CALL NO. 100

CONTRACT ID. 111322

JEFFERSON COUNTY

FED/STATE PROJECT NUMBER IM 0711 (101)

DESCRIPTION LOUISVILLE-COVINGTON ROAD (I-71)

WORK TYPE ASPHALT REHAB INTERSTATE/PARKWAY

PRIMARY COMPLETION DATE 12/15/2011

LETTING DATE: July 15, 2011

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME July 15, 2011. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

DBE CERTIFICATION REQUIRED - 8.80%

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

TABLE OF CONTENTS

PART I

SCOPE OF WORK

CONTRACT ID - 111322 ADMINISTRATIVE DISTRICT - 05

PROJECT(S) IDENTIFICATION AND DESCRIPTION:

COUNTY - JEFFERSON PCN - DE05600711122
IM 0711 (101)
LOUISVILLE-COVINGTON ROAD (I-71) MILL 2 INCH INTERMEDIATE OVERLAY ON I-71 FROM MP 0.000 TO MP 5.550, A DISTANCE OF 5.55 MILES. ASPHALT REHAB INTERSTATE/PARKWAY. SYP NO. 05-02053.00.
GEOGRAPHIC COORDINATES LATITUDE 38^16'55" LONGITUDE 85^41'10"

COMPLETION DATE(S):
COMPLETION DATE - December 15, 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.

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

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

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

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

04/28/2011

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	
					Total This DBE	
					Total Bid	
					% Credited toward Goal, this DBE	

**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

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

EXPEDITE PROJECT WORK ORDER

Be advised that the Contractor may request that the Department expedite the work order for this project to allow for maximization of time to complete the work. In order for the Department to accomplish this task, the Contractor may be required to "hand carry" all required project documentation to facilitate the process immediately UPON NOTIFICATION OF AWARD OF THE CONTRACT. The contractor needs to deliver required project documentation to:

Division of Construction Procurement
200 Mero St.
Frankfort, KY 40602

NATIONAL HIGHWAY

This project is on the NATIONAL HIGHWAY SYSTEM.

DGA BASE

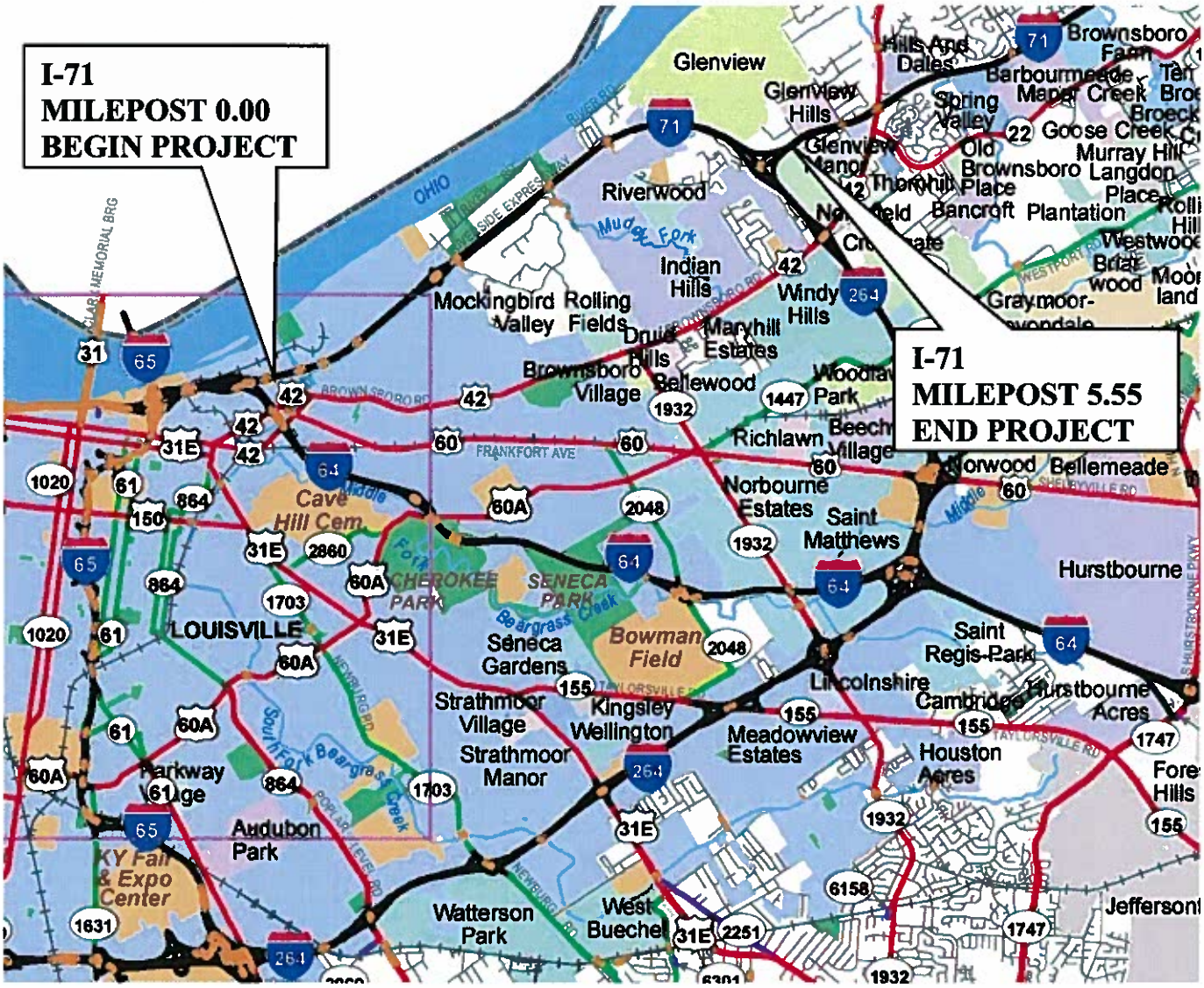
The rate of application for DGA Base shall be estimated at 115 lbs/sy per inch of depth.

FUEL AND ASPHALT PAY ADJUSTMENT

The following contract items: Asphalt Adjustment and Fuel Adjustment, are for possible future payments. Additional monies may need to be setup with an additional change order if existing contract amount is insufficient to pay all items on the contract. Unit price is $1.00. Quantity will be actual adjustment after work is completed.

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.



ITEM NUMBERS: 5-2053.00

PROJECT NUMBER: IM 0711 (101)

CONSTRUCTION NUMBER: FD52 056 0071 000-006

LETTING DATE: 07-15-2011

RECOMMENDED BY: _____ DATE: 6-8-11
Project Manager

PLAN APPROVED BY: _____ DATE: 6/8/11
State Highway Engineer

FHWA APPROVED BY: _____ DATE: _____

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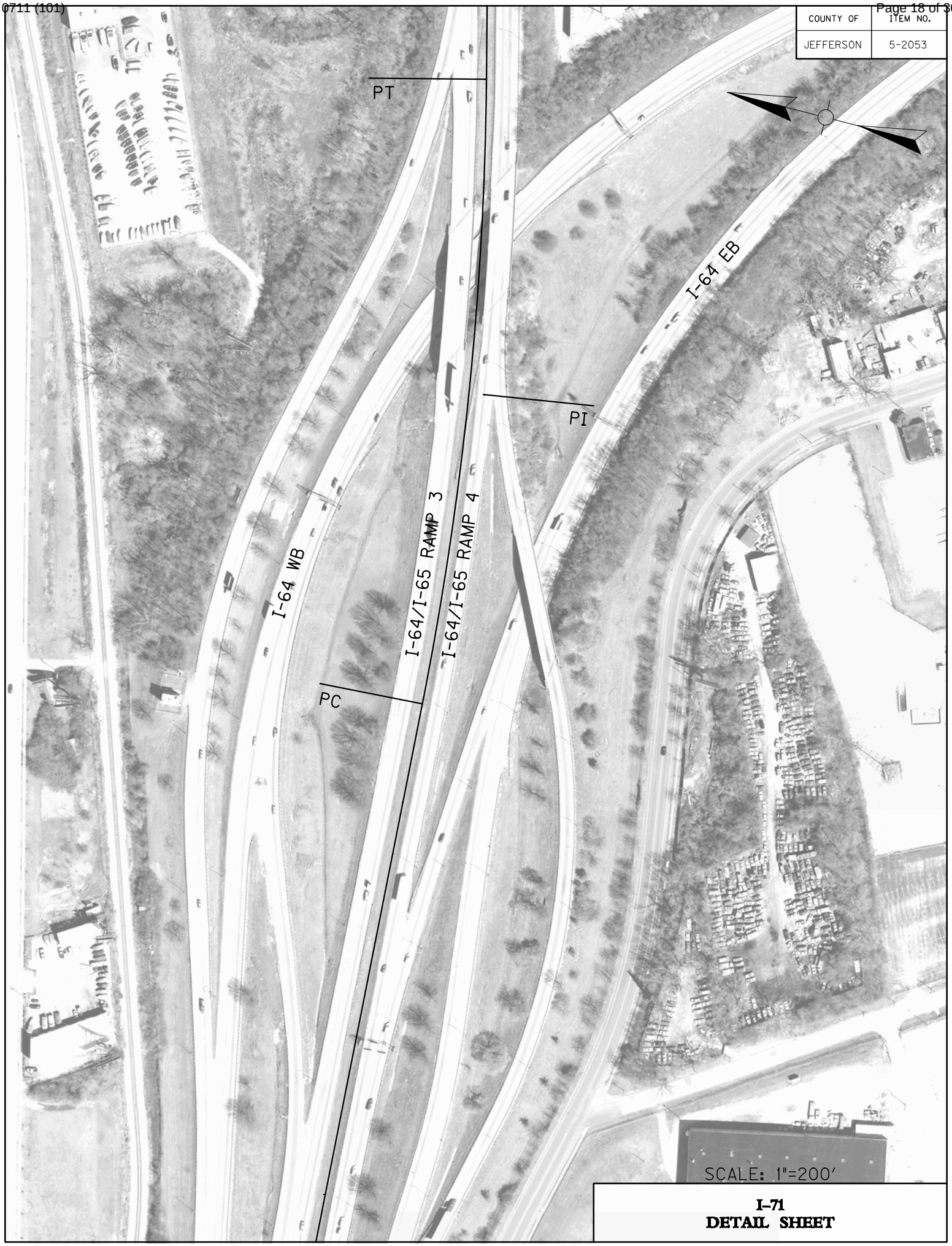
JEFFERSON	5-2053



I-71
DETAIL SHEET

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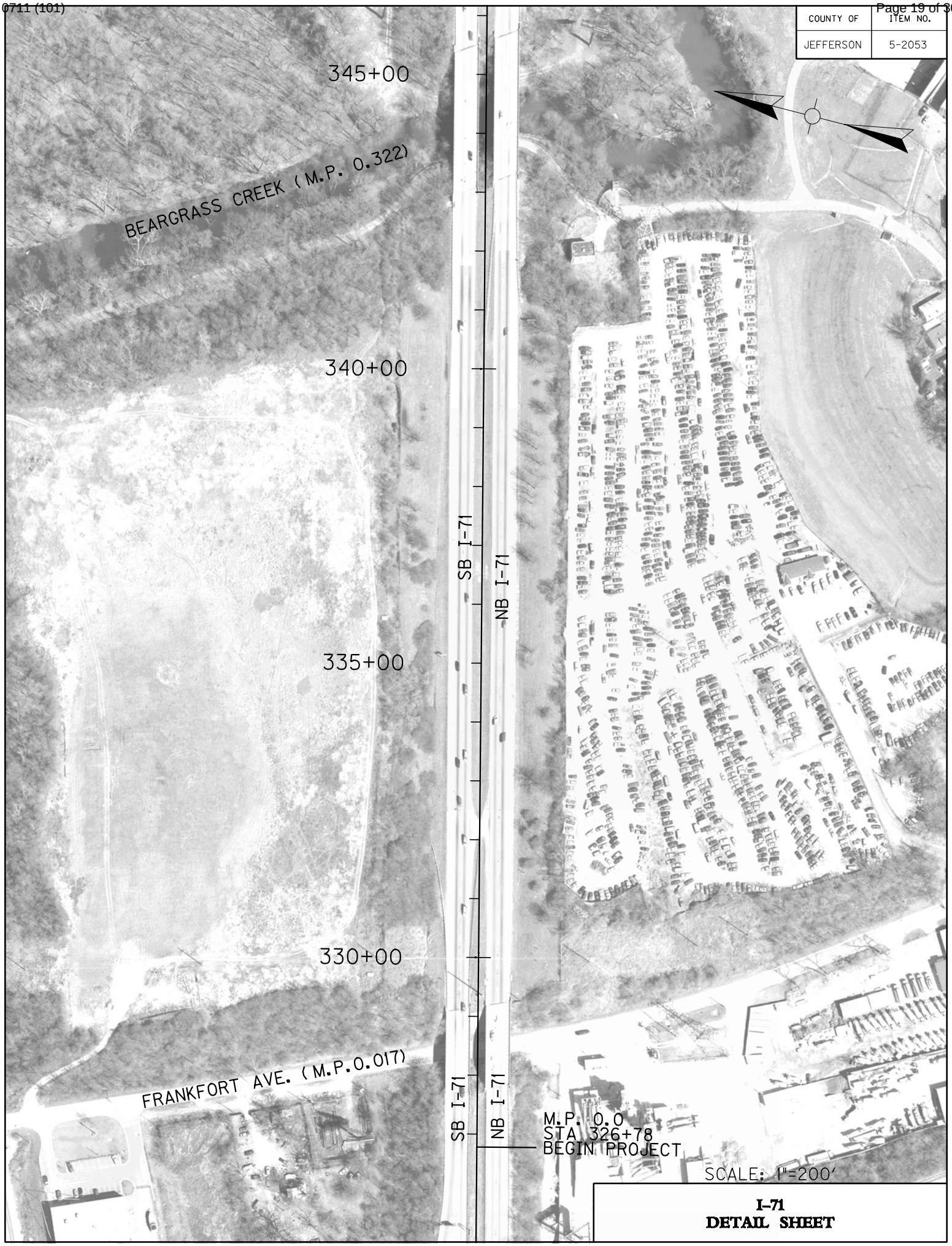

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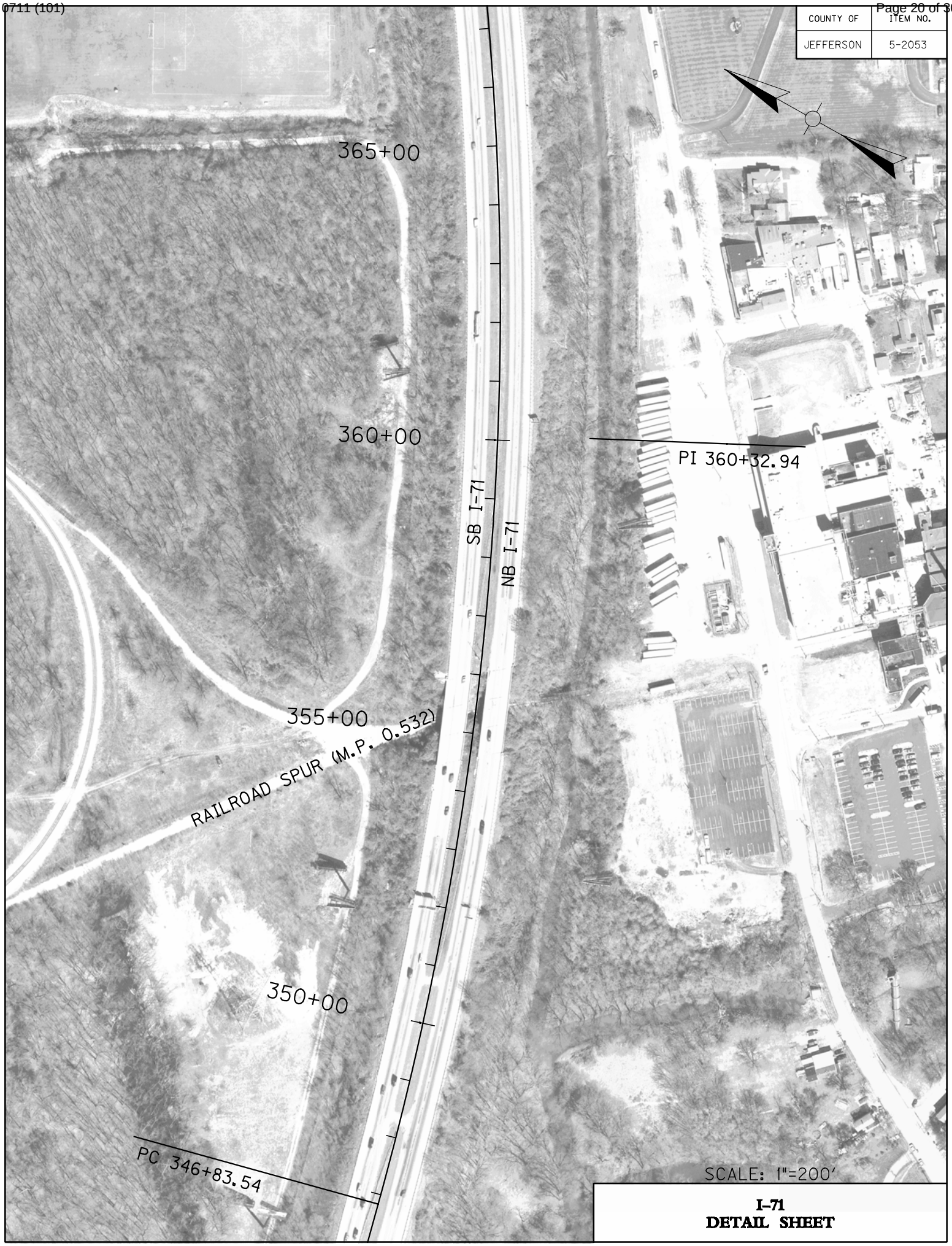

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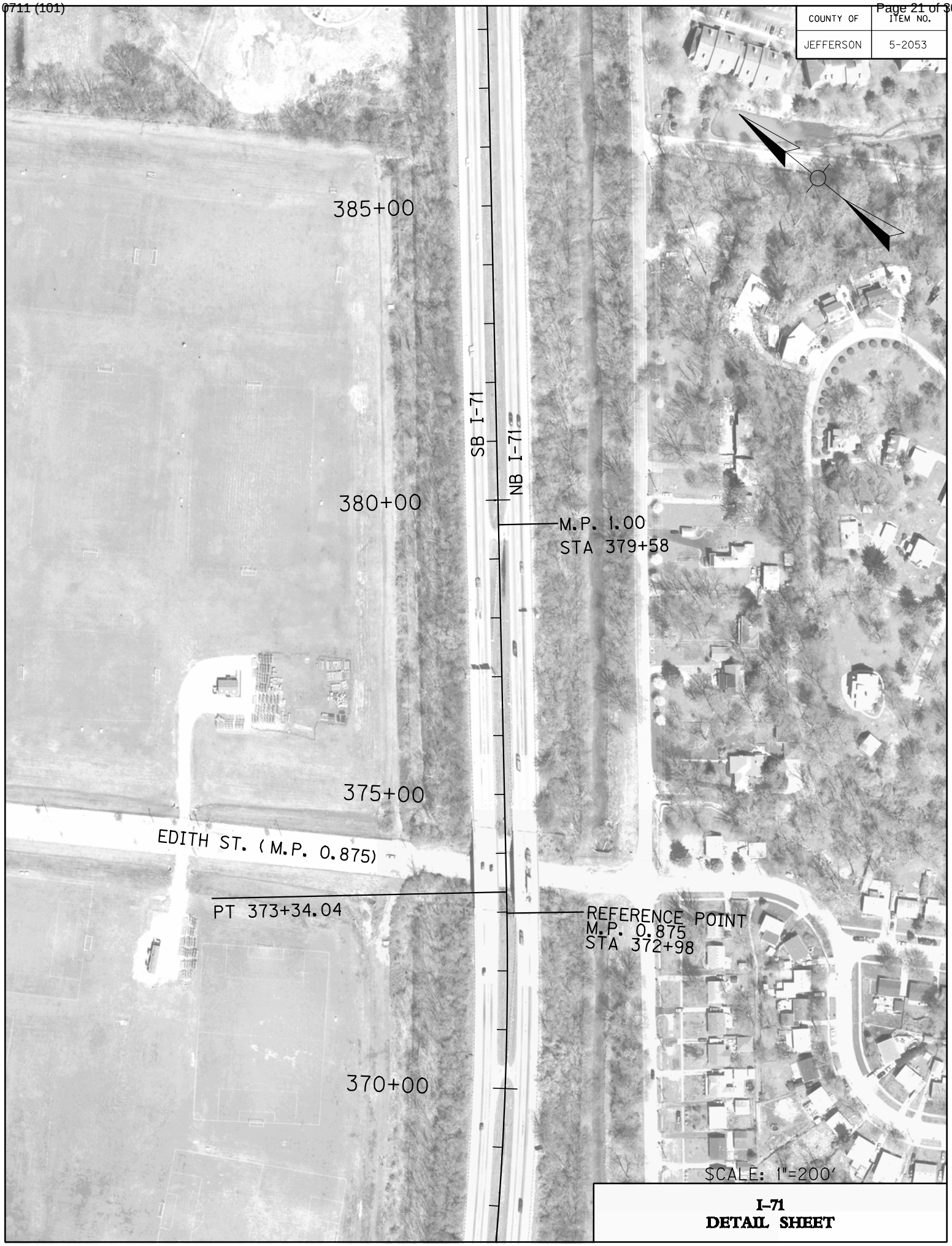

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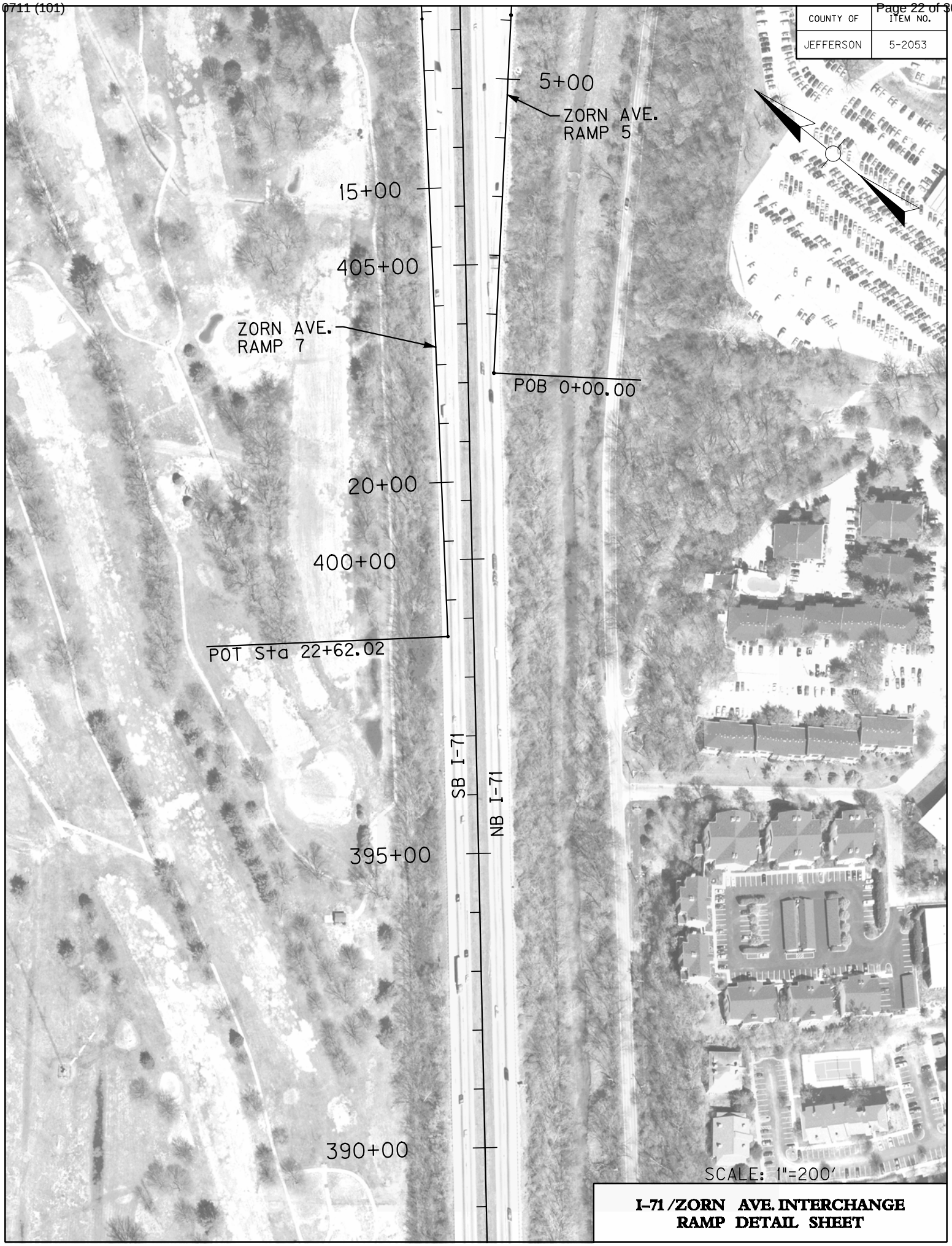

