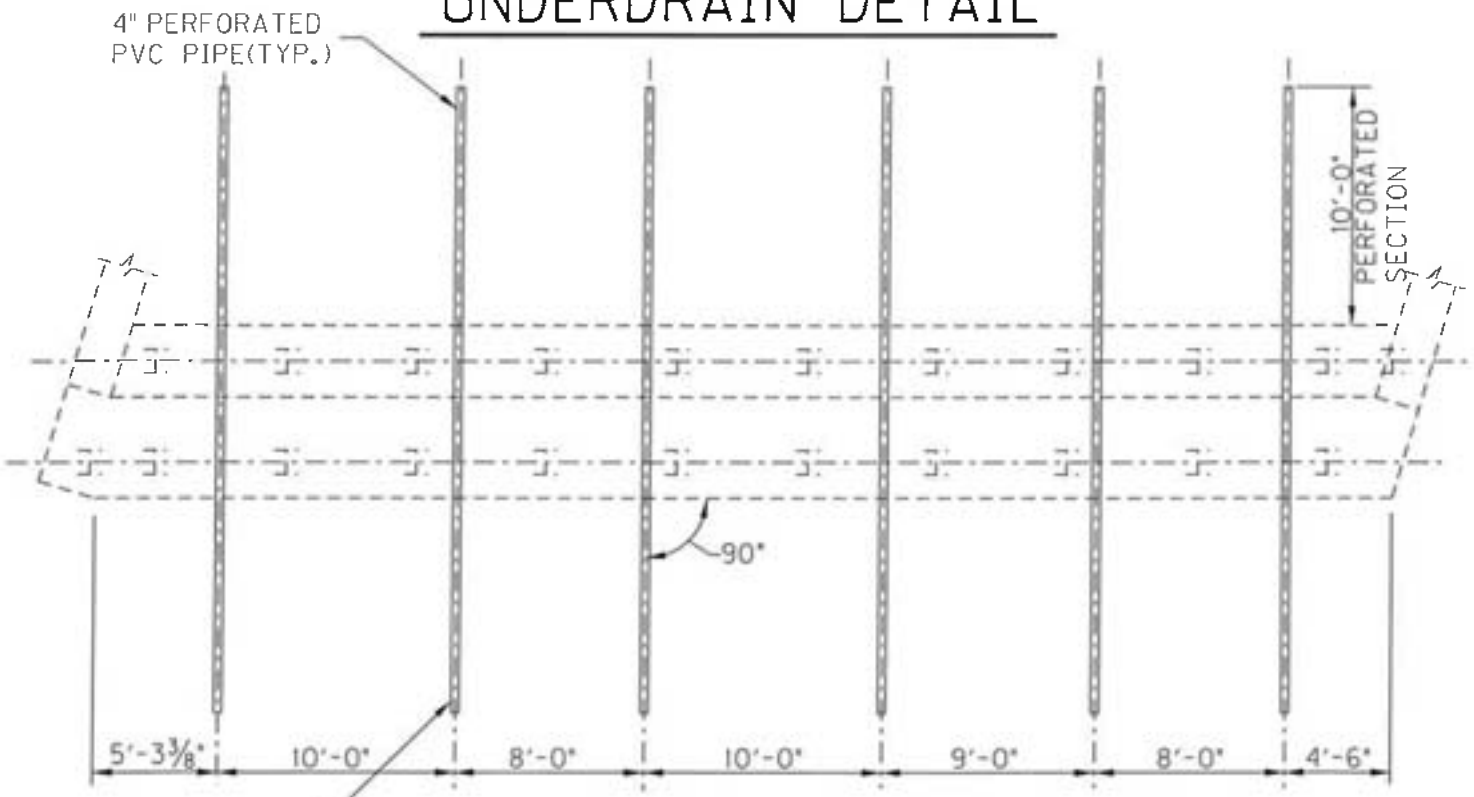


BARRIER DETAIL



PROPOSED SECTION ALONG ℄ DIAPHRAGM TO ELIMINATE EXPANSION JOINT

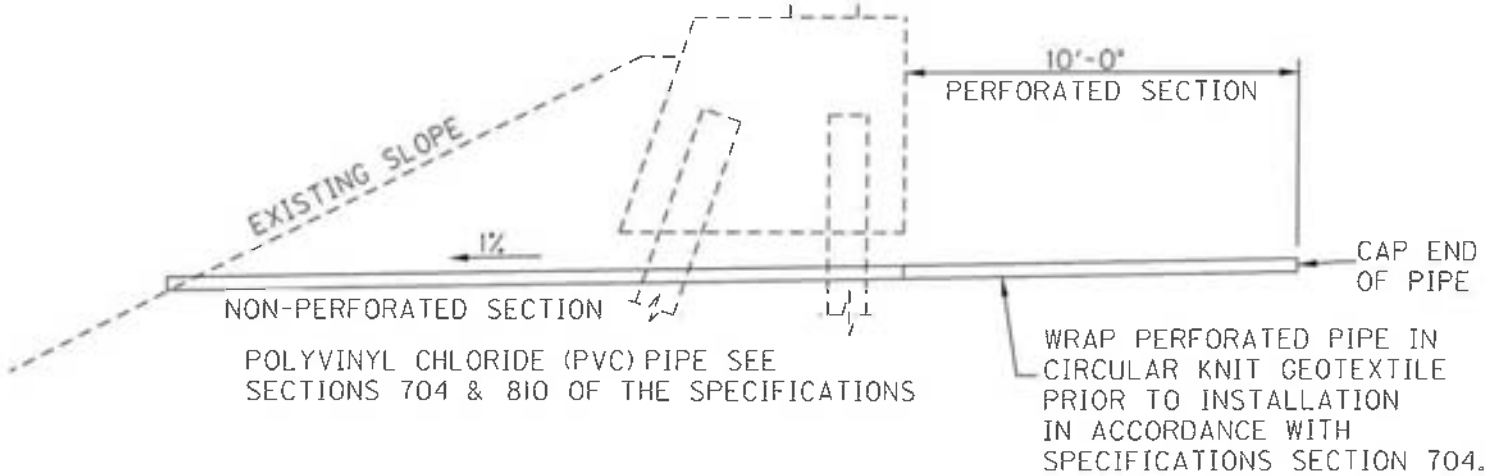
UNDERDRAIN DETAIL



END BENT 2 WESTBOUND PLAN

NOTE:
4" PVC PIPES ARE TO BE INSTALLED BY DRILLING FROM IN FRONT OF END BENT CAP. OPEN CUTTING OF THE ROADWAY BEHIND THE END BENT TO INSTALL THE PIPES WILL NOT BE ALLOWED.

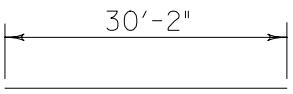
NOTE:
ALL COSTS ASSOCIATED WITH THE INSTALLATION OF 4" PVC PIPES INCLUDING THE PIPES, ANY EXCAVATION AND RESHAPING OF THE EMBANKMENT IN FRONT OF THE END BENT CAP INCLUDING REPLACEMENT OF STONE OR SEEDING AND PROTECTION WILL BE INCIDENTAL TO ITEM 1010 4" NON PERFORATED PIPE.



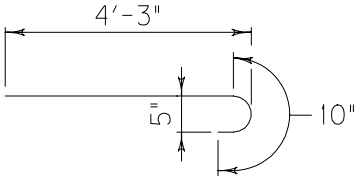
END BENT 2 WESTBOUND SECTION

NOTE:
CONTRACTOR TO SUBMIT PROPOSED UNDERDRAIN INSTALLATION PROCEDURES TO ENGINEER FOR APPROVAL PRIOR TO ACTUAL INSTALLATION.

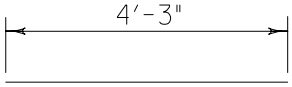
BILL OF REINFORCEMENT



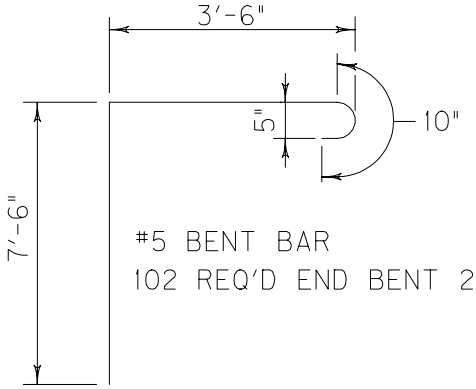
#6 STRAIGHT BAR
30 REQ'D END BENT 1



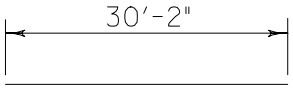
#5 BENT BAR
164 REQ'D END BENT 1



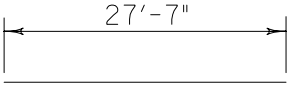
#5 STRAIGHT BAR
164 REQ'D END BENT 1



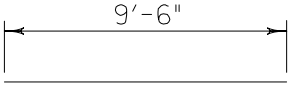
#5 BENT BAR
102 REQ'D END BENT 2



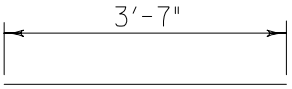
#5 STRAIGHT BAR
9 REQ'D END BENT 1



#6 STRAIGHT BAR
18 REQ'D END BENT 2



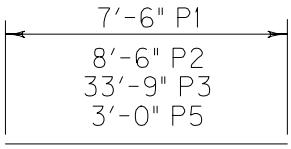
#5 STRAIGHT BAR
25 REQ'D END BENT 2



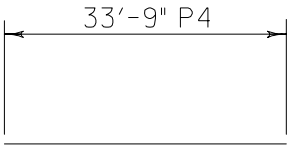
#5 STRAIGHT BAR
10 REQ'D END BENT 2

3,203 LBS END BENT 1
2,259 LBS END BENT 2

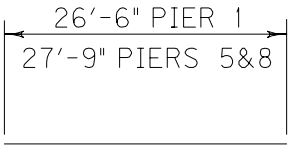
END BENT REINFORCEMENT



#5 STRAIGHT BAR PIER 2
56 REQ'D P1
49 REQD P2
14 R'EQD P3
14 RE'QD P5



#6 STRAIGHT BAR
40 REQD PIER 2



#6 STRAIGHT BAR
48 REQ'D PIER 1
32 REQD PIERS 5&8

1,910 LBS PIER 1
3,436 LBS PIER 2
1,334 LBS PIER 5 & 8

PIERS 1,2,5 & 8 REINFORCEMENT

300 LIN. FT. #4 BARS IN 20'-0" LENGTHS
200 LBS. EACH END BENT AND EACH PIER

MISCELLANEOUS REINFORCEMENT

TOTAL REINFORCEMENT 14,676 LBS.

KENTON COUNTY

059B00063R
I-275 EASTBOUND OVER KY 17,
BANKLICK CREEK & CSX RR



Approximate Location Information
Latitude: 39°01'39"
Longitude: 84°31'57"
MP 79.830

BRIDGE #4 (059B00063R) SUMMARY OF QUANTITIES

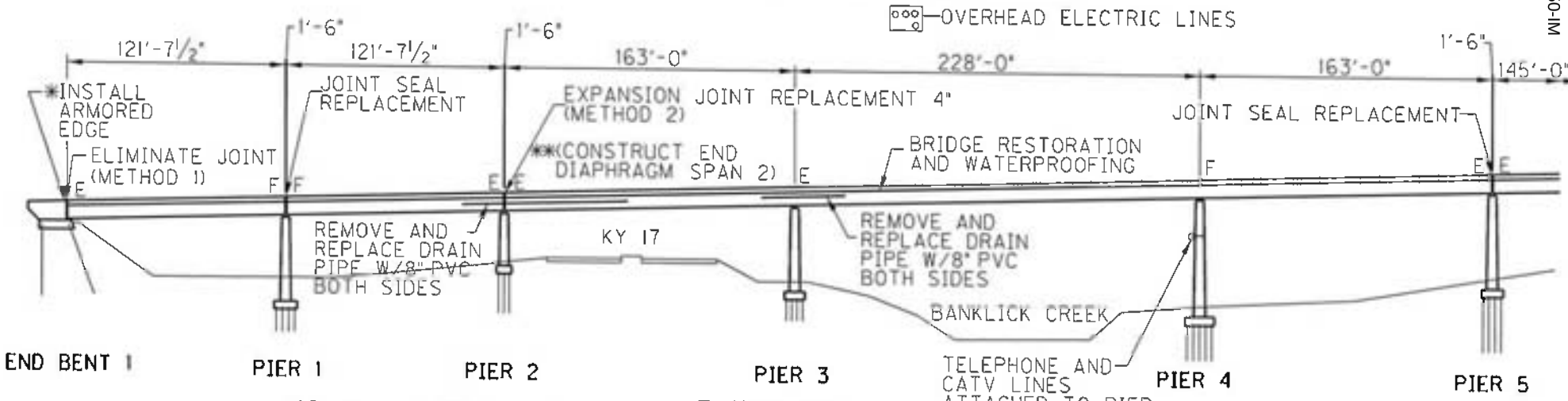
1. DISTRICT: 6
2. COUNTY: KENTON
3. ROUTE: I-275
4. PROJECT NUMBER: FD52 059 0275 080-083
5. ROAD NAME: I-275
6. DESCRIPTION: I-275 EASTBOUND OVER KY 17, BANKLICK CREEK & CSX RR
7. TYPE OF WORK: BRIDGE DECK RESTORATION AND WATERPROOFING:ELIMINATE TRANSVERSE JOINT: EXPANSION JOINT REPLACEMENT AND JOINT SEAL REPLACEMENT
8. LENGTH (FT.): 1676.95 **BRIDGE WIDTH (FT.):** VARIES **SURFACE AREA (SQ. YD.):** 10144
SKEW (DEGREES): 16.51 **DECK THICKNESS (INCHES):** 9.0

ESTIMATED QUANTITIES REQUIRED

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
8510	REM EPOXY BIT FOREIGN MATERIAL	10144.0	SQ YD
8549	BLAST CLEANING	11197.0	SQ YD
8504	EPOXY SAND SLURRY	1765	SQ YD
8534	CONCRETE OVERLAY-LATEX	350.0	CU YD
8526	CONC CLASS M FULL DEPTH PATCH	42.0	CU YD
3300	ELIMINATE TRANS. JT.(METHOD 1)	67.0	LIN FT
3300	ELIMINATE TRANS. JT.(METHOD 2)	54.0	LIN FT
3298	EXP. JT. REPLACEMENT 4" (METHOD 2)	55.0	LIN FT
8821	8" PVC PIPE	445.0	LIN FT
23386EC	JOINT SEAL REPLACEMENT	165.0	LIN FT
23031EN	PIER REPAIR	800	SQ FT
1000	PERFORATED 4" PVC PIPE	60.0	LIN FT
1010	4" NON-PERFORATED PIPE	120.0	LIN FT

I-275 EASTBOUND OVER KY 17, BANKLICK CREEK & CSX RAILROAD
BRIDGE MAINTENANCE NUMBER 059B00063R

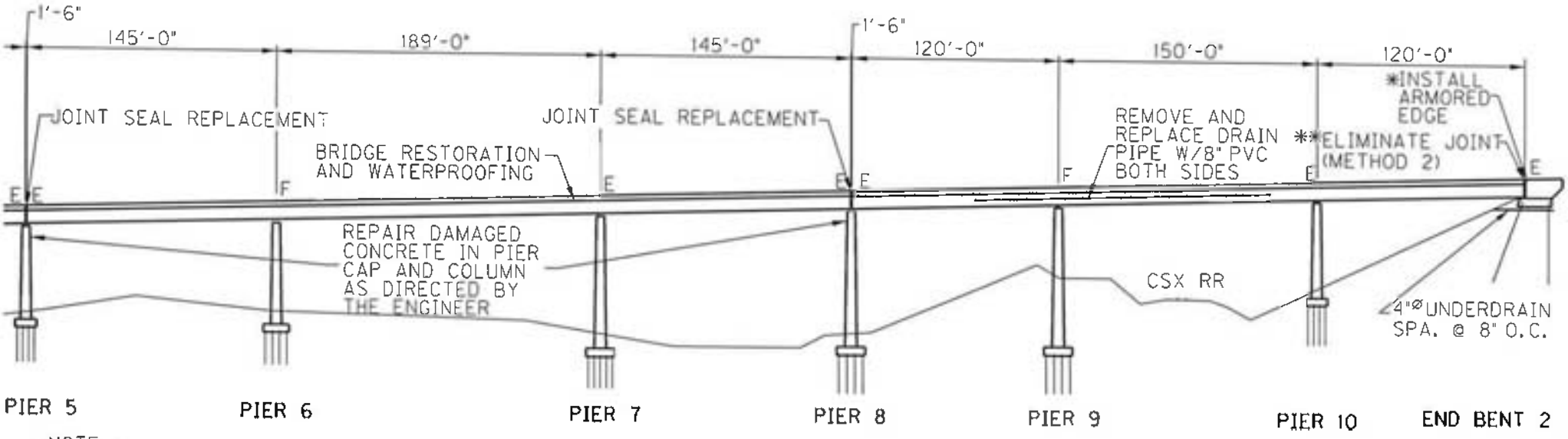
B4



*SEE STD. DRWG. BJE-001-11

NOTE:
CONTRACTOR RESPONSIBLE FOR VERIFYING SIZE OF JOINTS

ELEVATION
16°30'28" SKEW LT.
SPANS 1-5
NOT TO SCALE



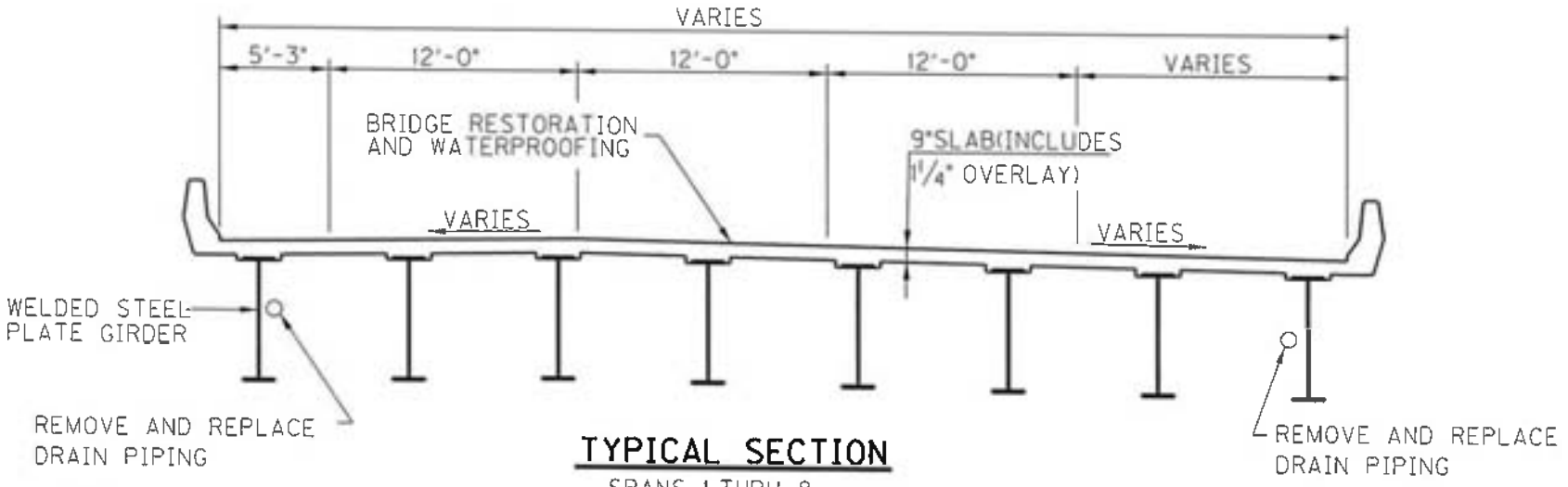
NOTE:
CONTRACTOR WILL SUBMIT A PLAN FOR INSTALLING 8" PVC PIPING FROM THE DECK DRAINS. BENDS ARE LIMITED TO 45° BENDS. HANGERS MUST BE USED TO SUPPORT PIPES. PIPES ARE NOT ALLOWED TO BE ATTACHED TO STEEL BEAMS OR CROSS-FRAMES.

ELEVATION
16°30'28" SKEW LT.
SPANS 6-11
NOT TO SCALE

**THESE DIAPHRAGMS ARE TO BE CONSTRUCTED BEFORE ANY OTHER JOINT WORK IS TO BE DONE. (INCIDENTAL TO EITHER "EXPANSION JOINT REPLACEMENT" OR "ELIMINATE TRANSVERSE JOINTS".)

KENTON - CAMPBELL COUNTIES
121GR10D050-IM
Contract ID: 101050
Page 372 of 616

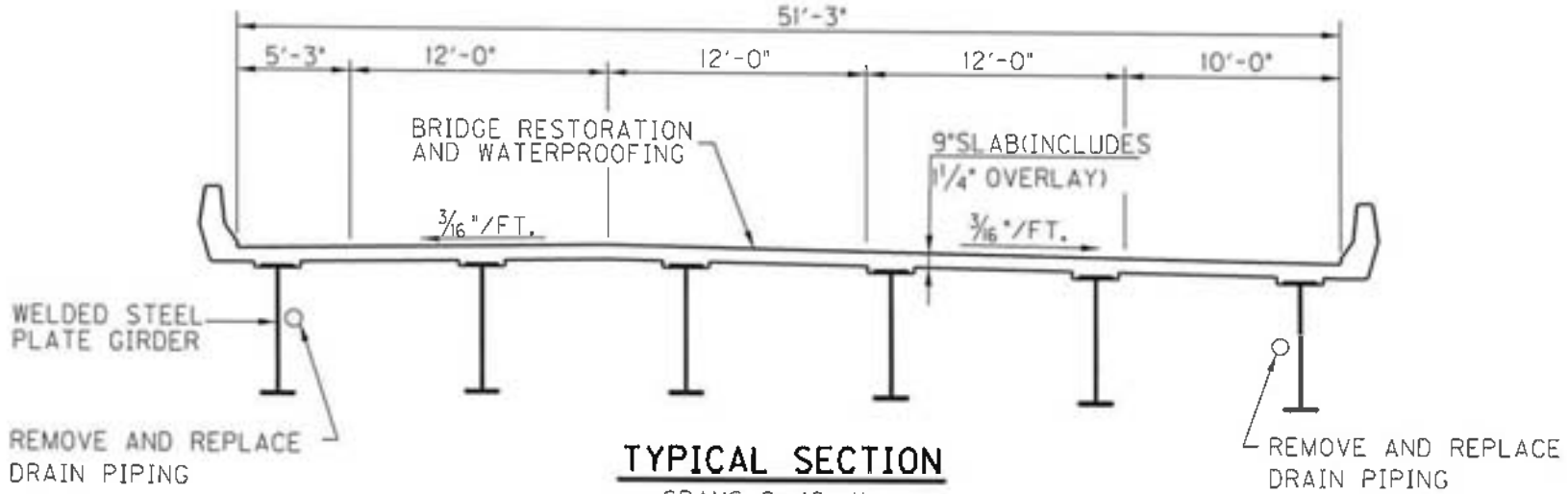
I-275 EASTBOUND OVER KY 17, BANKLICK CREEK & CSX RAILROAD
BRIDGE MAINTENANCE NUMBER 059B00063R



TYPICAL SECTION

SPANS 1 THRU 8

NOTE:
SEAL TOP OF CAP AND EXPOSED SURFACES OF PIER CAPS WITH CONCRETE SEALANT (INCIDENTAL TO "JOINT SEAL REPLACEMENT" OR "EXPANSION JOINT REPLACEMENT"). USE D-TECH 470 BY IMCO TECHNOLOGIES OR AN APPROVED EQUAL. THIS TYPE PRODUCT IS DESCRIBED IN THE SPECIAL NOTE SECTION OF THESE PLANS. ALL AREAS TO BE SEALED SHALL BE CLEANED IN ACCORDANCE WITH THE SEALANT MANUFACTURER'S RECOMMENDATIONS.

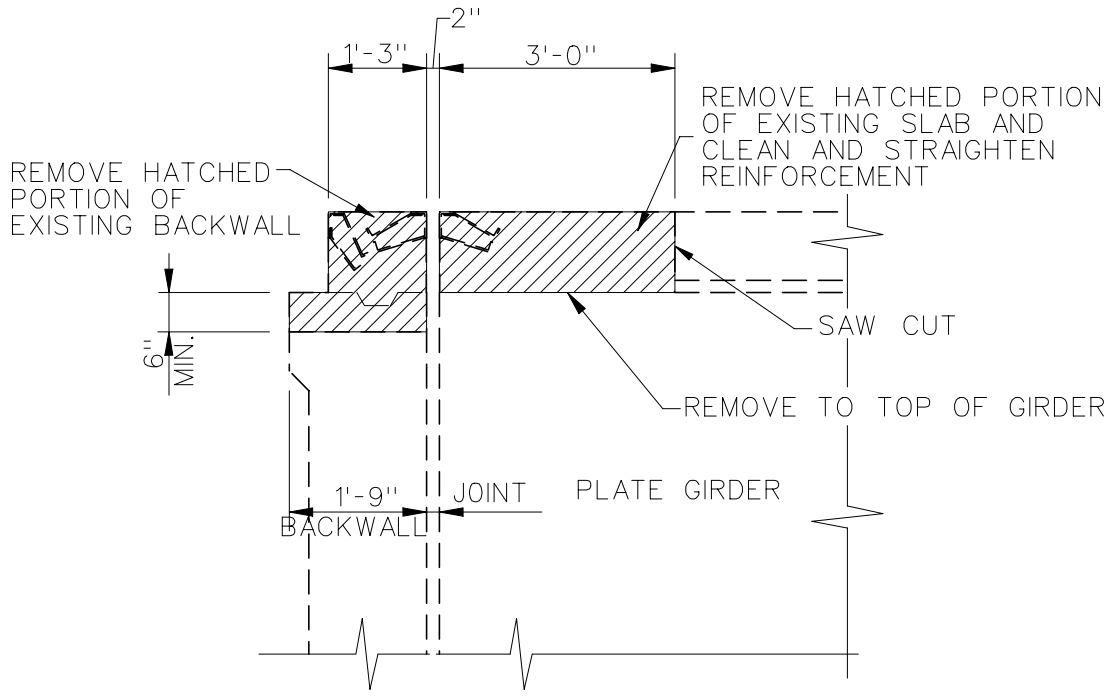


TYPICAL SECTION

SPANS 9, 10, 11

KENTON - CAMPBELL COUNTIES
121GR10D050-IM

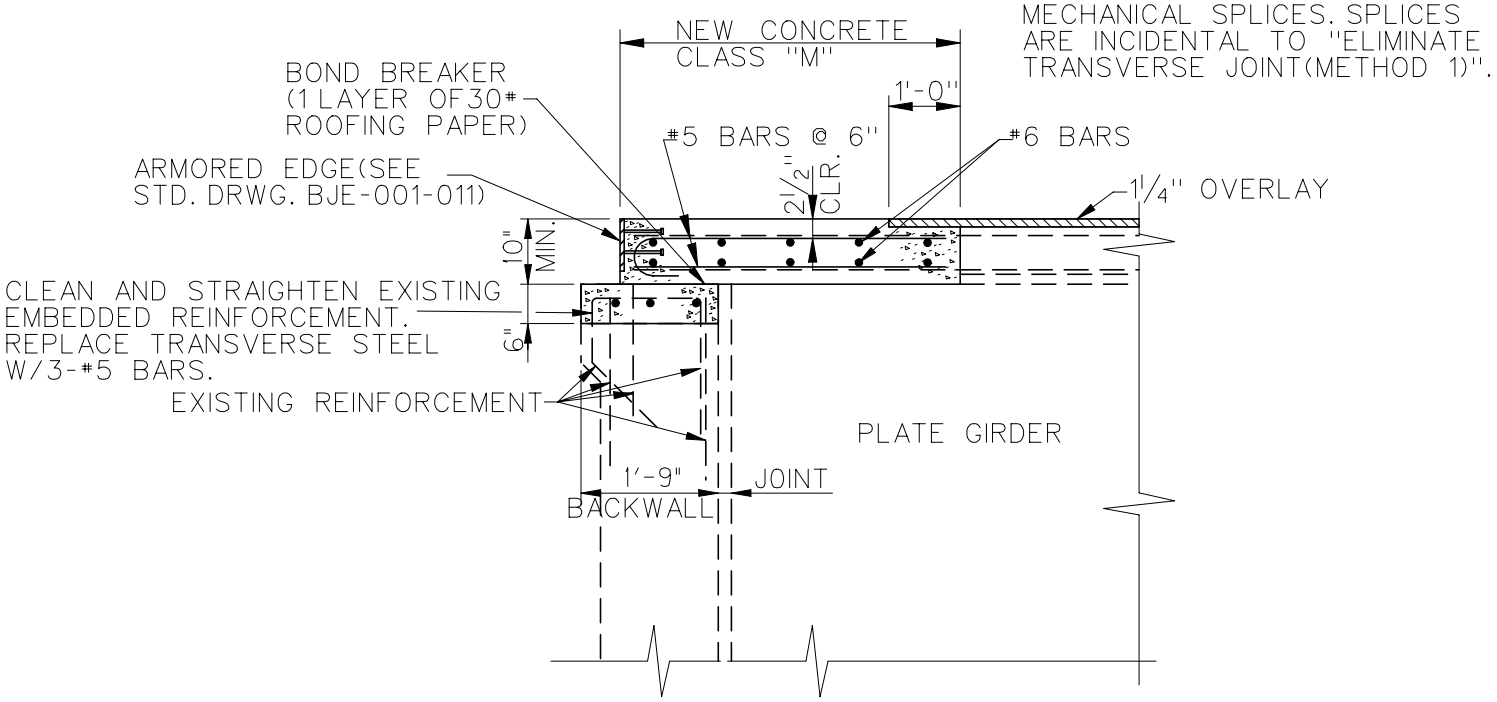
METHOD 1
ELIMINATE JOINT @ END BENT 1



EXISTING SECTION
@ END BENT

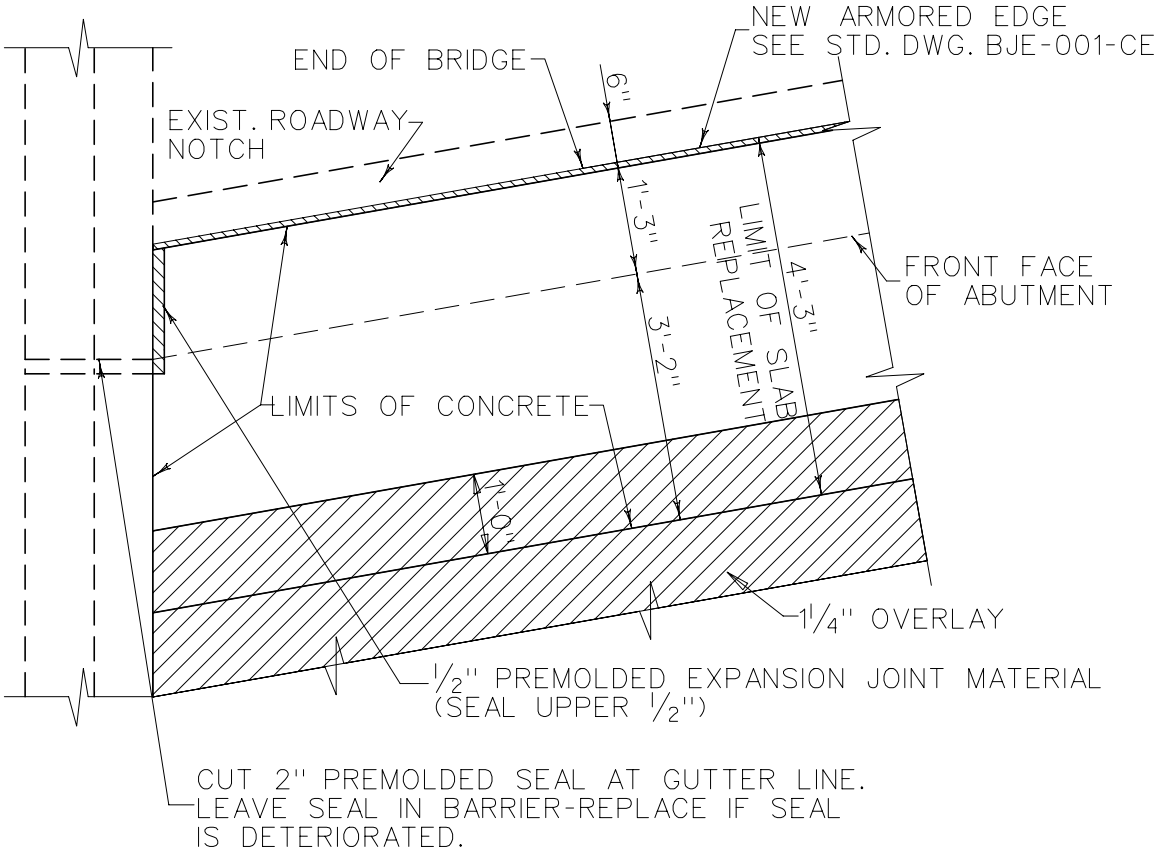
NOTE:
REMOVE 6' OF ROADWAY PAVEMENT, PLACE 1/2" PREMOLDED EXPANSION JOINT MATERIAL AGAINST ARMORED EDGE. (SEE ROADWAY PLANS)

NOTE:
WHERE A NORMAL LAP CANNOT BE ATTAINED ON REBARS USE MECHANICAL SPLICES. SPLICES ARE INCIDENTAL TO "ELIMINATE TRANSVERSE JOINT(METHOD 1)".

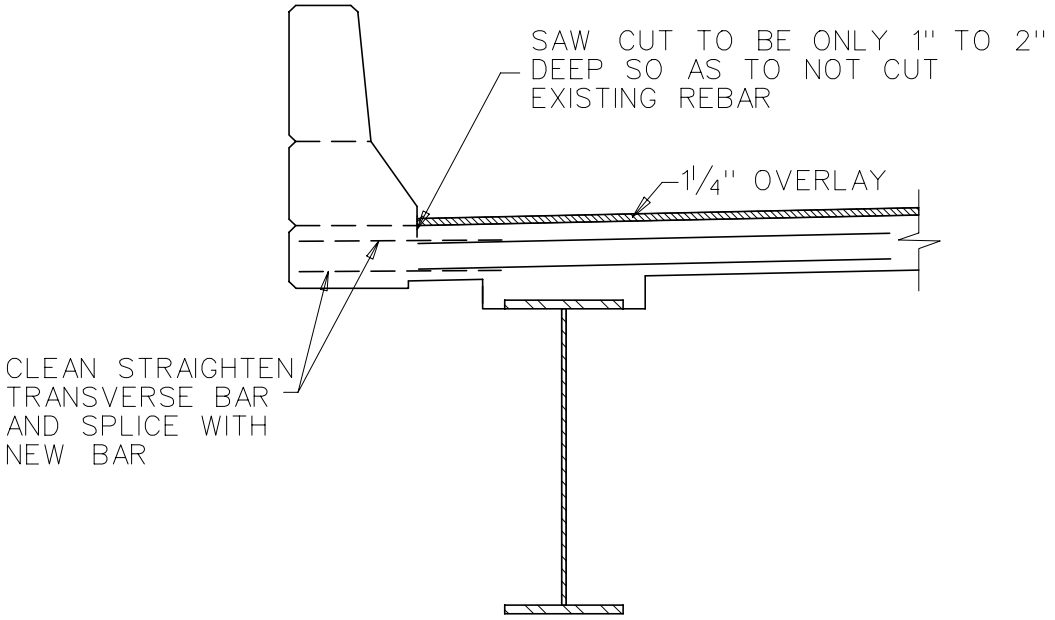


PROPOSED SECTION
@ END BENT

CURB SECTION @ END BENT 1

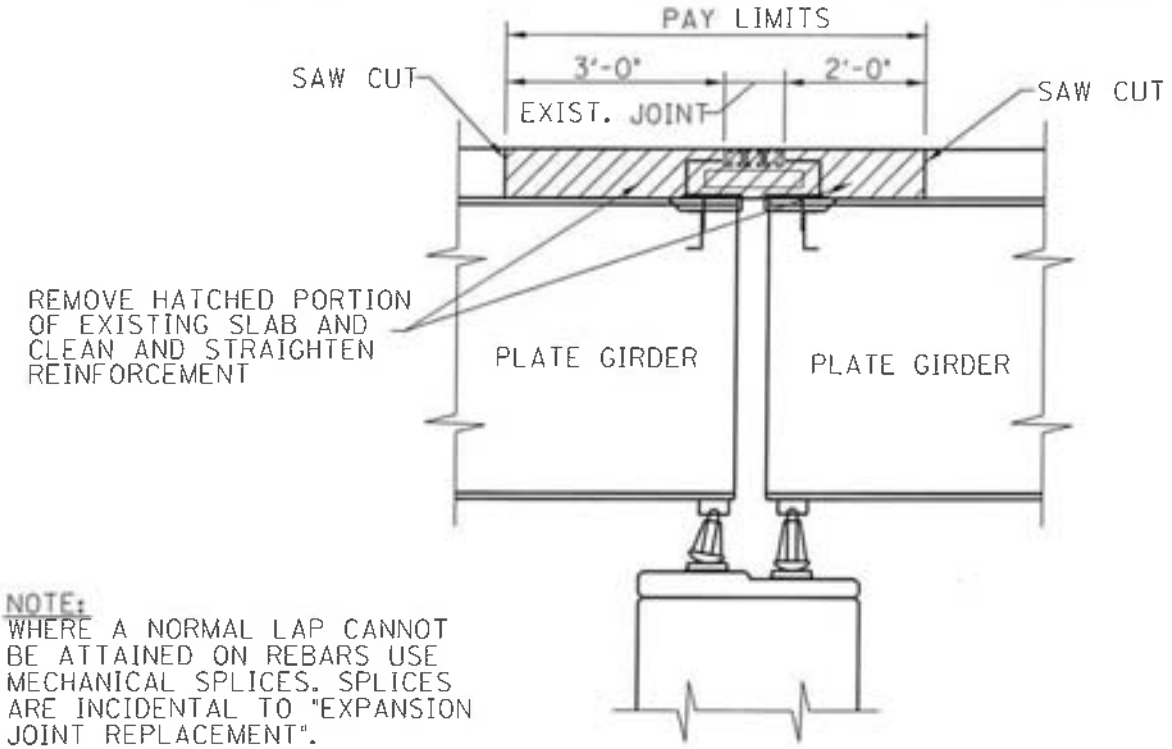


PROPOSED PLAN @ END BENT



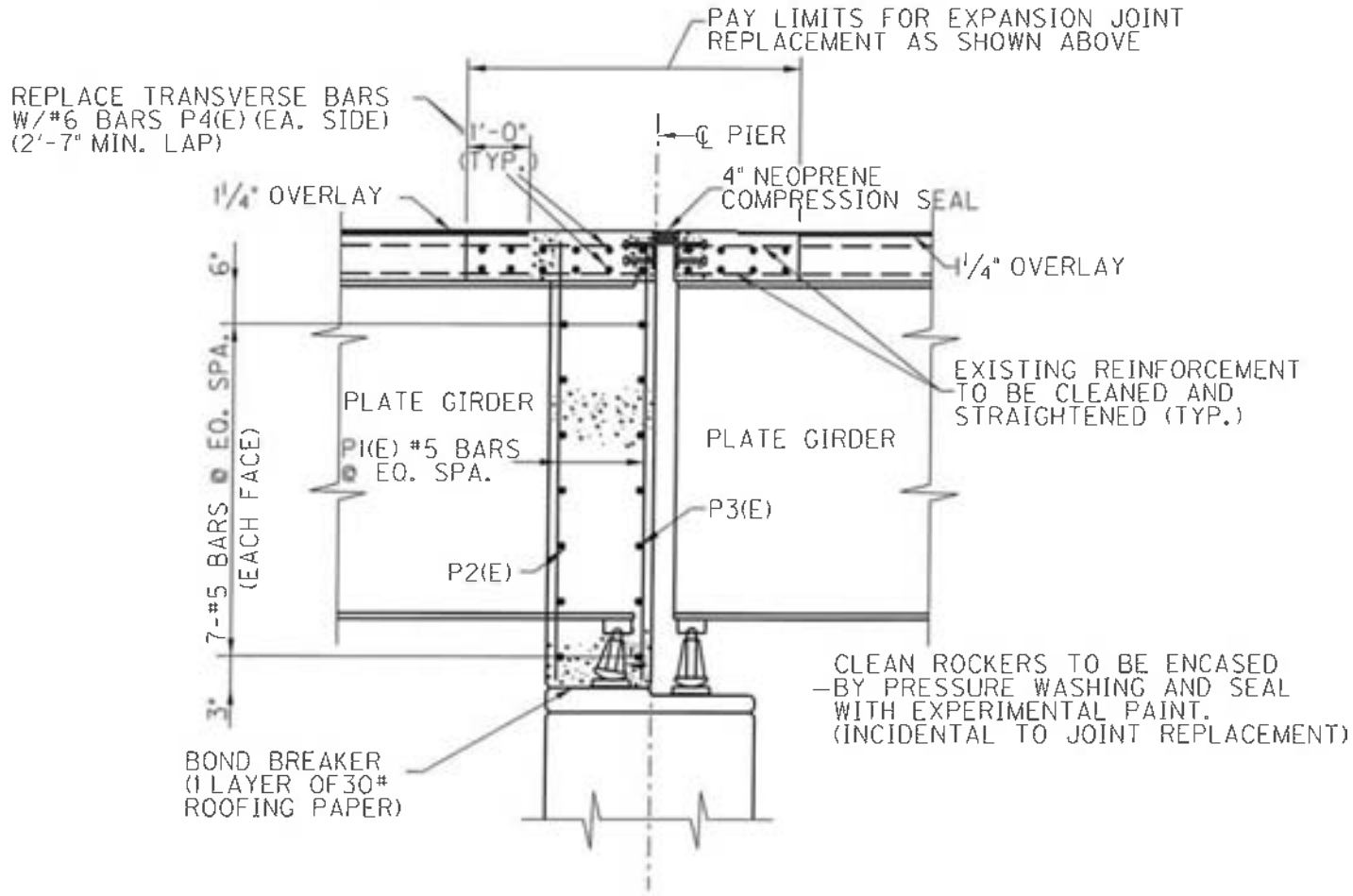
PROPOSED SECTION @ END BENT

METHOD 2
REPLACE EXPANSION JOINT @ PIER 2



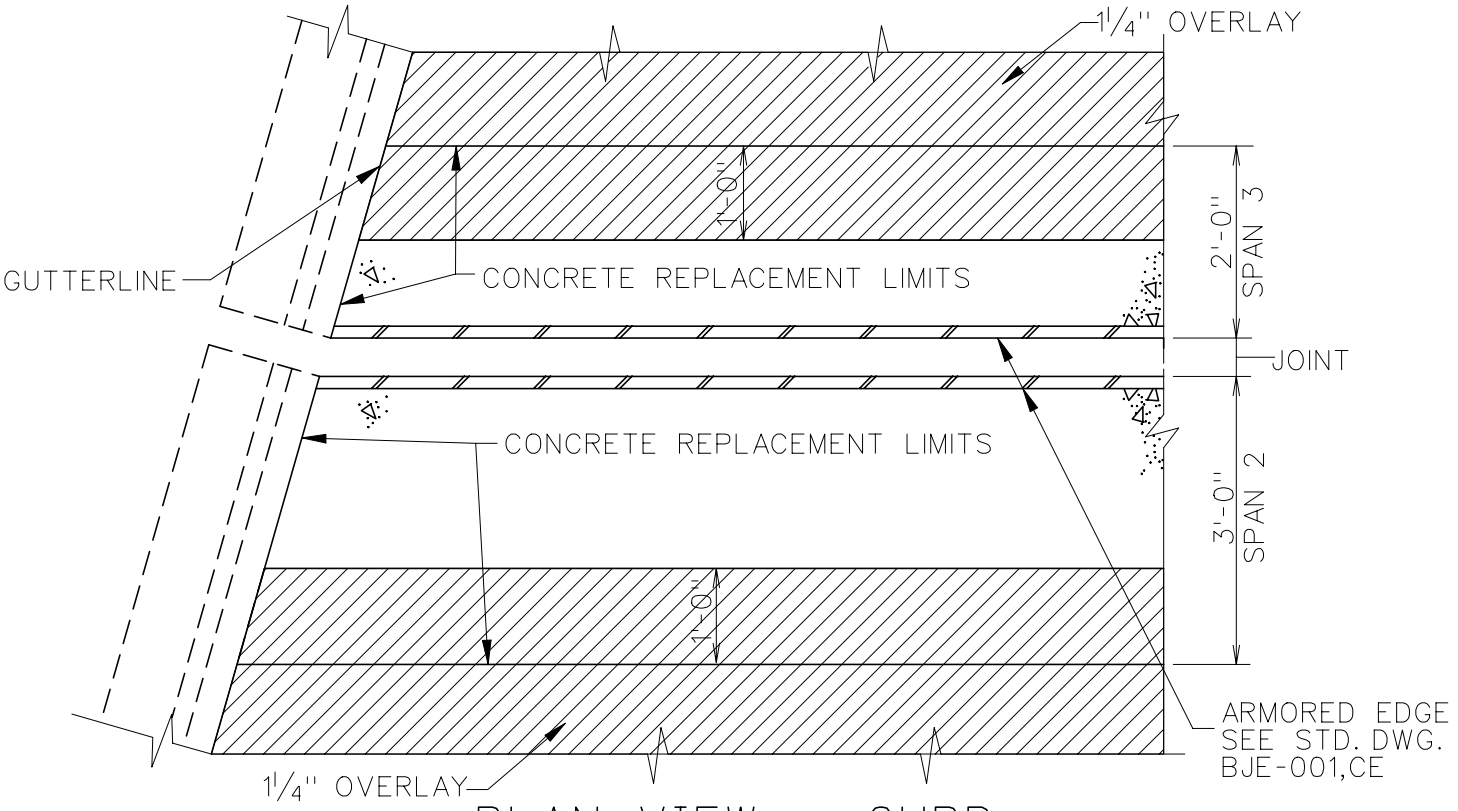
NOTE:
WHERE A NORMAL LAP CANNOT BE ATTAINED ON REBARS USE MECHANICAL SPLICES. SPLICES ARE INCIDENTAL TO "EXPANSION JOINT REPLACEMENT".

EXISTING SECTION @ PIER

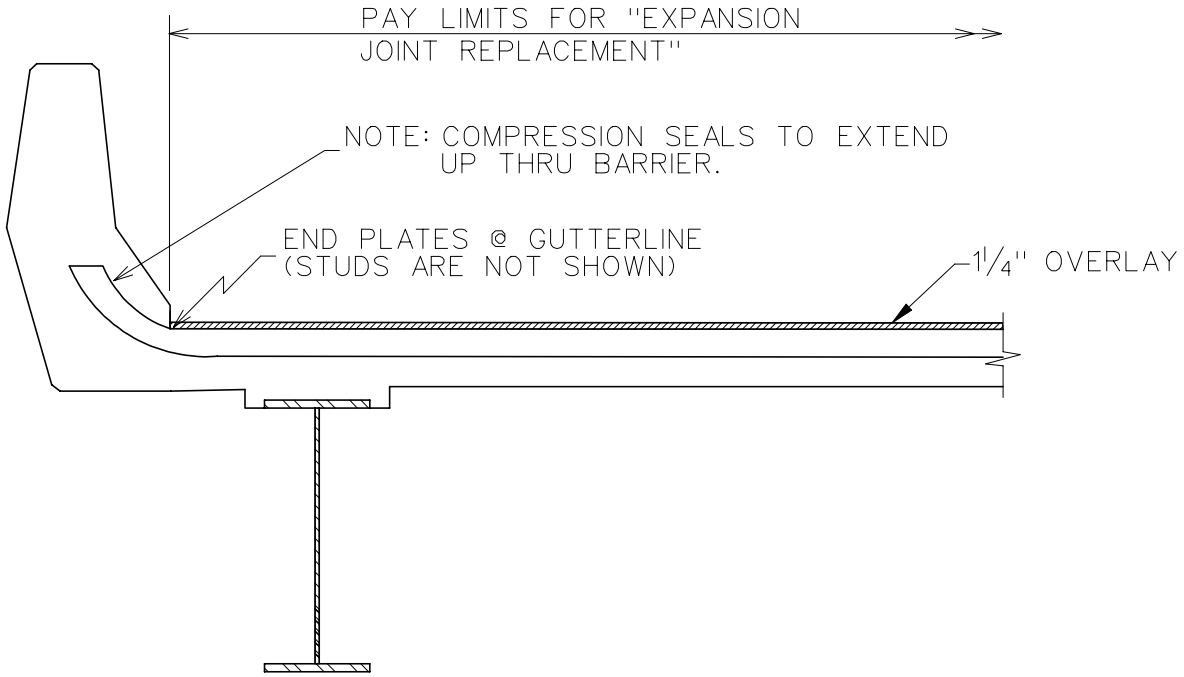


PROPOSED SECTION @ PIER

REPLACE EXPANSION JOINT
PIER 2 CURB SECTION

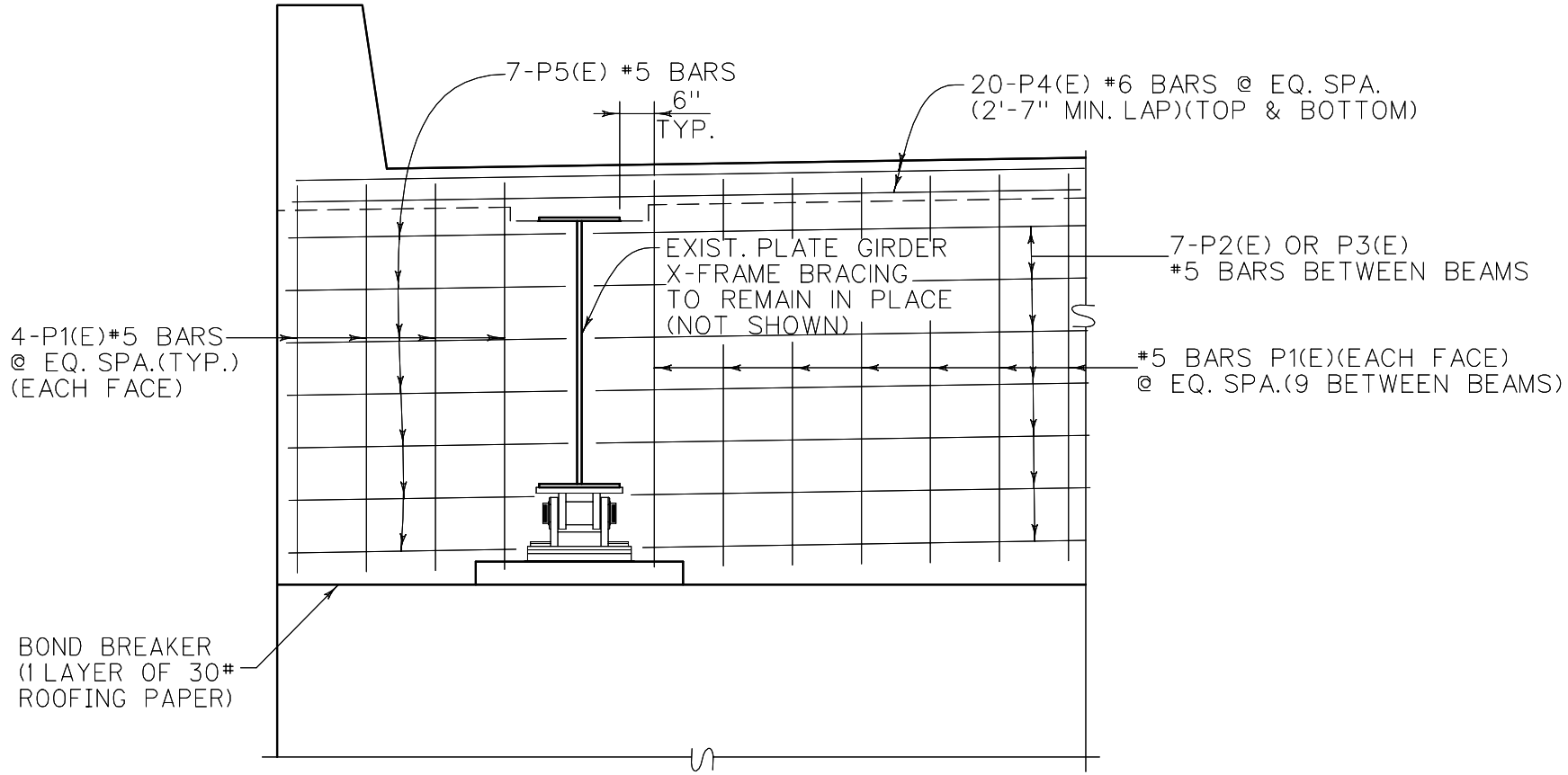


PLAN VIEW @ CURB
REPLACE EXPANSION JOINT



PROPOSED SECTION @ CURB

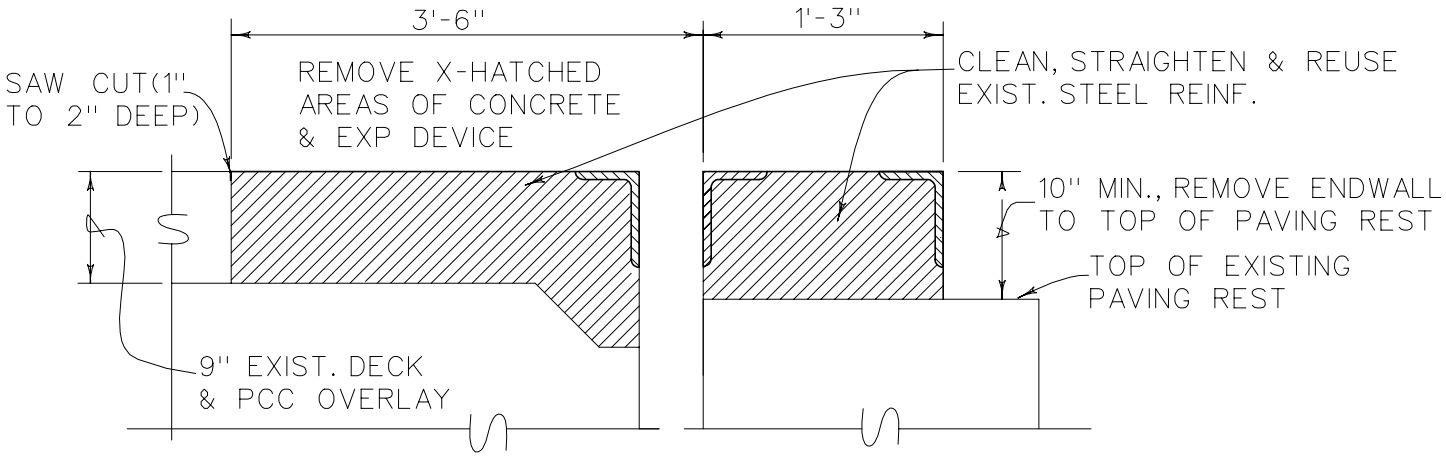
REPLACE EXPANSION JOINT @ PIER 2



PROPOSED SECTION ALONG ℄ DIAPHRAGM

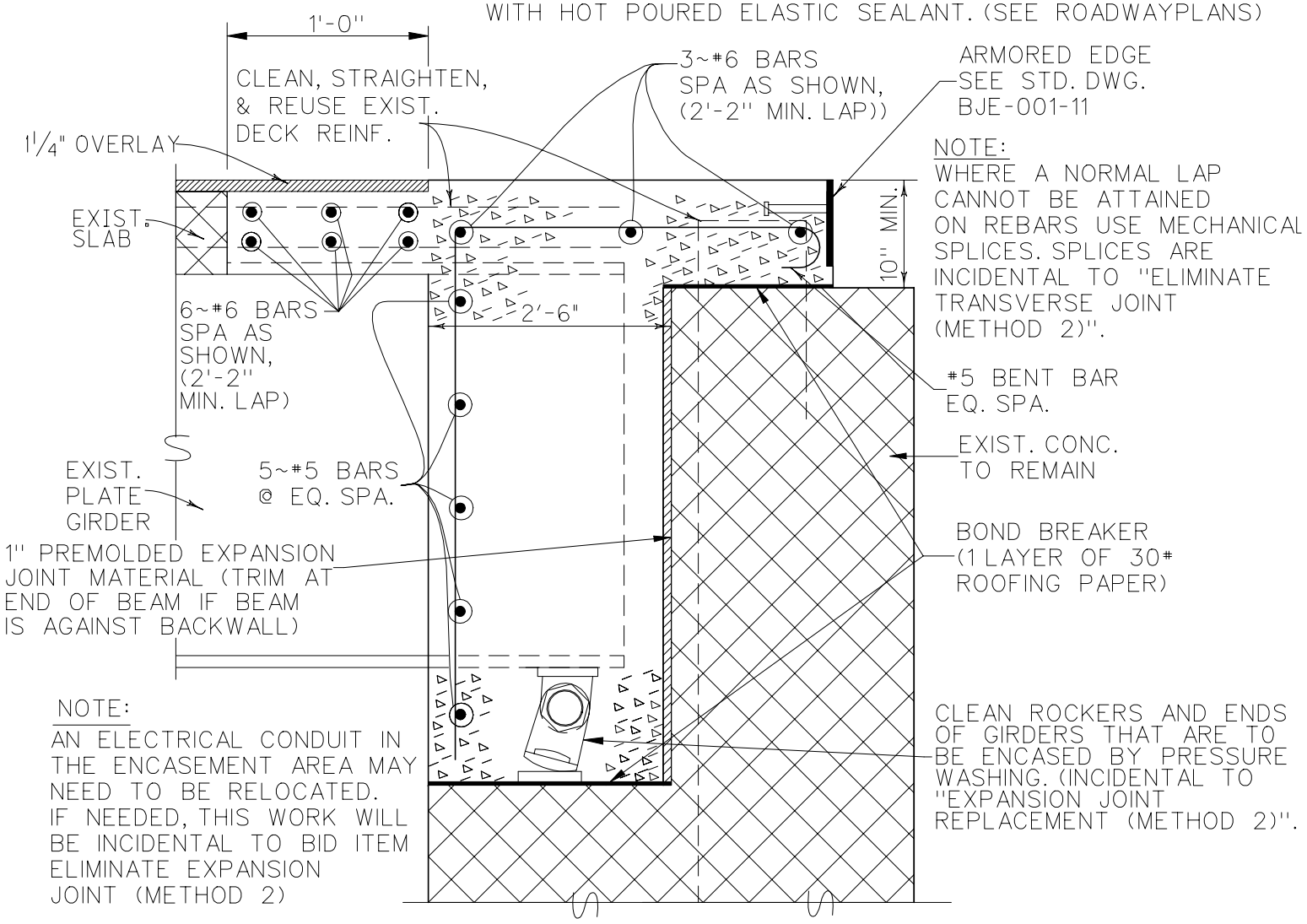
KENTON - CAMPBELL COUNTIES
121GR10D050-IM

METHOD 2
EXPANSION JOINT ELIMINATION @ END BENT 2



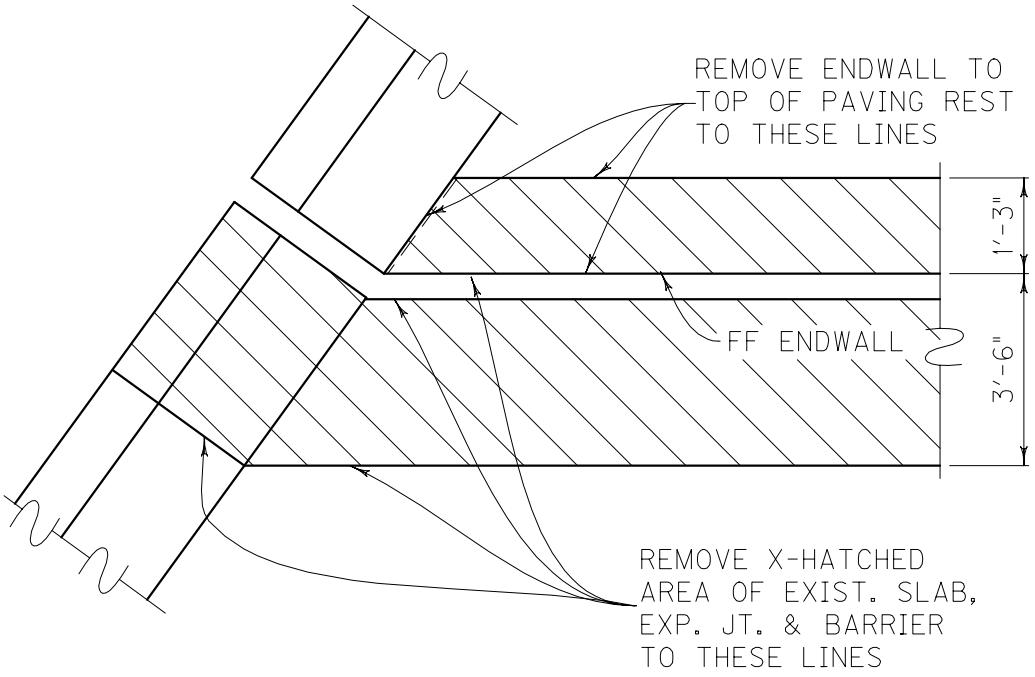
EXISTING SECTION @ END BENT

NOTE: REMOVE 6' OF ROADWAY PAVEMENT, NO EXPANSION MATERIAL REQUIRED. IF A VISIBLE JOINT DEVELOPES, SEAL WITH HOT POURED ELASTIC SEALANT. (SEE ROADWAYPLANS)

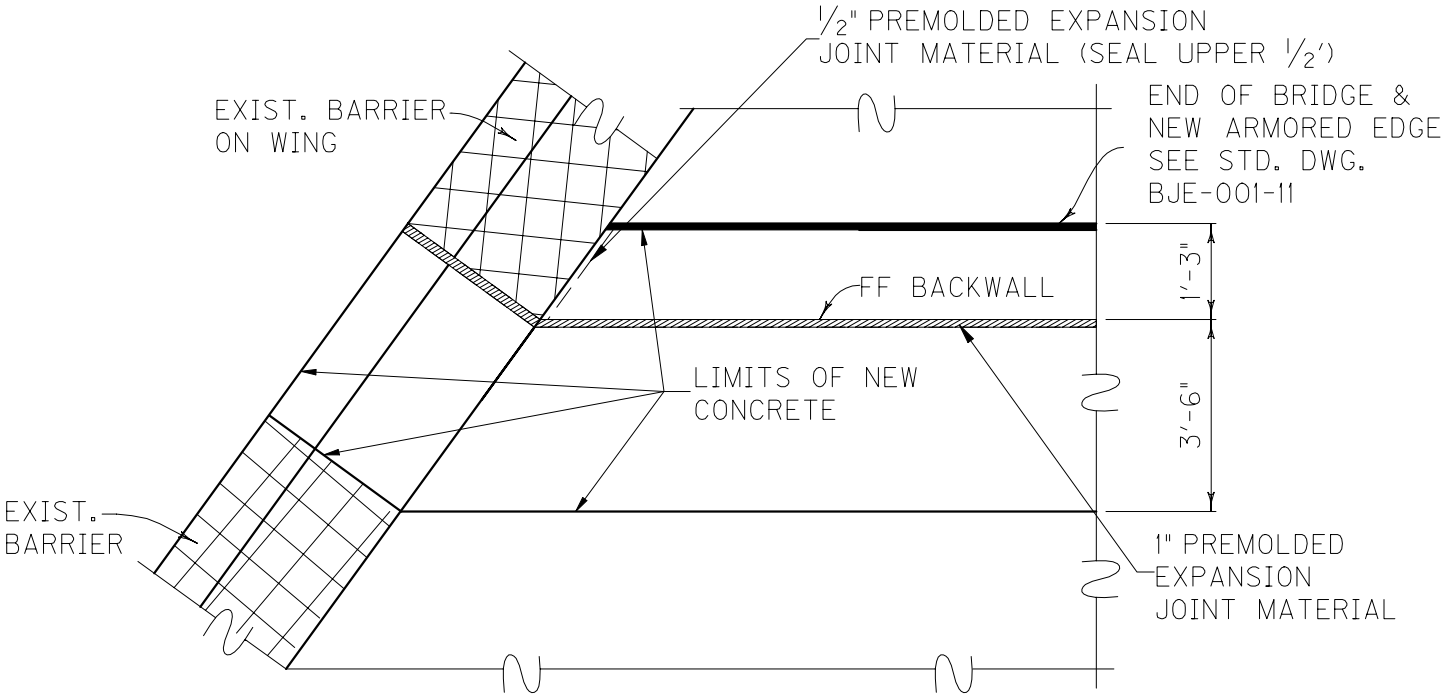


PROPOSED SECTION @ END BENT
TO ELIMINATE EXPANSION JOINT

EXPANSION JOINT ELIMINATION @ END BENT 2

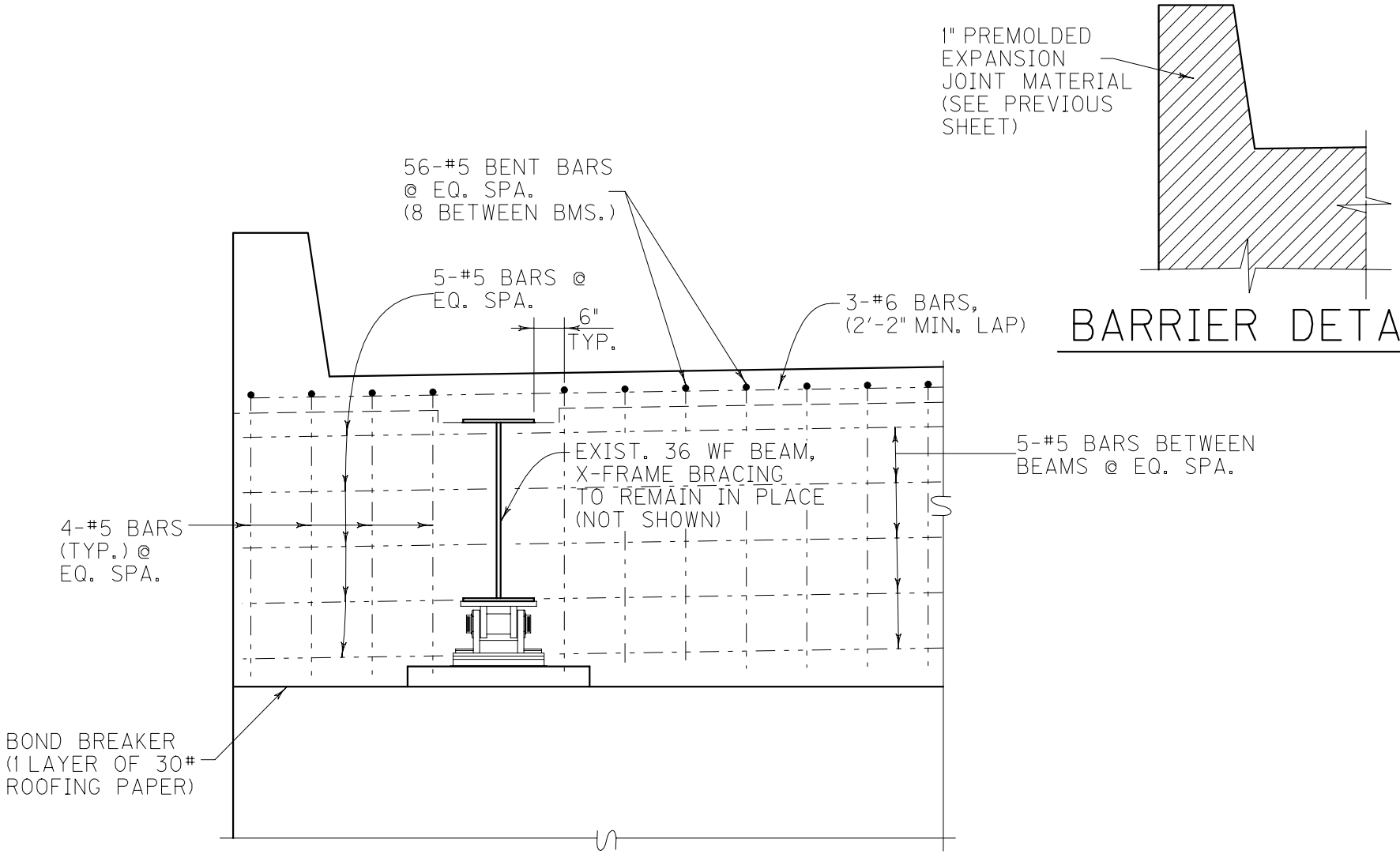


EXISTING CURB @ END BENT 2



PROPOSED CURB @ END BENT 2
TO ELIMINATE EXPANSION JOINT

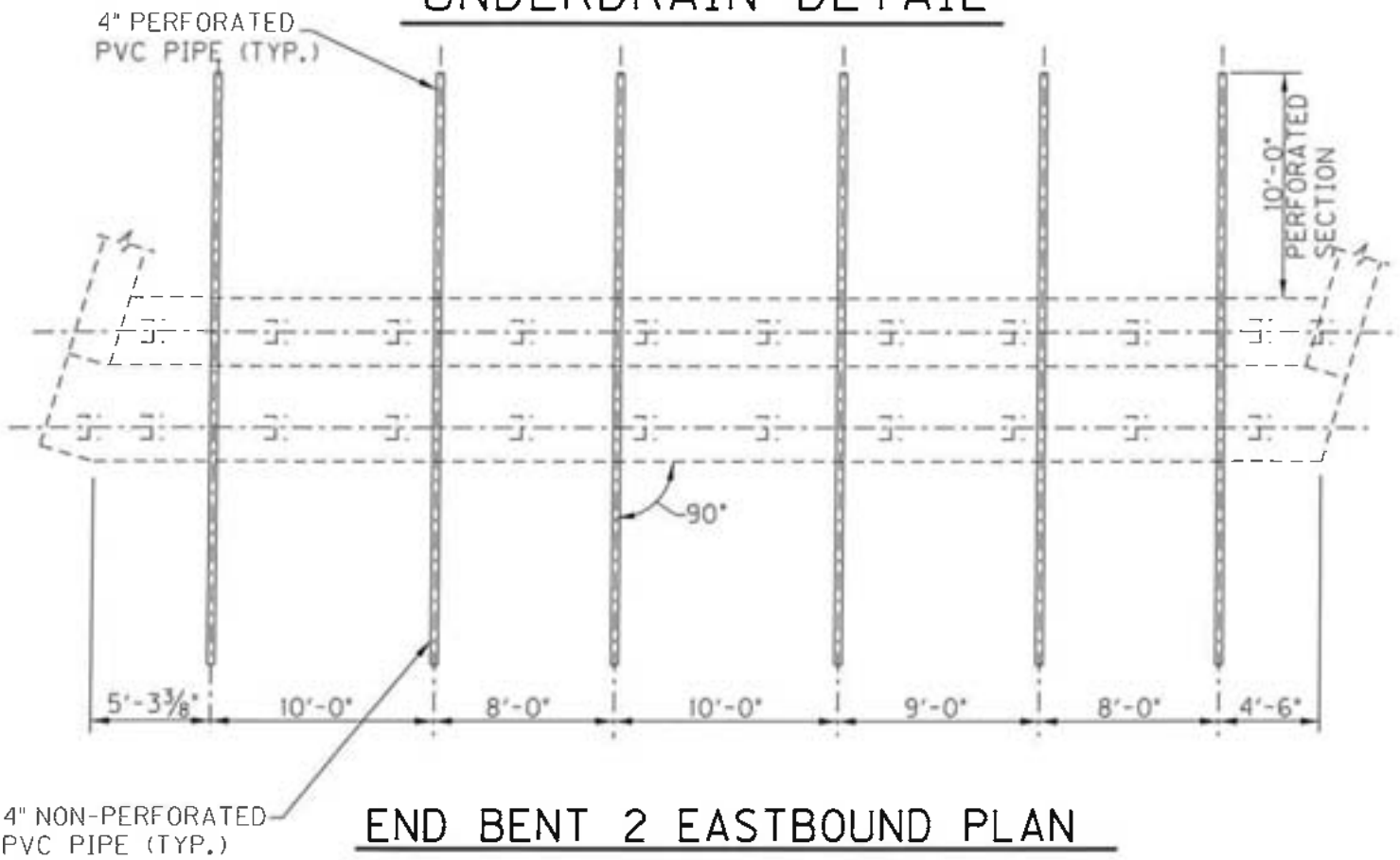
EXPANSION JOINT ELIMINATION @ END BENT 2



BARRIER DETAIL

PROPOSED SECTION ALONG ℄ DIAPHRAGM TO ELIMINATE EXPANSION JOINT

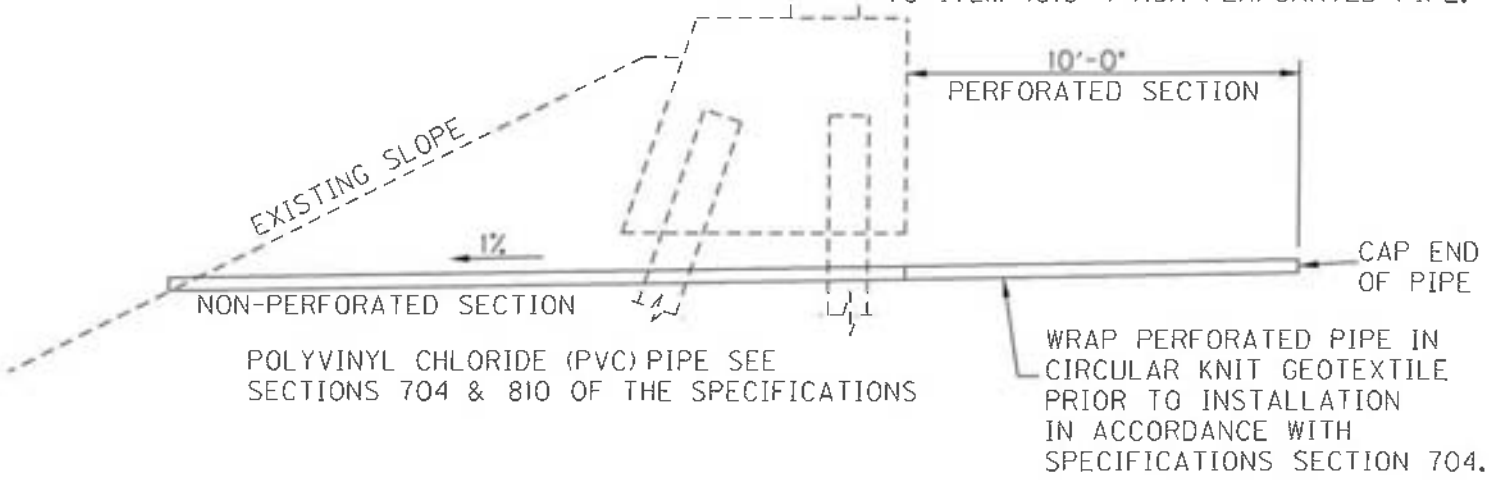
UNDERDRAIN DETAIL



END BENT 2 EASTBOUND PLAN

NOTE:
PVC PIPES ARE TO BE INSTALLED BY DRILLING FROM IN FRONT OF END BENT CAP. OPEN CUTTING OF THE ROADWAY BEHIND THE END BENT TO INSTALL THE PIPES WILL NOT BE ALLOWED.