I-71 / ZORN AVE. INTERCHANGE
RAMP DETAIL SHEET

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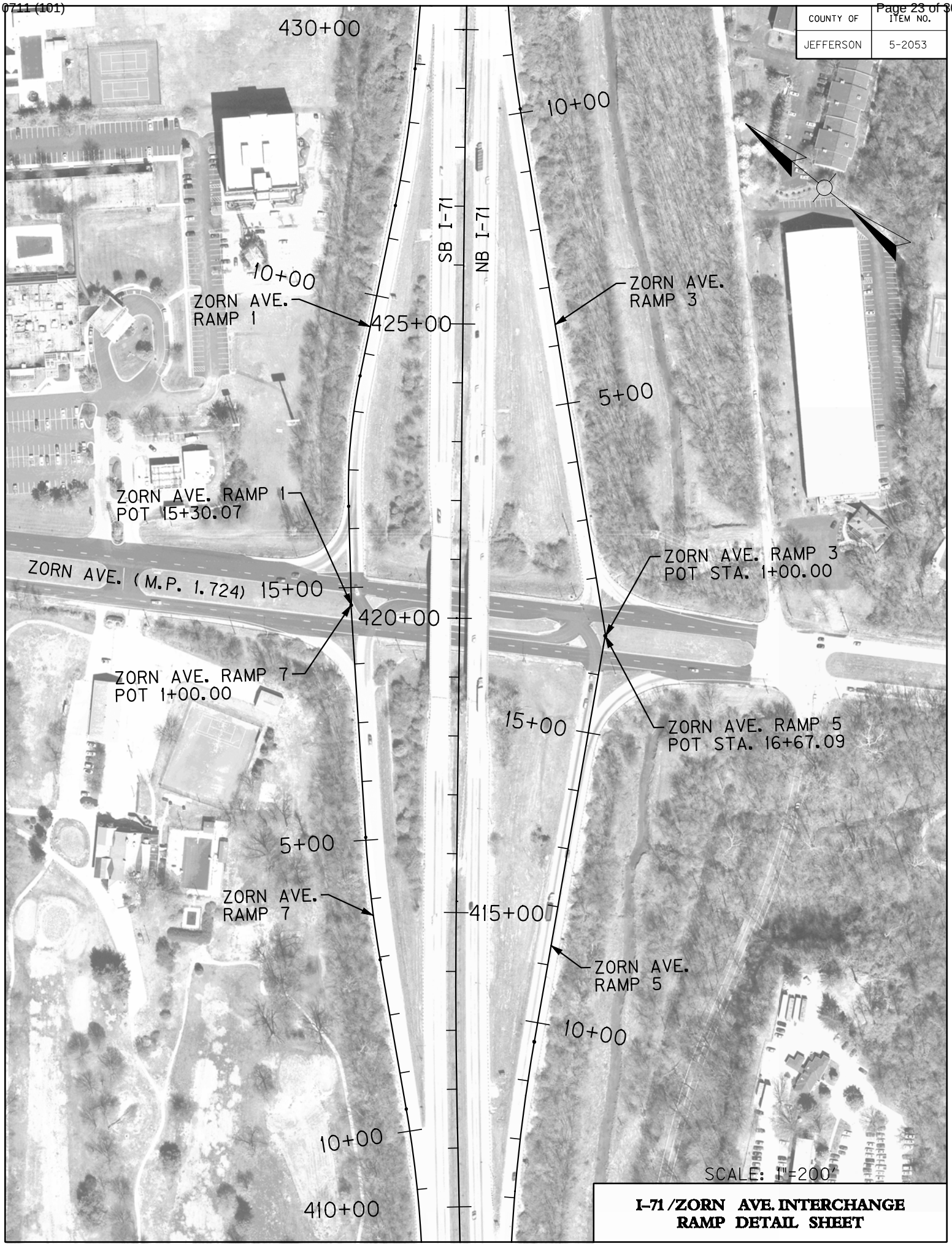

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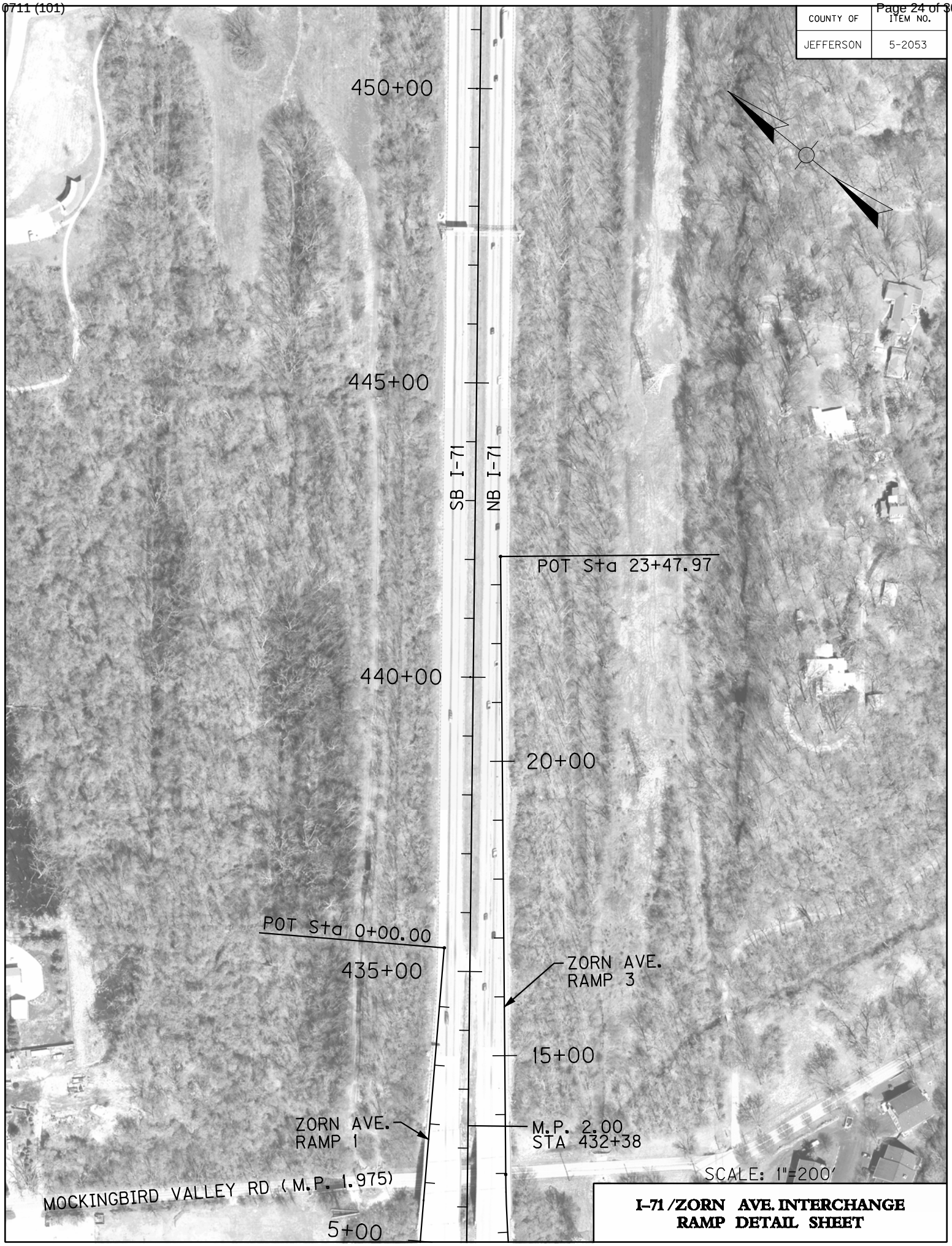

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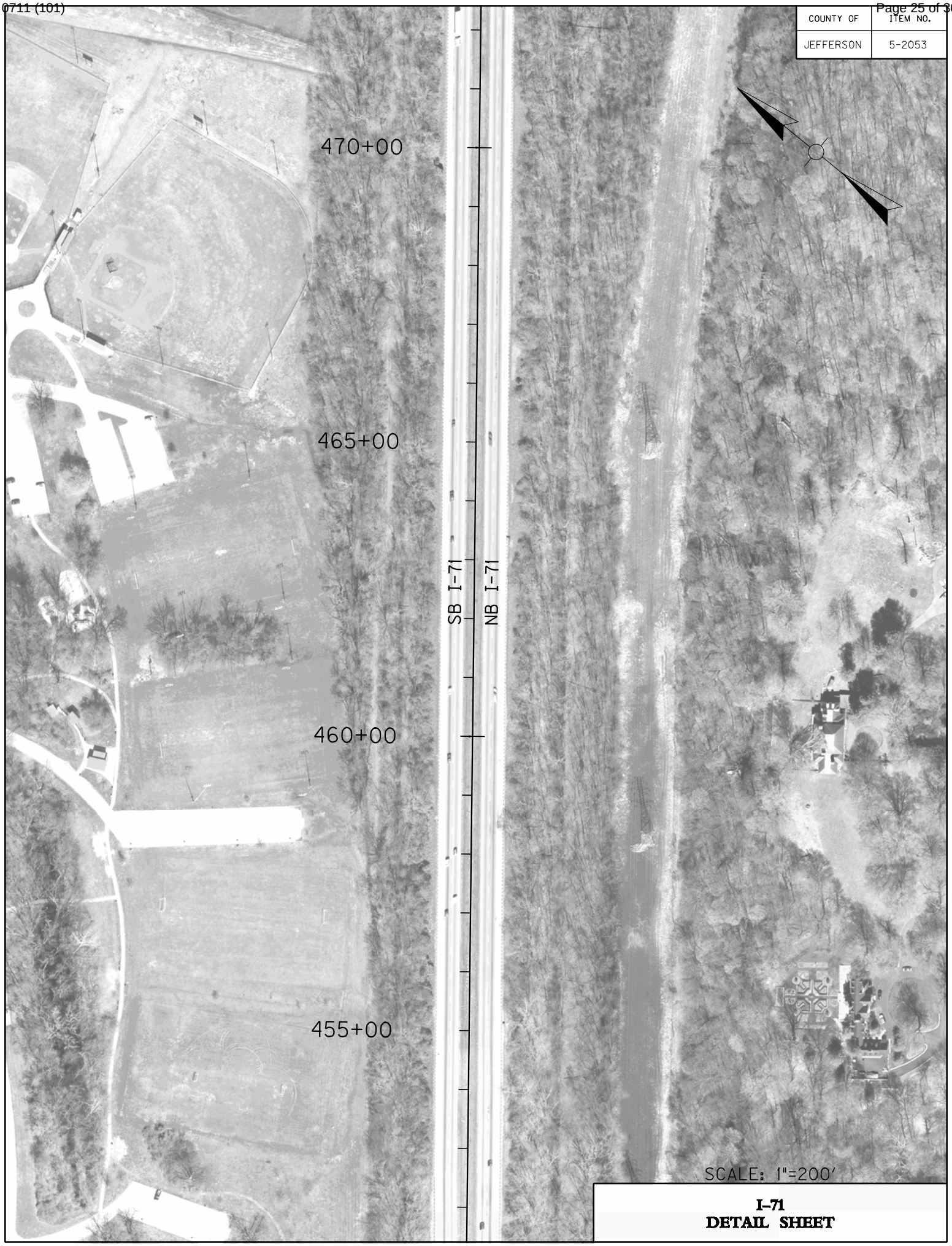

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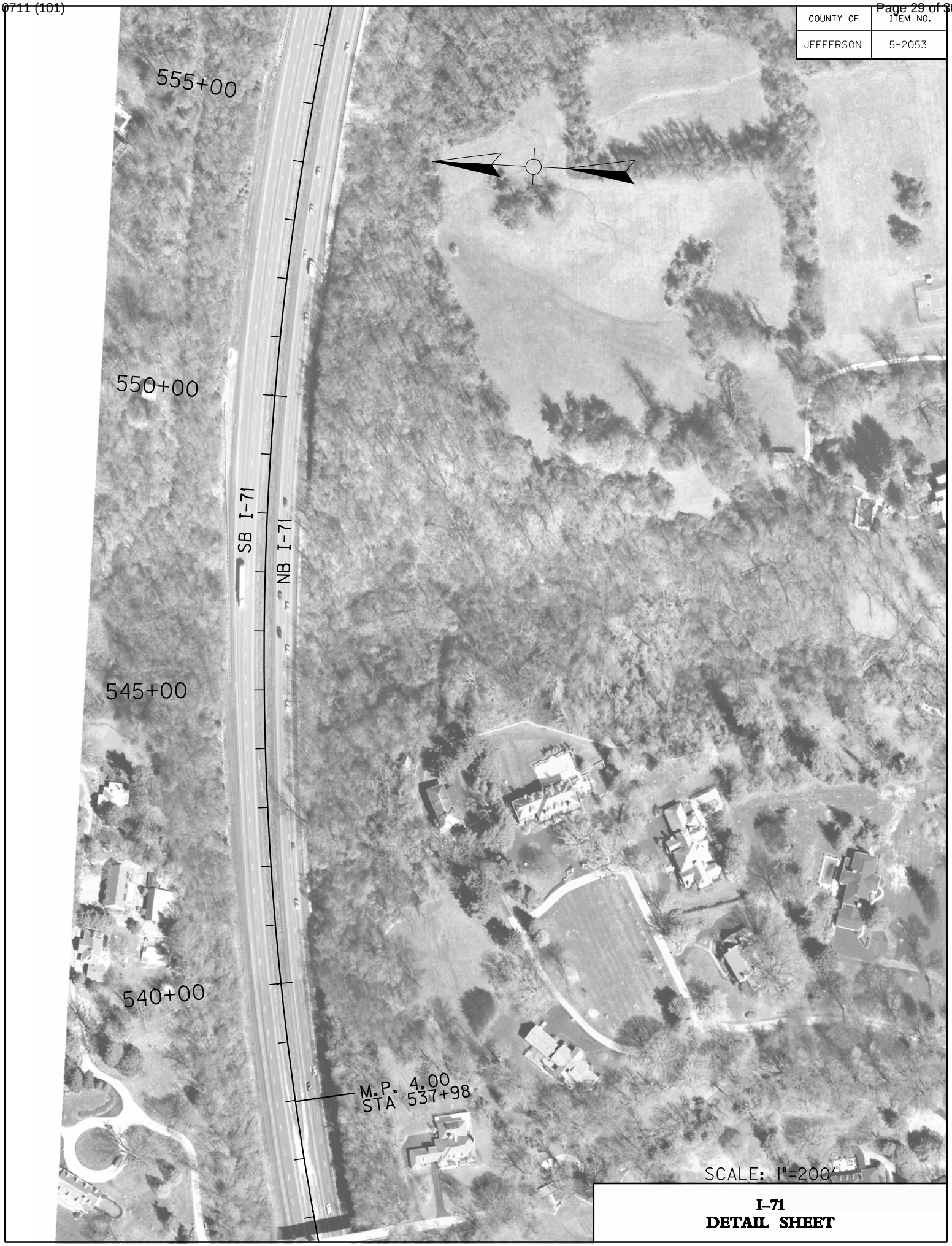

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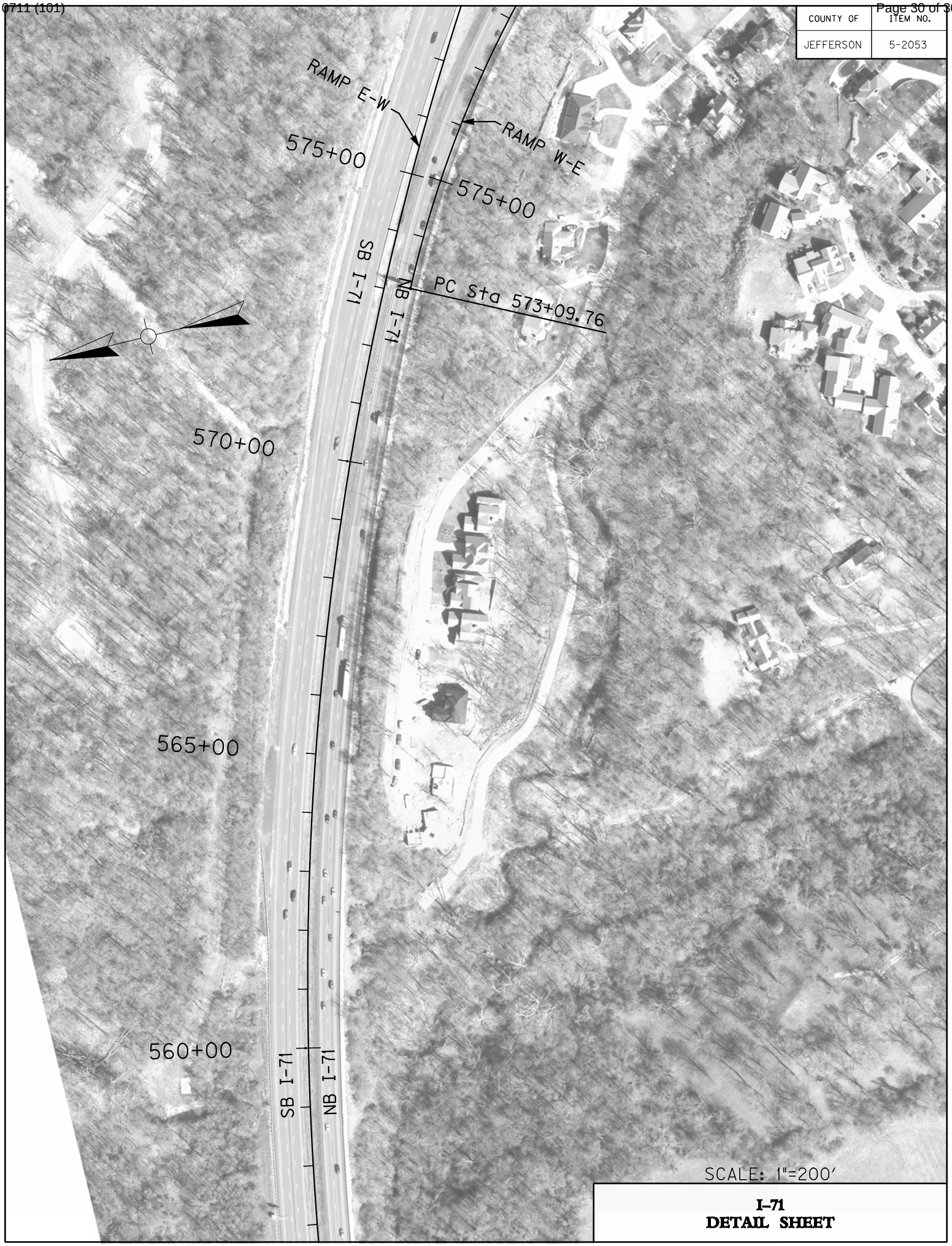

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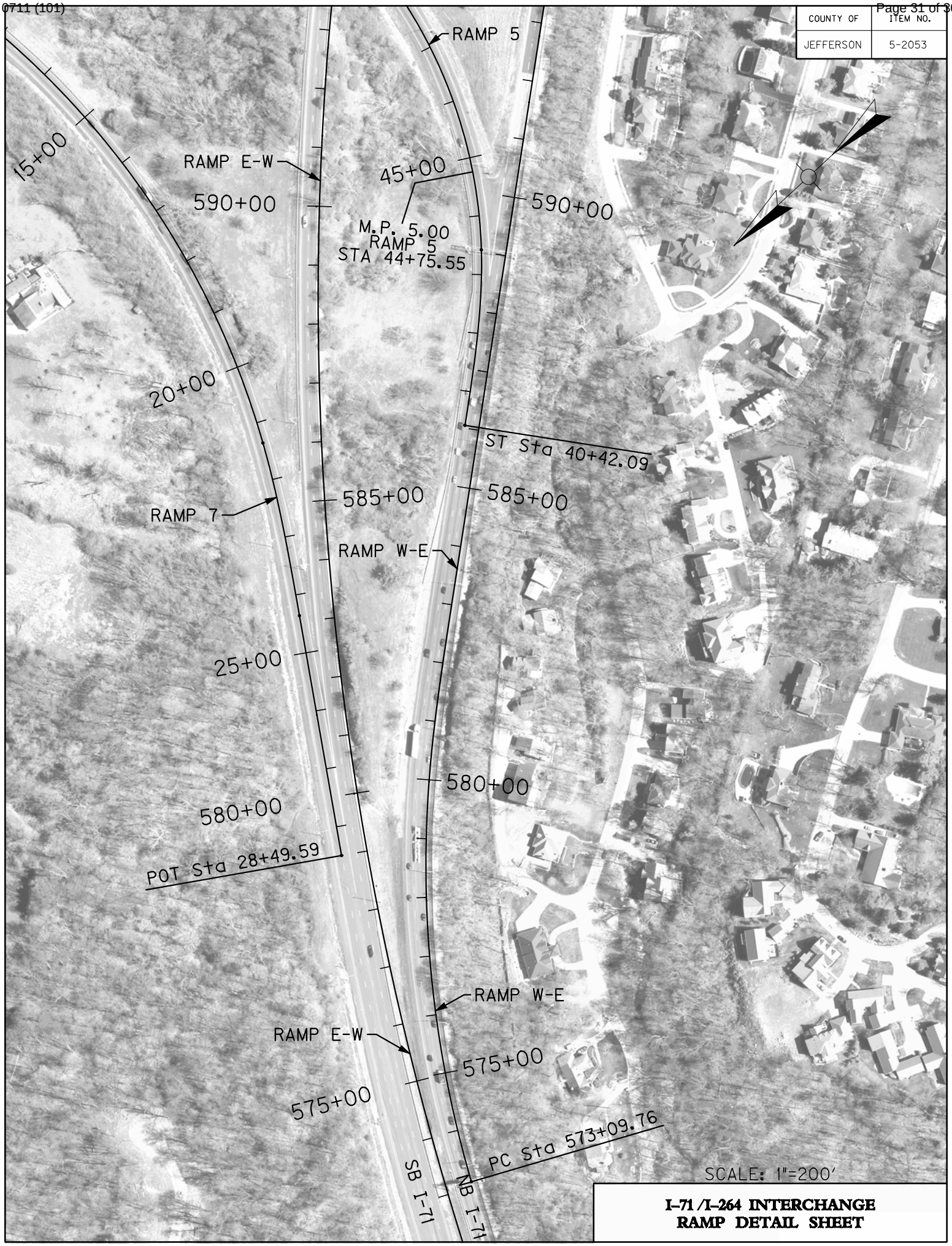

I-71 / I-264 INTERCHANGE
RAMP DETAIL SHEET

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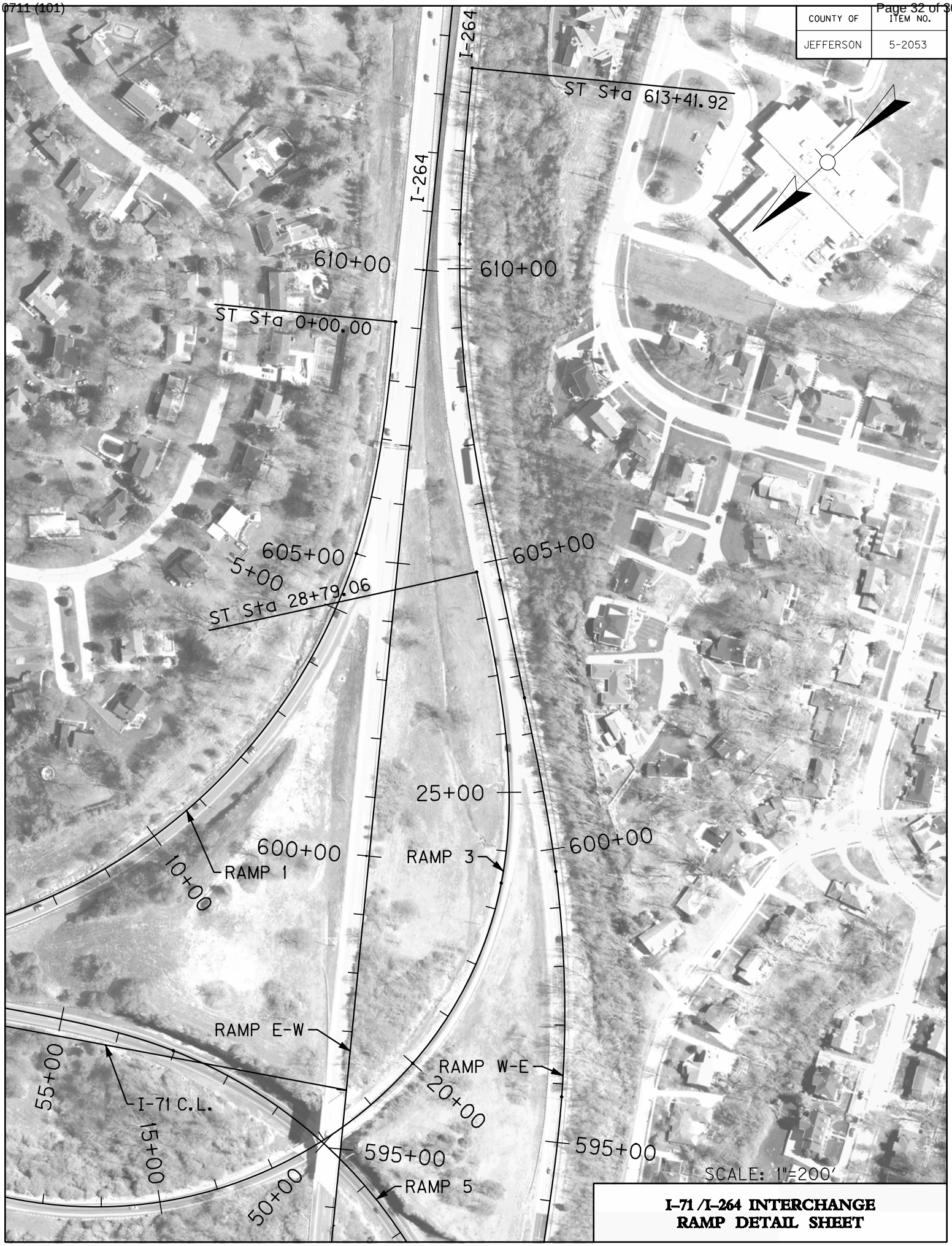