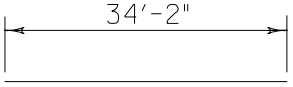
NOTE:
ALL COSTS ASSOCIATED WITH THE INSTALLATION OF PVC PIPES INCLUDING THE PIPES, ANY EXCAVATION AND RESHAPING OF THE EMBANKMENT IN FRONT OF THE END BENT CAP INCLUDING REPLACEMENT OF STONE OR SEEDING AND PROTECTION WILL BE INCIDENTAL TO ITEM 1010 4" NON PERFORATED PIPE.



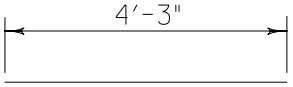
END BENT 2 EASTBOUND SECTION

NOTE:
CONTRACTOR TO SUBMIT PROPOSED UNDERDRAIN INSTALLATION PROCEDURES TO ENGINEER FOR APPROVAL PRIOR TO ACTUAL INSTALLATION.

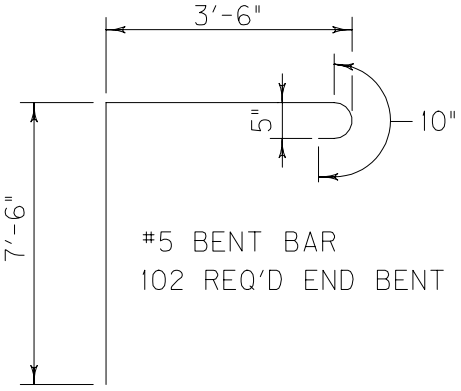
BILL OF REINFORCEMENT



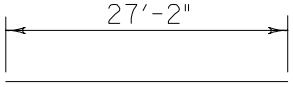
#5 STRAIGHT BAR
6 REQ'D END BENT 1



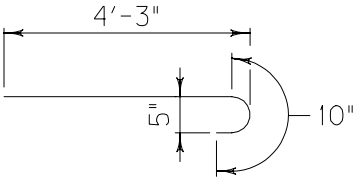
#5 STRAIGHT BAR
124 REQ'D END BENT 1



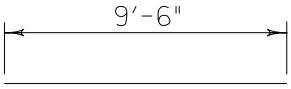
#5 BENT BAR
102 REQ'D END BENT 2



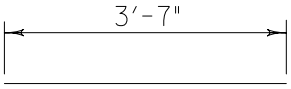
#6 STRAIGHT BAR
18 REQ'D END BENT 2



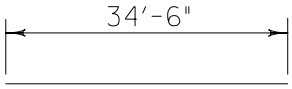
#5 BENT BAR
124 REQ'D END BENT 1



#5 STRAIGHT BAR
25 REQ'D END BENT 2



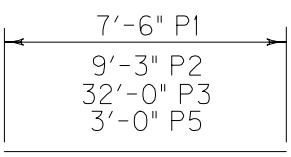
#5 STRAIGHT BAR
10 REQ'D END BENT 2



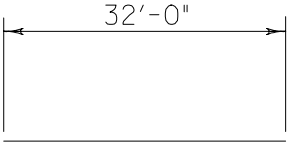
#6 STRAIGHT BAR
20 REQ'D END BENT 1

2,430 LBS END BENT 1
1,937 LBS END BENT 2

END BENT REINFORCEMENT



#5 STRAIGHT BAR PIER 2
113 REQ'D P1
42 REQD P2
14 R'EQD P3
14 REQ'D P5



#6 STRAIGHT BAR
P4 40 REQD PIER 2

3,723 LBS PIER 2

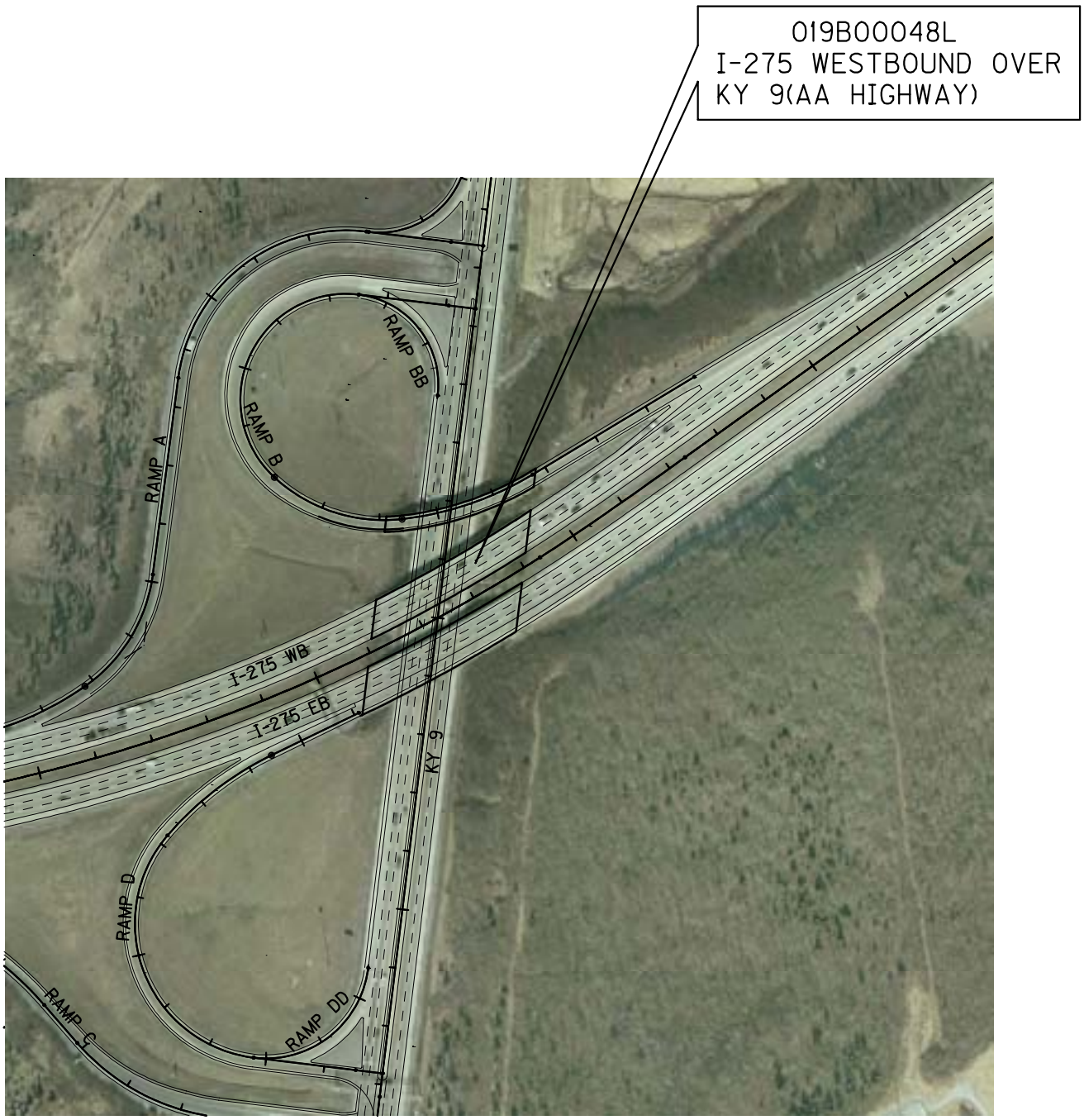
PIER 2 REINFORCEMENT

300 LIN. FT. #4 BARS IN 20'-0" LENGTHS
200 LBS. EACH END BENT & PIER 2

MISCELLANEOUS REINFORCEMENT

TOTAL REINFORCEMENT 9,001 LBS.

CAMPBELL COUNTY



Approximate Location Information
Latitude: 39°01'25"
Longitude: 84°28'51"
MP 77.070

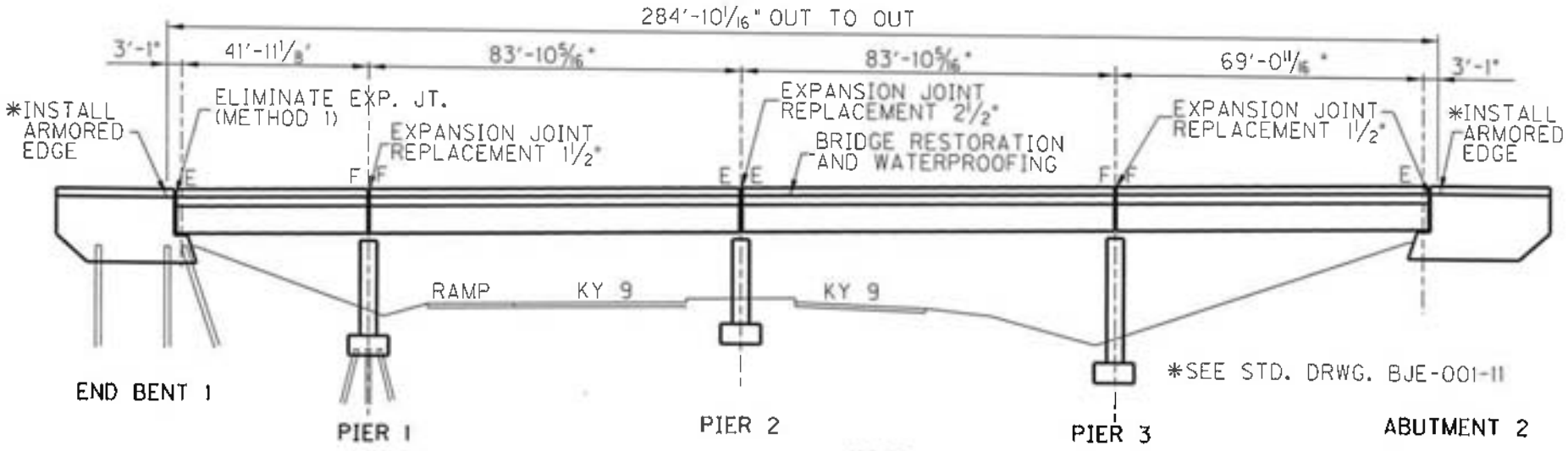
BRIDGE #5 (019B00048L) SUMMARY OF QUANTITIES

1. DISTRICT: 6
2. COUNTY: CAMPBELL
3. ROUTE: I-275
4. PROJECT NUMBER: FD52 019 0275 077-078
5. ROAD NAME: I-275
6. DESCRIPTION: I-275 WESTBOUND OVER KY 9 (AA HIGHWAY)
7. TYPE OF WORK: BRIDGE DECK RESTORATION AND WATERPROOFING:ELIMINATE TRANSVERSE JOINT: EXPANSION JOINT REPLACEMENT:RETROFIT BARRIER
8. LENGTH (FT.): 284.85 **BRIDGE WIDTH (FT.):** 51.3 **SURFACE AREA (SQ. YD.):** 1622
SKEW (DEGREES): 35.81 **DECK THICKNESS (INCHES):** 8

ESTIMATED QUANTITIES REQUIRED

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
8551	MACHINE PREP OF EXISTING SLAB	1622.0	SQ YD
8549	BLAST CLEANING	1870.0	SQ YD
8504	EPOXY SAND SLURRY	310.0	SQ YD
8534	CONCRETE OVERLAY-LATEX	60.0	CU YD
8526	CONC CLASS M FULL DEPTH PATCH	10.0	CU YD
3300	ELIMINATE TRANS. JT.(METHOD 1)	63.0	LIN FT
3294	EXPANSION JT REPLACEMENT 1 1/2"	189.0	LIN FT
3296	EXPANSION JT REPLACEMENT 2 1/2"	63.0	LIN FT
23032EN	RETROFIT BARRIER	634.0	LIN FT

I-275 WESTBOUND OVER KY 9(AA HIGHWAY)
BRIDGE MAINTENANCE NUMBER 059B00048L

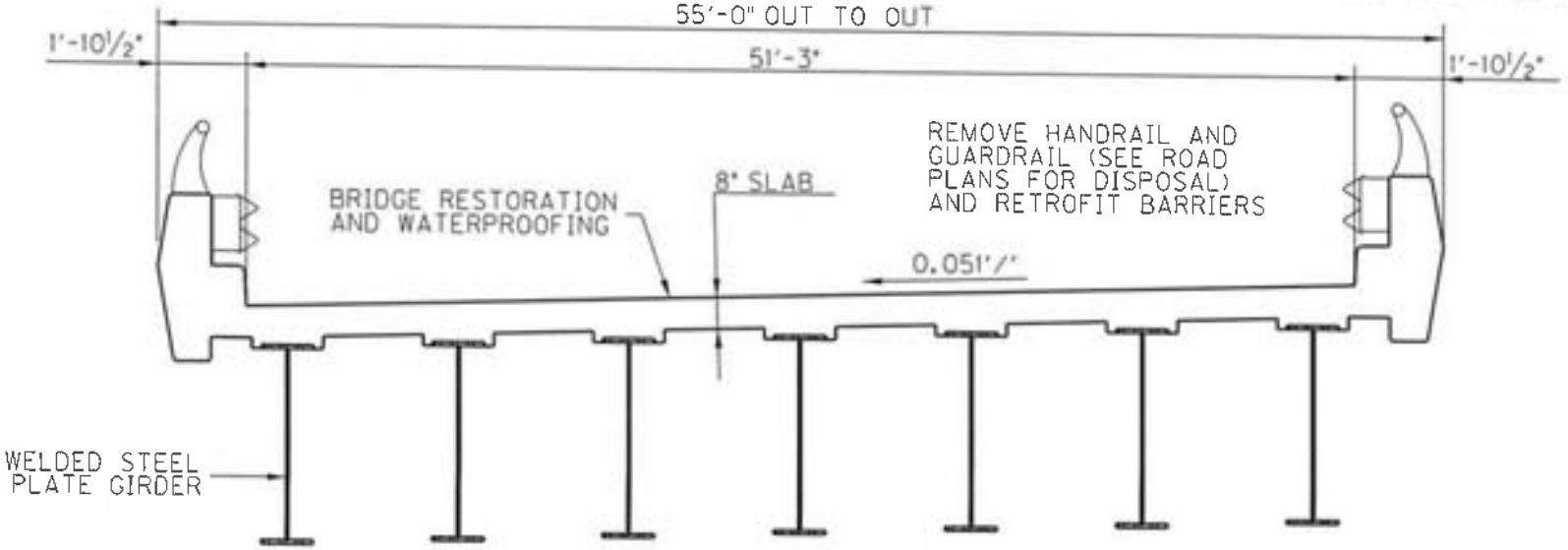


ELEVATION

35° 48'57"SKEW RT.
NOT TO SCALE

NOTE:
SEAL TOP OF CAP AND EXPOSED SURFACES OF PIERS & ABUTMENT 2 CAPS WITH CONCRETE SEALANT (INCIDENTAL TO "EXPANSION JOINT REPLACEMENT"). USE D-TECH 470 BY IMCO TECHNOLOGIES OR AN APPROVED EQUAL. THIS TYPE PRODUCT IS DESCRIBED IN THE SPECIAL NOTE SECTION OF THESE PLANS. ALL AREAS TO BE SEALED SHALL BE CLEANED IN ACCORDANCE WITH THE SEALANT MANUFACTURER'S RECOMMENDATIONS.

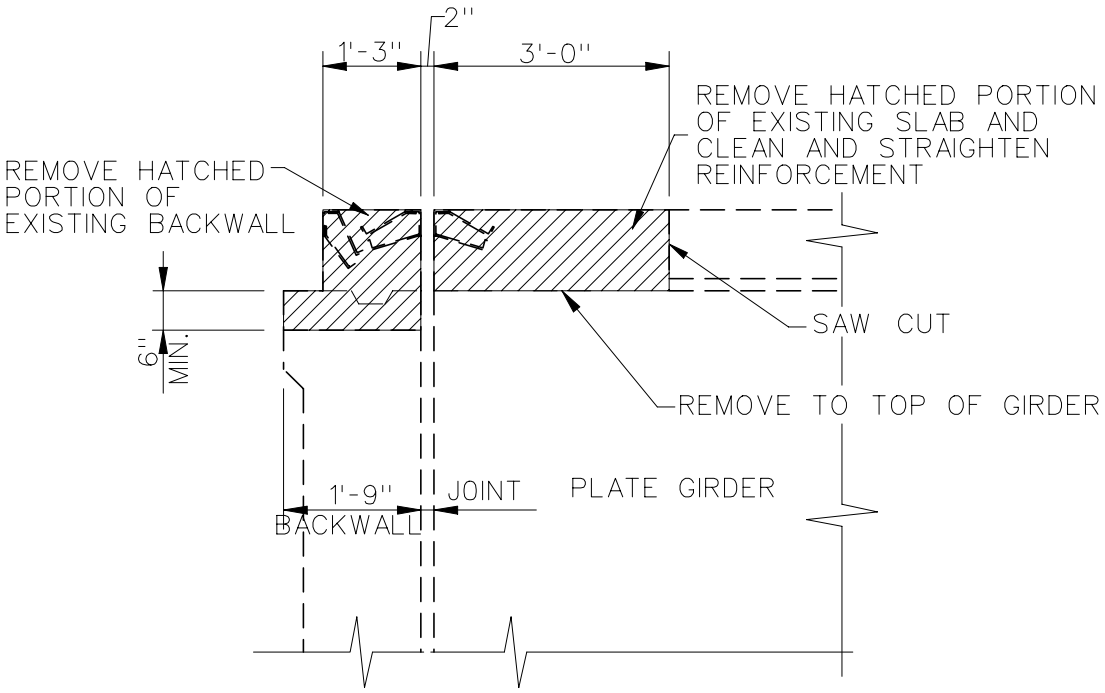
NOTE:
CONTRACTOR RESPONSIBLE FOR VERIFYING SIZE OF JOINTS



TYPICAL SECTION

KENTON - CAMPBELL COUNTIES
121GR10D050-IM

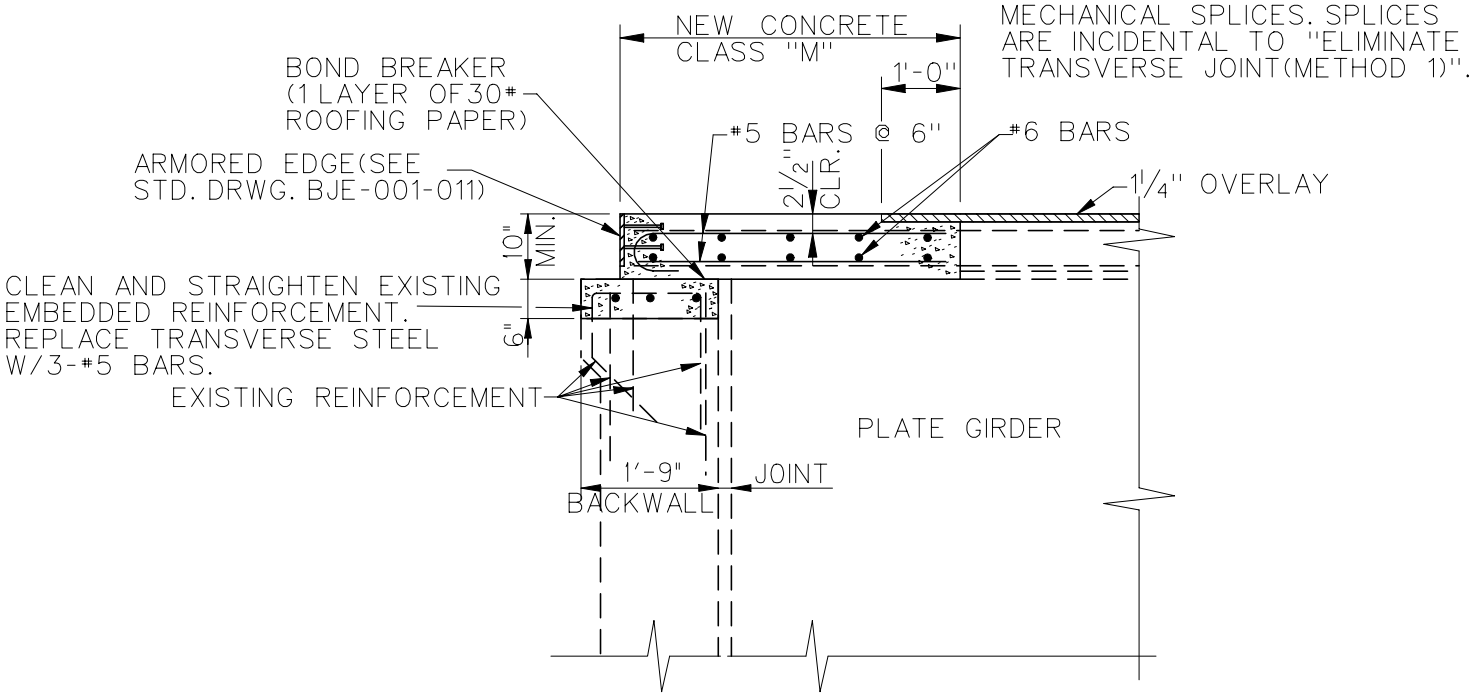
METHOD 1
ELIMINATE JOINT @ END BENT 1



EXISTING SECTION
@ END BENT

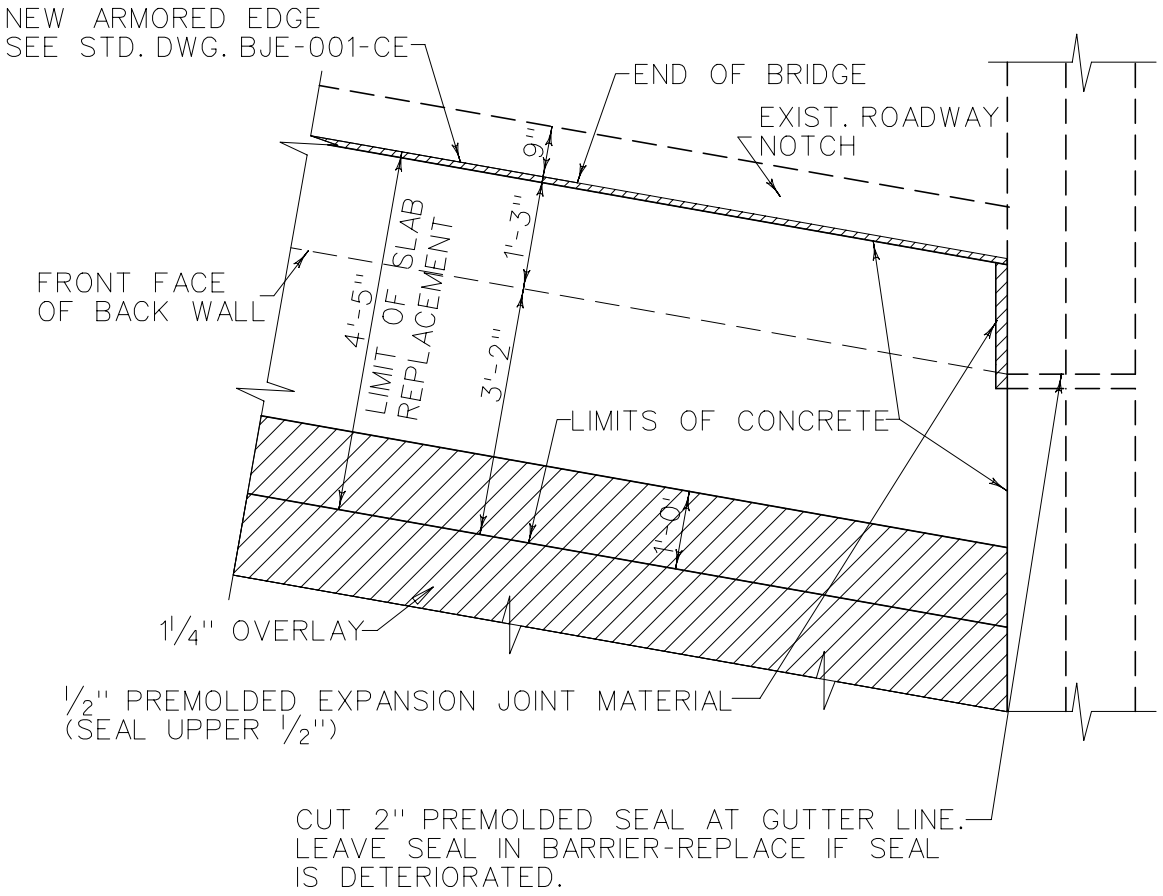
NOTE:
REMOVE 6' OF ROADWAY PAVEMENT, PLACE 1/2" PREMOLDED EXPANSION JOINT MATERIAL AGAINST ARMORED EDGE. (SEE ROADWAY PLANS)

NOTE:
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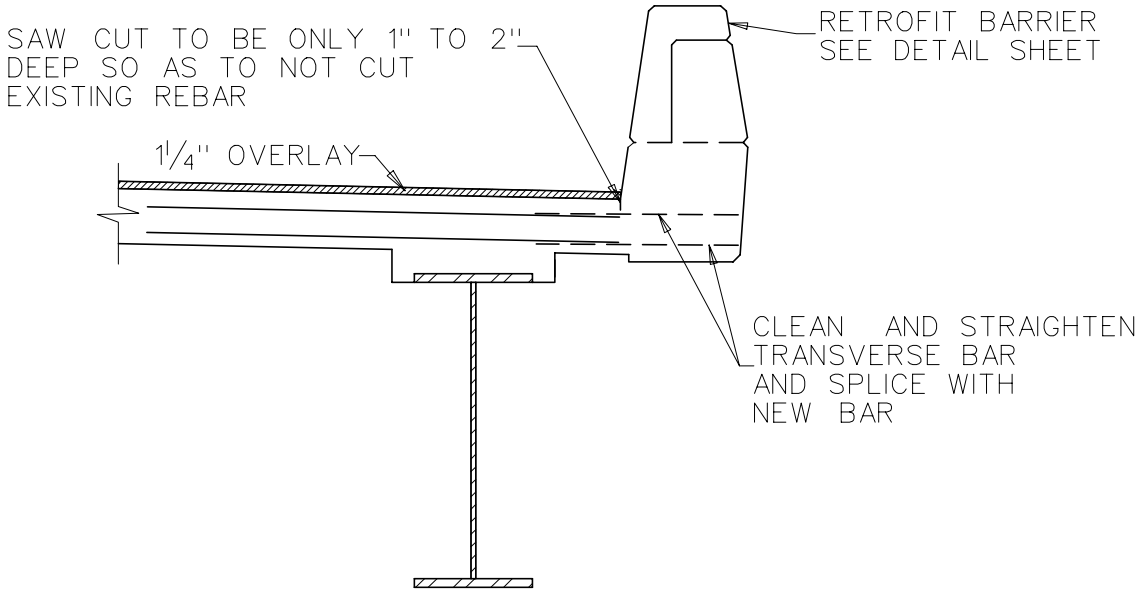


PROPOSED SECTION
@ END BENT

CURB SECTION @ END BENT 1

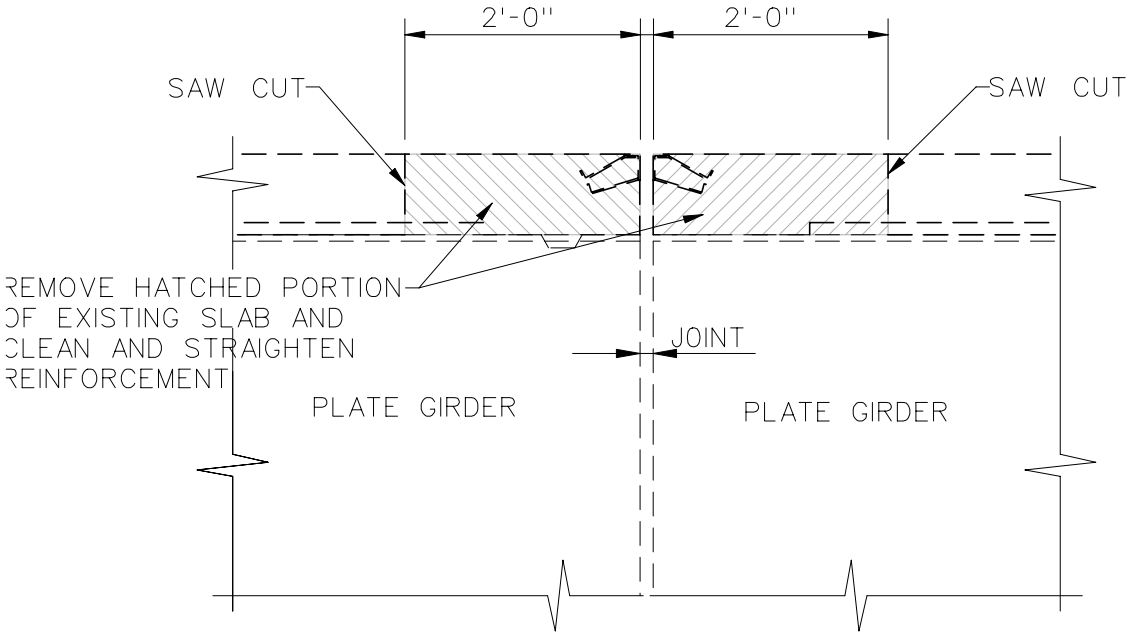


PROPOSED PLAN @ END BENT

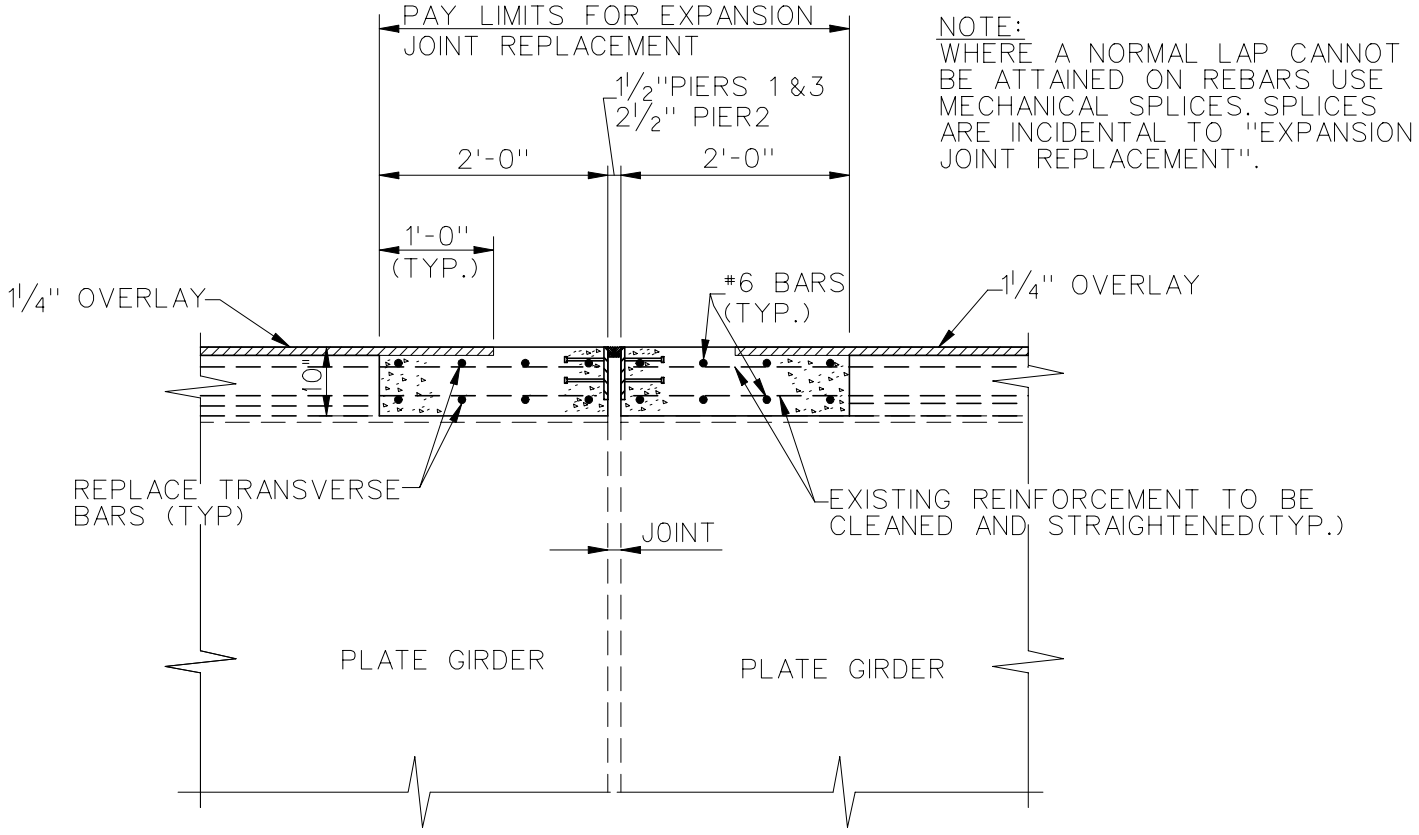


PROPOSED SECTION @ END BENT

REPLACE JOINT @ PIER



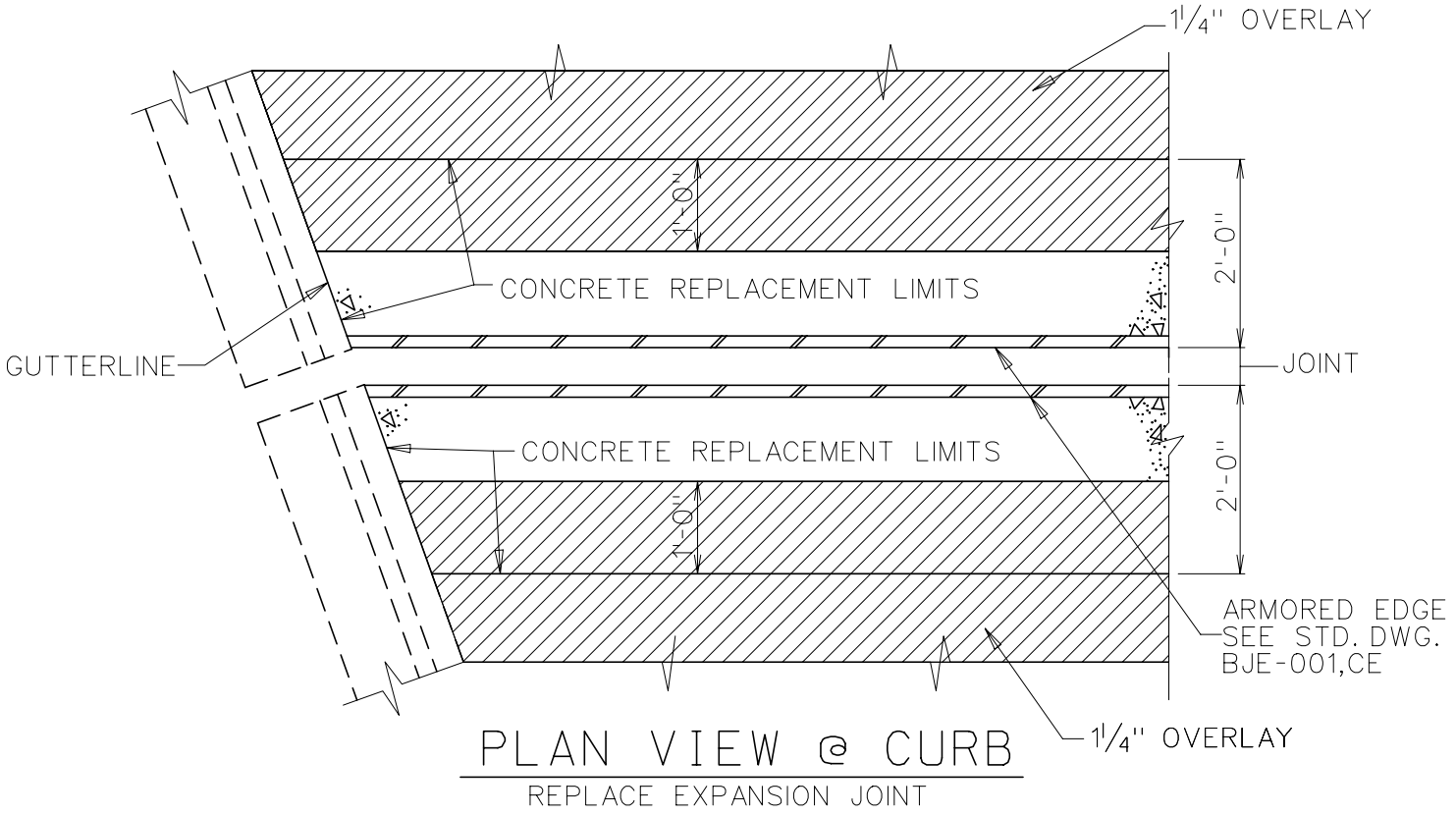
EXISTING SECTION @ PIER



NOTE:
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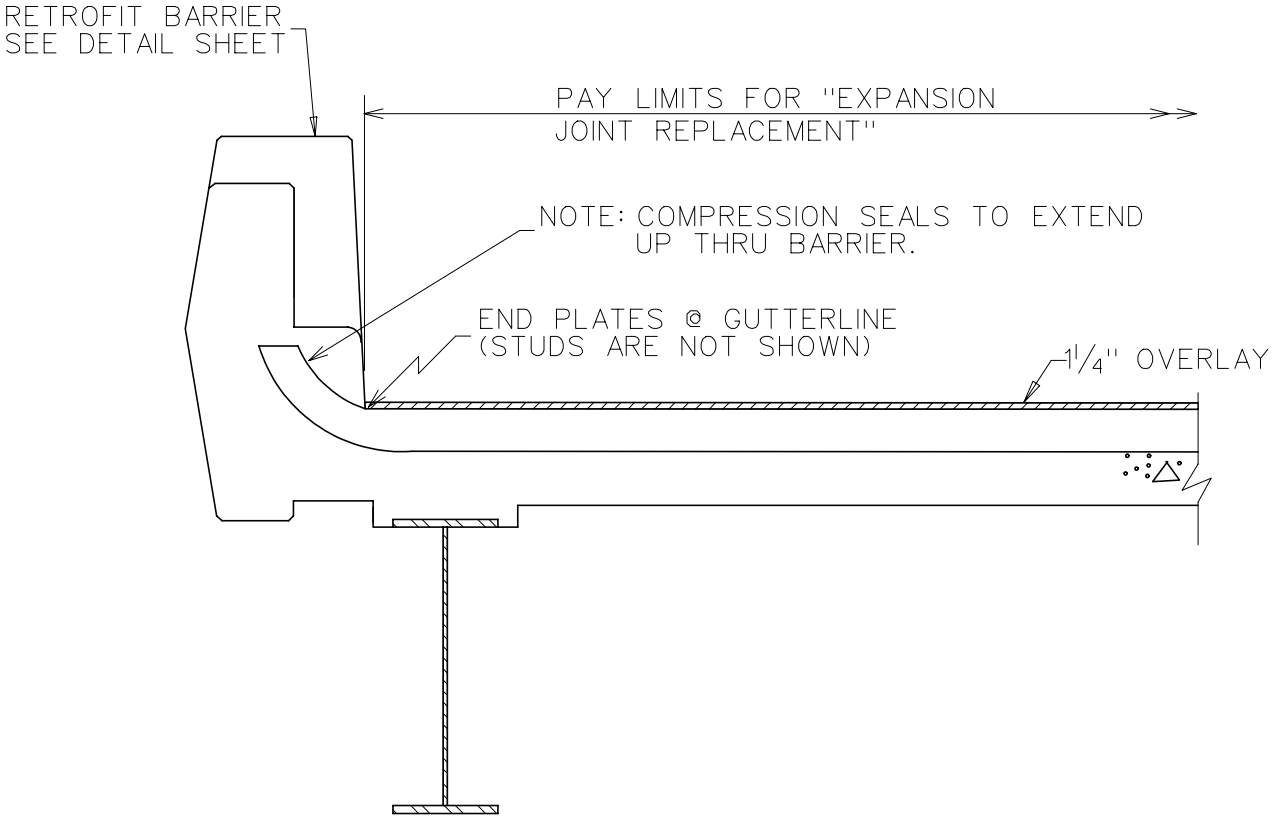
PROPOSED SECTION @ PIER

REPLACE EXPANSION JOINT
PIER CURB SECTION



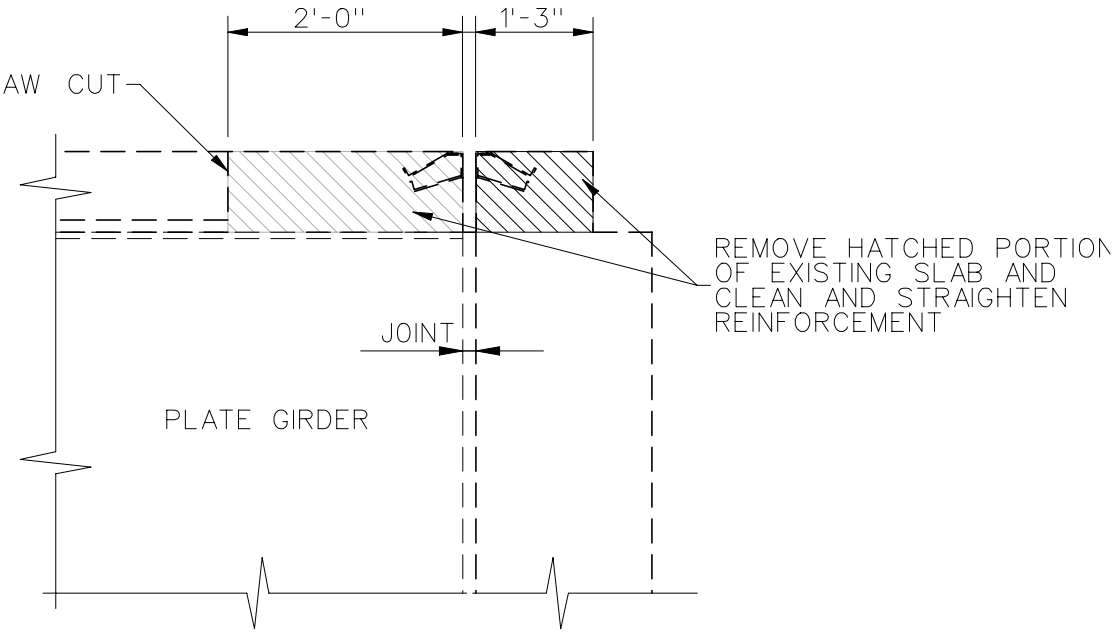
PLAN VIEW @ CURB

REPLACE EXPANSION JOINT



PROPOSED SECTION @ CURB

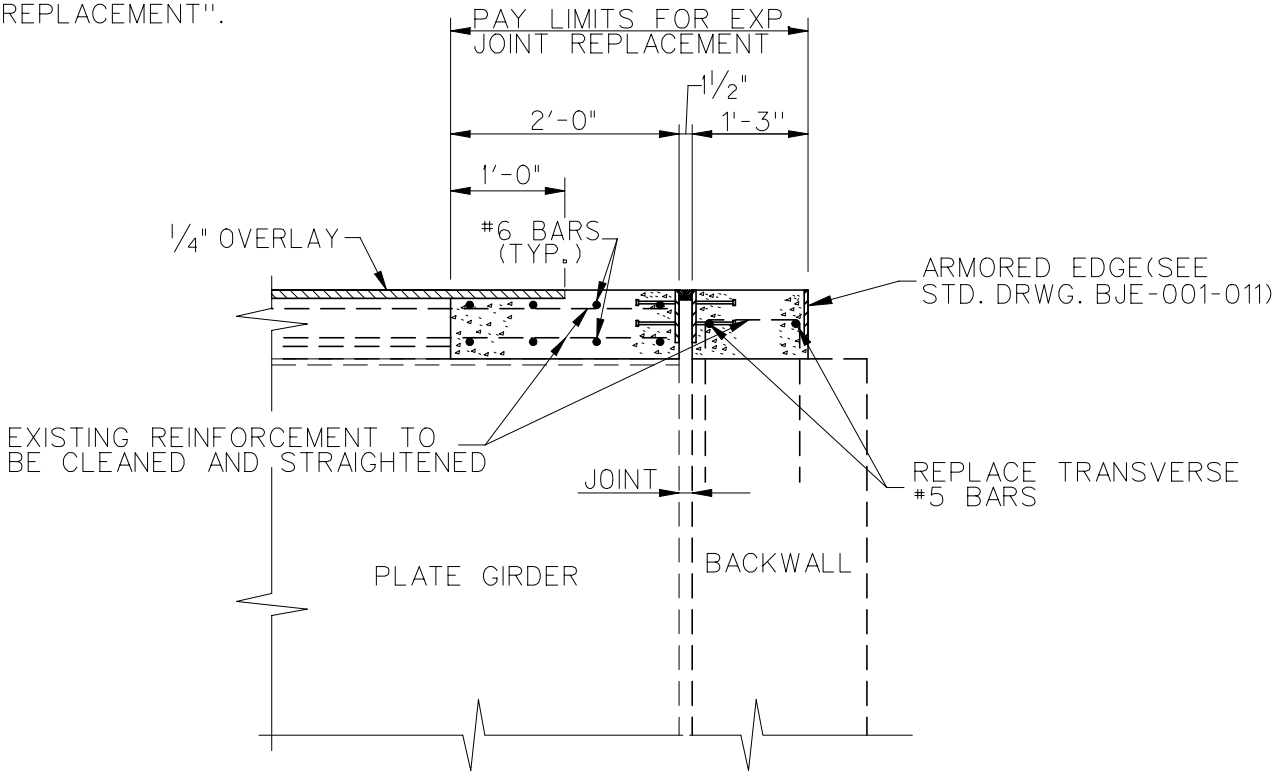
REPLACE JOINT @ END BENT 2



EXISTING SECTION @ END BENT

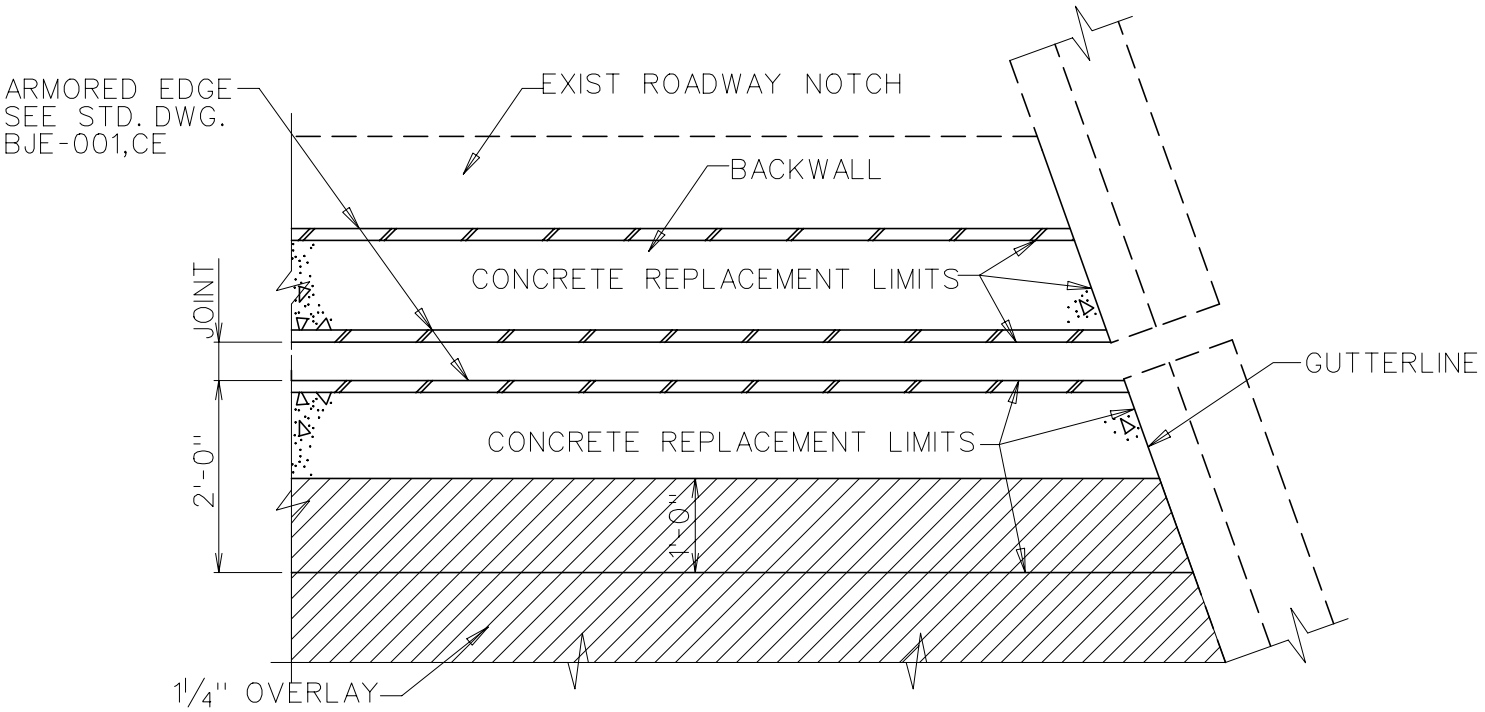
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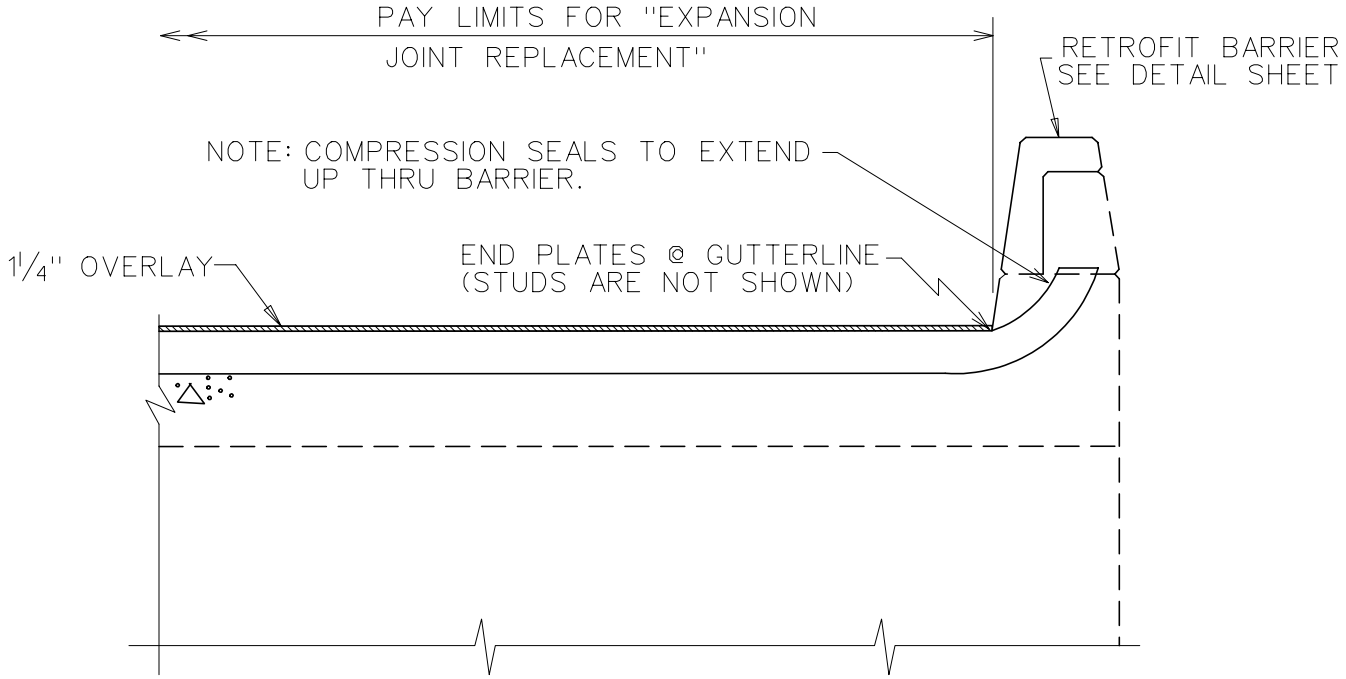
PROPOSED SECTION @ END BENT

REPLACE EXPANSION JOINT
END BENT 2 CURB SECTION



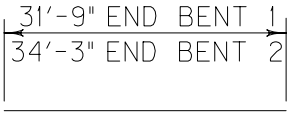
PLAN VIEW @ CURB

REPLACE EXPANSION JOINT

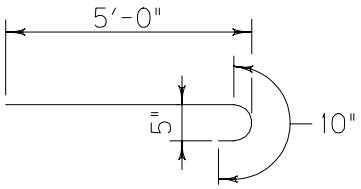


PROPOSED SECTION @ END BENT

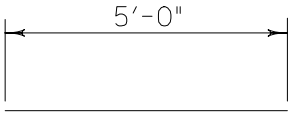
BILL OF REINFORCEMENT



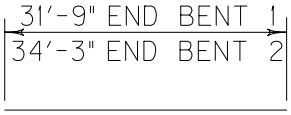
#6 STRAIGHT BAR
20 REQ'D END BENT 1
16 REQ'D END BENT 2



#5 BENT BAR
102 REQ'D END BENT 1



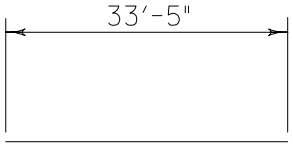
#5 STRAIGHT BAR
102 REQ'D END BENT 1



#5 STRAIGHT BAR
6 REQ'D END BENT 1
4 REQ'D END BENT 2

2,283 LBS END BENT 1
966 LBS END BENT 2

END BENT REINFORCEMENT



#6 STRAIGHT BAR
32 REQ'D EACH PIER

1,606 LBS EACH PIER

PIER REINFORCEMENT

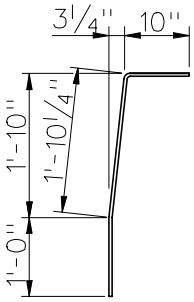
300 LIN. FT. #4 BARS IN 20'-0" LENGTHS
200 LBS. EACH END BENT AND EACH PIER

MISCELLANEOUS REINFORCEMENT

TOTAL REINFORCEMENT 5,455 LBS.

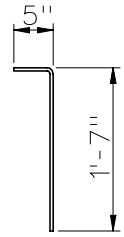
BARRIER RETROFIT DETAIL



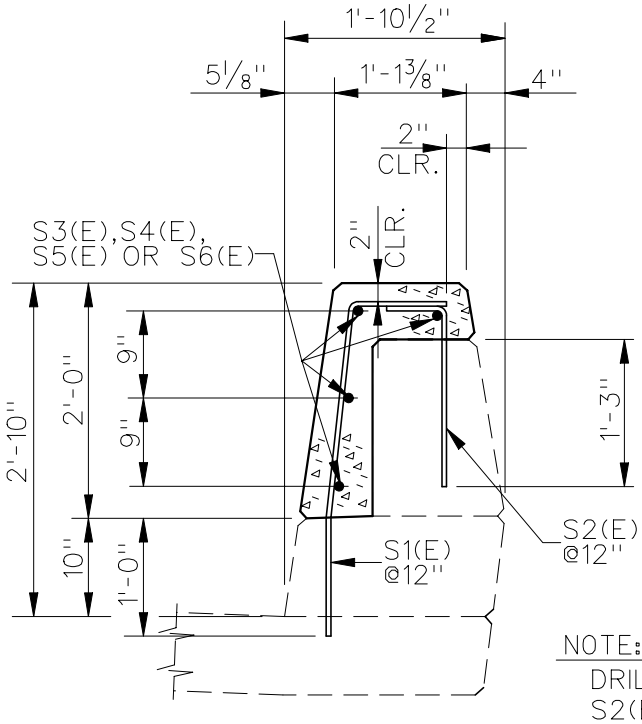


S1(E) #5 BAR
567 REQ'D

EXISTING BARRIER SECTION



S2(E)#5 BAR
567 REQ'D





22'-2" SPAN 1 S3(E)
42'-8" SPAN 2 S4(E)
43'-10" SPAN 3 S5(E)
37'-9" SPAN 4 S6(E)

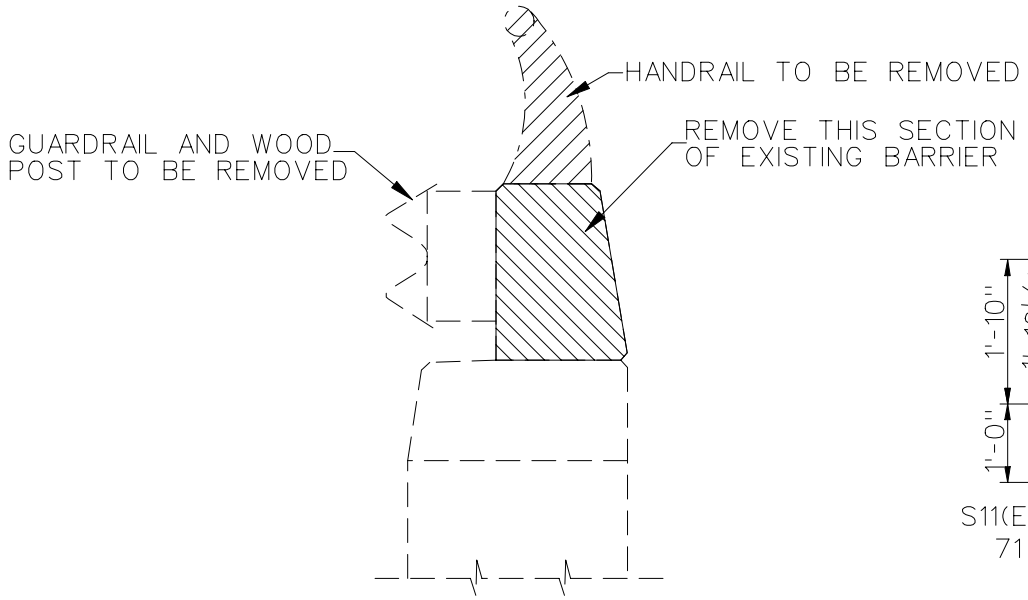
5 BAR
16 REQ'D EACH SPAN

TOTAL WEIGHT 5,807(E) LBS

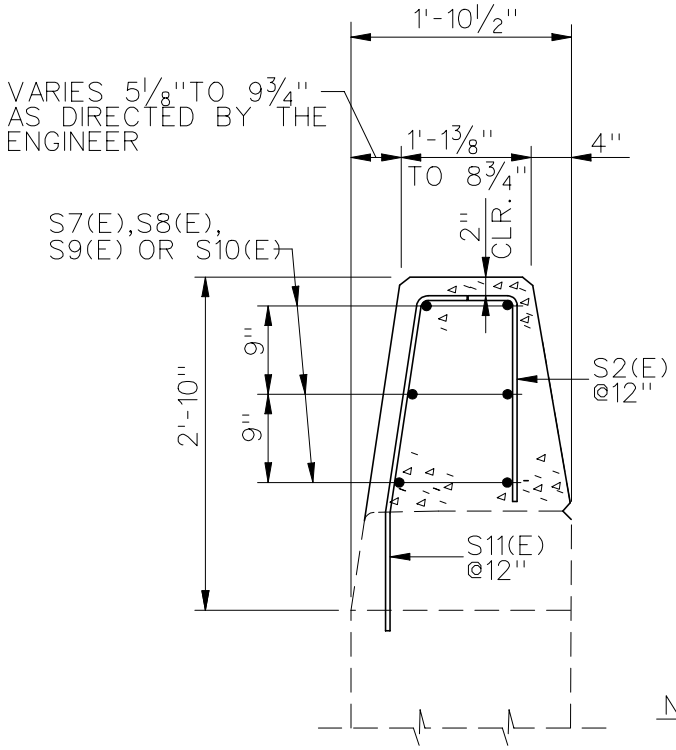
NOTE:
DRILL AND GROUT BARS S1(E) AND S2(E) INTO EXISTING BARRIER

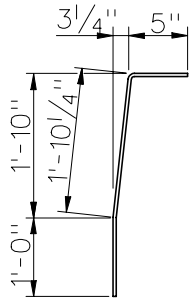
RETROFIT SECTION THRU BARRIER

BARRIER RETROFIT DETAIL @ WING

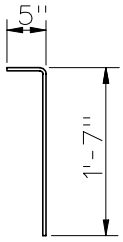


EXISTING BARRIER SECTION

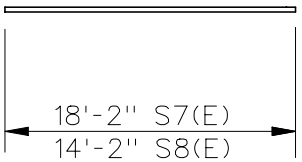




S11(E) #5 BAR
71 REQ'D



S2(E)#5 BAR
71 REQ'D



18'-2" S7(E)
14'-2" S8(E)
16'-2" S9(E)
19'-8" S10(E)

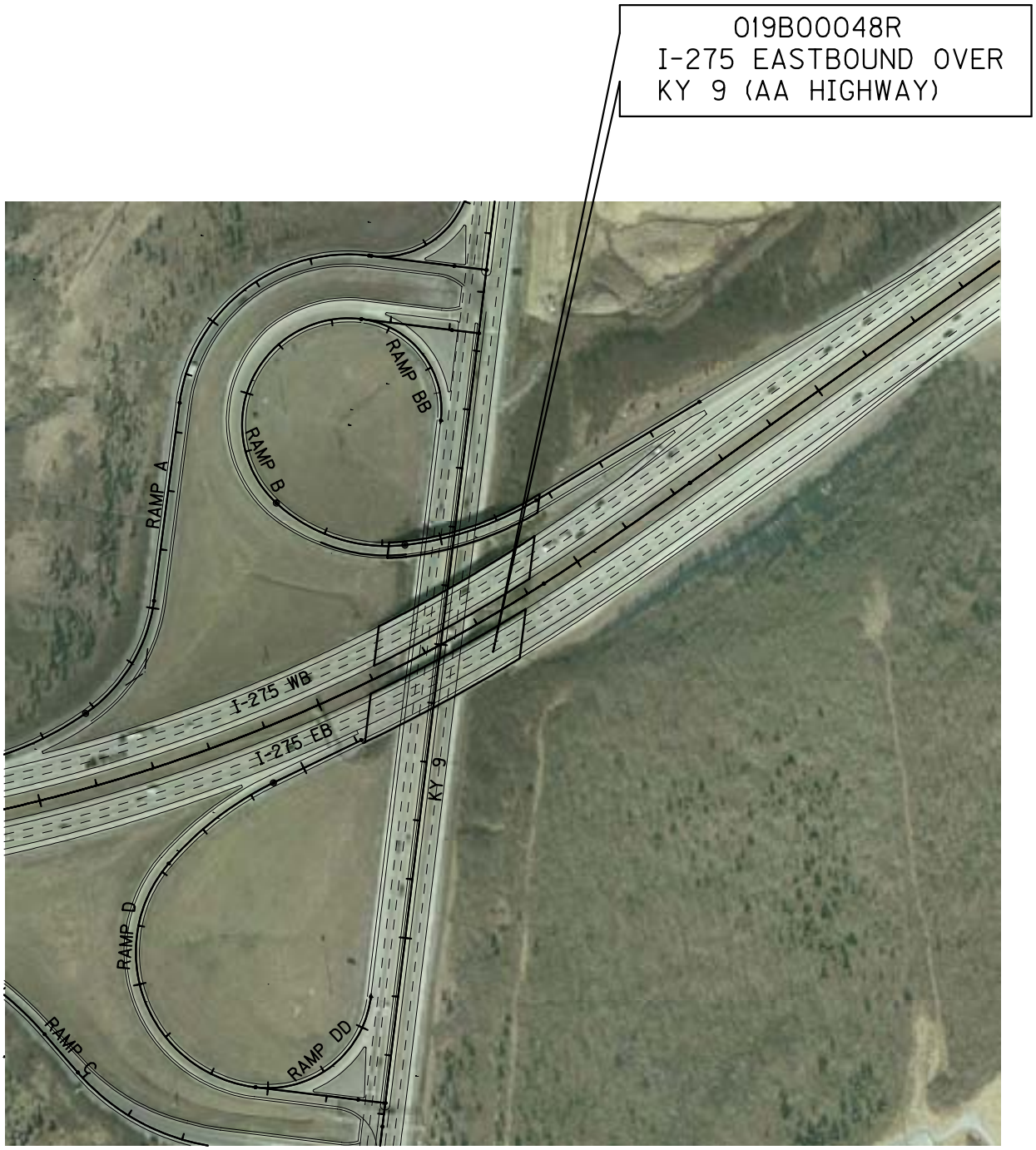
#5 BAR
6 REQ'D EACH

TOTAL WEIGHT 817(E) LBS

NOTE:
DRILL AND GROUT BARS S11(E) INTO EXISTING BARRIER

RETROFIT SECTION THRU BARRIER

CAMPBELL COUNTY



Approximate Location Information
Latitude: 39°01'24"
Longitude: 84°28'51"
MP 77.069

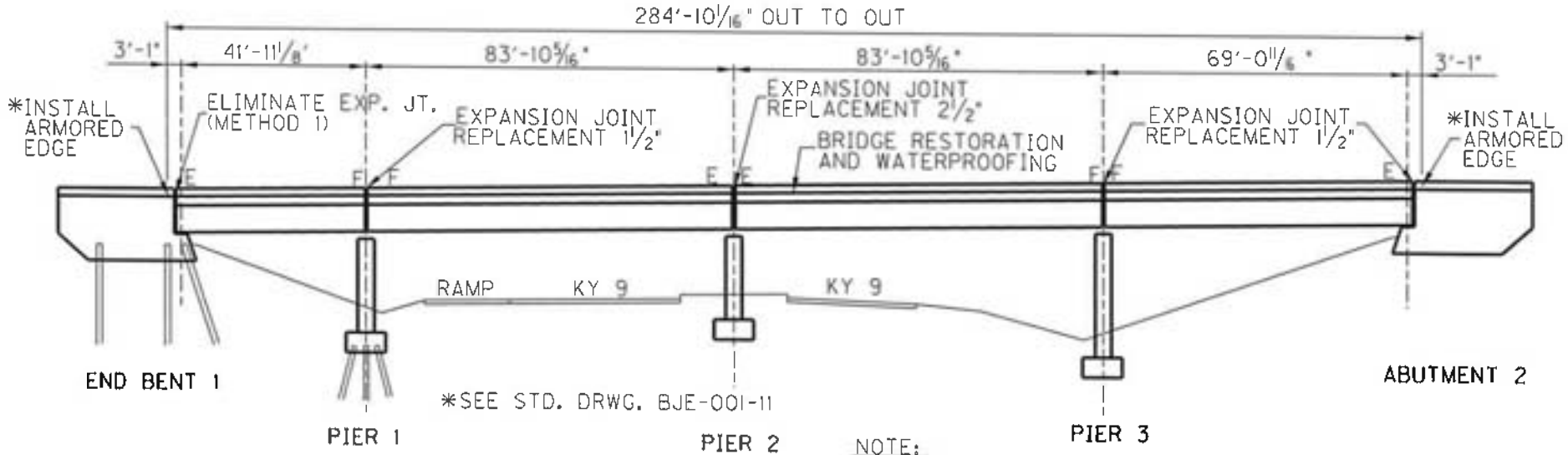
BRIDGE #6 (019B00048R) SUMMARY OF QUANTITIES

1. DISTRICT: 6
2. COUNTY: CAMPBELL
3. ROUTE: I-275
4. PROJECT NUMBER: FD52 019 0275 077-078
5. ROAD NAME: I-275
6. DESCRIPTION: I-275 EASTBOUND OVER KY 9 (AA HIGHWAY)
7. TYPE OF WORK: BRIDGE DECK RESTORATION AND WATERPROOFING, ELIMINATE TRANSVERSE JOINT EXPANSION JOINT REPLACEMENT:RETROFIT BARRIER
8. LENGTH (FT.): 284.85 **BRIDGE WIDTH (FT.):** VARIES **SURFACE AREA (SQ. YD.):** 1918
SKEW (DEGREES): 35.81 **DECK THICKNESS (INCHES):** 8