I-71 / I-264 INTERCHANGE
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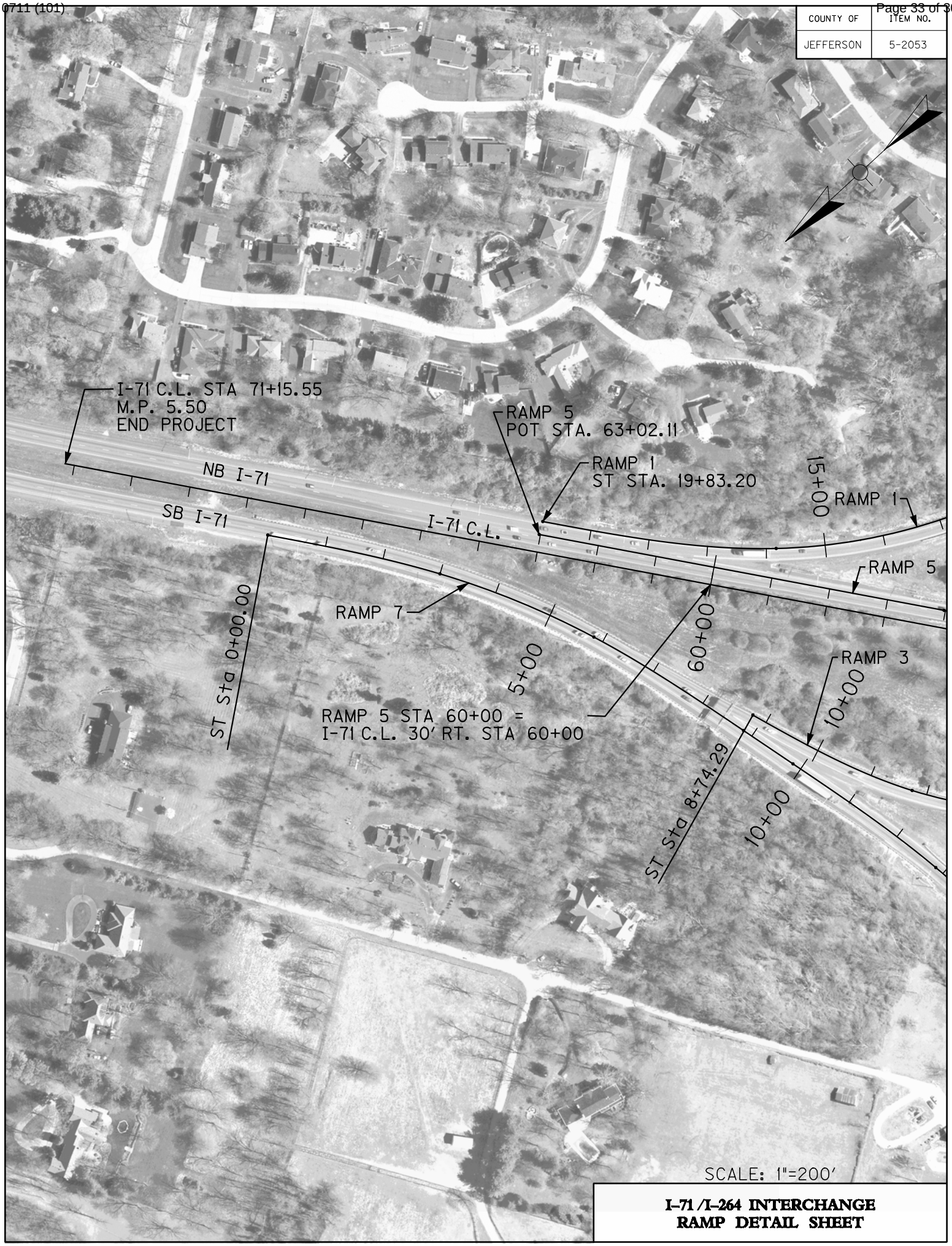
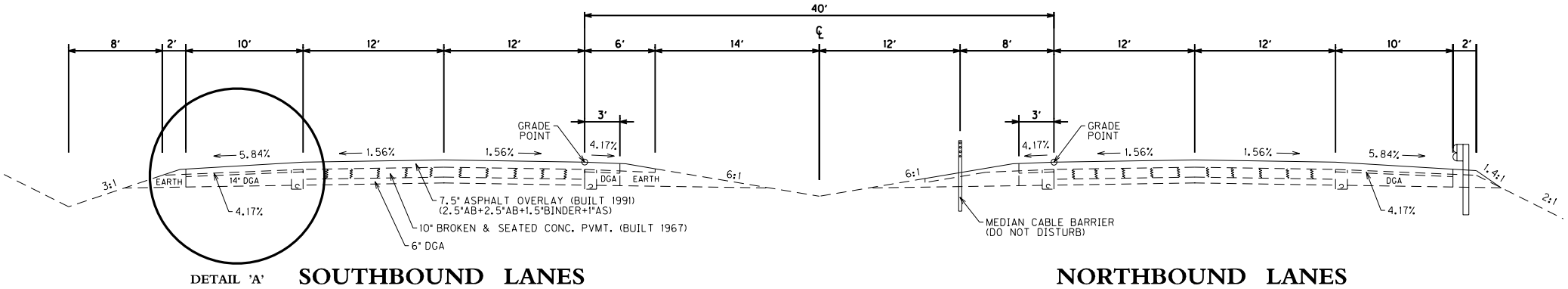


I-71 /I-264 INTERCHANGE
RAMP DETAIL SHEET

I–71
EXISTING TYPICAL SECTIONS

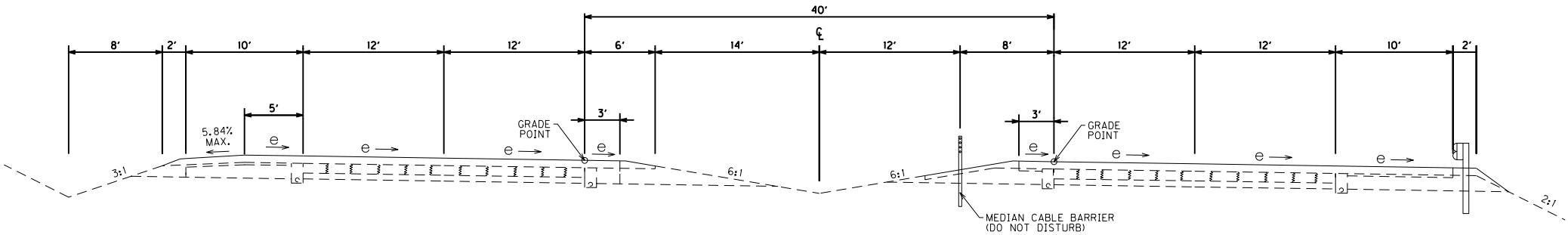


DETAIL 'A'

SOUTHBOUND LANES

NORTHBOUND LANES

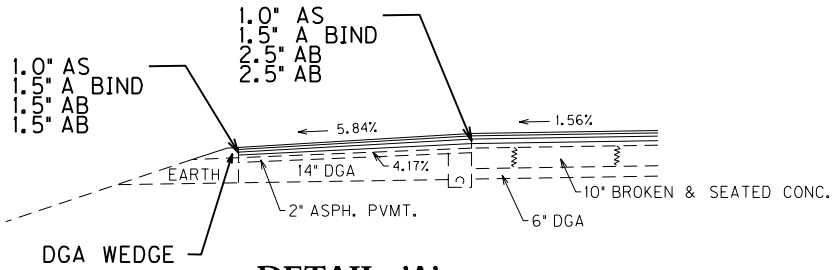
NORMAL SECTION



SOUTHBOUND LANES

NORTHBOUND LANES

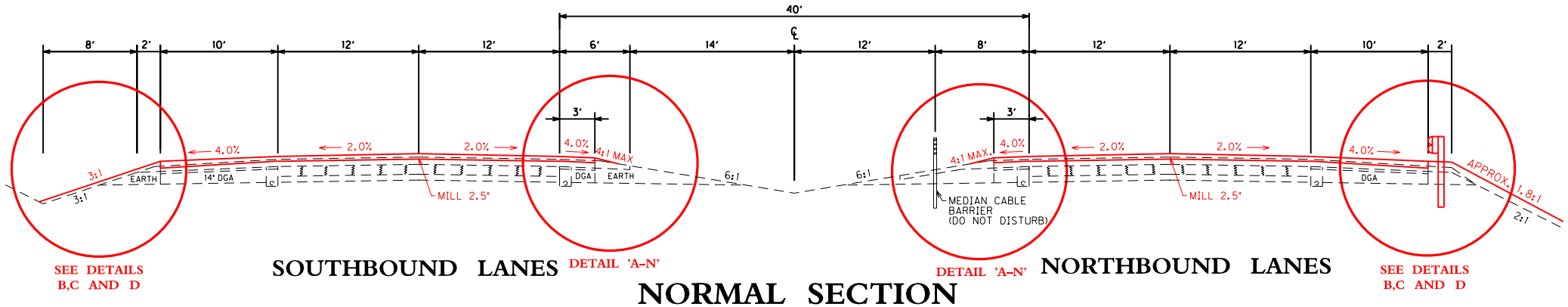
SUPERELEVATED SECTION



DETAIL 'A'

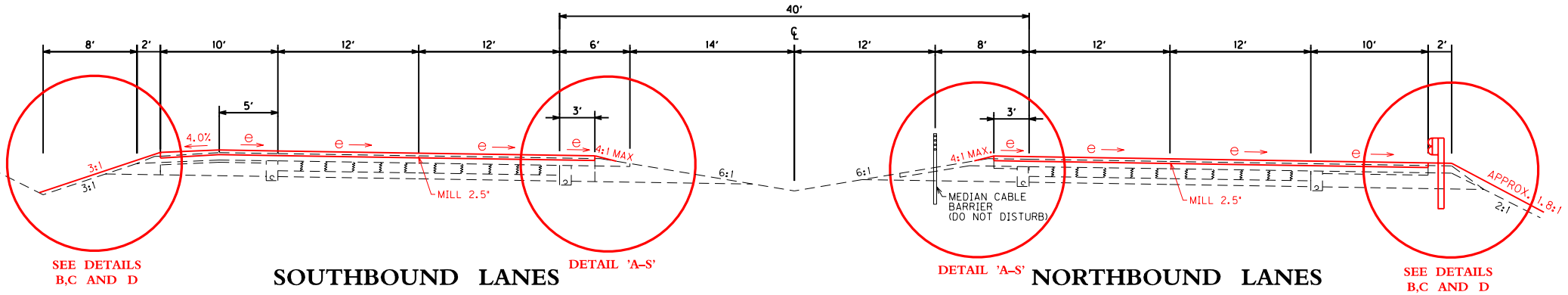
COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-2053	

I–71
PROPOSED TYPICAL SECTIONS
M.P. 0.0 TO M.P. 3.623



SEE DETAILS B,C AND D — SOUTHBOUND LANES — DETAIL 'A–N' — DETAIL 'A–N' — NORTHBOUND LANES — SEE DETAILS B,C AND D

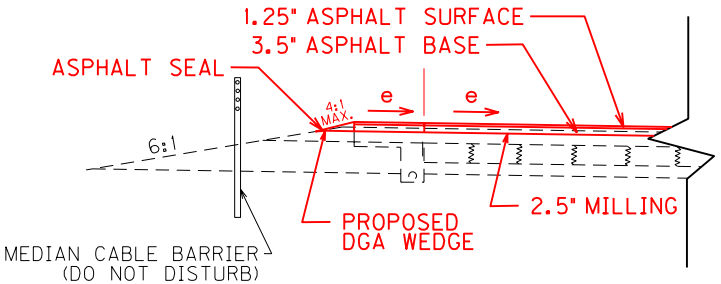
NORMAL SECTION



SEE DETAILS B,C AND D — SOUTHBOUND LANES — DETAIL 'A–S' — DETAIL 'A–S' — NORTHBOUND LANES — SEE DETAILS B,C AND D

SUPERELEVATED SECTION

ASPHALT SEAL
2 APPLICATIONS:
ASPHALT SEAL AGGREGATE - 20 LB/SY
EMULSIFIED ASPHALT RS-2 - 2.4 LB/SY



DETAIL 'A–S'
SUPERELEVATED SECTION

PAVEMENT REHABILITATION

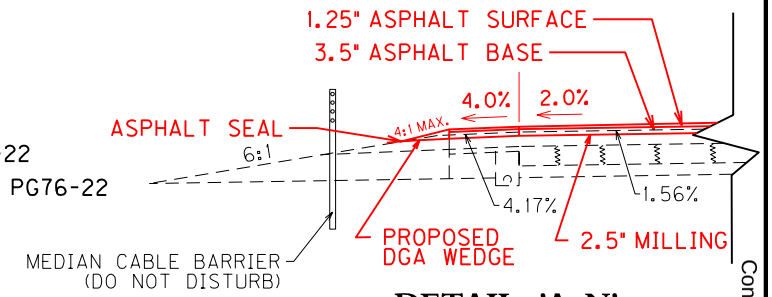
DRIVING LANES & INSIDE SHOULDERS

2.5" ASPHALT MILLING AND TEXTURING
VARIABLE DEPTH DGA WEDGE INSIDE SHOULDER
BASE ----- 3.5" CL4 ASPHALT BASE 1.0D PG76-22
SURFACE -- 1.25" CL4 ASPHALT SURFACE 0.38A PG76-22

OUTSIDE SHOULDER

2.5" ASPHALT MILLING AND TEXTURING
VARIABLE DEPTH DGA WEDGE OUTSIDE SHOULDER
BASE ----- 3.5" CL3 ASPHALT BASE 1.0D PG64-22
SURFACE -- 1.25" CL3 ASPHALT SURFACE 0.38D PG64-22

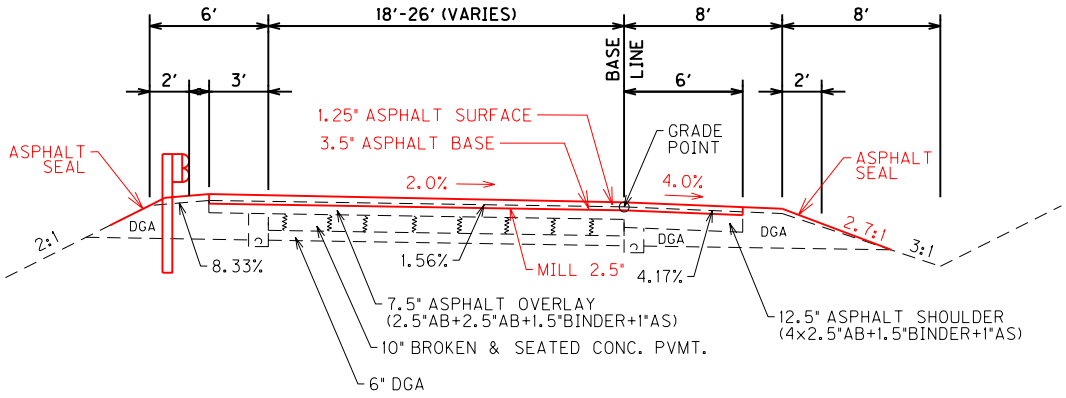
*CROSS SLOPE CORRECTION IS TO BE CONSTRUCTED IN BASE COURSE WITH LEVELING AND WEDGING.



DETAIL 'A–N'
NORMAL SECTION

I-71
TYPICAL SECTIONS

TYPICAL SECTIONS
RAMPS



RAMP NORMAL SECTION
(ZORN AVE.)

DRIVING LANES AND SHOULDERS

2.5" ASPHALT MILLING AND TEXTURING

VARIABLE DEPTH DGA WEDGE OUTSIDE SHOULDER

BASE ----- 3.5" CL3 ASPHALT BASE 1.0D PG64-22

SURFACE -- 1.25" CL3 ASPHALT SURFACE 0.38D PG64-22

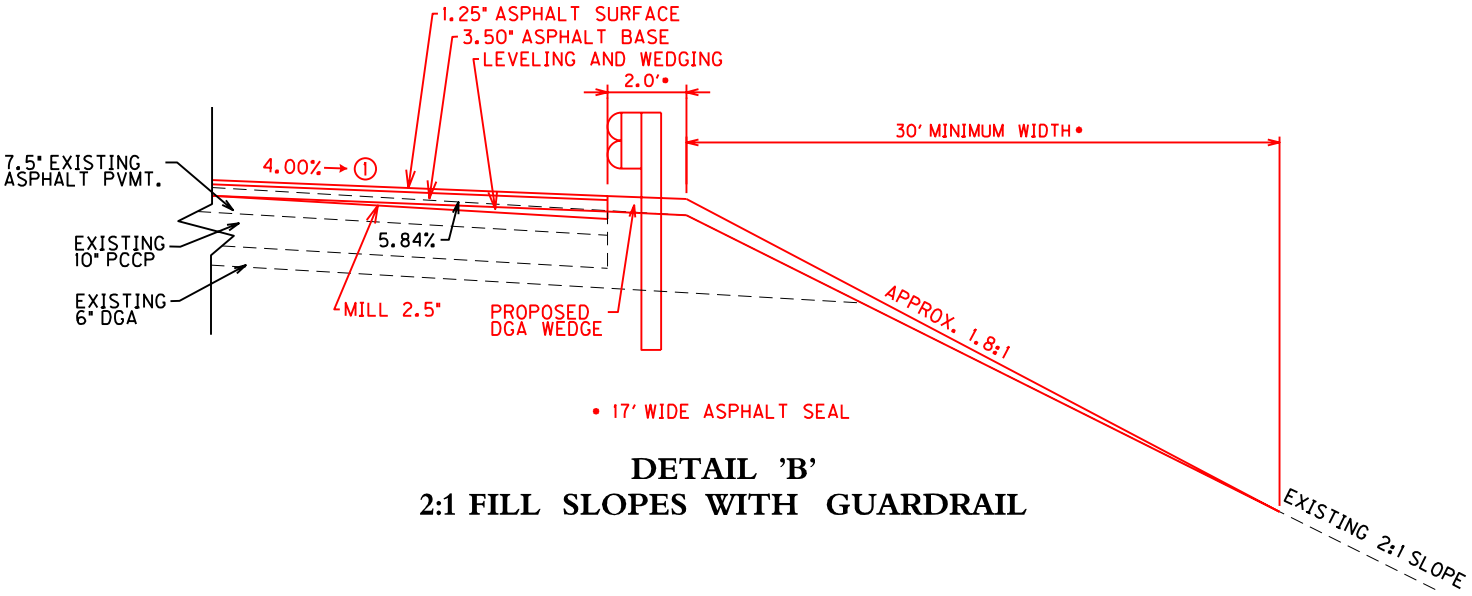
*CROSS SLOPE CORRECTION IS TO BE CONSTRUCTED IN BASE COURSE WITH LEVELING AND WEDGING.

ASPHALT SEAL
2 APPLICATIONS:
ASPHALT SEAL AGGREGATE - 20 LB/SY
EMULSIFIED ASPHALT RS-2 - 2.4 LB/SY

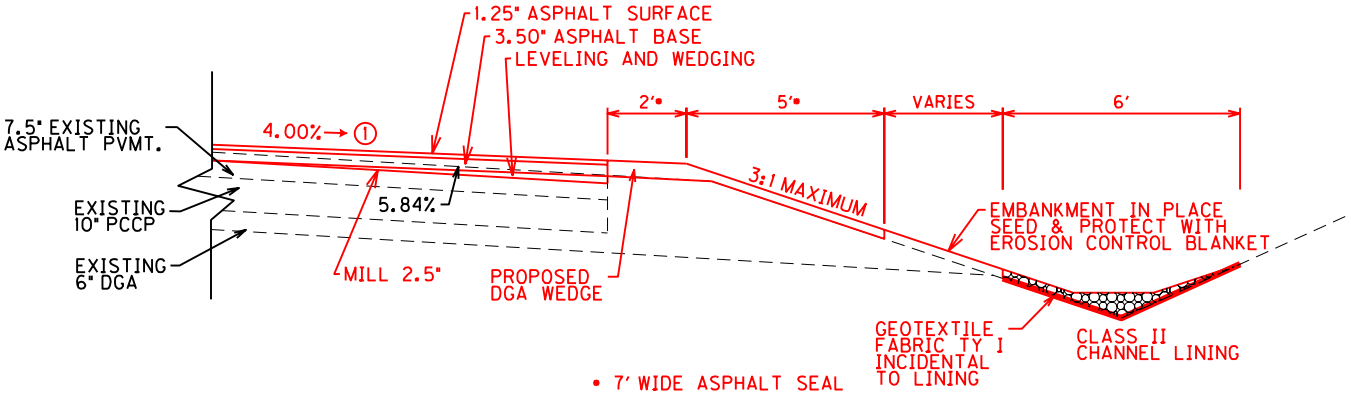
DETAIL SHEET

COUNTY OF	ITEM NO.
JEFFERSON	5-2053

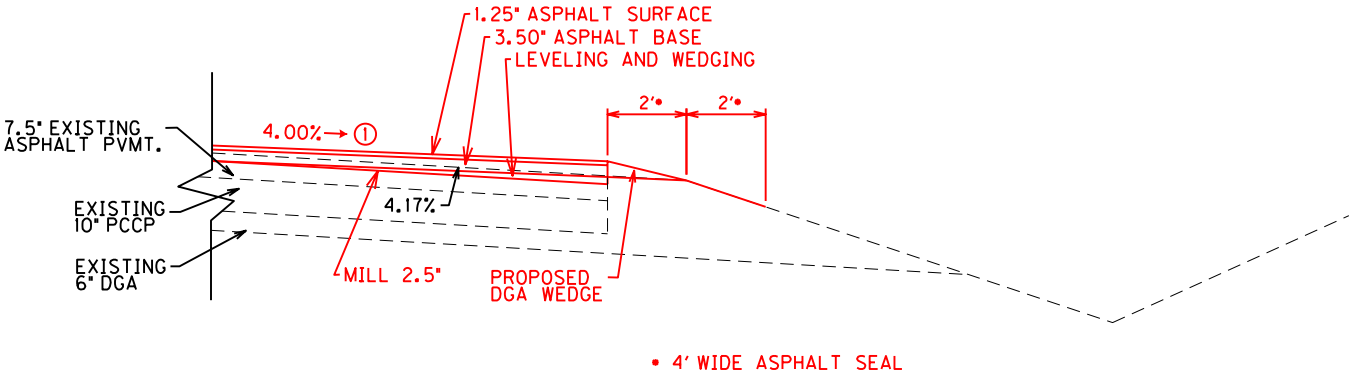
DETAILS



DETAIL 'B'
2:1 FILL SLOPES WITH GUARDRAIL



DETAIL 'C'
EXISTING CUT DITCH FOR REPAIR



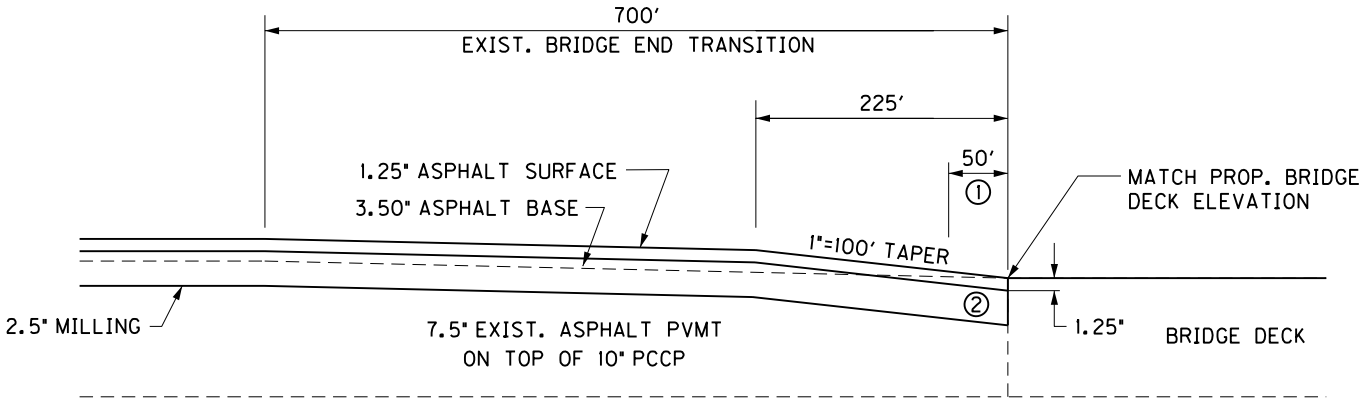
DETAIL 'D'
EXISTING LOCATIONS NOT OTHERWISE SPECIFIED

ASPHALT SEAL
2 APPLICATIONS:
ASPHALT SEAL AGGREGATE - 20 LB/SY
EMULSIFIED ASPHALT RS-2 - 2.4 LB/SY

① 4.00% MAX. SHOULDER CROSS SLOPE ON SUPERELEVATION (12.00% MAX. ROLLOVER).

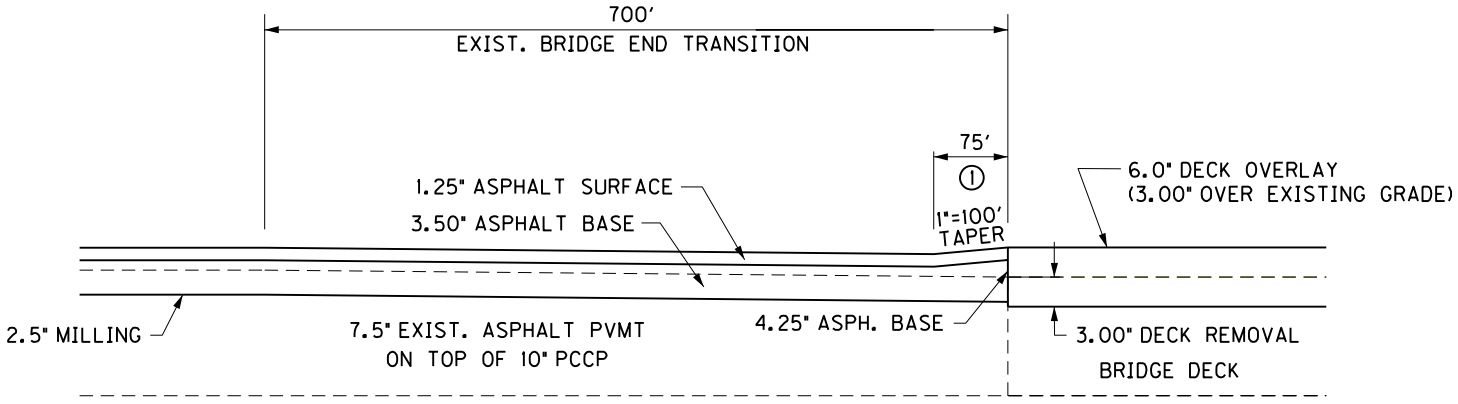
DETAIL SHEET

COUNTY OF	ITEM NO.
JEFFERSON	5-2053



TAPERING OF OVERLAYS AT MOST BRIDGE ENDS AND PROJECT END ③

① TRANSITION 2.0% ROADWAY CROSS SLOPE TO MATCH EXIST. BRIDGE DECK CROSS SLOPE
② MILL EXISTING PAVEMENT TO RECEIVE PROPOSED OVERLAY
③ THIS DETAIL ALSO APPLIES TO THE TIE-DOWN AT THE ZORN AVENUE RAMPS, EXCEPT THE VERTICAL TAPER RATE WILL BE 1" PER 50'.