ESTIMATED QUANTITIES REQUIRED

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
8551	MACHINE PREP OF EXISTING SLAB	1918.0	SQ YD
8549	BLAST CLEANING	2040.0	SQ YD
8504	EPOXY SAND SLURRY	300.0	SQ YD
8534	CONCRETE OVERLAY-LATEX	70.0	CU YD
8526	CONC CLASS M FULL DEPTH PATCH	10.0	CU YD
3300	ELIMINATE TRANS. JT.(METHOD 1)	77.0	LIN FT
3294	EXPANSION JT. REPLACEMENT 1 1/2"	232.4	LIN FT
3296	EXPANSION JT. REPLACEMENT 2 1/2"	77.3	LIN FT
23032EN	RETROFIT BARRIER	628.0	LIN FT

I-275 EASTBOUND OVER KY 9(AA HIGHWAY)
BRIDGE MAINTENANCE NUMBER 05900048R

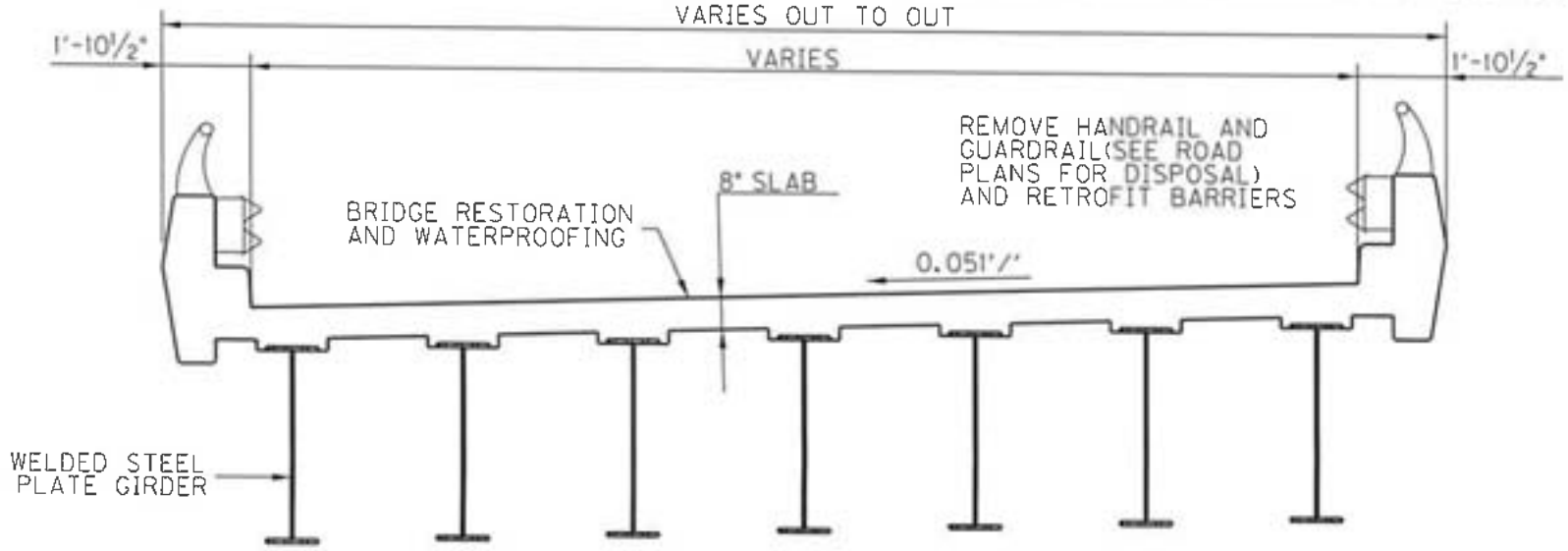


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NOT TO SCALE

NOTE:
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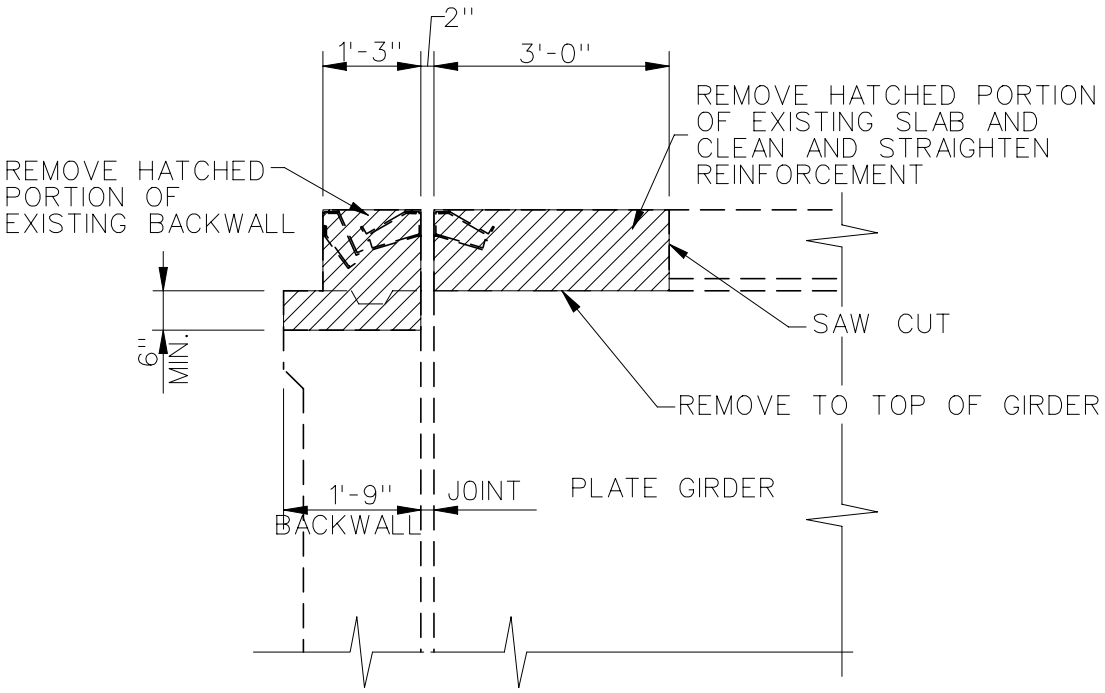
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KENTON - CAMPBELL COUNTIES
121GR10D050-IM

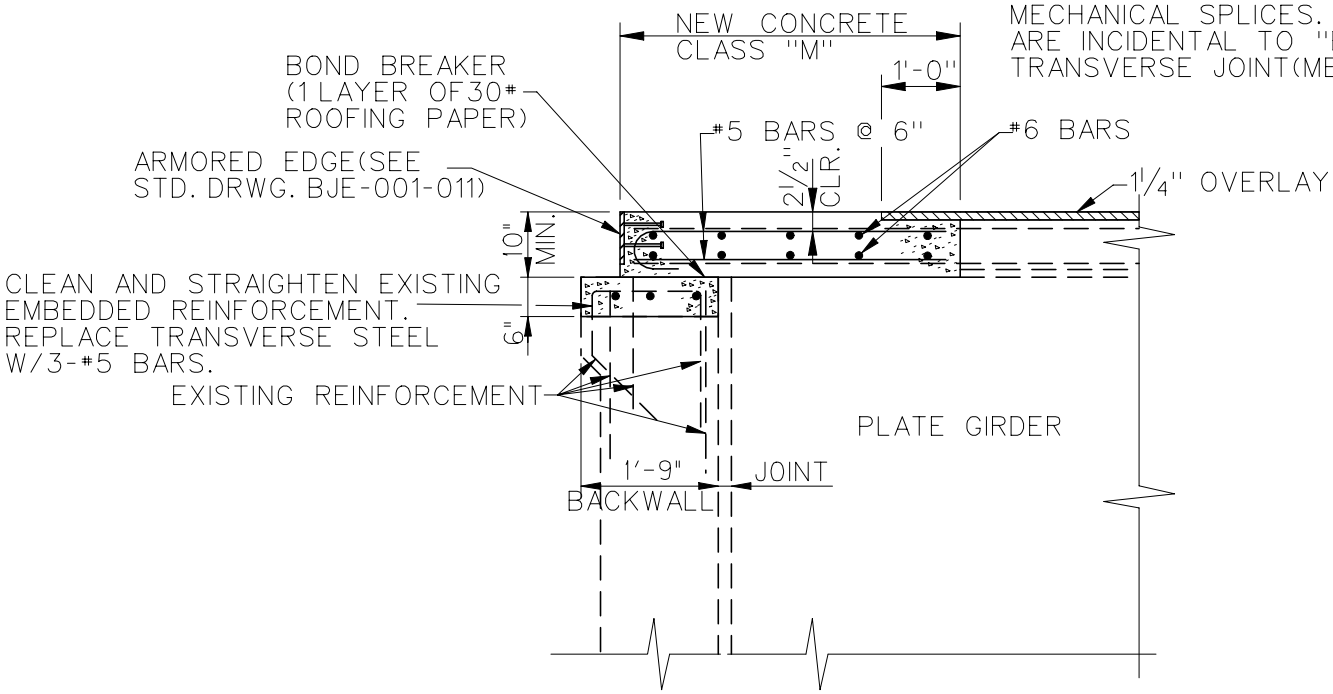
METHOD 1
ELIMINATE JOINT @ END BENT 1



EXISTING SECTION
@ END BENT

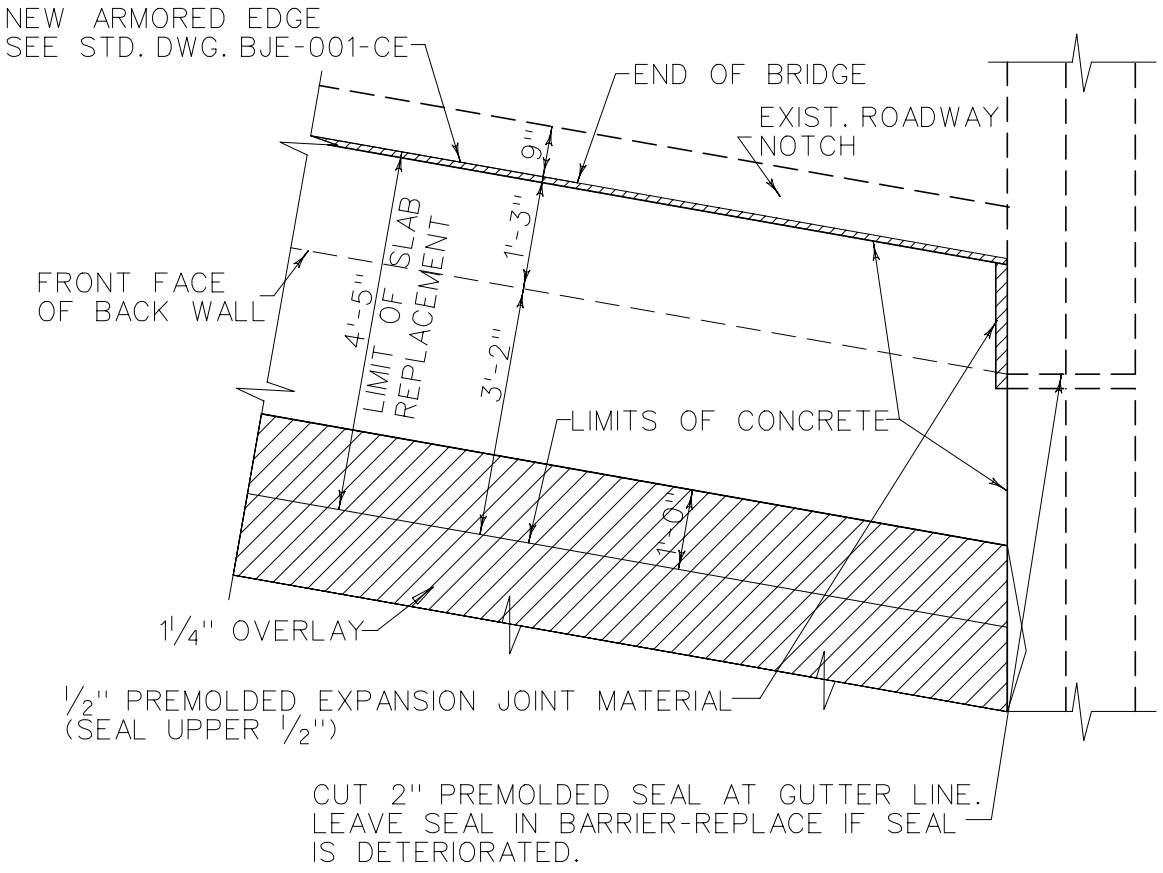
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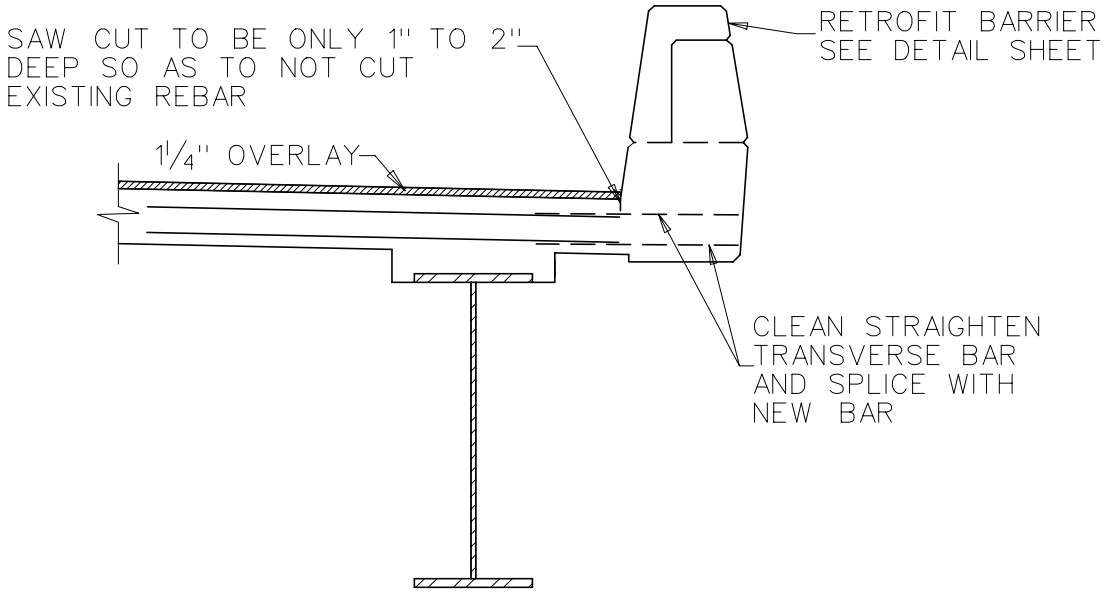


PROPOSED SECTION
@ END BENT

CURB SECTION @ END BENT 1

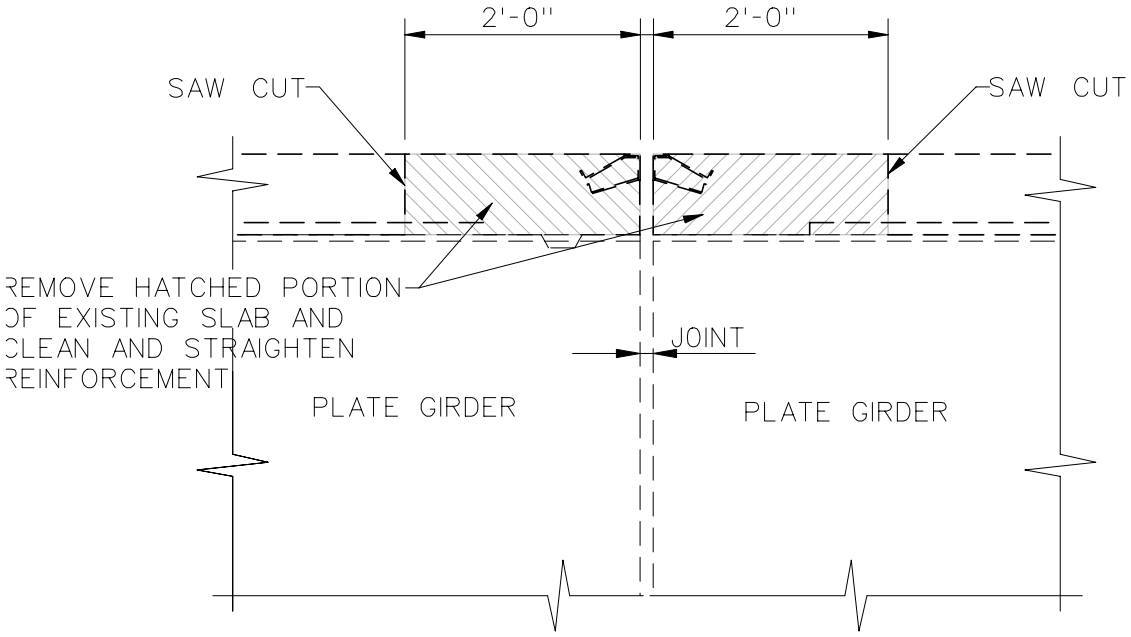


PROPOSED PLAN @ END BENT

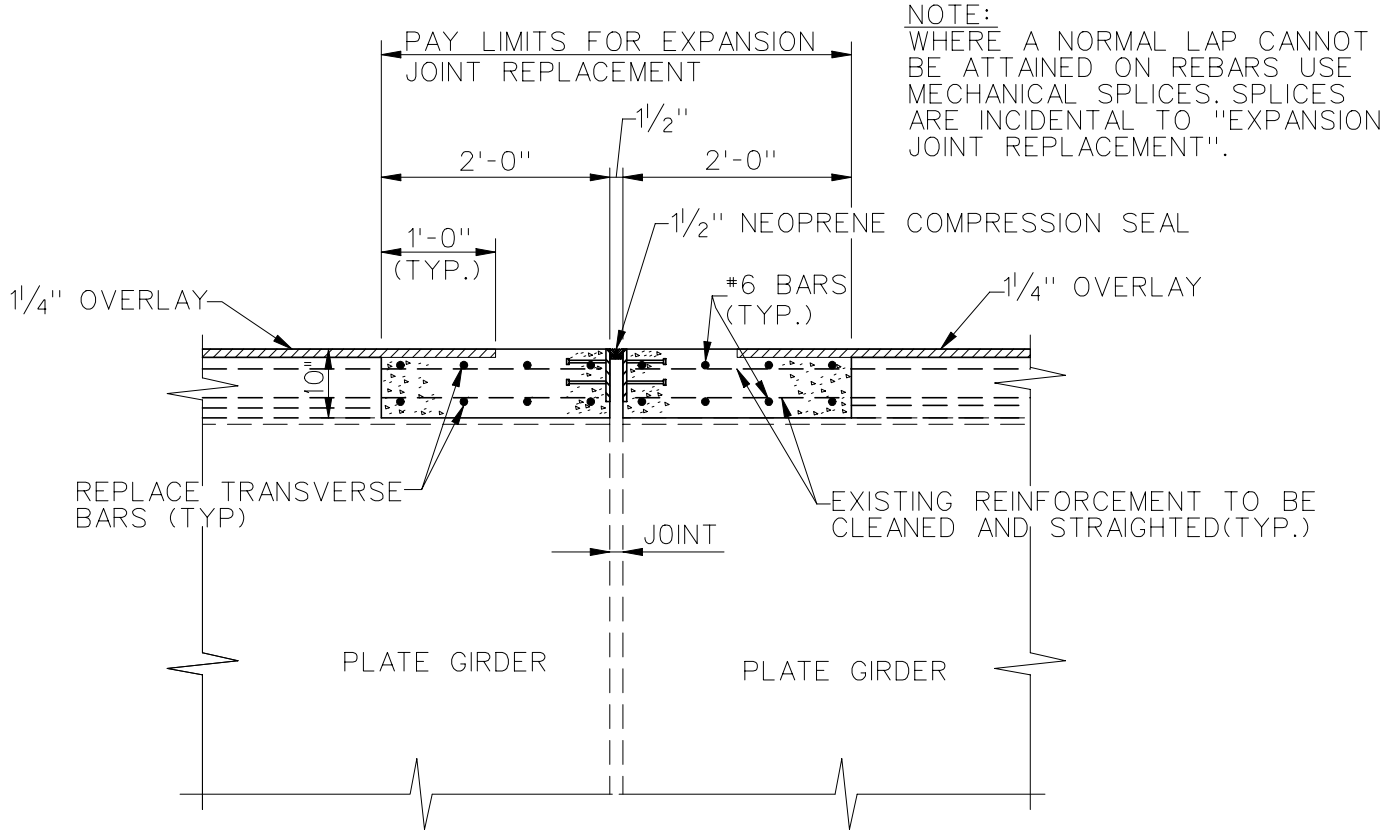


PROPOSED SECTION @ END BENT

REPLACE JOINT @ PIER



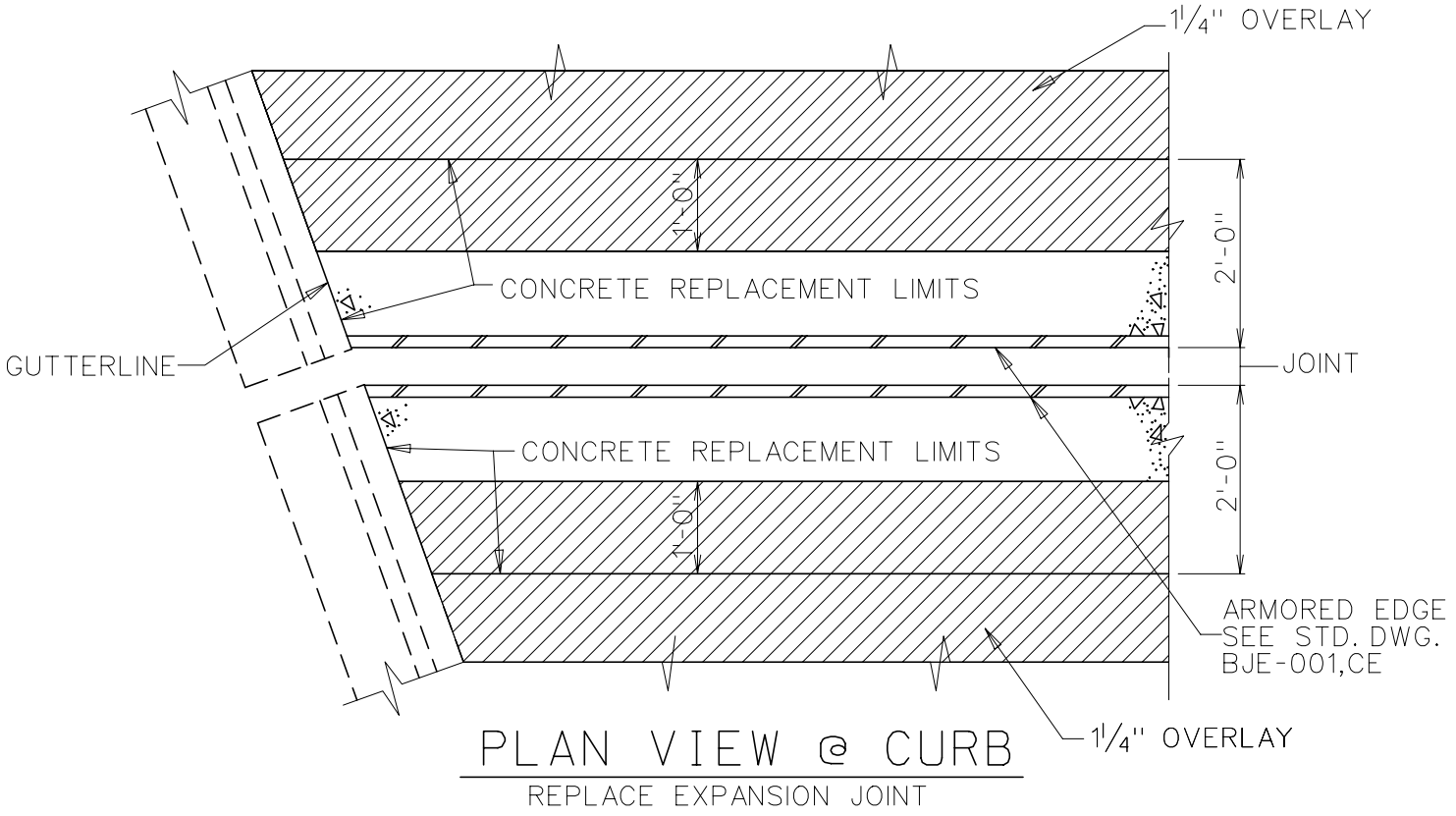
EXISTING SECTION @ PIER



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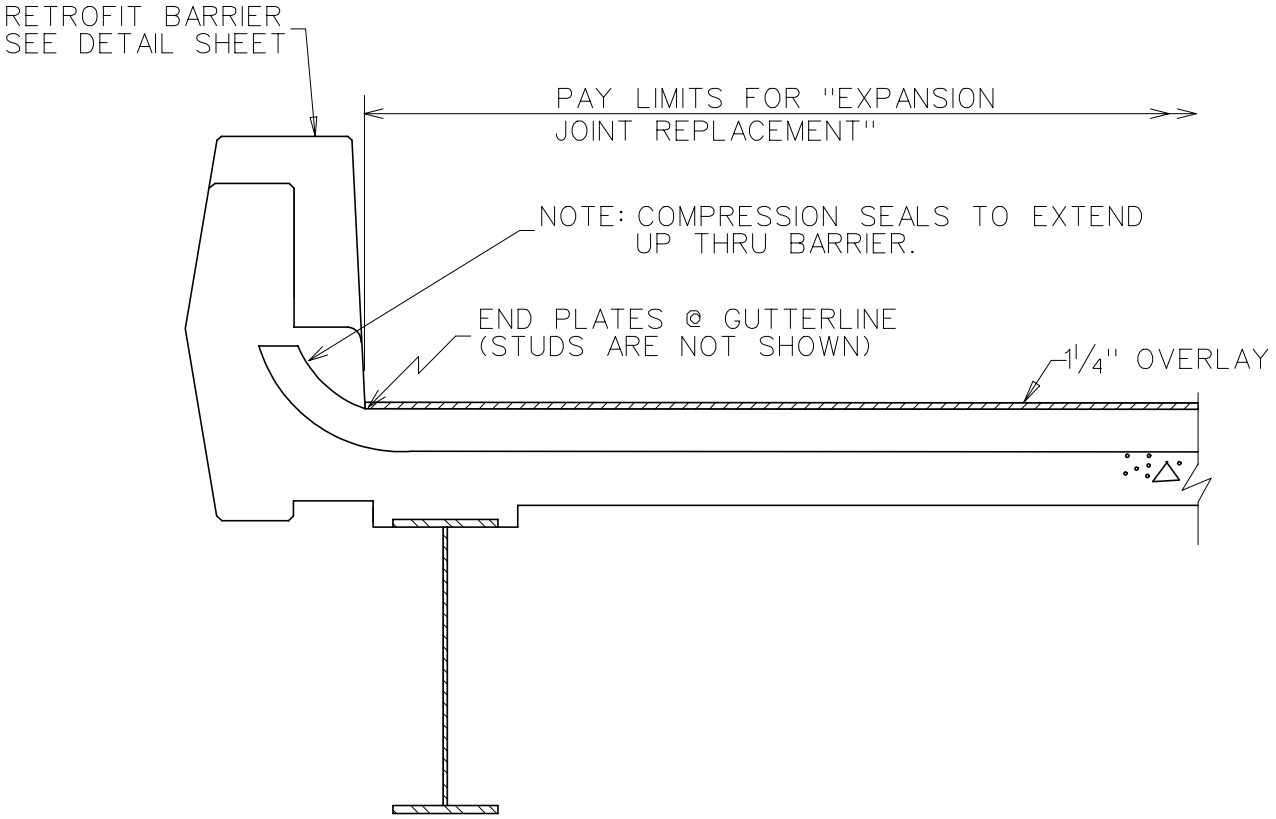
PROPOSED SECTION @ PIER

REPLACE EXPANSION JOINT
PIER CURB SECTION



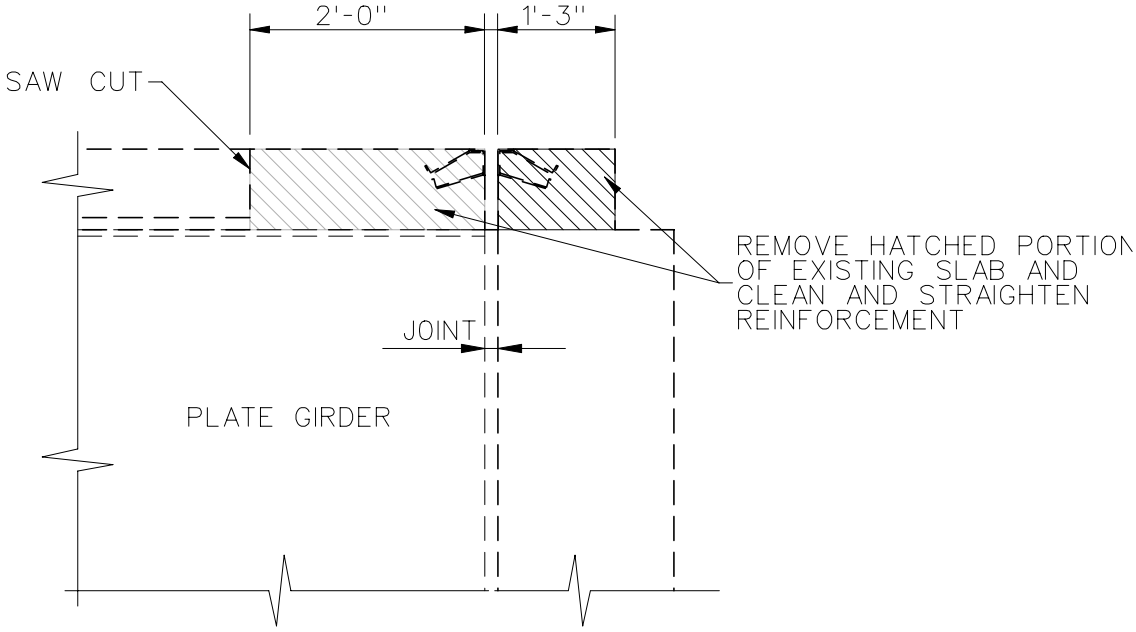
PLAN VIEW @ CURB

REPLACE EXPANSION JOINT



PROPOSED SECTION @ CURB

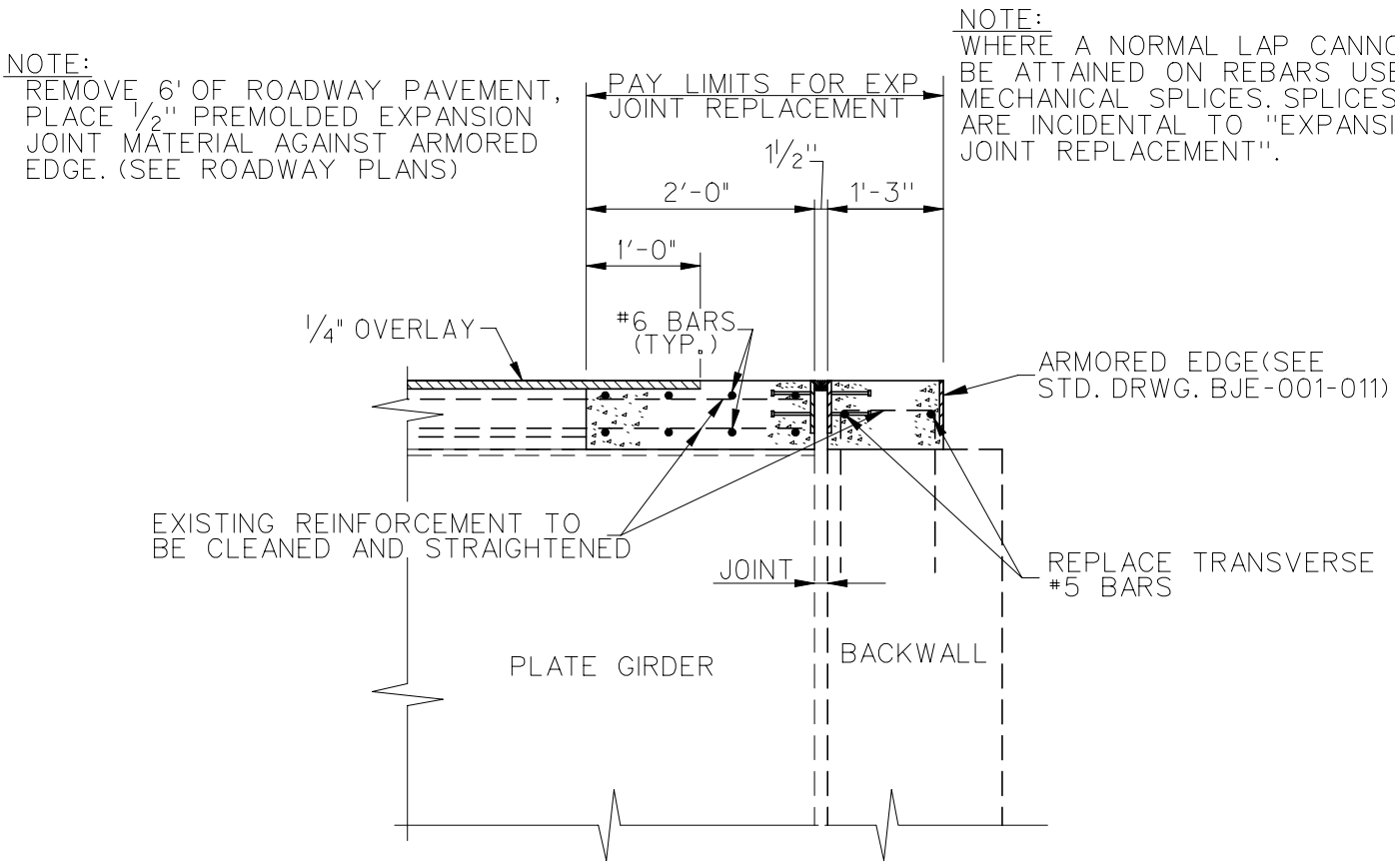
REPLACE JOINT @ END BENT 2



EXISTING SECTION @ END BENT

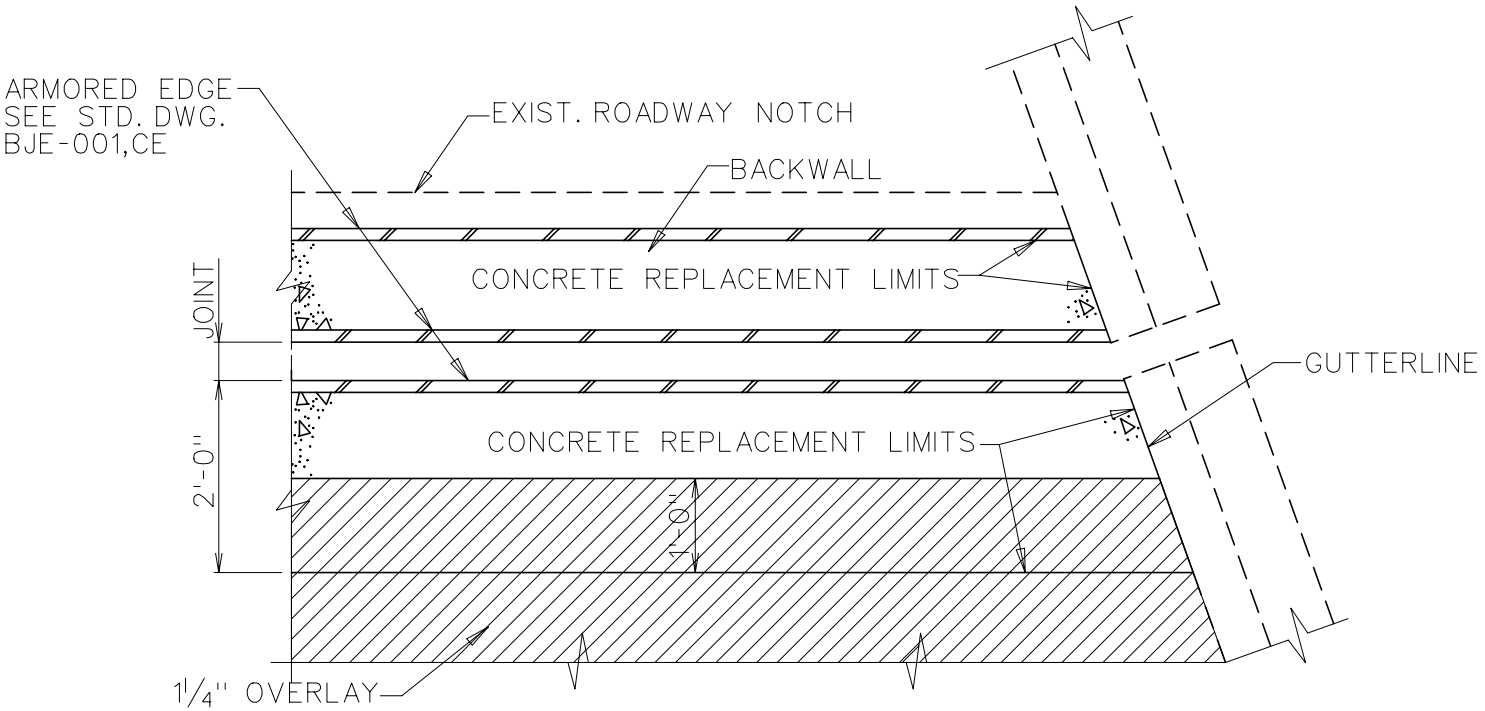
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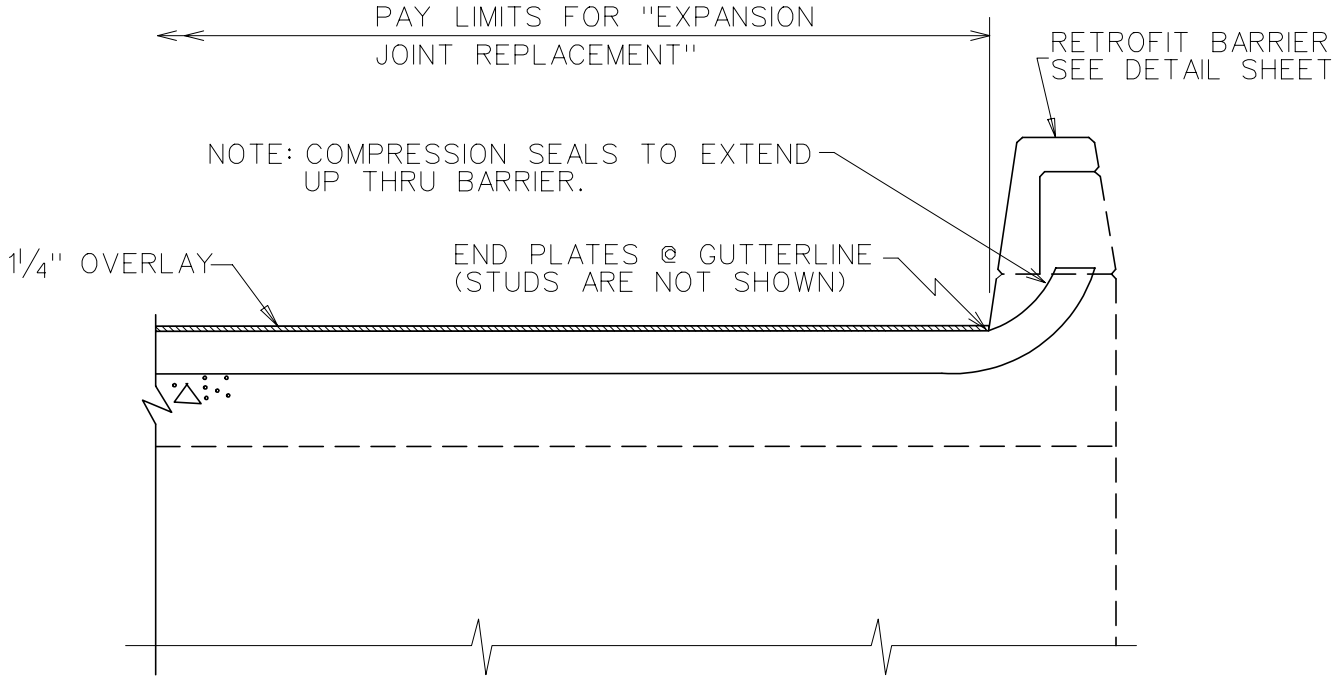
PROPOSED SECTION @ END BENT

REPLACE EXPANSION JOINT
END BENT 2 CURB SECTION



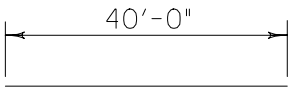
PLAN VIEW @ CURB

REPLACE EXPANSION JOINT

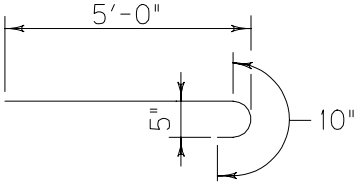


PROPOSED SECTION @ END BENT

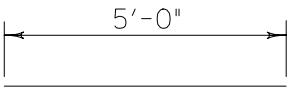
BILL OF REINFORCEMENT



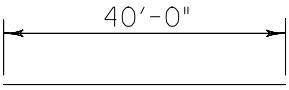
#6 STRAIGHT BAR
20 REQ'D END BENT 1
16 REQ'D END BENT 2



#5 BENT BAR
124 REQ'D END BENT 1



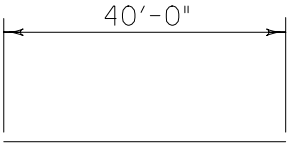
#5 STRAIGHT BAR
124 REQ'D END BENT 1



#5 STRAIGHT BAR
6 REQ'D END BENT 1
4 REQ'D END BENT 2

2,826 LBS END BENT 1
1,128 LBS EACH BENT 2

END BENT REINFORCEMENT



#6 STRAIGHT BAR
32 REQ'D EACH PIER

1,923 LBS EACH PIER

PIER REINFORCEMENT

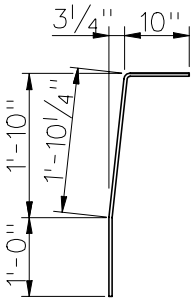
300 LIN. FT. #4 BARS IN 20'-0" LENGTHS
200 LBS. EACH END BENT AND EACH PIER

MISCELLANEOUS REINFORCEMENT

TOTAL REINFORCEMENT 10,723 LBS.

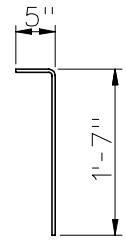
BARRIER RETROFIT DETAIL



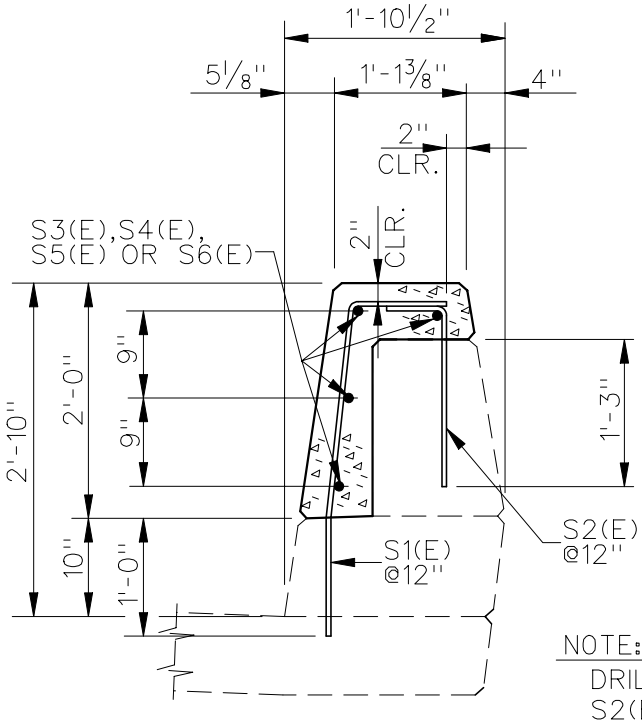


S1(E) #5 BAR
559 REQ'D

EXISTING BARRIER SECTION



S2(E)#5 BAR
559 REQ'D





21'-10" SPAN 1 S3(E)
42'-0" SPAN 2 S4(E)
42'-10" SPAN 3 S5(E)
36'-11" SPAN 4 S6(E)

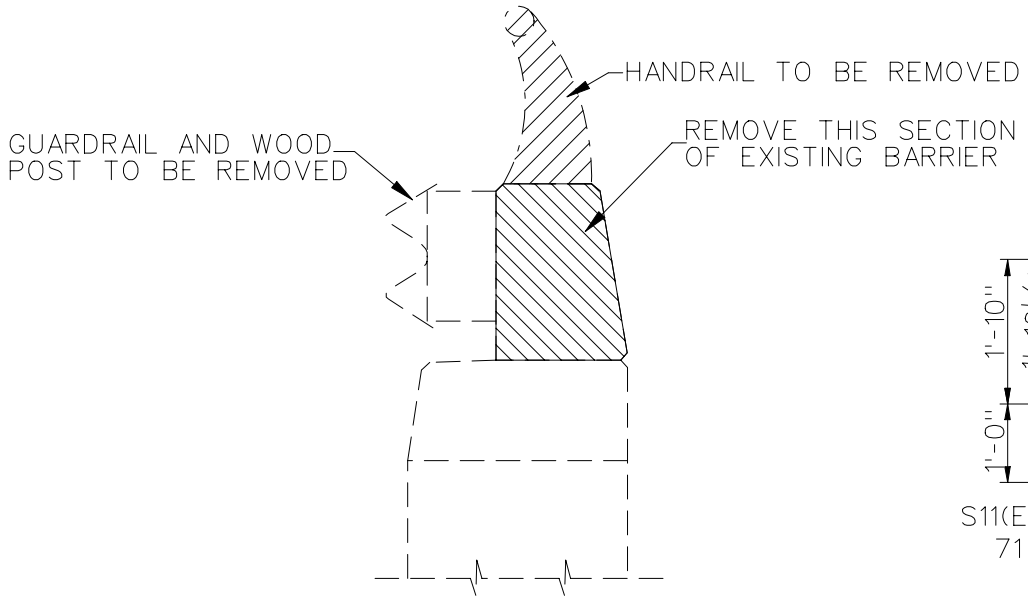
#5 BAR
16 REQ'D EACH SPAN

TOTAL WEIGHT 5,712(E) LB

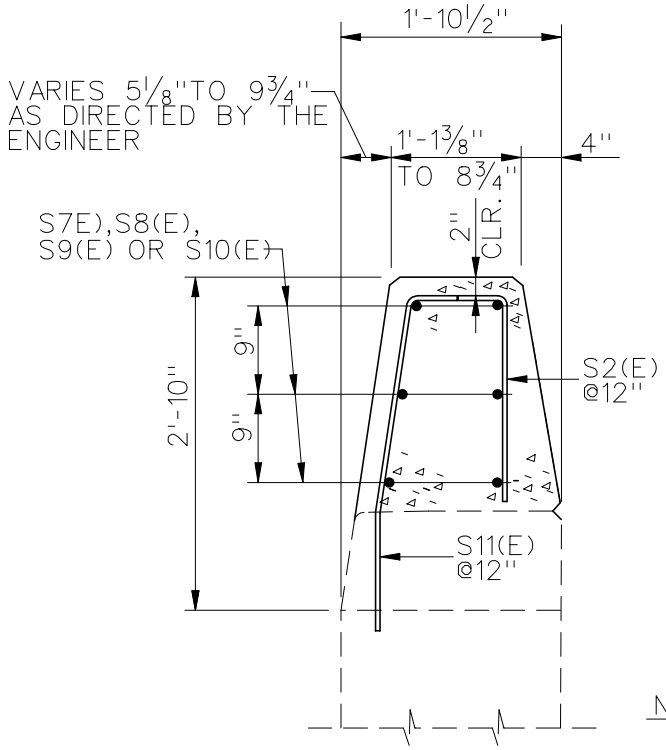
NOTE:
DRILL AND GROUT BARS S1(E) AND S2(E) INTO EXISTING BARRIER

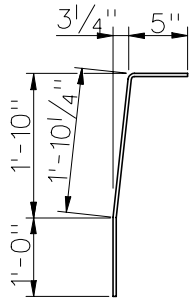
RETROFIT SECTION THRU BARRIER

BARRIER RETROFIT DETAIL @ WING

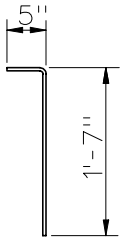


EXISTING BARRIER SECTION

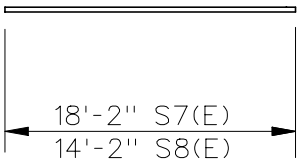




S11(E) #5 BAR
71 REQ'D



S2(E)#5 BAR
71 REQ'D



18'-2" S7(E)
14'-2" S8(E)
16'-2" S9(E)
19'-8" S10(E)

#5 BAR
6 REQ'D EACH

TOTAL WEIGHT 817(E) LBS

NOTE:
DRILL AND GROUT BARS S11(E) INTO EXISTING BARRIER

RETROFIT SECTION THRU BARRIER

CAMPBELL COUNTY

019B00047N
I-275 WESTBOUND EXIT RAMP B TO KY 9 OVER KY 9 (AA HIGHWAY)



Approximate Location Information
Latitude: 39°01'27"
Longitude: 84°28'51"
MP 0.128

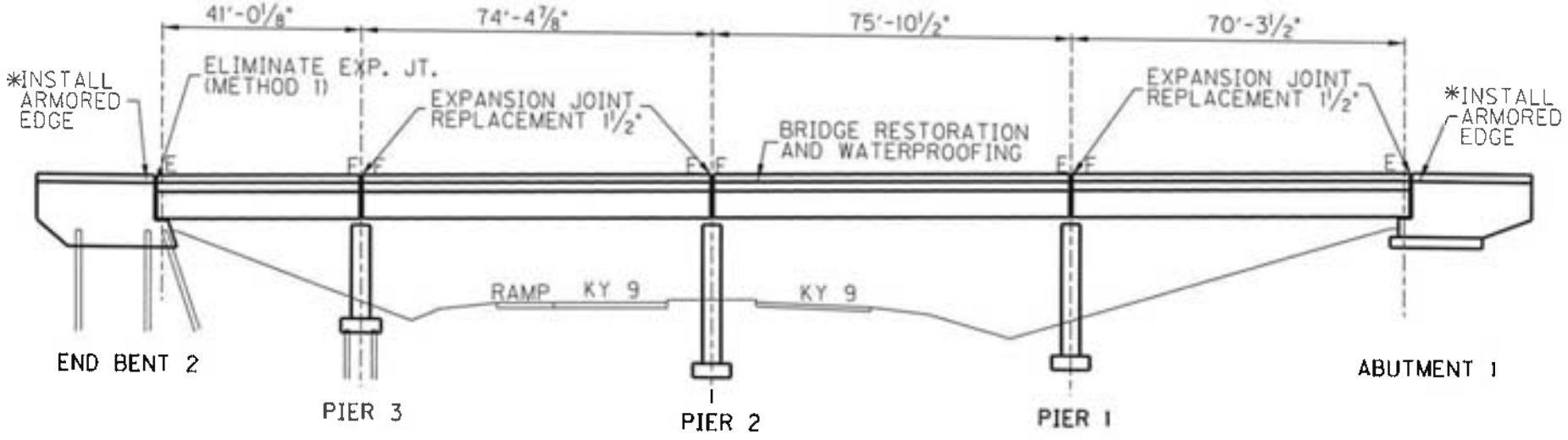
BRIDGE # (019BOO047N) SUMMARY OF QUANTITIES

1. DISTRICT: 6
2. COUNTY: CAMPBELL
3. ROUTE: I-275
4. PROJECT NUMBER: FD52 019 0275 077-078
5. ROAD NAME: I-275
6. DESCRIPTION: I-275 WESTBOUND EXIT RAMP B TO KY 9 OVER KY 9 (AA HIGHWAY)
7. TYPE OF WORK: BRIDGE DECK RESTORATION AND WATERPROOFING:ELIMINATE TRANSVERSE JOINT: EXPANSION JOINT REPLACEMENT;RETROFIT BARRIER
8. LENGTH (FT.): 269.2 **BRIDGE WIDTH (FT.):** 24.5 **SURFACE AREA (SQ. YD.):** 733
SKEW (DEGREES): 22.26 **DECK THICKNESS (INCHES):** 8

ESTIMATED QUANTITIES REQUIRED

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
8551	MACHINE PREP OF EXISTING SLAB	733.0	SQ YD
8549	BLAST CLEANING	962.0	SQ YD
8504	EPOXY SAND SLURRY	290.0	SQ YD
8534	CONCRETE OVERLAY-LATEX	31.0	CU YD
8526	CONC CLASS M FULL DEPTH PATCH	4.0	CU YD
3300	ELIMINATE TRANS. JT.(METHOD 1)	25.0	LIN FT
3294	EXPANSION JT. REPLACEMENT 1 1/2"	112.0	LIN FT
23032EN	RETROFIT BARRIER	601.0	LIN FT

I-275 WESTBOUND EXIT RAMP B TO KY 9 OVER KY 9 (AA HIGHWAY)
BRIDGE MAINTENANCE NUMBER 019B00047N



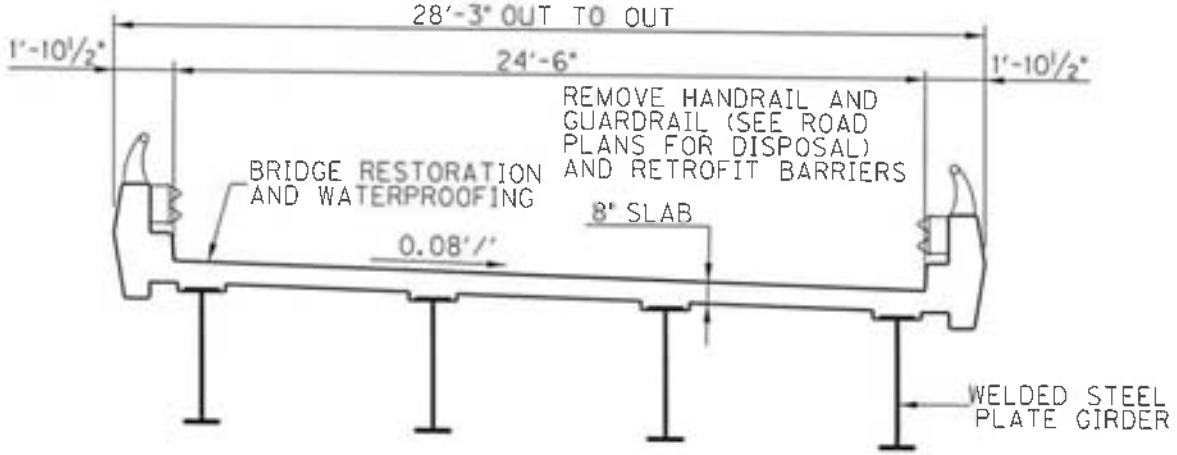
*SEE STD. DRWG. BJE-001-11

ELEVATION

22°15'37"SKEW RT.
NOT TO SCALE

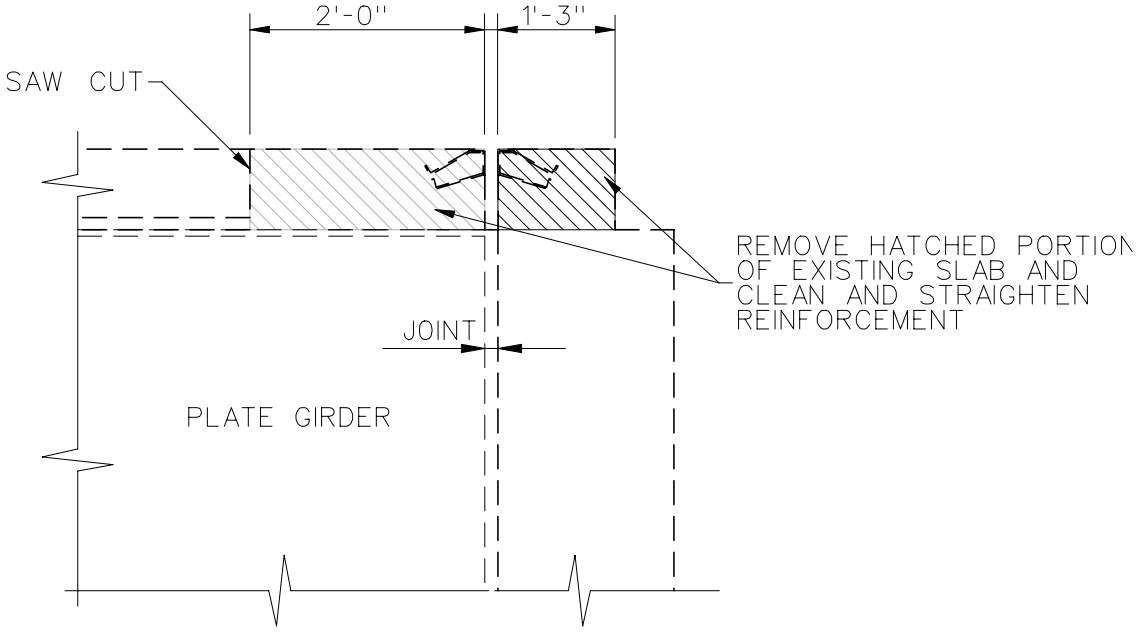
NOTE:
CONTRACTOR RESPONSIBLE FOR VERIFYING SIZE OF JOINTS

NOTE:
SEAL TOP OF CAP AND EXPOSED SURFACES OF ABUTMENT 1 & PIERS WITH CONCRETE SEALANT (INCIDENTAL TO "EXPANSION JOINT REPLACEMENT"). USE D-TECH 470 BY IMCO TECHNOLOGIES OR AN APPROVED EQUAL. THIS TYPE PRODUCT IS DESCRIBED IN THE SPECIAL NOTE SECTION OF THESE PLANS. ALL AREAS TO BE SEALED SHALL BE CLEANED IN ACCORDANCE WITH THE SEALANT MANUFACTURER'S RECOMMENDATIONS.



TYPICAL SECTION

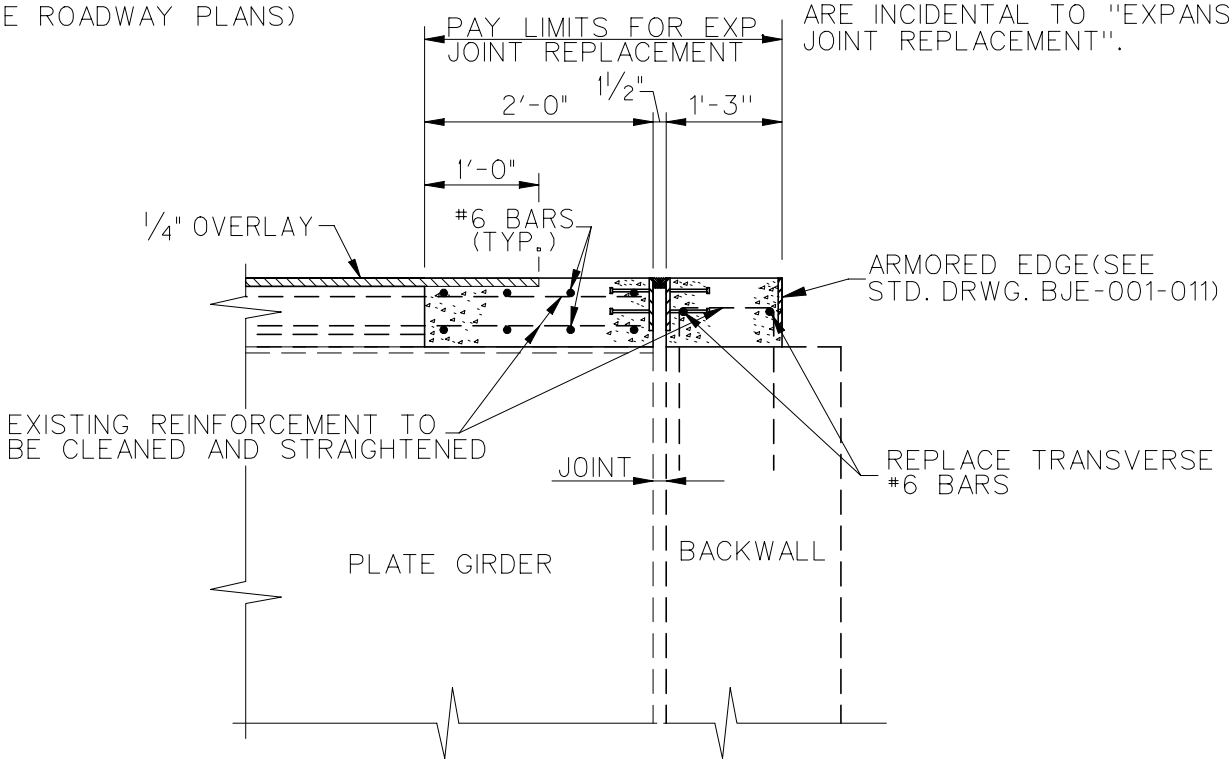
REPLACE JOINT @ ABUTMENT 1



EXISTING SECTION @ ABUTMENT

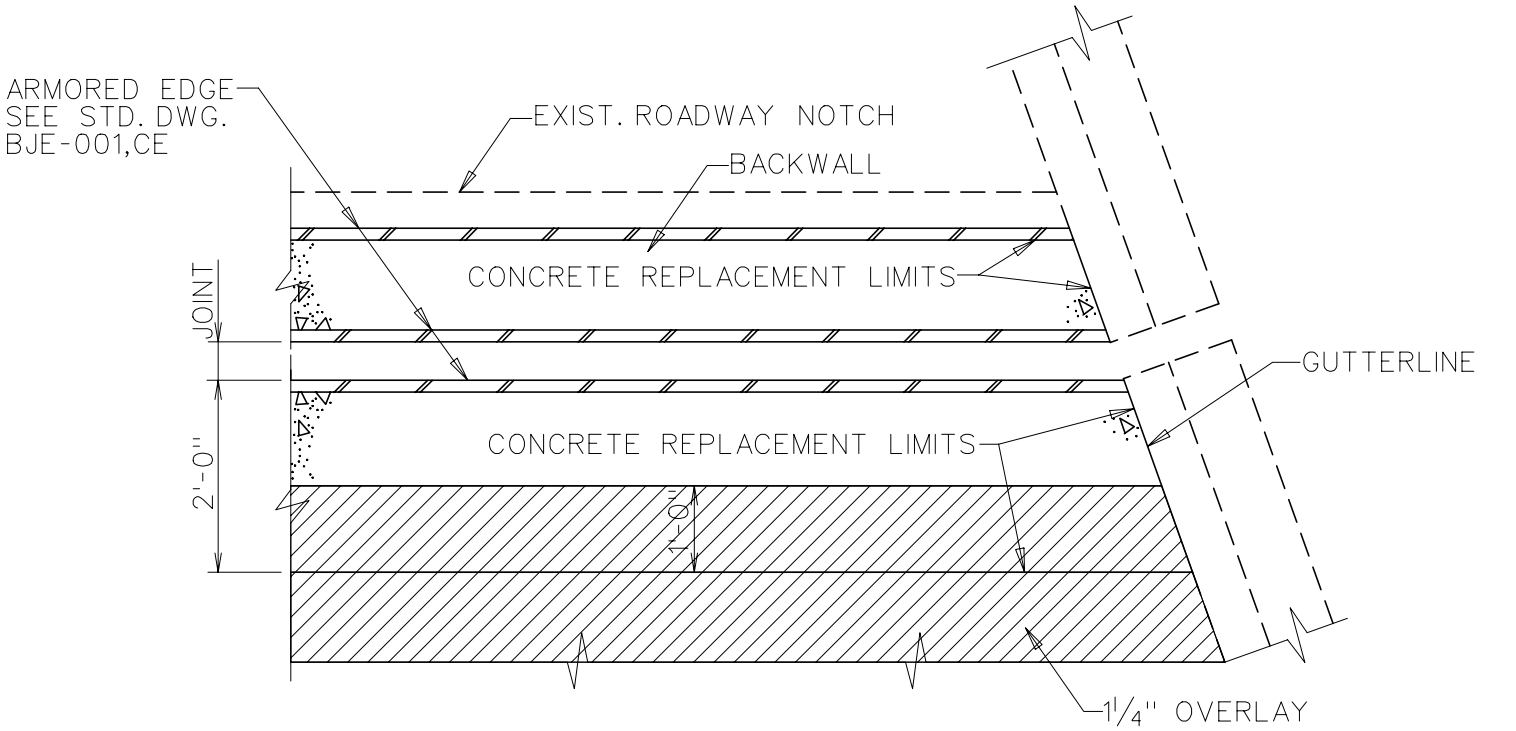
NOTE:
REMOVE 6' OF ROADWAY PAVEMENT, PLACE 1/2" PREMOLDED EXPANSION JOINT MATERIAL AGAINST ARMORED EDGE. (SEE ROADWAY PLANS)

NOTE:
WHERE A NORMAL LAP CANNOT BE ATTAINED ON REBARS USE MECHANICAL SPLICES. SPLICES ARE INCIDENTAL TO "EXPANSION JOINT REPLACEMENT".