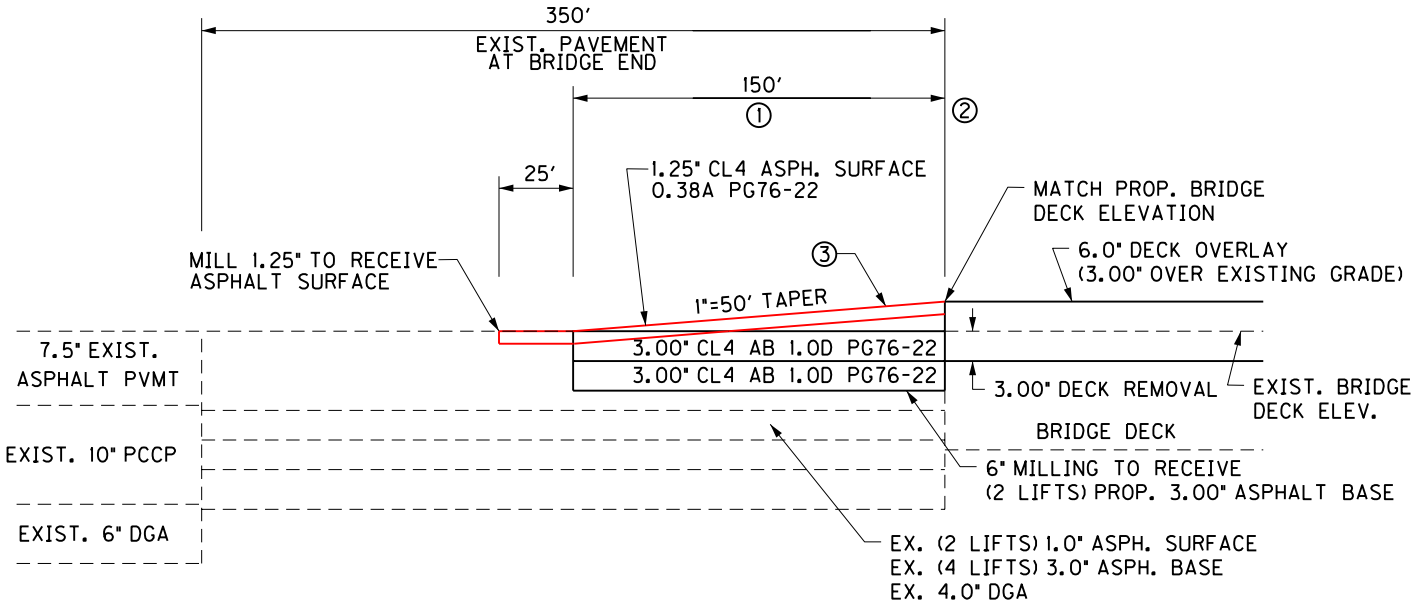


TAPERING AT PROPOSED BRIDGE OVERLAYS

① TRANSITION 2.0% ROADWAY CROSS SLOPE TO MATCH EXIST. BRIDGE DECK CROSS SLOPE

- NORTH END OF BOTH BRIDGES OVER FRANKFORT AVE.
- BOTH BRIDGES OVER BEARGRASS CREEK
- NORTHBOUND BRIDGE OVER EDITH ROAD

COUNTY OF	ITEM NO.
JEFFERSON	5-2053



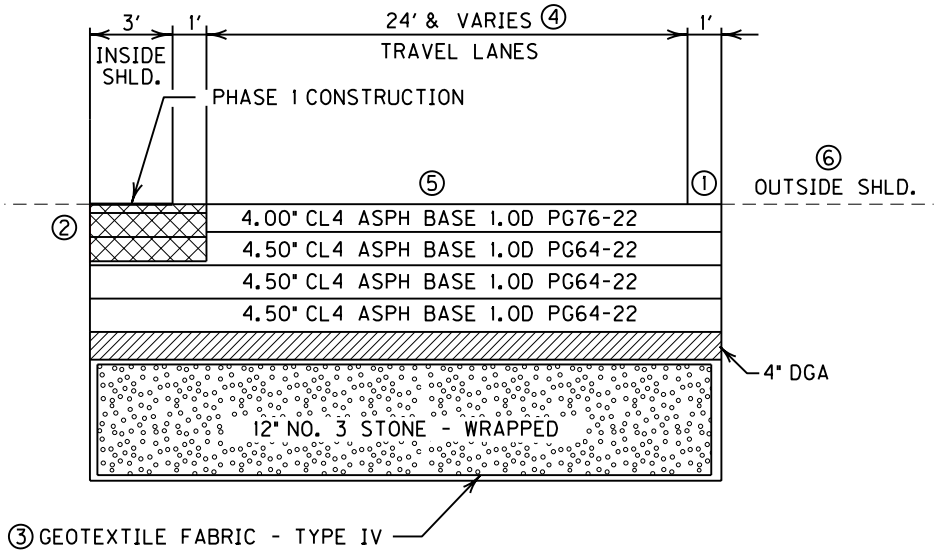
PAVEMENT REMOVAL AND REPLACEMENT AT FRANKFORT AVE. BRIDGE ENDS (SOUTH END OF NORTHBOUND AND SOUTHBOUND BRIDGES AT M.P. 0.02 STA. 327+68)

① MILL 6.0" EXISTING PAVEMENT FOR A LENGTH OF 150 FT AND PLACE 2 LIFTS OF 3.0" CL4 1.0D PG76-22 ASPHALT BASE.

② TRANSITION 2.0% ROADWAY CROSS SLOPE TO MATCH EXIST. BRIDGE DECK CROSS SLOPE

③ LEVELING AND WEDGING PG76-22. MILL 1.25" OF THE LEVELING AND WEDGING TO RECEIVE 1.25" ASPHALT SURFACE.

COUNTY OF	ITEM NO.
JEFFERSON	5-2053



① CARRY THE MAINLINE BASE COURSES INTO THE OUTSIDE SHOULDER 1 FOOT.

② 3 FEET OF THE INSIDE SHOULDER & 1 FOOT OF THE INSIDE LANE WILL BE INLAID WITH (2)-3 1/2" LIFTS OF CL3 ASPH BASE 1.0D PG64-22 AND 1.25" CL3 ASPH. SURF. 0.38D PG64-22, 350' FROM THE END OF THE BRIDGES PRIOR TO CONSTRUCTION OF THE OUTSIDE LANE AND SHOULDER DIGOUT FOR MOT.

③ GEOTEXTILE FABRIC TO BE WRAPPED ON ALL SIDES OF NO. 3 STONE.

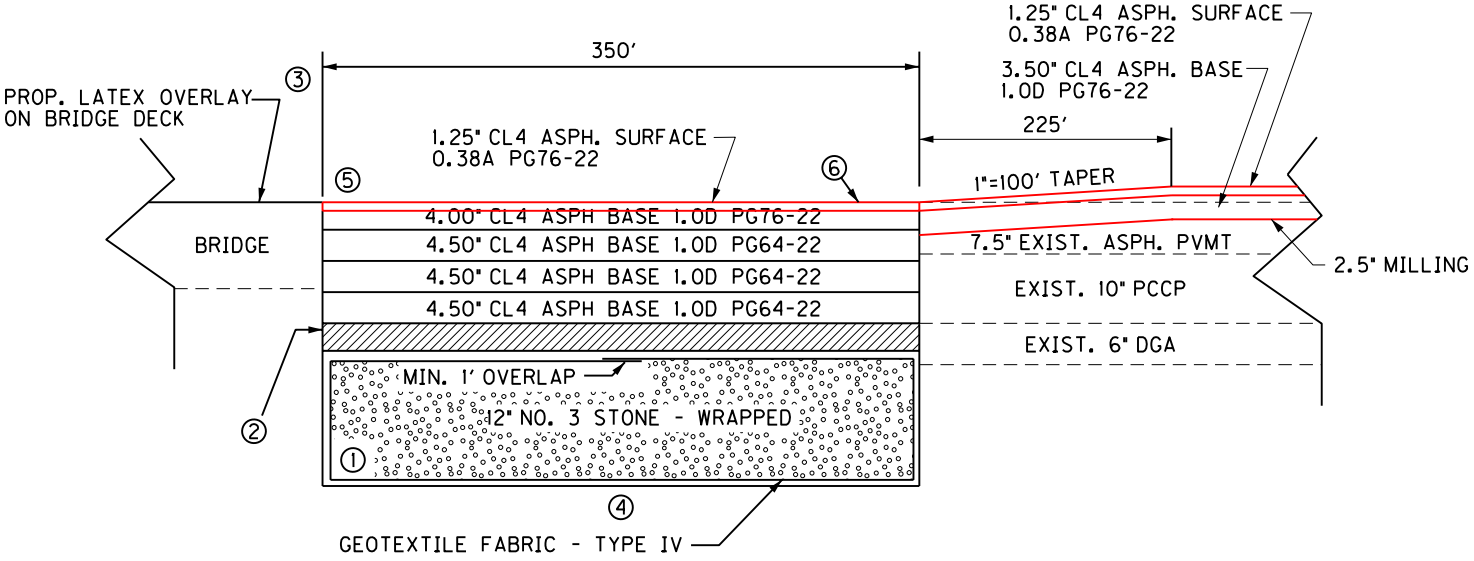
④ TRAVEL LANE WIDTH VARIES AT RAMPS

⑤ TOP BASE COURSE WILL MATCH EXISTING SURFACE ELEVATION OF THE BRIDGE.

⑥ OUTSIDE SHOULDER TO RECEIVE 1.25" CL3 ASPH SURF. 0.38D PG64-22 OVERLAY.

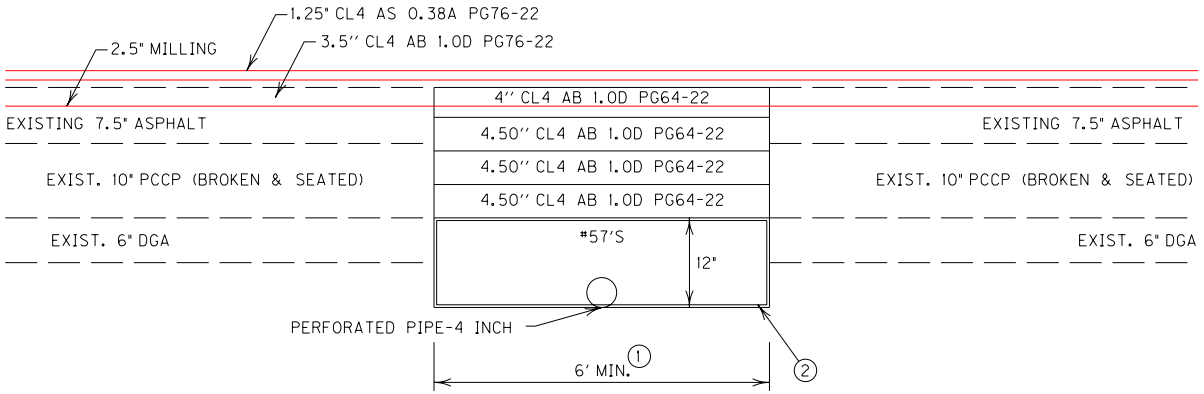
BRIDGE END DIGOUT TYPICAL SECTION
MOCKINGBIRD VALLEY RD.
(NORTH ENDS OF NB I–71 AND SB I–71 BRIDGES AT M.P. 2.00 STA. 432 + 38)

COUNTY OF	ITEM NO.
JEFFERSON	5-2053



BRIDGE END DIGOUT WITH PAVEMENT TAPER
MOCKINGBIRD VALLEY RD.
(NORTH ENDS OF NB I–71 AND SB I–71 BRIDGES AT M.P. 2.00 STA. 432+38)

DETAIL SHEET



MAJOR PAVEMENT REPAIR DETAIL

(1) APPROXIMATE LOCATIONS ARE NOTED IN THE PROPOSAL. SPECIFIC LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. BEFORE REMOVAL OF THE EXISTING MATERIAL, SAW CUTS SHALL BE MADE ON EACH SIDE OF THE AREA TO BE REMOVED. THIS OPERATION SHALL BE PERFORMED ON THE OUTSIDE SHOULDER AND DRIVING LANES WHERE DIRECTED.

AFTER ALL EXISTING MATERIAL HAS BEEN REMOVED THEN EACH COURSE OF BACKFILL MATERIAL SHALL BE COMPACTED TO THE PROPER DENSITY FOR THE MATERIAL BEING PLACED AS REQUIRED IN THE STANDARD SPECIFICATIONS. THE 4" PERFORATED PIPE SHALL NOT BE WRAPPED AND ONLY COARSE AGGREGATE SHALL BE USED.

THE CONTRACT UNIT BID PRICE PER SQ YD FOR MAJOR PAVEMENT REPAIR SHALL INCLUDE ROADWAY EXCAVATION, REMOVING PAVEMENT, SAW CUTTING, DGA, PERFORATED PIPE-4 INCH, CRUSHED AGGREGATE SIZE NO. 57, ASPHALT BASE, FABRIC-GEOTEXTILE TYPE IV AND ALL INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION AS DETAILED.

PLACE THE PERFORATED PIPE AT THE LOW POINT OF THE DIGOUT.

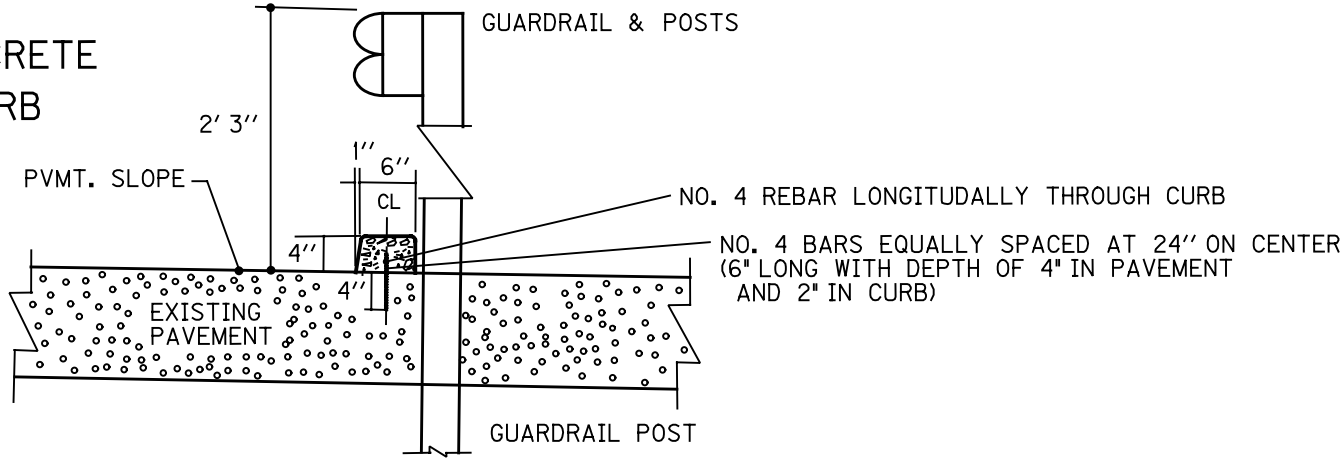
THE NON-PERFORATED OUTLET PIPE AND HEADWALL WILL BE PAID FOR SEPARATELY. ANY EXCAVATION OR BACKFILL REQUIRED WILL BE INCIDENTAL TO THE LENGTH OF NON-PERFORATED PIPE.

MAINTAIN EXISTING EDGE DRAIN (TIE TO PROPOSED NEW OUTLET), INCIDENTAL TO CONSTRUCTION.

(2) FABRIC-GEOTEXTILE TYPE IV REQUIRED AROUND COARSE AGGREGATE. OVERLAP FABRIC ONE FOOT.

CROSS SECTION VIEW

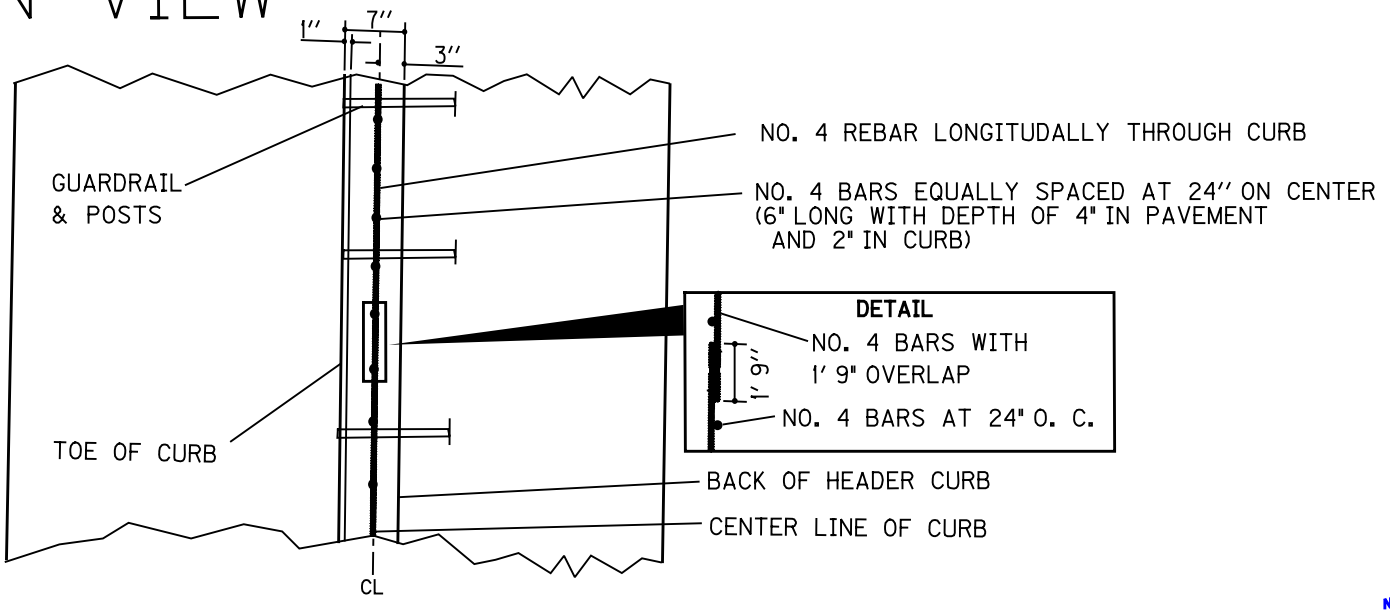
SPECIAL CONCRETE
HEADER CURB



NOT TO SCALE

PLAN VIEW

SPECIAL CONCRETE
HEADER CURB



NOT TO SCALE

I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
ITEM NO. 5-2053
GENERAL SUMMARY

ITEM NUMBER	ITEM		QUANTITY	UNIT
1	DGA BASE		13611	TON
69	CRUSHED AGGREGATE SIZE NO. 3		2200	TON
78	CRUSHED AGGREGATE SIZE NO. 2	(1)	243	TON
100	ASPHALT SEAL AGGREGATE		1891	TON
194	LEVELING AND WEDGING PG76-22		102	TON
214	CL3 ASPH BASE 1.0D PG64-22		15949	TON
217	CL4 ASPH BASE 1.0D PG64-22		2368	TON
219	CL4 ASPH BASE 1.0D PG76-22		22565	TON
339	CL3 ASPH SURF 0.38D PG64-22		4402	TON
342	CL4 ASPH SURF 0.38A PG76-22		7388	TON
291	EMULSIFIED ASPHALT RS-2		227	TON
1010	NON-PERFORATED PIPE 4 INCH		77	LIN FT
1020	PERF PIPE HEADWALL TY 1-4 IN		9	EACH
1458	CURB BOX INLET TYPE A - T	(2)	30	EACH
1634	CAP CURB BOX INLET		1	EACH
1690	FLUME INLET TYPE 1	(17)	7	EACH
1691	FLUME INLET TYPE 2	(17)	14	EACH
1791	ADJUST MANHOLE FRAME TO GRADE		1	EACH
1890	ISLAND HEADER CURB TYPE 1	(3)	1490	LIN FT
1904	REMOVE CURB		9265	LIN FT
1982	DELINEATOR FOR GUARDRAIL - WHITE		431	EACH
1983	DELINEATOR FOR GUARDRAIL - YELLOW		54	EACH
1984	DELINEATOR FOR BARRIER - WHITE		58	EACH
1985	DELINEATOR FOR BARRIER - YELLOW		58	EACH
2014	BARRICADE TYPE III	(4)	10	EACH
2200	ROADWAY EXCAVATION	(11)	2614	CU YD
2220	FLOWABLE FILL		15	CU YD
2230	EMBANKMENT IN PLACE	(14)	630	CU YD
2237	DITCHING	(5)	69352	LIN FT
2351	GUARDRAIL-STEEL W BEAM-S FACE	(6) (18)	42900.0	LIN FT
2352	GUARDRAIL-STEEL W BEAM-D FACE		1787.5	LIN FT
2363	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A		33	EACH
2365	CRASH CUSHION TYPE IX-A		13	EACH
2367	GUARDRAIL END TREATMENT TYPE 1	(16)	1	EACH
2369	GUARDRAIL END TREATMENT TYPE 2A		19	EACH
2373	GUARDRAIL END TREATMENT TYPE 3		2	EACH
2381	REMOVE GUARDRAIL		44825	LIN FT
2387	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1		26	EACH
2391	GUARDRAIL END TREATMENT TYPE 4A		1	EACH
2460	REMOVE TREES OR STUMPS		2	EACH
2483	CHANNEL LINING CLASS II	(7) (9)	1081	TON
2484	CHANNEL LINING CLASS III	(9)	368	TON
2562	SIGNS	(8)	1500	SQ FT
2565	OBJECT MARKER TYPE 2		40	EACH
2568	MOBILIZATION		1	LUMP SUM
2569	DEMOBILIZATION		1	LUMP SUM
2599	GEOTEXTILE FABRIC TYPE IV	(10)	6559	SQ YD
2650	MAINTAIN AND CONTROL TRAFFIC		1	LUMP SUM
2671	PORTABLE CHANGEABLE MESSAGE SIGN	(4)	4	EACH
2676	MOBILIZATION FOR MILLING & TEXTURING		1	LUMP SUM
2677	ASPHALT PAVE MILLING & TEXTURING		25991	TON
2775	ARROW PANEL	(4)	2	EACH
2898	RELOCATE CRASH CUSHION	(13)	7	EACH
8905	CRASH CUSHION TY VI CLASS CT		6	EACH
3171	CONCRETE BARRIER WALL TYPE 9T (TEMPORARY)		3690	LIN FT
2003	RELOCATE TEMP CONC BARRIER		3690	LIN FT

I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
ITEM NO. 5-2053
GENERAL SUMMARY

ITEM NUMBER	ITEM		QUANTITY	UNIT
3262	CLEAN PIPE STRUCTURE		2	EACH
3269	TRIM & REMOVE TREES & BRUSH		160	LIN FT
4700	POLE 30' MTG HT		1	EACH
4701	POLE 40' MTG HT		3	EACH
4720	BRACKET 4'		3	EACH
4725	BRACKET 15'		1	EACH
4750	TRANSFORMER BASE		4	EACH
4770	HPS LUMINAIRE		4	EACH
4780	FUSED CONNECTOR KIT		16	EACH
4793	CONDUIT - 1 1/4 INCH		1400	LIN FT
4820	TRENCHING AND BACKFILLING		1500	LIN FT
4832	WIRE - NO. 12		400	LIN FT
4833	WIRE - NO. 8		3900	LIN FT
4834	WIRE NO. 6		2200	LIN FT
4940	REMOVE LIGHTING		1	LUMP SUM
5950	EROSION CONTROL BLANKET	(12)	5228	SQ YD
6417	FLEXIBLE DELINEATOR POST-W		261	EACH
6418	FLEXIBLE DELINEATOR POST-Y		67	EACH
6511	PAVEMENT STRIPING-TEMP PAINT -6 INCH		97597	LIN FT
6568	PAVE MARK-THERMO STOP BAR-24 IN	(15)	42	LIN FT
6592	PAVEMENT MARKER TYPE V- B W/R		565	EACH
6593	PAVEMENT MARKER TYPE V- B Y/R		93	EACH
6600	REMOVE PAVEMENT MARKER TYPE V		100	EACH
10020NS	FUEL ADJUSTMENT		77224	DOLLAR
10030NS	ASPHALT ADJUSTMENT		127140	DOLLAR
20314ED	MILLED RUMBLE STRIPS		71644	LIN FT
20391NS835	JUNCTION BOX TYPE A	(16)	1	EACH
20392NS835	JUNCTION BOX TYPE C	(16)	1	EACH
20411ED	LAW ENFORCEMENT OFFICER		2000	HOUR
20465EC	CLEAN CULVERT		1	LUMP SUM
23143ED	K.P.D.E.S. PERMIT AND TEMPORARY EROSION CONTROL		1	LUMP SUM
23237EN10W	WATERBLAST STRIPE REMOVAL		97597	LIN FT
24189ER	DURABLE WATERBORNE MARKING-6 IN W		55015	LIN FT
24190ER	DURABLE WATERBORNE MARKING-6 IN Y		42582	LIN FT
24191ER	DURABLE WATERBORNE MARKING-12 IN		2440	LIN FT
20757ED	PAVEMENT REPAIR (MAJOR)		237.3	SQ YD
	SPECIAL CONCRETE HEADER CURB		8790	LIN FT

(1) To be used to repair washouts behind guardrail and around perforated pipe headwalls (Includes 11 tons carried over from Perforated Pipe Summary)

(2) Includes the removal and replacement of the top phase of curb box inlets only

(3) Includes 1015 ft at curb box inlets on downstream side of bridges and 475 to reconstruct raised islands at the end of Zorn Avenue ramps

(4) The quantity for these items includes the maximum in place at any one time. Any relocation required will not be paid for directly but will be considered incidental.

(5) Ditching is intended for repair of the eroded areas in the median, pipe outlet ditches, and cleaning of drainage structures Any embankment required is incidental to ditching.

(6) Guardrail must utilize 7 foot long posts

(7) Includes 1058 tons to be used for slope correction on 3:1 ditch slopes (see Detail 'C' on typical sections). Any excavatior required to place the Channel Lining Class II or Class III is incidental to the lining.

I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
ITEM NO. 5-2053
GENERAL SUMMARY

ITEM NUMBER	ITEM	QUANTITY	UNIT

(8) Intended for temporary traffic control signs and includes initial placement only. Any relocation of these temporary signs required will not be paid for directly but will be considered incidental.