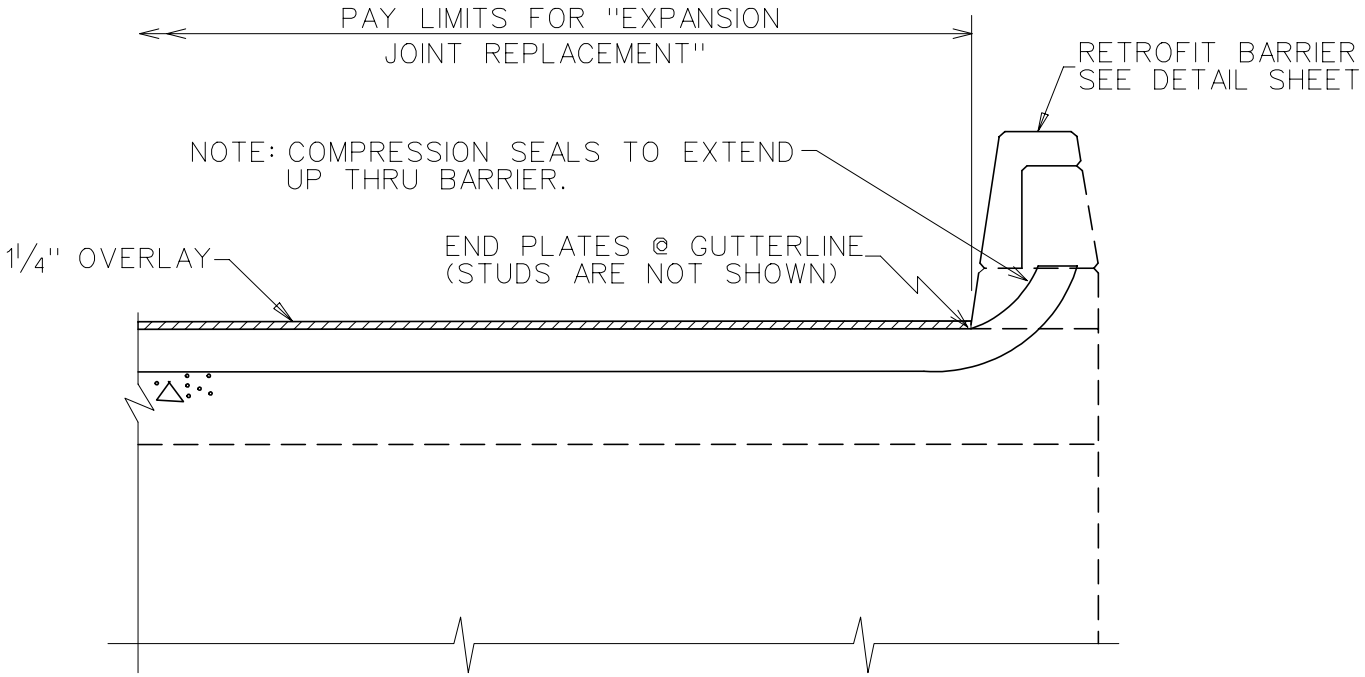


PROPOSED SECTION @ ABUTMENT

REPLACE EXPANSION JOINT
ABUTMENT 1 CURB SECTION

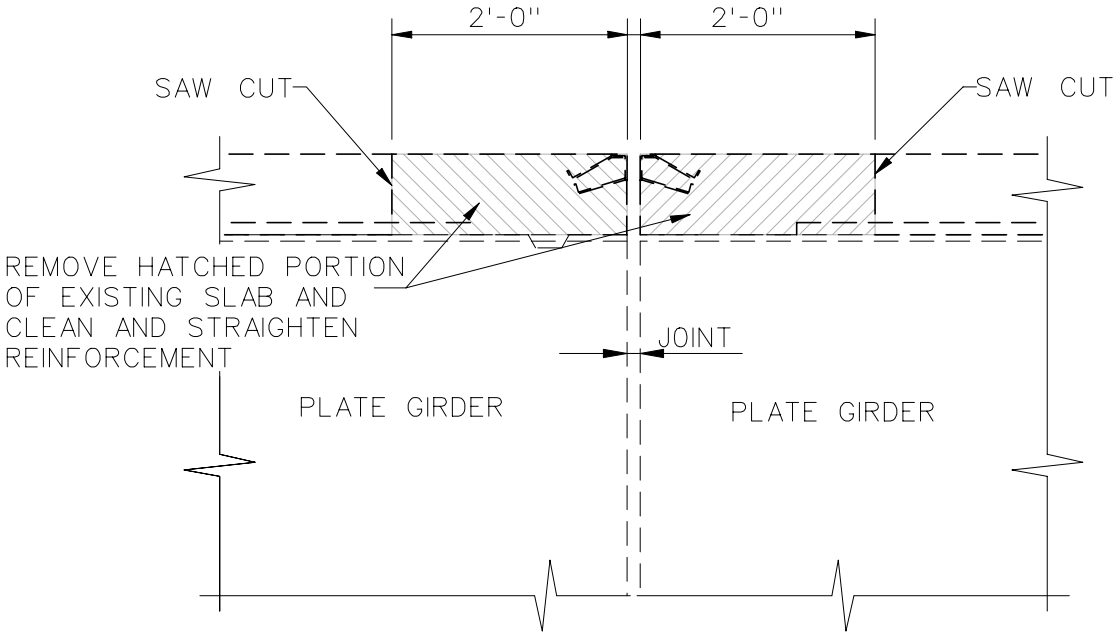


PLAN VIEW @ CURB
REPLACE EXPANSION JOINT

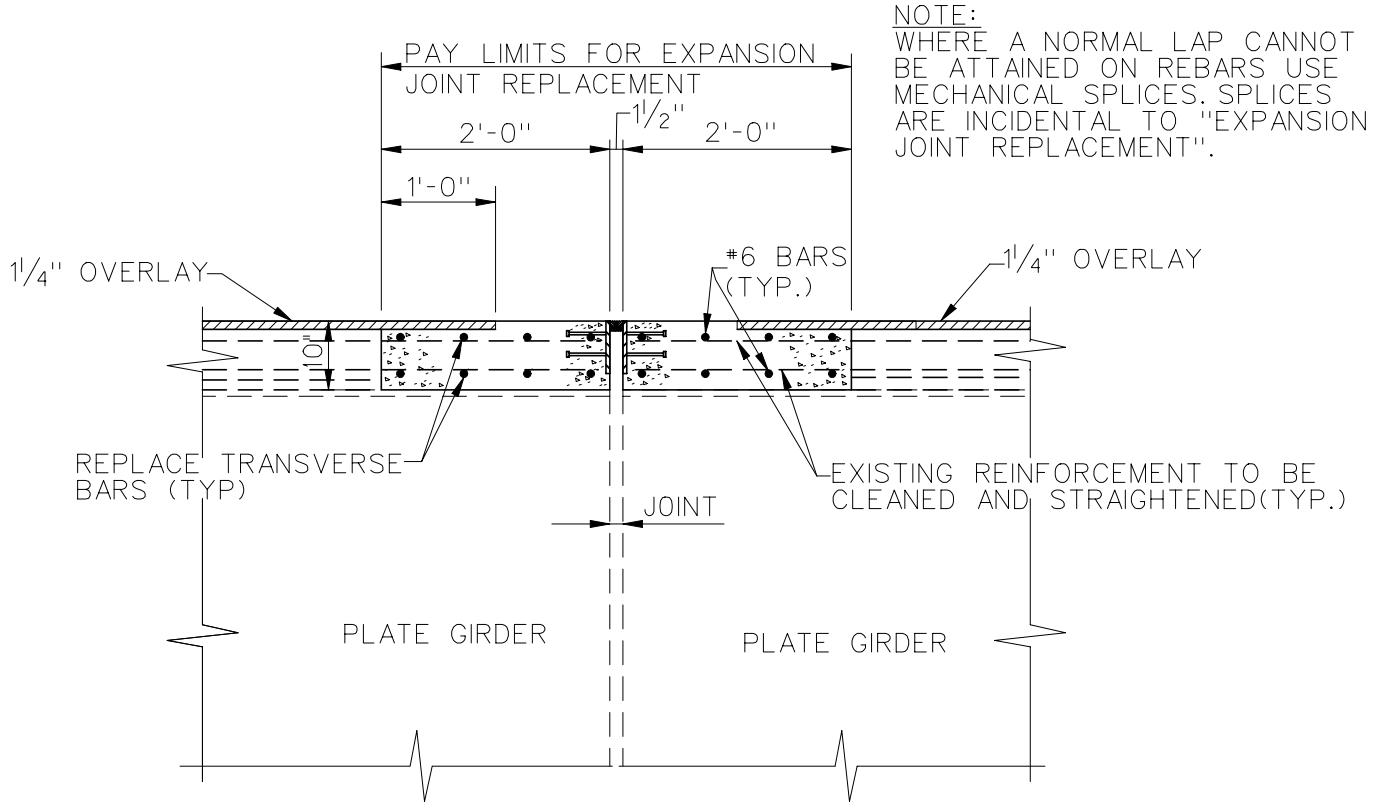


PROPOSED SECTION @ ABUTMENT

REPLACE JOINT @ PIER

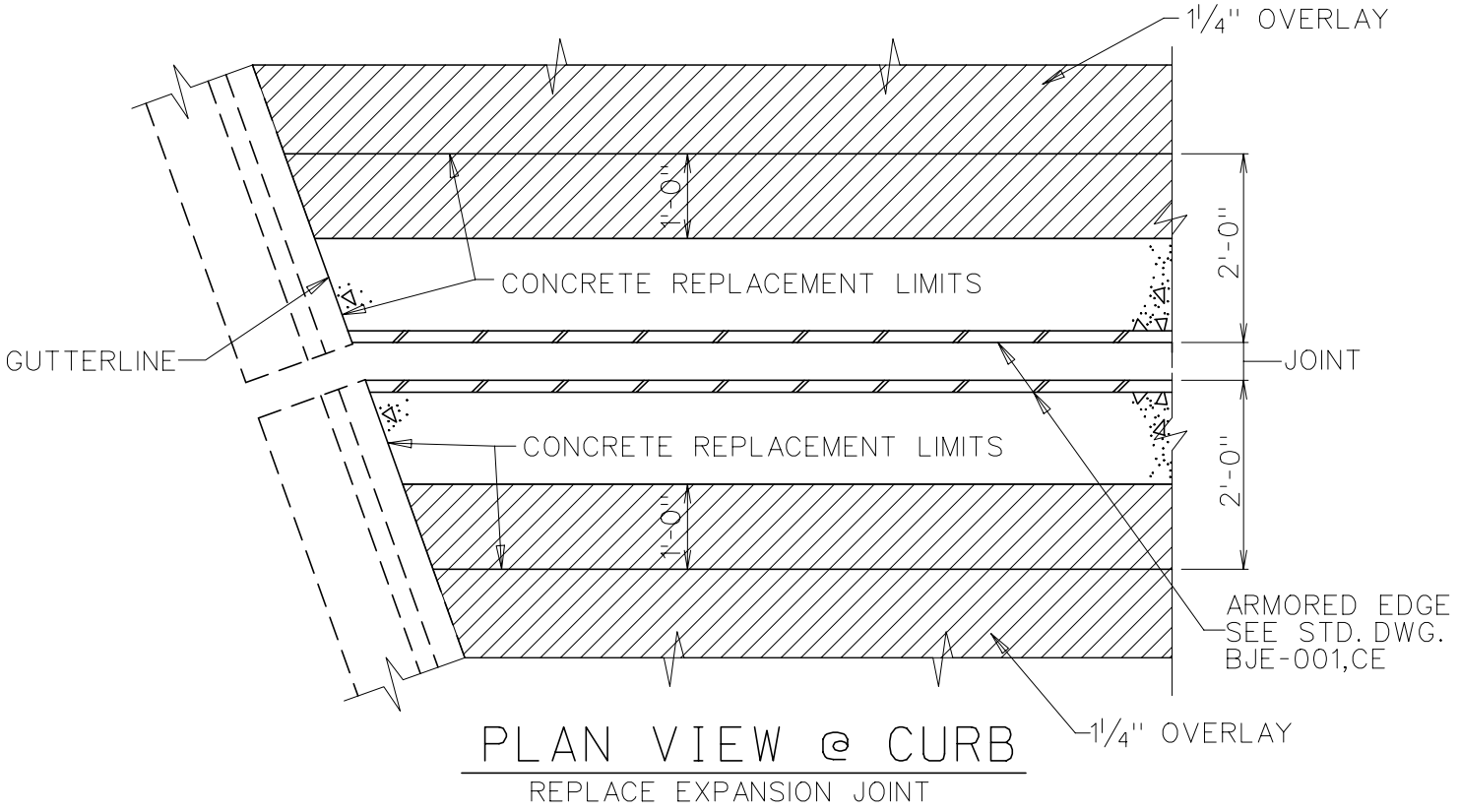


EXISTING SECTION @ PIER



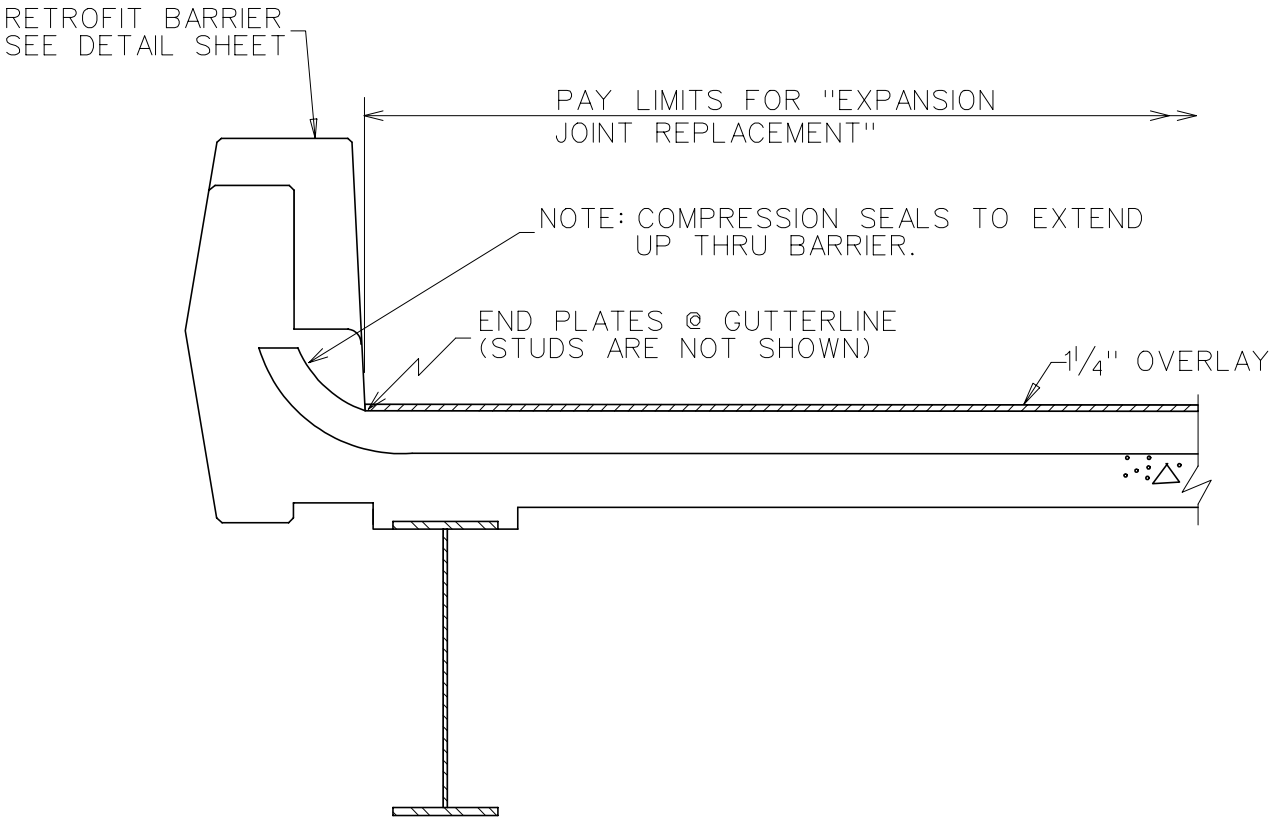
PROPOSED SECTION @ PIER

REPLACE EXPANSION JOINT
PIER CURB SECTION



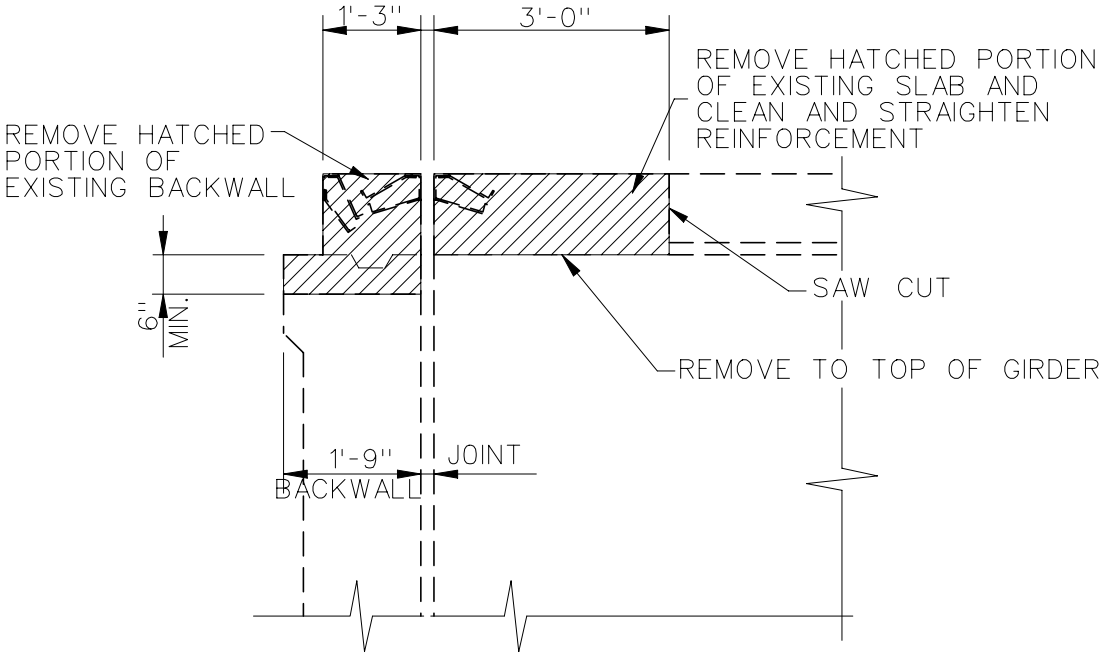
PLAN VIEW @ CURB

REPLACE EXPANSION JOINT



PROPOSED SECTION @ CURB

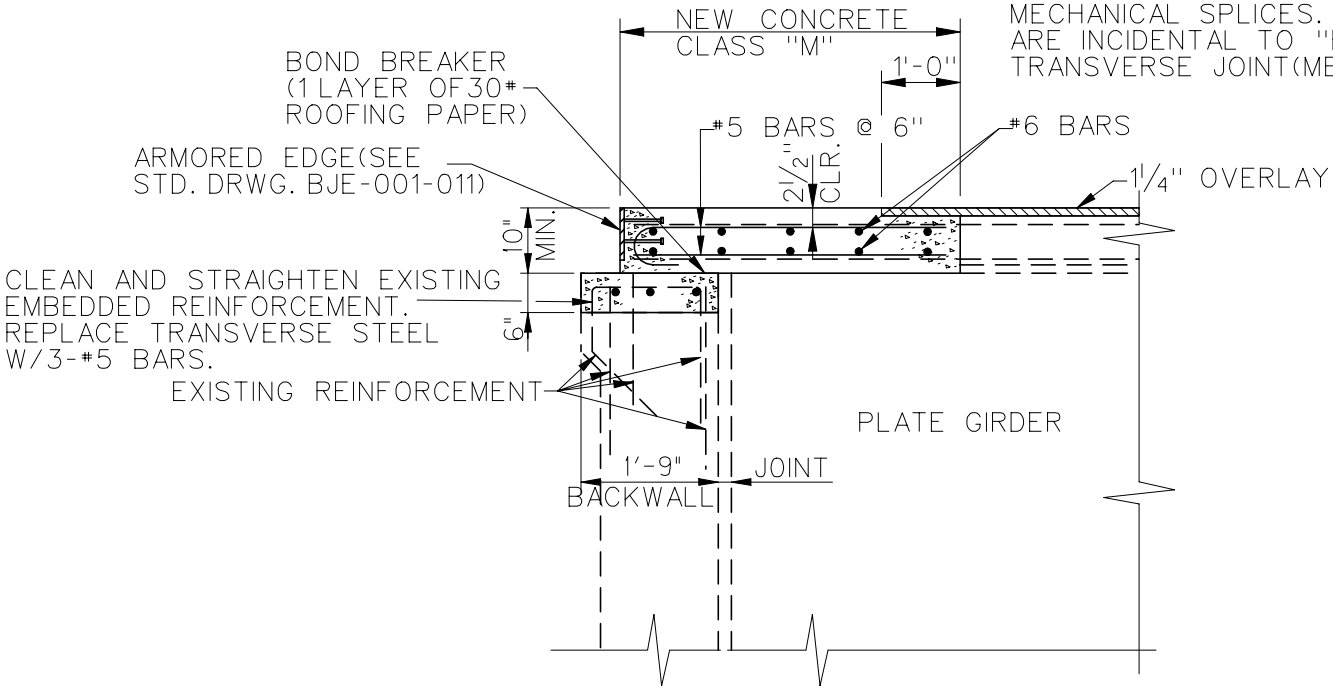
METHOD 1
ELIMINATE JOINT @ END BENT 2



EXISTING SECTION
@ END BENT

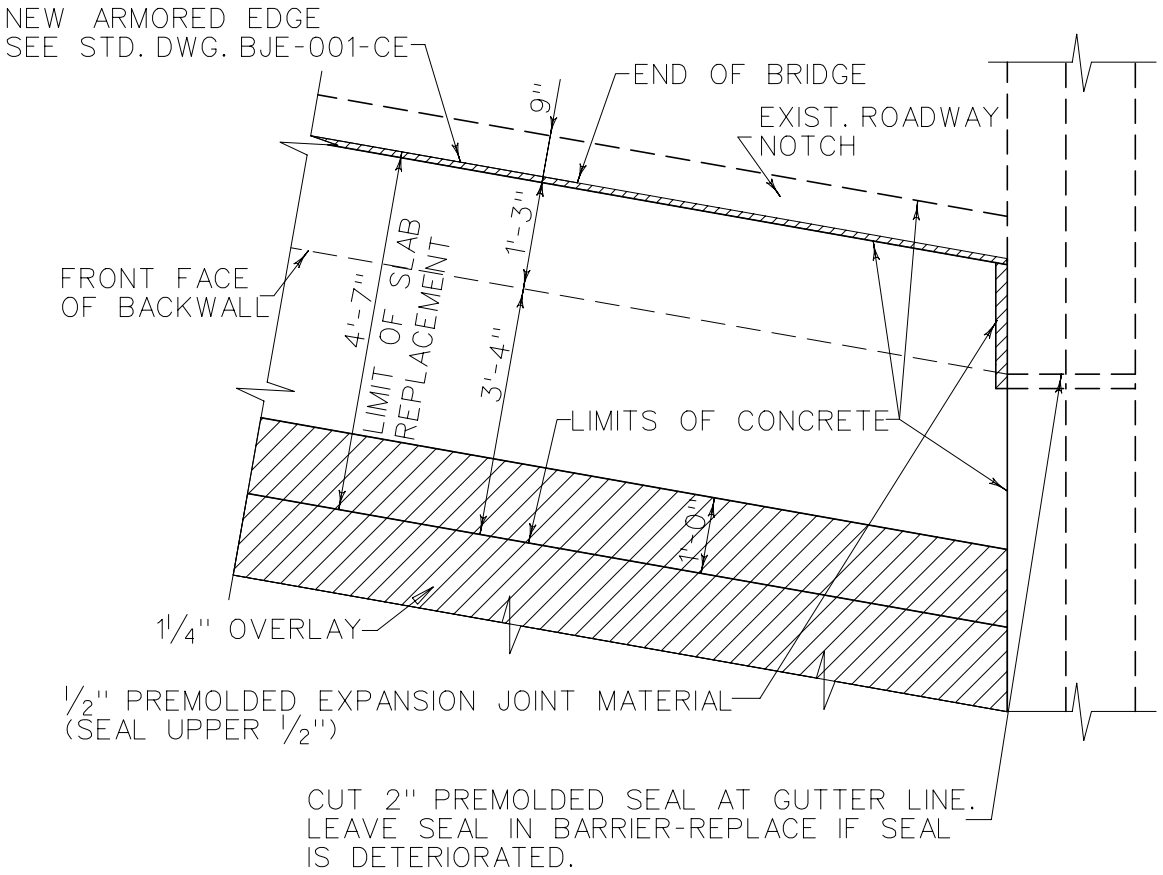
NOTE:
REMOVE 6' OF ROADWAY PAVEMENT, PLACE 1/2" PREMOLDED EXPANSION JOINT MATERIAL AGAINST ARMORED EDGE. (SEE ROADWAY PLANS)

NOTE:
WHERE A NORMAL LAP CANNOT BE ATTAINED ON REBARS USE MECHANICAL SPLICES. SPLICES ARE INCIDENTAL TO "ELIMINATE TRANSVERSE JOINT(METHOD 1)".

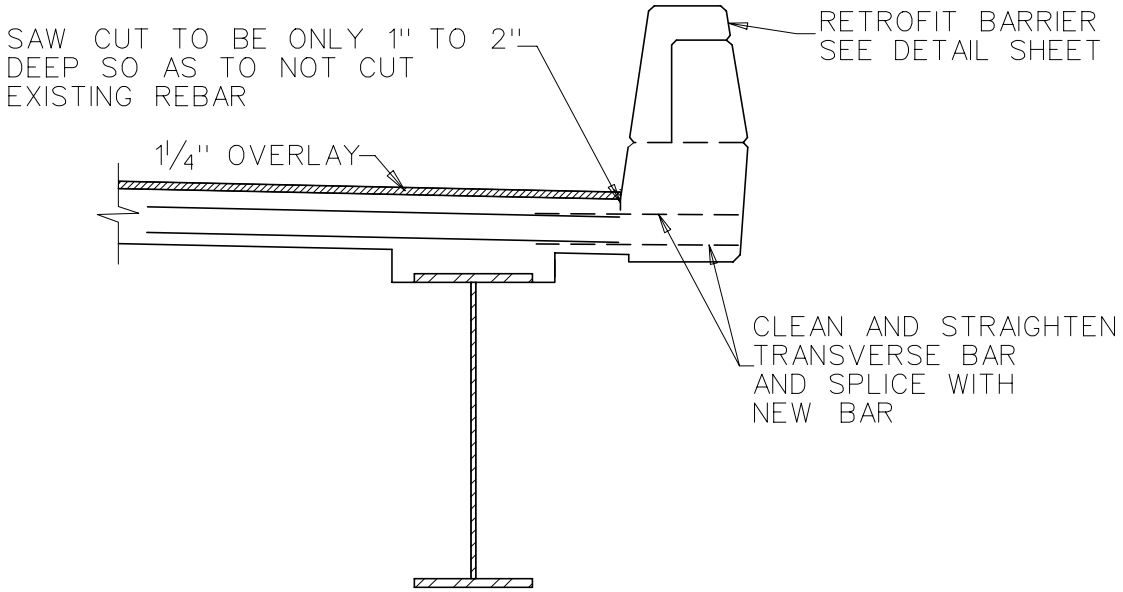


PROPOSED SECTION
@ END BENT

CURB SECTION @ END BENT 2

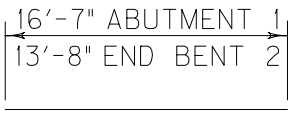


PROPOSED PLAN @ END BENT

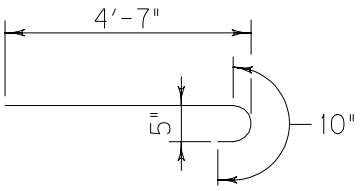


PROPOSED SECTION @ END BENT

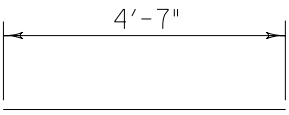
BILL OF REINFORCEMENT



#6 STRAIGHT BAR
20 REQ'D ABUTMENT 1
20 REQ'D END BENT 2



#5 BENT BAR
49 REQ'D END BENT 2



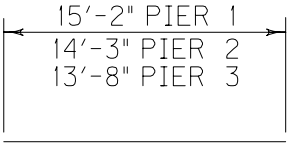
#5 STRAIGHT BAR
49 REQ'D END BENT 2



#5 STRAIGHT BAR
6 REQ'D END BENT 2

498 LBS ABUTMENT 1
996 LBS END BENT 2

ABUTMENT & END BENT REINFORCEMENT



#6 STRAIGHT BAR
32 REQ'D EACH PIER

729 LBS PIER 1
685 LBS PIER 2
657 LBS PIER 3

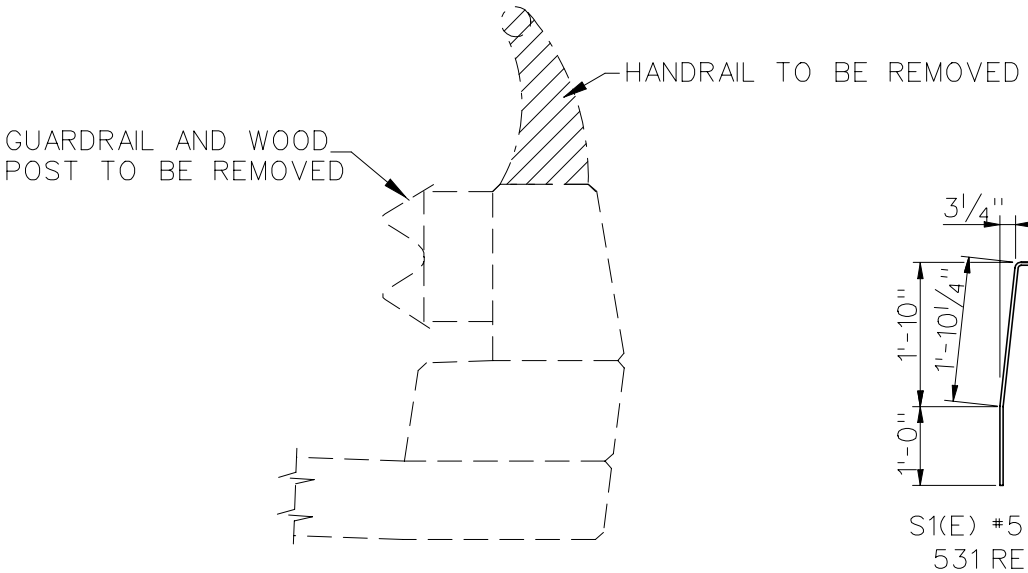
PIER REINFORCEMENT

300 LIN. FT. #4 BARS IN 20'-0" LENGTHS
200 LBS.EACH END BENT AND EACH PIER

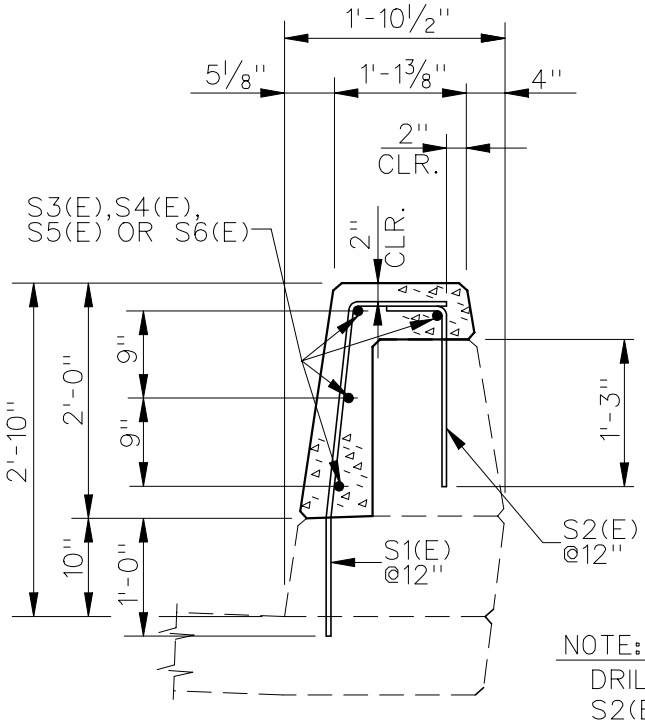
MISCELLANEOUS REINFORCEMENT

TOTAL REINFORCEMENT 4,565 LBS.

BARRIER RETROFIT DETAIL



EXISTING BARRIER SECTION





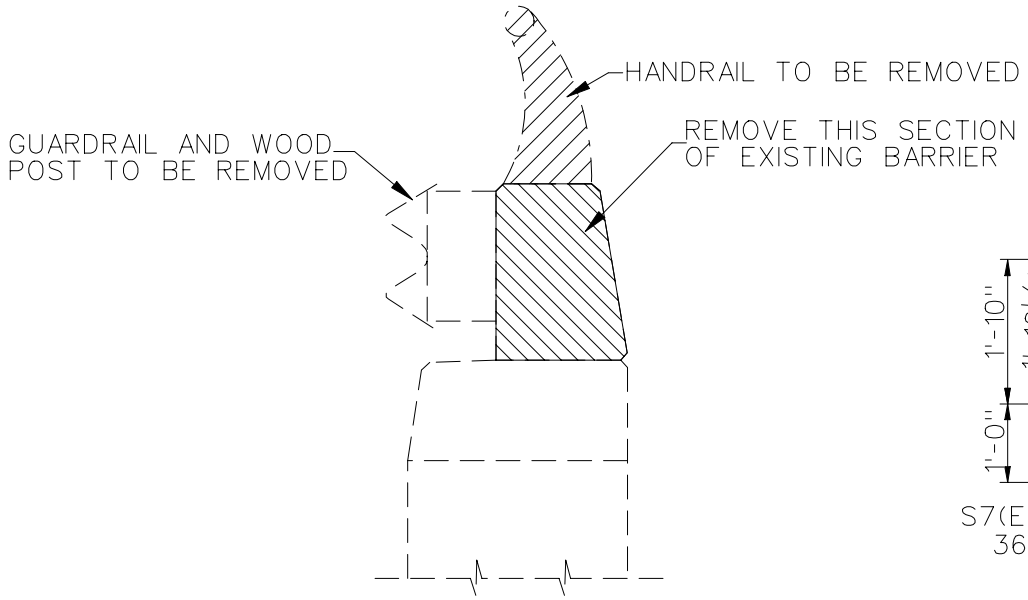
#5 BAR
16 REQ'D EACH SPAN

TOTAL WEIGHT 5,436(E) LBS

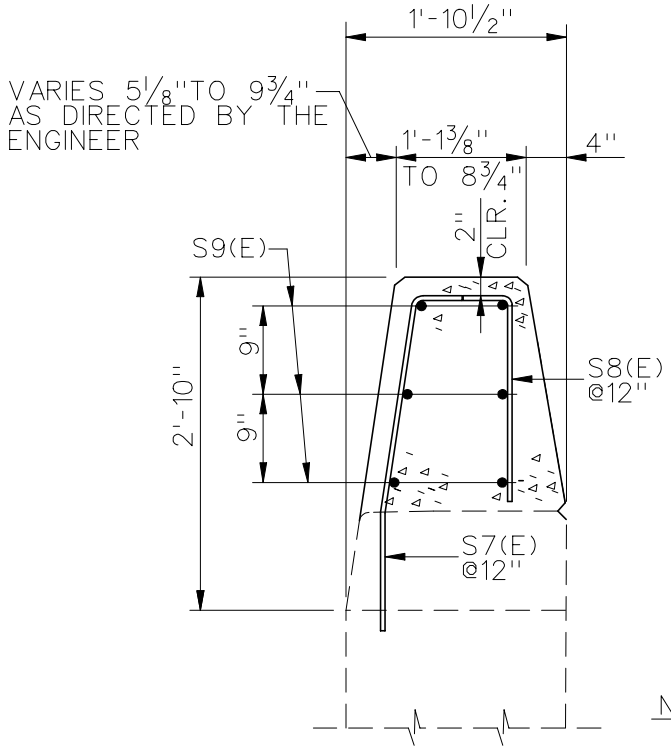
NOTE:
DRILL AND GROUT BARS S1(E) AND S2(E) INTO EXISTING BARRIER

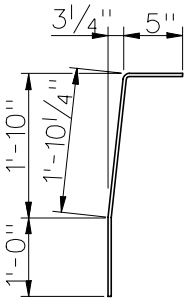
RETROFIT SECTION THRU BARRIER

BARRIER RETROFIT DETAIL @ WING ABUT. 1

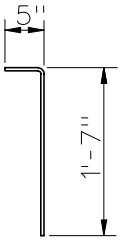


EXISTING BARRIER SECTION

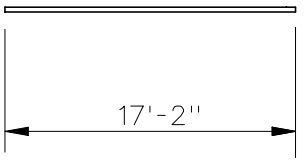




S7(E) #5 BAR
36 REQ'D



S8(E)#5 BAR
36 REQ'D



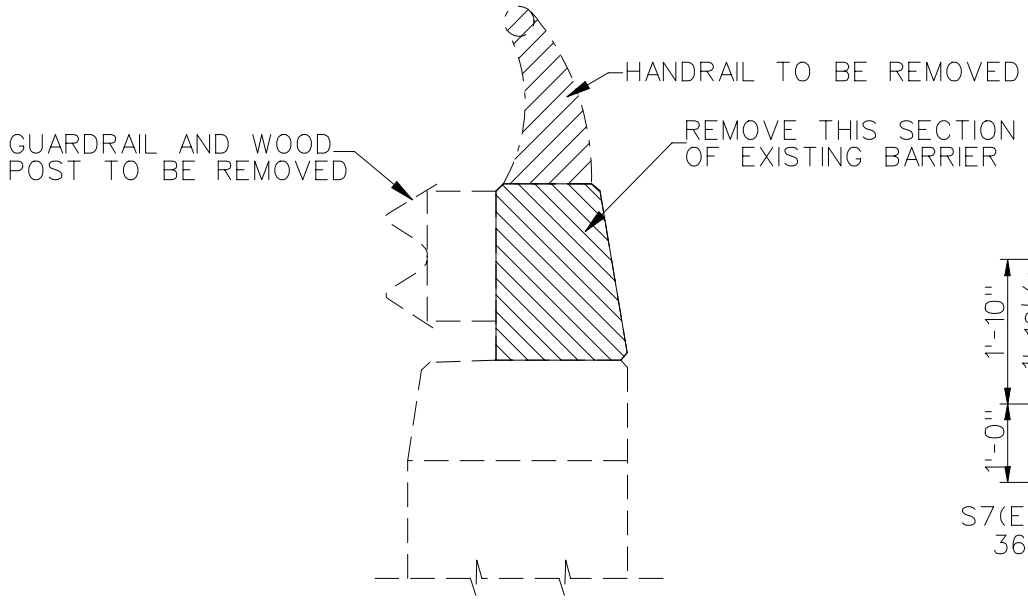
S9(E)#5 BAR
12 REQ'D

TOTAL WEIGHT 413(E) LBS

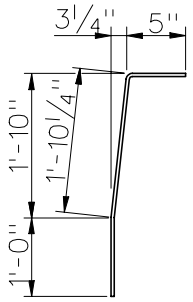
NOTE:
DRILL AND GROUT BARS S7(E) INTO EXISTING BARRIER

RETROFIT SECTION THRU BARRIER

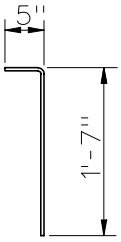
BARRIER RETROFIT DETAIL @ WING END BENT 2



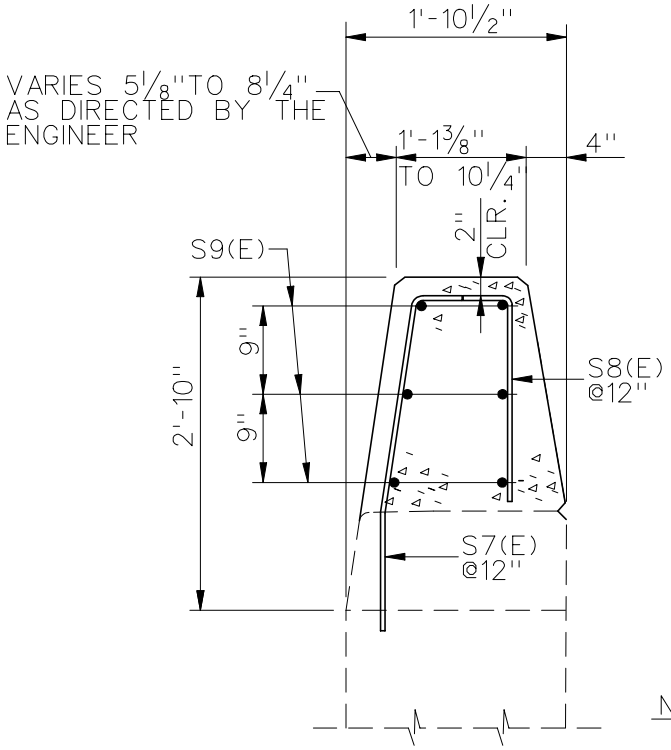
EXISTING BARRIER SECTION

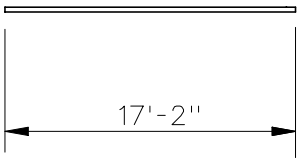


S7(E) #5 BAR
36 REQ'D



S8(E)#5 BAR
36 REQ'D



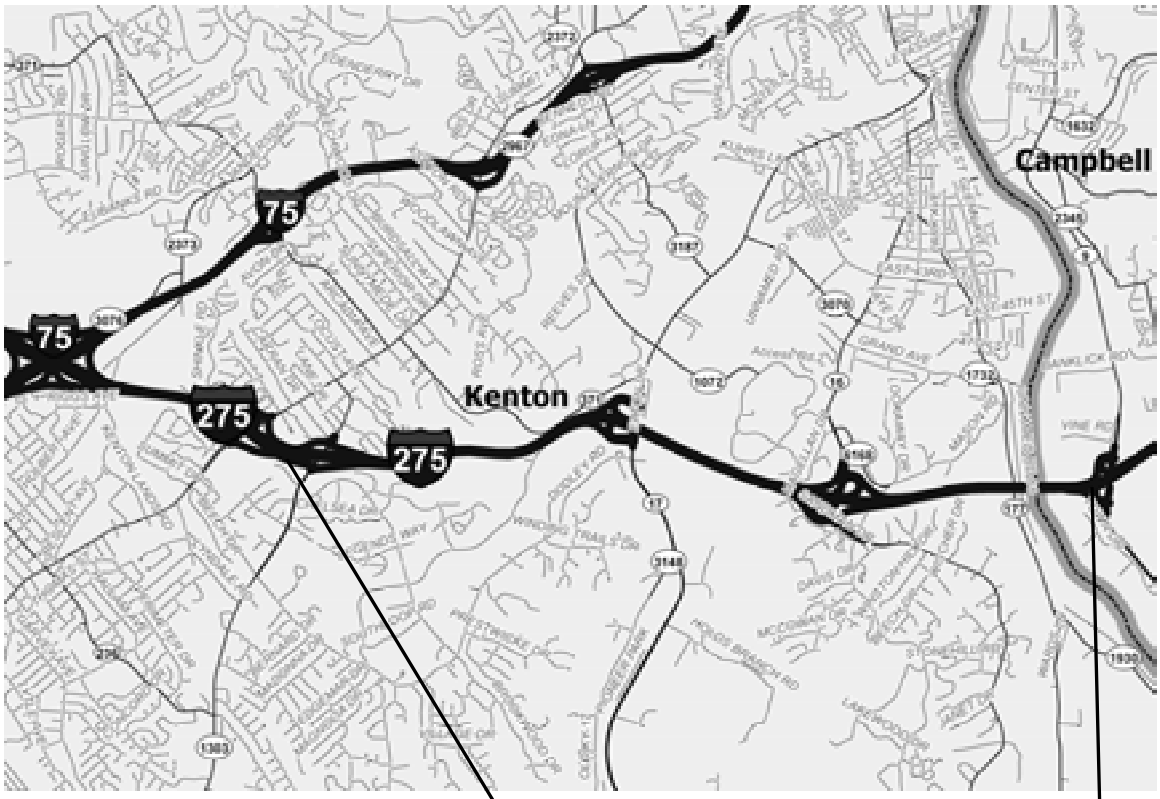


S9(E)#5 BAR
12 REQ'D

TOTAL WEIGHT 838(E) LBS

NOTE:
DRILL AND GROUT BARS S7(E) INTO EXISTING BARRIER

RETROFIT SECTION THRU BARRIER



END HTC MEDIAN BARRIER

CONSTRUCTION I-275 MILEPOINT 81.55

BEGIN HTC MEDIAN BARRIER

CONSTRUCTION I-275 MILEPOINT 77.2

TABLE OF CONTENTS

TITLE

1. LAYOUT SHEET
2. PROJECT DESCRIPTION
3. GENERAL SUMMARY
4. SPECIAL NOTES FOR HTC MEDIAN BARRIER INSTALLATION
5. SPECIAL NOTES FOR INSTALLATION AND MAINTENANCE TRAINING
6. SPECIAL NOTE FOR HIGH TENSION CABLE- ROPE MEDIAN BARRIER
7. TRAFFIC CONTROL PLAN
8. HTC END LOCATIONS
9. GEOTECHNICAL REPORT SHEETS

PROPOSAL BY	PROPOSED HTC MEDIAN BARRIER	
KENTUCKY TRANSPORTATION CABINET DEPARTMENT OF HIGHWAY	ROUTE: I-275	KENTON & CAMPBELL COUNTY
	ITEM NO: 6-2800.20	
	MILEPOINT: 77.2 TO 81.55	LENGTH: 4.35 MILES

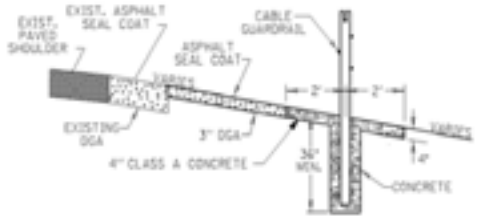
PROJECT DESCRIPTION

Kenton & Campbell County
HTC Median Barrier on I-275,
from I-275 (MP. 77.2) to I-275 (MP. 81.55)
Item No. 6-2800.20

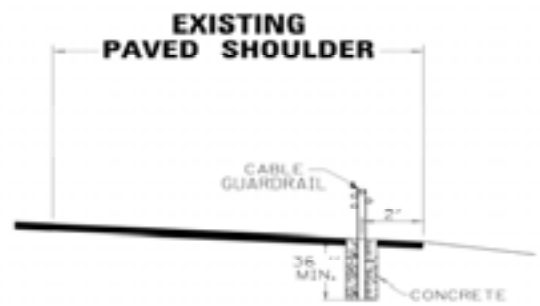
The purpose of this project is to install HTC Median Barrier along I-275 in Kenton & Campbell County, begin at (Approx. MP. 77.2) West of Route 9 underpass to (Approx. MP. 81.55) East of Route 1303 overpass.

The Manufacturer will assist the Contractor with the layout and location of the HTC Median Barrier installation. The Contractor will create schematic layout sheets for the HTC Median Barrier system and prior to construction, the proposed layout and location of the HTC Median Barrier will be approved by the Department.

If the HTC Median Barrier system is placed on the median slope, install a concrete pad as a mow strip. Cut a 4-foot wide and 4-inch deep trench where the HTC system is to run and place Class A Concrete in the trench **(See Detail A).** If the existing interior shoulder is wide enough, the HTC system may be placed in the existing paved shoulder. **(See Detail B).** When designing the system's anchoring, the Manufacturer should consider whether the depth and/or diameter of the line post foundations may need to be increased when placed in an existing paved shoulder versus a concrete pad mow strip.



Detail A



Detail B

Geotechnical information has been collected at representative locations along the project corridor. This information may be found in the appendix of this proposal. The Manufacturer is responsible for the design of the line post and terminal foundations and shall use the geotechnical information to develop these project-specific foundation designs. The Contractor shall be responsible for obtaining any additional geotechnical information required by the Manufacturer to complete the design of their system's anchoring.

The Contractor shall place asphalt seal coat from the outer edge of the concrete mow strip up to the existing seal coat **(See Detail A)**, through the length of the project as directed by the Engineer. All work to prep the area for the seal coat shall be incidental to the bid item "00001", DGA BASE.

PROPOSED HTC MEDIAN BARRIER		ITEM NO: 6-2800.20
KENTON & CAMPBELL COUNTY	ROUTE: I-275	MILEPOINT: 77.2 TO 81.55

KENTON/CAMPBELL COUNTY I-275
UTILITY LOCATIONS

APPROX. MILEPOINT	UTILITY DESCRIPTION
78.0	**KYTC TRAFFIC LOOPS "Do not Disturb"**
79.35	**ARTIMIS TRAFFIC LOOPS "Do not Disturb"**
81.4	**KYTC TRAFFIC LOOPS "Do not Disturb"**

The Cabinet and ARTIMIS have traffic count stations located across I-275 in Kenton and Campbell Counties in various locations. A list of all identified locations can be found above. The contractor shall use caution in these areas as not to disturb or damage the count stations in any manner and that includes any and all associated hardware necessary for them to function. If damage should occur to these count stations during the placement of the HTC median cable barrier, the contractor shall be responsible for replacing the damaged count station in full, as directed by the Engineer, without compensation from the Cabinet, and within the time frame of the project. An inspection by the Cabinet of these stations will take place at the end of work as assurance that they have not been disturbed.

GENERAL SUMMARY

ITEM	DESCRIPTION	UNIT	PROJECT TOTALS
23147EN	HIGH TENSION CABLE-ROPE (1) (4) (6) (7)	LF	18374
23148EN	END ANCHOR (2) (4) (6) (7)	EACH	8
22415EN	CONCRETE CLASS A FOR PAD (5)	SQ. YD.	8166
06427	TRENCHING (3)	LF	18374
00001	DGA BASE (9)	TONS	704
00100	ASPHALT SEAL AGGREGATE (8) (9)	TONS	245
00291	EMULSIFIED ASPHALT RS-2 (8) (9)	TONS	30

NOTES:

(1) The HTC Median Barrier system includes all hardware, post, cables, labor, and incidentals within the End Anchors.

(2) The HTC Median Barrier End Anchors includes all hardware, post, cables, labor, and incidentals.

(3) The bid item “Trenching” is for the trenching and disposal of the material removed for the Concrete Class A Pad under the HTC Median Barrier system. Provided this material meets geotechnical requirements it may be used where median fill is needed. Waste area will be pre-approved by the Engineer.

(4) Excavation for the posts and anchors is incidental to the HTC Median Barrier. This material may also be used where median fill is needed provided that requirements listed in note (3) above are followed.

(5) Construct per the Section 505 of the *Standard Specifications for Road and Bridge Construction* for concrete sidewalks.

(6) The Contractor shall select and install only one manufacturer’s high tension cable barrier system for the entire project. Terminal sections and high tension cable barrier shall be produced by the same manufacturer.

(7) Geotechnical work has been completed for the project. All Geotechnical Information has been included in this proposal so that the manufacturers may design the anchors and the post line footings.

(8) Two applications each for Asphalt Seal Aggregate (20 lbs/sq yd) and Emulsified Asphalt RS-2 (2.4 lbs/sq yd).

(9) These quantities have been carried forward to the roadway General Summary.

SPECIAL NOTES FOR HTC MEDIAN BARRIER INSTALLATION AND LAYOUT

PAGE 1 OF 2

The HTC Median Barrier will meet or exceed the specifications documented in the ***SPECIAL NOTE FOR HIGH TENSION CABLE-ROPE MEDIAN BARRIER***. The Contractor may choose any Manufacturer of high tension cable-rope so long as their system meets or exceeds specifications documented in the ***SPECIAL NOTE FOR HIGH TENSION CABLE-ROPE MEDIAN BARRIER***. The Contractor shall select and install only one Manufacturer's high tension cable barrier system for the entire project. Terminal sections and high tension cable barrier shall be produced by the same manufacturer. A listing of high tension cable-rope Manufacturers and their products may be found on the Federal Highway Administration's Safety website for Roadside Hardware Guidance:

(http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/).

The Contractor shall provide the following documentation to the Resident Engineer a minimum of 14 days prior to installation of the system:

a) A copy of the appropriate FHWA Acceptance Letters (from NCHRP Report 350 testing) for the HTC system, including one for TL-4 on 6H:1V slopes, TL-3 on 4H:1V, and TL-3 for the terminals/end anchorages.

b) Two copies of the manufacturer's product brochure, specifications, and installation and maintenance manuals.

c) Certification signed and stamped by a Professional Engineer licensed in the Commonwealth of Kentucky stating that the final design of the system meets the requirements of the contract documents.

d) Five copies of the proposed system layout plans clearly depicting installation details, including existing planimetric features (guardrail, safety terminals, edges of pavement/shoulder, ditch line, structures, etc.) and proposed HTC system features (safety terminals, intermediate line posts, and cable-rope location).

e) One copy of the design drawings and calculations for the safety terminal and intermediate line post foundations for the soil conditions on the project. Design drawings and calculations shall be stamped by a Professional Engineer licensed in the Commonwealth of Kentucky.

Review and acceptance of the proposed design (as shown in the documentation listed above) must occur before the Contractor proceeds with installation. The review will be completed in 14 days.

SPECIAL NOTES FOR
HTC MEDIAN BARRIER INSTALLATION AND LAYOUT
PAGE 2 OF 2

When developing the proposed system layout, the Contractor and Manufacturer will adhere to the following guidance:

a) Maintain a minimum of 8’ between the HTC system and the edge of traveled way. Maximize this distance as much as feasible.

b) The HTC system must remain a minimum of 10’ up from the median ditch line.

c) Legal median u-turn crossovers should remain open.

d) Where possible, shield anchors behind existing roadside safety hardware (i.e. guardrail end treatments, bridge-ends, etc.)

Contrary to Section 111 of the *Standard Specifications for Road and Bridge Construction* no Value Engineering or proposal to modify the specifications of the high tension cable median barrier will be accepted on this project.

The concrete pad mow strip will be constructed per the Section 505 of the *Standard Specifications for Road and Bridge Construction* for concrete sidewalks.

SPECIAL NOTE FOR INSTALLATION AND MAINTENANCE TRAINING

1. Provide installation training by the manufacturer of the system at the beginning of this project.

   A. During the first two days of the project, provide two (2) days of on-site field instruction on the installation of the system on all aspects of the system installation, including grading, line post installation, wire rope or cable installation and tensioning, and terminal or anchor installation. The scheduling and location of this training shall be approved by the Engineer.

   B. Provide the training for a maximum of 30 participants, to include the following as may apply:
      - Contractor (prime)
      - Installation Contractor (sub)
      - KYTC personnel (Construction, Maintenance, Traffic Safety and Highway Design)
      - FHWA representative when system installed on federal aid projects

2. The installation contractor must have personnel on site at all times during the installation of the system that have been trained by the manufacturer.

3. Provide maintenance training by the manufacturer of the system prior to the closing out of the project.

   A. Provide a minimum of two (2) hours of classroom instruction on the maintenance and repair of the system. This training shall be provided in a location central to the project and the local KYTC district office. The scheduling and location of this training shall be approved by the Engineer.

   B. Provide a minimum of two (2) hours of on-site field instruction on the maintenance and repair of the system.

   C. Provide the training as required for a maximum of 30 participants, to include the following:

      - KYTC personnel (Construction, Maintenance, Traffic Safety and Highway Design)
      - FHWA representative when system installed on federal aid projects
      - Those invited by the KYTC, which may include law enforcement agencies and emergency response representatives

4. The required training will be **incidental to the contract**.

SPECIAL NOTE FOR
HIGH TENSION CABLE-ROPE MEDIAN BARRIER

Sheet 1 of 4

DESCRIPTION. This work shall consist of furnishing and installing a high tension cable-rope HTC median barrier with terminals/end anchorages as recommended by the Manufacturer, as directed by the Engineer, and in accordance with the requirements of this special note.

GENERAL REQUIREMENTS. The HTC median barrier system 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. Geotechnical information of the project area shall be used by the Manufacturer to design the sizes and depths of the anchors and footings.

Intermediate line posts shall be socketed with sleeves set in concrete. The maximum post spacing for the HTC System shall be 10.5 feet, center to center.

MATERIALS. Materials for the HTC System shall be according to the following. Section references are from the *Kentucky Standard Specifications For Road and Bridge Construction*.

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 ¾ inch diameter, 3x7 wire rope construction meeting AASHTO M30 Type I Class A coating, except the breaking strength minimum shall be 39,000 pounds. The wire rope shall be prestretched during manufacturing to exhibit a minimum modulus of elasticity of 11,805,090 pounds/inch^2 after pre-stretching.

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 4

Fittings. Only swaged fittings shall be provided. Field-installed, galvanized-steel fittings (i.e., turnbuckles and splices) shall be one-inch diameter. Factory applied or stainless steel fittings shall be per the manufacturer's specifications. Fully fitted ropes shall develop a Minimum Breaking Load (MBL) of 36,800 pounds. 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 develop minimum tensile loads without yielding to 36,800 pounds and shall be galvanized after threading to ASTM A-153 or stainless steel.

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 develop minimum tensile loads of the entire wire rope of 36,800 pounds without yielding, shall be capable of release and reuse, and shall be galvanized after threading 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 anchors 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 the manufacturer'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 strand of cable-rope. For installations less than 1,000 feet in length, one Turnbuckle per strand shall be included near the center of the installation.

SPECIAL NOTE FOR
HIGH TENSION CABLE-ROPE MEDIAN BARRIER

Sheet 3 of 4

At all locations where the cable-rope is connected to a cable-rope socket with a wedge type connection, one wire of the wire rope shall be crimped over the base of the wedge to hold it firmly in place.

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.

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.

SPECIAL NOTE FOR
HIGH TENSION CABLE-ROPE MEDIAN BARRIER

Sheet 4 of 4

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.

PAYMENT

Code	Pay Item	Pay Unit
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.

TRAFFIC CONTROL PLAN

THIS PROJECT IS A FULLY CONTROLLED ACCESS HIGHWAY

TRAFFIC CONTROL GENERAL

The traffic control plan for the pavement rehabilitation portion of this proposal shall be used for the HTC Median Barrier installation and supersedes any discrepancies with the traffic control plan for the HTC Median Barrier installation.

Until the Department makes final written acceptance of the work, the Contractor shall rebuild, repair, and restore any portion of the HTC median barrier system damaged by any cause, including regular traffic impact. The Contractor shall bear the expense of these repairs. Partial acceptance for completed sections of HTC median barrier system shall be allowed at the end of the Construction season.

PROJECT PHASING & CONSTRUCTION PROCEDURES

The following closures will be allowed for I-275:

When work is being conducted in the median, the Contractor must have an interior shoulder closure in both directions at a minimum. Only minor operations which will cause no disruption to traffic flow (e.g. system layout, site preparation, etc.) may be allowed, at the Engineer's discretion, during shoulder closures. All other work must be conducted during the closure of the interior lane (fast lane) and shoulder. No equipment or material deliveries will be allowed under the shoulder closure scheme.

The interior shoulder may be closed at any time throughout the project (except on "No Closure" dates shown in the roadway Traffic Control Plan).

ALL TRAFFIC CONTROL DEVICES MUST BE MOVED FROM THE PAVED SURFACE BY THE TIMES SPECIFIED FOR LANE CLOSURES.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN THE MEDIAN AT ALL TIMES ON THE PROJECT.

HTC END LOCATIONS KENTON/CAMPBELL COUNTY	
MILEPOINTS	**LENGTH**
77.2	1584’
77.5	
77.8	10296’
79.75	
80.2	2640’
80.7	
80.82	3854’
81.55	
TOTAL:	18374’

NOTE:
These locations have been assumed for the purpose of quantifying the project. Exact locations are to be determined by the Vendor and the Contractor and are to be documented in the HTC Median Barrier System Layout Plans.

APPENDIX
GEOTECHNICAL REPORT SHEETS

PROPOSED HTC MEDIAN BARRIER		ITEM NO: 6-2800.20
KENTON & CAMPBELL COUNTY	ROUTE: I-275	MILEPOINT: 77.2 TO 81.55

(R-028-2009)

M E M O R A N D U M

TO: **Kevin Martin, PE**
Office of Project Development
Division of Highway Design

FROM: **Bart Asher, PE**
Geotechnical Branch Manager
Division of Structural Design

BY: **Jason Wright**
Geotechnical Branch

DATE: **April 7, 2010**

SUBJECT: **Boone, Kenton and Campbell Counties**
STP 2759 (110)
I-275 Median-Cable Guardrail
Mile Post 13.8 to 81.6
Item # 6-2800.00
Mars # 8338401D
Cable Barrier Anchor Testing

Drilling activities were completed in February 2010. The summary of soil conditions represents soils within the stated project limits. Boring locations were located at provided anchor points and intervals approximately 0.5 to 1 mile between anchor points. At each hole a SPT sample was driven after the first two feet and every five feet thereafter, to a depth no greater than fifteen feet and the associated blow counts were recorded. Also, a bag sample was obtained. The Driller's Subsurface Logs contain the depth of the hole, SPT values, soil description, depth to refusal (if encountered).Refusal was encountered due to limestone and/or shale at the accompanying depths.

Holes labeled with an "A" are the SPT's. A boring plan is attached so hole numbers can be referenced to the mile point where the boring was taken. All testing is attached.

The average Frost Depth for Kentucky is 2.0 feet.

If there are any questions, please contact the Geotechnical Branch at (502) 564-2374.

Attachments:

M E M O R A N D U M **BP for R-028-2009**

TO: **Kevin Martin, PE**
Office of Project Development
Division of Highway Design

FROM: **Bart Asher, PE**
Geotechnical Branch Manager
Division of Structural Design

BY: **Jason Wright**
Geotechnical Branch

DATE: **January 8, 2010**

SUBJECT: **Boone, Kenton and Campbell Counties**
STP 2759 (110)
I-275 Median-Cable Guardrail
Mile Post 13.8 to 81.6
Item # 6-2800.00
Mars # 8338401D
Subsurface Boring Locations

The following list of borings is required to complete the Geotechnical Report for this project. Stantec will be responsible for drilling and sampling all borings. The district will be responsible for staking. Stantec will be responsible for coordination of traffic control. Please include hole number and mile point on drilling logs. All drilling shall be completed and boring logs and samples shall be delivered to the Geotechnical Branch by January 29, 2010. The drilling will be as follows:

I. Disturbed Soil Borings/Standard Penetration Test (SPT) - Disturbed borings and SPT shall be obtained at the following intervals. **Disturbed borings** shall extend to 15 feet or to top of bedded material whichever occurs first. A bag sample, if possible, shall be obtained for every location listed below. **A SPT** shall be taken after the first 2 feet and every five feet thereafter.

NOTE: Please note the following on the drilling logs:

1. Is soil granular or cohesive?
2. Boring located in a cut or fill
3. Were boulders encountered?
4. Is area wet and what depth was water encountered

Kevin Martin, PE
December 23, 2009
Page 2
Note: Offset is what side of the median that the boring shall be drilled (Eastbound side or Westbound side)

Boone County

Hole #	Milepost	Offset	Depth
1	0.70	EB	15’
2	1.00	EB	15’
3	1.10	WB	15’
4	5.85	WB	15’
5	5.95	WB	15’
6	9.00	WB	15’
7	9.10	WB	15’
8	11.40	WB	15’
9	11.50	EB	15’
10	13.25	EB	15’

Kenton/Campbell Counties

11	81.55	EB	15’
12	80.90	EB	15’
13	80.70	WB	15’
14	80.20	WB	15’
15	79.75	EB	15’
16	77.80	EB	15’
17	77.15	EB	15
18	77.00	EB	15’
19	76.08	EB	15’
20	76.05	WB	15’
21	75.50	WB	15’

If there are any questions please advise.

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Printed: 4/7/10

Project ID: *R-028-2009* Item Number: *06-2800*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *11*	Immediate Water Depth *NA*	Start Date *01/29/2010*	Hole Type *sounding*
Surface Elevation *'*	Static Water Depth *NA*	End Date *01/29/2010*	Rig Number
Total Depth *3.4'*	Driller *James Felts*	Latitude(83)	
Location *+ ' Lt.*	Geologist	Longitude(83)	

Elevation	Depth	Description	Jar #	NMC (%)
		(Refusal @ 3.4)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Printed: 4/7/10

Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *12*	Immediate Water Depth *NA*	Start Date *01/28/2010*	Hole Type *fill profile*
Surface Elevation *'*	Static Water Depth *NA*	End Date *01/28/2010*	Rig_Number
Total Depth *15.0'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Elevation	Depth	Description	Jar #	NMC (%)
		medium stiff, dark gray, clay, limestone floaters, shale fill and pebbles, more dry at 6.0, limestone boulders at 6.6' - 6.6' Bag #24	NMC #24 @ 5'	
	15.0	(No Refusal)		

Bag # - Indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Kentucky Transportation Cabinet
Division of Structural Design, Geotechnical Branch
1236 Wilkinson Blvd
Frankfort KY, 40601

Test By: _____
Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	12
Lab ID #:	1033	Depth (ft.):	1.5-15.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	96.8	No. 4	93.7
No. 10	89.1	No. 40	83.9	No. 200	80.1
0.002 mm	42.8				

Gravel (-3" + No.10)	10.9	Coarse Sand (-No.10 + No. 40)	5.2
Fine Sand(-No.40+No.200)	3.8	Silts (-No.200+0.002mm)	37.3
Clay(-0.002mm)	42.8	Colloids (-0.001 mm)	33.8

Liquid Limit:	45	Plastic Limit:	21	Plasticity Index:	24
		Activity:	0.56	Spec. Gravity:	2.713

AASHTO Classification:	A-7-6 (19)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	16.30
D 30 (mm):	ata is needed to calculate D 30	LIQ=	0.195947414
D 50 (mm):	0.004		
D 60 (mm):	0.011		
D 90 (mm):	2.361		
D 95 (mm):	6.34		

Remarks:

Cu = ####### (not used)

Cc = ####### (not used)

Copies:

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Printed: 4/7/10

Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *12A*	Immediate Water Depth *NA*	Start Date *01/28/2010*	Hole Type *sample*
Surface Elevation '	Static Water Depth *NA*	End Date *01/28/2010*	Rig Number
Total Depth *15.0'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Lithology Elevation	Lithology Depth	Description (Overburden / Rock Core)	Sample No. / Std/Ky RQD	Depth (ft) Run (ft)	Rec. (ft) Rec (ft)	SPT Blows Rec (%)	Sample Type SDI (JS)	Remarks
	0.2	(Topsoil).						
	1.5	Gravel.						
			1	2.5-4.0		3-6-8	SPT	
5								5
		Medium stiff, dark gray, clay with limestone floaters (shale fill and pebbles,; more dry at 6.0; limestone boulders at 6.6' - 6.8').	2	7.5-9.0		7-7-7	SPT	
10								10
			3	12.5-14.0		4-5-7	SPT	
15	15.0							15
20		(Bottom of Hole 15.0') (No Refusal)						20
25								25
30								30
35								35
40								40
45								45
50								50

Kentucky Transportation Cabinet
Division of Structural Design, Geotechnical Branch
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Frankfort KY, 40601
Rev. 3/2008

Test By: _____
Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	12A
Lab ID #:	1058	Depth (ft.):	2.5-9.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	95.4
3/4"	91.8	3/8"	88.5	No. 4	86.8
No. 10	85.7	No. 40	82.6	No. 200	79.1
0.002 mm	31.8				

Gravel (-3" + No.10)	14.3	Coarse Sand (-No.10 + No. 40)	3.1
Fine Sand(-No.40+No.200)	3.5	Silts (-No.200+0.002mm)	47.3
Clay(-0.002mm)	31.8	Colloids (-0.001 mm)	23.3

Liquid Limit:	39	Plastic Limit:	21	Plasticity Index:	18
		Activity:	0.57	Spec. Gravity:	2.734

AASHTO Classification:	A-6	(14)
Unified Classification:	CL	

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	13.70
D 30 (mm):	ata is needed to calculate D 30	LIQ=	-0.405828309
D 50 (mm):	0.008		
D 60 (mm):	0.017		
D 90 (mm):	13.075		
D 95 (mm):	24.265		

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009
Lab ID #:	1059
Hole #:	12A
Depth (ft.):	12.5-14.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	90.7	3/8"	85.8	No. 4	80.9
No. 10	75.6	No. 40	72.6	No. 200	69.8
0.002 mm	27.5				

Gravel (-3" + No.10)	24.4	Coarse Sand (-No.10 + No. 40)	3.1
Fine Sand(-No.40+No.200)	2.7	Silts (-No.200+0.002mm)	42.4
Clay(-0.002mm)	27.5	Colloids (-0.001 mm)	18.4

Liquid Limit:	38	Plastic Limit:	21	Plasticity Index:	17
		Activity:	0.62	Spec. Gravity:	2.544

AASHTO Classification:	A-6 (10)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	8.33
D 30 (mm):	0.002	LIQ=	-0.745098039
D 50 (mm):	0.014		
D 60 (mm):	0.032		
D 90 (mm):	17.112		
D 95 (mm):	21.555		

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

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SUBSURFACE PROFILE LOG

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Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *13*	Immediate Water Depth *NA*	Start Date *02/01/2010*	Hole Type *fill profile*
Surface Elevation *'*	Static Water Depth *NA*	End Date *02/01/2010*	Rig_Number
Total Depth *15.0'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Elevation	Depth	Description	Jar #	NMC (%)
		soft to medium stiff, dark brown, moist to dry, clay, limestone and shale fragments, boulders at 3.7' - 3.9'; 7.1' - 7.3'; 8.8' - 9.1', some gravel, some fill material from 10.3' - 12.0' Bag #23	NMC #23 @ 5'	
	15.0	(No Refusal)		

Bag # - Indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

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Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	13
Lab ID #:	1038	Depth (ft.):	1.6-15.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	94.4	No. 4	91.5
No. 10	86.9	No. 40	86.2	No. 200	82.7
0.002 mm	32.2				

Gravel (-3" + No.10)	13.1	Coarse Sand (-No.10 + No. 40)	0.6
Fine Sand(-No.40+No.200)	3.5	Silts (-No.200+0.002mm)	50.6
Clay(-0.002mm)	32.2	Colloids (-0.001 mm)	23.6

Liquid Limit:	40	Plastic Limit:	20	Plasticity Index:	20
		Activity:	0.62	Spec. Gravity:	2.790

AASHTO Classification:	A-6 (16)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	17.18
D 30 (mm):	ata is needed to calculate D 30	LIQ=	-0.140786749
D 50 (mm):	0.007		
D 60 (mm):	0.015		
D 90 (mm):	3.604		
D 95 (mm):	10.286		

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

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DRILLER'S SUBSURFACE LOG

Printed: 4/7/10

Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *13A*	Immediate Water Depth *NA*	Start Date *02/01/2010*	Hole Type *sample*
Surface Elevation *'*	Static Water Depth *NA*	End Date *02/01/2010*	Rig_Number
Total Depth *15.0'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Lithology Elevation	Lithology Depth	Description (Overburden / Rock Core)	Sample No.	Depth (ft) Run (ft)	Rec. (ft) Rec (ft)	SPT Blows Rec (%)	Sample Type SDI (JS)	Remarks
	0.1	(Topsoil).						
	0.6	Gravel.						
			1	2.5-4.0		3-20-22	SPT	
5		Soft to medium stiff, dark brown, moist to dry, clay with limestone and shale fragments (Boulders at 3.7' - 3.9'; 7.1' - 7.3'; 8.8' - 9.1', some gravel, some fill material from 10.3' - 12.0').						5
			2	7.5-9.0		4-8-20	SPT	
10								10
			3	12.5-14.0		16-17-8	SPT	
15	15.0							15
		(Bottom of Hole 15.0') (No Refusal)						
20								20
25								25
30								30
35								35
40								40
45								45
50								50

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Rev. 3/2008

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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	13A
Lab ID #:	1060	Depth (ft.):	2.5-9.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	94.2
3/4"	91.3	3/8"	88.6	No. 4	83.0
No. 10	77.7	No. 40	74.6	No. 200	71.9
0.002 mm	29.8				

Gravel (-3" + No.10)	22.3	Coarse Sand (-No.10 + No. 40)	3.0
Fine Sand(-No.40+No.200)	2.7	Silts (-No.200+0.002mm)	42.1
Clay(-0.002mm)	29.8	Colloids (-0.001 mm)	20.6

Liquid Limit:	40	Plastic Limit:	21	Plasticity Index:	19
		Activity:	0.64	Spec. Gravity:	2.599

AASHTO Classification:	A-6 (13)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10
D 30 (mm):	0.002
D 50 (mm):	0.011
D 60 (mm):	0.027
D 90 (mm):	13.673
D 95 (mm):	27.571

NAT MT = 10.12
LIQ= -0.572422793

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

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SUBSURFACE PROFILE LOG

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Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *14*	Immediate Water Depth *NA*	Start Date *01/29/2010*	Hole Type *fill profile*
Surface Elevation *'*	Static Water Depth *NA*	End Date *01/29/2010*	Rig Number
Total Depth *15.0'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Elevation	Depth	Description	Jar #	NMC (%)
		dark brown, dry, shaley fat clay, Limestone boulders at 2.9' - 3.1'; 4.1' - 4.2'; 5.7' - 5.9' Bag #22	NMC #22 @ 5'	
	15.0	(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

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1236 Wilkinson Blvd
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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	14
Lab ID #:	1034	Depth (ft.):	2-15.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	96.6	No. 4	92.8
No. 10	88.7	No. 40	83.5	No. 200	80.5
0.002 mm	41.3				

Gravel (-3" + No.10)	11.3	Coarse Sand (-No.10 + No. 40)	5.2
Fine Sand(-No.40+No.200)	3.1	Silts (-No.200+0.002mm)	39.2
Clay(-0.002mm)	41.3	Colloids (-0.001 mm)	31.5

Liquid Limit:	39	Plastic Limit:	19	Plasticity Index:	20
		Activity:	0.48	Spec. Gravity:	2.632

AASHTO Classification:	A-6	(15)
Unified Classification:	CL	

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	12.75
D 30 (mm):	ata is needed to calculate D 30	LIQ=	-0.312455726
D 50 (mm):	0.004		
D 60 (mm):	0.011		
D 90 (mm):	2.622		
D 95 (mm):	7.075		

Remarks:

Cu = ####### (not used)

Cc = ####### (not used)

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DRILLER'S SUBSURFACE LOG

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Page 1 of 1

Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *14A*	Immediate Water Depth *NA*	Start Date *01/29/2010*	Hole Type *sample*
Surface Elevation '	Static Water Depth *NA*	End Date *01/29/2010*	Rig Number
Total Depth *15.0'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Lithology Elevation	Lithology Depth	Description (Overburden / Rock Core)	Sample No. / Std/Ky RQD	Depth (ft) / Run (ft)	Rec. (ft) / Rec (ft)	SPT Blows / Rec (%)	Sample Type / SDI (JS)	Remarks
	0.3	(Topsoil).						
		Dark gray, damp to dry, clay with limestone fragments.	1	2.5-4.0		4-7-8	SPT	
5	6.0							5
	9.0	Gray, dry, shale fill/spoil.	2	7.5-9.0		3-5-7	SPT	
10		Dark brown, dry, shaley fat clay (limestone boulders at 2.9' - 3.1'; 4.1' - 4.2'; 5.7' - 5.9').						10
			3	12.5-14.0		6-6-7	SPT	
15	15.0							15
20		(Bottom of Hole 15.0') (No Refusal)						20
25								25
30								30
35								35
40								40
45								45
50								50

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Division of Structural Design, Geotechnical Branch
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Rev. 3/2008

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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	14A
Lab ID #:	1061	Depth (ft.):	2.5-9.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	87.8	No. 4	80.7
No. 10	74.2	No. 40	70.6	No. 200	68.0
0.002 mm	23.5				

Gravel (-3" + No.10)	25.8	Coarse Sand (-No.10 + No. 40)	3.7
Fine Sand(-No.40+No.200)	2.6	Silts (-No.200+0.002mm)	44.5
Clay(-0.002mm)	23.5	Colloids (-0.001 mm)	15.0

Liquid Limit:	38	Plastic Limit:	21	Plasticity Index:	17
		Activity:	0.72	Spec. Gravity:	2.790

AASHTO Classification:	A-6 (10)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10
D 30 (mm):	0.003
D 50 (mm):	0.017
D 60 (mm):	0.039
D 90 (mm):	10.754
D 95 (mm):	14.294

NAT MT = 12.45
LIQ= -0.503155769

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	14A
Lab ID #:	1062	Depth (ft.):	12.5-15.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	93.4	No. 4	87.9
No. 10	83.3	No. 40	79.1	No. 200	76.6
0.002 mm	23.7				

Gravel (-3" + No.10)	16.7	Coarse Sand (-No.10 + No. 40)	4.2
Fine Sand(-No.40+No.200)	2.5	Silts (-No.200+0.002mm)	52.9
Clay(-0.002mm)	23.7	Colloids (-0.001 mm)	15.6

Liquid Limit:	34	Plastic Limit:	20	Plasticity Index:	14
		Activity:	0.59	Spec. Gravity:	2.789

AASHTO Classification:	A-6	(10)
Unified Classification:	CL	

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	6.80
D 30 (mm):	0.003	LIQ=	-0.942662779
D 50 (mm):	0.012		
D 60 (mm):	0.024		
D 90 (mm):	6.168		
D 95 (mm):	11.222		

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

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SUBSURFACE PROFILE LOG

Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *16*	Immediate Water Depth *NA*	Start Date *01/28/2010*	Hole Type *fill profile*
Surface Elevation *'*	Static Water Depth *NA*	End Date *01/28/2010*	Rig Number
Total Depth *15.0'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Elevation	Depth	Description	Jar #	NMC (%)
		soft to medium stiff, dark brown, moist, clay, limestone layers Bag #20	NMC #20 @ 8'	
	11.0			
		dark brown, moist, fat clay, shale and limestone fragments Bag #21	NMC #21 @ 13'	
	15.0	(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	15
Lab ID #:	1035	Depth (ft.):	7-11.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	88.2	No. 4	79.1
No. 10	68.5	No. 40	58.7	No. 200	53.9
0.002 mm	22.4				

Gravel (-3" + No.10)	31.5	Coarse Sand (-No.10 + No. 40)	9.8
Fine Sand(-No.40+No.200)	4.8	Silts (-No.200+0.002mm)	31.5
Clay(-0.002mm)	22.4	Colloids (-0.001 mm)	18.0

Liquid Limit:	31	Plastic Limit:	16	Plasticity Index:	15
		Activity:	0.67	Spec. Gravity:	2.729

AASHTO Classification:	A-6 (5)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10
D 30 (mm):	0.005
D 50 (mm):	0.048
D 60 (mm):	0.525
D 90 (mm):	10.573
D 95 (mm):	14.173

NAT MT = 10.32
LIQ= -0.378606534

Remarks:

Cu = ####### (not used)

Cc = ####### (not used)

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DRILLER'S SUBSURFACE LOG

Project ID: **R-028-2009**	**Boone - I-275 MP 13.8-81.6**	Project Type: **Roadway**
Item Number: **06-2800.**		Project Manager: **Jason Wright**

Hole Number **15A**	Immediate Water Depth **NA**	Start Date **01/28/2010**	Hole Type **sample**
Surface Elevation '	Static Water Depth **NA**	End Date **01/28/2010**	Rig_Number
Total Depth **15.0'**	Driller **James Felts**	Latitude(83)	
Location **+ 'Lt.**	Geologist	Longitude(83)	

Lithology Elevation	Lithology Depth	Description (Overburden / Rock Core)	Sample No.	Depth (ft) Run (ft)	Rec. (ft) Rec (ft)	SPT Blows Rec (%)	Sample Type SDI (JS)	Remarks Std/Ky RQD
	0.2	(Topsoil).						
	0.9	Gravel.						
	1.4	Limestone boulders.						
	2.1	Stiff, dark gray, dry, clay.						
5	2.7	Limestone boulders.	1	3.0-4.5		9-8-7	SPT	5
	6.0	Medium stiff, dark gray, moist, clay with limestone pebbles.						
		Soft to medium stiff, dark brown, moist, clay with limestone layers.	2	7.5-9.0		8-11-28	SPT	
10	11.0							10
		Medium stiff, dark brown, moist, fat clay with shale and limestone fragments.	3	12.5-14.0		4-5-7	SPT	
15	15.0							15
20		(Bottom of Hole 15.0') (No Refusal)						20
25								25
30								30
35								35
40								40
45								45
50								50

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Rev. 3/2008

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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	15A
Lab ID #:	1063	Depth (ft.):	3.0-4.5

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	79.5
3/4"	76.0	3/8"	68.2	No. 4	61.2
No. 10	54.9	No. 40	50.1	No. 200	47.4
0.002 mm	16.9				

Gravel (-3" + No.10)	45.1	Coarse Sand (-No.10 + No. 40)	4.9
Fine Sand(-No.40+No.200)	2.6	Silts (-No.200+0.002mm)	30.6
Clay(-0.002mm)	16.9	Colloids (-0.001 mm)	11.4

Liquid Limit:	30	Plastic Limit:	18	Plasticity Index:	12
		Activity:	0.71	Spec. Gravity:	2.678

AASHTO Classification:	A-6 (3)
Unified Classification:	GC

D 10 (mm):	ata is needed to calculate D 10
D 30 (mm):	0.009
D 50 (mm):	0.41
D 60 (mm):	4.016
D 90 (mm):	35.65
D 95 (mm):	42.22

NAT MT = 28.33
LIQ= 0.860037088

Remarks:

Cu = ####### (not used)

Cc = ####### (not used)

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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009
Lab ID #:	1064
Hole #:	15A
Depth (ft.):	12.5-14.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	100.0	No. 4	100.0
No. 10	100.0	No. 40	98.7	No. 200	95.5
0.002 mm	52.4				

Gravel (-3" + No.10)	0.0	Coarse Sand (-No.10 + No. 40)	1.3
Fine Sand(-No.40+No.200)	3.2	Silts (-No.200+0.002mm)	43.1
Clay(-0.002mm)	52.4	Colloids (-0.001 mm)	45.7

Liquid Limit:	53	Plastic Limit:	24	Plasticity Index:	29
		Activity:	0.55	Spec. Gravity:	2.720

AASHTO Classification:	A-7-6 (31)
Unified Classification:	CH

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	19.38
D 30 (mm):	ata is needed to calculate D 30	LIQ=	-0.159315691
D 50 (mm):	ata is needed to calculate D 50		
D 60 (mm):	0.004		
D 90 (mm):	0.047		
D 95 (mm):	0.072		

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

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SUBSURFACE PROFILE LOG

Project ID: **R-028-2009** Item Number: **06-2800.**	**Boone - I-275 MP 13.8-81.6**	Project Type: **Roadway** Project Manager: **Jason Wright**

Hole Number **16**	Immediate Water Depth **NA**	Start Date **01/28/2010**	Hole Type **fill profile**
Surface Elevation '	Static Water Depth **NA**	End Date **01/28/2010**	Rig Number
Total Depth **12.4'**	Driller **James Felts**	Latitude(83)	
Location **+ 'Lt.**	Geologist	Longitude(83)	

Elevation	Depth	Description	Jar #	NMC (%)
		stiff to medium stiff, dark gray to gray, damp to dry, clay, limestone and shale fragments, limestone layers Bag #19	NMC #19 @ 5'	
	12.4	(Refusal @ 12.4)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Kentucky Transportation Cabinet
Division of Structural Design, Geotechnical Branch
1236 Wilkinson Blvd
Frankfort KY, 40601

Test By: _____
Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	16
Lab ID #:	1038	Depth (ft.):	1.1-11.1

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	95.8	3/8"	93.8	No. 4	92.1
No. 10	89.9	No. 40	56.1	No. 200	23.0
0.002 mm	5.8				

Gravel (-3" + No.10)	10.1	Coarse Sand (-No.10 + No. 40)	33.8
Fine Sand(-No.40+No.200)	33.0	Silts (-No.200+0.002mm)	17.2
Clay(-0.002mm)	5.8	Colloids (-0.001 mm)	2.9

Liquid Limit:	43	Plastic Limit:	20	Plasticity Index:	23
		Activity:	3.94	Spec. Gravity:	2.701

AASHTO Classification:	A-2-4	(0)
Unified Classification:	SC	

D 10 (mm):	0.005
D 30 (mm):	0.108
D 50 (mm):	0.309
D 60 (mm):	0.509
D 90 (mm):	2.095
D 95 (mm):	14.352

NAT MT = 20.24
LIQ= 0.010604454

Remarks:

Cu = 105.84 (not used)

Cc = 4.7826 (not used)

Copies:

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Printed: 4/7/10

Project ID: *R-028-2009*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway*
Item Number: *06-2800.*		Project Manager: *Jason Wright*

Hole Number *16A*	Immediate Water Depth *NA*	Start Date *01/28/2010*	Hole Type *sample*
Surface Elevation '	Static Water Depth *NA*	End Date *01/28/2010*	Rig_Number
Total Depth *12.4'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Lithology Elevation	Lithology Depth	Description (Overburden / Rock Core)	Sample No. Std/Ky RQD	Depth (ft) Run (ft)	Rec. (ft) Rec (ft)	SPT Blows Rec (%)	Sample Type SDI (JS)	Remarks
	0.1	(Topsoil).						
	1.1	Gravel.						
			1	2.5-4.0		4-8-9	SPT	
5		Stiff to medium stiff, dark gray to gray, damp to dry, clay with limestone and shale fragments (limestone layers).						5
			2	7.5-9.0		4-4-14	SPT	
10	11.1							10
	12.4	Gray, weathered shale with limestone layers.						
15		(Bottom of Hole 12.4') (Refusal @ 12.4)						15
20								20
25								25
30								30
35								35
40								40
45								45
50								50

Kentucky Transportation Cabinet
Division of Structural Design, Geotechnical Branch
1236 Wilkinson Blvd
Frankfort KY, 40601

Rev. 3/2008

Test By: _____
Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	16A
Lab ID #:	1065	Depth (ft.):	2.5-9.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	100.0	No. 4	100.0
No. 10	100.0	No. 40	97.6	No. 200	94.3
0.002 mm	35.6				

Gravel (-3" + No.10)	0.0	Coarse Sand (-No.10 + No. 40)	2.4
Fine Sand(-No.40+No.200)	3.3	Silts (-No.200+0.002mm)	58.7
Clay(-0.002mm)	35.6	Colloids (-0.001 mm)	25.5

Liquid Limit:	39	Plastic Limit:	21	Plasticity Index:	18
		Activity:	0.51	Spec. Gravity:	2.733

AASHTO Classification:	A-6	(18)
Unified Classification:	CL	

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	21.76
D 30 (mm):	ata is needed to calculate D 30	LIQ=	0.04218107
D 50 (mm):	0.005		
D 60 (mm):	0.009		
D 90 (mm):	0.057		
D 95 (mm):	0.107		

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

Copies:

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Page 1 of 1

Project ID: *R-028-2009*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway*
Item Number: *06-2800.*		Project Manager: *Jason Wright*

Hole Number *17*	Immediate Water Depth *NA*	Start Date *01/28/2010*	Hole Type *fill profile*
Surface Elevation *'*	Static Water Depth *NA*	End Date *01/28/2010*	Rig_Number
Total Depth *15.0'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Elevation	Depth	Description	Jar #	NMC (%)
	6.0	dark gray, dry, clay, limestone pebbles, boulder at 3.4' - 3.8', 8.1' - 8.3', 9.9' - 10.2', 11.7' - 11.8'; wet zone 4.1' - 6.0'; dry at 6.0' Bag #17	NMC #17 @ 5'	
	15.0	dark gray, dry, clay, limestone pebbles, boulder at 3.4' - 3.8', 8.1' - 8.3', 9.9' - 10.2', 11.7' - 11.8'; wet zone 4.1' - 6.0'; dry at 6.0' Bag #18	NMC #18 @ 10'	
		(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

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Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	17
Lab ID #:	1037	Depth (ft.):	4.1-6.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	93.1	No. 4	85.5
No. 10	76.7	No. 40	74.0	No. 200	70.5
0.002 mm	27.9				

Gravel (-3" + No.10)	23.3	Coarse Sand (-No.10 + No. 40)	2.7
Fine Sand(-No.40+No.200)	3.5	Silts (-No.200+0.002mm)	42.6
Clay(-0.002mm)	27.9	Colloids (-0.001 mm)	21.6

Liquid Limit:	31	Plastic Limit:	17	Plasticity Index:	14
		Activity:	0.50	Spec. Gravity:	2.588

AASHTO Classification:	A-6 (8)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	25.62
D 30 (mm):	0.002	LIQ=	0.630063966
D 50 (mm):	0.013		
D 60 (mm):	0.031		
D 90 (mm):	7.173		
D 95 (mm):	11.531		

Remarks:

Cu = ####### (not used)

Cc = ####### (not used)

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Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	17
Lab ID #:	1044	Depth (ft.):	6-15.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	97.5	3/8"	89.1	No. 4	80.8
No. 10	71.6	No. 40	67.6	No. 200	64.0
0.002 mm	28.5				

Gravel (-3" + No.10)	28.4	Coarse Sand (-No.10 + No. 40)	4.0
Fine Sand(-No.40+No.200)	3.0	Silts (-No.200+0.002mm)	35.5
Clay(-0.002mm)	28.5	Colloids (-0.001 mm)	22.7

Liquid Limit:	32	Plastic Limit:	17	Plasticity Index:	15
		Activity:	0.53	Spec. Gravity:	2.789

AASHTO Classification:	A-6 (7)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10
D 30 (mm):	0.002
D 50 (mm):	0.018
D 60 (mm):	0.05
D 90 (mm):	10.216
D 95 (mm):	15.459

NAT MT = 10.62
LIQ= -0.425318607

Remarks:

Cu = ####### (not used)

Cc = ####### (not used)

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DRILLER'S SUBSURFACE LOG

Printed: 4/7/10

Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *17A*	Immediate Water Depth *NA*	Start Date *01/28/2010*	Hole Type *sample*
Surface Elevation '	Static Water Depth *NA*	End Date *01/28/2010*	Rig_Number
Total Depth *15.0'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Lithology Elevation	Lithology Depth	Description (Overburden / Rock Core)	Sample No. Std/Ky RQD	Depth (ft) Run (ft)	Rec. (ft) Rec (ft)	SPT Blows Rec (%)	Sample Type SDI (JS)	Remarks
	0.2	(Topsoil).						
	2.1	Moist, sandy gravel/clay mix.						
			1	2.5-4.0		4-22-24	SPT	
5								5
		Dark gray, dry, clay with limestone pebbles (boulder at 3.4' - 3.8', 8.1' - 8.3', 9.9' - 10.2', 11.7' - 11.8'; wet zone 4.1' - 6.0'; dry at 6.0').	2	7.5-9.0		5-6-7	SPT	
10								10
			3	12.5-14.0		6-10-11	SPT	
15	15.0							15
		(Bottom of Hole 15.0') (No Refusal)						
20								20
25								25
30								30
35								35
40								40
45								45
50								50

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Frankfort KY, 40601
Rev. 3/2008

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Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	17A
Lab ID #:	1066	Depth (ft.):	2.5-4.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	92.5	3/8"	90.7	No. 4	90.2
No. 10	89.3	No. 40	87.7	No. 200	82.7
0.002 mm	22.6				

Gravel (-3" + No.10)	10.7	Coarse Sand (-No.10 + No. 40)	1.6
Fine Sand(-No.40+No.200)	5.0	Silts (-No.200+0.002mm)	60.1
Clay(-0.002mm)	22.6	Colloids (-0.001 mm)	14.3

Liquid Limit:	35	Plastic Limit:	20	Plasticity Index:	15
		Activity:	0.66	Spec. Gravity:	2.572

AASHTO Classification:	A-6	(12)
Unified Classification:	CL	

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	20.52
D 30 (mm):	0.003	LIQ=	0.034744843
D 50 (mm):	0.01		
D 60 (mm):	0.019		
D 90 (mm):	3.936		
D 95 (mm):	20.802		

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	17A
Lab ID #:	1067	Depth (ft.):	7.5-14.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	95.2	3/8"	83.9	No. 4	74.9
No. 10	65.0	No. 40	59.6	No. 200	55.4
0.002 mm	19.4				

Gravel (-3" + No.10)	35.0	Coarse Sand (-No.10 + No. 40)	5.4
Fine Sand(-No.40+No.200)	4.2	Silts (-No.200+0.002mm)	36.0
Clay(-0.002mm)	19.4	Colloids (-0.001 mm)	14.0

Liquid Limit:	32	Plastic Limit:	20	Plasticity Index:	12
		Activity:	0.62	Spec. Gravity:	2.666

AASHTO Classification:	A-6 (4)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	13.12
D 30 (mm):	0.006	LIQ=	-0.573372206
D 50 (mm):	0.043		
D 60 (mm):	0.476		
D 90 (mm):	13.791		
D 95 (mm):	18.72		

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

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Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Printed: 4/7/10

Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *18*	Immediate Water Depth *NA*	Start Date *01/28/2010*	Hole Type *sample*
Surface Elevation *'*	Static Water Depth *NA*	End Date *01/28/2010*	Rig_Number
Total Depth *5.7'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Lithology		Description	Sample No.	Depth (ft)	Rec. (ft)	SPT Blows	Sample Type	Remarks
Elevation	Depth	Overburden / Rock Core	Std/Ky RQD	Run (ft)	Rec (ft)	Rec (%)	SDI (JS)	
	0.2	(Topsoil).						
		Damp, sandy clay/gravel/pebble mix.						
	3.8		1	2.5-4.0		3-5-20	SPT	
5	5.7	Dark gray, weathered shale.						5
10		(Bottom of Hole 5.7') (Refusal @ 5.7)						10
15								15
20								20
25								25
30								30
35								35
40								40
45								45
50								50

Kentucky Transportation Cabinet
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Rev. 3/2008

Test By: _____
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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	18A
Lab ID #:	1068	Depth (ft.):	2.5-4.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	88.8	No. 4	79.2
No. 10	70.5	No. 40	63.3	No. 200	59.0
0.002 mm	24.5				

Gravel (-3" + No.10)	29.5	Coarse Sand (-No.10 + No. 40)	7.2
Fine Sand(-No.40+No.200)	4.3	Silts (-No.200+0.002mm)	34.5
Clay(-0.002mm)	24.5	Colloids (-0.001 mm)	17.6

Liquid Limit:	35	Plastic Limit:	21	Plasticity Index:	14
		Activity:	0.57	Spec. Gravity:	2.785

AASHTO Classification:	A-6	(6)
Unified Classification:	CL	

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	2.28
D 30 (mm):	0.004	LIQ=	-1.33692107
D 50 (mm):	0.029		
D 60 (mm):	0.112		
D 90 (mm):	10.241		
D 95 (mm):	13.949		

Remarks:

Cu = ####### (not used)

Cc = ####### (not used)

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Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Page 1 of 1

Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *19*	Immediate Water Depth *NA*	Start Date *01/28/2010*	Hole Type *sample*
Surface Elevation *'*	Static Water Depth *NA*	End Date *01/28/2010*	Rig_Number
Total Depth *3.9'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt*	Geologist	Longitude(83)	

Lithology Elevation	Lithology Depth	Description (Overburden / Rock Core)	Sample No. Std/Ky RQD	Depth (ft) Run (ft)	Rec. (ft) Rec (ft)	SPT Blows Rec (%)	Sample Type SDI (JS)	Remarks
	0.2	(Topsoil).						
	1.5	Moist, gravel/clay mix.						
	3.3	Dark brown, dry, clay with limestone layers.	1	2.5-3.6		7-20-50/0.10'	SPT	
	3.6	Gray, weathered shale.						
	3.9	Dark gray, limestone.						
		(Bottom of Hole 3.9') (Refusal @ 3.9)						

5
10
15
20
25
30
35
40
45
50

Kentucky Transportation Cabinet
Division of Structural Design, Geotechnical Branch
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Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	19
Lab ID #:	1069	Depth (ft.):	2.5-3.6

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	88.8	3/8"	85.4	No. 4	80.5
No. 10	75.9	No. 40	70.0	No. 200	66.0
0.002 mm	22.7				

Gravel (-3" + No.10)	24.1	Coarse Sand (-No.10 + No. 40)	6.0
Fine Sand(-No.40+No.200)	4.0	Silts (-No.200+0.002mm)	43.2
Clay(-0.002mm)	22.7	Colloids (-0.001 mm)	18.4

Liquid Limit:	31	Plastic Limit:	19	Plasticity Index:	12
		Activity:	0.53	Spec. Gravity:	2.588

AASHTO Classification:	A-6	(6)
Unified Classification:	CL	

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	17.74
D 30 (mm):	0.004	LIQ=	-0.105249745
D 50 (mm):	0.02		
D 60 (mm):	0.045		
D 90 (mm):	19.556		
D 95 (mm):	22.111		

Remarks:

Cu = ####### (not used)

Cc = ####### (not used)

Copies:

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: *R-028-2009* Item Number: *06-2800,*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *20*	Immediate Water Depth *NA*	Start Date *01/28/2010*	Hole Type *cut profile*
Surface Elevation *'*	Static Water Depth *NA*	End Date *01/28/2010*	Rig Number
Total Depth *13.1'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Elevation	Depth	Description	Jar #	NMC (%)
	5.5	soft, dark brown to black, moist, clay, limestone pebbles, limestone boulders at 1.9' - 2.4' Bag #15	NMC #15 @ 4'	21.6
	13.1	medium stiff, dark brown, dry, fat clay, limestone pebbles, limestone boulders at 11.9' - 12.1' Bag #16	NMC #16 @ 9'	9.0
		(Refusal @ 13.1)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009
Lab ID #:	1021
Hole #:	20
Depth (ft.):	2.4-5.5

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	97.8	No. 4	94.3
No. 10	90.7	No. 40	87.2	No. 200	80.1
0.002 mm	37.1				

Gravel (-3" + No.10)	9.3	Coarse Sand (-No.10 + No. 40)	3.5
Fine Sand(-No.40+No.200)	1.1	Silts (-No.200+0.002mm)	49.0
Clay(-0.002mm)	37.1	Colloids (-0.001 mm)	30.3

Liquid Limit:	44	Plastic Limit:	20	Plasticity Index:	24
		Activity:	0.65	Spec. Gravity:	2.702

AASHTO Classification:	A-7-6 (21)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	21.60
D 30 (mm):	ata is needed to calculate D 30	LIQ=	0.066609977
D 50 (mm):	0.005		
D 60 (mm):	0.011		
D 90 (mm):	1.461		
D 95 (mm):	5.498		

Remarks:

Cu = ####### (not used)

Cc = ####### (not used)

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Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	20
Lab ID #:	1024	Depth (ft.):	5.5-12.1

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	95.2	No. 4	89.9
No. 10	82.7	No. 40	77.7	No. 200	74.0
0.002 mm	32.3				

Gravel (-3" + No.10)	17.3	Coarse Sand (-No.10 + No. 40)	5.0
Fine Sand(-No.40+No.200)	3.7	Silts (-No.200+0.002mm)	41.7
Clay(-0.002mm)	32.3	Colloids (-0.001 mm)	28.9

Liquid Limit:	45	Plastic Limit:	19	Plasticity Index:	26
		Activity:	0.80	Spec. Gravity:	2.770

AASHTO Classification:	A-7-6 (18)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	16.20
D 30 (mm):	ata is needed to calculate D 30	LIQ=	-0.10780065
D 50 (mm):	0.009		
D 60 (mm):	0.022		
D 90 (mm):	4.836		
D 95 (mm):	9.288		

Remarks:

Cu = ####### (not used)

Cc = ####### (not used)

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DRILLER'S SUBSURFACE LOG

Page 1 of 1

Project ID: *R-028-2009* Item Number: *06-2800.*	*Boone - I-275 MP 13.8-81.6*	Project Type: *Roadway* Project Manager: *Jason Wright*

Hole Number *20A*	Immediate Water Depth *NA*	Start Date *01/28/2010*	Hole Type *sample*
Surface Elevation *'*	Static Water Depth *NA*	End Date *01/28/2010*	Rig_Number
Total Depth *13.1'*	Driller *James Felts*	Latitude(83)	
Location *+ 'Lt.*	Geologist	Longitude(83)	

Lithology Elevation	Lithology Depth	Description (Overburden / Rock Core)	Sample No. / Std/Ky RQD	Depth (ft) Run (ft)	Rec. (ft) Rec (ft)	SPT Blows Rec (%)	Sample Type SDI (JS)	Remarks
	0.2	(Topsoil).						
	1.5	Dark gray, gravel/clay mix.						
		Soft, dark brown black, moist, clay with limestone pebbles (limestone boulders at 1.9' - 2.4').	1	2.5-4.0		6-8-5	SPT	
5	5.5							5
		Medium stiff, dark brown, dry, fat clay with limestone pebbles (limestone boulders at 11.9' - 12.1').	2	7.5-9.0		4-8-9	SPT	
10								10
	12.5							
	13.1	Dark gray, limestone.	3	12.5-12.9		50/0.40'	SPT	
15								15
		(Bottom of Hole 13.1') (Refusal @ 13.1)						
20								20
25								25
30								30
35								35
40								40
45								45
50								50

Kentucky Transportation Cabinet
Division of Structural Design, Geotechnical Branch
1236 Wilkinson Blvd
Frankfort KY, 40601
Rev. 3/2008

Test By: _____
Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	20A
Lab ID #:	1070	Depth (ft.):	2.5-9.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	88.7	3/8"	82.2	No. 4	78.1
No. 10	73.8	No. 40	70.3	No. 200	67.0
0.002 mm	25.1				

Gravel (-3" + No.10)	26.2	Coarse Sand (-No.10 + No. 40)	3.5
Fine Sand(-No.40+No.200)	3.3	Silts (-No.200+0.002mm)	41.9
Clay(-0.002mm)	25.1	Colloids (-0.001 mm)	19.1

Liquid Limit:	38	Plastic Limit:	21	Plasticity Index:	17
		Activity:	0.68	Spec. Gravity:	2.750

AASHTO Classification:	A-6 (10)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10
D 30 (mm):	0.003
D 50 (mm):	0.017
D 60 (mm):	0.041
D 90 (mm):	19.626
D 95 (mm):	22.151

NAT MT = 17.94
LIQ= -0.179930796

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

Copies:

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-028-2009*** Item Number: ***06-2800.***	***Boone - I-275 MP 13.8-81.6***	Project Type: ***Roadway*** Project Manager: ***Jason Wright***

Hole Number ***21***	Immediate Water Depth ***NA***	Start Date ***01/29/2010***	Hole Type ***fill profile***
Surface Elevation ___'	Static Water Depth ***NA***	End Date ***01/29/2010***	Rig Number ___
Total Depth ***15.0'***	Driller ***James Felts***	Latitude(83) ___	
Location ***+ 'LT.***	Geologist ___	Longitude(83) ___	

Elevation	Depth	Description	Jar #	NMC (%)
		medium stiff, dark brown, damp, fat clay, limestone fragments, limestone boulders 7.1' - 7.3, 10.6' - 11.5' Bag #14	NMC #14 @ 7'	
	15.0	(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Kentucky Transportation Cabinet
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Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	21
Lab ID #:	1071	Depth (ft.):	2.5-4.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	94.1	3/8"	89.2	No. 4	81.9
No. 10	72.4	No. 40	69.4	No. 200	65.8
0.002 mm	26.6				

Gravel (-3" + No.10)	27.6	Coarse Sand (-No.10 + No. 40)	3.1
Fine Sand(-No.40+No.200)	3.6	Silts (-No.200+0.002mm)	39.2
Clay(-0.002mm)	26.6	Colloids (-0.001 mm)	20.4

Liquid Limit:	41	Plastic Limit:	21	Plasticity Index:	20
		Activity:	0.75	Spec. Gravity:	2.613

AASHTO Classification:	A-7-6	(11)
Unified Classification:	CL	

D 10 (mm):	ata is needed to calculate D 10
D 30 (mm):	0.003
D 50 (mm):	0.017
D 60 (mm):	0.044
D 90 (mm):	10.688
D 95 (mm):	19.821

NAT MT = 19.94
LIQ= -0.05297619

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

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Test By: _____
Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	21
Lab ID #:	1039	Depth (ft.):	4-15.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	100.0
3/4"	100.0	3/8"	99.0	No. 4	95.9
No. 10	91.9	No. 40	84.4	No. 200	78.8
0.002 mm	34.6				

Gravel (-3" + No.10)	8.1	Coarse Sand (-No.10 + No. 40)	7.5
Fine Sand(-No.40+No.200)	5.5	Silts (-No.200+0.002mm)	44.2
Clay(-0.002mm)	34.6	Colloids (-0.001 mm)	26.3

Liquid Limit:	37	Plastic Limit:	19	Plasticity Index:	18
		Activity:	0.52	Spec. Gravity:	2.761

AASHTO Classification:	A-6 (13)
Unified Classification:	CL

D 10 (mm):	ata is needed to calculate D 10	NAT MT =	20.27
D 30 (mm):	ata is needed to calculate D 30	LIQ=	0.070716916
D 50 (mm):	0.007		
D 60 (mm):	0.016		
D 90 (mm):	1.362		
D 95 (mm):	3.9		

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

Copies:

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Frankfort KY, 40601
Rev. 3/2008

Test By: _____
Technical Responsibility Dean Clements

Soil Classification and Gradation Test Results

AASHTO T 100
AASHTO T 90
AASHTO T 88

Tracking ID #:	R-028-2009	Hole #:	21
Lab ID #:	1072	Depth (ft.):	7.5-14.0

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"		2"	100.0	1"	87.0
3/4"	82.4	3/8"	66.7	No. 4	61.5
No. 10	55.4	No. 40	48.8	No. 200	45.3
0.002 mm	14.7				

Gravel (-3" + No.10)	44.6	Coarse Sand (-No.10 + No. 40)	6.7
Fine Sand(-No.40+No.200)	3.5	Silts (-No.200+0.002mm)	30.6
Clay(-0.002mm)	14.7	Colloids (-0.001 mm)	11.1

Liquid Limit:	32	Plastic Limit:	20	Plasticity Index:	12
		Activity:	0.82	Spec. Gravity:	2.620

AASHTO Classification:	A-6 (2)
Unified Classification:	GC

D 10 (mm):	ata is needed to calculate D 10
D 30 (mm):	0.012
D 50 (mm):	0.567
D 60 (mm):	3.846
D 90 (mm):	29.284
D 95 (mm):	38.265

NAT MT = 17.06
LIQ= -0.245261984

Remarks:

Cu = ###### (not used)

Cc = ###### (not used)

Copies:

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Project ID: R-028-2009 Item Number: 06-2800.	Boone - I-275 MP 13.8-81.6	Project Type: Roadway Project Manager: Jason Wright

Hole Number 21A	Immediate Water Depth NA	Start Date 01/29/2010	Hole Type sample
Surface Elevation '	Static Water Depth NA	End Date 01/29/2010	Rig_Number
Total Depth 15.0'	Driller James Felts	Latitude(83)	
Location + 'Lt.	Geologist	Longitude(83)	

Lithology Elevation	Lithology Depth	Description	Sample No.	Depth (ft)	Rec. (ft)	SPT Blows	Sample Type	Remarks
		Overburden / Rock Core	Std/Ky RQD	Run (ft)	Rec (ft)	Rec (%)	SDI (JS)	
	0.2	(Topsoil).						
	0.9	Gravel.						
	1.9	Gravel/clay mix.						
			1	2.5-4.0		3-9-7	SPT	
5								5
		Medium stiff, dark brown, damp, fat clay with limestone fragments (limestone boulders 7.1' - 7.3, 10.6' - 11.5').	2	7.5-9.0		6-7-14	SPT	
10								10
			3	12.5-14.0		4-3-5	SPT	
15	15.0							15
20		(Bottom of Hole 15.0') (No Refusal)						20
25								25
30								30
35								35
40								40
45								45
50								50

ESTIMATED SIGNAL QUANTITIES

KY 17 RAMP B	KY 17 RAMP D	KY 9 RAMP C	TOTAL	UNITS	CODE	ITEM DESCRIPTION
95	35	30	160	LIN FT	4793	CONDUIT 1 1/4 INCH
85	30	0	115	LIN FT	4795	CONDUIT 2 INCH
2	2	1	5	EACH	4811	JUNCTION BOX TYPE B
150	45	25	220	LIN FT	4820	TRENCHING AND BACKFILLING
1368	1320	614	3,302	LIN FT	4830	LOOP WIRE
0	0	90	90	LIN FT	4844	CABLE-NO. 14/5C
702	406	440	1,548	LIN FT	4850	CABLE-NO. 14/1 PAIR
503	500	231	1,234	LIN FT	4895	LOOP SAW SLOT AND FILL
0	0	2	2	EACH	20188NS835	INSTALL SIGNAL-3 SECTION LED

Signal Bid Item Notes

The Standard Specifications for Road and Bridge Construction, current edition, and other special notes and specifications will apply on this project.

Conduit shall include furnishing and installing specified conduit in accordance with specifications. This item includes conduit fittings, expansion joints, clamps, and weatherheads.

Junction box shall include furnishing and installing specified junction box in accordance with the specifications. This item includes concrete (if required), #57 aggregate, and backfilling and restoration of disturbed areas to the satisfaction of the resident engineer.

Trenching and backfilling shall include excavation, backfilling, and the restoration of disturbed areas to original condition. Incidental to this item shall be furnishing and installing underground utility warning tape (if required).

Wire or cable shall include furnishing and installing specified wire or cable within conduit, saw slot, or overhead as indicated on the detail sheets. The contractor shall install all cable or wire runs splice-free from the controller to each loop wire, signal head, pedestrian head/detector, camera, blankout sign and audible pedestrian head/detector the cable or wire is feeding. Exceptions to this must be approved by the engineer or as specified on the plans. Incidental to this item shall be the furnishing and installing of splice boots, cable rings or other hardware required for installing cable. Also incidental to this item shall be the removal of wire or cable feeding existing devices that are being replaced as part of this contract.

Loop saw slot and fill shall include sawing, cleaning and filling induction loop saw slot with loop sealant material.

Install Signal LED shall include installing specified signal LED indications and proper connection to signal conductors. Incidental to this item shall be the removal of the existing signal heads that are being replaced as part of this project.

The Contractor shall be responsible for picking up install items from the Frankfort pole yard and delivering these items to the site. The Contractor shall contact Frankfort pole yard personnel (502-564-3820) and arrange to pick up install items a minimum of two (2) working days prior to arrival. Failure to provide pole yard personnel this advance notice could result in long delays or refusal to distribute equipment upon arrival.

Contractor shall contact all utility companies and the District Utility Agent before any holes are dug or poles set to insure proper clearance and shielding from existing or proposed utility lines.

Contractor shall label all loop ends and cables inside the cabinet as designated on the plans. Payment for this shall be incidental to the cost of the project.

Induction loop conductors shall test free of shorts and unauthorized grounds and shall have an insulation resistance of at least one hundred meghohms when tested with a 500 VDC potential in a reasonably dry atmosphere between conductors and ground.

SPECIAL NOTES FOR TRAFFIC SIGNAL WORK

MATERIALS

All wire and cable shall be plainly marked in accordance with the provisions of the national electrical code. Loop wire shall be 14 AWG, stranded, copper and conform to IMSA 51-7. Loop lead-in cable shall be 14 AWG stranded, paired conductors, electrically shielded and conform to IMSA 19-2. Signal cable shall be 14 AWG, stranded, copper with the number of conductors indicated, and shall conform to IMSA 19-1.

Conduit shall be rigid steel. All rigid steel conduit shall be galvanized inside and out and shall conform to the Underwriters' Laboratories requirements for rigid metallic conduit.

Junction boxes shall conform to ANSI/SCTE 77 "Specifications for Underground Enclosure Integrity" for Tier 15. Covers shall have a minimum coefficient of friction of 0.05 in accordance with ASTM C1028, shall be marked "TRAFFIC" and be attached with 3/8 " stainless hex bolts.

CONSTRUCTION METHODS

The electrical contractor shall coordinate with the general contractor and inspector to ensure the loops are installed prior to final surface being installed.

All wiring shall conform to the provisions of the National Electrical Code unless otherwise shown on the details. Where more than one circuit is installed within the same conduit, permanent circuit identification numbers shall be affixed to the wires. All wires shall be permanently labeled within 6 inches of the input file.

Rigid steel conduit encasement shall be provided for all conductors except for overhead installations, where conductors are run inside poles or cabinets and induction loop conductors sealed within pavements. All conduit installations shall conform to the provisions of the National Electrical Code except where directed otherwise. Bonded slip joints will be permitted for joining rigid conduit to junction boxes. Where a standard coupling cannot be used, an approved threaded union coupling shall be used.

All conduit ends shall be reamed to remove burrs and sharp edges. Damaged portions of the galvanized surfaces and untreated threads resulting from field cuts shall be painted with a rust inhibitive paint. Conduit bends shall have a radius of not less than 12 times the nominal diameter of the conduit, unless otherwise shown on the plans. See Typical Grounding Detail.

Conduit which will not be subjected to regular pressure from traffic shall be laid to a depth of not less than 18 inches. At crossings under roadway surfaces and shoulders, the conduit shall be placed at a depth of not less than 24 inches below grade. The contractor will not be permitted to cut any pavement in carrying out conduit installations. After the

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

Contractor shall install underground utility warning tape above the circuit cables as shown on the detail sheets. The tape shall conform to the APWA-ULCC national color code with black lettering on a red background. The tape shall continuously read "Caution: Electric Line Buried Below" alternating with a 'No Digging' symbol.

The tape shall be durable and colorfast to withstand years of underground burial and easily direct buried. The tape shall be 6" wide and 7 mils (nominal) thick. The tape shall have a minimum tensile strength of 600 lbs./6" width. It shall be color code impregnated with alkali and acid stable, lead-free, organic pigments for direct burial. It shall be ultraviolet colorfast. The tape shall be nondistorting with no elongation.

When backfilling trenches, the backfill material shall be placed and compacted in lifts of 9 inches or less. Any area disturbed as a result of the contractor's operations shall be restored to the satisfaction of the Engineer.

Loop lead-in wire, exclusive of shielded cable, shall be twisted with three to five turns per foot before placement in saw slot, conduit or junction box. Unshielded loop wiring to field terminal connections in cabinet and unshielded loop wiring in loop amplifier connector harness shall also be twisted three to five turns per foot.

Except for the connection of the loop wires to the loop lead-in wires, loops shall be extended splice-free to the controller. Loop wires shown as extended to poles or junction boxes shall be spliced into loop lead-in cable at the poles or boxes. Loop lead-in cable shall be extended splice-free from pole or junction box to controller. Each loop shall have a separate lead-in cable installed. Multiple loops on the same lead-in cable will not be accepted. Splices shall be placed to minimize possibility of water intrusion. The electrical contractor shall coordinate the installation of traffic loops with the paving contractor and the Engineer.

Junction boxes shall be installed flush with finished grade. See Junction Box Type B detail.

All underground signal splices shall be made with butt splices. Butt splices shall be copper and of the correct wire range. Butt splices shall be covered with a 3M Mastic Pad or approved equal and then taped with a 3M brand #33 electrical tape. Mastic pad must cover at least 3 inches past each end of butt splice. Underground splices include splices in junction boxes and pole bases. Each conductor shall be encased in a separate splice kit. Cost of the splices shall be incidental to the cost of wire or cable. The splicing specification listed here takes precedence over any other splicing specifications listed in the Standard Specifications for Road and Bridge Construction.

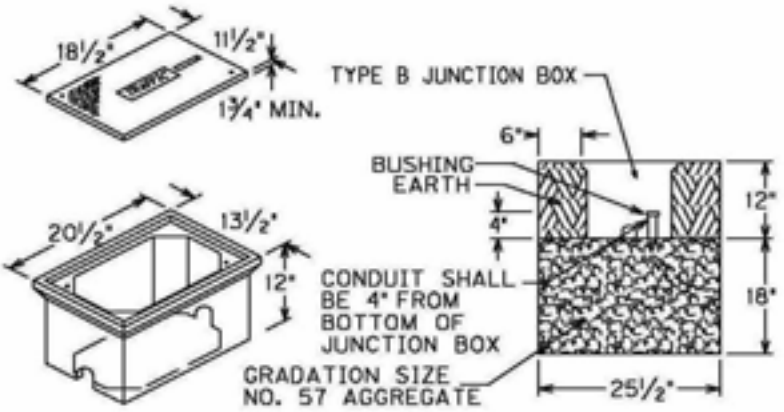
Induction loop conductors shall test free of shorts and unauthorized grounds and shall have an insulating resistance of at least 100 megohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground.

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

Information provided 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 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.

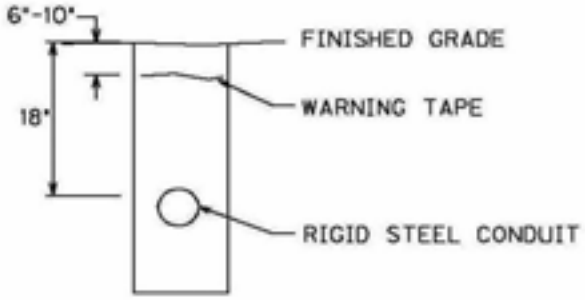
It is not anticipated that utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities.

The Contractor will be responsible for all 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. Clean the site and dispose of all waste and debris off the right-of-way at sites obtained by the Contractor at no additional cost to the Department. Sow all disturbed earthen areas with Seed Mixture No. 1.

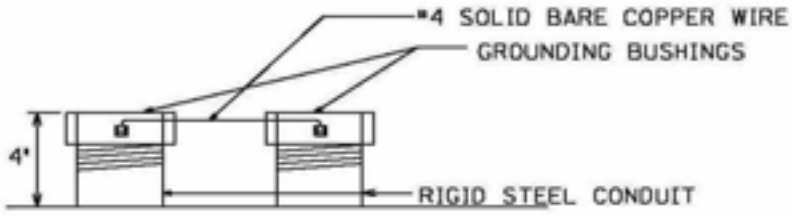


JUNCTION BOXES SHALL CONFORM TO ANSI/SCTE 77 "SPECIFICATIONS FOR UNDERGROUND ENCLOSURE INTEGRITY" FOR TIER 15. COVERS SHALL HAVE A MINIMUM COEFFICIENT OF FRICTION OF 0.05 IN ACCORDANCE WITH ASTM C1028, SHALL BE MARKED "TRAFFIC" AND BE ATTACHED WITH ⅜" STAINLESS HEX BOLTS. JUNCTION BOXES SHALL BE INSTALLED FLUSH WITH FINISHED GRADE.

JUNCTION BOX TYPE B

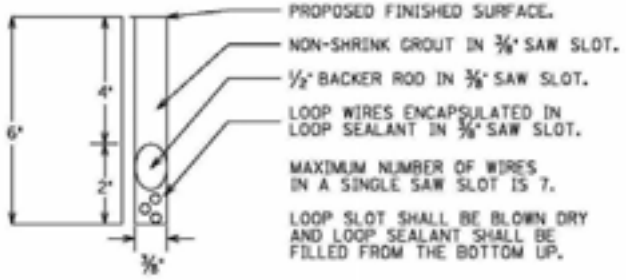


DEPTH OF CONDUIT

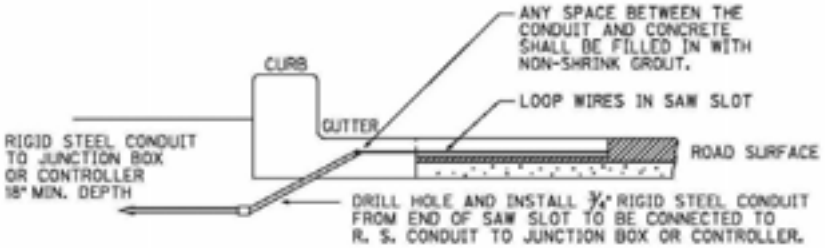


TYPICAL GROUNDING DETAIL

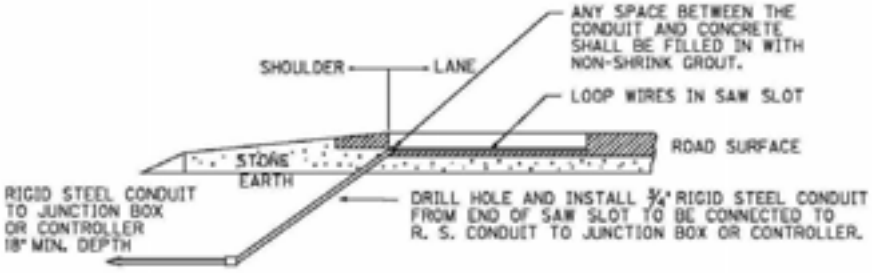
LOOP WIRES SHALL BE ENCAPSULATED WITH LOOP SEALANT PER MANUFACTURER'S INSTRUCTIONS. ALL LOOP SEALANT SHALL BE COVERED WITH A CONTINUOUS LAYER OF BACKER ROD. BACKER ROD SHALL BE INSTALLED SUCH THAT NO VOIDS ARE PRESENT BETWEEN LOOP SEALANT AND BACKER ROD. FILL REMAINING SAW SLOT WITH NON-SHRINK GROUT PER MANUFACTURER'S INSTRUCTIONS.



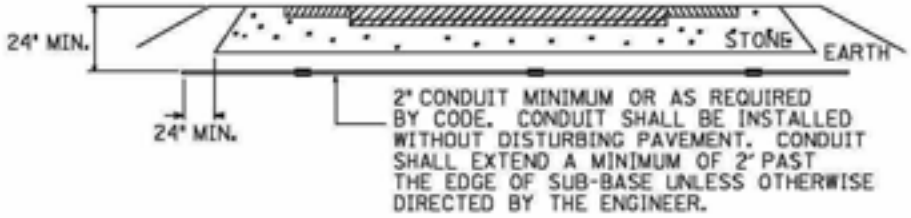
SAW SLOT DETAIL



LOOP WIRE TRANSITION - CONCRETE CURB

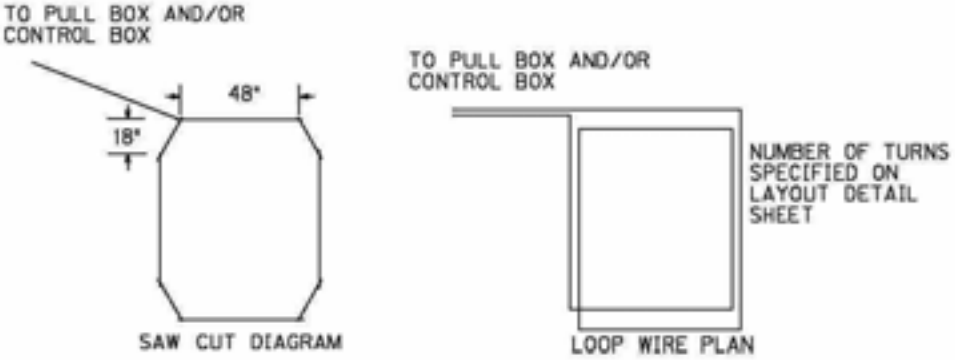


LOOP WIRE TRANSITION - FLAT SHOULDER



CONDUIT UNDER EXISTING PAVEMENT DETAIL

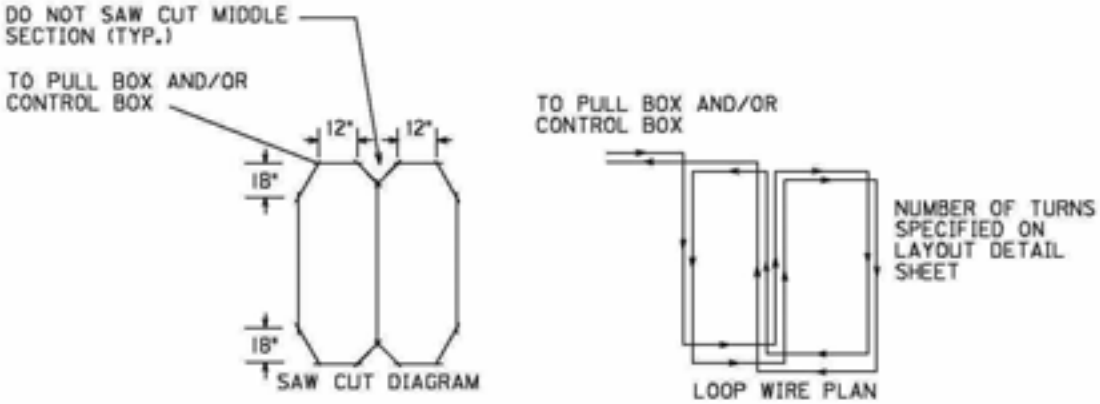
LOOP LEAD-IN WIRES SHALL BE TWISTED WITH THREE TO FIVE TURNS PER FOOT UNTIL TERMINATED AT FIELD CONNECTIONS IN THE CABINET OR CONNECTED TO SHIELDED CABLE.



STANDARD LOOP

•ALL 6'x6' LOOPS SHALL BE STANDARD

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



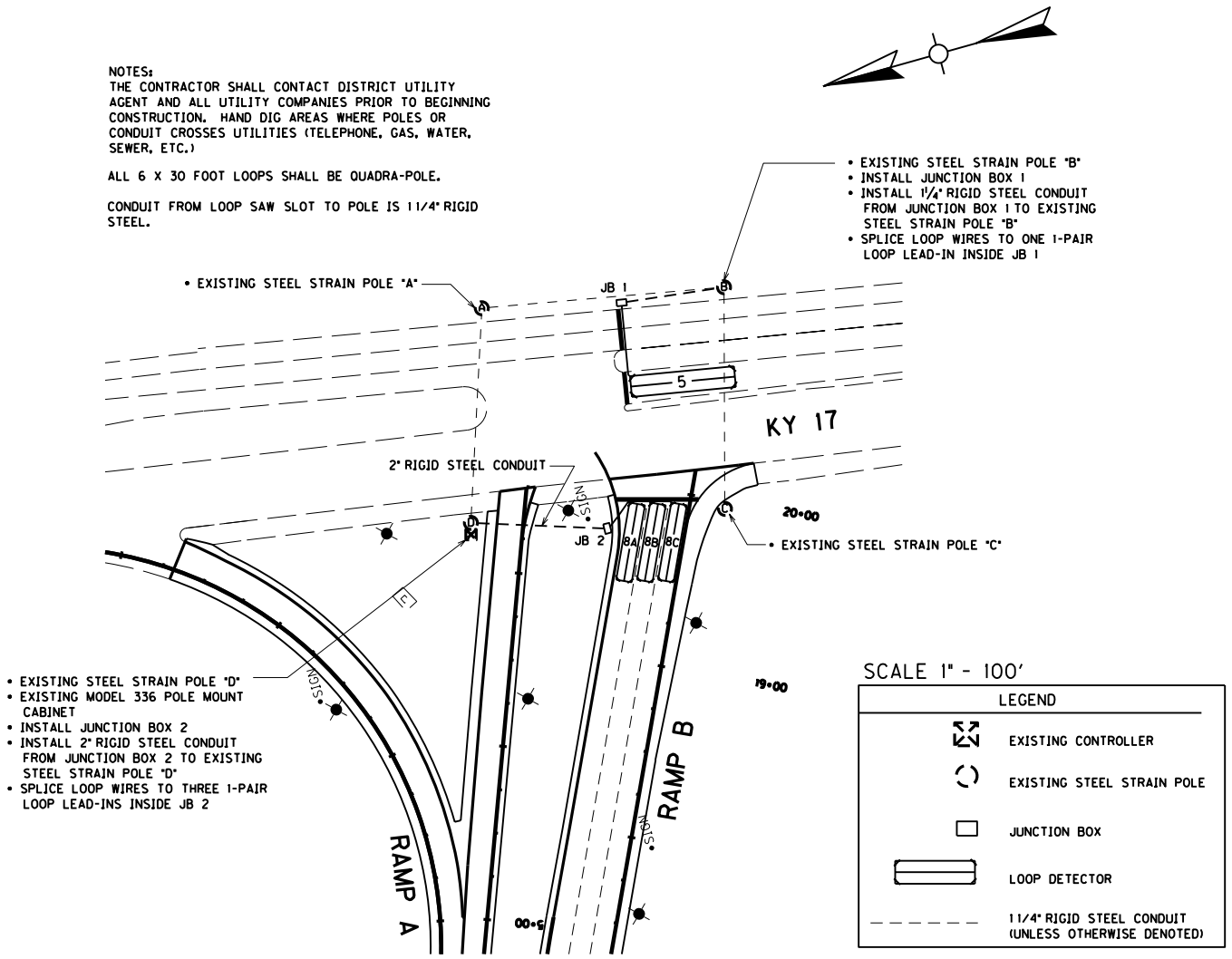
QUADRAPOLE LOOP

•ALL 6'x30' LOOPS SHALL BE QUADRAPOLE

NOTES:
THE CONTRACTOR SHALL CONTACT DISTRICT UTILITY AGENT AND ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. HAND DIG AREAS WHERE POLES OR CONDUIT CROSSES UTILITIES (TELEPHONE, GAS, WATER, SEWER, ETC.)

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

CONDUIT FROM LOOP SAW SLOT TO POLE IS 1 1/4" RIGID STEEL.



I 275 Ramp B @ KY 17

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-#14/1 PAIR	CONTROLLER	JB 1	LOOP 5
3-#14/1 PAIR	CONTROLLER	JB 2	LOOPS 8A,8B & 8C

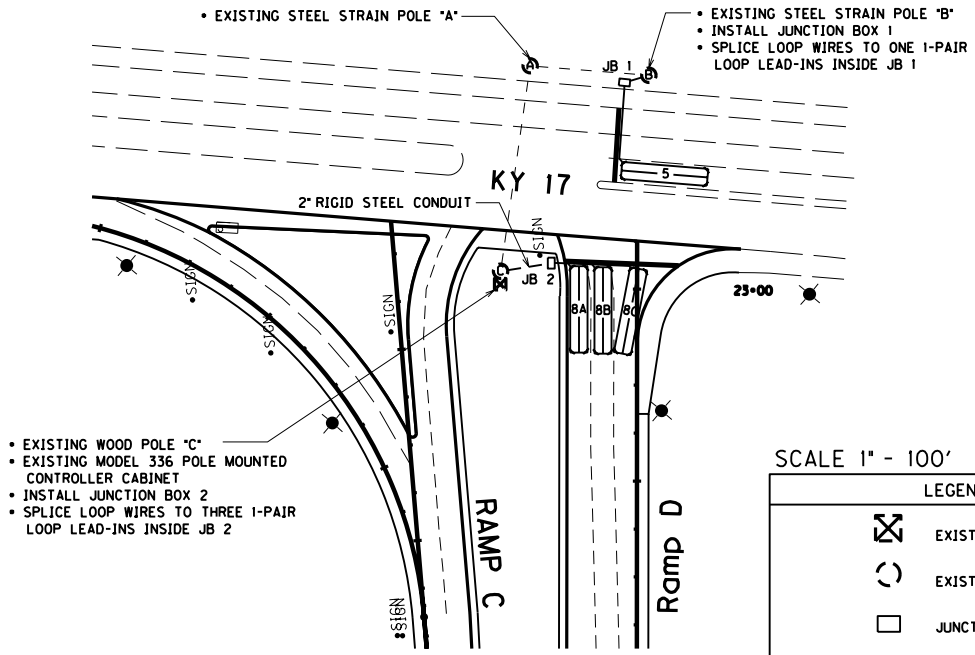
LOOP SCHEDULE

LOOP	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DIST. FROM STOP BAR
5	5	15	1	6X30	2	0'
8A	8	17	2	6X30	2	0'
8B	8	18	1	6X30	2	0'
8C	8	18	2	6X30	2	0'

NOTE:
THE CONTRACTOR SHALL CONTACT DISTRICT UTILITY AGENT AND ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. HAND DIG AREAS WHERE POLES OR CONDUIT CROSSES UTILITIES (TELEPHONE, GAS, WATER, SEWER, ETC.)

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

CONDUIT FROM LOOP SAW SLOT TO POLE IS 1 1/4" RIGID STEEL.



SCALE 1" - 100'

LEGEND

- EXISTING CONTROLLER
- EXISTING STEEL STRAIN POLE
- JUNCTION BOX
- LOOP DETECTOR
- 1 1/4" RIGID STEEL CONDUIT (UNLESS OTHERWISE DENOTED)

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-#14/1 PAIR	CONTROLLER	JB 1	LOOP 5
3-#14/1 PAIR	CONTROLLER	JB 2	LOOPS 8A,8B & 8C

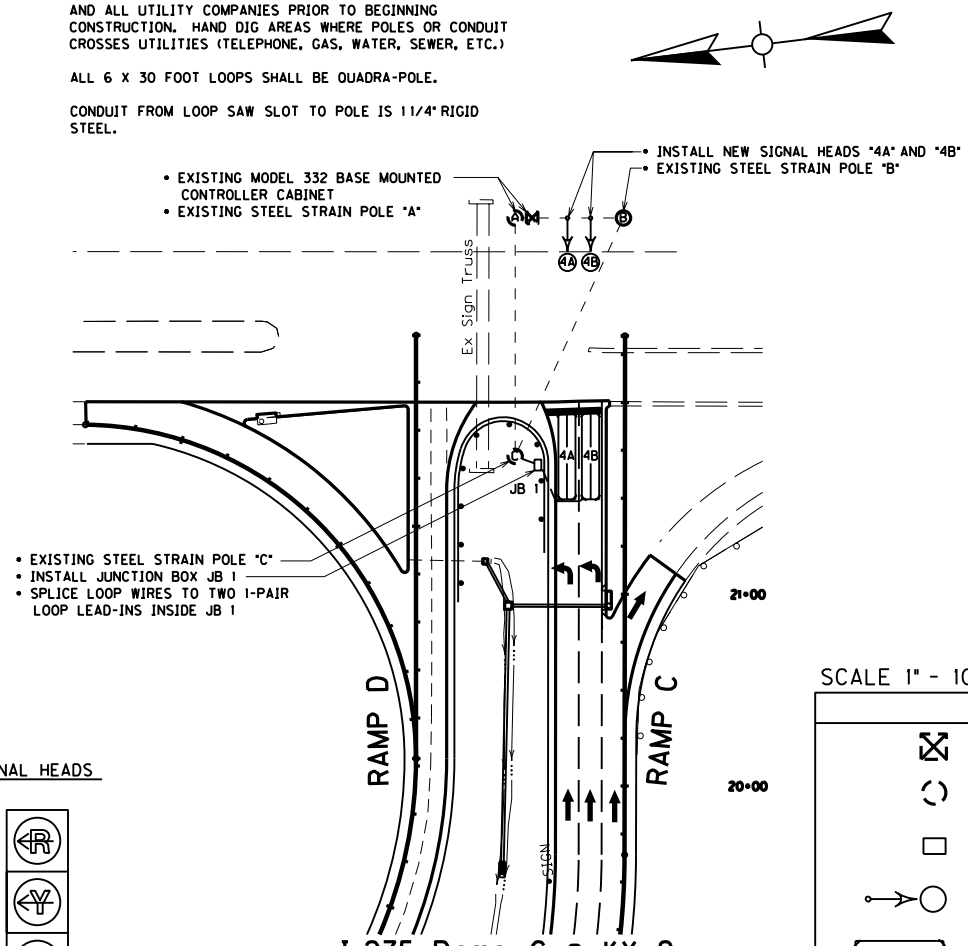
LOOP SCHEDULE

LOOP	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DIST. FROM STOP BAR
5	5	15	1	6X30	2	0'
8A	8	17	2	6X30	2	0'
8B	8	18	1	6X30	2	0'
8C	8	18	2	6X30	2	0'

NOTE:
THE CONTRACTOR SHALL CONTACT DISTRICT UTILITY AGENT AND ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. HAND DIG AREAS WHERE POLES OR CONDUIT CROSSES UTILITIES (TELEPHONE, GAS, WATER, SEWER, ETC.)

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

CONDUIT FROM LOOP SAW SLOT TO POLE IS 1 1/4" RIGID STEEL.



I 275 Ramp C @ KY 9

SCALE 1" - 100'

LEGEND

- EXISTING CONTROLLER
- EXISTING STEEL STRAIN POLE
- JUNCTION BOX
- SIGNAL HEAD
- LOOP DETECTOR
- 1 1/4" RIGID STEEL CONDUIT

SIGNAL HEADS

HEAD *

HEADS 4A & 4B
ALL INDICATIONS L.E.D.

WIRING SCHEDULE

CABLE	ORIGIN	ENDING	CONNECTING
1-*14/5C	CONTROLLER	SH 4A	SIGNAL HEADS 4A & 4B
2-*14/1 PAIR	CONTROLLER	JB 1	LOOPS 4A & 4B

LOOP SCHEDULE

LOOP	PHASE	SLOT	CHANNEL	SIZE	* OF TURNS	DIST. FROM STOP BAR
4A	4	16	1	6X30	2	0'
4B	4	16	2	6X30	2	0'

ESTIMATE LIGHTING QUANTITIES FOR 6-2025.00

I-275 @ US 25	I-275 @ KY 1303	I-275 @ KY 17	I-275 @ KY 9	I-275 @ KY 16	TOTAL	UNITS	CODE	
0	0	440	0	60	500	LIN FT	4795	CONDUIT 2 INCH
60	120	0	180	0	360	LIN FT	4798	CONDUIT 3 1/2 INCH
60	120	440	180	60	860	LIN FT	4820	TRENCHING AND BACKFILLING
180	0	0	0	0	180	LIN FT	4833	WIRE-NO. 8
540	0	0	360	0	900	LIN FT	4834	WIRE-NO. 6
0	0	240	0	120	360	LIN FT	4835	WIRE-NO. 4
0	360	1180	0	0	1,540	LIN FT	4836	WIRE-NO. 2
0	0	0	180	0	180	LIN FT	4837	WIRE-NO. 0
2	2	11	4	2	21	EACH	20391NS835	JUNCTION BOX TYPE A

Lighting Bid Items (6-2025.00)

The Standard Specifications for Road and Bridge Construction, current edition, and other special notes and specifications will apply on this project.

Junction box shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include #57 aggregate as shown, backfilling and restoration of disturbed areas to the satisfaction of the resident engineer, and concrete (if required).

Wire or cable shall include furnishing and installing specified wire or cable within conduit as indicated on the plan sheets. Incidental to this item shall be the furnishing and installing of splice boots or any other hardware required for installing cable. The contractor shall install all cable or wire runs splice-free from the controller to each pole the cable or wire is feeding. Exceptions to this must be approved by the engineer or as specified on the plans. All wire shall be type USE-2.

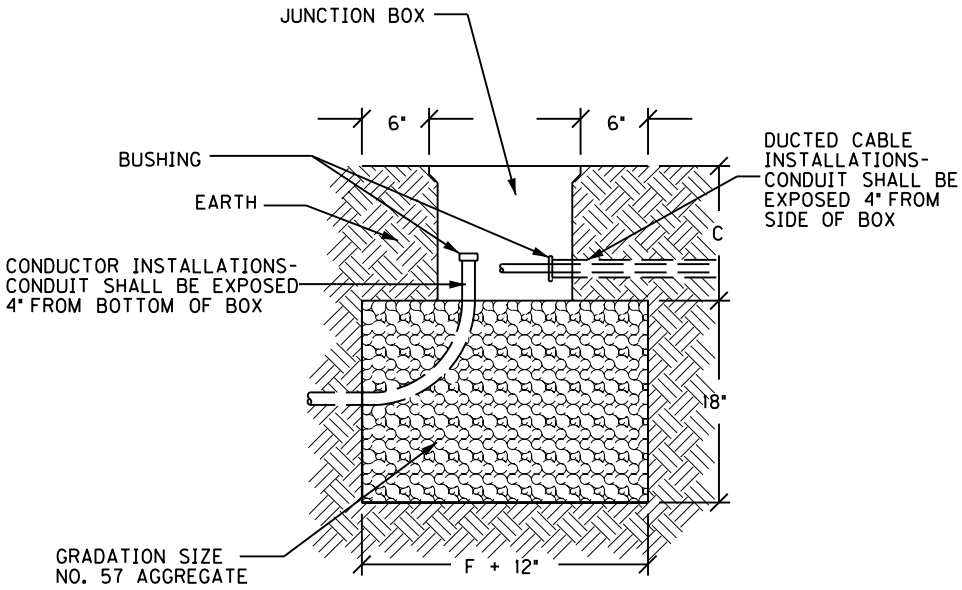
Conduit shall include furnishing and installing specified conduit in ground or on structure in accordance with specifications. This item includes conduit fittings, expansion joints with bonding straps, drill anchors, clamps, and any additional hardware required. All conduits shall be rigid galvanized steel.

Trenching and backfilling shall include excavation, backfilling, roadway crossings, and the restoration of disturbed areas to original condition. Incidental to this item shall be furnishing and installing underground utility warning tape (if required).

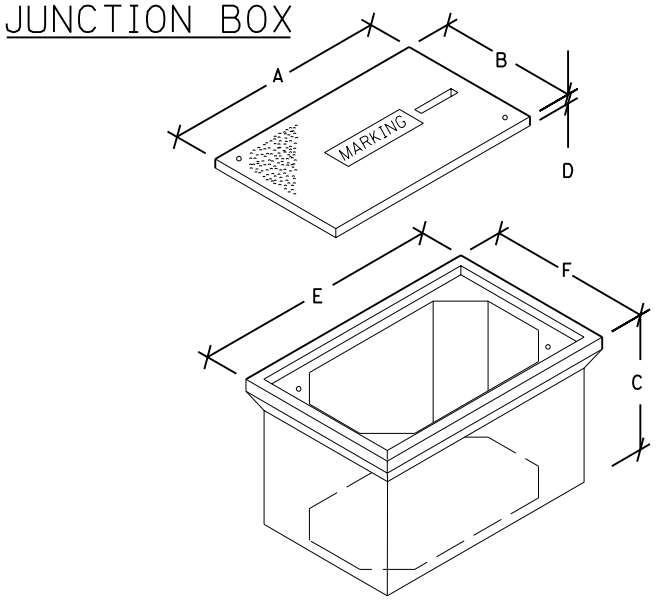
This splice shall be waterproof and shall be of the correct size for the wire used and shall be RAYCHEM GTAP-2(b18) or approved equal.

JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D	E	F
TYPE A	23"	14"	27"	2"	25"	15"
TYPE B	18"	11"	12"	1¾" •	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

• MINIMUM
NOTE: STACKABLE BOXES ARE PERMITTED



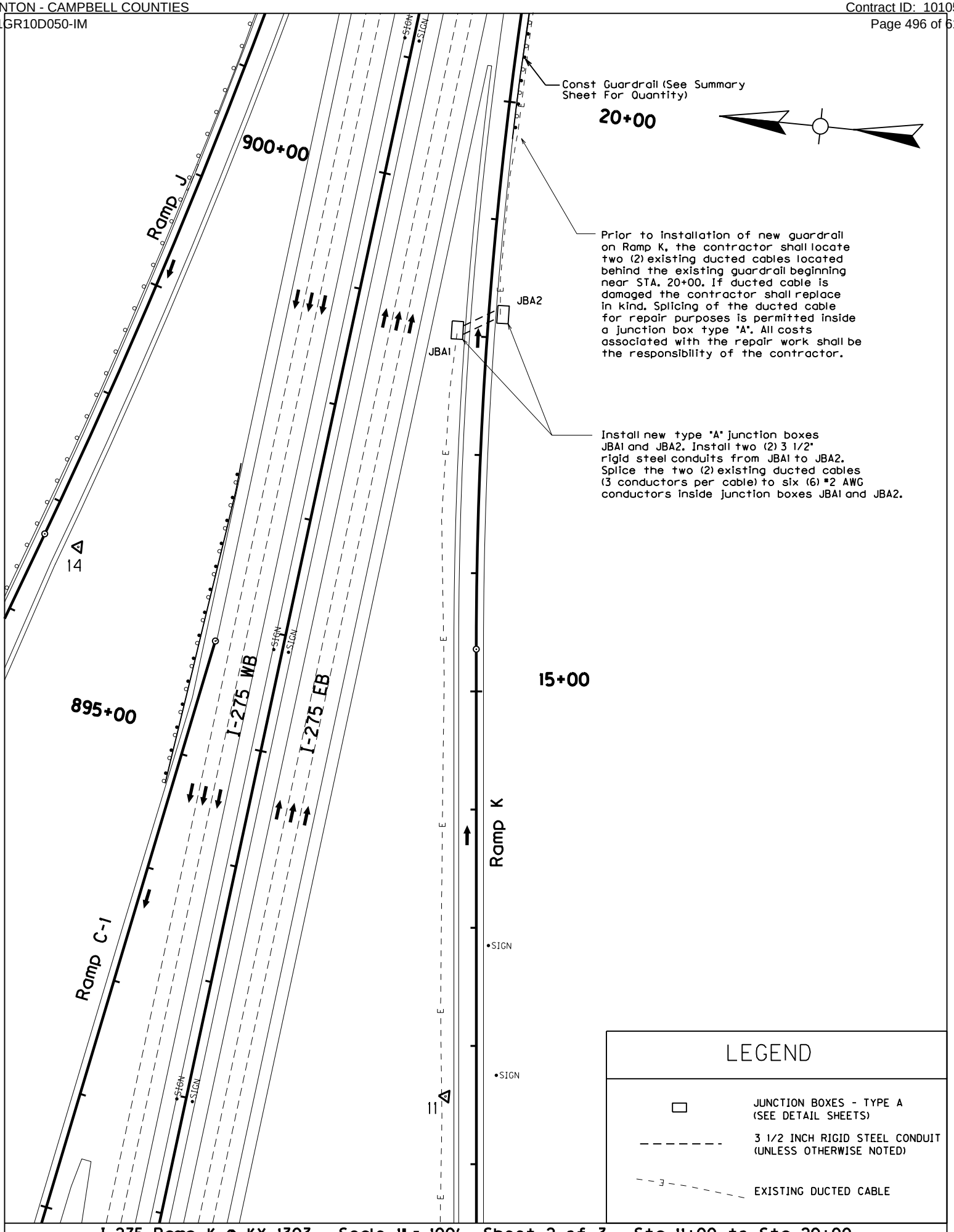
JUNCTION BOX



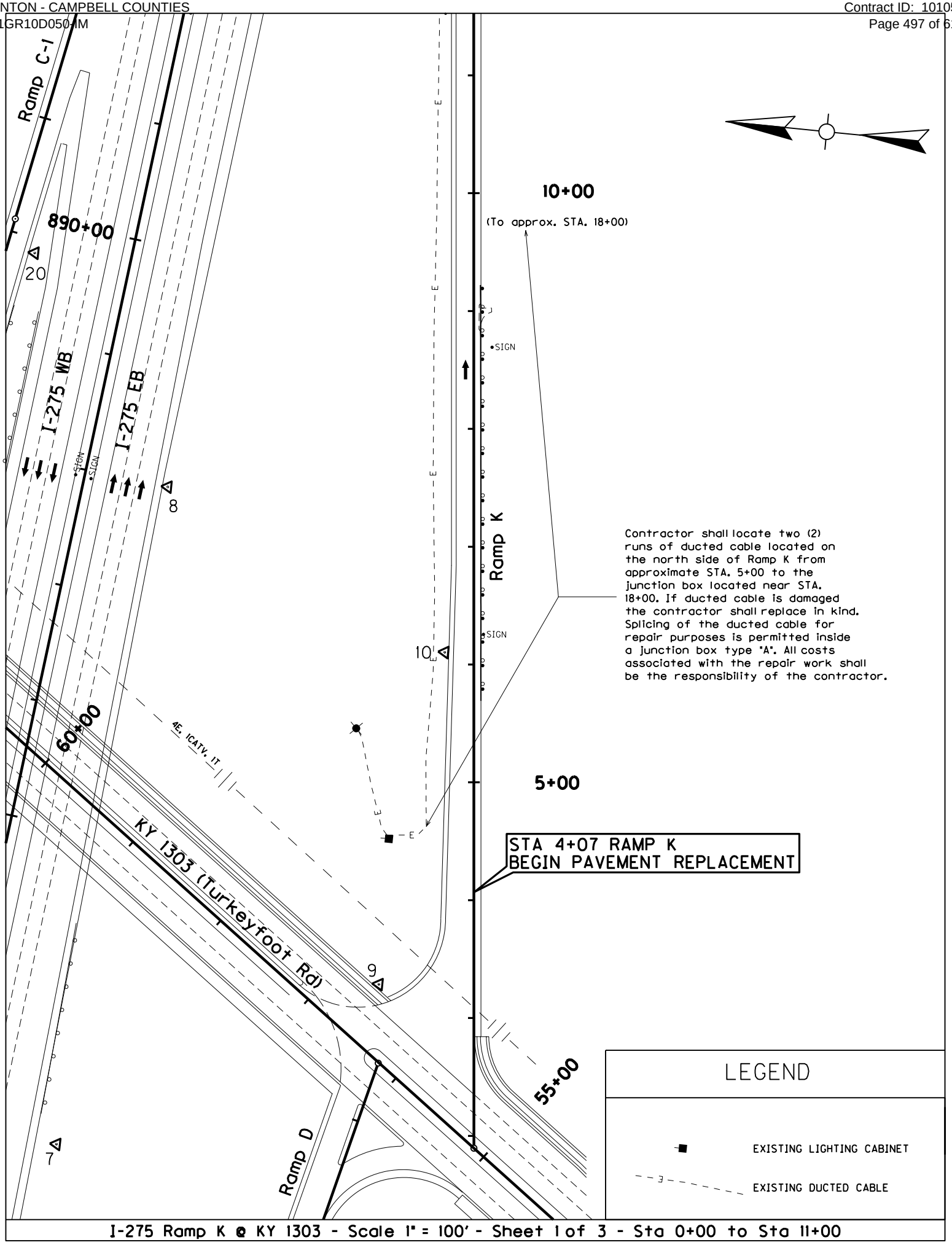
JUNCTION BOX SHALL MEET OR EXCEED ANSI/SCTE 77-2002, TIER 15 AND SHALL BE INSTALLED FLUSH WITH THE FINISHED GRADE AS SHOWN.