(9) Geotextile Fabric Type 1 to be placed under Aggregate Channel Lining is considered incidental to the lining

(10) Includes 6552 sq.yd. to wrap No. 3 Stone on bridge end digouts and 7 sq.yd. for sinkhole treatment

(11) For dig outs at bridge ends indicated in the typical sections

(12) To be used for slope correction on 3:1 ditch slopes (see Detail 'C' on typical sections) and for other areas as directed by the Engineer. Seeding and fertilizing are considered incidental to the Erosion Control Blanket

(13) Includes one permanent crash cushion to be reset

(14) Soil embankment to be used for slope correction on 3:1 ditch slopes (see Detail 'C' on typical sections)

(15) To be placed at end of exit ramps on Zorn Avenue

(16) Included for bidding purposes only

(17) Removal of existing concrete flumes is to be incidental to the construction of the new flume inlets

(18) A length of 25 feet of double ply guardrail is to be installed at every proposed flume on the project. The double ply rail is considered incidental to Guardrail-Steel W Beam-S Face .

NOTE: Quantities from all summaries have been carried over and included in this General Summary

I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
ITEM NO. 5-2053

PAVING AREAS MAINLINE

ITEM	TOTAL
INSIDE SHOULDER AND DRIVING LANES	S.Y.
1.25" CL4 ASPH SURF 0.38A PG76.22	107466
3.5" CL4 ASPH BASE 1.0D PG76-22	103344
OUTSIDE SHOULDER	
1.25" CL3 ASPH SURF 0.38D PG64-22	39802
3.5" CL3 ASPH BASE 1.0D PG64-22	39802
LEVELING AND WEDGING - DRIVING LANES	
(CROSS SLOPE CORRECTION, INCLUDED WITH BASE LIFT)	
CL4 ASPH BASE 1.0D PG76-22 (0.3" AVG. DEPTH)	91403
LEVELING AND WEDGING - OUTSIDE SHOULDER	
(CROSS SLOPE CORRECTION, INCLUDED WITH BASE LIFT)	
CL3 ASPH BASE 1.0D PG64-22 (1.1" AVG. DEPTH)	39802
LEVELING & WEDGING AT BRIDGE OVERLAYS (8 BRIDGE ENDS)	
CL4 ASPH BASE 1.0D PG76-22 (0.4" AVG. DEPTH)	2467
ASPHALT PAVE MILLING & TEXTURING	
PROJECT LIMITS (2.5")	168032
ADDITIONAL MILLING TO MATCH BRIDGE DECK ELEVATIONS	
(20 BRIDGE APPROACHES - 1.2" AVG. DEPTH)	18500
ADDITIONAL MILLING TO MATCH ZORN AVE. AT END OF RAMPS	
(8 RAMP TERMINALS - 1.2" AVG. DEPTH)	3850
PROJECT SOUTH TERMINUS (1.25" DEPTH)	1439

UNPAVED SHOULDER AREAS - MAINLINE AND RAMPS

	C.Y.
DGA WEDGE (C.Y.)	6221
	S.Y.
EMULSIFIED ASPHALT RS-2	94544
ASPHALT SEAL AGGREGATE	94544

PAVING AREAS RAMPS

ITEM	TOTAL
ZORN AVE. - RAMP 1	S.Y.
1.25" CL3 ASPH SURF 0.38D PG64-22	3899
3.5" CL3 ASPH BASE 1.0D PG64-22	3899
ZORN AVE. - RAMP 3	
1.25" CL3 ASPH SURF 0.38D PG64-22	5374
4.0" CL3 ASPH BASE 1.0D PG64-22	5374
(0.5" AVG. DEPTH CROSS SLOPE CORRECTION INCLUDED WITH BASE LIFT)	
ZORN AVE. - RAMP 5	
1.25" CL3 ASPH SURF 0.38D PG64-22	5343
4.4" CL3 ASPH BASE 1.0D PG64-22	5343
(0.9" AVG. DEPTH CROSS SLOPE CORRECTION INCLUDED WITH BASE LIFT)	
ZORN AVE. - RAMP 7	
1.25" CL3 ASPH SURF 0.38D PG64-22	6147
3.9" CL3 ASPH BASE 1.0D PG64-22	6147
(0.4" AVG. DEPTH CROSS SLOPE CORRECTION INCLUDED WITH BASE LIFT)	

PAVING AREAS - BRIDGE APPROACH REPAIRS

INSIDE SHOULDERS AT APPROACH AND DEPARTURE BRIDGE ENDS	
(26 SHOULDER SECTIONS, 4' WIDE BY 300' LONG)	
1.25" CL3 ASPH SURF 0.38D PG64-22	3467
3.5" CL3 ASPH BASE 1.0D PG64-22 (TWO LIFTS)	3467
MILLING INSIDE SHOULDER (4.75" DEPTH)	3467
REMOVE AND REPLACE PVMT. AT FRANKFORT AVE	
SOUTHEAST BRIDGE ENDS ON BOTH NB & SB BRIDGES	
6" ASPH. PAVE. MILLING & TEXTURING	1233
3.0" CL4 ASPH BASE 1.0D PG76-22 (TWO LIFTS)	1233
LEVELING & WEDGING PG76-22 (1.5" AVG. DEPTH)	1233
DIGOUT AND REPLACE PVMT. AT MOCKINGBIRD VALLEY RD	
NORTHEAST BRIDGE ENDS ON BOTH NB & SB BRIDGES	
4.0" CL4 ASPH BASE 1.0D PG76-22 (ONE LIFT)	3189
4.5" CL4 ASPH BASE 1.0D PG64-22 (THREE LIFTS)	3189
4" DGA	3189
12" CRUSHED AGGREGATE SIZE NO. 3	3189

I-71

JEFFERSON COUNTY

PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55

ITEM NO. 5-2053

PAVING SUMMARY

CODE	ITEM		UNITS	TOTAL
342	CL4 ASPH SURF 0.38A PG76-22		TON	7388
339	CL3 ASPH SURF 0.38D PG64-22		TON	4402
219	CL4 ASPH BASE 1.0D PG76-22		TON	22565
217	CL4 ASPH BASE 1.0D PG64-22		TON	2368
214	CL3 ASPH BASE 1.0D PG64-22		TON	15949
194	LEVELING & WEDGING PG76-22		TON	102
2677	ASPHALT PAVE MILLING & TEXTURING		TON	25991
1	DGA BASE		TON	13611
69	CRUSHED AGGREGATE SIZE NO. 3		TON	2200
291	EMULSIFIED ASPHALT RS-2	(1)	TON	227
100	ASPHALT SEAL AGGREGATE	(2)	TON	1891
20314ED	MILLED RUMBLE STRIPS		LIN. FT.	71644

(1) TWO APPLICATIONS AT 2.4 LB/SY
(2) TWO APPLICATIONS AT 20 LB/SY

QUANTITIES HAVE BEEN CARRIED OVER AND INCLUDED IN THE GENERAL SUMMARY

I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
ITEM NO. 5-2053
NORTHBOUND GUARDRAIL SUMMARY

LOCATION	SIDE	FROM MILEPOST	TO MILEPOST	GUARDRAIL-STEEL W BEAM-S FACE (LF) (1)	GUARDRAIL-STEEL W BEAM-D FACE (LF)	GUARDRAIL END TREATMENT TYPE 4A (EACH)	GUARDRAIL END TREATMENT TYPE 2A (EACH)	GUARDRAIL END TREATMENT TYPE 3 (EACH)	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1	CRASH CUSHION TYPE IX-A	REMOVE GUARDRAIL (LF)	DESCRIPTION
				2351	2352	2391	2369	2373	2363	2387	2365	2381	
NORTHBOUND	LT	0.02	0.02	12.5					1				CONNECT TO EXISTING GUARDRAIL
NORTHBOUND	RT	0.02	0.02	12.5					1				CONNECT TO EXISTING GUARDRAIL
NORTHBOUND	LT	0.04	0.06	62.5			1			1			
NORTHBOUND	LT	0.26	0.28	100.0	137.5				1		1	275.0	
NORTHBOUND	RT	0.25	0.32	350.0				1	1			250.0	EXTEND GUARDRAIL 100 L.F.
NORTHBOUND	LT	0.36	0.36	37.5			1			1			
NORTHBOUND	RT	0.36	0.53	912.5					1	1		912.5	
NORTHBOUND	LT	0.46	0.50	200.0	137.5				1		1	375.0	
NORTHBOUND	LT	0.56	0.56	37.5			1			1			
NORTHBOUND	RT	0.56	0.88	1675.0					1	1		1675.0	
NORTHBOUND	LT	0.83	0.85	100.0	137.5				1		1	275.0	
NORTHBOUND	LT	0.90	0.95	275.0			1			1		250.0	
NORTHBOUND	RT	0.90	1.45	2884.0						1		2884.0	
NORTHBOUND	RT	1.58	1.73	825.0		1			1			862.5	
NORTHBOUND	LT	1.69	1.71	100.0	137.5				1		1	275.0	
NORTHBOUND	LT	1.79	1.80	62.5			1			1		62.5	
NORTHBOUND	RT	1.79	1.93	725.0			1			1		725.0	
NORTHBOUND	LT	1.92	1.94	100.0	137.5				1		1	275.0	
NORTHBOUND	LT	2.00	2.01	50.0			1			1			
NORTHBOUND	RT	2.18	2.98	4225.0					1			4225.0	
NORTHBOUND	LT	2.94	2.96	100.0	137.5				1		1	275.0	
NORTHBOUND	LT	3.01	3.02	37.5			1			1			
NORTHBOUND	RT	3.01	3.62	3187.5					1	1		3187.5	
NORTHBOUND	LT	3.57	3.59	100.0	137.5				1		1	275.0	
NORTHBOUND	RT	3.68	3.68	37.5								37.5	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
NORTHBOUND	RT	3.70	3.72	75.0								75.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
NORTHBOUND	RT	4.03	4.07	212.5								212.5	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
NORTHBOUND	RT	4.64	4.65	50.0								50.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
SHEET TOTALS				16546.5	962.5	1	8	1	15	12	7	17434.0	

(1) A length of 25 feet of double ply guardrail is to be installed at every proposed flume on the project. The double ply rail is considered incidental to Guardrail-Steel W Beam-S Face .

The Milepost references listed above are given as distances measured from the official M.P. 0.875, which corresponds to the southwest joint of the Edith Street bridge in the northbound direction
(as-built plans I-71 32' Rt. Sta. 372+98; State Plane Single Zone Coordinates: Northing = 3984750.3422, Easting =4932801.2618)

The Contractor is advised not to use the existing Mileposts to locate the items listed above, but to determine their location by measuring from the mentioned M.P. 0.875. reference point. The existing mileposts have been placed in wrong locations and, furthermore, the distances between existing mileposts are off by more than 10% when measured in the field. Using the existing mileposts as a reference would, therefore, involve a potential error in excess of 1000 feet.

I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
ITEM NO. 5-2053
SOUTHBOUND GUARDRAIL SUMMARY

LOCATION	SIDE	FROM MILEPOST	TO MILEPOST	GUARDRAIL-STEEL W BEAM-S FACE (LF) (1)	GUARDRAIL-STEEL W BEAM-D FACE (LF)	GUARDRAIL END TREATMENT TYPE 4A (EACH)	GUARDRAIL END TREATMENT TYPE 2A (EACH)	GUARDRAIL END TREATMENT TYPE 3 (EACH)	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1	CRASH CUSHION TYPE IX-A	RELOCATE CRASH CUSHION	REMOVE GUARDRAIL (LF)	DESCRIPTION
				2351	2352.0	2391	2369	2373	2363	2387	2365	2898	2381.0	
SOUTHBOUND	LT	0.02	0.02	12.5						1				CONNECT TO EXISTING GUARDRAIL
SOUTHBOUND	RT	0.02	0.02	12.5						1				CONNECT TO EXISTING GUARDRAIL
SOUTHBOUND	LT	0.04	0.10	287.5				1	1				287.5	CONNECT TO EXISTING GUARDRAIL
SOUTHBOUND	RT	0.04	0.06	100.0	137.5				1		1		275.0	
SOUTHBOUND	LT	0.26	0.30	212.5			1			1			212.5	
SOUTHBOUND	LT	0.35	0.52	900.0					1	1			900.0	
SOUTHBOUND	RT	0.36	0.37	100.0	137.5				1		1		275.0	
SOUTHBOUND	RT	0.47	0.52	300.0			1			1			300.0	
SOUTHBOUND	LT	0.55	0.88	1712.5					1	1			1712.5	
SOUTHBOUND	RT	0.55	0.57	100.0	137.5				1		1		275.0	
SOUTHBOUND	LT	0.90	1.36	2415.0					1				2415.0	
SOUTHBOUND	RT	0.90	0.96	312.5	137.5				1		1		487.5	
SOUTHBOUND	LT	1.64	1.74	562.5			1			1			562.5	
SOUTHBOUND	RT	1.73	1.74	75.0			1			1			75.0	
SOUTHBOUND	LT	1.79	1.95	837.5					1			1	862.5	
SOUTHBOUND	RT	1.79	1.81	100.0	137.5				1		1		275.0	
SOUTHBOUND	LT	2.06	2.98	4902.5						1			4902.5	
SOUTHBOUND	LT	3.02	3.62	3175.0					1	1			3175.0	
SOUTHBOUND	RT	3.02	3.03	100.0	137.5				1		1		275.0	
SOUTHBOUND	LT	4.14	4.15	62.5			1						62.50	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
SOUTHBOUND	LT	4.39	4.40	50.0									50.00	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
SHEET TOTALS				16305.0	825.0	0	5	1	12	8	6	1	17380.0	

(1) A length of 25 feet of double ply guardrail is to be installed at every proposed flume on the project. The double ply rail is considered incidental to Guardrail-Steel W Beam-S Face .

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(as-built plans I-71 32' Rt. Sta. 372+98; State Plane Single Zone Coordinates: Northing = 3984750.3422, Easting =4932801.2618)

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I-71 RAMPS
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
ITEM NO. 5-2053
GUARDRAIL SUMMARY

LOCATION	SIDE	FROM STATION	TO STATION	GUARDRAIL-STEEL W BEAM-S FACE (LF) (1)	GUARDRAIL-STEEL W BEAM-D FACE (LF)	GUARDRAIL END TREATMENT TYPE 4A (EACH)	GUARDRAIL END TREATMENT TYPE 2A (EACH)	GUARDRAIL END TREATMENT TYPE 3 (EACH)	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1	CRASH CUSHION TYPE IX-A	RELOCATE CRASH CUSHION	REMOVE GUARDRAIL (LF)	DESCRIPTION
				2351	2352	2391	2369	2373	2363	2387	2365	2898	2381	
ZORN AVENUE RAMPS														
RAMP 1	RT	0+00	3+13	312.5					1				312.5	
RAMP 1	RT	4+76	14+39	1037.5						1			1037.5	CONNECT TO EXISTING GUARDRAIL
RAMP 1	LT	5+55	14+73	912.5									912.5	CONNECT TO EXISTING GUARDRAIL
RAMP 3	LT	1+69	2+79	125.0			1						125.0	
RAMP 3	RT	1+39	12+21	1125.0					1				1125.0	
RAMP 3	RT	13+73	23+48	975.0						1			975.0	
RAMP 3	LT	13+73	14+11	37.5			1			1				
RAMP 5	RT	0+00	16+08	1666.0									1666.0	CONNECT TO EXISTING GUARDRAIL
RAMP 7	RT	1+42	22+62	2157.5									2157.5	CONNECT TO EXISTING GUARDRAIL
I-264 RAMPS														
RAMP 1	RT	4+53	5+53	100.0									100.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 1	LT	11+55	11+80	25.0									25.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 1	RT	11+97	12+35	37.5									37.5	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 1	RT	12+56	13+44	87.5			1						87.5	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 1	LT	12+68	13+55	87.5			1						87.5	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 3	LT	9+47	9+72	25.0									25.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 3	LT	9+98	10+36	37.5									37.5	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 3	LT	16+79	17+29	50.0					1				50.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 3	RT	17+03	17+40	37.5					1				37.5	REPLACE GRAND CONSTRUCT GR BRIDGE CONNECTOR
RAMP 3	RT	18+43	19+43	100.0						1			100.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 5	RT	53+69	56+69	300.0			2						300.0	REPLACE ENTIRE GR RUN
RAMP 5	LT	55+50	55+88	37.5									37.5	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 7	RT	1+92	4+04	212.5									212.5	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 7	RT	4+80	6+05	125.0									125.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 7	RT	6+38	7+00	62.5									62.5	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 7	RT	8+55	8+80	25.0									25.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 7	RT	9+00	9+25	25.0									25.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP 7	RT	9+63	10+13	50.0									50.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP E-W	RT	592+50	593+00	50.0									50.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
RAMP E-W	RT	593+81	594+18	37.5						1			37.5	REPLACE GR AND CONSTRUCT GR BRIDGE CONNECTOR
RAMP E-W	LT	594+10	594+47	37.5						1			37.5	REPLACE GR AND CONSTRUCT GR BRIDGE CONNECTOR
RAMP E-W	RT	595+72	596+10	37.5					1				37.5	REPLACE GR AND CONSTRUCT GR BRIDGE CONNECTOR
RAMP E-W	LT	595+97	596+35	37.5					1				37.5	REPLACE GR AND CONSTRUCT GR BRIDGE CONNECTOR
RAMP W-E	LT	580+50	581+25	75.0									75.0	REPLACE DAMAGED GR AND CONNECT TO EXISTING GR
SHEET TOTALS				10048.5	0.0	0	6	0	6	6	0	0	10011.0	
PROJECT TOTALS *				42900.0	1787.5	1	19	2	33	26	13	1	44825.0	

***QUANTITIES ARE CARRIED OVER AND INCLUDED IN THE GENERAL SUMMARY**

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The Milepost references listed above are given as distances measured from the official M.P. 0.875, which corresponds to the southwest joint of the Edith Street bridge in the northbound direction
(as-built plans I-71 32' Rt. Sta. 372+98; State Plane Single Zone Coordinates: Northing = 3984750.3422, Easting =4932801.2618)

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I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
Item No. 5-2053
NORTHBOUND I-71 - PIPE AND DRAINAGE SUMMARY

Location	Milepost	Pipe Size	Curb Box Inlet Type A (T)	Adjust Manhole Frame to Grade	Ditching	Remove Trees or Stumps	Channel Lining CL II	Channel Lining CL III	Clean Pipe Structure	Trim and Remove Trees and Brush	Clean Culvert	COMMENTS
Units		Inches	Each	Each	Lin. Ft.	Each	Ton	Ton	Each	Lin. Ft.	LS	
Item Number			1458	1791	2237	2460	2483	2484	3262	3269	20465EC	
LT	0.05		1									TOP PHASE ONLY
RT	0.05		1									TOP PHASE ONLY
LT	0.52		1									TOP PHASE ONLY
LT	0.91		1									TOP PHASE ONLY
RT	1.73		1									TOP PHASE ONLY
LT	1.73		1									TOP PHASE ONLY
LT	1.80		1									TOP PHASE ONLY
RT	1.80		1									TOP PHASE ONLY
RT	1.85						2					CLEAN SINKHOLE AREA
RT	1.97		1									TOP PHASE ONLY
RT	2.01			1								CURB BOX PAVED OVER - ADHUST MANHOLE LID TO GRADE
LT	2.98		1									TOP PHASE ONLY
RT	2.98		1									TOP PHASE ONLY
LT	3.02		1									TOP PHASE ONLY (INSIDE LANE)
RT	3.02		1									TOP PHASE ONLY (OUTSIDE LANE)
RT	3.52	48							1			
RT	3.61		1									TOP PHASE ONLY
RT	4.09							24				REPAIR EROSION TO SHOULDER FROM OFFSITE DRAINAGE, ADD CLASS III LINING 20' UPSTREAM AND GRADE TO DRAIN EXISTING CHANNEL
RT	4.16					2						REMOVE 2 UPROOTED TREES AT THE END OF THE PAVED DITCH
NORTHBOUND I-71					25225							
SHEET TOTAL			14	1	25,225	2	2	24	1	0	0	

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I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
Item No. 5-2053
SOUTHBOUND I-71 - PIPE AND DRAINAGE SUMMARY

Location	Milepost	Pipe Size	Curb Box Inlet Type A (T)	Adjust Manhole Frame to Grade	Ditching	Remove Trees or Stumps	Channel Lining CL II	Channel Lining CL III	Clean Pipe Structure	Trim and Remove Trees and Brush	Clean Culvert	COMMENTS
Units		Inches		Each	Lin. Ft.	Each	Ton	Ton	Each	Lin. Ft.	LS	
Item Number			1458	1791	2237	2460	2483	2484	3262	3269	20465EC	
RT	0.05		1									TOP PHASE ONLY
LT	0.05		1									TOP PHASE ONLY
RT	0.52		1									TOP PHASE ONLY
RT	0.91		1									TOP PHASE ONLY
RT	1.54											FILL ERODED VOID UNDER CONC. FLUME WITH 5 C.Y. FLOWABLE FILL AND CONST. 10 L.F. STANDARD HEADER CURB
RT	1.62							3				FILL ERODED VOID UNDER CONC. FLUME WITH 2 C.Y. FLOWABLE FILL
LT	1.73		1									TOP PHASE ONLY
RT	1.73		1									TOP PHASE ONLY
LT	1.80		1									TOP PHASE ONLY
RT	1.80		1									TOP PHASE ONLY
RT	1.96		1									TOP PHASE ONLY
LT	2.01		1									TOP PHASE ONLY
RT	2.02		1									TOP PHASE ONLY
RT	2.98		1									TOP PHASE ONLY
RT	3.02		1									TOP PHASE ONLY
RT	3.56	48							1			
LT	3.61		1									TOP PHASE ONLY
RT	4.16							1				REPAIR ERODED AREA AT END OF PAVED DITCH
SOUTHBOUND I-71					25225							
SHEET TOTAL			14	0	25,225	0	0	4	1	0	0	

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I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
Item No. 5-2053
I-71 RAMPS - PIPE AND DRAINAGE SUMMARY

Location	Station	Pipe Size	Curb Box Inlet Type A (T)	Adjust Manhole Frame to Grade	Ditching	Remove Trees or Stumps	Channel Lining CL II	Channel Lining CL III	Clean Pipe Structure	Trim and Remove Trees and Brush	Clean Culvert	COMMENTS
Units		**Inches**		**Each**	**Lin. Ft.**	**Each**	**Ton**	**Ton**	**Each**	**Lin. Ft.**	**LS**	
Item Number			**1458**	**1791**	**2237**	**2460**	**2483**	**2484**	**3262**	**3269**	**20465EC**	
I-71/I-264, LT, RAMP 1	5+94						2					REPAIR ERODED AREA AROUND DROP BOX INLET
I-71/I-264, LT, RAMP 1	9+90									160		REMOVE TREES & BRUSH BETWEEN GUARDRAIL AND ROCK CUT FROM LT STA 9+90 TO 11+50
I-71/I-264, LT, RAMP 3	11+79						3					REMOVE PAVED DITCH AT FLUME OUTLET. PLACE CLASS II LINING TO PROTECT SLOPE (REMOVAL OF PAVED DITCH IS CONSIDERED INCIDENTAL TO CLASS II LINING)
I-71/I-264, LT, RAMP 3	18+96		1									TOP PHASE ONLY
I-71/I-264, LT, RAMP 3	24+20						9					REPAIR ERODED AREA AROUND DROP BOX INLET WITH 5 C.Y. FLOWABLE FILL
I-71/I-264, RT, RAMP 7	12+07											REMOVE 18 L.F. WEDGE CURB FROM FLUME
I-71/I-264, RT, RAMP W-E	579+38											REMOVE 15 L.F. WEDGE CURB FROM FLUME
I-71/I-264, RT, RAMP W-E	584+90						2					REPAIR ERODED AREA NEAR PAVED DITCH
I-71/I-264, RT, RAMP E-W	586+95	18					5					FILL ERODED VOID UNDER OUTLET WITH 1 C.Y. FLOWABLE FILL
I-71/I-264, LT, RAMP E-W	591+97										1	DEBRIS BLOCKING INLET TO EXIST. 7' X 4' RCBC
I-71/I-264, RT, RAMP E-W	593+64		1									TOP PHASE ONLY
I-71/I-264, RT, RAMP E-W	603+40							5				REPAIR ERODED AREA NEAR PAVED DITCH
ZORN AVE RAMP 1	14+35				1403							
ZORN AVE RAMP 3	1+80				2114							
ZORN AVE RAMP 5	15+45				1767							
ZORN AVE RAMP 7	2+00				2205							
I-71 RAMP E-W					2315							
I-71 RAMP 1					1983							
I-71 RAMP 3					2005							
I-71 RAMP 5					2260							
I-71 RAMP 7					2850							
SHEET TOTAL			2	0	18,902	0	21	5	0	160	1	

PROJECT TOTALS	**30**	**1**	**69,352**	**2**	**23**	**33**	**2**	**160**	**1**	

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(as-built plans I-71 32' Rt. Sta. 372+98; State Plane Single Zone Coordinates: Northing = 3984750.3422, Easting =4932801.2618)

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PERFORATED PIPE DRAINAGE SUMMARY
JEFFERSON COUNTY
I-71
IM 0711-2053

Location	Milepost		Non-perforated Pipe - 4 inch		Perforated Pipe - 4 inch		Catch Basin Std No 2	COMMENTS
Unit			Lin Ft		Each	Ton		
Item Number			1010		1020		78	
Std								
60.61' LT	0.42					1	REDRESS AROUND EXIST. HDWL.
62.66' LT	0.87	5		1		1	
92.14' LT	1.97					1	REDRESS AROUND EXIST. HDWL.
80.24' LT	2.00	8		1		1	FOR BRIDGE DIG OUT REPAIR
62.80' LT	2.07	12		1		1	FOR MAJOR PAVEMENT REPAIR (1)
65.00' LT	3.9	8		1		1	FOR MAJOR PAVEMENT REPAIR (1)
Std Total		33		4		6	
Nstd							
66.20' RT	0.24	8		1		1	FOR MAJOR PAVEMENT REPAIR (1)
61.20' RT	0.45	8		1		1	FOR MAJOR PAVEMENT REPAIR (1)
61.20' RT	0.97	8		1		1	FOR MAJOR PAVEMENT REPAIR (1)
61.20' RT	2.00	8		1		1	FOR BRIDGE DIG OUT REPAIR
50.28' RT	3.08	12		1		1	FOR MAJOR PAVEMENT REPAIR (1)
Nstd Total		44		5		5	
Std Total		77		9		11	

(1) Any excavation, DGA, Crushed Aggregate No. 2, Asphalt Base, or Asphalt Surface required for shoulder trench backfilling is incidental to the construction of "Non-perforated Pipe - 4 inch"