JUNCTION BOX FOR TRAFFIC SIGNAL INSTALLATIONS SHALL BE MARKED "TRAFFIC." JUNCTION BOX FOR LIGHTING INSTALLATIONS SHALL BE MARKED "LIGHTING." COVERS SHALL BE ATTACHED WITH A MINIMUM OF TWO ⅜" STAINLESS STEEL HEX BOLTS.

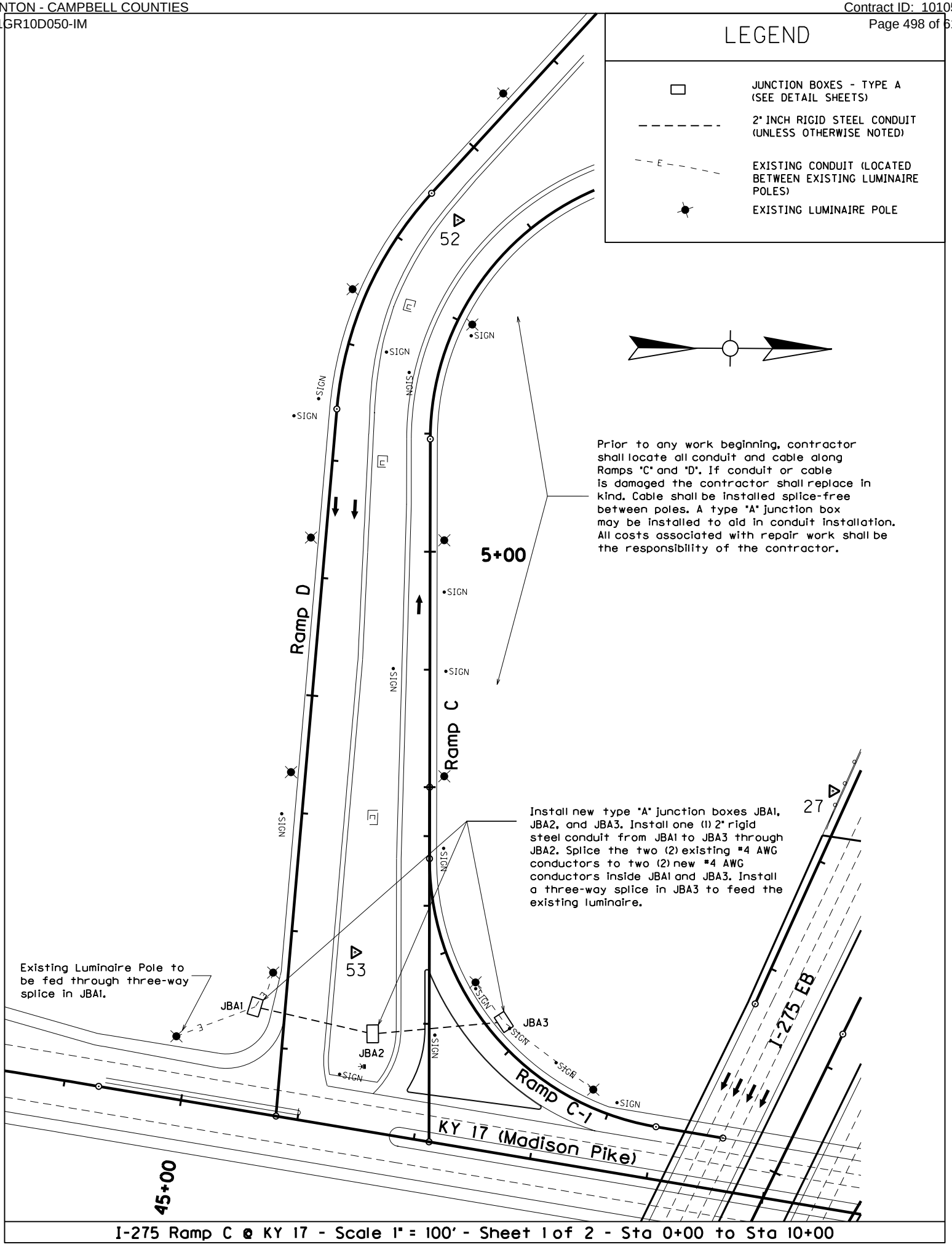
WHERE REQUIRED, JUNCTION BOX SHALL BE ORIENTED SUCH THAT THE DIMENSIONS COMPLY WITH THE NATIONAL ELECTRICAL CODE.



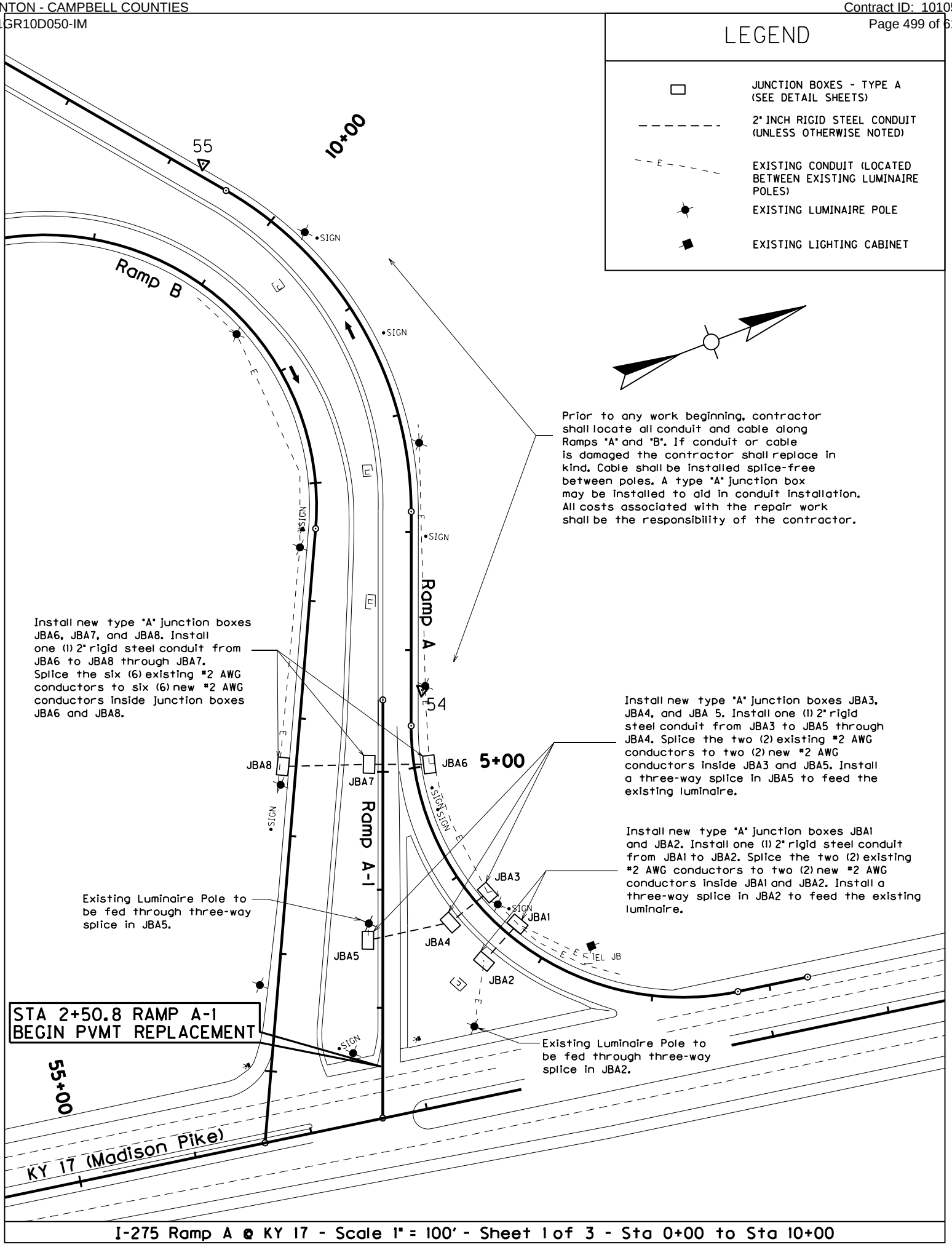
I-275 Ramp K @ KY 1303 - Scale 1" = 100' - Sheet 2 of 3 - Sta 11+00 to Sta 20+00



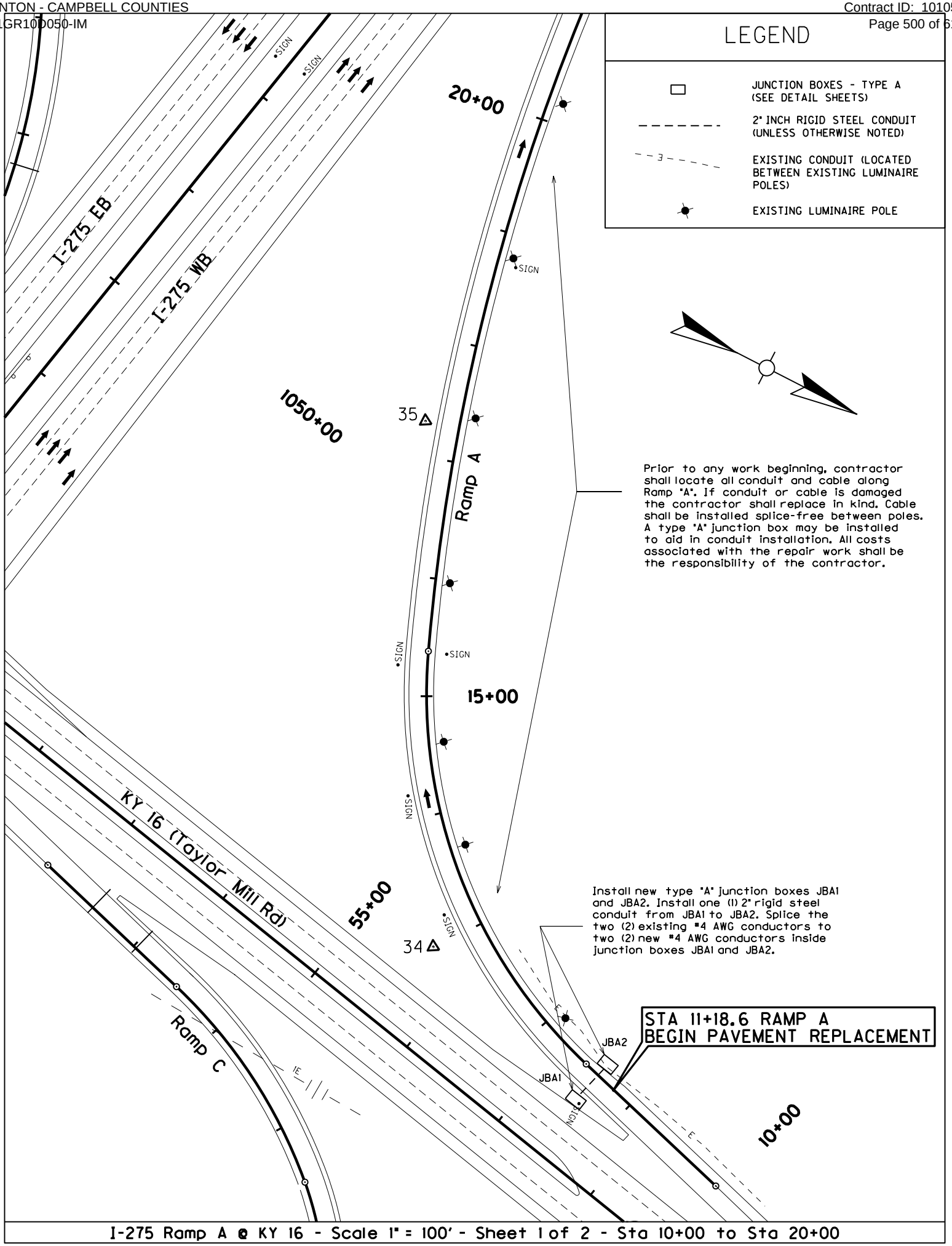
I-275 Ramp K @ KY 1303 - Scale 1" = 100' - Sheet 1 of 3 - Sta 0+00 to Sta 11+00



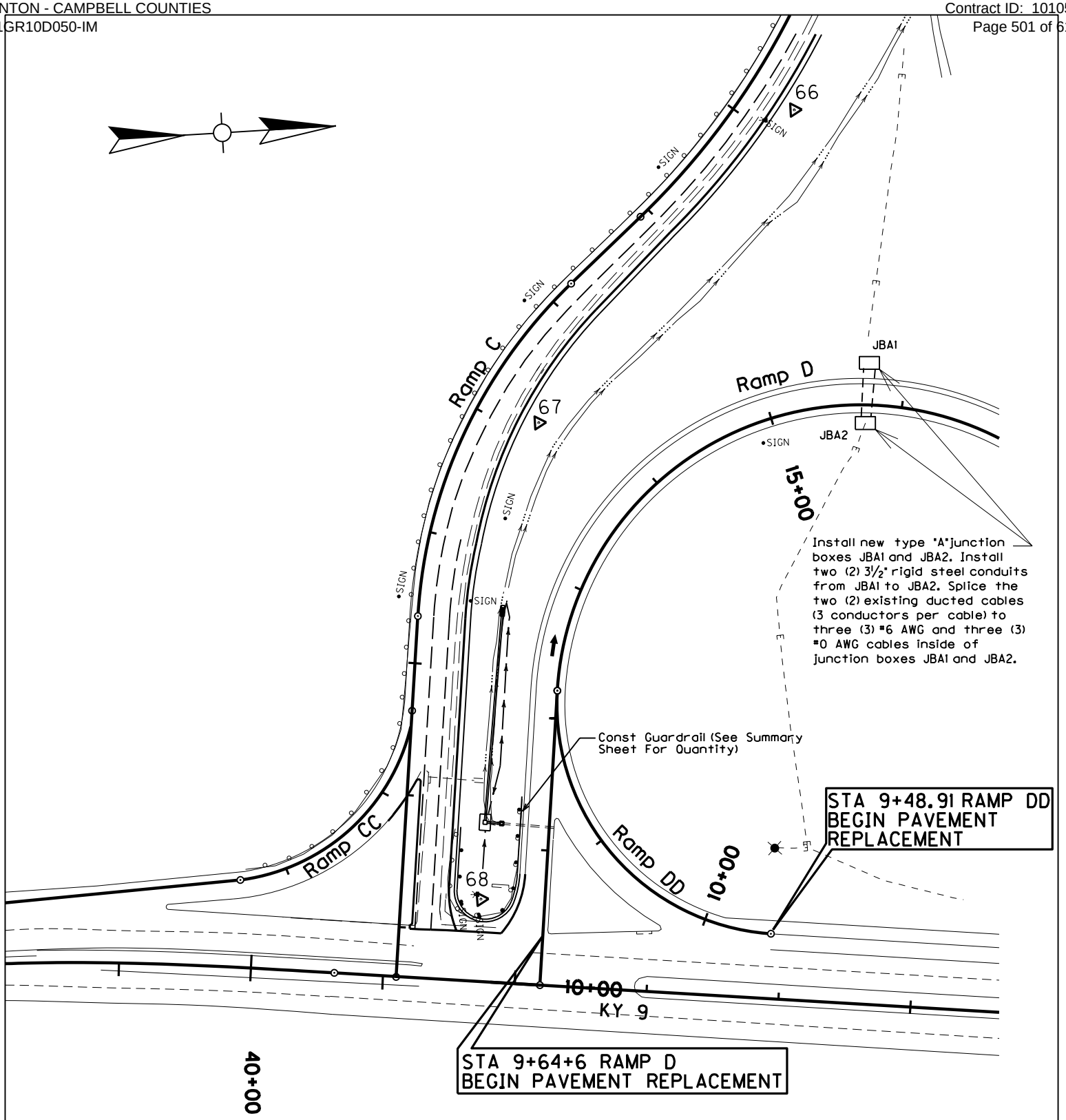
I-275 Ramp C @ KY 17 - Scale 1" = 100' - Sheet 1 of 2 - Sta 0+00 to Sta 10+00



I-275 Ramp A @ KY 17 - Scale 1" = 100' - Sheet 1 of 3 - Sta 0+00 to Sta 10+00



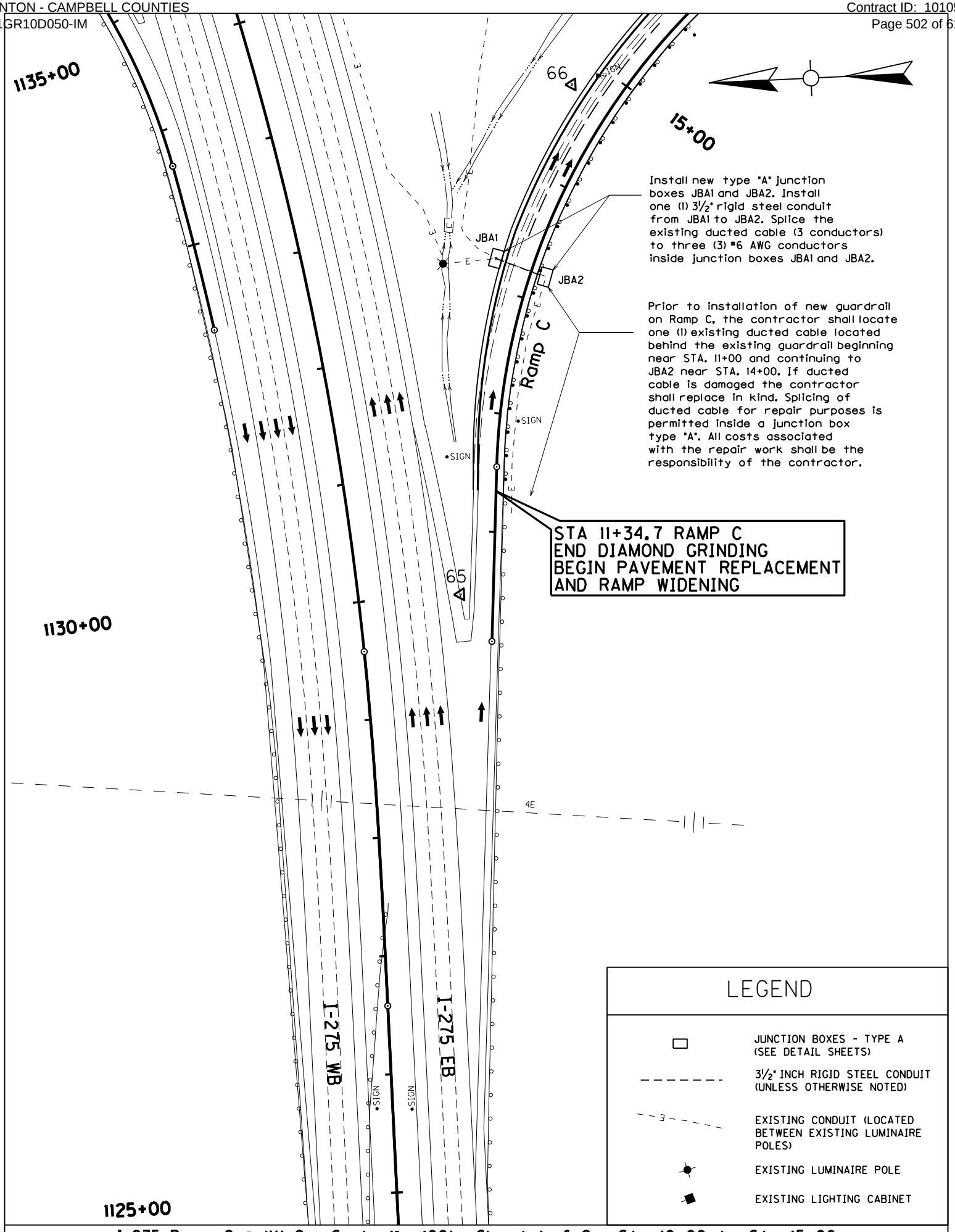
I-275 Ramp A @ KY 16 - Scale 1" = 100' - Sheet 1 of 2 - Sta 10+00 to Sta 20+00



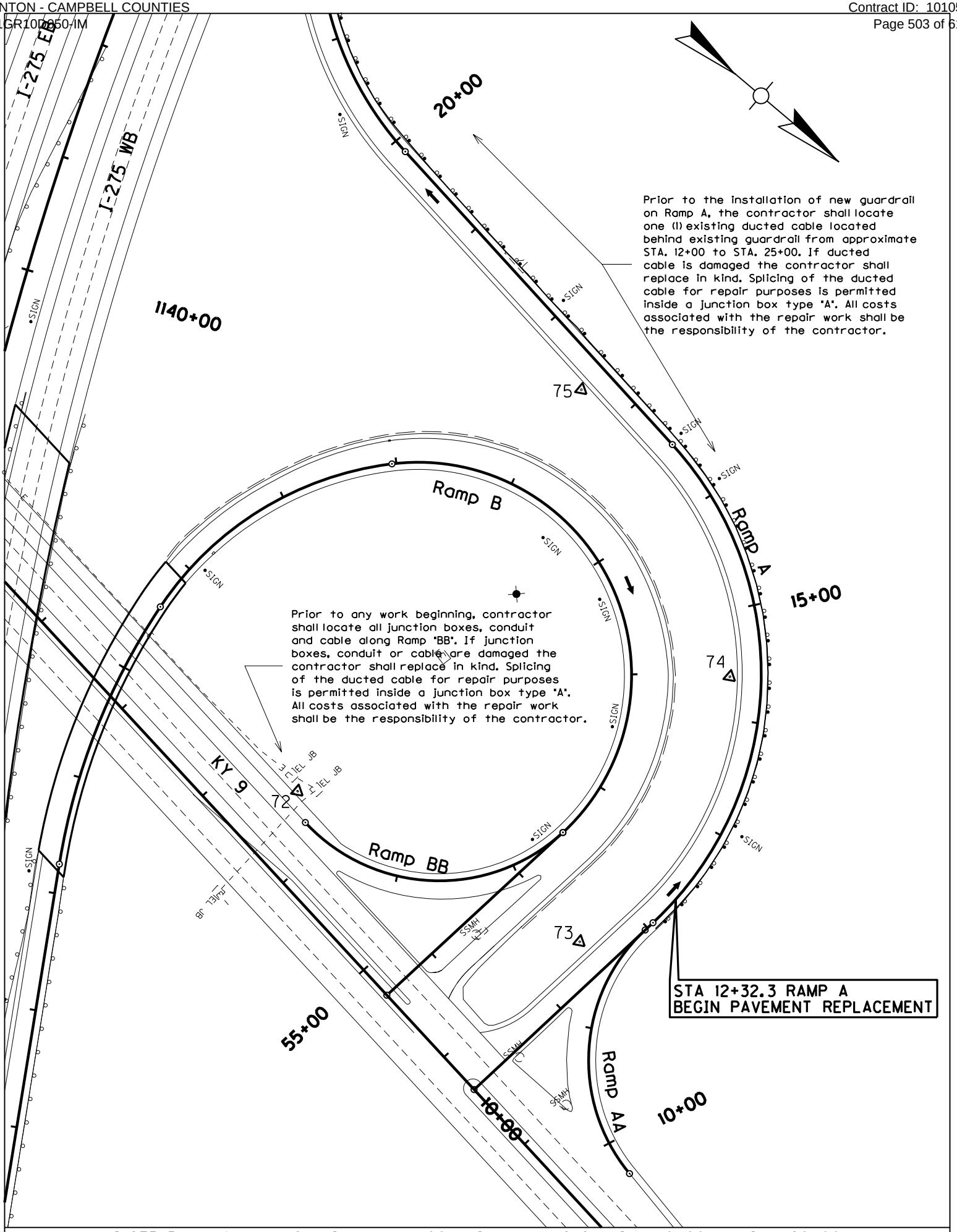
LEGEND

- JUNCTION BOXES - TYPE A (SEE DETAIL SHEETS)
- 3½" INCH RIGID STEEL CONDUIT (UNLESS OTHERWISE NOTED)
- EXISTING DUCTED CABLE
- EXISTING HIGH MAST POLE

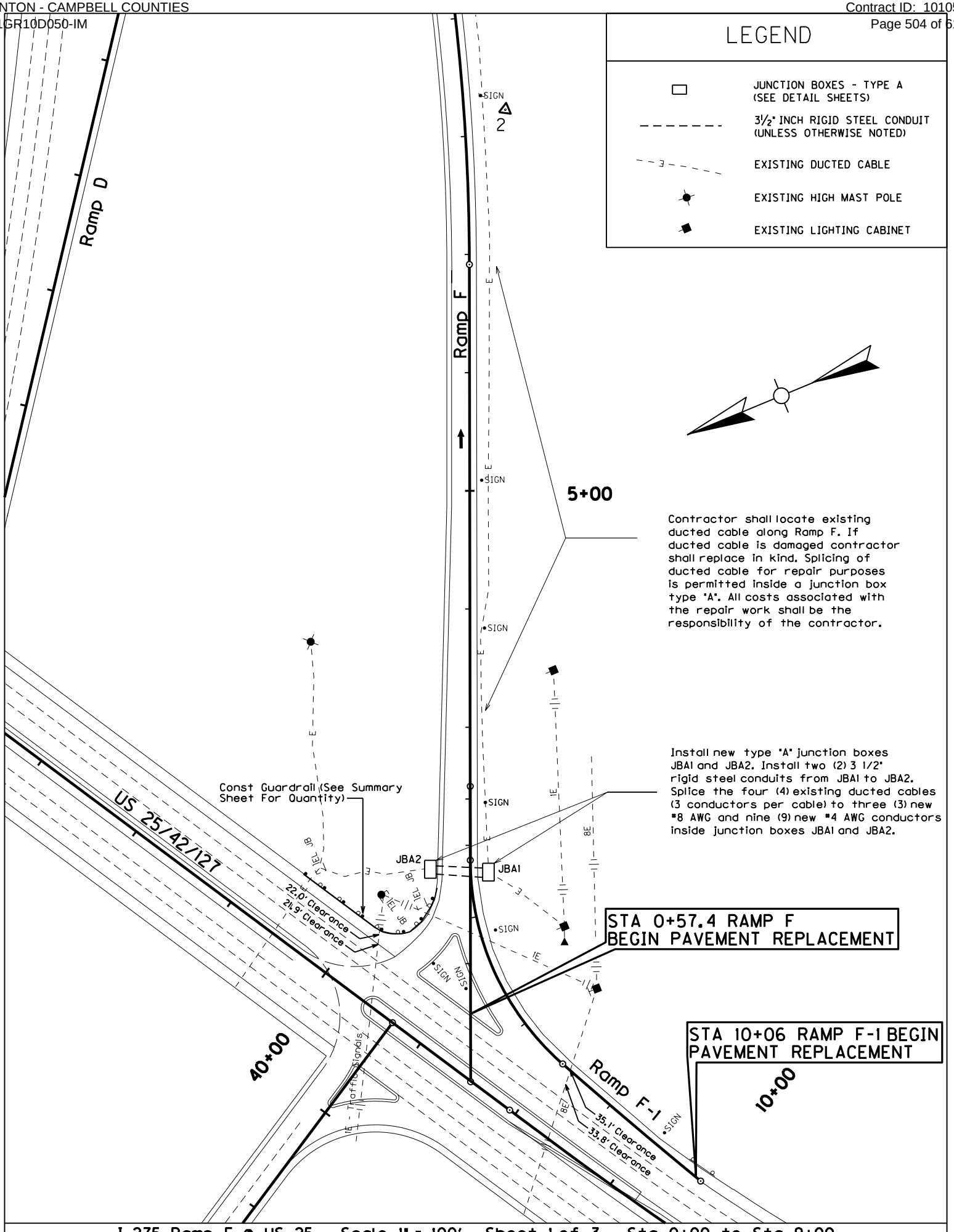
I-275 Ramp D @ KY 9 - Scale 1" = 100' - Sheet 1 of 2 - Sta 10+00 to Sta 15+00



I-275 Ramp C @ KY 9 - Scale 1" = 100' - Sheet 1 of 2 - Sta 10+00 to Sta 15+00



I-275 Ramp A @ KY 9 - Scale 1" = 100' - Sheet 1 of 2 - Sta 10+00 to Sta 20+00



I-275 Ramp F @ US 25 - Scale 1" = 100' - Sheet 1 of 3 - Sta 0+00 to Sta 9+00

INTERSTATE 275 PAVEMENT REHABILITATION PROJECT
KENTON COUNTY ITEM # 6-2025.00 & 6-2027.00
PUBLIC INFORMATION PLAN

The primary goal of the Public Information Plan (PIP) is to inform the motoring public and area stakeholders of project information including Maintenance of Traffic (MOT) which includes lane closures. The KYTC District 6 Public Information Officer (PIO) will coordinate and disseminate to stakeholders and the media appropriate information regarding the construction plans.

LOCAL STAKEHOLDERS

- Elected Officials
  - Kenton County Judge Executive, Ralph Drees (859) 392-1400; ralph.drees@kentoncounty.org
  - Kenton County Sheriff, Chuck Korzenborm (859) 392-1800; chuck.korzenvorn@kentoncounty.org
  - State Representative Thomas Kerr – ((502) 564-8100 Ext. 694; Thomas.Kerr@lrc.ky.gov
  - State Representative Alecia Webb-Edgington – (502) 564-8100 Ext. 701; alecia.webb-edgington@lrc.ky.gov
  - State Senator Jack Westwood – (502) 564-8100 Ext. 615; Jack.Westwood@lrc.ky.gov
  - State Senator John Schickel – (502) 564-8100 Ext. 617; John.Schickel@lrc.ky.gov
  - Campbell County Judge Executive, Steve Pendrey (859) 292-3833 spendery@campbellcountyky.org
  - Campbell County Sheriff, John Dunn (859) 292-3833 jdunn@campbellcountyky.org
  - State Representative Joe Fischer – ((502) 564-8100 Ext. 742; Joe.Fischer@lrc.ky.gov
  - State Representative Dennis Keene – ((502) 564-8100 Ext. 626; Dennis.Keene@lrc.ky.gov
  - State Representative Adam Koenig – (502) 564-8100 Ext. 689; Adam.Koenig@lrc.ky.gov
  - State Senator Katie Stine – (502) 564-3120; Katie.Stine@lrc.ky.gov

Local Agencies
  - Kenton County: Erlanger Dispatch (859) 727-2424
  - Ft Wright Dispatch (859) 331-2191
  - Crestview Hills: City Administrator - Dan Groth (859) 341-7373
  - Campbell County Highland Heights Dispatch Chief, Carl Mullen (859) 441-8956 cmullen@hhky.com

- Campbell County Wilder Chief, Tony Rouse (859) 581-8863

- Utility Companies
  - Local utility companies are kept apprised of this project at the monthly utility coordination meetings hosted by District 6

TRUCKING FIRMS AND OUT OF STATE STAKEHOLDERS

Information will be distributed electronically to trucking firms via Rick Taylor at the Department of Vehicle Regulation (502-564-4540; rick.taylor@ky.gov). Information will also be posted on the 511 website (www.511.ky.gov) and on the 511 telephone information system.

PRESENTATIONS

A project description including anticipated schedule will be provided to the media, stakeholders and other emergency service agencies via e-mail prior to construction. Information will be provided to these groups via traffic advisories, press releases, the District 6 website and the weekly District 6 Road Report of Construction and Maintenance Activities.

MEDIA RELATIONS

The District PIO will prepare an initial news release regarding the contract award for the project. The PIO will conduct interviews with the media throughout the project duration to keep the public informed of construction progress. Traffic advisories will be submitted to the media when a change in the MOT occurs. The contractor must provide to the PIO via the Resident Engineer notification of any change in the MOT at least three (3) days prior to the change.

KENTON AND CAMPBELL COUNTIES
Pavement Rehab on I-275 from MP 77.023 to MP 82.475
Item Numbers 6-2025.00 & 6-2027.00

SPECIAL CAUTION NOTE – UNDERGROUND ELECTRICAL CROSSINGS OF RAMPS WHOSE PAVEMENT IS TO BE REPLACED FULL-DEPTH

Many of the ramps to be replaced full-depth as part of this project have underground electric cables crossing them for lighting or traffic signals. Plans have been included in this Proposal to replace all known crossings. However, because of the dangers of a worker contacting one of these electric cables unknowingly, **before beginning work on any ramp,** the Contractor **must** locate, expose, provide highly visible markings at the crossing and take any other measure the Engineer feels is necessary to prevent any possible unplanned contact with these electric lines. Do not drive form pins, basket stakes, etc. or operate lime stabilization equipment in the immediate vicinity of these crossings unless they have been de-energized and are to be replaced later. Caution should be exercised while removing the existing concrete pavement and shoulders on these ramps, there may be unknown underground electrical crossings.

The crossings shown in this Proposal were recently marked by the District 6 Traffic Section. The Contactor may request their assistance, through the Engineer, in locating the crossings shown in the replacement plans included in this Proposal.

Agreement No. 14013

KENTON COUNTY
FD52 C059 83734 01D
I-275 OVER CSX TRACKS AND
KY 17 (BANKLICK CREEK)
ITEM NO. 6-2025.00
MP 00T-103.30, OP No. KY 0220

AGREEMENT

THIS AGREEMENT, made and entered into by and between the Commonwealth of Kentucky, Transportation Cabinet, Department of Highways, hereinafter called the "Department", Party of the First Part, and CSX Transportation, Inc., 500 Water Street, Jacksonville, Florida 32202, Party of the Second Part, hereinafter called the "Company".

WITNESSETH, THAT:

WHEREAS, in the interest of public safety and convenience, the Department proposes maintenance of the I-275 twin bridges over KY 17 in Kenton County, FD52 C059 8373401D, Item No. 6-2025.00, to include overlayment of the bridge decks and repair to the bridge decks' drainage systems. The twin bridges cross your Company's tracks at approximate Highway Centerline Station 79+80 along I-275 in Kenton County, CSX MP 00T-103.30, AAR DOT Number 915-003A, as shown on Department's Plans of Proposed Project, marked for identification as *I-275 Westbound over KY 17, Banklick Creek & CSX Railroad, Bridge Maintenance Number 059B000063L* and *I-275 Eastbound over KY 17, Banklick Creek & CSX Railroad, Bridge Maintenance Number 059B000063R*, said plans being attached hereto and made a part hereof; and

WHEREAS, this project was authorized by Official Order Authorization Number 83734 000 dated March 17, 2010, this contract is authorized in the amount of $25,261.00.

Kenton County
I-275 Over KY 17 (Banklick Creek)
CSX Transportation, Inc.

WHEREAS, the right of way for the proposed I-275 twin bridges maintenance will pass over and include certain private right of way owned and operated by the Company upon which it has heretofore constructed and is now maintaining its railroad tracks and other facilities over which certain rights and privileges are desired by Department for the construction and maintenance of the project, which rights and privileges Company is willing to grant subject to the terms and conditions hereinafter set forth;

NOW, THEREFORE, the parties hereto agree as follows:

SECTION 1 - Department shall acquire all necessary easements required for the construction of this Project, whether to be purchased, appropriated or otherwise.

Company, without prejudice to any of its existing rights, insofar as it has the right so to do and subject to its prior approval of the Department's plans, hereby grants to the Department for a period of twelve (12) months from the date of this agreement and no longer: (a) a temporary nonexclusive right of entry through, on, over and upon those parcels of Company's property as shown on Department's Plans of Proposed Project, Kenton County, FD52 C059 8373401D, for the maintenance of the highway facilities; (b) necessary temporary nonexclusive rights of ingress to and egress from land upon which the aforesaid right of entry is granted, on adjoining lands of the Company, excluding however, grade crossings, provided such rights of ingress and egress shall be exercised along such routes and upon such terms as may be defined and imposed by the Company's Chief Engineer or his authorized representative; temporary construction easements as are designated on Department's plans for the purpose of the aforesaid described highway construction.

Company, insofar as it has the right so to do, will, by separate deed of easement grant and

convey, without warranty to Department, easements for the construction and maintenance of said highway facilities to be built wholly or partly on Company's property as shown on the aforesaid plans. Said easements, by prior mutual agreement between the parties hereto, to be identified and distinguished as exclusive and nonexclusive easements. Department shall furnish to and for Company's Chief Engineer's review and approval descriptions and plat plans for said exclusive and nonexclusive easements; provided, however, that the price to be paid by Department to Company for said easements (representing the fair market value thereof, plus damages to the residue, less all benefits) shall be as mutually agreed upon prior to termination of the aforesaid twelve (12) months period. In the event settlement cannot be completed prior to the end of the twelve (12) month period, the Department may within ninety (90) days, unless mutually agreed otherwise, institute an eminent domain proceeding to acquire the easements.

With respect to those parcels identified and distinguished in said deed of easement as nonexclusive, Company shall accept and reserve unto itself, its successors, assigns and licensees all rights, including but not limited to those which it now deems, or from time to time may deem desirable or necessary for its operations or the operations of its successors, assigns and licensees as they now are or may lawfully be engaged in from time to time, and in order to be enabled to construct, reconstruct, relocate, operate, maintain, repair, renew and remove such of its facilities as now are, or such additional facilities as the Company or its successors, assigns, and licensees may deem desirable or necessary to be located in, upon, over, under or across the land involved, so long as such use and occupancy do not interfere with Department's use for highway purposes, as contemplated herein. Any proposed use of said land by Company in a manner which may be

detrimental to the Department's use for highway purposes shall require the prior written approval of Department.

The deed of easement shall further provide that said highway shall be constructed, maintained, repaired, renewed, reconstructed and/or removed in accordance with the provisions contained in this agreement, and the Plans of Proposed Project for the said improvements, which agreement and plans are to be on file in the respective offices of the said parties; and the provisions of the said agreement shall survive the delivery of the deed of easement with the exception of the land therein described and identified as exclusive right of way. It is the intent of the parties hereto to convey to the Department the identical easements which the Department could acquire through an eminent domain proceeding.

SECTION 2 - Detailed plans, estimates of cost, general and special specifications necessary for maintenance of the highway has been or shall be prepared by the Department and Company at the expense of the Department. All plans and specifications affecting the Company's interest shall be subject to approval by the Company.

SECTION 3 - No change in the plans or specifications shall be made by either party affecting the interests of the other without written consent of the affected party.

SECTION 4 - The parties hereto shall do or cause to be done the following items of work:

A. Work by Company:

Provide flag protection as necessary, preliminary and construction engineering and accounting as included in July 29, 2010, estimate, designated as Exhibit "A".

Kenton County
I-275 Over KY 17 (Banklick Creek)
CSX Transportation, Inc.

All services of flagmen, watchmen, or similar protective services occasioned by the operations of Department's contractor shall be furnished by Company. The Department hereby agrees that it will require Contractor to reimburse Company for such expenses as set forth in the "Special Notes for Protection of Railroad Interest," designated as Exhibit "B", attached hereto and made a part hereof.

B. Work by the Department or Department's Contractor:

All other work necessary for the maintenance of the highway including the crossing approaches thereto.

It is estimated that the cost of work by Company will not exceed Twenty-five thousand, two-hundred and sixty-one dollars ($25,261.00) as shown by the estimate dated July 29, 2010, designated as Exhibit "A", attached hereto and made a part hereof; however, the reimbursement to the Company will be in the amount of the actual cost of said work. It being further understood that should the cost of materials or labor increase sufficiently over the estimated values in advance of starting work to create an overrun, Company shall have the right to so advise Department who shall, upon approval of said change order, issue a change order to cover the overrun or cancel the project.

Company will do all work to be performed by its regular construction and maintenance forces, or by continuing contract or by contractor paid under contract let by Company. Department will reimburse Company for the actual cost of said work plus the cost of accounting in accordance with the regulations as set out in accordance with the Federal Highway Administration's Federal-Aid Policy Guide, 23 CFR 140 I, and supplements and amendments thereto. Company may submit force account estimates or bills monthly and such bills will be paid by the Department within a reasonable

time after the receipt thereof. Errors on monthly bills shall not be cause for withholding payment, but such errors shall be corrected as soon as possible or on a subsequent or final bill. All accounts which support bills rendered shall be subject to audit by a representative of Department and shall be retained for such purposes for a period of three (3) years after payment of the final voucher. Accounts must be kept by Company in such a manner that they may be readily audited and actual cost readily determined.

SECTION 5 - The proposed project will consist of bridge maintenance of the I-275 twin bridges and approaches thereto to carry highway traffic over Company's tracks. Therefore, it has been determined that this construction falls within the Federal Highway Administration's Federal-Aid Policy Guide, 23 CFR 646 A, and supplements and amendments thereto, and no contribution toward the cost of this project will be required of the Company.

SECTION 6 - All work herein provided to be done by the Department's contractor on the right of way of the Company shall be done in a manner satisfactory to the Chief Engineer of Company, or his authorized representative, and shall be performed at such times and in such manner as not to interfere unnecessarily with the business of the Company. Department agrees to require its contractor to use all reasonable care and precaution in order to avoid accident, damage or unnecessary delay or interference with Company's property.

SECTION 7 - Department shall require its contractor or contractors, upon completion of work of such contractors, to remove from within the limits of the right of way of Company all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of such contractor, and to leave the right of way in a neat condition satisfactory to the Chief Engineer of Company, or his

authorized representative. Not withstanding the foregoing such contractor shall not place any machinery, or other materials, on the right of way of Company that is not shown on the approved plans or otherwise authorized by Company.

SECTION 8 - Department shall require of any contractor or contractors to whom or to which it may let work to be undertaken hereunder, that in addition to other insurance, the contractor shall

carry in the name of and on behalf of CSX Transportation, Inc., c/o Chief Engineer, 500 Water Street, Jacksonville, Florida 32202, or his authorized representative, to whom the original policy shall be delivered insurance described on the special notes (Exhibit "B") attached hereto and made a part hereof.

SECTION 9 - Upon completion of the project, the Department shall operate and maintain or cause to be maintained, at its own cost and expense, all highway facilities, including the highway overhead structure, and insofar as the same affects the safety of railroad operations, shall be subject to the approval of the Chief Engineer of the Company. Company shall operate and maintain at its own cost and expense, all railroad facilities.

SECTION 10 - In the event that delays or difficulties arise in securing necessary Governmental approvals, or in acquiring necessary right of way or in settling damages or damage claims, which in the opinion of Department render it impracticable to utilize available Governmental funds, then at any time before construction contract is executed or actual construction is started, Department may serve formal notice of cancellation to Company and this agreement shall thereupon become null and void. Provided, however, that Company shall not be obligated to commence any of

the work to be undertaken by it hereunder until notified in writing by Department to proceed and shall have received assurance from Department that the project has been approved by all necessary Governmental authorities.

If any term or provision, or any part of any term or provision of this agreement is held to be unenforceable, it shall be severed as narrowly as possible, and the remaining terms and provisions shall be enforced in accordance with the tenor of this agreement.

Kenton County
I-275 Over KY 17 (Banklick Creek)
CSX Transportation, Inc.

SECTION 11 - This agreement shall be binding upon the legal representatives and assigns of the respective parties hereto.

IN WITNESS WHEREOF, the parties have caused these presents to be executed by their officers thereunto duly authorized.

This the 30 day of August, 2010.

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
DEPARTMENT OF RIGHT OF WAY & UTILITIES

By: Keith McD
Keith McDonald, Director
Division of Right of Way & Utilities

CSX TRANSPORTATION, INC.

By: Charles E. Gullakson
Charles E. Gullakson
Assistant Chief Engineer – Public Projects

APPROVED, FORM AND LEGALITY:

OFFICE OF GENERAL COUNSEL
TRANSPORTATION CABINET

Approved for Utilities & Rails Branch

By:

DATE: 8/30/10

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - KY0220

ESTIMATE SUBJECT TO REVISION AFTER: 01/22/2011 **DOT NO.:** 915 003A
CITY: Latonia Lakes **COUNTY:** Kenton **STATE:** KY
DESCRIPTION: Proposed bridge maintenance/repair - I-275 twin structures over CSXT

DIVISION: Louisville **SUB-DIV:** LCL **MILE POST:** 00T-103.30
AGENCY PROJECT NUMBER: Item # 6-2025.00

PRELIMINARY ENGINEERING:			
200 Labor (Non Contract)			$ 810
200 Additive	31.34%		$ 254
230 Expenses			$ 141
212 Contracted & Administrative Engineering Services			$ 7,000
Subtotal			$ 8,205
CONSTRUCTION ENGINEERING/INSPECTION:			
200 Labor (Non Contract)			$ 810
200 Additive	31.34%		$ 254
230 Expenses			$ 141
212 Contracted & Administrative Engineering Services			$ 13,000
Subtotal			$ 14,205
FLAGGING SERVICE: (Contract Labor)			
070 Labor (Conductor-Flagman)			$ -
050 Labor (Foreman/Inspector)			$ -
070 Additive	95.76%	(Transportation Department)	$ -
050 Additive	124.69%	(Engineering Department)	$ -
230 Per Diem	(Engineering Department)		$ -
230 Expenses			$ -
Subtotal			$ -
SIGNAL & COMMUNICATIONS WORK:	(Details Attached)		$ -
TRACK WORK: (Details Attached)			$ -
ACCOUNTING & BILLING:			
040 Labor			$ 300
040 Additive	85.03%		$ 255
Subtotal			$ 555
PROJECT SUBTOTAL			$ 22,965
900 **CONTINGENCIES:**	10.00%		$ 2,296
GRAND TOTAL **********			$ 25,261

DIVISION OF COST:

Agency	100.00%	$ 25,261
Railroad		$ -
TOTAL **********		$ 25,261

NOTE: Estimate is based on FULL CROSSING CLOSURE during work by Railroad Forces.

This estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower and resource availability, and other factors known as of the date prepared. The actual cost for CSXT work may differ based upon the agency's requirements, their contractor's work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work.

Office of Assistant Chief Engineer Public Projects--Jacksonville, Florida

Estimated by: Wayne Bolen / URS
DATE: 07/26/2010 REVISED:

Approved by: Ben Biesterveld
DATE: 07/29/2010

CSXT Public Project Group

Form Revised 03-02-2010-LLS

EXHIBIT "A"

Project Summary Sheet

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - KY0220
Pub EB - KY EB3 (KY)

ESTIMATE SUBJECT TO REVISION AFTER: 01/22/2011 **DOT NO.:** 915 003A
CITY: Latonia Lakes **COUNTY:** Kenton **STATE:** KY
DESCRIPTION: Proposed bridge maintenance/repair - I-275 twin structures over CSXT

DIVISION: Louisville **SUB-DIV:** LCL **MILEPOST:** 00T-103.30
DRAWING NO.: __ **DRAWING DATE:** __
AGENCY PROJECT NUMBER: Item # 6-2025.00

	PRELIMINARY ENGINEERING:					
200	Labor (Non Contract)		3	Days @ $ 270.00	$	810
200	Additive	31.34%			$	254
230	Expenses				$	141
212	Contracted & Administrative Engineering Services				$	7,000
	Subtotal				$	8,205
	CONSTRUCTION ENGINEERING/INSPECTION:					
200	Labor (Non Contract)		3	Days @ $ 270.00	$	810
200	Additive	31.34%			$	254
230	Expenses				$	141
212	Contracted & Administrative Engineering Services				$	13,000
	Subtotal				$	14,205
	FLAGGING SERVICE: (Contract Labor)					
70	Labor (Conductor-Flagman)		0	Days @ $ 350.00	$	-
50	Labor (Foreman/Inspector)		0	Days @ $ 336.00	$	-
70	Additive	95.76% (Transportation Department)			$	-
50	Additive	124.69% (Engineering Department)			$	-
230	Expenses	(Engineering Department)	0	Days @ $ 75.00	$	-
230	Expenses	(Transportation Department)	0	Days @ $ 45.00	$	-
	Subtotal				$	-
	COMMUNICATIONS WORK:					
	Temporary (Details Attached)				$	-
	Permanent (Details Attached)				$	-
	Subtotal				$	-
	TRACK: LABOR					
50	Traffic Control		0	MAN-HRS $ 24.00	$	-
50	Remove Existing Crossing		0	MAN-HRS $ 24.00	$	-
50	Renew Cross Ties		0	MAN-HRS $ 24.00	$	-
50	Renew Rail		0	MAN-HRS $ 24.00	$	-
50	Install OTM		0	MAN-HRS $ 24.00	$	-
50	Install Field Welds		0	MAN-HRS $ 24.00	$	-
50	Install Geo-Textile Fabric		0	MAN-HRS $ 24.00	$	-
50	Install Sub-Drains		0	MAN-HRS $ 24.00	$	-
50	Install Ballast		0	MAN-HRS $ 24.00	$	-
50	Line and Surface		0	MAN-HRS $ 24.00	$	-
50	Install Crossing Materials		0	MAN-HRS $ 24.00	$	-
50	Install Bituminous Pavement		0	MAN-HRS $ 24.00	$	-
50	_____		0	MAN-HRS $ 24.00	$	-
50	_____		0	MAN-HRS $ 24.00	$	-
50	_____		0	MAN-HRS $ 24.00	$	-
			0	MAN-HRS $ 24.00	$	-

EXHIBIT "A"

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50	Clean-Up			0	MAN-HRS	$ 24.00	$	-
50	Additive	124.69%					$	-
230	Per Diem			0	MAN-DAY	$ 90.00	$	-
	Subtotal						$	-
	TRACK: MATERIAL							
220	Cross Ties, Main Line			0	EA	$ 39.00	$	-
220	Cross tie - pre-plated			0	EA	$ 83.50	$	-
220	Cross-tie - Borate			0	EA	$ 56.00	$	-
220	Crossties, 10' Length			0	EA	$ 46.00	$	-
220	Tie plates			0	EA	$ 10.51	$	-
220	Rail, 136RE, New			0	LF	$ 21.00	$	-
220	Misc. OTM			1	LOT	$ -	$	-
210	Geo-Textile Fabric			0	RL	$ 930.00	$	-
210	Sub-Drains			0	LF	$ 6.00	$	-
220	Ballast - Car load			0	NT	$ 12.00	$	-
220	Ballast - Trucked in			0	NT	$ 45.00	$	-
220	Field Welds			0	EA	$ 100.00	$	-
	_____			0	___	$ -	$	-
	_____			0	___	$ -	$	-
210	Concrete Full Width			0	TF	$ 250.00	$	-
210	Concrete/Rubber Xing (CSX)			0	TF	$ 200.00	$	-
210	Rubber Crossing, Full Depth			0	TF	$ 325.00	$	-
210	Timber/Asphalt Crossing (CSX Standard)			0	TF	$ 42.00	$	-
210	Bituminous Material			0	NT		$	-
210	Sales Tax on Material	0.00%					$	-
210	Material Handling	5.00%					$	-
	Subtotal						$	-
	CONTRACT:							
215	Asphalt Paving (In Place)			0	NT		$	-
241	Disposal of Waste Materials			0	TF	$ 15.00	$	-
215	Maintenance of Traffic			0	DAY	$ 350.00	$	-
	Subtotal						$	-
241	**EQUIPMENT RENTAL:**							
	Subtotal						$	-
50	**WORK TRAIN:**			0	DAY	$ 2,100.00	$	-
	Subtotal						$	-
	SALVAGE:							
228	Rail			0	NT	$ 65.00	$	-
228	OTM			0	NT	$ 75.00	$	-
	Subtotal						$	-
	SIGNAL WORK:							
210	Material - Field & Consumables						$	-
210	Material - Sales Tax						$	-
220	Material - Shop						$	-
60	Construction Labor						$	-
65	Shop Labor						$	-
230	Per Diem						$	-
200	RR Engineering,Preliminary						$	-

EXHIBIT "A"

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - KY0220
Pub EB - KY EB3 (KY)

200	RR Engineering.Construction						$ -
60	Additives to Construction Labor						$ -
65	Additives to Shop Labor						$ -
200	Additives to Engineering						$ -
241	Equipment Expense						$ -
241	Waste Management						$ -
212	Contract Engineering						$ -
211	Freight						$ -
216	AC Power Service						$ -
228	Salvage						$ -
900	Other						$ -
	Subtotal						$ -
	ACCOUNTING & BILLING:						
40	Labor		1.5	Days @	$	200.00	$ 300
40	Additive	85.03%					$ 255
	Subtotal						$ 555
	PROJECT SUBTOTAL:						$ 22,965
900	**CONTINGENCIES:**	10.00%					$ 2,296
	GRAND TOTAL **********						$ 25,261

DIVISION OF COST:

Agency	100.00%		$ 25,261
Railroad	0.00%		$ -
TOTAL **********			$ 25,261

NOTE: Estimate is based on FULL CROSSING CLOSURE during work by Railroad Forces.

This estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower and resource availability, and other factors known as of the date prepared. The actual cost for CSXT work may differ based upon the agency's requirements, their contractor's work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work

Office of Assistant Chief Engineer Public Projects--Jacksonville, Florida

Estimated prepared by: Wayne Bolen / URS
DATE: 07/26/2010 REVISED:

Approved by: Ben Biesterveld
DATE: 07/29/2010

CSXT Public Project Group

Form Revised 03-02-2010-LLS

Force Account Worksheet

EXHIBIT "A"

ACCT. CODE : 709 - KY0220
Pub EB - KY EB3 (KY)

ESTIMATE SUBJECT TO REVISION AFTER: 01/22/2011
CITY: Latonia Lakes **COUNTY:** Kenton **DOT NO.:** 915 003A **STATE:** KY
DESCRIPTION: Proposed bridge maintenance/repair - I-275 twin structures over CSXT

DIVISION: Louisville **SUB-DIV:** LCL **MILEPOST:** 00T-103.30
DRAWING NO.: — **DRAWING DATE:** —
AGENCY PROJECT NUMBER: Item # 6-2025.00

Amount		
Task	Task Desc	Total
40	Labor General Office	$555
50	Labor Roadway	
60	Labor Signal	
65	Labor Signal1	
70	Labor Transportation	
200	Labor NonContract	$2,128
210	Invoice Material Material - Field & Consu	
211	Invoice Freight	
212	Invoice Contract Eng	$20,000
215	Invoice Misc	
216	Invoice Utilities	
220	Material New Material - Shop	
228	Scrap Credit	
230	ExpenseRpts	$282
241	Invoice Rental	
900	Other	
900	Contingencies	$2,296
	Material New	
Grand Total		$25,261

Oracle Input

EXHIBIT "A"

FLAGMEN AND PROTECTIVE SERVICES
SCHEDULE OF RATES AND RELATED COSTS

LOCATION: Latonia Lakes, Kenton County, Kentucky **DATE**: July 19, 2010

PROJECT: Proposed overhead bridge maintenance & repair, I-275, over CSXT at MP 00T-103.3, DOT# 915 003A, OP# KY0220

SERVICES: Flagmen required by Railroad to protect its operations and property will be furnished by Railroad at the following rates and costs.

CRAFTS & RATES:

Craft	No.	Hourly Rate
Foreman/Flagman	**1**	**$25.00 ***

* Estimated Hourly Rate: ((contractor work day), plus 1½ hr. travel: to and from headquarters, & 1 hr. to install and remove warning boards = 10 ½ hrs total), additives, and travel expenses is approximately **$585.00** per 8 hr day, **$735** per 10 hr day and **$885** per 12 hr day.

BASE RATE: Reimbursement is required for full eight-hour day for any flagman furnished unless said flagman is assigned to other work during a portion of such day, in which event reimbursement will not be required for the portion of the day said flagman is engaged in other work.

PUNITIVE RATE: One and one-half (1½) times the hourly rate in excess of eight (8) hours on Monday through Friday and for any time on Saturday, Sunday and Holidays.

ADDITIVES: The composite percentage added to rates is **124.69 %** and includes Railroad Retirement and Unemployment Tax (25.08%), Vacation (6.99%), Holidays (3.59%), Health and Welfare (20.41%), Force Account Ins. (21.00%), Supervision (22.00%), Small Tools & Safety Training (3.11%),and other (1.98%)

EXPENSES: Actual cost for travel, including meals, lodging and transportation will be charged. Reimbursement for use of private automobile is allowed at **50.0** cents (or latest approved rate) per mile or Contractor may be required to provide transportation from **Worthville, KY** to the site and return.

NOTIFICATION: CSX contact employee: **Troy Conner - Roadmaster at Worthville, KY, (502) 732-5251 or cell (502) 741-0460** must be notified at least **72** hours (not including Saturday, Sunday and Holiday) in advance of the need of such service.
Division:**Midwest - Louisville**
Subdivision: **LCL**

SHELTER: Contractor shall provide Flagmen with a heated shelter and suitable sanitation facilities.

TRAIN TRAFFIC:	6AM TO 6 PM	6PM TO 6 AM	Maximum Speed
Freight	11	10	25 MPH
Passenger	X	X	

EXHIBIT "A"

SPECIAL NOTES FOR PROTECTION OF RAILROAD INTEREST - CSXT

1. AUTHORITY OF RAILROAD ENGINEER AND STATE ENGINEER:

The authorized representative of the Railroad Company, hereinafter referred to as Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of Railroad traffic of his Company including the adequacy of the foundations and structures supporting the Railroad tracks.

The authorized representative of the State, hereinafter referred to as the Engineer, shall have authority over all other matters as prescribed herein and in the Project Specifications.

2. NOTICE OF STARTING WORK:

A. The Contractor shall not commence any work on Railroad rights of way until he has complied with the following conditions:

1. Given the Railroad written notice, with copy to the Engineer who has been designated to be in charge of the work, at least ten days in advance of the date he proposes to begin work on Railroad rights of way.

Benjamin P. Biesterveld, Principal Engineer Public Projects
CSX Engineering Department
500 Water Street - J301
Jacksonville, Florida 32202
(P) 904-359-1158; (F) 904-366-4042

2. Notify the Railroad's Chief Regional Engineer's representative, Troy Conner - **Roadmaster at Worthville, KY, (502) 732-5251 or cell (502) 741-0460**, at least 72 hours (not including Saturday, Sunday or Holidays) before proceeding with the work on Railroad property and shall abide by the instructions of said Railroad representative, insofar as the safety of the Railroad is concerned.

3. Obtain written authorization from the Railroad to begin work on Railroad rights of way, such authorization to include an outline of specific conditions with which he must comply.

4. Obtain written approval from the Railroad of Railroad Protective Insurance Liability coverage as required by paragraph 14 herein.

5. Furnish a schedule for all work within the Railroad rights of way as required by paragraph 7, B, 1.

EXHIBIT "B"

B. The Railroad's written authorization to proceed with the work shall include the names, addresses, and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

3. INTERFERENCE WITH RAILROAD OPERATIONS:

A. The Contractor shall so arrange and conduct his work that there will be no interference with Railroad operations, including train, signal, telephone and telegraphic services, or damage to the property of the Railroad Company or to poles, wires, and other facilities of tenants on the rights of way of the Railroad Company. Whenever work is liable to affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor which requires flagging service or inspection service (watchman) shall be deferred by the Contractor until the flagging protection required by the Railroad is available at the job site.

B. Whenever work within Railroad rights of way is of such a nature that impediment to Railroad operations such as use of runaround tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct his operations so that such impediment is reduced to the absolute minimum.

C. Should conditions arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of the Railroad, the Contractor shall make such provisions. If in the judgement of the Railroad Engineer, or in his absence, the Engineer, such provisions are insufficient, either may require or provide such provisions, as he deems necessary. In any event, such unusual provisions shall be at the Contractor's expense and without cost to the Railroad or the State.

4. TRACK CLEARANCES

A. The minimum track clearances to be maintained by the Contractor during construction are shown on the Project Plans. However, before undertaking any work within Railroad rights of way, or before placing any obstruction over any track, the Contractor shall:

1. Notify the Railroad's representative at least 72 hours in advance of the work.

2. Receive assurance from the Railroad's representative that arrangements have been made for flagging service as necessary.

EXHIBIT "B"

3. Receive permission from the Railroad's representative to proceed with the work.

4. Ascertain that the Engineer has received copies of notice to the Railroad and of the Railroad's response thereto.

5. CONSTRUCTION PROCEDURES

A. General:

Construction work on Railroad property shall be:

1. Subject to the inspection and approval of the Railroad.

2. In accord with the Railroad's written outline of specific conditions.

3. In accord with the Railroad's general rules, regulations and requirements including those relating to safety, fall protection and personal protective equipment.

4. In accord with these Special Notes.

B. Excavation:

The subgrade of an operated track shall be maintained with edge of berm at least 10'0" from centerline of track and not more than 24 inches below top of rail. Contractor will not be required to make existing section meet this specification if substandard, in which case the existing section will be maintained.

C. Excavation of Structures:

The Contractor will be required to take special precaution and care in connection with excavating and shoring pits, and in driving piles, or sheeting for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which they carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material. The procedure for doing such work, including need of and plans for shoring, shall first be approved by the Engineer and the Railroad Engineer, but such approval shall not relieve the Contractor from liability.

D. Blasting:

1. The Contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosive on or adjacent to Railroad property. The request for permission to use explosives shall include a detailed blasting plan. If

EXHIBIT "B"

permission for use of explosives is granted, the Contractor will be required to comply with the following:

(a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor and a licensed blaster.

(b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.

(c) No blasting shall be done without the presence of an authorized representative of the Railroad. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed (see paragraph 23 above) will be required to arrange for the presence of an authorized Railroad representative and such flagging as the Railroad may require.

(d) Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting at his expense any track misalignment or other damage to Railroad property resulting from the blasting as directed by the Railway's authorized representative. If his actions result in delay of trains, the Contractor shall bear the entire cost thereof.

2. The Railroad representative will:

(a) Determine the approximate location of trains and advise the Contractor the approximate amount of time available for the blasting operation and clean-up.

(b) Have the authority to order discontinuance of blasting if, in his opinion, blasting is too hazardous or is not in accord with these Special Notes.

E. Maintenance of Railroad Facilities:

1. The Contractor will be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from his operations and provide and maintain any erosion control measures as required. The Contractor will promptly repair eroded areas with Railroad rights of way and to repair any other damage to the property of the Railroad or its tenants.

2. All maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

EXHIBIT "B"

F. Storage of Materials and Equipment:

Materials and equipment shall not be stored where they will interfere with Railroad operations, nor on the rights of way of the Railroad Company without first having obtained permission from the Railroad Engineer, and such permission will be with the understanding that the Railroad Company will not be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor's expense, such material and equipment.

All grading or construction machinery that is left parked near the track unattended by a watchman shall be effectively immobilized so that it cannot be moved by unauthorized persons. The Contractor shall protect, defend, indemnify and save Railroad, and any associated, controlled or affiliated corporation, harmless from and against all losses, costs, expenses, claim or liability for loss or damage to property or the loss of life or personal injury, arising out of or incident to the Contractor's failure to immobilize grading or construction machinery.

G. Cleanup:

Upon completion of the work, the Contractor shall remove from within the limits of the Railroad rights of way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the Contractor, and leave said rights of way in a neat condition satisfactory to the Chief Engineer of the Railroad or his authorized representative.

6. DAMAGES:

A. The Contractor shall assume all liability for any and all damages to his work, employees, equipment and materials caused by Railroad traffic.

B. Any cost incurred by the Railroad for repairing damages to its property or to property of its tenants, caused by or resulting from the operations of the Contractor, shall be paid directly to the Railroad by the Contractor.

7. FLAGGING SERVICES:

A. When Required:

Under the terms of the agreement between the Department and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect its operations. In general, the requirements of such services will be whenever the Contractor's personnel or equipment are likely to be, working on the Railroad's

EXHIBIT "B"

rights of way, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging.

Normally, the Railroad will assign one flagman to a project; but in some cases, more than one may be necessary, such as yard limits where three (3) flagmen may be required. However, if the Contractor works within distances that violate instructions given by the Railroad's authorized representative or performs work that has not been scheduled with the Railroad's authorized representative, a flagman or flagmen may be required until the project has been completed.

B. Scheduling and Notification:

1. Not later than the time that approval is initially requested to begin work on Railroad rights of way, Contractor shall furnish to the Railroad and the Department a schedule for all work required to complete the portion of the project within Railroad rights of way and arrange for a job site meeting between the Contractor, the Department, and the Railroad's authorized representative. Flagman or Flagmen may not be provided until the job site meeting has been conducted and the Contractor's work scheduled.

2. The Contractor will be required to give the Railroad representative at least 10 working days of advance written notice of intent to begin work within Railroad rights of way. Once begun, when work is suspended at any time for any reason, the Contractor will be required to give the Railroad representative at least 3 working days of notice before resuming work on Railroad rights of way. Such notice shall include sufficient details of the proposed work to enable the Railroad representative to determine if flagging will be required. If such notice is in writing, the Contractor shall furnish the Engineer a copy; if notice is given verbally it shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagman, or flagmen is present at the job site. It may take up to 10 days to obtain flagging initially from the Railroad. When flagging begins the flagman is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, it may take up to 10 days to again obtain flagging services from the Railroad. Due to labor agreements, it is necessary to give 5 working days notice before flagging service may be discontinued and responsibility for payment stopped.

EXHIBIT "B"

3. If, after the flagman is assigned to the project site, emergencies arise which require the flagman's presence elsewhere, and then the Contractor shall delay work on Railroad rights of way until such time as the flagman is again available. Any additional costs resulting from such delay shall be borne by the Contractor and not the Department or Railroad.

C. Payment:

1. The Contractor will be responsible for paying the Railroad directly for any and all costs of flagging, which may be required to accomplish the construction.

2. The estimated cost of flagging is $585 per day based on Contractor's 8-hour work day, $735 per 10-hour day and $885 per 12-hour day. This cost includes the base pay for the flagman, overhead, and includes a per diem charge for travel expenses, meals and lodging. The charge to the Contractor by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required.

3. Work by a flagman in excess of 8 hours per day or 40 hours per week, but not more than 12 hours a day will result in overtime pay at 1 ½ times the appropriate rate. Work by a flagman in excess of 12 hours per day will result in overtime pay at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 ½ times the normal rate.

4. Railroad work involved in preparing and handling bills will also be charged to the Contractor. Charges to the Department by the Railroad shall be in accordance with applicable provisions of Subchapter B, Part 140, Subpart I and Subchapter G, Part 646, Subpart B of the Federal-Aid Policy Guide issued by the Federal Highway Administration on December 9, 1991, including all current amendments. Flagging costs are subject to change. The above estimates of flagging cost are provided for information only and are not binding in any way.

D. Verification:

1. The Contractor and Department will review and sign the Railroad flagman's time sheet, attesting that the flagman was present during the time recorded. Flagman may be removed by Railroad if form is not signed. If flagman is removed, the Contractor will not be allowed to re-enter the Railroad rights of way until the issue is resolved. Any complaints concerning flagman or flagmen must be resolved in a timely manner. If need for flagman or flagmen is questioned, please contact

EXHIBIT "B"

Railroad's Projects Engineer (904) 359-1158. All verbal complaints must be confirmed in writing by the Contractor within 5 working days with copy to the Highway Engineer. All written correspondence should be addressed to:

Benjamin Biesterveld, Principal Engineer Public Projects
CSX Engineering Department
500 Water Street - J101
Jacksonville, Florida 32202
(P) 904-359-1158; (F) 904-366-4042

2. The Railroad flagman assigned to the project will be responsible for notifying the Project Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin and on the last day that he performs such services for each separate period that services are provided. The Project Engineer will document such notification in the project records. When requested, the Project Engineer will also sign the flagman's diary showing daily time spent and activity at the project site.

8. HAUL ACROSS RAILROAD:

A. Where the plans show or imply that materials of any nature must be hauled across a Railroad, unless the plans clearly show that the State has included arrangements for such haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad. The Contractor will be required to bear all costs incidental, including flagging, to such crossings whether services are performed by his own forces or by Railroad personnel.

B. No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the Railroad Company unless specific authority for is installation, maintenance, necessary watching and flagging thereof and removal, all at the expense of the Contractor, is first obtained from the Railroad Engineer.

9. WORK FOR THE BENEFIT OF THE CONTRACTOR:

A. All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the State and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the State and/or the Railroad.

B. Should the Contractor desire any changes in addition to the above,

EXHIBIT "B"

then he shall make separate arrangements with the Railroad for same to be accomplished at the Contractor's expense.

10. COOPERATION AND DELAYS:

A. It shall be the Contractor's responsibility to arrange a schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging his schedule he shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefor.

B. No charge or claims of the Contractor against either the Department or the Railroad will be allowed for hindrance or delay on account of railroad traffic; any work done by the Railroad or other delay incident to or necessary for safe maintenance of Railroad traffic or for any delays due to compliance with these Special Notes.

11. TRAINMAN'S WALKWAYS:

Along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 10 feet from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railroad's protective service is provided shall be removed before the close of each day. If there is any excavation near the walkway, a handrail, with 10'-0" minimum clearance from centerline of track, shall be placed.

12. GUIDELINES FOR PERSONNEL ON RAILROAD RIGHTS OF WAY:

A. All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots cinched with straps which fit snugly about the ankle are adequate. Safety boots are strongly recommended.

B. No one is allowed within 25' of the centerline of the track without specific authorization from the flagman.

C. All persons working near track when train is passing are to look out for dragging bands, chains and protruding or shifting cargo.

D. No one is allowed to cross tracks without specific authorization from the flagman.

E. All welders and cutting torches working within 25' of track must

stop when train is passing.

F. No steel tape or chain will be allowed to cross or touch rails without permission.

13. GUIDELINES FOR EQUIPMENT ON RAILROAD RIGHTS OF WAY:

A. No crane or boom equipment will be allowed to set up to work or park within boom distance plus 15' of centerline of track without specific permission from railroad official and flagman.

B. No crane or boom equipment will be allowed to foul track or lift a load over the track without flag protection and track time.

C. All employees will stay with their machines when crane or boom equipment is pointed toward track.

D. All cranes and boom equipment under load will stop work while a train is passing (including pile driving).

E. Swinging loads must be secured to prevent movement while train is passing.

F. No loads will be suspended above a moving train.

G. No equipment will be allowed within 25' of centerline of track without specific authorization of the flagman.

H. Trucks, tractors or any equipment will not touch ballast line without specific permission from railroad official and flagman.

I. No equipment or load movement within 25' or above a standing train or other equipment without specific authorization of the flagman.

J. All operating equipment within 25' of track must halt operations when a train is passing. All other operating equipment may be halted by the flagman if the flagman views the operation to be dangerous to the passing train.

K. All equipment, loads and cables are prohibited from touching rails.

L. While clearing and grubbing, no vegetation will be removed from railroad embankment with heavy equipment without specific permission from the Railroad Engineer and flagman.

M. No equipment or materials will be parked or stored on Railroad's property unless specific permission is granted from the Railroad Engineer.

N. All unattended equipment that is left parked on Railroad property

EXHIBIT "B"

shall be effectively immobilized so that it can not be moved by unauthorized persons.

O. All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.

14. INSURANCE:

A. In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, the Contractor will be required to carry insurance of the following kinds:

1. Commercial General Liability and Property Damage Liability Insurance. Insurance shall include "XCU" coverage.

The Contractor shall furnish to the Department, for transmittal to the Railroad Company, certificate of insurance in triplicate as evidence that with respect to the operations he performs he carries regular Contractor's Public Liability Insurance and Contractor's Property Damage Liability Insurance both providing for limits of liability as follows:

COVERAGE	MINIMUM COMBINED LIMITS OF LIABILITY
Bodily Injury Liability) Property Damage Liability) Physical Damage to Property)	$3,000,000 Per Occurrence $3,000,000 Aggregate

2. Contractor's Protective Liability and Property Damage Liability Insurance.

The Contractor shall furnish the Department, for transmittal to the Railroad Company, certificate of insurance in triplicate as evidence that with respect to the operations performed for him by any subcontractor, he carries in his own behalf regular Contractor's Public Liability Insurance and regular Contractor's Protective Property Damage Liability Insurance both providing for limits of liability as follows:

COVERAGE	MINIMUM COMBINED LIMITS OF LIABILITY
Bodily Injury Liability) Property Damage Liability) Physical Damage to Property)	$3,000,000 Per Occurrence $3,000,000 Aggregate

3. Railroad Protective Liability Insurance.

EXHIBIT "B"

The Contractor shall furnish to the Department, for transmittal to the Railroad Company, original and two (2) copies of Railroad Protective Insurance Policy with limits of liability as follows:

COVERAGE	MINIMUM COMBINED LIMITS OF LIABILITY
Bodily Injury Liability)	$5,000,000 Per Occurrence
Property Damage Liability)	$10,000,000 Aggregate
Physical Damage to Property)	

The Standard for this protective insurance shall follow the requirements of Subchapter G, Part 646, Subpart A of the Federal-Aid Policy Guide issued by the Federal Highway Administration on December 9, 1991, including all current amendments.

Evidence of insurance as required above shall be furnished to the address shown below for review by the Department and transmittal to the Railroad:

Department:

Mr. Ryan Griffith, Director
Div. of Construction Procurement
KY Transportation Cabinet
200 Mero Street, 3rd Floor West
Frankfort, Kentucky 40622
Phone (502) 564-3500
Fax (502) 564-8961

Railroad:

Ms. Donna W. Melton
Manager-Insurance
CSX Corporation
500 Water Street - C907
Jacksonville, Florida 32202
Phone (904) 359-1247
Fax (904) 245-2833

The named insured, description of the work and designation of the job site to be shown on the Policy are as follows:

(a) Named Insured:

CSX Transportation, Inc.

(b) Description and Designation:

Kenton **County, Latonia Lakes; I-275 at KY 17 (Banklick Creek)**
FD52 059 83734 01D
Bridge Maintenance and repair on I-275 Twin bridges over KY 17 (Banklick Creek) and CSX tracks

As Shown in the Advertisement

B. If any part of the work is sublet, similar insurance and evidence thereof in the same amounts as required of the Prime Contractor, shall be provided by or in behalf of the subcontractor to cover his

EXHIBIT "B"

operations. Endorsements to the Prime Contractor's policies specifically naming subcontractors and describing their operations will be acceptable for this purpose.

C. All insurance herein before specified shall be carried until all work required to be performed under the terms of the contract has been satisfactorily completed within the limits of the rights of way of the Railroad as evidenced by the formal acceptance by the Department. Insuring Companies may cancel insurance by permission of the Department and Railroad or on thirty (30) days written notice to the Department and Railroad as follows:

Department:	Railroad:
Mr. Ryan Griffith, Director	Ms. Donna W. Melton
Div. of Construction Procurement	Manager-Insurance
KY Transportation Cabinet	CSX Corporation
200 Mero Street, 3rd Floor West	500 Water Street - C907
Frankfort, Kentucky 40622	Jacksonville, Florida 32202
Phone (502) 564-3500	Phone (904) 359-1247
Fax (502) 564-8961	Fax (904) 245-2833

15. FAILURE TO COMPLY:

These Special Notes are supplemental and amendatory to the Kentucky Department of Highways' Standard Specifications for Road and Bridge Construction, Edition of 2004, and amendments thereof, and where in conflict therewith, these Special Notes shall govern.

In the event the Contractor violates or fails to comply with any of the requirements of these Special Notes:

A. The Railroad Engineer may require that the Contractor vacate Railroad property.

B. The Engineer may withhold all monies due the Contractor on monthly statements.

Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

16. PAYMENT FOR COST OF COMPLIANCE:

No separate payment will be made for any extra cost incurred on account of compliance with these Special Notes. All such cost shall be included in prices bid for other items of the work as specified in the payment items.

EXHIBIT "B"

Office of the Principal Engineer Public Projects
CSX Engineering Department
500 Water Street - J301
Jacksonville, Florida 32202

Date: July 29, 2010
File: Latonia Lakes, Kenton County, Kentucky
Milepost: MP 00T-103.3
AAR-DOT# 915 003A

EXHIBIT "B"

SPECIAL NOTE FOR RAILROAD

Refer to the special provisions for protection of CSXT interest for additional requirements regarding work on or above railroad property, scheduling, insurance needs, etc.

The Contractor shall submit to CSXT, a detailed progress of work schedule for work in the span(s) over the Railroad.

The Contractor shall obtain railroad protective insurance required by CSXT and noted in the special provisions.

CSXT may require the Contractor to install filter fabric over the track and ballast to prevent any concrete dust or other construction debris from fouling the ballast. This will be determined during actual construction activities by CSXT or its Representative. Fabric should extend at least 25' beyond the outside edges of the bridge. Fabric will remain in place until all construction activities are complete.

The Contractor shall prevent construction debris from falling onto or otherwise protect the CSXT communication & signal bungalow located under the westbound bridge.

Temporary construction Clearance: Ensure all falsework, bracing or forms have a minimum vertical clearance of 21.5 feet above the top of highest rail and a minimum horizontal clearance of 12 feet measured perpendicular to the centerline of the nearest track.

Demolition: The Contractor shall follow CSXT's "Construction Submission Criteria", issued April 3, 2009, section II - Demolition Procedures. If during deck reconstruction there is full deck penetration over the RR span, a submittal will be required that complies with the "Construction Submission Criteria". A submittal must be provided to CSXT or its Representative, for their review and approval. CSXT requires at least 30 days to review submittals in order to provide comments and/or approvals.

Upon completion of the work on CSXT property, the Contractor shall request the Agency to arrange a final inspection of the project with the Railroad's Project Engineer or his authorized representative.

INSURANCE REQUIREMENTS

1. Insurance Policies:

Agency and Contractor, if and to the extent that either is performing work on or about CSXT's property, shall procure and maintain the following insurance policies:

1. Commercial General Liability coverage at their sole cost and expense with limits of not less than $5,000,000 in combined single limits for bodily injury and/or property damage per occurrence, and such policies shall name CSXT as an additional named insured.

2. Statutory Worker's Compensation and Employers Liability Insurance with limits of not less than $1,000,000, which insurance must contain a waiver of subrogation against CSXT and its affiliates.

3. Commercial automobile liability insurance with limits of not less than $500,000 combined single limit for bodily injury and/or property damage per occurrence, and such policies shall name CSXT as an additional named insured.

4. Railroad protective liability insurance with limits of not less than $5,000,000 combined single limit for bodily injury and/or property damage per occurrence and an aggregate annual limit of $10,000,000, which insurance shall satisfy the following additional requirements:

   a. The insurer must be financially stable and rated B+ or better in Best's Insurance Reports.

   b. The Railroad Protective Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance - Insurance Services Office (ISO) Form CG 00 35.

   c. CSX Transportation must be named as the named insured on the Railroad Protective Insurance Policy.

   d. Name and Address of Contractor and Agency must be shown on the Declarations page.

   e. Description of operations must appear on the Declarations page and must match the Project description, including project or contract identification numbers.

   f. Authorized endorsements must include the Pollution Exclusion Amendment - CG 28 31, unless using form CG 00 35 version 96 and later.

   g. Authorized endorsements may include:

      (i). Broad Form Nuclear Exclusion - IL 00 21
      (ii) 30-day Advance Notice of Non-renewal or cancellation
      (iii) Required State Cancellation Endorsement
      (iv) Quick Reference or Index - CL/IL 240

h. Authorized endorsements may not include:

(i) A Pollution Exclusion Endorsement except CG 28 31
(ii) A Punitive or Exemplary Damages Exclusion
(iii) A "Common Policy Conditions" Endorsement
(iv) Any endorsement that is not named in Section 4 (f) or (g) above.
(v) Policies that contain any type of deductible

5. Such additional or different insurance as CSXT may require.

II. Additional Terms

1. Contractor must submit its original insurance policies and two copies and all notices and correspondence regarding the insurance policies to:

Donna W. Melton
Manager - Insurance
CSX Transportation, Inc.
500 Water Street - C907
Jacksonville, FL 32202
904-359-1247 (Phone)
904-245-2833 (Fax)

2. Neither Agency nor Contractor may begin work on the Project until it has received CSXT's written approval of the required insurance policies.

PROPOSED BRIDGE WORK FOR CSX TRANSPORTATION NOTIFICATION
I-275 TWIN BRIDGES OVER KY 17, BANKLICK CREEK & CSX RR
BRIDGE MAINTENANCE NUMBERS 059B00063L & R
I-275 ITEM NO. 6-2025.00 KENTON COUNTY
MARCH 16, 2010

The following items of work are proposed for twin I-275 bridges over KY 17, Banklick Creek and the CSX Railroad in Kenton County, Kentucky during 2010:

1. Bridge deck overlay on both bridges (small area over CSX right of way)

2. Replace existing bridge joints at Piers 1, 2, 5 and 8 as shown on attached drawings (none on CSX right of way)

3. Eliminate existing joints at End Bent 1 and End Bent 2 of both bridges as shown on attached drawings (neither on CSX right of way)

4. Repair of pier caps on Piers 5 and 8 as shown on the attached drawings (none of these piers are on CSX right of way)

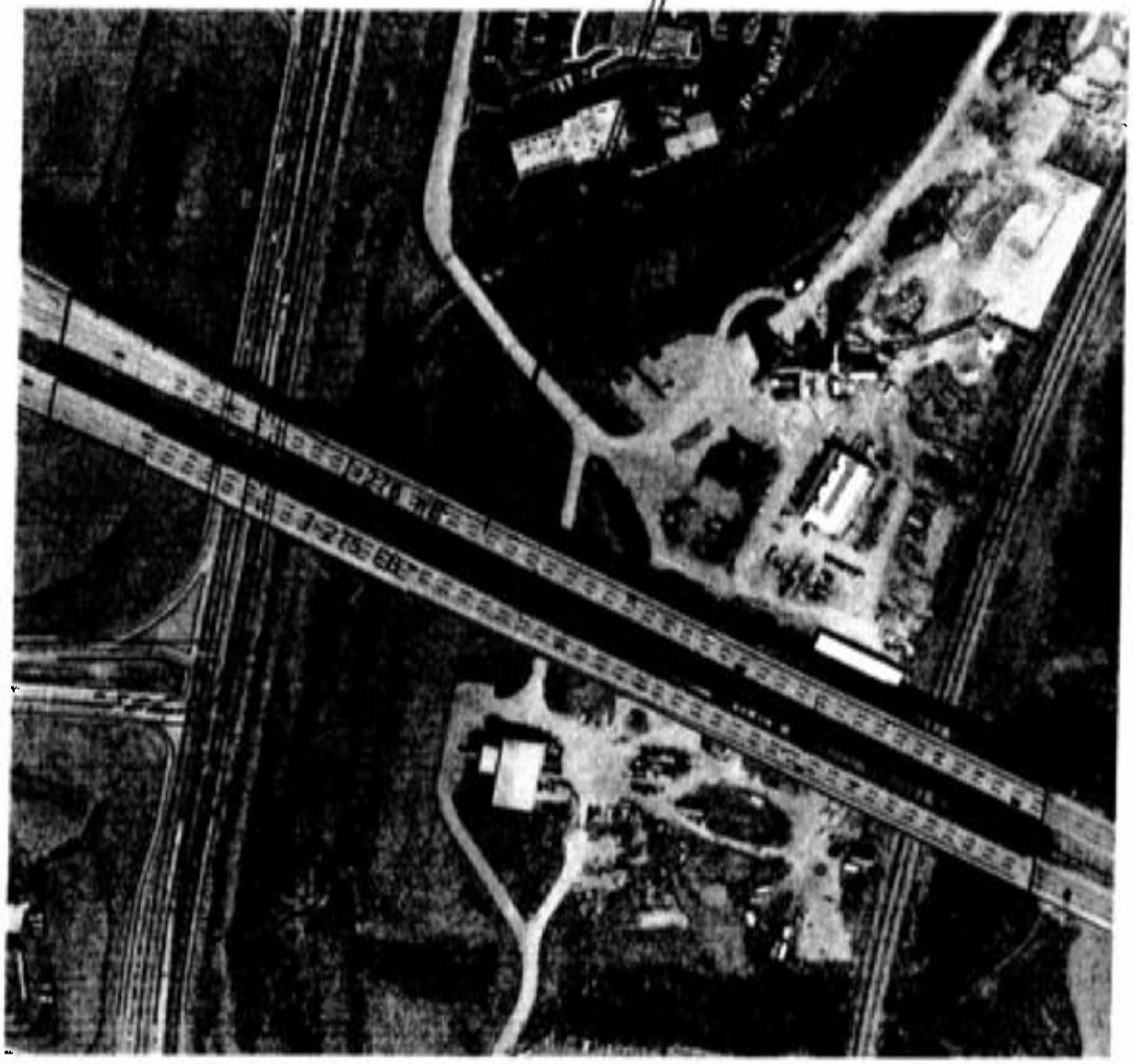
5. Repair deck drain plumbing over CSX Railroad as shown on attached drawings (includes drain pipes over entire width of CSX right of way)

6. Install 4" perforated pipe underdrains under End Bent 2 of both bridges (neither on CSX right of way)

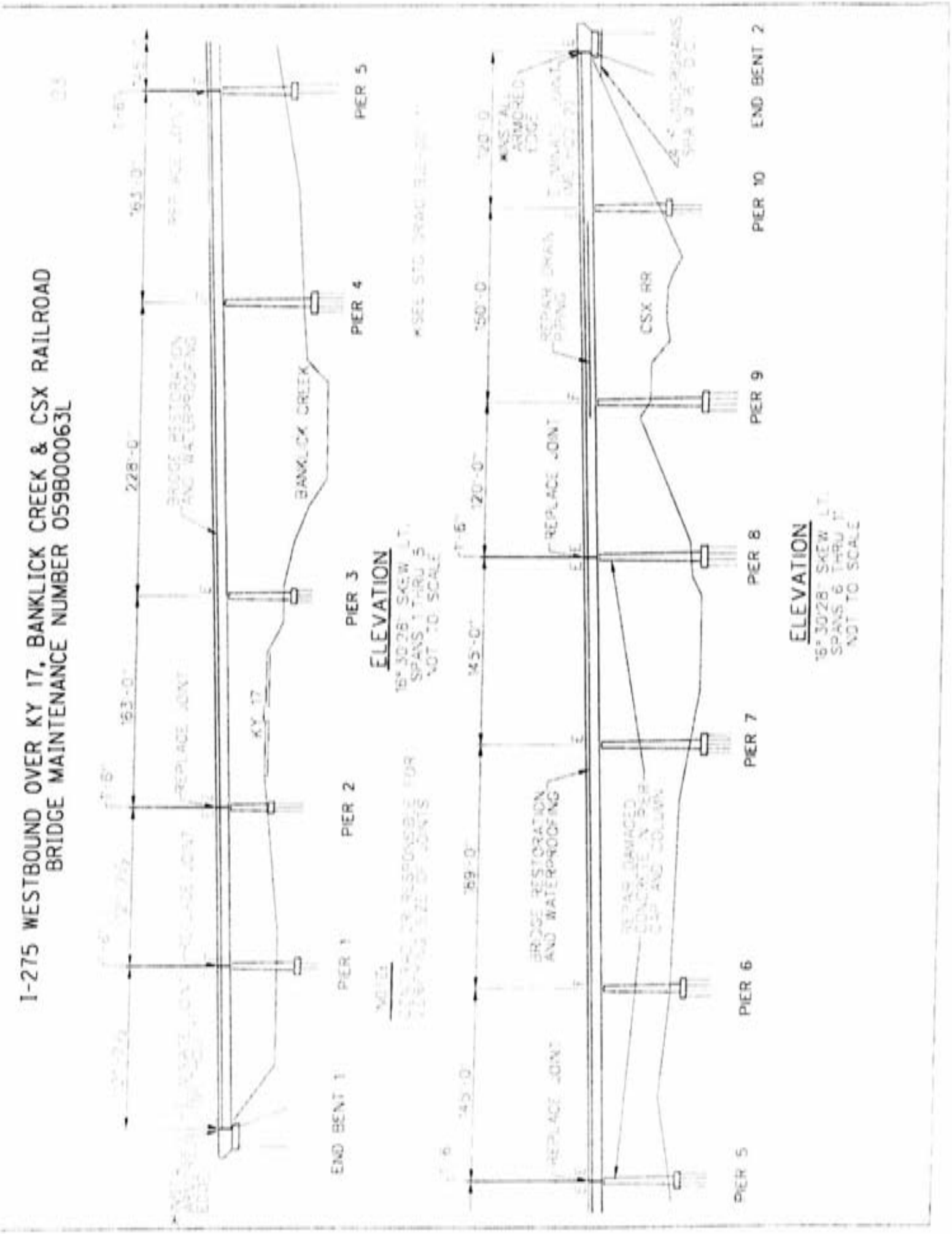
B3

KENTON COUNTY

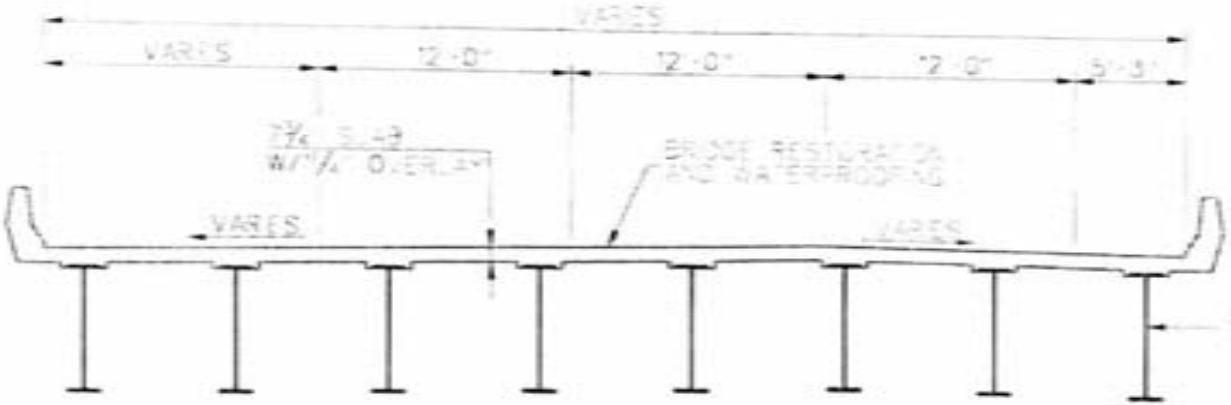
059B00063L
I-275 WESTBOUND OVER KY 17,
BANKLICK CREEK & CSX RR



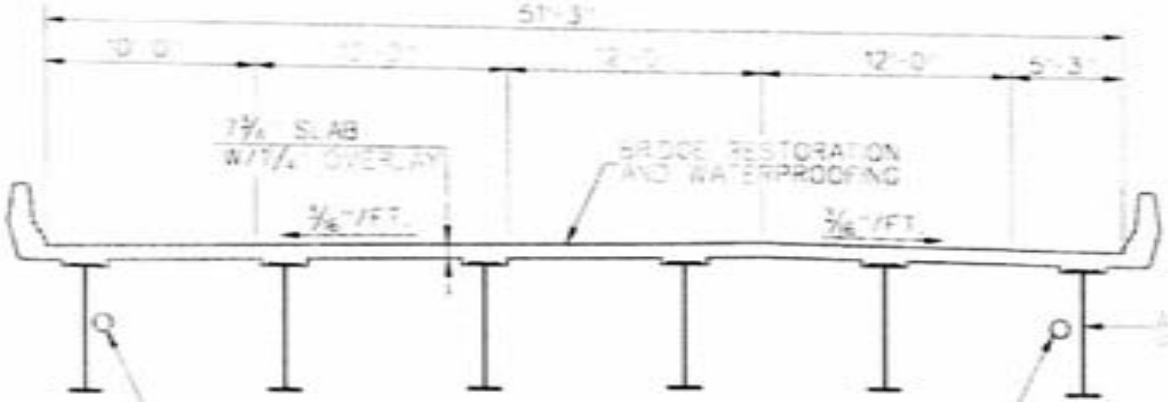
Approximate Location Information
Latitude:
Longitude:
MP


I-275 WESTBOUND OVER KY 17, BANKLICK CREEK & CSX RAILROAD
BRIDGE MAINTENANCE NUMBER 059800063L
ELEVATION
15° 30'28" SKEW LT.
SPANS 1 THRU 5
NOT TO SCALE
ELEVATION
15° 30'28" SKEW LT.
SPANS 6 THRU 11
NOT TO SCALE
END BENT 1
PIER 1
PIER 2
PIER 3
PIER 4
PIER 5
PIER 6
PIER 7
PIER 8
PIER 9
PIER 10
END BENT 2
BANKLICK CREEK
KY 17
CSX RR
REPLACE JOINT
BRIDGE RESTORATION AND WATERPROOFING
REPAIR DAMAGED CONCRETE IN BENT AND COLUMN
REPAIR CRACKS
*SEE STD. DRAWING BR-801-12-00
*MASTA ARMORED EDGE

I-275 WESTBOUND OVER KY 17, BANKLICK CREEK & CSX RAILROAD
BRIDGE MAINTENANCE NUMBER 059B00063L



TYPICAL SECTION



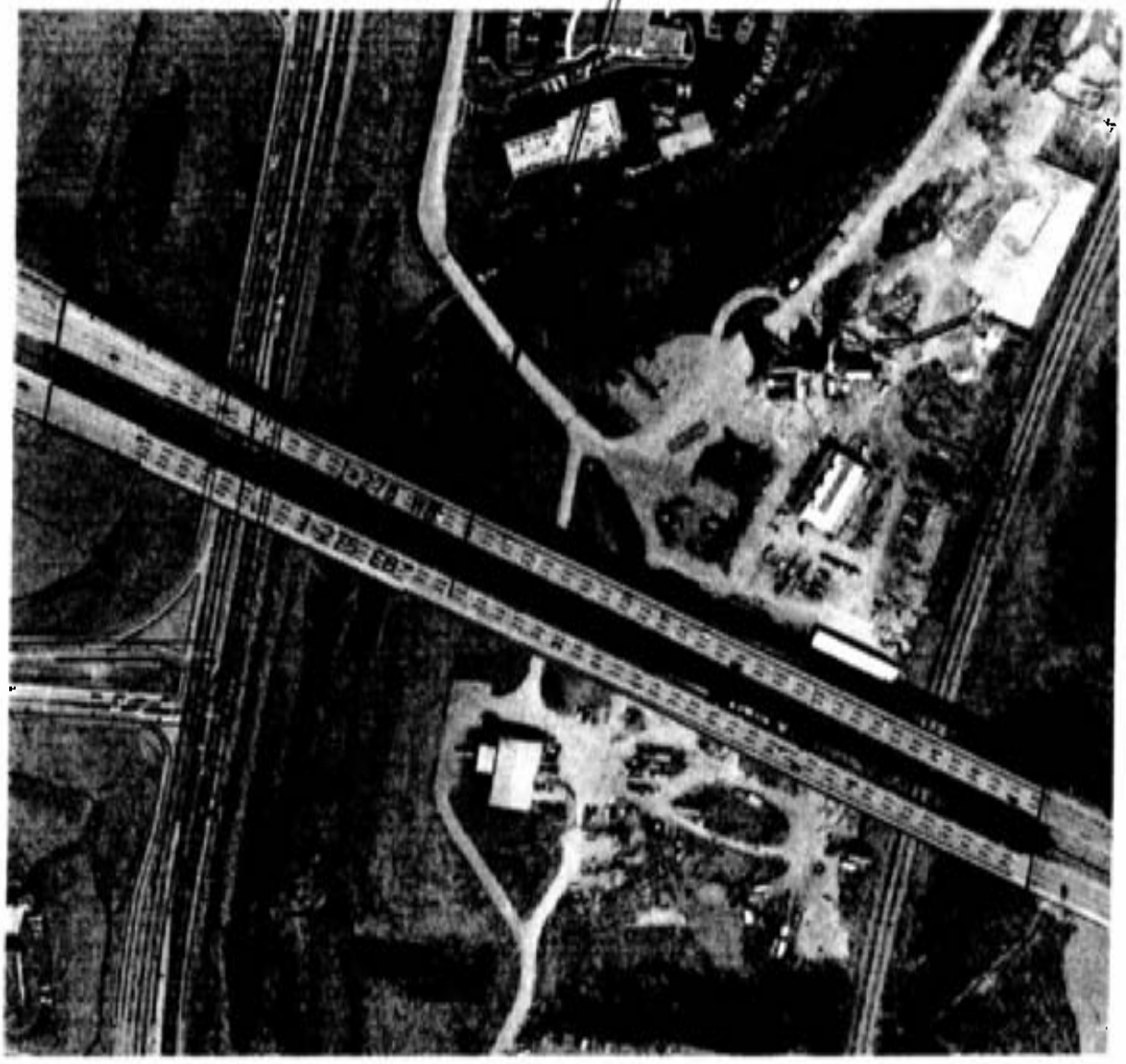
TYPICAL SECTION

KENTON - CAMPBELL COUNTIES
121GR10D050-IM
Contract ID: 101050
Page 543 of 616

B4

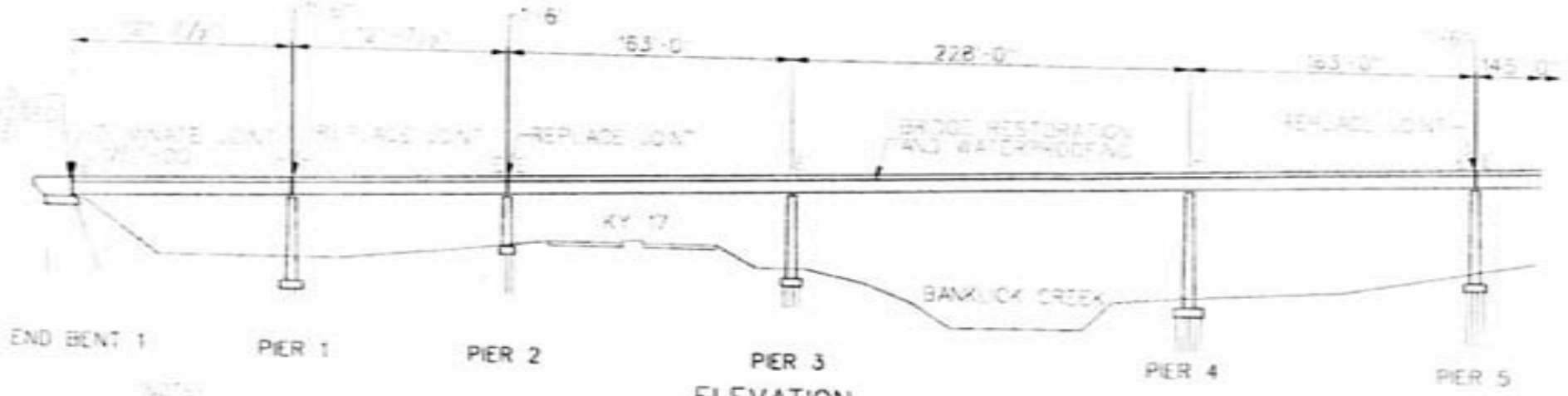
KENTON COUNTY

059800063R
I-275 EASTBOUND OVER KY 17,
BANKLICK CREEK & CSX RR

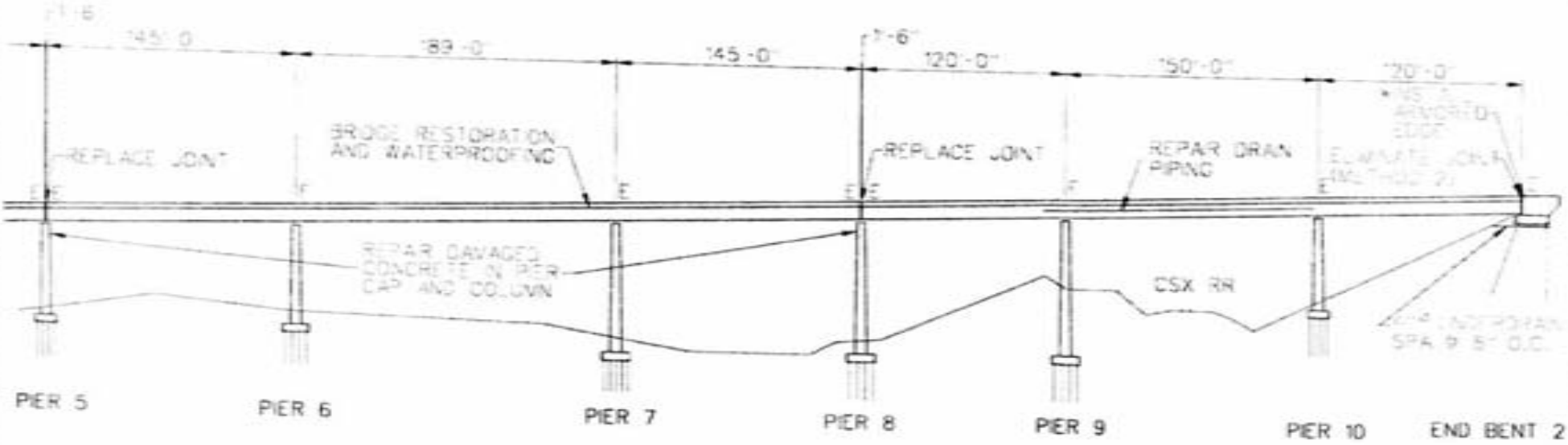


Approximate Location Information
Latitude:
Longitude:
MP

I-275 EASTBOUND OVER KY 17, BANKLICK CREEK & CSX RAILROAD
BRIDGE MAINTENANCE NUMBER 059B00063R



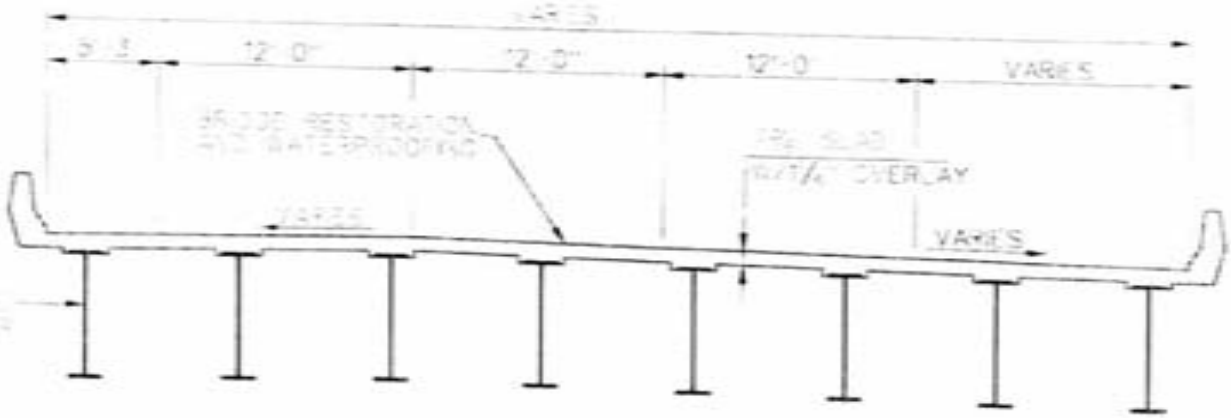
ELEVATION
16°30'28" SKEW LT.
SPANS 1-5
NOT TO SCALE



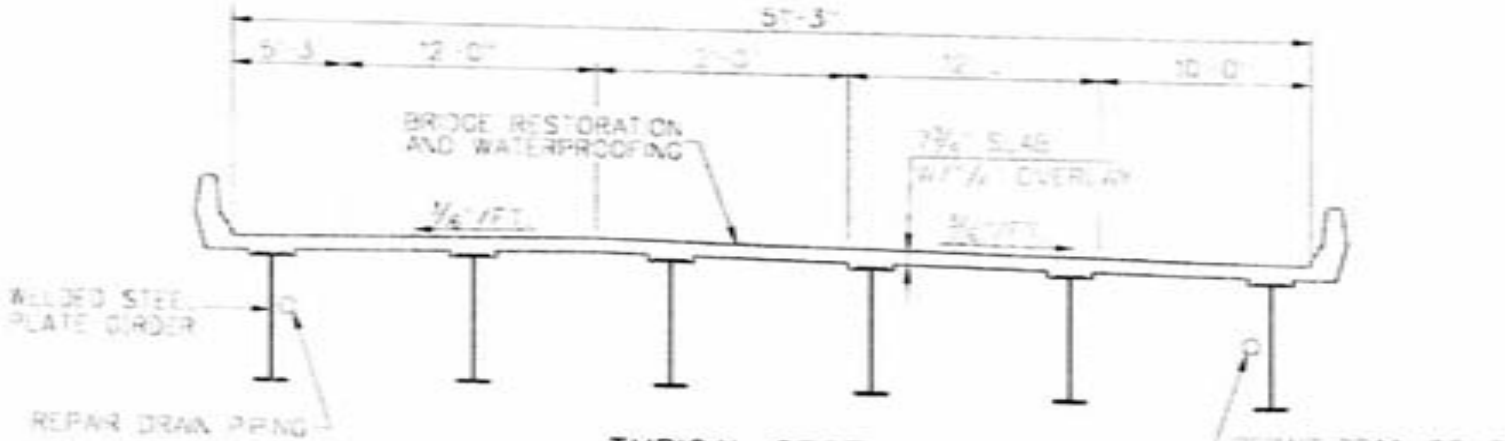
ELEVATION
16°30'28" SKEW LT.
SPANS 6-11
NOT TO SCALE

KENTON - CAMPBELL COUNTIES
121GR10D050-IM
Contract ID: 101050
Page 545 of 616

I-275 EASTBOUND OVER KY 17, BANKLICK CREEK & CSX RAILROAD
BRIDGE MAINTENANCE NUMBER 059B00063R



TYPICAL SECTION
SPANS 1 THRU 8



TYPICAL SECTION
SPANS 9, 10, 11

MEMORANDUM

TO: Robert Hans
Chief District Engineer

ATTN: Joe Menkaus
District Utility Agent

FROM: Tom Capshaw TFC
Area Utilities and Rails Coordinator
Division of Right of Way & Utilities

DATE: September 1, 2010

SUBJECT: Kenton County
FD52 C059 83734 01D
I-275 Over CSX and KY 17 (Banklick Creek)
Item No. 6-2025.00
1100001232

Enclosed is an executed copy of an agreement between the Department and CSX Transportation covering force account work on the subject project.

Approval has been obtained for the CSX Transportation to perform preliminary and contract engineering and accounting work in the amount of $25,261.00. Any invoices for flagging services will be paid directly to the rail company by the roadway contractor. This is your authorization to inform the railroad to proceed with their work when you so desire. Please notify the Company in your letter of authorization, that you are to be notified when the company is ready to begin work and also when it is completed.

If you should have any questions concerning these documents or this project, please advise.

TFC/tfc

Cc: Permits Engineer
File

TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

September 1, 2010

Mr. Larry Shaw, PE
Programs Manager
URS Corporation
One Indiana Square, Suite 2100
Indianapolis, IN 46204

Dear Mr. Shaw:

SUBJECT: Kenton County
FD52 C059 83734 01D
I-275 Over CSX and KY 17 (Banklick Creek)
MP 00T-103.30, OP No. KY 0220
Item No. 6-2025.00
1100001232

Reference is made to your letter of August 25, 2010, transmitting copies of the agreement covering work by your Company to permit the construction of subject project.

We are enclosing the original, which has been executed by Department officials, and two (2) conformed copy of the agreement as requested. Approval has been obtained for your Company to do the work by force account in the approximate amount of $25,261.00.

Mr. Larry Shaw
Page 2
September 1, 2010

Progress billing for actual costs may be submitted monthly, or for each $1,000 or more expended. Progress bills need not be itemized. A signed copy of Department form TD 69-8E must accompany each bill copy, whether progress or final. All bills should be submitted in triplicate to Mr. Joe Menkhaus, District Utilities Agent, 421 Buttermilk Pike, Covington, Kentucky 41017.

If you have any questions concerning this project, please advise.

Sincerely,

Thomas F. Capshaw
Rails Coordinator
Division of Right of Way and Utilities
Kentucky Transportation Cabinet

TFC/tfc

Enclosures

cc: Robert Hans, P.E.
Joe Menkhaus
File

Right-of-Way Certification Form

Revised 5/27/09

☒ **Federal Funded** ☒ **Original**

☐ **State Funded** ☐ **Re-Certification**

This form must be completed and submitted to FHWA with the PS&E package for federal-aid funded Interstate, Appalachia, and Mega projects. This form shall also be submitted to FHWA for **all** federal-aid projects that fall under conditions No. 2 & 3 outlined elsewhere in this form. For all other federal-aid projects, this form shall be completed and retained in the KYTC project file.

Date: **September 9, 2010**

Project #:

County: **KENTON & CAMPBELL**

Item #: **6-2025.00, 6-2027.00, 6-2800.20**

Federal #: **NH 2759 (115); NH 2759 (113); STP 2759 (119)**

Description of Project: Repair & Grind pavement on I-275 from .047 miles south of KY9 9MP 77.023 in Campbell County to .022 mile southof KY-17 (MP 79.796) in Kenton County; Repair and grind pavement on I-275 from .55 mile south of horsebranch Road (MP 80.12) to US 25 (MP 82.475); Install HTC median barrier along I-275 in Kenton & Campbell Counties beginning at MP 77.20 to MP 81.55.

Letting Date: October 10, 2010

Projects that require NO new or additional right-of-way acquisitions and/or relocations

☒ The proposed transportation improvement will be built within the existing rights-of -way and there are no properties to be acquired, individuals and families ("relocatees") to be relocated, or improvements to be removed as a part of this project.

Projects that require new or additional right-of –way acquisitions and/or relocations

☐ Per 23 CFR 635.309, the KYTC hereby certify that all relocatees have been relocated to decent, safe, and sanitary housing or that KYTC has made available to relocatees adequate replacement housing in accordance with the provisions of the current FHWA directive(s) covering the administration of the Highway Relocation Assistance Program **and** that at least one of the following three conditions has been met. **(Check those that apply.)**

☐ 1. All necessary rights-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 these improvements and enter on all land. **Fair market value has been paid or deposited with the court.**

Right-of-Way Certification Form

☐ 2. Although all necessary rights-of-way have 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. Trial or appeal of some parcels may be pending in court and on other parcels full legal possession has not been obtained, but an Interlocutory Judgment has been granted, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish these improvements. **Fair market value has been paid or deposited with the court for most parcels. Fair market value for all pending parcels will be paid or deposited with the court prior to start of construction. (See note.)**

Note: The KYTC shall re-submit a right-of-way re-certification form for this project prior to the start of construction **(Notice to Proceed)**, verifying that fair market value for all parcels has been paid or deposited with the court.

☐ 3. The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. However, all remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. The KYTC is hereby requesting authorization to advertise this project for bids and to proceed with physical construction even thought the necessary rights-of-way will not be fully acquired, and/or some occupants will not be relocated, and/or the fair marked value will not be paid or deposited with the court for some parcels at the start of construction. KYTC will fully meet all the requirements outlined in 23 CFR 309(c) (3) and 49 CFR 102(j) and will expedite completion of all acquisitions, relocations, and full payments after construction starts. A full explanation and reason for this request, including identification of each such parcel and dates on which acquisitions, payments, and relocations will be completed, is attached to this certification form for FHWA consideration and approval. **(See note.)**

Note: The KYTC may request authorization on this basis only in unique and unusual circumstances. Proceeding to construction of projects on this basis shall be the exception and never become the rule. In all FHWA-approved cases, the KYTC shall make extraordinary efforts to expedite completion of the acquisition, payment for all affected parcels, and the relocation of all relocatees promptly 30 days after start of construction.

Approved: Daniel R. White Date 9/9/2010 District ROW Supervisor
Name

Approved: [signature] Date 9/10/10 Director of ROW & Utilities
Name or Designee

Approved: [signature] Date 9/10/10 FHWA, Right-of-Way Officer
Name

Right-of-Way Certification Form

Date: **September 9, 2010**

Project #: _____ County: **KENTON & CAMPBEL**

Item #: **6-2025.00, 6-2027.00,6-2800.20** Federal #: **NH 2759(115);NH2759(113); STP 2759(119)**

Letting Date: **October10, 2010**

This project has **0** Total number of parcels acquired, and **0** Total number of individual or families relocated, as well as **0** Total number of businesses relocated.

0 Parcels were acquired by a signed fee simple deed and fair market value has been paid **(Type 1)**

0 Parcels have been acquired through condemnation and IOJ granted by the court and fair market value has been deposited with the court **(Type 1 certification)**

0 Parcels have <u>not been acquired at this time</u> but <u>can be Re-certified as acquired prior to Notice</u> to Proceed for construction.(*explain below for each parcel*) **(Type 2 certification)**

0 Parcels have been acquired or have a "right of Entry" but the fair market value has not been paid or has not been posted with the court, and they can not be re-certified prior to construction. (These parcels require an explanation below for each one as well as FHWA approval. **(Type 3 only)**

0 Relocatees have not been relocated from parcels.
(explain below for each parcel)

Parcel #	Name	Explanation for delayed acquisition, delayed relocation, or delayed payment of fair market value	Proposed date of payment or of relocation

There are **0** billboards and/or **0** cemeteries involved on this project.
There are **0** water or monitoring wells on parcels.

SPECIAL NOTES FOR UTILITY CLEARANCE IMPACT ON CONSTRUCTION

Campbell/Kenton County
FD52 019/059 83734 01C
Repair & Grind Pavement on I-275
Item No. 6-2025 & 6-2027

GENERAL NOTES AND NOTICES RELATIVE TO ALL EXISTING UTILITIES

The utility information provided in the plans and in these Special Notes for Utility Clearance Impact on Construction may not be exact nor complete. The information provided is for the contractor's use in planning the execution of the work. It shall be the road contractor's responsibility to verify the completeness and/or accuracy of all such information being furnished.

Upon arrival on the project, it shall be the priority of the road contractor to verify the existence, location and ownership of any overhead or underground facility.

Utility coordination efforts determined that there are utility facilities within the project limits. Any work pertaining to these utility facilities are defined in the bid package and are 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.

KYTC has underground electric service for lighting along the edge of roadway. These poles and associated electric services are to be protected by the contractor during construction.

Railroad Information Note

The following Railroad Company has facilities within the project limits and twin I-275 bridges cross their tracks at approximate highway centerline station 79+80 in Kenton County. The contractor will be responsible for all coordination of flagging activities with respect to the rail company according to the exhibits and special notes included in the contract documents.

CSX Transportation, Inc. (Bridges B000289L&R)
CSX contact employee: Troy Conner
Roadmaster at Worthville, KY
(502) 732-5251 (office)
(502) 741-0460 (cell)

SPECIAL NOTES FOR UTILITY CLEARANCE, IMPACT ON CONSTRUCTION (CONTINUED)

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

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

The Kentucky Transportation Cabinet makes no guarantees regarding: the existence of utilities, the location of utilities, the utility companies in the project scope, or the potential for conflicts encountered during construction. Any location of utilities provided herein has been furnished by the facility owners, field inspection, and/or reviewing record drawings. The accuracy of the information provided is undetermined. It will be the contractor's responsibility to locate utilities before excavating. If necessary, the roadway contractor shall determine the exact location and elevation of utilities by hand digging to expose utilities before excavating in the area of a utility.

PROTECTION OF UTILITIES

THE LOCATION OF UTILITIES PROVIDED IN THE CONTRACT DOCUMENTS HAS BEEN FURNISHED BY THE FACILITY OWNERS AND/OR BY REVIEWING RECORD DRAWINGS. THE INFORMATION MAY NOT BE EXACT OR COMPLETE. IT WILL BE THE ROAD CONTRACTORS RESPONSIBILITY TO LOCATE UTILITIES BEFORE EXCAVATING BY CALLING THE VARIOUS UTILITY OWNERS AND BY EXAMINING ANY SUPPLEMENTAL INFORMATION PROVIDED BY THE CABINET AND/OR UTILITY OWNER. THE ROAD CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES BY HAND DIGGING TO EXPOSE UTILITIES BEFORE HE EXCAVATES IN THE AREA OF A UTILITY. THE COST FOR REPAIR AND ANY OTHER ASSOCIATED COSTS FOR ANY DAMAGE TO UTILITIES CAUSED BY THE ROAD CONTRACTOR'S OPERATIONS SHALL BE BORNE BY THE ROAD CONTRACTOR.

THE CONTRACTOR IS ALSO ADVISED TO REVIEW THE PROJECT IN THE FIELD AND BE AWARE OF OVERHEAD LINES WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHOULD BE CAUTIOUS WHEN WORKING UNDER THESE LINES. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ANY ARRANGEMENTS HE FEELS PRUDENT TO AVOID CONTACT WITH THESE OVERHEAD LINES.

<u>BEFORE YOU DIG</u>

SPECIAL NOTES FOR UTILITY CLEARANCE, IMPACT ON CONSTRUCTION (CONTINUED)

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.

MATERIAL SUMMARY CONTRACT ID: 101050

IM 2759(117) PES NO: DE01902751052
COVINGTON-CINCINNATI ROAD (I-275) REPAIR AND GRIND PAVEMENT ON I-275 FROM MP 77.023 IN CAMPBELL COUNTY TO MP 79.796 IN KENTON COUNTY

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0010	00001	DGA BASE	2,795.00	TON
0020	00008	CEMENT STABILIZED ROADBED	15,385.00	SQYD
0030	00100	ASPHALT SEAL AGGREGATE	112.00	TON
0040	00291	EMULSIFIED ASPHALT RS-2	13.60	TON
0050	00358	ASPHALT CURING SEAL	15.50	TON
0060	00521	STORM SEWER PIPE-15 IN	166.00	LF
0070	01432	SLOPED BOX OUTLET TYPE 1-15 IN	1.00	EACH
0080	01490	DROP BOX INLET TYPE 1	1.00	EACH
0090	01641	JUNCTION BOX-15 IN	1.00	EACH
0100	01845	ISLAND INTEGRAL CURB	933.00	LF
0110	01904	REMOVE CURB	515.00	LF
0120	01982	DELINEATOR FOR GUARDRAIL-WHITE	137.00	EACH
0130	01983	DELINEATOR FOR GUARDRAIL-YELLOW	50.00	EACH
0140	01984	DELINEATOR FOR BARRIER-WHITE	165.00	EACH
0150	01985	DELINEATOR FOR BARRIER-YELLOW	165.00	EACH
0160	02014	BARRICADE-TYPE III	5.00	EACH
0170	02058	REMOVE PCC PAVEMENT	12,915.00	SQYD
0180	02060	PCC PAVEMENT DIAMOND GRINDING	26,070.00	SQYD
0190	02071	JPC PAVEMENT-11 IN	10,551.00	SQYD
0200	02072	JPC PAVEMENT-11 IN SHLD	4,834.00	SQYD
0210	02086	JPC PAVEMENT-13 IN	144.00	SQYD
0220	02087	JPC PAVEMENT-13 IN SHLD	59.00	SQYD
0230	02115	SAW-CLEAN-RESEAL TVERSE JOINT	14,430.00	LF
0240	02116	SAW-CLEAN-RESEAL LONGIT JOINT	15,226.00	LF
0250	02230	EMBANKMENT IN PLACE	507.00	CUYD
0260	02352	GUARDRAIL-STEEL W BEAM-D FACE	187.50	LF
0270	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	6.00	EACH
0280	02365	CRASH CUSHION TYPE IX-A	1.00	EACH
0290	02367	GUARDRAIL END TREATMENT TYPE 1	2.00	EACH
0300	02369	GUARDRAIL END TREATMENT TYPE 2A	3.00	EACH
0310	02381	REMOVE GUARDRAIL	5,689.00	LF
0320	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
0330	02542	CEMENT	301.00	TON
0340	02562	SIGNS	500.00	SQFT
0350	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
		IM 2759(117) CAMPBELL CO.		
0360	02671	PORTABLE CHANGEABLE MESSAGE SIGN	5.00	EACH
0370	02690	SAFELOADING	3.00	CUYD
0380	02701	TEMP SILT FENCE	1,000.00	LF
0390	02702	SAND FOR BLOTTER	39.00	TON
0400	02705	SILT TRAP TYPE C	15.00	EACH
0410	02708	CLEAN SILT TRAP TYPE C	15.00	EACH
0420	02709	CLEAN TEMP SILT FENCE	1,000.00	LF
0430	02726	STAKING	1.00	LS
		IM 2759(117) CAMPBELL CO.		
0440	02775	ARROW PANEL	2.00	EACH
0450	02894	CRASH CUSHION TYPE VI-T	2.00	EACH
0460	02898	RELOCATE CRASH CUSHION	2.00	EACH
0470	03171	CONCRETE BARRIER WALL TYPE 9T	1,200.00	LF
0480	03260	CLEAN ROADWAY DRAINS	6.00	EACH
0490	05950	EROSION CONTROL BLANKET	5,000.00	SQYD
0500	05985	SEEDING AND PROTECTION	15,000.00	SQYD

MATERIAL SUMMARY CONTRACT ID: 101050

0510	06417	FLEXIBLE DELINEATOR POST-W	71.00	EACH
0520	06418	FLEXIBLE DELINEATOR POST-Y	91.00	EACH
0530	06511	PAVE STRIPING-TEMP PAINT-6 IN	20,000.00	LF
0540	06549	PAVE STRIPING-TEMP REM TAPE-B	2,000.00	LF
0550	06550	PAVE STRIPING-TEMP REM TAPE-W	2,000.00	LF
0560	06551	PAVE STRIPING-TEMP REM TAPE-Y	2,000.00	LF
0570	06568	PAVE MARKING-THERMO STOP BAR-24IN	40.00	LF
0580	06574	PAVE MARKING-THERMO CURV ARROW	6.00	EACH
0590	06592	PAVEMENT MARKER TYPE V-B W/R	199.00	EACH
0600	06593	PAVEMENT MARKER TYPE V-B Y/R	113.00	EACH
0610	10020NS	FUEL ADJUSTMENT	2,328.00	DOLL
0620	20412ED	REMOVE ASPHALT SHOULDER	1,986.00	SQYD
0630	21802EN	G/R STEEL W BEAM-S FACE (7 FT POST)	3,962.50	LF
0640	22854EN	PAVE STRIPE PERM-6 IN HD21-WHITE	9,185.00	LF
0650	22855EN	PAVE STRIPE PERM-6 IN HD21-YELLOW	9,188.00	LF
0660	22856EN	PAVE STRIPE PERM-12 IN HD21-WHITE	2,126.00	LF
0670	23624EC	REMOVE AND RESET CRASH CUSHION	1.00	EACH
0680	03294	EXPAN JOINT REPLACE 1 1/2 IN	189.00	LF
0690	03296	EXPAN JOINT REPLACE 2 1/2 IN	63.00	LF
0700	03300	ELIMINATE TRANSVERSE JOINT METHOD 1	63.00	LF
0710	08504	EPOXY SAND SLURRY	900.00	SQYD
0720	08526	CONC CLASS M FULL DEPTH PATCH	10.00	CUYD
0730	08534	CONCRETE OVERLAY-LATEX	60.00	CUYD
0740	08549	BLAST CLEANING	1,870.00	SQYD
0750	08551	MACHINE PREP OF SLAB	1,622.00	SQYD
0760	23032EN	BRIDGE BARRIER RETROFIT	634.00	LF
0770	03294	EXPAN JOINT REPLACE 1 1/2 IN	232.40	LF
0780	03296	EXPAN JOINT REPLACE 2 1/2 IN	77.30	LF
0790	03300	ELIMINATE TRANSVERSE JOINT METHOD 1	77.00	LF
0800	08504	EPOXY SAND SLURRY	300.00	SQYD
0810	08526	CONC CLASS M FULL DEPTH PATCH	10.00	CUYD
0820	08534	CONCRETE OVERLAY-LATEX	70.00	CUYD
0830	08549	BLAST CLEANING	2,040.00	SQYD
0840	08551	MACHINE PREP OF SLAB	1,918.00	SQYD
0850	23032EN	BRIDGE BARRIER RETROFIT	628.00	LF
0860	03294	EXPAN JOINT REPLACE 1 1/2 IN	112.00	LF
0870	03300	ELIMINATE TRANSVERSE JOINT METHOD 1	25.00	LF
0880	08504	EPOXY SAND SLURRY	290.00	SQYD
0890	08526	CONC CLASS M FULL DEPTH PATCH	4.00	CUYD
0900	08534	CONCRETE OVERLAY-LATEX	31.00	CUYD
0910	08549	BLAST CLEANING	962.00	SQYD
0920	08551	MACHINE PREP OF SLAB	733.00	SQYD
0930	23032EN	BRIDGE BARRIER RETROFIT	601.00	LF
0940	04793	CONDUIT-1 1/4 IN	30.00	LF
0950	04811	JUNCTION BOX TYPE B	1.00	EACH
0960	04820	TRENCHING AND BACKFILLING	25.00	LF
0970	04830	LOOP WIRE	614.00	LF
0980	04844	CABLE-NO. 14/5C	90.00	LF
0990	04850	CABLE-NO. 14/1 PAIR	440.00	LF
1000	04895	LOOP SAW SLOT AND FILL	231.00	LF
1010	20188NS835	INSTALL LED SIGNAL-3 SECTION	2.00	EACH
1020	04798	CONDUIT-3 1/2 IN	180.00	LF
1030	04820	TRENCHING AND BACKFILLING	180.00	LF
1040	04834	WIRE-NO. 6	360.00	LF
1050	04837	WIRE-NO. 0	180.00	LF
1060	20391NS835	JUNCTION BOX TYPE A	4.00	EACH
1070	02568	MOBILIZATION	1.00	LS
1080	02569	DEMOBILIZATION	1.00	LS

IM 2759(119) PES NO: DE01902751054
COVINGTON-CINCINNATI ROAD (I-275) INSTALL HTC MEDIAN BARRIER ALONG I-275 IN KENTON AND CAMPBELL COUNTY FROM MP 77.200 TO MP 81.550

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0010	00001	DGA BASE	61.00	TON
0020	00100	ASPHALT SEAL AGGREGATE	21.00	TON
0030	00291	EMULSIFIED ASPHALT RS-2	3.00	TON
0040	06427	TRENCHING	1,584.00	LF
0050	22415EN	CONCRETE CLASS A FOR PAD	704.00	SQYD
0060	23147EN	HIGH TENSION CABLE-ROPE BARRIER	1,584.00	LF
0070	23148EN	END ANCHORS	2.00	EACH
0080	02569	DEMOBILIZATION	1.00	LS

IM 2759(121) PES NO: DE05902751050
COVINGTON-CINCINNATI ROAD (I-275) REPAIR AND GRIND PAVEMENT ON I-275 FROM MP 80.120 TO MP 82.475

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0010	00001	DGA BASE	3,051.00	TON
0020	00008	CEMENT STABILIZED ROADBED	48,878.00	SQYD
0030	00100	ASPHALT SEAL AGGREGATE	587.00	TON
0040	00279	CL4 ASPH BIND 0.50D PG76-22	429.00	TON
0050	00291	EMULSIFIED ASPHALT RS-2	70.40	TON
0060	00342	CL4 ASPH SURF 0.38A PG76-22	306.00	TON
0070	00358	ASPHALT CURING SEAL	49.00	TON
0080	01845	ISLAND INTEGRAL CURB	1,830.00	LF
0090	01890	ISLAND HEADER CURB TYPE 1	1,018.00	LF
0100	01904	REMOVE CURB	555.00	LF
0110	01982	DELINEATOR FOR GUARDRAIL-WHITE	283.00	EACH
0120	01983	DELINEATOR FOR GUARDRAIL-YELLOW	91.00	EACH
0130	01984	DELINEATOR FOR BARRIER-WHITE	235.00	EACH
0140	01985	DELINEATOR FOR BARRIER-YELLOW	235.00	EACH
0150	02014	BARRICADE-TYPE III	12.00	EACH
0160	02058	REMOVE PCC PAVEMENT	32,891.00	SQYD
0170	02060	PCC PAVEMENT DIAMOND GRINDING	132,285.00	SQYD
0180	02071	JPC PAVEMENT-11 IN	31,880.00	SQYD
0190	02072	JPC PAVEMENT-11 IN SHLD	16,998.00	SQYD
0200	02086	JPC PAVEMENT-13 IN	149.00	SQYD
0210	02087	JPC PAVEMENT-13 IN SHLD	44.00	SQYD
0220	02115	SAW-CLEAN-RESEAL TVERSE JOINT	107,838.00	LF
0230	02116	SAW-CLEAN-RESEAL LONGIT JOINT	113,813.00	LF
0240	02352	GUARDRAIL-STEEL W BEAM-D FACE	125.00	LF
0250	02360	GUARDRAIL TERMINAL SECTION NO 1	4.00	EACH
0260	02367	GUARDRAIL END TREATMENT TYPE 1	14.00	EACH
0270	02369	GUARDRAIL END TREATMENT TYPE 2A	13.00	EACH
0280	02381	REMOVE GUARDRAIL	8,575.00	LF
0290	02542	CEMENT	956.00	TON
0300	02562	SIGNS	925.00	SQFT
0310	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
		IM 2759(121) KENTON CO.		
0320	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0330	02676	MOBILIZATION FOR MILL & TEXT	1.00	LS
		IM 2759(121) KENTON CO.		
0340	02677	ASPHALT PAVE MILLING & TEXTURING	490.00	TON
0350	02701	TEMP SILT FENCE	2,500.00	LF
0360	02702	SAND FOR BLOTTER	125.00	TON
0370	02705	SILT TRAP TYPE C	35.00	EACH
0380	02708	CLEAN SILT TRAP TYPE C	35.00	EACH
0390	02709	CLEAN TEMP SILT FENCE	2,500.00	LF
0400	02726	STAKING	1.00	LS
		IM 2759(121) KENTON CO.		
0410	02775	ARROW PANEL	2.00	EACH
0420	02894	CRASH CUSHION TYPE VI-T	2.00	EACH
0430	02898	RELOCATE CRASH CUSHION	2.00	EACH
0440	03171	CONCRETE BARRIER WALL TYPE 9T	1,646.00	LF
0450	05950	EROSION CONTROL BLANKET	30,000.00	SQYD
0460	05985	SEEDING AND PROTECTION	45,000.00	SQYD
0470	06417	FLEXIBLE DELINEATOR POST-W	241.00	EACH
0480	06418	FLEXIBLE DELINEATOR POST-Y	241.00	EACH
0490	06511	PAVE STRIPING-TEMP PAINT-6 IN	120,000.00	LF
0500	06549	PAVE STRIPING-TEMP REM TAPE-B	12,000.00	LF
0510	06550	PAVE STRIPING-TEMP REM TAPE-W	12,000.00	LF
0520	06551	PAVE STRIPING-TEMP REM TAPE-Y	12,000.00	LF
0530	06568	PAVE MARKING-THERMO STOP BAR-24IN	139.00	LF
0540	06574	PAVE MARKING-THERMO CURV ARROW	22.00	EACH
0550	06592	PAVEMENT MARKER TYPE V-B W/R	301.00	EACH
0560	06593	PAVEMENT MARKER TYPE V-B Y/R	389.00	EACH
0570	06600	REMOVE PAVEMENT MARKER TYPE V	279.00	EACH
0580	10020NS	FUEL ADJUSTMENT	7,326.00	DOLL
0590	10030NS	ASPHALT ADJUSTMENT	1,771.00	DOLL
0600	20192ED	REM ASPHALT WEDGE CURB	1,018.00	LF
0610	20412ED	REMOVE ASPHALT SHOULDER	16,437.00	SQYD
0620	21802EN	G/R STEEL W BEAM-S FACE (7 FT POST)	7,737.50	LF
0630	22854EN	PAVE STRIPE PERM-6 IN HD21-WHITE	61,713.00	LF
0640	22855EN	PAVE STRIPE PERM-6 IN HD21-YELLOW	40,442.00	LF
0650	22856EN	PAVE STRIPE PERM-12 IN HD21-WHITE	5,610.00	LF
0660	23845EC	SAW AND SEAL ASPHALT JOINT	1,524.00	LF
0670	22146EN	CONCRETE PATCHING REPAIR	100.00	SQFT
0680	23386EC	JOINT SEAL REPLACEMENT	104.00	LF
0690	03300	ELIMINATE TRANSVERSE JOINT	122.00	LF
0700	08504	EPOXY SAND SLURRY	169.00	SQYD
0710	08510	REM EPOXY BIT FOREIGN OVERLAY	819.00	SQYD
0720	08526	CONC CLASS M FULL DEPTH PATCH	4.00	CUYD
0730	08534	CONCRETE OVERLAY-LATEX	29.00	CUYD

0740	08549	BLAST CLEANING	990.00	SQYD
0750	04793	CONDUIT-1 1/4 IN	130.00	LF
0760	04795	CONDUIT-2 IN	115.00	LF
0770	04811	JUNCTION BOX TYPE B	4.00	EACH
0780	04820	TRENCHING AND BACKFILLING	195.00	LF
0790	04830	LOOP WIRE	2,688.00	LF
0800	04850	CABLE-NO. 14/1 PAIR	1,108.00	LF
0810	04895	LOOP SAW SLOT AND FILL	1,003.00	LF
0820	04795	CONDUIT-2 IN	440.00	LF
0830	04798	CONDUIT-3 1/2 IN	180.00	LF
0840	04820	TRENCHING AND BACKFILLING	620.00	LF
0850	04833	WIRE-NO. 8	180.00	LF
0860	04834	WIRE-NO. 6	540.00	LF
0870	04835	WIRE-NO. 4	240.00	LF
0880	04836	WIRE-NO. 2	1,540.00	LF
0890	20391NS835	JUNCTION BOX TYPE A	15.00	EACH
0900	02568	MOBILIZATION	1.00	LS
0910	02569	DEMOBILIZATION	1.00	LS

IM 2759(117) PES NO: DE05902751051
COVINGTON-CINCINNATI ROAD (I-275) REPAIR AND GRIND PAVEMENT ON I-275 FROM MP 77.023 IN CAMPBELL COUNTY TO MP 79.796 IN KENTON COUNTY

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0010	00001	DGA BASE	2,490.00	TON
0020	00008	CEMENT STABILIZED ROADBED	3,514.00	SQYD
0030	00100	ASPHALT SEAL AGGREGATE	379.00	TON
0040	00279	CL4 ASPH BIND 0.50D PG76-22	2,476.00	TON
0050	00291	EMULSIFIED ASPHALT RS-2	45.10	TON
0060	00342	CL4 ASPH SURF 0.38A PG76-22	1,987.00	TON
0070	00358	ASPHALT CURING SEAL	3.50	TON
0080	01982	DELINEATOR FOR GUARDRAIL-WHITE	232.00	EACH
0090	01983	DELINEATOR FOR GUARDRAIL-YELLOW	74.00	EACH
0100	01984	DELINEATOR FOR BARRIER-WHITE	193.00	EACH
0110	01985	DELINEATOR FOR BARRIER-YELLOW	193.00	EACH
0120	02014	BARRICADE-TYPE III	8.00	EACH
0130	02058	REMOVE PCC PAVEMENT	2,120.00	SQYD
0140	02060	PCC PAVEMENT DIAMOND GRINDING	126,745.00	SQYD
0150	02071	JPC PAVEMENT-11 IN	2,109.00	SQYD
0160	02072	JPC PAVEMENT-11 IN SHLD	1,406.00	SQYD
0170	02115	SAW-CLEAN-RESEAL TVERSE JOINT	96,009.00	LF
0180	02116	SAW-CLEAN-RESEAL LONGIT JOINT	101,329.00	LF
0190	02352	GUARDRAIL-STEEL W BEAM-D FACE	25.00	LF
0200	02367	GUARDRAIL END TREATMENT TYPE 1	1.00	EACH
0210	02369	GUARDRAIL END TREATMENT TYPE 2A	1.00	EACH
0220	02381	REMOVE GUARDRAIL	1,000.00	LF
0230	02542	CEMENT	69.00	TON
0240	02562	SIGNS	575.00	SQFT
0250	02650	MAINTAIN & CONTROL TRAFFIC IM 2759(117) KENTON CO.	1.00	LS
0260	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0270	02676	MOBILIZATION FOR MILL & TEXT IM 2759(117) KENTON CO.	1.00	LS
0280	02677	ASPHALT PAVE MILLING & TEXTURING	3,068.00	TON
0290	02701	TEMP SILT FENCE	1,500.00	LF
0300	02702	SAND FOR BLOTTER	9.00	TON
0310	02705	SILT TRAP TYPE C	20.00	EACH
0320	02708	CLEAN SILT TRAP TYPE C	20.00	EACH
0330	02709	CLEAN TEMP SILT FENCE	1,500.00	LF
0340	02726	STAKING IM 2759(117) KENTON CO.	1.00	LS
0350	02775	ARROW PANEL	1.00	EACH
0360	02894	CRASH CUSHION TYPE VI-T	1.00	EACH
0370	02898	RELOCATE CRASH CUSHION	1.00	EACH
0380	03171	CONCRETE BARRIER WALL TYPE 9T	2,954.00	LF
0390	05950	EROSION CONTROL BLANKET	20,000.00	SQYD
0400	05985	SEEDING AND PROTECTION	27,000.00	SQYD
0410	06417	FLEXIBLE DELINEATOR POST-W	164.00	EACH
0420	06418	FLEXIBLE DELINEATOR POST-Y	164.00	EACH
0430	06511	PAVE STRIPING-TEMP PAINT-6 IN	60,000.00	LF
0440	06549	PAVE STRIPING-TEMP REM TAPE-B	6,000.00	LF
0450	06550	PAVE STRIPING-TEMP REM TAPE-W	6,000.00	LF
0460	06551	PAVE STRIPING-TEMP REM TAPE-Y	6,000.00	LF
0470	06574	PAVE MARKING-THERMO CURV ARROW	3.00	EACH
0480	06592	PAVEMENT MARKER TYPE V-B W/R	170.00	EACH
0490	06593	PAVEMENT MARKER TYPE V-B Y/R	266.00	EACH
0500	06600	REMOVE PAVEMENT MARKER TYPE V	228.00	EACH
0510	10020NS	FUEL ADJUSTMENT	9,606.00	DOLL
0520	10030NS	ASPHALT ADJUSTMENT	10,752.00	DOLL
0530	20412ED	REMOVE ASPHALT SHOULDER	1,503.00	SQYD
0540	21802EN	G/R STEEL W BEAM-S FACE (7 FT POST)	937.50	LF
0550	22854EN	PAVE STRIPE PERM-6 IN HD21-WHITE	35,976.00	LF

0560	22855EN	PAVE STRIPE PERM-6 IN HD21-YELLOW	36,601.00	LF
0570	22856EN	PAVE STRIPE PERM-12 IN HD21-WHITE	3,283.00	LF
0580	23229EC	HIGH FRICTION SURFACE TREATMENT	2,608.00	SQYD
0590	23845EC	SAW AND SEAL ASPHALT JOINT	8,943.00	LF
0600	01000	PERFORATED PIPE-4 IN	60.00	LF
0610	01010	NON-PERFORATED PIPE-4 IN	120.00	LF
0620	03294	EXPAN JOINT REPLACE 1 1/2 IN	65.00	LF
0630	03298	EXPAN JOINT REPLACE 4 IN METHOD 1	110.00	LF
0640	03298	EXPAN JOINT REPLACE 4 IN METHOD 2	55.00	LF
0650	03300	ELIMINATE TRANSVERSE JOINT METHOD 1	66.00	LF
0660	03300	ELIMINATE TRANSVERSE JOINT METHOD 2	54.00	LF
0670	08504	EPOXY SAND SLURRY	1,765.00	SQYD
0680	08510	REM EPOXY BIT FOREIGN OVERLAY	10,176.00	SQYD
0690	08526	CONC CLASS M FULL DEPTH PATCH	43.00	CUYD
0700	08534	CONCRETE OVERLAY-LATEX	360.00	CUYD
0710	08549	BLAST CLEANING	11,600.00	SQYD
0720	08821	DRAIN PIPE-8 IN	455.00	LF
0730	23031EN	PIER REPAIR	700.00	SQFT
0740	01000	PERFORATED PIPE-4 IN	60.00	LF
0750	01010	NON-PERFORATED PIPE-4 IN	120.00	LF
0760	03298	EXPAN JOINT REPLACE 4 IN METHOD 2	55.00	LF
0770	03300	ELIMINATE TRANSVERSE JOINT METHOD 1	67.00	LF
0780	03300	ELIMINATE TRANSVERSE JOINT METHOD 2	54.00	LF
0790	08504	EPOXY SAND SLURRY	1,765.00	SQYD
0800	08510	REM EPOXY BIT FOREIGN OVERLAY	10,144.00	SQYD
0810	08526	CONC CLASS M FULL DEPTH PATCH	42.00	CUYD
0820	08534	CONCRETE OVERLAY-LATEX	350.00	CUYD
0830	08549	BLAST CLEANING	11,197.00	SQYD
0840	08821	DRAIN PIPE-8 IN	445.00	LF
0850	23031EN	PIER REPAIR	800.00	SQFT
0860	23386EC	JOINT SEAL REPLACEMENT	165.00	LF
0870	04795	CONDUIT-2 IN	60.00	LF
0880	04820	TRENCHING AND BACKFILLING	60.00	LF
0890	04835	WIRE-NO. 4	120.00	LF
0900	20391NS835	JUNCTION BOX TYPE A	2.00	EACH
0910	04795	CONDUIT-2 IN	240.00	LF
0920	04820	TRENCHING AND BACKFILLING	200.00	LF
0930	04829	PIEZOELECTRIC SENSOR	12.00	EACH
0940	04830	LOOP WIRE	5,712.00	LF
0950	04895	LOOP SAW SLOT AND FILL	1,104.00	LF
0960	20359NN	GALVANIZED STEEL CABINET	4.00	EACH
0970	20360ES818	WOOD POST	8.00	EACH
0980	20391NS835	JUNCTION BOX TYPE A	4.00	EACH
0990	02568	MOBILIZATION	1.00	LS
1000	02569	DEMOBILIZATION	1.00	LS

IM 2759(119) PES NO: DE05902751053
COVINGTON-CINCINNATI ROAD (I-275) INSTALL HTC MEDIAN BARRIER ALONG I-275 IN KENTON AND CAMPBELL COUNTY FROM MP 77.200 TO MP 81.550

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0010	00001	DGA BASE	643.00	TON
0020	00100	ASPHALT SEAL AGGREGATE	224.00	TON
0030	00291	EMULSIFIED ASPHALT RS-2	27.00	TON
0040	06427	TRENCHING	16,790.00	LF
0050	22415EN	CONCRETE CLASS A FOR PAD	7,462.00	SQYD
0060	23147EN	HIGH TENSION CABLE-ROPE BARRIER	16,790.00	LF
0070	23148EN	END ANCHORS	6.00	EACH
0080	02569	DEMOBILIZATION	1.00	LS

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to the *Standard Specifications for Road and Bridge Construction, Edition of 2004,* and *Standard Drawings, Edition of 2000* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2008* and *Standard Drawings, Edition of 2003 with the 2008 Revision.*