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(as-built plans I-71 32' Rt. Sta. 372+98; State Plane Single Zone Coordinates: Northing = 3984750.3422, Easting =4932801.2618)

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I-71

JEFFERSON COUNTY

PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55

ITEM NO. 5-2053

PAVEMENT REPAIR LOCATIONS

MILEPOST	WIDTH OF REPLACEMENT (FT)	LENGTH OF REPLACEMENT (FT)	AREA OF REPLACEMENT (SQ YD)	TYPE OF REPAIR	DESCRIPTION
NORTHBOUND LANES					
0.02	37.00	150.00	616.67	MILL 6" EXISTING PAVEMENT REPLACE WITH TWO 3" ASPHALT BASE COURSES	CORRECT VERTICAL DROP TO THE SOUTHWEST OF BRIDGE JOINT
0.24	12.00	20.00	26.67	MAJOR	RIGHT LANE
0.45	24.00	24.00	64.00	MAJOR	BOTH LANES
0.97	12.00	20.00	26.67	MAJOR	RIGHT LANE
2.00	VARIES 28-50	350.00	1516.7	DIG OUT AND REPLACE EXISTING PAVEMENT	NORTHEAST BRIDGE END
3.08	12.00	40.00	53.33	MAJOR	RIGHT LANE
SOUTHBOUND LANES					
0.02	37.00	150.00	616.67	MILL 6" EXISTING PAVEMENT REPLACE WITH TWO 3" ASPHALT BASE COURSES	CORRECT PAVEMENT TO THE SOUTHWEST OF BRIDGE JOINT
2.00	VARIES 38-48	350.00	1672.2	DIG OUT AND REPLACE EXISTING PAVEMENT	NORTHEAST BRIDGE END
2.07	12.00	25.00	33.33	MAJOR	RIGHT LANE
3.09	12.00	25.00	33.33	MAJOR	RIGHT LANE
I-71 / I-264 INTERCHANGE RAMPS					
N/A	4.00	25.00	N/A	DGA WEDGE (2 TONS) AND ASPHALT SEAL (12 S.Y.)	DROP OFF AT RT. EDGE OF PAVED SHOULDER ON RAMP 3 STA 20+22

The Milepost references listed above are given as distances measured from the official M.P. 0.875, which corresponds to the southwest joint of the Edith Street bridge in the northbound direction

(as-built plans I-71 32' Rt. Sta. 372+98; State Plane Single Zone Coordinates: Northing = 3984750.3422, Easting =4932801.2618)

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I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
ITEM NO. 5-2053
NORTHBOUND I-71 SHOULDER REPAIRS

LOCATION	FROM MILEPOST	TO MILEPOST	CRUSHED AGGREGATE SIZE NO. 2	CAP CURB BOX INLET	FLUME INLET TYPE 1	FLUME INLET TYPE 2	REMOVE CURB	FLOWABLE FILL	CHANNEL LINING CLASS III	SPECIAL CONCRETE HEADER CURB	COMMENTS
UNITS			TONS	Each	EACH		LIN FT	CU. YD.	TON	LIN FT	
ITEM NO.			78	1634	1690	1691	1904	2220	2484		
OUTSIDE SHLD.	0.13		3								SHOULDER WASH
OUTSIDE SHLD.	0.31		6								SHOULDER EROSION
OUTSIDE SHLD.	1.47		3								SHOULDER WASH
OUTSIDE SHLD.	1.61		15								SHOULDER WASH
OUTSIDE SHLD.	1.61		6								EMBANKMENT WASHOUT
OUTSIDE SHLD.	1.61		3				650			650	REMOVE AND REPLACE ASPH. WEDGE CURB REPAIR SHLD. WASHOUT AT BRIDGE END
OUTSIDE SHLD.	1.62					1			10		REPLACE EXIST. FLUME
OUTSIDE SHLD.	1.67					1			10		REPLACE EXIST. FLUME
OUTSIDE SHLD.	1.79	1.90					590			590	REMOVE AND REPLACE ASPH. WEDGE CURB
OUTSIDE SHLD.	1.79					1			10		PROP. CONC. FLUME
OUTSIDE SHLD.	1.83					1			10		REPLACE EXIST. FLUME
OUTSIDE SHLD.	3.21		3								SHOULDER WASH
OUTSIDE SHLD.	4.05		10								SHOULDER WASH
OUTSIDE SHLD.	4.05		10								SHOULDER WASH
OUTSIDE SHLD.	4.07		20								SHOULDER WASH
OUTSIDE SHLD.	4.26		20								SHOULDER WASH
OUTSIDE SHLD.	4.42					1			10		REPLACE EXIST. FLUME
OUTSIDE SHLD.	4.88		3								SHOULDER EROSION
SHEET TOTALS			102	0	0	5	1240	0	50	1240	

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I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
ITEM NO. 5-2053
SOUTHBOUND I-71 SHOULDER REPAIRS

LOCATION	FROM MILEPOST	TO MILEPOST	CRUSHED AGGREGATE SIZE NO. 2	CAP CURB BOX INLET	FLUME INLET TYPE 1	FLUME INLET TYPE 2	REMOVE CURB	FLOWABLE FILL	CHANNEL LINING CLASS III	SPECIAL CONCRETE HEADER CURB	COMMENTS
UNITS			TONS	Each	EACH		LIN FT	CU. YD.	TON	LIN FT	
ITEM NO.			78	1634	1690	1691	1904	2220	2484		
OUTSIDE SHLD.	0.01		3								SHOULDER WASH
OUTSIDE SHLD.	0.30		10								SHOULDER WASH
OUTSIDE SHLD.	0.41		3								SHOULDER EROSION
OUTSIDE SHLD.	0.42		15								SHOULDER EROSION
OUTSIDE SHLD.	0.46		6								SHOULDER EROSION
OUTSIDE SHLD.	0.52			1		1			120		REMOVE TOP PHASE & CAP EXIST. CBI CONSTRUCT FLUME AND REPAIR WASHOUT
OUTSIDE SHLD.	0.55		3								SHOULDER WASH AT ABUTMENT
OUTSIDE SHLD.	0.58		20								SHOULDER EROSION 40' WIDE
OUTSIDE SHLD.	0.87		3								EROSION NEAR UNDERDRAIN HDWL
OUTSIDE SHLD.	1.45		23								SHOULDER WASH
OUTSIDE SHLD.	1.47		23								SHOULDER WASH
OUTSIDE SHLD.	1.60	1.74					265			265	REMOVE AND REPLACE ASPH. WEDGE CURB
OUTSIDE SHLD.	1.69					1			10		REPLACE EXIST. FLUME
INSIDE SHLD.	1.73	1.74					55			55	REMOVE AND REPLACE ASPH. WEDGE CURB
INSIDE SHLD.	1.73					1			10		PROP. FLUME INLET
OUTSIDE SHLD.	1.79	1.89					505			505	REMOVE AND REPLACE ASPH. WEDGE CURB
OUTSIDE SHLD.	1.84					1			10		REPLACE EXIST. FLUME
OUTSIDE SHLD.	1.89					1			10		PROP. FLUME INLET
MEDIAN	1.96							2			ERODED DBI
OUTSIDE SHLD.	3.56		3								SHOULDER WASH
OUTSIDE SHLD.	5.16		6								SHOULDER WASH
SHEET TOTALS			118	1	0	5	825	2	160	825	

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I-71
JEFFERSON COUNTY
PAVEMENT REHABILITATION, MILEPOST 0.00 TO 5.55
ITEM NO. 5-2053
I-71 RAMPS SHOULDER REPAIRS

LOCATION	FROM STATION	TO STATION	CRUSHED AGGREGATE SIZE NO. 2	CAP CURB BOX INLET	FLUME INLET TYPE 1	FLUME INLET TYPE 2	REMOVE CURB	FLOWABLE FILL	CHANNEL LINING CLASS III	SPECIAL CONCRETE HEADER CURB	COMMENTS
UNITS			TONS	Each	EACH		LIN FT	CU. YD.	TON	LIN FT	
ITEM NO.			78	1634	1690	1691	1904	2220	2484		
RAMP E-W											
LT	594+31		3								SHOULDER WASH
ZORN AVE. RAMP 1											
LT	6+74.00	14+77.83					800			800	REMOVE AND REPLACE ASPH. WEDGE CURB
RT	4+73.95	14+39.61					1100			1100	REMOVE AND REPLACE ASPH. WEDGE CURB
RT	9+48.22					1			10		REPLACE EXIST. FLUME
LT	13+64.72				1				10		REPLACE EXIST. FLUME
RT	14+00.00				1				10		REPLACE EXIST. FLUME
ZORN AVE. RAMP 3											
RT	1+28.31	12+23.00					1155			1155	REMOVE AND REPLACE ASPH. WEDGE CURB
RT	1+92.08				1				10		30' LONG FLUME (SAG) WITH HEADWALL AT BOTTOM
LT	5+63								15		SINKHOLE TREATMENT - CONDITION 2
RT	7+38.43					1			10		REPLACE EXIST. FLUME
ZORN AVE. RAMP 5											
RT	1+43.57		9								SHOULDER WASH
RT	1+43.57	16+09.66					1545			1545	REMOVE AND REPLACE ASPH. WEDGE CURB
RT	12+04.75					1			10		REPLACE EXIST. FLUME
RT	15+19.79				1				10		REPLACE EXIST. FLUME
ZORN AVE. RAMP 7											
RT	1+34.11	13+74.82					1305			1305	REMOVE AND REPLACE ASPH. WEDGE CURB
LT	1+62.51	9+82.32					820			820	REMOVE AND REPLACE ASPH. WEDGE CURB
RT	2+10.56				1				10		REPLACE EXIST. FLUME
LT	2+33.51				1				10		REPLACE EXIST. FLUME
RT	8+94.74					1			10		REPLACE EXIST. FLUME
RT	13+44.84				1				10		REPLACE EXIST. FLUME
SHEET TOTALS			12	0	7	4	6725	0	125	6725	
PROJECT TOTALS			232	1	7	14	8790	2	335	8790	

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I-71 JEFFERSON COUNTY
IM 0711 (101)
FD52 056 0071 000-006
Item No. 5-2053.00

THIS PROJECT IS A FULLY CONTROLLED ACCESS HIGHWAY

I. DESCRIPTION

Perform all work in accordance with the Department's 2008 Standard Specifications, Supplemental Specifications, any applicable Special Provisions, and applicable Standard and Sepia Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

(1) Maintain and Control Traffic; (2) Remove and replace Guardrail and Guardrail End treatments at the locations listed and/or as directed by the Engineer; (3) Type V pavement markers; (4) Asphalt Pavement Milling and Texturing; (5) Asphalt Surface and Asphalt Base at locations listed and/or as directed by the Engineer; and (6) 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. **Dense Graded Aggregate.** Crushed Stone Base may not be furnished in lieu of DGA.

C. **Pavement Markings -6 inch Paint.** Use Durable Waterborne Marking 6-inch for permanent striping (12 inch at entrance and exit ramp tapers).

D. **Crushed Aggregate Size No. 2.** Crushed Aggregate Size No. 2 will be limestone.

E. **Channel Lining Class II & III.** Channel lining will be limestone and is to be placed at pipe outlets with significant erosion and in ditch repair locations as directed by the Engineer.

F. **Erosion Control Blanket.** Erosion control blanket is to be placed in all ditching areas when ditching is complete, on slope stabilization areas, or as directed by the Engineer. Use Seed Mixture No. 1

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 all obstructions or any other items; disposal of materials; sweeping and removal of debris; shoulder preparation and restoration, temporary and permanent erosion and pollution control; and all incidentals. Site preparation will be only as approved or directed by the Engineer. Other than the bid items listed, no direct payment will be made for site preparation, but will be incidental to the other items of work.

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

D. **Final Dressing, Clean Up, and Seeding and Protection.** After all work is completed, completely remove all debris from the job site. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. I. These items are incidental to other items in the contract.

E. **Guardrail.** Remove and replace guardrail and guardrail End Treatments listed in the Guardrail Summary or as directed by the Engineer. 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 Treatment. Utilize DGA for embankment when required for new end treatments. Remove any existing guardrail with a lane closure in place. Do not leave the area unprotected. After the guardrail is removed, a shoulder closure shall remain in place until the guardrail is replaced in that area. 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. There is a guardrail delivery verification sheet which must be completed.

F. **Pavement Striping and Pavement Markers.** Permanent striping will be in accordance with Section 112, except that:

(1). Striping will be 6" in width, except 12” in gore area;
(2). Permanent striping will be in place before a lane is opened to traffic; and
(3). Permanent striping will be 6" Durable Waterborne Marking.

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

H. **Caution:** Information shown on the drawings and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusions as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information above.

I. **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 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.** Payment will be based on the tons used around the perforated pipe outlet headwalls.

D. **Dense Graded Aggregate.** DGA will be used for shoulder slope washouts.

E. **Raised Pavement Markers and Permanent Striping.** Permanent striping Durable Waterborne Marking (6" and 12") is measured per linear foot. See Traffic Control Plan. Type V Pavement Markers are measured as each.

F. **Erosion Control.** Erosion control items not listed as bid items will not be measured for payment, but will be considered incidental to the “lump sum” price for the bid item “Erosion Control”.

G. **Erosion Control Blanket.** Erosion Control Blanket is measured by square yard and is to be used in ditching areas and slope stabilization areas as directed by the Engineer.

H. **Embankment.** Embankment is measured by cubic yard and is to be placed in pipe repair/extension locations, slope stabilization areas and as directed by the Engineer. Contrary to the Standard Specifications, payment will be based on measured quantity **NOT** plan quantity.

V. BASIS OF PAYMENT

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

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

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

C. **Dense Grade Aggregate.** See Section 302 of the Standard Specifications.

D. **Raised Pavement Markers and Permanent Striping.** See Traffic Control Plan.

VI. LIGHTING BID ITEM NOTES

A. Poles shall include furnishing and installing shaft (shaft of pole on structure shall include hand-hole with reinforcing frame and cover), anchor bolts, anchor bolt covers, ground lugs, and any associated hardware.

B. Transformer base shall include furnishing and installing specified cast aluminum transformer base, transformer door, ground lug, and associated hardware.

C. Bracket shall include furnishing and installing specified bracket and any associated hardware needed for attaching the bracket to the pole.

D. Luminaire shall include furnishing and installing specified luminaire, built-in constant wattage auto transformer type ballast, protective starter, lamp, and all associated hardware.

E. 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).

F. 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.

G. 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, unless otherwise specified or approved by the engineer.

H. Fused connector kit shall include furnishing and installing specified connectors inside transformer base or junction box.

I. 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).

J. Remove lighting shall include the removal of existing poles, luminaires, and transformer bases. Incidental to this item shall be the removal of all materials off the project. All salvageable poles, brackets, transformer bases and luminaires shall be returned to the district pole yard or as instructed by the engineer.

NOTES APPLICABLE TO PROJECT
PAVEMENT REHABILITATION
I-71 JEFFERSON COUNTY
Item No. 5-2053.00

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1. There is a summary pavement repair locations. The Engineer will determine the ultimate locations that will be repaired based upon the condition of the pavement at the time the repairs are accomplished. The repair locations listed may be lengthened, shortened, or eliminated completely if the conditions are such that modification of the locations would be deemed desirable by the Department.

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

3. The contractor is to be advised of the locations of low wires on the project. The following locations are approximate:

   I-71 M.P. 0.06 (Sta. 329+90)
   I-71 M.P. 0.35 (Sta. 345+00)
   I-71 M.P. 1.79 (Sta. 421+40)
   I-71 M.P. 1.94 (Sta. 429+10)
   I-71 M.P. 1.98 (Sta. 431+40)
   I-71 M.P. 3.40 (Sta. 506+30)
   I-71 M.P. 3.64 (Sta. 518+75)

   CAUTION: Other locations may exist. These and all other utilities should be avoided on this project. If any utility is impacted, it will be the contractor's responsibility to contact the affected utility and cover any costs associated with the impact.

4. Part of the existing concrete island curb will be removed at the underpass end of ramps on the Zorn Avenue interchange, along areas where the ramp pavement is to be milled and overlaid. The bid item "Remove Curb" will be considered full compensation for the removal and disposal of all curb regardless of the type and material make-up.

5. All blue milepost signs on the project are not to be disturbed. The contractor will be responsible for the replacement of these signs if damaged during construction.

6. A quantity of "Granular Embankment" and "Geotextile Fabric - Type IV" has been included to treat open sinkholes in the following locations:

   M.P. 1.85– 126' Rt. I-71 Sta. 424+22

   Other sinkhole locations may exist and shall be treated as directed by the Engineer. The

sinkhole treatment shall be coordinated as directed or approved by the Engineer. Any additional items of work, including clay soil cap will be considered incidental to "Granular Embankment".

7. Several areas throughout the project have fill slopes that are eroding significantly due to poorly compacted aggregate. The degrading slopes shall be regraded and dressed as directed by the Engineer. Payment for this work will be measured by tons of "Crushed Aggregate No. 2".

8. Four existing light poles are being replaced with this project. Light fixtures for these poles shall be 250w high pressure sodium luminaires. Quantities of conduit and wire are included to replace the conduit from the three light poles being replaced, on the bridges over Zorn Avenue and Mockingbird Valley Road, to the next light pole on either side of the bridge on which the light pole is being replaced. All wires between poles shall be replaced using existing wire sizes. Approximate locations and proposed types for these poles are given below (see structure plans for further details):

   N.B. 48' RT STA 420+15 (M.P. 1.77) – 40' pole with 4' arm
   N.B. 60' RT STA 423+05 (M.P. 1.82) – 30' pole with 15' arm
   S.B. 48' LT STA 418+85 (M.P. 1.74) – 40' pole with 4' arm
   S.B. 80' LT STA 430+90 (M.P. 1.97) – 40' pole with 4' arm

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

10. The existing cable median barrier is not to be disturbed with this project. In accordance with Section 107.12 of the Standard Specifications for Road and Bridge Construction, Current Edition, the Contractor will be responsible for the cost to repair any cable rail that is damaged due to the operations of the Contractor. The Department will make any necessary repairs at the Contractor's expense.

11. 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.

12. Delineators shall meet the requirements of Section 830 and 838 of the Standard Specifications.

13. Delineators shall be placed in accordance with Section 3F of the M.U.T.C.D., current edition.

14. All pipe connections in the edge drain system will be rigid.

15. Edge drains damaged during placement of additional outlets will be replaced at the contractor's expense.

16. A quantity of Channel Lining Class III has been included to be applied to eroded areas around drainage outlets and for some of the areas that are to be ditched. The actual limits of ditching and/or channel lining shall be as directed and/or approved by the Engineer. Geotextile Fabric

Type I will not be measured for payment and will be considered incidental to channel lining.

17. Any roadway signs that are damaged during construction are to be replaced at the contractor's expense.

18. Any light poles that are damaged during construction are to be replaced at the contractor's expense.

19. The cleaning of existing pipe culvert inlets and outlets 36 inches or less in diameter are incidental to the bid item for "Ditching" in accordance with Section 209.03.01 of the 2008 Edition of the Standard Specifications for Road and Bridge Construction.

20. The specified completion date for this project is December 15, 2011. Contrary to section 108, liquidated damages will be charged during the months of December through March.

TRAFFIC CONTROL PLAN
JEFFERSON COUNTY
I 71
IM 0711 (101)
FD52 056 0071 000-006
Item No. 5-2053.00

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. Do NOT use Cones for lane closures or shoulder closures.

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

Reduce the speed limit in work areas to 45 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

All heavy and wide load traffic heading to the I-71 project area is to be rerouted along a detour using I-64 and I-264. Details about this detour route and signage to use are given on the maintenance of traffic typical sections. The detour will also be indicated as an option to avoid potential delays for all other vehicles traveling towards the I-71 project area.

No lane closures will be allowed during the following days and hours:

September 2-5, 2011	Labor Day Weekend
November 24-27, 2011	Thanksgiving Weekend
December 23-26, 2011	Christmas Weekend
December 31, 2011-January 2, 2012	New Years Weekend
March 23-26, 2012	Easter Weekend
April 20-22, 2012	Thunder over Louisville
May 2 - May 5, 2012	Kentucky Derby Week
May 25-28, 2012	Memorial Day Weekend
July 3-5, 2012	Independence Day

The bridge full depth overlays proposed for the Frankfort Ave. bridges, the Beargrass Creek bridges and the Edith Road NB bridge will require closing one lane to traffic along all these bridges at the same time for one full week. The lane closure will begin to the south of the Frankfort Avenue bridge, located at the beginning of the project, and will extend to the north end of the Edith Road bridge. A second consecutive one-week lane closure period will be needed to complete work on the remaining half of each bridge. The contractor shall use this two-week lane closure period to complete all pavement removal, pavement repair, milling and pavement overlay work, through the top lift of base, as required by these plans within these lane closure areas. This two week closure work shall be completed prior to October 22, 2011, unless otherwise directed or approved by the Engineer.

Other than the mentioned two consecutive weeks of lane closures for the bridge overlays no other lane closures will be allowed during the following days and hours:

6:00 a.m. to 8:00 p.m.	Monday – Friday

Traffic may be reduced to one lane in each direction all other times.

The clear lane width will be 11 feet. Use a lane closure all times when work is performed in the lane or adjacent shoulder. Shoulders used as temporary roadways will be inspected by the Engineer and if deemed necessary by the Engineer, repaired with Asphalt Mixture for Level & Wedging as directed prior to opening to traffic. Perform any maintenance of the shoulder as deemed necessary by the Engineer in order to maintain traffic. Remove existing striping by water blasting. Remove both edge lines throughout the project. Paint temporary edge lines through the lane closure.

Approximate full depth pavement repair locations are listed in the proposal. The Engineer will determine the exact location at the time of construction. Once removal of pavement at a particular repair location has begun, work continuously within the parameters outlined above to complete the work and eliminate the “hole”. Place Type III Barricades immediately in front of pavement removal areas.

Once pavement removal at a site has begun, full depth replacement must be completed within the time a lane closure is allowed.

Access to all ramps at all interchanges on the project shall be maintained at all times unless otherwise directed by the Engineer. All diversions to access ramps in areas of lane closures shall be approved by the Engineer prior to implementing the particular lane closure

Note that Lane shifts are required throughout the project. See the Exhibits for lane locations and widths. Stripe according to the MUTCD.

During the days and hours when a lane closure is allowed, implement the following procedures: 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 interior lanes can be done during the remaining hours when two lanes of traffic 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. Once pavement removal at a site has begun, full depth replacement must be completed within the time a lane closure is allowed. Liquidated Damages, at the rate specified per hour in the "Special Note for Fixed Completion Date and Liquidated Damages", will be assessed for each hour two lanes of traffic is not maintained.

The contractor must notify the Engineer at least fourteen (14) days prior to beginning Phase I construction in either direction.

SHOULDER PREPARATION AND RESTORATION

Prior to placing any lane closures that require shifting traffic onto existing shoulders, patch the shoulders as directed by the Engineer. Remove failed materials and perform additional patching as directed by the Engineer during the time the shoulder is used as a travel lane. Prior to shifting traffic, mount Delineator for Barrier – Yellow (model 2) to the top of the Barrier Wall. All work required for shoulder preparation and restoration is incidental to Maintenance of Traffic.

Prior to shifting traffic onto any existing shoulders at bridge ends, the inside and/or outside shoulders shall be reconstructed to existing grade a minimum of four (4) feet wide and 250 feet in length at both ends of the bridges or as directed by the engineer. This construction shall consist of 2 – 3.5 inch lifts of CL3 ASPH BASE 1.0D PG64-22 and 1.0" CL3 ASPH SURF 0.38D PG64-22.

PHASE I

Close the inside lanes to traffic. Reconstruct the inside shoulders at bridge ends as stated above and shown in the proposal details.

PHASE II

Shift traffic to the inside lanes and close the outside lanes to traffic. Repair pavement failures in the outside lanes and shoulder. Once the pavement has been removed, the Contractor must work continuously until the pavement has been replaced. The Engineer may restrict the number of locations being repaired at the same time. Complete bridge deck repairs and overlays on the out side lanes and shoulders. Mill roadway 2.5 inches and place the 3.5 inch base lift and leveling & wedging where required on the outside lanes and shoulder.

PHASE III

Shift traffic to the outside lanes. Repair pavement failures in the inside lanes and shoulder. Once the pavement has been removed, the Contractor must work continuously until the pavement has been replaced. The Engineer may restrict the number of locations being repaired at the same time. Complete bridge deck repairs and overlays on the out side lanes and shoulders. Mill roadway 2.5 inches and place the 3.5 inch base lift and leveling & wedging where required on the inside lanes and shoulder. Complete any roadside work including guardrail installation

PHASE IV – TRAFFIC COUNTING INDUCTANCE LOOPS

After asphalt base course paving and guardrail operations are completed and prior to any final surfacing, install traffic counting inductance loops. Close one lane, in the direction of work only, using drums and flashing arrows in accordance with the Standard Drawings and these notes. The clear lane width will be 11 feet; however, make provisions for the passage of wide loads up to 16' in width. Lane closures will be permitted only during hours of actual operations. Lane closures will be shortened, reduced to a shoulder closure, or removed as appropriate, when the Contractor does not have active operations requiring a lane closure.

PHASE V

Utilizing temporary lane closures, place the final surface course on all lanes, ramps and shoulders and complete any outstanding roadside work including guardrail installation.

PHASE VI – PERMANENT STRIPING

After all other work is completed, place permanent striping. Mobile operations may be utilized. In addition to newly paved areas, place permanent striping on bridge decks within the project limits.

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. Limit lane closures to one lane closure per direction at any given time. Contrary to section 112, lane closures will **NOT** be measured for payment, but are considered incidental to Maintain and Control Traffic.

SIGNS

Additional traffic control signs in addition to normal lane closure signing detailed on the Standard Drawings may be required by the Engineer. Additional signs needed for lane closures may include, but are not limited to, dual mounted 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, or if more than one lane closure is in place in the same direction of travel, 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 Boards 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 shall 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.

PAVEMENT MARKINGS

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

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

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

Should the Contractor change the existing striping pattern, the Contractor is to restripe the roadway back to its original configuration after a certain period of time especially if no work is anticipated for a period of time (i.e. Winter shutdown).

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.

A pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation shall not have an elevation difference greater than 1 ½". Place warning signs (MUTCD W8-11 or W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual posting on both sides of the traveled way shall be required. Wedge all transverse transitions between resurfaced and unresurfaced areas which traffic may cross with asphalt mixture for leveling and wedging. Remove the wedges prior to placement of the final surface course. Pavement edges that traffic is not expected to cross, except accidentally, shall be treated as follows:

Less than 2" – Protect with a lane closure.

2" to 4" – Protect with a lane closure. Place plastic drums, vertical panels, or barricades every 50 feet. Cones may not be used in place of plastic drums, panels, and barricades at any time. Construct a wedge with compacted cuttings from milling, trenching, or asphalt mixtures with a 3:1 or flatter slope, when work is not active in the drop-off area. Place Type III Barricades at the beginning of the lane closures, and place additional Type III Barricades spaced at 2,500 feet during the time the lane closure is in place.

Greater than 4" – Pavement Repair areas – In areas where pavement is to be removed, work should proceed continuously so that traffic is exposed to a drop-off for the minimum amount of time necessary to bring the pavement back up to existing grade. Barrel spacing should be 20 feet and appropriate lighting should be utilized to illuminate the area during nighttime operations.

Guardrail Installation – Guardrail will be removed at the last practical moment and replaced as soon as the placement of all base courses in an area requiring guardrail is complete. All areas from which guardrail is removed shall be protected by a shoulder closure or other method approved by the Engineer until the new guardrail is installed.

TRAFFIC COORDINATOR

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 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 portable changeable message boards as queue lengths change. The personnel will have access on the project to a radio or telephone to be used in case of emergencies or accidents.

COORDINATION OF WORK

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

CONTRACTOR'S AND CONTRACTOR'S EMPLOYEES' VEHICLES

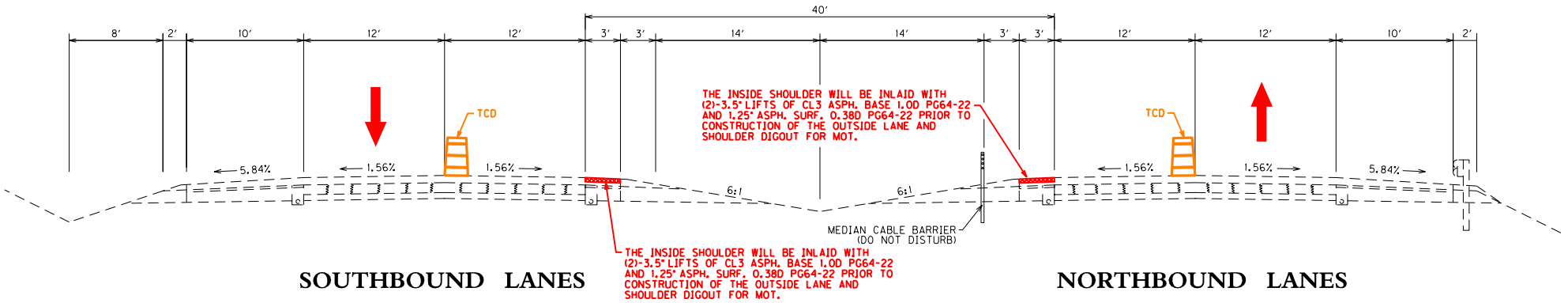
Do not use or allow employees to use median crossovers at any time except when inside lanes are closed for construction. In all other phases of construction, change vehicular direction of travel only at interchanges.

LAW ENFORCEMENT OFFICERS (LEO'S)

Police support shall be a unit consisting of an off-duty police officer from any police force agency having lawful jurisdiction and a police car equipped with externally mounted flashing blue lights. It is anticipated that approximately two (2) officers will be required for each closure set up. The officers will be placed at the discretion of the Engineer. Police support will be measured and paid on a per hour basis for each officer and police vehicle.

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-2053	

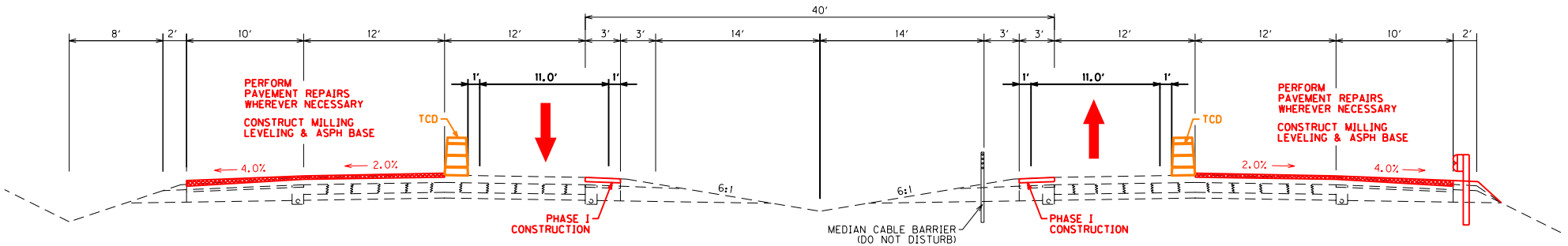
I–71
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS



SOUTHBOUND LANES NORTHBOUND LANES

PHASE I

3 FEET OF THE INSIDE SHOULDER & 1 FOOT OF THE INSIDE LANE WILL BE INLAID WITH (2)-3 1/2" LIFTS OF CL3 ASPH BASE 1.0D PG64-22 AND 1.25" CL3 ASPH. SURF. 0.38D PG64-22, 350' FROM THE END OF THE BRIDGES PRIOR TO CONSTRUCTION OF THE OUTSIDE LANE AND SHOULDER DIGOUT FOR MOT.



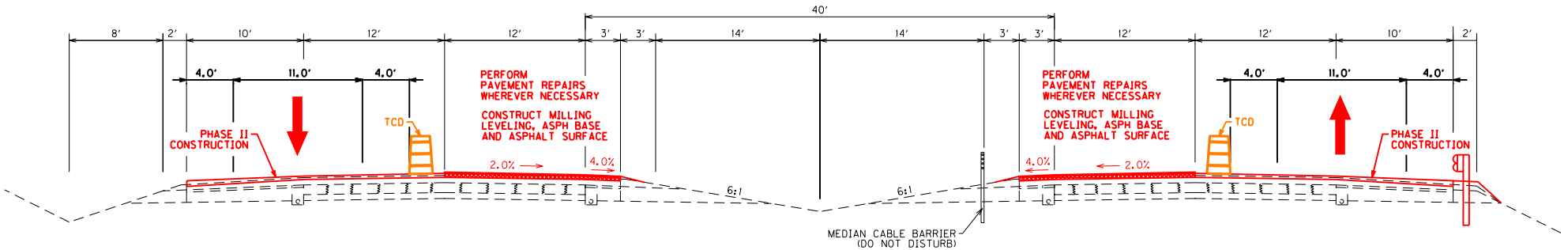
SOUTHBOUND LANES NORTHBOUND LANES

PHASE II

I-71
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS, SHEET 1 OF 4

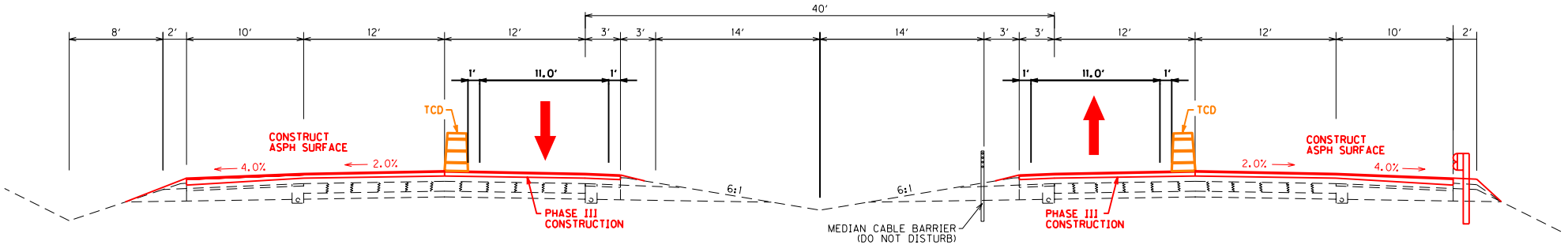
COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-2053	

I–71
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS



SOUTHBOUND LANES NORTHBOUND LANES

PHASE III

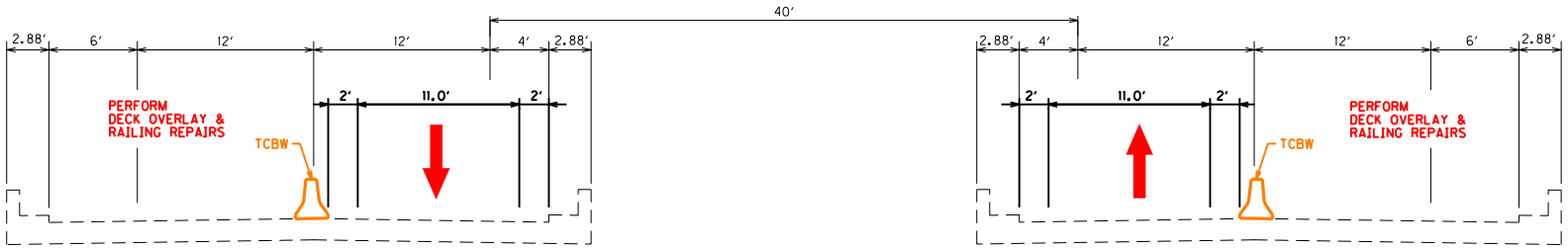


SOUTHBOUND LANES NORTHBOUND LANES

PHASE V

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-2053	

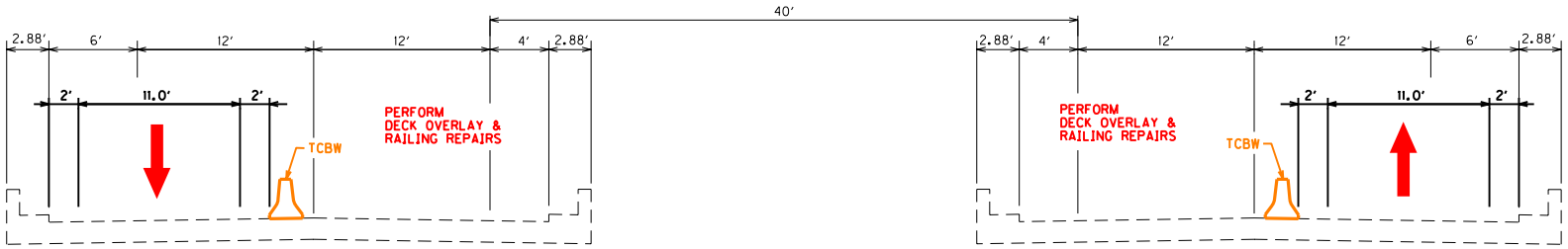
I–71
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS



SOUTHBOUND LANES

NORTHBOUND LANES

PHASE II



SOUTHBOUND LANES

NORTHBOUND LANES

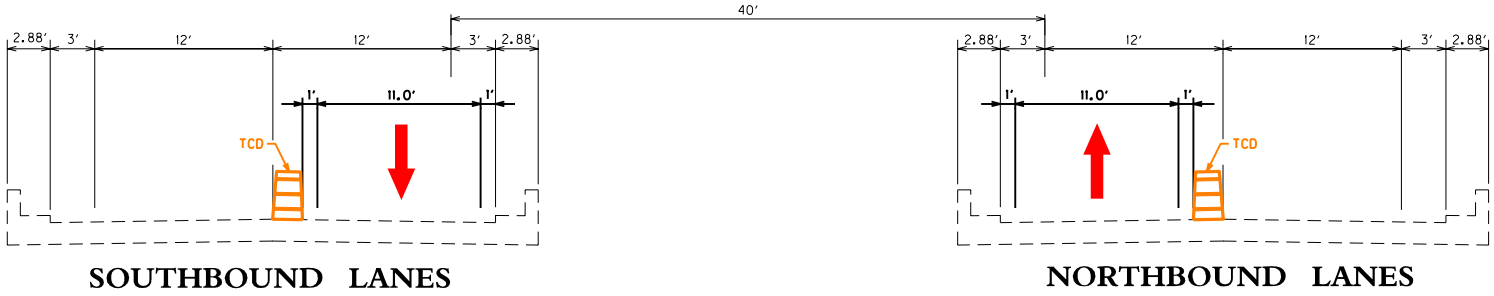
PHASE III

BRIDGE LANE CLOSURE

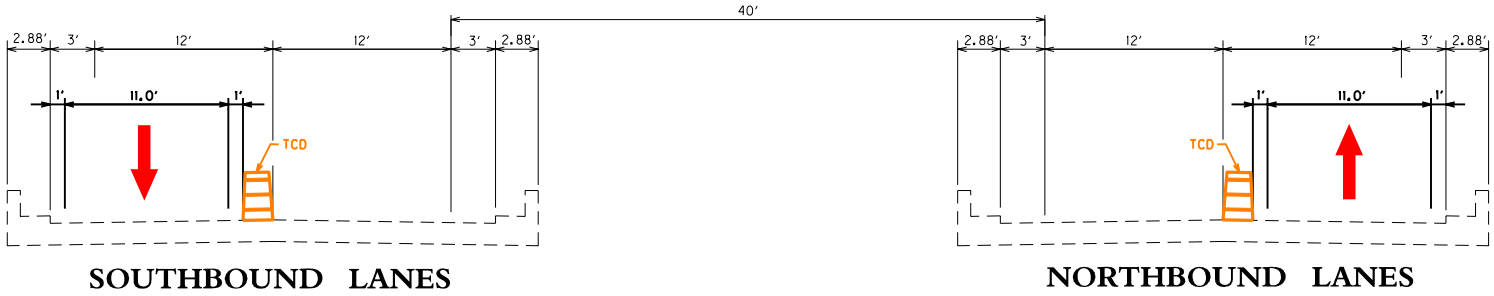
LANE CLOSURES TO BE USED FOR BRIDGE DECK AND RAILING WORK
AT BRIDGES REQUIRING FULL DEPTH OVERLAYS

I-71
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS, SHEET 3 OF 4

I–71
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS



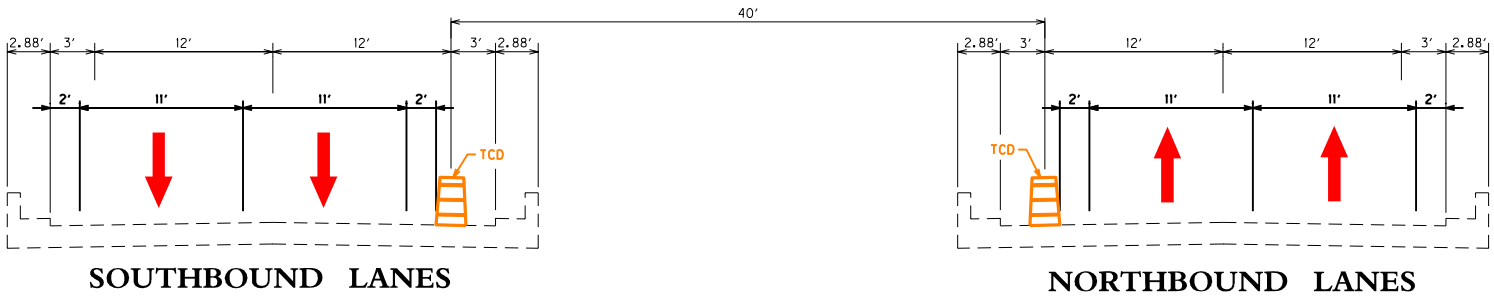
SOUTHBOUND LANES NORTHBOUND LANES



SOUTHBOUND LANES NORTHBOUND LANES

BRIDGE LANE CLOSURE

LANE CLOSURES TO BE USED FOR BRIDGE DECK WORK
AT BRIDGES NOT REQUIRING FULL DEPTH OVERLAYS
(ZORN AVE. BRIDGE SHOWN ABOVE - NARROWEST BRIDGE ON PROJECT)



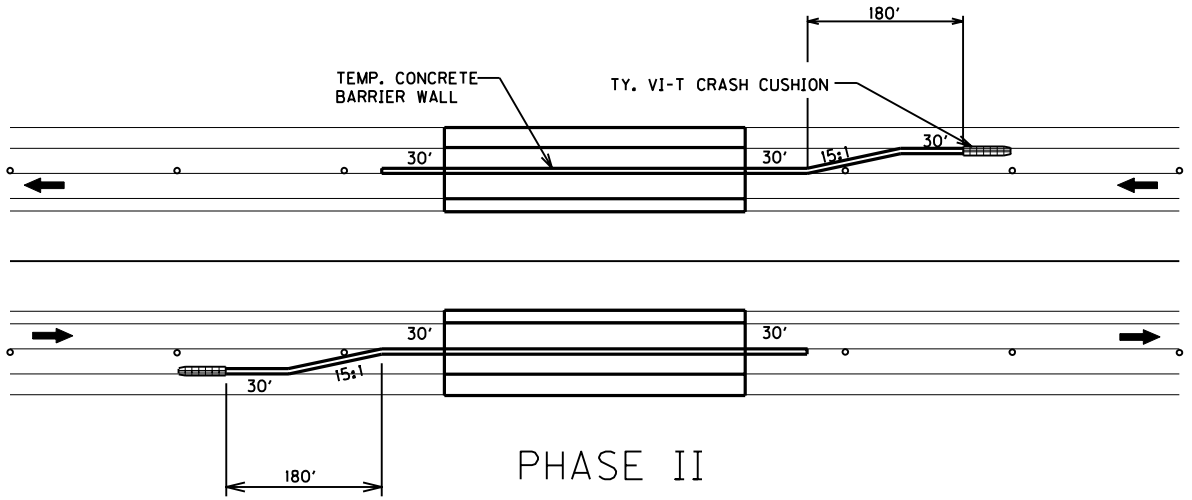
SOUTHBOUND LANES NORTHBOUND LANES

BRIDGE SHOULDER CLOSURE

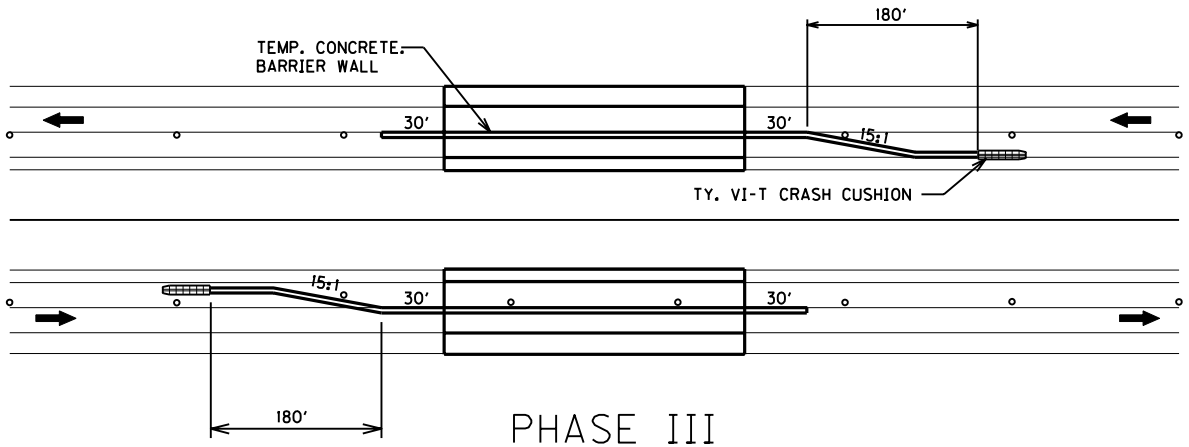
SHOULDER CLOSURES TO BE USED FOR BRIDGE RAILING REPLACEMENT
(ZORN AVE. BRIDGE SHOWN ABOVE - NARROWEST BRIDGE ON PROJECT)

I–71
MAINTENANCE OF TRAFFIC
BRIDGES M.O.T. PHASING

(DIMENSIONS SHOWN ARE MINIMUMS)



PHASE II

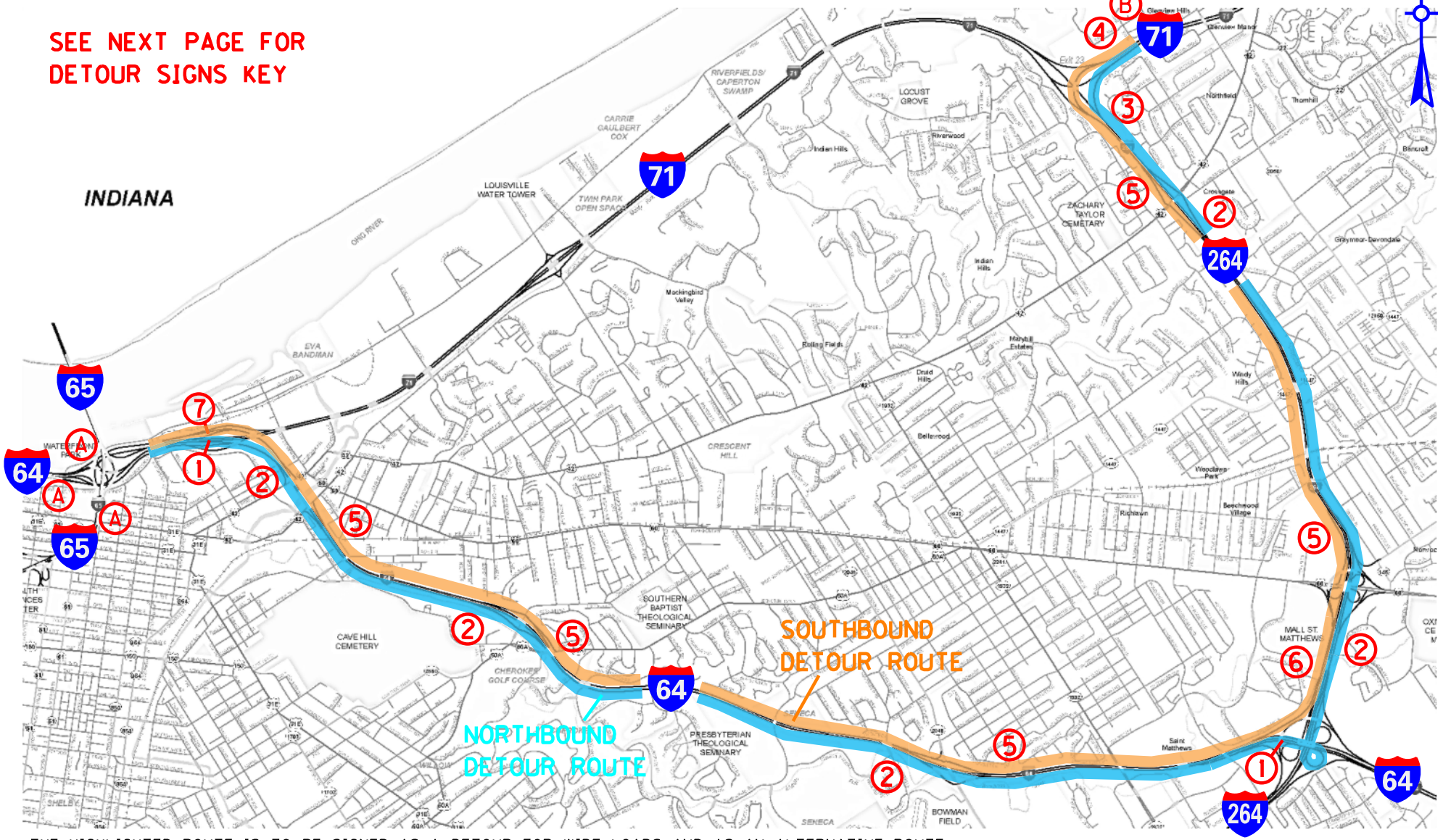


PHASE III

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-2053	

I–71
MAINTENANCE OF TRAFFIC
DETOUR ROUTE

SEE NEXT PAGE FOR
DETOUR SIGNS KEY



THE HIGHLIGHTED ROUTE IS TO BE SIGNED AS A DETOUR FOR WIDE LOADS AND AS AN ALTERNATIVE ROUTE FOR TRAFFIC WANTING TO AVOID POSSIBLE DELAYS DURING CONSTRUCTION OF THE I-71 PROJECT. PORTABLE CHANGEABLE MESSAGE SIGNS ARE TO BE PLACED IN ADVANCE OF THE I-71/I-264 INTERCHANGE FOR I-71 SOUTHBOUND TRAFFIC AND PRIOR TO THE I-64/I-65/I-71 INTERCHANGE AT ALL APPROACHES LEADING TO I-71: I-64 EB, I-65 SB & I-65 NB. DETOUR SHEET SIGNS ARE TO BE PLACED IN ADVANCE OF ALL INTERCHANGE RAMPS ALONG I-264 & I-64 BETWEEN THE BEGINNING AND ENDING POINTS OF THE DETOUR:

- I-64 DETOUR INTERCHANGES FROM WEST TO EAST: US 42, US 26A, KY 2048 & I-64/I-264
- I-264 DETOUR INTERCHANGES FROM SOUTH TO NORTH: I-64/I-264, US 60 & US 42

I-71
MAINTENANCE OF TRAFFIC
DETOUR ROUTE

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-2053	

I–71
MAINTENANCE OF TRAFFIC
DETOUR SIGNS KEY

DETOUR SIGNS FOR I–71 NORTHBOUND TRAFFIC

① 

M4-9

② 

M4-9

③ 

M4-8A

DETOUR SIGNS FOR I–71 SOUTHBOUND TRAFFIC

④ 

M4-9

⑤ 

M4-9

⑥ 

M4-9

⑦ 

M4-8A

PORTABLE CHANGEABLE MESSAGE SIGNS

Ⓐ I-71 SOUTH: USE I-264 TO I-64 AS DETOUR OPTION

Ⓑ I-71 NORTH: USE I-64 TO I-264 AS DETOUR OPTION

ALL SIGNS SHALL BE PLACED IN LOCATIONS NOTED OR AS DIRECTED AND/OR APPROVED BY THE ENGINEER

I-71
MAINTENANCE OF TRAFFIC
DETOUR SIGNS

REFERENCES

1. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2008.