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: **REVISION:**	101.02 Abbreviations. Insert the following abbreviation and text into the section: KEPSC Kentucky Erosion Prevention and Sediment Control
SUBSECTION: **REVISION:**	101.03 Definitions. Replace the definition for Specifications – *Special Provisions* with the following: Additions and revisions to the Standard and Supplemental Specifications covering conditions peculiar to and individual project.
SUBSECTION: **REVISION:**	102.03 Contents of the Bid Proposal Form. Replace the first sentence of the first paragraph with the following: The Bid Proposal form will be available on the Department internet website (http://transportation.ky.gov/contract/). Delete the second paragraph. Delete the last paragraph.
SUBSECTION: **REVISION:**	102.04 Issuance of Bid Proposal Form. Replace Heading with the following: 102.04 Bidder Registration. Replace the first sentence of the first paragraph with the following: The Department reserves the right to disqualify or refuse to place a bidder on the eligible bidder's list for a project for any of the following reasons: Replace the last sentence of the subsection with the following: The Department will resume placing the bidder on the eligible bidder's list for projects after the bidder improves his operations to the satisfaction of the State Highway Engineer.
SUBSECTION: **REVISION:**	102.06 Examination of Plans, Specifications, Special Provisions, Special Notes, and Site of Work. Replace the first paragraph with the following: Examine the site of the proposed work, the Bid Proposal, Plans, specifications, contract forms, and bulletins and addendums posted to the Department's website and the Bid Express Bidding Service Website before submitting the Bid Proposal. The Department considers the submission of a Bid Proposal prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the Contract.
SUBSECTION: **REVISION:**	102.07.01 General. Replace the first sentence with the following: Submit the Bid Proposal on forms furnished on the Bid Express Bidding Service website (www.bidx.com). Replace the first sentence of the third paragraph with the following: Bid proposals submitted shall use an eligible Digital ID issued by Bid Express.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: **REVISION:**	102.07.02 Computer Bidding. Replace the first paragraph with the following: Subsequent to registering for a specific project, use the Department's Expedite Bidding Program on the internet website of the Department of Highways, Division of Construction Procurement (http://transportation.ky.gov/contract/). Download the bid file from the Bid Express Bidding Service Website to prepare a Bid Proposal for submission to the Department. Submit Bid Proposal electronically through Bid Express Bidding Service. Delete the second and third paragraph.
SUBSECTION: **REVISION:**	102.08 Irregular Bid Proposals. Delete the following from the first paragraph: 4) fails to submit a disk created from the Highway Bid Program. Replace the second paragraph with the following: The Department will consider Bid Proposals irregular and may reject them for the following reasons: 1) when there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the Bid Proposal incomplete, indefinite, or ambiguous as to its meaning; or 2) when the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a Contract pursuant to an award; or 3) any failure to comply with the provisions of Subsection 102.07; or 4) Bid Proposals in which the Department determines that the prices are unbalanced; or when the sum of the total amount of the Bid Proposal under consideration exceeds the bidder's Current Capacity Rating.
SUBSECTION: **REVISION:**	102.09 Bid Proposal Guaranty. Insert the following after the first sentence: Bid Proposals must have a bid proposal guaranty in the amount indicated in the bid proposal form accompany the submittal. A guaranty in the form of a paper bid bond, cashier's check, or certified check in an amount no less than the amount indicated on the submitted electronic bid is required when the electronic bid bond was not utilized with the Bid Express Bidding Service. Paper bid bonds must be delivered to the Division of Construction Procurement prior to the time of the letting.
SUBSECTION: **REVISION:**	102.10 Delivery of Bid Proposals. Replace paragraph with the following: Submit all Bid Proposals prior to the time specified in the Notice to Contractors. All bids shall be submitted electronically using Bid Express Bidding Services. Electronically submitted bids must be done in accordance with the requirements of the Bid Express Bidding Service.
SUBSECTION: **REVISION:**	102.11 Withdrawal or Revision of Bid Proposals. Replace the paragraph with the following: Bid Proposals can be withdrawn in accordance the requirements of the Bid Express Bidding Service prior to the time of the Letting.
SUBSECTION: **REVISION:**	102.13 Public Opening of Bid Proposals. Replace Heading with the following: 102.13 Public Announcement of Bid Proposals. Replace the paragraph with the following: The Department will publicly announce all Bid Proposals at the time indicated in the Notice to Contractors.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION:	103.02 Award of Contract.
REVISION:	Replace the first sentence of the third paragraph with the following: The Department will normally award the Contract within 10 working days after the date of receiving Bid Proposals unless the Department deems it best to hold the Bid Proposals of any or all bidders for a period not to exceed 60 calendar days for final disposition of award.
SUBSECTION:	105.03 Record Plans.
REVISION:	Replace the section with the following: Record Plans are those reproductions of the original Plans on which the accepted Bid Proposal was based and, and signed by a duly authorized representative of the Department. The Department will make these plans available for inspection in the Central Office at least 24 hours prior to the time of opening bids and up to the time of letting of a project or projects. The quantities appearing on the Record Plans are the same as those on which Bid Proposals are received. The Department will use these Record Plans as the controlling plans in the prosecution of the Contract. The Department will not make any changes on Record Plans subsequent to their issue unless done so by an approved contract modification. The Department will make 2 sets of Record Plans for each project, and will maintain one on file in the Central Office and one of file in the District Office. The Department will furnish the Contractor with the following: 1 full size, 2 half size and an electronic file copy of the Record Plans at the Pre-Construction conference.
SUBSECTION:	105.12 Final Inspection and Acceptance of Work.
REVISION:	Insert the following paragraphs after the first paragraph: Notify the Engineer when all electrical items are complete. A notice of the electrical work completion shall be made in writing to the Contractor. Electrical items will be inspected when the electrical work is complete and are not subject to waiting until the project as a whole has been completed. The Engineer will notify the Division of Traffic Operations within 3 days that all electrical items are complete and ready for a final inspection. A final inspection will be completed within 90 days after the Engineer notifies the Division of Traffic Operations of the electrical work completion. Energize all electrical items prior to notifying the Engineer that all electrical items are complete. Electrical items must remain operational until the Division of Traffic Operations has inspected and accepted the electrical portion of the project. Payment for the electrical service is the responsibility of the Contractor from the time the electrical items are energized until the Division of Traffic Operations has accepted the work. Complete all corrective work within 90 calendar days of receiving the original electrical inspection report. Notify the Engineer when all corrective work is complete. The Engineer will notify the Division of Traffic Operations that the corrective work has been completed and the project is ready for a follow-up inspection. Upon re-inspection, if additional corrective work is required, complete within the same 90 calendar day allowance. The Department will not include time between completion of the corrective work and the follow up electrical inspection(s). The 90 calendar day allowance is cumulative regardless of the number of follow-up electrical inspections required. The Department will assume responsibility for the electrical service on a project once the Division of Traffic Operations gives final acceptance of the electrical items on the project. The Department will also assume routine maintenance of those items. Any damage done to accepted electrical work items by other Contractors shall be the responsibility of the Prime Contractor. The Department will not be responsible for repairing damage done by other contractors during the construction of the remaining project. Failure to complete the electrical corrective work within the 90 calendar day allowance will result in penalties assessed to the project. Penalties will be assessed at ½ the rate of liquidated damages established for the contract. Replace the following in the second sentence of the second paragraph: Replace Section 213 with Section 212. Delete the fifth paragraph from the section.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION:	105.13 Claim Resolution Process.
REVISION:	Replace the last sentence of the 3. Bullet with the following: If the Contractor did not submit an as-bid schedule at the Pre-Construction Meeting or a written narrative in accordance with Subsection 108.02, the Cabinet will not consider the claim for delay. Delete the last paragraph from the section.
SUBSECTION:	106.04 Buy America Requirement.
REVISION:	Replace the section with the following: **106.04 Buy America Requirement.** Follow the "Buy America" provisions as required by Title 23 Code of Federal Regulations § 635.410. Except as expressly provided herein all manufacturing processes of steel or iron materials including but not limited to structural steel, guardrail materials, corrugated steel, culvert pipe, structural plate, prestressing strands, and steel reinforcing bars shall occur in the United States of America, including the application of: • Coating, • Galvanizing, • Painting, and • Other coating that protects or enhances the value of steel or iron products. The following are exempt, unless processed or refined to include substantial amounts of steel or iron material, and may be used regardless of source in the domestic manufacturing process for steel or iron material: • Pig iron, • Processed, pelletized, and reduced iron ore material, or • Processed alloys. The Contractor shall submit a certification stating that all manufacturing processes involved with the production of steel or iron materials occurred in the United States. Produce, mill, fabricate, and manufacture in the United States of America all aluminum components of bridges, tunnels, and large sign support systems, for which either shop fabrication, shop inspection, or certified mill test reports are required as the basis of acceptance by the Department. Use foreign materials only under the following conditions: 1) When the materials are not permanently incorporated into the project; or 2) When the delivered cost of such materials used does not exceed 0.1 percent of the total Contract amount or $2,500.00, whichever is greater. The Contractor shall submit to the Engineer the origin and value of any foreign material used.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: **REVISION:**	106.10 Field Welder Certification Requirements. Insert the following sentence before the first sentence of the first paragraph: All field welding must be performed by a certified welder unless otherwise noted.
SUBSECTION: **REVISION:**	108.02 Progress Schedule. Insert the following prior to the first paragraph: Specification 108.02 applies to all Cabinet projects except the following project types: • Right of Way Mowing and/or Litter Removal • Waterborne Paint Striping • Projects that contain Special Provision 82 • Projects that contain the Special Note for CPM Scheduling Insert the following paragraph after paragraph two: Working without the submittal of a Written Narrative is violation of this specification and additionally voids the Contractor's right to delay claims. Insert the following paragraph after paragraph six: The submittal of bar chart or Critical Path Method schedule does not relieve the Contractor's requirement to submit a Written Narrative schedule. Insert the following at the beginning of the first paragraph of A) Written Narrative.: Submit the Written Narrative Schedule using form TC 63-50 available at the Division of Construction's website (http://www.transportation.ky.gov/construction/ResCenter/ResCenter.htm). Replace Part A) Written Narrative 1. And 2. with the following: 1. Provide a description that includes how the Contractor will sequence and stage the work, how the Contractor plans to maintain and control traffic being specific and detailed, and what equipment and crew sizes are planned to execute the work. 2. Provide a list of project milestones including, if applicable, winter shut-downs, holidays, or special events. The Contractor shall describe how these milestones and other dates effect the prosecution of the work. Also, include start date and completion date milestones for the contract, each project if the contract entails multiple projects, each phase of work, site of work, or segment of work as divided in the project plans, proposal, or as subdivided by the Contractor.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION:	110.01 Mobilization.
REVISION:	Replace paragraph three with the following: Do not bid an amount for Mobilization that exceeds 5 percent of the sum of the total amounts bid for all items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives. The Department will automatically adjust any Bid Proposals that are in excess of this amount down to 5 percent to compare Bid Proposals and award the Contract. The Department will award a Contract for the actual amount bid when the amount bid for Mobilization is less than 5 percent, or the Department will award the Contract for the adjusted bid amount of 5 percent when the amount bid for Mobilization is greater than 5 percent. If any errors in unit bid prices for other Contract items in a Contractor's Bid Proposal are discovered after bid opening and such errors reduce the total amount bid for all other items, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives, so that the percent bid for Mobilization is larger than 5 percent, the Department will adjust the amount bid for Mobilization to 5 percent of the sum of the corrected total bid amounts.
SUBSECTION:	110.02 Demobilization.
REVISION:	Replace the third paragraph with the following: Bid an amount for Demobilization that is a minimum of $1,000 or 1.5 percent of the sum of the total amounts bid for all other items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives. The Department will automatically adjust any Bid Proposal that is less than this amount up to $1,000 or 1.5 percent to compare Bid Proposals and award the Contract. The Department will award a Contract for the actual amount bid when the amount bid for demobilization exceeds 1.5 percent, or the Department will award the Contract for the adjusted bid amount when the amount bid for demobilization is less than the minimum of $1,000 or less than 1.5 percent of the sum of the total amounts bid for all other items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives.
SUBSECTION:	110.04 Payment.
REVISION:	Insert the following paragraph following the demobilization payment schedule (4th paragraph): The Department will withhold an amount equal to $1,000 for demobilization, regardless of the schedule listed above. The $1,000 withheld for demobilization will be paid when the final estimate is paid.
SUBSECTION:	112.03.01 General Traffic Control.
REVISION:	Replace paragraph three with the following: All flaggers shall be trained in current MUTCD flagging procedures. Proof of training must be available for review at the Department's request. Flagging credentials must be current within the last 5 years.
SUBSECTION:	112.03.11 Temporary Pavement Markings.
PART:	B) Placement and Removal of Temporary Striping.
REVISION:	Replace the 2nd sentence of the first paragraph with the following: On interstates and parkways, and other roadways approved by the State Highway Engineer, install pavement striping that is 6 inches in width.
SUBSECTION:	112.03.12 Project Traffic Coordinator (PTC).
REVISION:	Add the following at the end of the subsection: After October 1, 2008 the Department will require the PTC to have successfully completed the applicable qualification courses. Personnel that have not successfully completed the applicable courses by that date will not be considered qualified. Prior to October 1, 2008, conform to Subsection 108.06 A) and ensure the designated PTC has sufficient skill and experience to properly perform the task.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: 112.03.15 Non-Compliance of Maintain and Control of Traffic.
REVISION: Add the following section:

112.03.15 Non-Compliance of Maintain and Control of Traffic. It is the Contractor's responsibility to conform to the traffic control requirements in the TCP, Proposal, plan sheets, specifications, and the Manual on Uniform Traffic Control Devices.

Unless specified elsewhere in the contract, a penalty will be assessed in the event of non-compliance with Maintain and Control of Traffic requirements. These penalties will be assessed when the Contractor fails to correct a situation or condition of non-compliance with the contract traffic control requirements after being notified by the Engineer. The calculation of accrued penalties for non-compliance will be based upon the date/time of notification by the Engineer.

The amount of the penalty assessed for non-compliance will be determined based upon the work zone duration, as defined by the MUTCD, and will be the greatest of the different calculation methods indicated below:

A) Long-term stationary work that occupies a location more than 3 days.

Correct the non-compliant issue within 24 hours from initial notification by the Engineer. If the issue is not corrected within 24 hours from the initial notification, a penalty for non-compliance will be assessed on a daily basis beginning from the initial notification of non-compliance. The Contractor will be assessed a $1,000 daily penalty or the amount equal to the contract liquidated damages in Section 108.09, whichever of the 2 is greater. The penalty for non-compliance will escalate as follows for continued non-compliance after the initial notification.

3 Days after Notification
$1,500 daily penalty or 1.5 times the contract liquidated damages daily charge rate in Section 108.09, whichever is greater.

7 Days after Notification
$2,000 daily penalty or double the contract liquidated damages daily charge rate in Section 108.09, whichever is greater.

B) Intermediate-term stationary work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than 1 hour.

Correct the non-compliant issue within 4 hours from initial notification by the Engineer. If the issue is not corrected within 4 hours from notification, a penalty for non-compliance will be assessed on an hourly basis beginning from the initial notification of non-compliance. The penalty for non-compliance will be assessed at $200 per hour.

C) Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.

Correct the non-compliant issue within 1 hour from initial notification by the Engineer. If the issue is not corrected within 1 hour from notification, a penalty for non-compliance will be assessed on an hourly basis beginning from the initial notification of non-compliance. The penalty for non-compliance will be assessed at $200 per hour.

If the Contractor remains in violation of the Maintain and Control of Traffic requirements, or if the Department determines it to be in the public's interest, work will be suspended in accordance with Section 108.08 until the deficiencies are corrected. The Department reserves the right to correct deficiencies by any means available and charge the Contractor for labor, equipment, and material costs incurred in emergency situations.

Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition
(Effective with the August 27, 2010 Letting)

SUBSECTION: **REVISION:**	206.03.02 Embankment Replace the last paragraph with the following: When rock roadbed is specified, construct the upper 2 feet of the embankment according to Subsection 204.03.09 A).
SUBSECTION: **REVISION:**	213.03.03 Inspection and Maintenance. Insert the following paragraph after the second paragraph: When the Contractor is required to obtain the KPDES permit, it is their responsibility to ensure compliance with the inspection and maintenance requirements of the permit. The Engineer will perform verification inspections a minimum of once per month and within 7 days of a ½ inch or greater rainfall event. The Engineer will document these inspections using Form TC 63-61 A. The Engineer will provide copies of the inspection only when improvements to the BMP's are required. Verification inspections performed by the Engineer do not relieve the Contractor of any responsibility for compliance with the KPDES permit. Initiate corrective action within 24 hours of any noted deficiency and complete the work within 5 days.
SUBSECTION: **PART:** **REVISION:**	213.03.05 Temporary Control Measures. E) Temporary Seeding and Protection. Replace the first paragraph with the following: Apply an Annual Rye seed mix at a rate of 100 pounds per acre during the months of March through August. In addition to the Annual Rye, add 10 pounds of German Foxtail-Millet (Setaria italica), when performing temporary seeding during the months of June through August. During the months of September through February, apply Winter Wheat or Rye Grain at a rate of 100 pounds per acre. Obtain the Engineer's approval prior to the application of the seed mixture.
SUBSECTION: **PART:** **REVISION:**	213.03.05 Temporary Control Measures. F) Temporary Mulch. Replace the last sentence with the following: Place temporary mulch to an approximate 2-inch loose depth (2 tons per acre) and anchor it into the soil by mechanically crimping it into the soil surface or applying tackifier to provide a protective cover. Regardless of the anchoring method used, ensure the protective cover holds until disturbance is required or permanent controls are in installed.
SUBSECTION: **REVISION:**	303.05 Payment. Replace the second paragraph of the section with the following: The Department will make payment for Drainage Blanket-Type II (ATDB) according to the Lot Pay Adjustment Schedule for Specialty Mixtures in Section 402.
SUBSECTION: **PART:** **REVISION:**	401.02.04 Special Requirements for Dryer Drum Plants. F) Production Quality Control. Replace the first sentence with the following: Stop mixing operations immediately if, at any time, a failure of the automatic electronic weighing system of the aggregate feed, asphalt binder feed, or water injection system control occurs.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: 401.02.04 Special Requirements for Dryer Drum Plants.
REVISION: Add the following:

Part G) **Water Injection System.** Provided each system has prior approval as specified in Subsection 402.01.01, the Department will allow the use of water injection systems for purposes of foaming the asphalt binder and lowering the mixture temperature for production of Warm Mix Asphalt (WMA).

Ensure the equipment for water injection meets the following requirements:

1) Injection equipment computer controls are automatically coupled to the plants controls (manual operation is not permitted);
2) Injection equipment has variable controls that introduce water ratios based on production rates of mixtures;
3) Injects water into the flow of asphalt binder prior to contacting the aggregate;
4) Provides alarms on the water injection system that operate when the flow of water is interrupted or deviates from the prescribed water rate.

SUBSECTION: 401.03.01 Preparation of Mixtures.
REVISION: Replace the last sentence of the second paragraph with the following:

Do not use asphalt binder while it is foaming in a storage tank.

SUBSECTION: 401.03.01 Preparation of Mixtures.
REVISION: Replace the third paragraph and Mixing and Laying Temperature table with the following:

Maintain the temperature of the component materials and asphalt mixture within the ranges listed in the following table:

MIXING AND LAYING TEMPERATURES (°F)

Material		Minimum	Maximum
Aggregates		240	330
Aggregates used with Recycled Asphalt Pavement (RAP)		240	—
Asphalt Binders	PG 64-22	230	330
	PG 76-22	285	350
Asphalt Mixtures at Plant (Measured in Truck)	PG 64-22 HMA	250	330
	PG 76-22 HMA	310	350
	PG 64-22 WMA	230	275
	PG 76-22 WMA	250	300
Asphalt Mixtures at Project (Measured in Truck When Discharging)	PG 64-22 HMA	230	330
	PG 76-22 HMA	300	350
	PG 64-22 WMA	210	275
	PG 76-22 WMA	240	300

SUBSECTION: 402.01 Description.
REVISION: Replace the paragraph with the following:

Provide the process control and acceptance testing of all classes and types of asphalt mixtures which may be furnished either as hot mix asphalt (HMA) or warm mix asphalt (WMA) produced with water injection systems.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION REVISION:	402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. Add the following subsection: 402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. The Department will evaluate trial production of WMA by use of a water injection system provided the system is installed according to the manufacturer's requirements and satisfies the requirements of Section 401. Evaluation will include production and placement of WMA to demonstrate adequate mixture quality including volumetric properties and density by Option A as specified in Subsection 402.03.02 D). Do not place WMA for evaluation on Department projects. Provided production and placement operations satisfy the applicable quality levels, the Department will approve WMA production on Department projects using the water injection system as installed on the specific asphalt mixing plant evaluated.
SUBSECTION: **REVISION:**	402.05.02 Asphalt Mixtures and Mixtures With RAP. Replace Subsection Title as below: 402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
SUBSECTION: **REVISION:**	402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Replace the paragraph with the following: The Department will pay for the mixture at the Contract unit bid price and apply a Lot Pay Adjustment for each lot placed based on the degree of compliance with the specified tolerances. Using the appropriate Lot Pay Adjustment Schedule, the Department will assign a pay value for the applicable properties within each sublot and average the sublot pay values to determine the pay value for a given property for each lot. The Department will apply the Lot Pay Adjustment for each lot to a defined unit price of $50.00 per ton. The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.
SUBSECTION: **PART:** **REVISION:**	402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. C) Conventional and RAP Mixtures Placed on Shoulders. Replace title with the following: HMA, WMA, and RAP Mixtures Placed on Shoulders.
SUBSECTION: **PART:** **REVISION:**	402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. D) Conventional and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge. Replace the title with the following: HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge.
SUBSECTION: **PART:** **TABLES:** **REVISION:**	402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option A, Base and Binder Mixtures VMA Replace the VMA table with the following:

VMA

Pay Value	Deviation From Minimum
1.00	≥ min. VMA
0.95	0.1-0.5 below min.
0.90	0.6-1.0 below min.
(1)	> 1.0 below min.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: 402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
PART: Lot Pay Adjustment Schedule, Compaction Option A, Surface Mixtures
TABLES: VMA
REVISION: Replace the VMA table with the following:

VMA	
Pay Value	Deviation From Minimum
1.00	≥ min. VMA
0.95	0.1-0.5 below min.
0.90	0.6-1.0 below min.
(1)	> 1.0 below min.

SUBSECTION: 402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
PART: Lot Pay Adjustment Schedule, Compaction Option B Mixtures
TABLE: VMA
REVISION: Replace the VMA table with the following:

VMA	
Pay Value	Deviation From Minimum
1.00	≥min. VMA
0.95	0.1-0.5 below min.
0.90	0.6-1.0 below min.
(2)	> 1.0 below min.

SUBSECTION: 403.03.03 Preparation of Mixture.
PART: C) Mix Design Criteria.
NUMBER: 1) Preliminary Mix Design.
REVISION: Replace the last two sentences of the paragraph and table with the following:

Complete the volumetric mix design at the appropriate number of gyrations as given in the table below for the number of 20-year ESAL's. The Department will define the relationship between ESAL classes, as given in the bid items for Superpave mixtures, and 20-year ESAL ranges as follows:

		Number of Gyrations		
Class	**ESAL's (millions)**	$N_{initial}$	N_{design}	N_{max}
2	< 3.0	6	50	75
3	3.0 to < 30.0	7	75	115
4	≥ 30.0	8	100	160

SUBSECTION: 403.03.09 Leveling and Wedging, and Scratch Course.
PART: A) Leveling and Wedging.
REVISION: Replace the first sentence of the first paragraph with the following:

Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.

SUBSECTION: 403.03.09 Leveling and Wedging, and Scratch Course.
PART: B) Scratch Course.
REVISION: Replace the second sentence of the first paragraph with the following:

Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.

Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition
(Effective with the August 27, 2010 Letting)

SUBSECTION:	407.01 DESCRIPTION.
REVISION:	Replace the first sentence of the paragraph with the following: Construct a pavement wedge composed of a hot-mixed or warm-mixed asphalt mixture.
SUBSECTION:	409.01 DESCRIPTION.
REVISION:	Replace the first sentence of the paragraph with the following: Use reclaimed asphalt pavement (RAP) from Department projects or other approved sources in hot mix asphalt (HMA) or warm mix asphalt (WMA) provided mixture requirements are satisfied.
SUBSECTION:	410.01 DESCRIPTION.
REVISION:	Delete the second sentence of the paragraph.
SUBSECTION:	410.03.01 Corrective Work.
REVISION:	Replace the last sentence of the paragraph with the following: Provide a final surface comparable to the adjacent pavement that does not require corrective work in respect to texture, appearance, and skid resistance.
SUBSECTION:	410.03.02 Ride Quality.
PART:	B) Requirements.
NUMBER:	1) Category A.
REVISION:	Replace the last sentence of the first paragraph with the following: At the Department's discretion, a pay deduction of $1200 per 0.1-lane-mile section may be applied in lieu of corrective work.
SUBSECTION:	410.03.02 Ride Quality.
PART:	B) Requirements.
NUMBER:	2) Category B.
REVISION:	Replace the second and third sentence of the first paragraph with the following: When the IRI is greater than 90 for a 0.1-mile section, perform corrective work, or remove and replace the pavement to achieve the specified IRI. At the Department's discretion, a pay deduction of $750 per 0.1-lane-mile section may be applied in lieu of corrective work.
SUBSECTION:	410.05 PAYMENT.
REVISION:	Add the following sentence to the end of the first paragraph: The sum of the pay value adjustments for ride quality shall not exceed $0 for the project as a whole.
SUBSECTION:	413.05.02 CL3 SMA BASE 1.00D PG76-22.
REVISION:	Insert the following sentence between the first and second sentence of the first paragraph: The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: 413.05.02 CL3 SMA BASE 1.00D PG 76-22.
TABLE: JOINT DENSITY TABLE
REVISION: Replace the joint density table with the following:

LANE DENSITY	
Pay Value	Test Result (%)
1.05	95.0-96.5
1.00	93.0-94.9
0.95	92.0-92.9 or 96.6-97.0
0.90	91.0-91.9 or 97.1-97.5
(1)	< 91.0 or > 97.5

SUBSECTION: 413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22.
REVISION: Insert the following sentence between the first and second sentence of the first paragraph:

The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.

SUBSECTION: 413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22.
TABLE: JOINT DENSITY TABLE
REVISION: Replace the joint density table with the following:

DENSITY		
Pay Value	Lane Density Test Result (%)	Joint Density Test Result (%)
1.05	95.0-96.5	92.0-96.0
1.00	93.0-94.9	90.0-91.9
0.95	92.0-92.9 or 96.6-97.0	89.0-89.9 or 96.1-96.5
0.90	91.0-91.9 or 97.1-97.5	88.0-88.9 or 96.6-97.0
0.75	----	< 88.0 or > 97.0
(1)	< 91.0 or > 97.5	----

SUBSECTION: 501.05.02 Ride Quality.
REVISION: Add the following sentence to the end of the first paragraph:

The sum of the pay value adjustments for the ride quality shall not exceed $0 for the project as a whole.

SUBSECTION: 505.03.04 Detectable Warnings.
REVISION: Replace the first sentence with the following:

Install detectable warning pavers at all sidewalk ramps and on all commercial entrances according to the Standard Drawings.

Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition
(Effective with the August 27, 2010 Letting)

SUBSECTION: **REVISION:**	505.04.04 Detectable Warnings. Replace the paragraph with the following: The Department will measure the quantity in square feet. All retrofit applications for maintenance projects will require the removal of existing sidewalks to meet the requirements of the standard drawings applicable to the project. The cost associated with the removal of the existing sidewalk will be incidental to the detectable warnings bid item or incidental to the bid item for the construction of the concrete sidewalk unless otherwise noted.
SUBSECTION: **REVISION:**	505.05 PAYMENT. Add the following to the bid item table: Code — Pay Item — Pay Unit 23158ES505 — Detectable Warnings — Square Foot
SUBSECTION: **REVISION:**	509.01 DESCRIPTION. Replace the second paragraph with the following: The Department may allow the use of similar units that conform to the National Cooperative Highway Research Program (NCHRP) 350 Test Level 3 (TL-3) requirements and the typical features depicted by the Standard Drawings. Obtain the Engineers approval prior to use. Ensure the barrier wall shape, length, material, drain slot dimensions and locations typical features are met and the reported maximum deflection is 3 feet or less from the NCHRP 350 TL-3 for Test 3 – 11 (pickup truck impacting at 60 mph at a 25-degree angle.)
SUBSECTION: **REVISION:**	601.03.02 Concrete Producer Responsibilities. Add the following to the first paragraph: If a concrete plant becomes unqualified during a project and there are no other qualified plants in the region, the Department will provide qualified personnel to witness and ensure the producer follows the required specifications. The Department will assess the Contractor a $100 per hour charge for this service.
SUBSECTION: **REVISION:**	606.02.11 Coarse Aggregate. Replace with the following: Conform to Section 805, size No. 8 or 9-M.
SUBSECTION: **REVISION:**	609.04.06 Joint Sealing. Replace Subsection 601.04 with the following: Subsection 606.04.08.
SUBSECTION: **REVISION:**	609.05 Payment. Replace the Pay Unit for Joint Sealing with the following: See Subsection 606.05.
SUBSECTION: **REVISION:**	701.03.06 Initial Backfill. Replace the first sentence of the last paragraph with the following: When the Contract specifies, perform quality control testing to verify compaction according to KM 64-512.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: 701.03.08 Testing of Pipe.
REVISION: Replace and rename the subsection with the following:

701.03.08 Inspection of Pipe. The engineer will visually inspect all pipe. The Department will require camera/video inspection on a minimum of 50 percent of the linear feet of all installed pipe structures. Conduct camera/video inspection according to KM 64-114. The pipe to be installed under pavement will be selected first. If the total linear feet of pipe under pavement is less than 50 percent of the linear feet of all pipe installed, the Engineer will randomly select installations from the remaining pipe structures on the project to provide for the minimum inspection requirement. The pipe will be selected in complete runs (junction-junction or headwall-headwall) until the total linear feet of pipe to be inspected is at least 50 percent of the total linear feet of all installed pipe on the project.

Unless the Engineer directs otherwise, schedule the inspections no sooner than 30 days after completing the installation and completion of earthwork to within 1 foot of the finished subgrade. When final surfacing conflicts with the 30-day minimum, conduct the inspections prior to placement of the final surface. The contractor must ensure that all pipe are free and clear of any debris so that a complete inspection is possible.

Notify the Engineer immediately if distresses or locations of improper installation are discovered. When camera testing shows distresses or improper installation in the installed pipe, the Engineer may require additional sections to be tested. Provide the video and report to the Engineer when testing is complete in accordance with KM 64-114.

Pipes that exhibit distress or signs of improper installation may necessitate repair or removal as the Engineer directs. These signs include, but are not limited to: deflection, cracking, joint separation, sagging or other interior damage. If corrugated metal or thermoplastic pipes exceed the deflection and installation thresholds indicated in the table below, provide the Department with an evaluation of each location conducted by a Professional Engineer addressing the severity of the deflection, structural integrity, environmental conditions, design service life, and an evaluation of the factor of safety using Section 12, "Buried Structures and Tunnel Liners," of the AASHTO LRFD Bridge Design Specifications. Based on the evaluation, the Department may allow the pipe to remain in place at a reduced unit price as shown in the table below. Provide 5 business days for the Department to review the evaluation. When the pipe shows deflection of 10 percent or greater, remove and replace the pipe. When the camera/video or laser inspection results are called into question, the Department may require direct measurements or mandrel testing.

The Cabinet may elect to conduct Quality Assurance verifications of any pipe inspections.

SUBSECTION: 701.04.07 Testing.
REVISION: Replace and rename the subsection with the following:

701.04.07 Pipeline Video Inspection. The Department will measure the quantity in linear feet along the pipe invert of the structure inspected. When inspection above the specified 50 percent is performed due to a disagreement or suspicion of additional distresses and the Department is found in error, the Department will measure the quantity as Extra Work according to Subsection 104.03. However, if additional distresses or non-conformance is found, the Department will not measure the additional inspection for payment.

SUBSECTION: 701.05 PAYMENT.
REVISION: Add the following pay item to the list of pay items:

Code	Pay Item	Pay Unit
23131ER701	Pipeline Video Inspection	Linear Foot

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: 701.05 PAYMENT
TABLE: PIPE DEFLECTION DETERMINED BY CAMERA TESTING
REVISION: Replace this table with the following table and note:

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

(1) *Provide Structural Analysis as indicated above. Based on the structural analysis, pipe may be allowed to remain in place at the reduced unit price.*

SUBSECTION: 701.05 PAYMENT
TABLE: PIPE DEFLECTION DETERMINED BY MANDREL TESTING
REVISION: Delete this table.

SUBSECTION: 713.02.01 Paint.
REVISION: Replace with the following:

Conform to Section 842 and Section 846.

SUBSECTION: 713.03 CONSTRUCTION.
REVISION: Replace the first sentence of the second paragraph with the following:

On interstates and parkways, and other routes approved by the State Highway Engineer, install pavement striping that is 6 inches in width.

SUBSECTION: 713.03.03 Paint Application.
REVISION: Replace the second paragraph with the following table:

Material	**Paint Application Rate**	**Glass Beads Application Rate**
4 inch waterborne paint	Min. of 16.5 gallons/mile	Min. of 6 pounds/gallon
6 inch waterborne paint	Min. of 24.8 gallons/mile	Min. of 6 pounds/gallon
6 inch durable waterborne paint	Min. of 36 gallons/mile	Min. of 6 pounds/gallon

SUBSECTION: 713.03.04 Marking Removal.
REVISION: Replace the last sentence of the paragraph with the following:

Vacuum all marking material and removal debris concurrently with the marking removal operation.

SUBSECTION: 713.05 PAYMENT.
REVISION: Insert the following codes and pay items below the Pavement Striping – Permanent Paint:

Code	Pay Item	Pay Unit
23159EN	Durable Waterborne Marking – 6 IN W	Linear Foot
23160EN	Durable Waterborne Marking – 6 IN Y	Linear Foot

SUBSECTION: 714.03 CONSTRUCTION.
REVISION: Insert the following paragraph at the end of the third paragraph:

Use Type I Tape for markings on bridge decks, JPC pavement and JPC intersections. Thermoplastic should only be used for markings on asphalt pavement.

Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition
(Effective with the August 27, 2010 Letting)

SUBSECTION: **REVISION:**	714.03.07 Marking Removal. Replace the third sentence of the paragraph with the following: Vacuum all marking material and removal debris concurrently with the marking removal operation.
SUBSECTION: **REVISION:**	716.01 DESCRIPTION. Insert the following after the first sentence: Energize lighting as soon as it is fully functional and ready for inspection. Ensure that lighting remains operational until the Division of Traffic Operations has provided written acceptance of the electrical work.
SUBSECTION: **REVISION:**	716.02.01 Roadway Lighting Materials. Replace the third sentence of the paragraph with the following: Submit for material approval an electronic file of descriptive literature, drawings, and any requested design data.
SECTION: **REVISION:**	717 – THERMOPLASTIC INTERSECTION MARKINGS. Replace the section name with the following: INTERSECTION MARKINGS.
SUBSECTION: **REVISION:**	717.01 DESCRIPTION: Replace the paragraph with the following: Furnish and install thermoplastic or Type I tape intersection markings (Stop Bars, Crosswalks, Turn Arrows, etc.) Thermoplastic markings may be installed by either a machine applied, screed extrusion process or by applying preformed thermoplastic intersection marking material.
SUBSECTION: **REVISION:**	717.02 MATERIALS AND EQUIPMENT. Insert the following subsection: 717.02.06 Type I Tape. Conform to Section 836.
SUBSECTION: **REVISION:**	717.03.03 Application. Insert the following part to the subsection: B) Type I Tape Intersection Markings. Apply according to the manufacturer's recommendations. Cut all tape at pavement joints when applied to concrete surfaces.
SUBSECTION: **PART:** **REVISION:**	717.03.05 Proving Period. A) Requirements. Insert the following to this section: 2) Type I Tape. During the proving period, ensure that the pavement marking material shows no signs of failure due to blistering, excessive cracking, bleeding, staining, discoloration, oil content of the pavement materials, drippings, chipping, spalling, poor adhesion to the pavement, loss of retroreflectivity, vehicular damage, and normal wear. Type I Tape is manufactured off site and warranted by the manufacturer to meet certain retroreflective requirements. As long as the material is adequately bonded to the surface and shows no signs of failure due to the other items listed in Subsection 714.03.06 A) 1), retroreflectivity readings will not be required. In the absence of readings, the Department will accept tape based on a nighttime visual observation.

Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition
(Effective with the August 27, 2010 Letting)

SUBSECTION: 717.03.06 Marking Removal.
REVISION: Replace the third sentence of the paragraph with the following:

Vacuum all marking material and removal debris concurrently with the marking removal operation.

SUBSECTION: 717.05 PAYMENT.
REVISION: Insert the following bid item codes:

Code	Pay Unit	Pay Item
06563	Pave Marking – R/R X Bucks 16 IN	Linear Foot
20782NS714	Pave Marking Thermo – Bike	Each
23251ES717, 23264ES717	Pave Mark TY I Tape X-Walk, Size	Linear Foot
23252ES717, 23265ES717	Pave Mark TY I Tape Stop Bar, Size	Linear Foot
23253ES717	Pave Mark TY I Tape Cross Hatch	Square Foot
23254ES717	Pave Mark TY I Tape Dotted Lane Extension	Linear Foot
23255ES717	Pave Mark TY I Tape Arrow, Type	Each
23268ES717-23270ES717		
23256ES717	Pave Mark TY I Tape- ONLY	Each
23257ES717	Pave Mark TY I Tape- SCHOOL	Each
23266ES717	Pave Mark TY 1 Tape R/R X Bucks-16 IN	Linear Foot
23267ES717	Pave Mark TY 1 Tape-Bike	Each

SUBSECTION: 725.02.02 Type VI Class C & CT.
REVISION: Replace bullet 2) with the following:

2) The SCI100GM System as developed by SCI Products, Inc. of St. Charles, Illinois. For all miscellaneous metal work conform to ASTM A 36 and galvanize according to ASTM A 123. For the SCI100GM fender panels conform to AASHTO 180. Galvanize the SCI100GM fender panels and SCI100GM -beam connectors after fabrication according to ASTM A 123.

SUBSECTION: 725.02.04 Type VII Class C.
REVISION: Replace bullet 2) with the following:

2) The SCI100GM System as developed by SCI Products, Inc. of St. Charles, Illinois. For all miscellaneous metal work conform to ASTM A 36 and galvanize according to ASTM A 123. For the SCI100GM fender panels conform to AASHTO 180. Galvanize the SCI100GM fender panels and SCI100GM-beam connectors after fabrication according to ASTM A 123.

SUBSECTION: 805.01 GENERAL.
REVISION: Replace the second paragraph with the following:

The Department's List of Approved Materials includes the Aggregate Source List, the list of Class A and Class B Polish-Resistant Aggregate Sources, and the Concrete Restriction List.

SUBSECTION: 805.04 CONCRETE.
REVISION: Replace the "AASHTO T 160" reference in first sentence of the third paragraph with "KM 64-629"

SUBSECTION: 805.15 GRADATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE.
TABLE: AGGREGATE SIZE USE
PART: Cement Concrete Structures and Incidental Construction
REVISION: Replace "9-M for Waterproofing Overlays" with "8 or 9-M for Waterproofing Overlays"

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: 805.15 GRADATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE.
REVISION: Replace the "SIZES OF COARSE AGGREGATES" table in with the following:

SIZES OF COARSE AGGREGATES

	Sieve	AMOUNTS FINER THAN EACH LABORATORY SIEVE (SQUARE OPENINGS) PERCENTAGE BY WEIGHT															
Aggregate Size	Nominal [3] Maximum Aggregate Size	4 inch	3 1/2 inch	3 inch	2 1/2 inch	2 inch	1 1/2 inch	1 inch	3/4 inch	1/2 inch	3/8 inch	No. 4	No. 8	No. 16	No. 30	No. 100	No. 200
1	3 ½ inch	100	90-100		25-60		0-15		0-5								
2	2 ½ inch			100	90-100	35-70	0-15		0-5								
23	2 inch			100		40-90		0-15		0-5							
3	2 inch				100	90-100	35-70	0-15		0-5							
357	2 inch				100	95-100		35-70		10-30		0-5					
4	1 ½ inch					100	90-100	20-55	0-15		0-5						
467	1 ½ inch					100	95-100		35-70		10-30	0-5					
5	1 inch						100	90-100	20-55	0-10	0-5						
57	1 inch						100	95-100		25-60		0-10	0-5				
610	1 inch						100	85-100		40-75		15-40					
67	3/4 inch							100	90-100		20-55	0-10	0-5				
68	3/4 inch							100	90-100		30-65	5-25	0-10	0-5			
710	3/4 inch							100	80-100		30-75	0-30					
78	1/2 inch								100	90-100	40-75	5-25	0-10	0-5			
8	3/8 inch									100	85-100	10-30	0-10	0-5			
9-M	3/8 inch									100	75-100	0-25	0-5				
10[2]	No. 4										100	85-100				10-30	
11[2]	No. 4										100	40-90	10-40			0-5	
DENSE GRADED AGGREGATE [1]	3/4 inch							100	70-100		50-80	30-65			10-40		4-13
CRUSHED STONE BASE [1]	1 ½ inch				100		90-100		60-95		30-70	15-55			5-20		0-8

[1] *Gradation performed by wet sieve KM 64-620 or AASHTO T 11/T 27.*
[2] *Sizes shown for convenience and are not to be considered as coarse aggregates.*
[3] *Nominal Maximum Size is the largest sieve on the gradation table for an aggregate size on which any material may be retained.*

Note: The Department will allow blending of same source/same type aggregate when precise procedures are used such as cold feed, belt, or equivalent and combining of sizes or types of aggregate using the weigh hopper at concrete plants or controlled feed belts at the pugmill to obtain designated sizes.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the August 27, 2010 Letting)

SUBSECTION: **REVISION:**	805.16 SAMPLING AND TESTING. Replace the "AASHTO T 160" method with the "KM 64-629" method for the Concrete Beam Expansion Test. Replace the "ASTM D 3042" method with the "KM 64-625" method for Insoluble Residue.
SUBSECTION: **REVISION:**	810.04.01 Coating Requirements. Replace the "Subsection 806.07" references with "Subsection 806.06"
SUBSECTION: **PART:** **REVISION:**	810.06.01 Polyvinyl Chloride (PVC) Pipe. B) Culvert and Entrance Pipe. Replace the title with the following: B) Culvert Pipe, Storm Sewer, and Entrance Pipe.
SUBSECTION: **REVISION:**	837.03 APPROVAL. Replace the last sentence with the following: The Department will sample and evaluate for approval each lot of thermoplastic material delivered for use per contract prior to installation of the thermoplastic material. Do not allow the installation of thermoplastic material until it has been approved by the Division of Materials. Allow the Department a minimum of 10 working days to evaluate and approve thermoplastic material.
SUBSECTION: **REVISION:**	837.03.01 Composition. COMPOSITION Table: Replace Lead Chromate | 0.0 max. | 4.0 min. with Heavy Metals Content | Comply with 40 CFR 261
SECTION: **REVISION:**	DIVISION 800 MATERIAL DETAILS Add the following section in Division 800 **SECTION 846 – DURABLE WATERBORNE PAINT** **846.01 DESCRIPTION.** This section covers quick-drying durable waterborne pavement striping paint for permanent applications. The paint shall be ready-mixed, one-component, 100% acrylic waterborne striping paint suitable for application on such traffic-bearing surfaces as Portland cement concrete, bituminous cement concrete, asphalt, tar, and previously painted areas of these surfaces. **846.02 Approval.** Select materials that conform to the composition requirements below. Provide independent analysis data and certification for each formulation stating the total concentration of each heavy metal present, the test method used for each determination, and compliance to 40 CFR 261 for leachable heavy metals content. Submit initial samples for approval before beginning striping operations. The initial sample may be sent from the manufacture of the paint. The Department will randomly sample and evaluate the paint each week that the striping operations are in progress. The non-volatile portion of the vehicle shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis. The acrylic resin used shall be a 100% cross-linking acrylic as evidenced by infrared peaks at wavelengths 1568, 1624, and 1672 cm-1 with intensities equal to those produced by an acrylic resin known to be 100% cross-linking.

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition
(Effective with the August 27, 2010 Letting)

PAINT COMPOSITION		
Property and Test Method	Yellow	White
Daytime Color (CIELAB) Spectrophotometer using illuminant D65 at 45º illumination and 0º viewing with a 2º observer	L* 81.76 a* 19.79 b* 89.89 Maximum allowable variation 2.0ΔE*	L* 93.51 a* -1.01 b* 0.70 Maximum allowable variation 2.0ΔE*
Nighttime Color (CIELAB) Spectrophotometer using illuminant A at 45º illumination and 0º viewing with a 2º observer	L* 86.90 a* 24.80 b* 95.45 Maximum allowable variation 2.0ΔE*	L* 93.45 a* -0.79 b* 0.43 Maximum allowable variation 2.0ΔE*
Heavy Metals Content	Comply with 40 CFR 261	Comply with 40 CFR 261
Titanium Dioxide ASTM D 4764	NA	10% by weight of pigment min.
VOC ASTM D 2369 and D 4017	1.25 lb/gal max.	1.25 lb/gal max.
Contrast Ratio (at 15 mils wft)	0.97	0.99

846.02.01 Manufacturers Certification. Provide a certification of analysis for each lot of traffic paint produced stating conformance to the requirements of this section. Report the formulation identification, traffic paint trade name, color, date of manufacturer, total quantity of lot produced, actual quantity of traffic paint represented, sampling method utilized to obtain the samples, and data for each sample tested to represent each lot produced.

846.03 ACCEPTANCE PROCEDURES FOR NON-SPECIFICATION DURABLE WATERBORNE PAVEMENT STRIPING PAINT. When non-specification paint is inadvertently incorporated into the work the Department will accept the material with a reduction in pay. The percentage deduction is cumulative based on its compositional properties, but will not exceed 60 percent. The Department will calculate the payment reduction on the unit bid price for the routes where the non-specification paint was used.

DURABLE WATERBORNE PAVEMENT STRIPING PAINT REDUCTION SCHEDULE						
Non-conforming Property	Resin	Color	Contrast	TiO_2	VOC	Heavy Metals Content
Reduction Rate	60%	10%	10%	10%	60%	60%

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 Electronic version -- March 10, 1994

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

		Page
I.	General	1
II.	Nondiscrimination	1
III.	Nonsegregated Facilities	3
IV.	Payment of Predetermined Minimum Wage	3
V.	Statements and Payrolls	6
VI.	Record of Materials, Supplies, and Labor	6
VII.	Subletting or Assigning the Contract	7
VIII.	Safety: Accident Prevention	7
IX.	False Statements Concerning Highway Projects	7
X.	Implementation of Clean Air Act and Federal Water Pollution Control Act	8
XI.	Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion	8
XII.	Certification Regarding Use of Contract Funds for Lobbying	9

ATTACHMENTS

A. Employment Preference for Appalachian Contracts (included in Appalachian contracts only)

I. GENERAL

1. 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.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

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

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4, and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 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 DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

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 and 41 CFR 60) 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 Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American 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 State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his 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, preapprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO 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 minority group employees.

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 minority groups 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 minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group 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, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group 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 takecorrective 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 his 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 his avenues of appeal.

6. **Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

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. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

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 minority group and women employees 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 his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. 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 best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best 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 SHA 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 minority and women referrals within thetime 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 minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) 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 SHA.

8. **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.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. **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 completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

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

(1) The number 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;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA 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. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of $10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. **General:**

a. All mechanics and laborers 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 (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) 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. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, 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 paragraphs 4 and 5 of this Section IV.

b. 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.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. **Classification:**

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification 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 DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour 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.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional 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. Said 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

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. **Payment of Fringe Benefits:**

a. 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 or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a 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.

4. **Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:**

a. Apprentices:

(1) 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 DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/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 Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees 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 employee 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 listed in 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 or subcontractor 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-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level ofprogress, expressed as a percentage of the journeyman-level 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 for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) 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 DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. 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.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level 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-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor 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. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wagedetermination for the classification of work actually performed.

5. **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.

6. **Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor 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, as 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 SHA contracting officer 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.

7. **Overtime Requirements:**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. **Violation:**

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her 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, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. **Withholding for Unpaid Wages and Liquidated Damages:**

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies 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 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. **Compliance with Copeland Regulations (29 CFR 3):**

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. **Payrolls and Payroll Records:**

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof 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. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found 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 and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

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

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such 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 the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less that the applicable wage rate and fringe benefits or cash equivalent for the classification of worked performed, as specified in the applicable wage determination incorporated into the contract.

e. 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 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, 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 SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions 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.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than $1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

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 State. 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).

a. "Its own organization" shall be construed to include only workers employed and paid directly 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, assignee, or agent of the prime contractor.

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 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 VII 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 SHA 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 SHA 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 SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

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 provideall safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA 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. 333).

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. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

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, the following notice 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:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

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 andsupplemented;

Shall be fined not more that $10,000 or imprisoned not more than 5 years or both."

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

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $100,000 or more.)

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

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

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

1. **Instructions for Certification - Primary Covered Transactions:**

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary 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 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 primary 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 department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowinglyrendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary 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," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary 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 primary 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 Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. 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.

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.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement 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;

c. 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 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary 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 Covered Transactions:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions of $25,000 or more - 49 CFR 29)

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," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

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.

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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

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 Covered Transactions:

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 participation in this transaction 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.

* * * * *

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(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 his or her bid or proposal that he or she 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.

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 (between forty and seventy); 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 (between forty and seventy). 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, disability or age (between forty and seventy), except that such notice or advertisement may indicate a preference, limitation, or specification based on religion, or national origin when religion, or national origin 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 (between forty and seventy), in admission to, or employment in any program established to provide apprenticeship or other training.

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

REVISED: 12-3-92

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 (6) provides:

No present or former public servant shall, within six (6) months of 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 the state in matters in which he was directly involved during 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, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved 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.

KRS 11A.040 (8) states:

A former public servant shall not represent a person in a matter before a state agency in which the former public servant was directly involved, 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, Room 136, Capitol Building, 700 Capitol Avenue, Frankfort, Kentucky 40601; telephone (502) 564-7954.

General Decision Number: KY100028 08/20/2010 KY28

Superseded General Decision Number: KY20080028

State: Kentucky

Construction Type: Heavy

Counties: Boone, Campbell, Kenton and Pendleton Counties in Kentucky.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	03/12/2010
1	03/19/2010
2	07/02/2010
3	07/09/2010
4	08/06/2010
5	08/20/2010

BRKY0002-005 06/01/2009

	Rates	Fringes
BRICKLAYER	$ 26.12	9.73

BROH0001-005 06/01/2008

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 25.75	8.60

CARP0698-001 05/01/2009

BOONE, CAMPBELL, KENTON & PENDLETON COUNTIES:

	Rates	Fringes
Carpenter & Piledrivermen	$ 27.05	9.69
Diver	$ 40.58	9.69

CARP1066-003 09/01/2009

	Rates	Fringes
MILLWRIGHT	$ 27.55	15.39

ELEC0212-007 11/30/2009

	Rates	Fringes
ELECTRICIAN	$ 26.11	13.72

ELEC0212-013 01/01/2006

	Rates	Fringes
Sound & Communication		

Technician.....$ 20.45 6.95

ENGI0018-013 05/01/2009

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1	$ 29.49	11.16
GROUP 2	$ 29.37	11.16
GROUP 3	$ 28.33	11.16
GROUP 4	$ 27.15	11.16
GROUP 5	$ 21.69	11.16
GROUP 6	$ 29.74	11.16
GROUP 7	$ 29.99	11.16

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating Equipment (All Types); Gradall; Helicopter Crew (Operator-Hoist or Winch); Hoe (all types); Hoisting Engine on Shaft or Tunnel Work; Horizontal Directional Drill (over 500,000 ft. lbs. thrust); Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; & Wheel Excavator

GROUP 2 - Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring Machine More than 48"; Bulldozer; Endloader; Hydro Milling Machine; Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24" wide & under); & Vermeer type Concrete Saw

GROUP 3 - A-Frame; Air Compressor on Tunnel Work (low pressure); Asphalt Plant Engineer; Bobcat-type and/or Skid Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag

capacity); Mixer, one bag capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4" & over discharge); Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie Tampers (without lifting & aligning device); Utility Operator (Small equipment); & Welding Machines

GROUP 4 - Backfiller; Ballast Re-locator; Bars, Joint & Mesh Installing Machine; Batch Plant; Boring Machine Operator (48" or less); Bull Floats; Burlap & Curing Machine; Concrete Plant (capacity 4 yd. & under); Concrete Saw (Multiple); Conveyor (Highway); Crusher; Deckhand; Farm-type Tractor with attachments (highway) except Masonry); Finishing Machine; Fireperson, Floating Equipment (all types); Fork Lift (highway); Form Trencher; Hydro Hammer; Hydro Seeder; Pavement Breaker; Plant Mixer; Post Driver; Post Hole Digger (Power Auger); Power Brush Burner; Power Form Handling Equipment; Road Widening Trencher; Roller (Brick, Grade & Macadam); Self-Propelled Power Spreader; Self-Propelled Power Subgrader; Steam Fireperson; Tractor (Pulling Sheepfoot, Roller or Grader); & Vibratory Compactor with Integral Power

GROUP 5 - Compressor (Portable, Sewer, Heavy & Highway); Drum Fireperson (Asphalt); Generator; Masonry Fork Lift; Inboard-Outboard Motor Boat Launch; Masonry Fork Lift; Oil Heater (asphalt plant); Oiler; Power Driven Heater; Power Sweeper & Scrubber; Pump (under 4" discharge); Signalperson; Tire Repairperson; & VAC/ALLS

GROUP 6 - Master Mechanic & Boom from 150 to 180

GROUP 7 - Boom from 180 and over

IRON0044-008 06/01/2009

	Rates	Fringes
Ironworkers:		
Fence Erector	$ 23.55	16.72
Structural	$ 26.17	16.72

IRON0372-004 06/01/2009

	Rates	Fringes
IRONWORKER, REINFORCING		
Beyond 30-mile radius of Hamilton County, Ohio Courthouse	$ 26.45	16.70
Up to & including 30-mile radius of Hamilton County, Ohio Courthouse	$ 26.20	16.70

LABO0189-004 07/01/2010

PENDLETON COUNTY:

	Rates	Fringes

LABORER		
GROUP 1	$ 20.61	10.00
GROUP 2	$ 20.86	10.00
GROUP 3	$ 20.91	10.00
GROUP 4	$ 21.51	10.00

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Driller (All Types); Powderman & Blaster; Troxler & Concrete Tester if Laborer is Utilized

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LABO0265-009 05/01/2009

BOONE, CAMPBELL & KENTON COUNTIES:

	Rates	Fringes
LABORER		
GROUP 1	$ 25.27	7.50
GROUP 2	$ 25.44	7.50
GROUP 3	$ 25.77	7.50
GROUP 4	$ 26.22	7.50

LABORER CLASSIFICATIONS

GROUP 1 - Asphalt Laborer; Carpenter Tender; Concrete Curing Applicator; Dump Man (Batch Truck); Guardrail and Fence Installer; Joint Setter; Laborer (Construction); Landscape Laborer; Highway Lighting Worker; Signalization Worker; Mesh Handlers & Placer; Right-of-way Laborer; Riprap Laborer & Grouter; Scaffold Erector; Seal Coating; Surface Treatment or Road Mix Laborer; Sign Installer; Slurry Seal; Utility Man; Bridge Man; Handyman; Waterproofing Laborer; Flagperson; Hazardous Waste (level D); Diver Tender; Zone Person & Traffic Control

GROUP 2 - Skid Steer; Asphalt Raker; Concrete Puddler; Kettle Man (Pipeline); Machine Driven Tools (Gas, Electric, Air); Mason Tender; Brick Paver; Mortar Mixer; Power Buggy or Power Wheelbarrow; Sheeting & Shoring Man; Surface Grinder Man; Plastic Fusing Machine Operator; Pug Mill Operator; & Vacuum Devices (wet or dry); Rodding Machine Operator; Diver; Screwman or Paver; Screed Person; Water Blast, Hand Held Wand; Pumps 4" & Under (Gas, Air or Electric) & Hazardous Waste (level C); Air Track and Wagon Drill; Bottom Person; Cofferdam (below 25 ft. deep); Concrete Saw Person; Cutting with Burning Torch; Form Setter; Hand Spiker (Railroad); Pipelayer; Tunnel Laborer (without air) & Caisson; Underground Person (working in Sewer and Waterline, Cleaning, Repairing & Reconditioning); Sandblaster Nozzle Person; & Hazardous Waste (level B)

GROUP 3 - Blaster; Mucker; Powder Person; Top Lander; Wrencher (Mechanical Joints & Utility Pipeline); Yarner; Hazardous Waste (level A); Concrete Specialist; Concrete Crew in Tunnels (With Air-pressurized - $1.00 premium); Curb Setter & Cutter; Grade Checker; Utility Pipeline Tapper; Waterline; and Caulker

GROUP 4 - Miner; & Gunite Nozzle Person

TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE

SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING.

PAIN0012-016 06/01/2010

	Rates	Fringes
Painters: (HEAVY & HIGHWAY BRIDGES - GUARDRAILS-LIGHTPOLES -STRIPING)		
Bridge Equipment Tender and Containment Builder	$ 20.27	8.10
Brush & Roller	$ 22.85	8.10
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement	$ 23.85	8.10
Sandblasting & Water Blasting	$ 23.60	8.10
Spray	$ 23.35	8.10

PLUM0392-008 06/01/2008

	Rates	Fringes
PLUMBER	$ 28.39	14.30

SUKY1996-001 02/05/1996

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 15.85	4.60
GROUP 2	$ 16.29	4.60

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Driver

GROUP 2 - Euclid Wagon; End Dump; Lowboy; Heavy Duty Equipment; Tractor-Trailer Combination; & Drag

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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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)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

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.

These rates are listed pursuant to the Kentucky Determination No. CR-10-IV-HWY dated July 12, 2010.

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 after an employee works eight (8) hours a day or forty (40) hours a week, whichever gives the employee the greater wages. At least time and one-half the base rate is required for all overtime. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Ryan Griffith, Director
Division of Construction Procurement
Frankfort, Kentucky 40622

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (Executive Order 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
11.0%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of $10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609

4. As used in this Notice, and in the contract resulting from this solicitation, the **"covered area"** is Campbell 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
11.0%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

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Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609

4. As used in this Notice, and in the contract resulting from this solicitation, the **"covered area"** is Kenton County.

PART IV

INSURANCE

INSURANCE

The Contractor shall carry the following insurance in addition to the insurance required by law:

1. Contractor's Public Liability Insurance not less than $100,000.00 for damages arising out of bodily injuries to or death to one person. Not less than $300,000.00 for damages arising out of bodily injuries to or death to two or more persons.

2. Contractor's Property Damages Liability Insurance. Not less than $100,000.00 for all damages arising out of injury or destruction of property in any one accident. Not less than $300,000.00 for all damages during the policy period.

3. Contractor's Protective Public Liability and Property Damage Insurance. The contractor shall furnish evidence with respect to operations performed for him by subcontractors that he carries in his own behalf for the above stipulated amounts.

4. The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:

   a. "policy contains no deductible clauses."

   b. "policy contains _____ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."

5. WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

PART V

BID ITEMS

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 101050 PAGE: 1
COUNTY: KENTON, CAMPBELL LETTING: 11/19/10
PROPOSAL: 121GR10D050-IM CALL NO: 202

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
	SECTION 0001	ROADWAY			
0010	00001	DGA BASE	9,040.000 TON		
0020	00008	CEMENT STABILIZED ROADBED	67,777.000 SQYD		
0030	00100	ASPHALT SEAL AGGREGATE	1,323.000 TON		
0040	00279	CL4 ASPH BIND 0.50D PG76-22	2,905.000 TON		
0050	00291	EMULSIFIED ASPHALT RS-2	159.100 TON		
0060	00342	CL4 ASPH SURF 0.38A PG76-22	2,293.000 TON		
0070	00358	ASPHALT CURING SEAL	68.000 TON		
0080	00521	STORM SEWER PIPE-15 IN	166.000 LF		
0090	01432	SLOPED BOX OUTLET TYPE 1-15 IN	1.000 EACH		
0100	01490	DROP BOX INLET TYPE 1	1.000 EACH		
0110	01641	JUNCTION BOX-15 IN	1.000 EACH		
0120	01845	ISLAND INTEGRAL CURB	2,763.000 LF		
0130	01890	ISLAND HEADER CURB TYPE 1	1,018.000 LF		
0140	01904	REMOVE CURB	1,070.000 LF		
0150	01982	DELINEATOR FOR GUARDRAIL-WHITE	652.000 EACH		
0160	01983	DELINEATOR FOR GUARDRAIL-YELLOW	215.000 EACH		
0170	01984	DELINEATOR FOR BARRIER-WHITE	593.000 EACH		
0180	01985	DELINEATOR FOR BARRIER-YELLOW	593.000 EACH		
0190	02014	BARRICADE-TYPE III	25.000 EACH		
0200	02058	REMOVE PCC PAVEMENT	47,926.000 SQYD		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 101050 PAGE: 2
COUNTY: KENTON, CAMPBELL LETTING: 11/19/10
PROPOSAL: 121GR10D050-IM CALL NO: 202

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0210	02060	PCC PAVEMENT DIAMOND GRINDING	285,100.000 SQYD		
0220	02071	JPC PAVEMENT-11 IN	44,540.000 SQYD		
0230	02072	JPC PAVEMENT-11 IN SHLD	23,238.000 SQYD		
0240	02086	JPC PAVEMENT-13 IN	293.000 SQYD		
0250	02087	JPC PAVEMENT-13 IN SHLD	103.000 SQYD		
0260	02115	SAW-CLEAN-RESEAL TVERSE JOINT	218,277.000 LF		
0270	02116	SAW-CLEAN-RESEAL LONGIT JOINT	230,368.000 LF		
0280	02230	EMBANKMENT IN PLACE	507.000 CUYD		
0290	02352	GUARDRAIL-STEEL W BEAM-D FACE	337.500 LF		
0300	02360	GUARDRAIL TERMINAL SECTION NO 1	4.000 EACH		
0310	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	6.000 EACH		
0320	02365	CRASH CUSHION TYPE IX-A	1.000 EACH		
0330	02367	GUARDRAIL END TREATMENT TYPE 1	17.000 EACH		
0340	02369	GUARDRAIL END TREATMENT TYPE 2A	17.000 EACH		
0350	02381	REMOVE GUARDRAIL	15,264.000 LF		
0360	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	2.000 EACH		
0370	02542	CEMENT	1,326.000 TON		
0380	02562	SIGNS	2,000.000 SQFT		
0390	02650	MAINTAIN & CONTROL TRAFFIC IM 2759(117) CAMPBELL CO.	(1.00) LS		
0400	02650	MAINTAIN & CONTROL TRAFFIC IM 2759(117) KENTON CO.	(1.00) LS		
0410	02650	MAINTAIN & CONTROL TRAFFIC IM 2759(121) KENTON CO.	(1.00) LS		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 101050 PAGE: 3
COUNTY: KENTON, CAMPBELL LETTING: 11/19/10
PROPOSAL: 121GR10D050-IM CALL NO: 202

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0420	02671	PORTABLE CHANGEABLE MESSAGE SIGN	10.000	EACH		
0430	02676	MOBILIZATION FOR MILL & TEXT IM 2759(117) KENTON CO.	(1.00)	LS		
0440	02676	MOBILIZATION FOR MILL & TEXT IM 2759(121) KENTON CO.	(1.00)	LS		
0450	02677	ASPHALT PAVE MILLING & TEXTURING	3,558.000	TON		
0460	02690	SAFELOADING	3.000	CUYD		
0470	02701	TEMP SILT FENCE	5,000.000	LF		
0480	02702	SAND FOR BLOTTER	173.000	TON		
0490	02705	SILT TRAP TYPE C	70.000	EACH		
0500	02708	CLEAN SILT TRAP TYPE C	70.000	EACH		
0510	02709	CLEAN TEMP SILT FENCE	5,000.000	LF		
0520	02726	STAKING IM 2759(117) CAMPBELL CO.	(1.00)	LS		
0530	02726	STAKING IM 2759(117) KENTON CO.	(1.00)	LS		
0540	02726	STAKING IM 2759(121) KENTON CO.	(1.00)	LS		
0550	02775	ARROW PANEL	5.000	EACH		
0560	02894	CRASH CUSHION TYPE VI-T	5.000	EACH		
0570	02898	RELOCATE CRASH CUSHION	5.000	EACH		
0580	03171	CONCRETE BARRIER WALL TYPE 9T	5,800.000	LF		
0590	03260	CLEAN ROADWAY DRAINS	6.000	EACH		
0600	05950	EROSION CONTROL BLANKET	55,000.000	SQYD		
0610	05985	SEEDING AND PROTECTION	87,000.000	SQYD		
0620	06417	FLEXIBLE DELINEATOR POST-W	476.000	EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 101050 PAGE: 4
COUNTY: KENTON, CAMPBELL LETTING: 11/19/10
PROPOSAL: 121GR10D050-IM CALL NO: 202

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0630	06418	FLEXIBLE DELINEATOR POST-Y	496.000 EACH		
0640	06427	TRENCHING	18,374.000 LF		
0650	06511	PAVE STRIPING-TEMP PAINT-6 IN	200,000.000 LF		
0660	06549	PAVE STRIPING-TEMP REM TAPE-B	20,000.000 LF		
0670	06550	PAVE STRIPING-TEMP REM TAPE-W	20,000.000 LF		
0680	06551	PAVE STRIPING-TEMP REM TAPE-Y	20,000.000 LF		
0690	06568	PAVE MARKING-THERMO STOP BAR-24IN	179.000 LF		
0700	06574	PAVE MARKING-THERMO CURV ARROW	31.000 EACH		
0710	06592	PAVEMENT MARKER TYPE V-B W/R	670.000 EACH		
0720	06593	PAVEMENT MARKER TYPE V-B Y/R	768.000 EACH		
0730	06600	REMOVE PAVEMENT MARKER TYPE V	507.000 EACH		
0740	10020NS	FUEL ADJUSTMENT	19,260.000 DOLL	1.00	19,260.00
0750	10030NS	ASPHALT ADJUSTMENT	12,523.000 DOLL	1.00	12,523.00
0760	20192ED	REM ASPHALT WEDGE CURB	1,018.000 LF		
0770	20412ED	REMOVE ASPHALT SHOULDER	19,926.000 SQYD		
0780	21802EN	G/R STEEL W BEAM-S FACE (7 FT POST)	12,637.500 LF		
0790	22415EN	CONCRETE CLASS A FOR PAD	8,166.000 SQYD		
0800	22854EN	PAVE STRIPE PERM-6 IN HD21-WHITE	106,874.000 LF		
0810	22855EN	PAVE STRIPE PERM-6 IN HD21-YELLOW	86,231.000 LF		
0820	22856EN	PAVE STRIPE PERM-12 IN HD21-WHITE	11,019.000 LF		
0830	23147EN	HIGH TENSION CABLE-ROPE BARRIER	18,374.000 LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 101050 PAGE: 5
COUNTY: KENTON, CAMPBELL LETTING: 11/19/10
PROPOSAL: 121GR10D050-IM CALL NO: 202

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0840	23148EN	END ANCHORS	8.000 EACH		
0850	23229EC	HIGH FRICTION SURFACE TREATMENT	2,608.000 SQYD		
0860	23624EC	REMOVE AND RESET CRASH CUSHION	1.000 EACH		
0870	23845EC	SAW AND SEAL ASPHALT JOINT	10,467.000 LF		
	SECTION 0002	BRIDGE			
0880	01000	PERFORATED PIPE-4 IN	120.000 LF		
0890	01010	NON-PERFORATED PIPE-4 IN	240.000 LF		
0900	03294	EXPAN JOINT REPLACE 1 1/2 IN	598.400 LF		
0910	03296	EXPAN JOINT REPLACE 2 1/2 IN	140.300 LF		
0920	03298	EXPAN JOINT REPLACE 4 IN METHOD 1	110.000 LF		
0930	03298	EXPAN JOINT REPLACE 4 IN METHOD 2	110.000 LF		
0940	03300	ELIMINATE TRANSVERSE JOINT	122.000 LF		
0950	03300	ELIMINATE TRANSVERSE JOINT METHOD 1	298.000 LF		
0960	03300	ELIMINATE TRANSVERSE JOINT METHOD 2	108.000 LF		
0970	08504	EPOXY SAND SLURRY	5,189.000 SQYD		
0980	08510	REM EPOXY BIT FOREIGN OVERLAY	21,139.000 SQYD		
0990	08526	CONC CLASS M FULL DEPTH PATCH	113.000 CUYD		
1000	08534	CONCRETE OVERLAY-LATEX	900.000 CUYD		
1010	08549	BLAST CLEANING	28,659.000 SQYD		
1020	08551	MACHINE PREP OF SLAB	4,273.000 SQYD		
1030	08821	DRAIN PIPE-8 IN	900.000 LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 101050 PAGE: 6
COUNTY: KENTON, CAMPBELL LETTING: 11/19/10
PROPOSAL: 121GR10D050-IM CALL NO: 202

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
1040	22146EN	CONCRETE PATCHING REPAIR	100.000 SQFT		
1050	23031EN	PIER REPAIR	1,500.000 SQFT		
1060	23032EN	BRIDGE BARRIER RETROFIT	1,863.000 LF		
1070	23386EC	JOINT SEAL REPLACEMENT	269.000 LF		
	SECTION 0003	SIGNALIZATION			
1080	04793	CONDUIT-1 1/4 IN	160.000 LF		
1090	04795	CONDUIT-2 IN	115.000 LF		
1100	04811	JUNCTION BOX TYPE B	5.000 EACH		
1110	04820	TRENCHING AND BACKFILLING	220.000 LF		
1120	04830	LOOP WIRE	3,302.000 LF		
1130	04844	CABLE-NO. 14/5C	90.000 LF		
1140	04850	CABLE-NO. 14/1 PAIR	1,548.000 LF		
1150	04895	LOOP SAW SLOT AND FILL	1,234.000 LF		
1160	20188NS835	INSTALL LED SIGNAL-3 SECTION	2.000 EACH		
	SECTION 0004	LIGHTING			
1170	04795	CONDUIT-2 IN	500.000 LF		
1180	04798	CONDUIT-3 1/2 IN	360.000 LF		
1190	04820	TRENCHING AND BACKFILLING	860.000 LF		
1200	04833	WIRE-NO. 8	180.000 LF		
1210	04834	WIRE-NO. 6	900.000 LF		
1220	04835	WIRE-NO. 4	360.000 LF		

KENTUCKY TRANSPORTATION CABINET
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CONTRACT ID: 101050 PAGE: 7
COUNTY: KENTON, CAMPBELL LETTING: 11/19/10
PROPOSAL: 121GR10D050-IM CALL NO: 202

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
1230	04836	WIRE-NO. 2	1,540.000 LF		
1240	04837	WIRE-NO. 0	180.000 LF		
1250	20391NS835	JUNCTION BOX TYPE A	21.000 EACH		
	SECTION 0005	TRAFFIC LOOPS			
1260	04795	CONDUIT-2 IN	240.000 LF		
1270	04820	TRENCHING AND BACKFILLING	200.000 LF		
1280	04829	PIEZOELECTRIC SENSOR	12.000 EACH		
1290	04830	LOOP WIRE	5,712.000 LF		
1300	04895	LOOP SAW SLOT AND FILL	1,104.000 LF		
1310	20359NN	GALVANIZED STEEL CABINET	4.000 EACH		
1320	20360ES818	WOOD POST	8.000 EACH		
1330	20391NS835	JUNCTION BOX TYPE A	4.000 EACH		
	SECTION 0006	DEMOBILIZATION			
1340	02568	MOBILIZATION (NO MORE THAN 5%)	LUMP		
1350	02569	DEMOBILIZATION (AT LEAST 1.5%)	LUMP		
		TOTAL BID			