2. FHWA Manual on Uniform Traffic Control Devices.

3. Active Sepia List

Drawing No.	Drawing Name
001	Delineators at Narrow Shoulder Bridges
002	Delineators for Guardrail
003	Treatment of Open Sinkholes
004	Concrete Barrier Wall Type 9T (Temporary)
009	Culvert, Entrance & Storm Sewer Pipe Types & Cover Heights (12" Pipe to 24" Pipe)
020	Guardrail End Treatment Type 4A

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

RBB-002	Guardrail and Bridge End Drainage for Twin Structures
RBB-003	Layout of Guardrail at Twin Structures
RBB-010	Guardrail Transition from Normal Shoulder to Narrow Bridge
RBC-001	Guardrail Connector to Bridge End Type A and A1
RBC-002	Guardrail Connector to Bridge End Type A and A1 Components
RBC-003	Guardrail Connector to Bridge End Type A and A1 Components
RBE-100	Crash Cushion Type VI-BT & CT
RBE-205	Crash Cushion Type IX-A
RBI-001	Typical Guardrail Installations
RBI-002	Typical Guardrail Installations
RBI-003	Installation of Guardrail End Treatment Type 2A
RBI-004	Installation of Guardrail End Treatment Type 1
RBI-005	Guardrail Installation at Bridge Columns
RBI-006	Guardrail Installation at Sign Supports
RBM-020	Delineators for Concrete Barriers
RBM-115	Concrete Barrier Wall Type 9T (Temporary)
RBR-001	Steel Beam Guardrail ("W" Beam)
RBR-005	Guardrail Components
RBR-010	Guardrail Terminal Sections
RBR-015	Guardrail Posts
RBR-016	Guardrail Posts
RBR-020	Guardrail End Treatment Type 1

RBR-025	Guardrail End treatment Type 2A
RBR-030	Guardrail End Treatment Type 3
RDB-270	Curb Box Inlet Type A
RDB-271	Curb Box Inlet Type A – Steel Details
RDB-272	Curb Box Inlet Type A – Top Phase Tables
RDB-400	Box Inlet Riser
RDB-430	Manhole Steps
RDD-020	Flume Inlet Type 1
RDD-021	Flume Inlet Type 2
RDD-040	Channel Lining Class II and III
RDH-005	Concrete Headwalls for 12"-27" Circular Pipe Culverts
RDI-001	Culvert, Entrance & Storm Sewer Pipe Types & Cover Heights
RDI-020	Pipe Bedding for Culverts, Entrance and Storm Sewer Pipe
RDI-021	Pipe Bedding for Culverts, Entrance and Storm Sewer Reinforced Concrete Pipe
RDI-025	Pipe Bedding Trench Condition
RDI-026	Pipe Bedding Trench Condition Reinforced Conc. Pipe
RDI-045	Typical Median Drain Installations
RDM-100	Frame and Lid Type 1
RDP-001	Perforated Pipe Types and Cover Heights
RDP-005	Perforated Pipe for Subgrade Drainage on Two-Lane (class 2) and Multi-Lane Roads
RDP-010	Perforated Pipe Headwalls
RDX-160	Security Devices for Frames, Grates and Lids
RDX-210	Temporary Silt Fence
RDX-220	Silt Trap Type A
RDX-225	Silt Trap Type B
RDX-230	Silt Trap Type C
RGS-002	Superelevation for Multilane Pavement
RGX-001	Miscellaneous Standards Part I
RGX-200	One Point Proctor Family of Curves
RPM-100	Curb and Gutter, Curbs, and Valley Gutter
TPM-105	Pavement Marker Arrangements Multi-Lane Roadways
TPM-125	Pavement Marker Arrangement Exit Gore and Off-Ramp
TPM-130	Pavement Marker Arrangement On-Ramp with Tapered Acceleration Lane
TPM-135	Pavement Marker Arrangement On-Ramp with Parallel Acceleration Lane
TTC-115	Lane Closure Multi-Lane Highway Case I
TTC-120	Lane Closure Multi-Lane Highway Case II
TTC-135	Shoulder Closure
TTC-155	Temporary Pavement Marker Arrangements for Construction Zones
TTC-160	Temporary Pavement Marker Arrangements for Lane Closures
TTD-110	Post Splicing Detail
TTD-120	Work Zone Speed Limit and Double Fine Signs

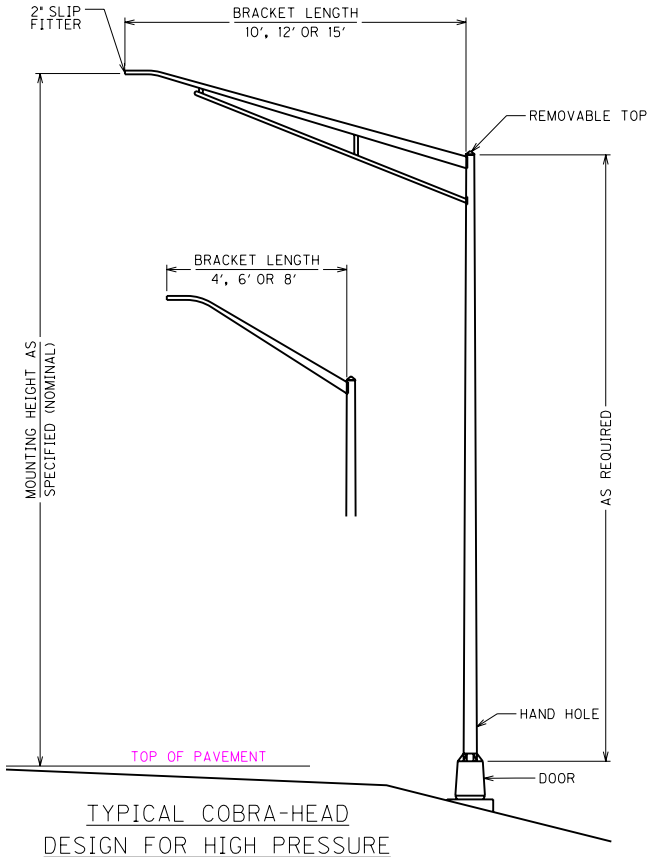
TTD-125	Pavement Condition Warning Signs
TTS-110	Mobile Operation for Paint Striping Case III
TTS-115	Mobile Operation for Paint Striping Case IV
TTS-120	Mobile Operation for Durable Striping Case I
TTS-125	Mobile Operation for Durable Striping Case II

* - Older "Standard Drawings" showing skewed joints have been included for reference.

5. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2008, Appendix B - Supplemental Specifications, as applicable:

Special Note 1I	Portable Changeable Message Signs (3/1/2008)
Special Note 10W	Water Blasting Striping Removal (1/1/2008)
Special Note	Typical Section Dimensions *attached*
Special Note	Before You Dig *attached*
Special Note	Guardrail Delivery Verification Sheet *attached*
Special Note	Fixed Completion Date and Liquidated Damages *attached*
Special Note	Shoulder Preparation and Restoration *attached* (See MOT Notes)
Special Note	Erosion Control *attached*
Special Note	Installation of Traffic Counting Inductance Loops and Axle sensors *attached*
Special Note	Bridge Repair Items *attached*

COUNTY OF	ITEM NO.
JEFFERSON	5-2053

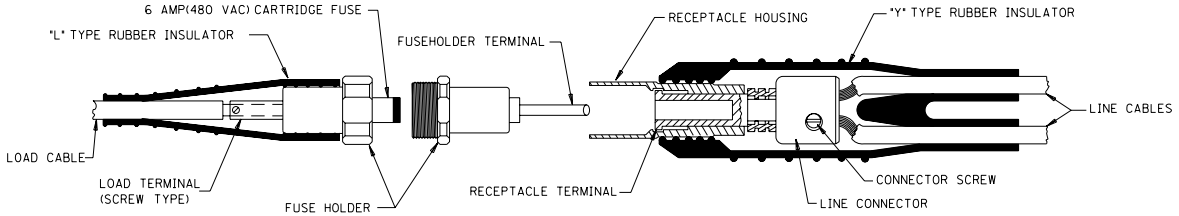


TYPICAL COBRA-HEAD DESIGN FOR HIGH PRESSURE SODIUM LUMINAIRES

COBRA-HEAD LUMINAIRES:

LUMINAIRES SHALL BE 250 WATT HIGH PRESSURE SODIUM WITH AN IES TYPE III DISTRIBUTION PATTERN, PAYNE SPARKMAN STARTER (OR APPROVED EQUAL), AND BUILT-IN CONSTANT WATTAGE TRANSFORMER TYPE BALLAST. SEE PLANS FOR LUMINAIRE WATTAGE REQUIREMENTS.

BREAKAWAY FUSE CONNECTOR KIT



DETAILS OF TYPE HEB-JW-RYC CONNECTOR

TYPE HEB-JW-RYC CONNECTOR SHOWN

NOTE:

POLES AND BRACKETS SHALL BE ALUMINUM WITH A BRUSHED SATIN FINISH.

POLES WITH LUMINAIRE(S) AND BRACKET(S) SHALL BE MANUFACTURED AND CERTIFIED TO WITHSTAND 90 MPH WINDS WITH 117 MPH GUSTS.

HAND HOLES SHALL BE 4" X 6" NOMINAL WITH COVER AND STAINLESS STEEL SCREWS.

HAND HOLE AND TRANSFORMER BASE DOOR SHALL BE PLACED AWAY FROM TRAFFIC.

NOTE:

WHENEVER THE SPECIFICATION CONFLICTS WITH THE STANDARD SPECIFICATIONS, THE PLAN SPECIFICATIONS SHALL GOVERN.

FUSED CONNECTOR KITS:

1. DETAILS SHOWN HEREON ARE TYPICAL. ALTERNATE DESIGNS MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. MINIMUM REQUIREMENTS AND SIMILAR MATERIALS MUST BE USED.

2. ALL CONNECTOR ASSEMBLIES SHALL BE OF WATERPROOF CONSTRUCTION, DESIGNED FOR DIRECT BURIAL IN THE EARTH AND EXPOSURE TO SUNLIGHT, AND SHALL BE CAPABLE OF REPEATED DISCONNECTIONS WITHOUT DAMAGE TO THE WATERTIGHT SEALS AND TERMINALS, OR REDUCING THE CONDUCTIVITY BELOW SPECIFICATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FURNISH CONNECTORS RECOMMENDED FOR THE REQUIRED CABLE SIZES.

3. EACH CONNECTOR SHALL INCLUDE ALL PARTS AND MATERIALS NECESSARY TO COMPLETE ITS INSTALLATION, SUCH AS FUSES WHEN REQUIRED, LUBRICATING COMPOUND, AND ASSEMBLY DEVICES.

4. CABLE CONNECTOR TO BE USED IN POLE BASE ONLY.

5. MINIMUM OF 6 AMP(480 VAC) CARTRIDGE FUSE SHALL BE USED.

8/2004

COBRA-HEAD LUMINAIRE/FUSE CONNECTOR DETAILS

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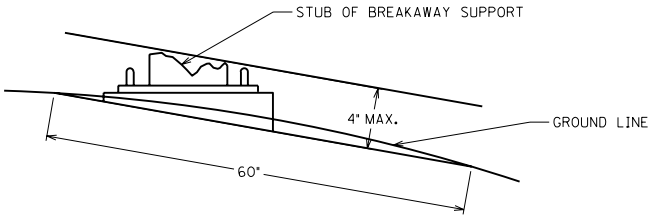
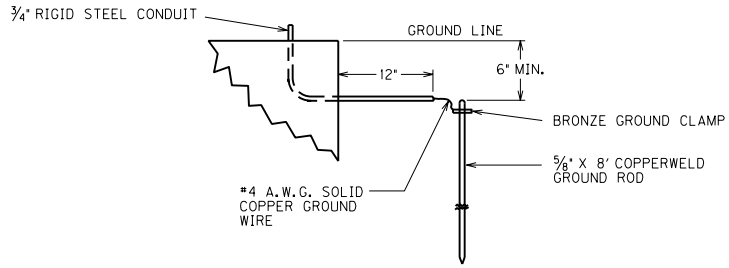
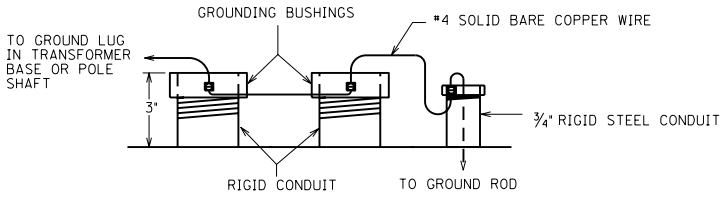
BREAKAWAY SUPPORTS SHALL COMPLY WITH SECTION 12 OF THE STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, LATEST EDITION. THE SURROUNDING SURFACE SHOULD BE REMOVED OR FILLED AND SLOPED APPROPRIATELY.



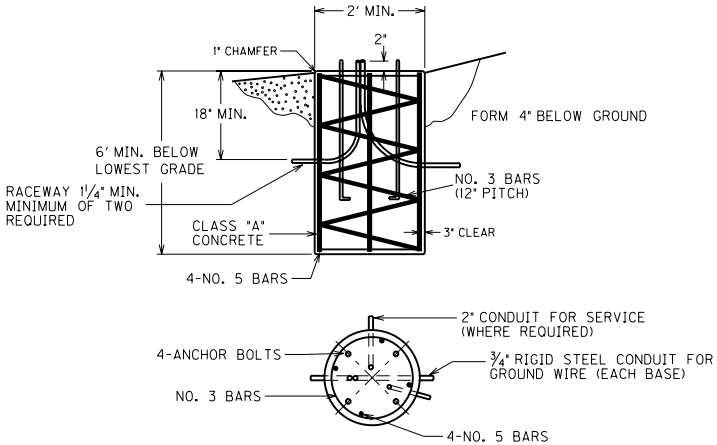
BREAKAWAY SUPPORT STUB HEIGHT MEASUREMENT



GROUNDING DETAIL

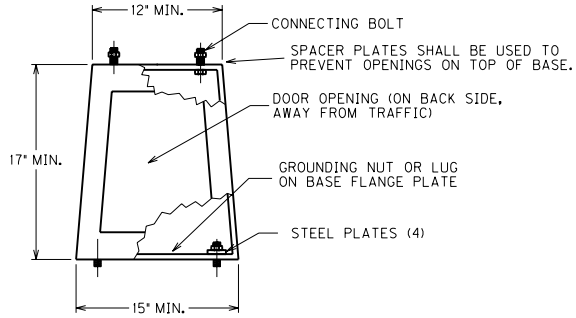


TYPICAL GROUNDING DETAIL



NOTE: PRECAST CONCRETE BASES ARE NOT ACCEPTABLE

FOUNDATION DETAIL



CONCRETE BASES SHALL BE POURED LEVEL. NO MORE THAN A ⅜" GAP SHALL EXIST BETWEEN CONCRETE BASE AND TRANSFORMER BASE WHEN THE POLE IS PLUMBED.

TYPICAL
CAST ALUMINUM TRANSFORMER BASE

NOTE: ALL TRANSFORMER BASES SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, LATEST EDITION. ALL TRANSFORMER BASE DOORS SHALL BE CONSTRUCTED OF HIGH-DENSITY POLYETHYLENE IN A MATCHING COLOR.

11/2009

TRANSFORMER BASE DETAIL

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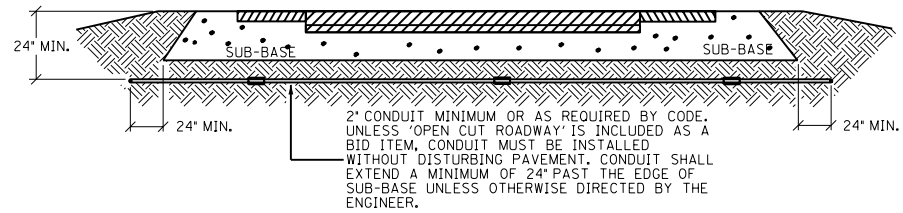
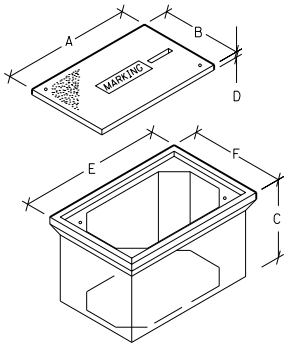


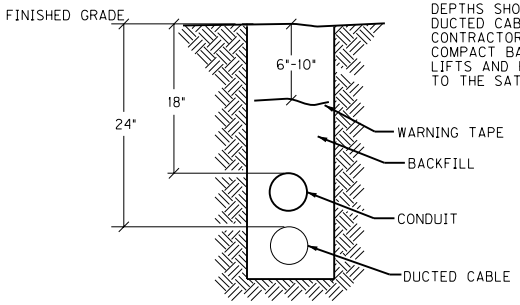
CONDUIT INSTALLATION UNDER EXISTING PAVEMENT DETAIL



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

CONTRACTOR SHALL INSTALL UNDERGROUND UTILITY WARNING TAPE ABOVE CONDUIT AND/OR DUCTED CABLE AS SHOWN. THE TAPE SHALL BE 6" WIDE BY 7.0 MILS (NOMINAL) THICK, HAVE A MINIMUM TENSILE STRENGTH OF 600 POUNDS PER 6" WIDTH, AND BE COLOR CODE IMPREGNATED WITH ALKALI AND ACID STABLE, LEAD-FREE, ORGANIC PIGMENTS SUITABLE FOR DIRECT BURIAL. THE TAPE SHALL ALSO BE ULTRAVIOLET COLORFAST AND NON-DISTORTING WITH NO ELONGATION. THE TAPE SHALL INCLUDE BLACK LETTERING/SYMBOLS ON A RED BACKGROUND THAT CONFORMS TO THE APWA-ULCC NATIONAL COLOR CODE. THE TAPE SHALL CONTINUOUSLY READ, "CAUTION: ELECTRIC LINE BURIED BELOW" ALTERNATING WITH A 'NO DIGGING' SYMBOL.



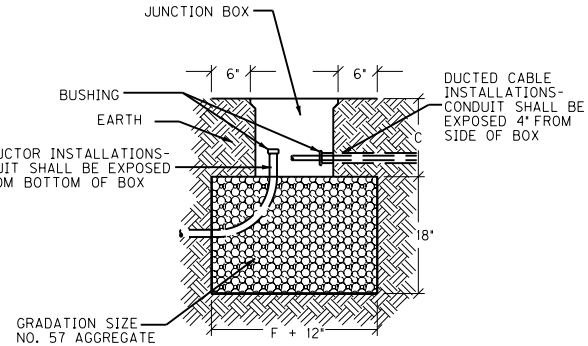
DEPTHS SHOWN FOR CONDUIT AND DUCTED CABLE ARE MINIMUMS. CONTRACTOR SHALL PLACE AND COMPACT BACKFILL IN 9" MAXIMUM LIFTS AND RETORE DISTURBED AREA TO THE SATISFACTION OF THE ENGINEER.

CONDUIT, DUCTED CABLE, AND WARNING TAPE TRENCH

JUNCTION BOX SHALL MEET OR EXCEED ANSI/SCTE 77-2007, 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.

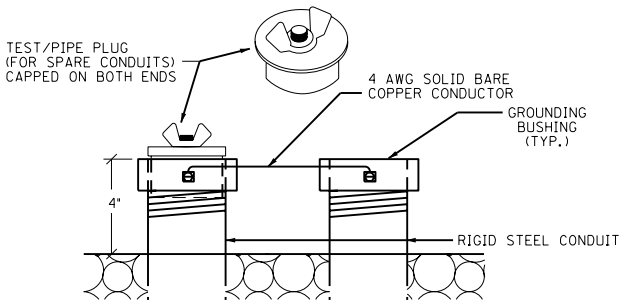


JUNCTION BOX

THIS NOTE DESCRIBES THE SPLICING PROCESS (IF REQUIRED) AND IS NOT INTENDED TO GRANT PERMISSION TO SPLICE. PERMISSION TO SPLICE SHALL BE DETERMINED BY THE DIVISION OF TRAFFIC OPERATIONS AND THE LOCATIONS SHALL BE SHOWN ON THE LAYOUT SHEET. IF SPLICING IS NEEDED BUT NOT SHOWN ON THE LAYOUT SHEET, THE CONTRACTOR SHALL RECEIVE PRIOR APPROVAL FROM THE ENGINEER.

ALL UNDERGROUND SPLICES SHALL BE MADE WITH BUTT SPLICES. BUTT SPLICES SHALL BE COPPER AND OF THE CORRECT CONDUCTOR RANGE. ALL BUTT SPLICES SHALL BE COVERED WITH A 3M MASTIC PAD OR APPROVED EQUAL AND THEN TAPED WITH A 3M BRAND #33 ELECTRICAL TAPE OR APPROVED EQUAL. MASTIC PAD MUST COVER AT LEAST 3 INCHES PAST EACH END OF BUTT SPLICE. IF LOOP SPLICING, THE MASTIC PAD SHALL EXTEND AT LEAST ONE INCH ONTO THE OUTER INSULATION OF THE LEAD-IN WIRE (IMSA 19-2). UNDERGROUND SPLICES INCLUDE SPLICES IN JUNCTION BOXES AND TRANSFORMER BASES. EACH CONDUCTOR, INCLUDING THE GROUND, SHALL BE ENCASED IN A SEPARATE SPLICE KIT. COST OF THIS ITEM SHALL BE INCIDENTAL TO THE PROJECT. THIS SPLICING SPECIFICATION TAKES PRECEDENCE OVER ANY OTHER SPLICING SPECIFICATION LISTED IN THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

SPLICING REQUIREMENTS



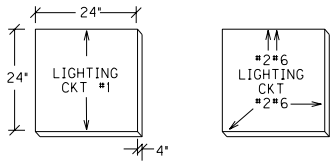
TEST/PIPE PLUG SHALL BE GALVANIZED STEEL OR STAINLESS STEEL MECHANICAL TYPE. IT SHALL HAVE A RUBBER GROMMET THAT EXPANDS INSIDE THE CONDUIT TO SEAL THE CONDUIT.

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

WHEN SHOWN ON THE PLANS, THE LOCATION OF UNDERGROUND CIRCUITS SHALL BE MARKED BY A CONCRETE SLAB MARKER. EACH MARKER SHALL EXTEND APPROXIMATELY 1" ABOVE THE FINISHED GRADE. THE WORD "LIGHTING", APPROPRIATE CIRCUIT NUMBERS AND DIRECTIONAL ARROWS SHALL BE IMPRESSED ON EACH SLAB. THE MARKINGS SHALL BE APPROXIMATELY 4" HIGH BY 3" WIDE WITH THE STROKE ½" WIDE BY ¼" DEEP.

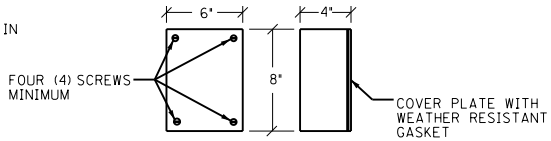
EACH CABLE RUN SHALL BE MARKED AT APPROXIMATELY EVERY 300 FEET ALONG THE CABLE RUN BETWEEN JUNCTION BOXES AND LIGHT POLES, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION AND AT EACH END OF THE CONDUIT CROSSING A ROADWAY (IF NO JUNCTION BOX IS PRESENT). CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE CABLE.

MARKERS SHALL BE PRE-CAST. DO NOT POUR MARKERS IN PLACE OR CHISEL LETTERS IN CONCRETE. SUBSTITUTION OF RURAL RIGHT-OF-WAY MARKERS IS NOT ALLOWED.



CONCRETE CABLE MARKERS

SPLICE BOX SHALL BE FABRICATED FROM MINIMUM 12 GAUGE STEEL AND GALVANIZED AFTER FABRICATION. BOXES SHALL HAVE NO KNOCKOUTS AND SHALL BE PROVIDED WITH A PLATE COVER WITH A WEATHER RESISTANT GASKET AND A MINIMUM OF FOUR SCREWS FOR ATTACHING THE PLATE COVER TO THE BOX. CABLE CLAMPS SHALL BE PROVIDED FOR CABLES ENTERING AND EXITING THE BOX.



SPLICE BOX

1/11/2011

TRAFFIC SIGNAL AND ROADWAY LIGHTING JUNCTION BOX AND CONDUIT DETAILS

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS
I-71

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

SPECIAL NOTE FOR BEFORE YOU DIG

Call 1-800-752-6007 toll free a minimum of two and no more than ten business days prior to excavation for information on the location of existing under-ground utilities which subscribe to the before-u-dig (BUD) service. Coordinate excavation with all utility owners, including those who do not subscribe to bud.

Guardrail Delivery Verification Sheet

Item No. 5-2053.00

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		
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 Central Sign Shop and Recycle Center in Frankfort, KY (502-564-8187) between the hours of 8:00 AM and 3:00 PM Monday through Friday and shall be neatly stacked in accordance with section 719.03.07 of the standard specifications. Contractor, engineer, and Central Sign Shop and Recycle Center representative must all sign off on this sheet before payment may be made.

	Printed Name	Signature	Date
Resident Engineer (or Representative)			
Contractor (or Representative)			
Central Sign Shop & Recycle Center Representative			

Special Note For:
Erosion Prevention and Sediment Control
Jefferson Co. Item No. 5-2053

The Contractor shall be responsible for filing the Kentucky Pollution Discharge Elimination System (KPDES) KYR10 permit Notice of Intent (NOI) with the Kentucky Division of Water (DOW) and any KPDES local Municipal Separate Storm Sewer System (MS4) program that has jurisdiction. The NOI shall name the contractor as the Facility Operator and include the KYTC Contract ID Number (CID) for reference.

The Contractor shall perform all temporary erosion/sediment control functions including: providing a Best Management Practice (BMP) Plan, conducting required inspections, modifying the BMP plan documents as construction progresses and documenting the installation and maintenance of BMPs in conformance with the KPDES KYR10 permit effective on August 1, 2009 or a permit re-issued to replace that KYR10 permit. This work shall be conducted in conformance with the requirements of Section 213 of KYTC 2008 Department of Highways, Standard Specifications for Road and Bridge Construction.

Contrary to Section 213.03.03, paragraph 2, the Engineer shall conduct inspections as needed to verify compliance with Section 213 of KYTC 2008 Department of Highways, Standard Specifications for Road and Bridge Construction. The Engineer's inspections shall be performed a minimum of once per month and within seven days after a storm of ½ inch or greater. Copies of the Engineer's inspections shall not be provided to the contractor unless improvements to the BMP's are required. The contractor shall initiate corrective action within 24 hours of any reported deficiency and complete the work within 5 days. The Engineer shall use Form TC 63-61 A for this report. Inspections performed by the Engineer do not relieve the Contractor of any responsibility for compliance with the KPDES permit.

Contrary to Section 213.05, bid items for temporary BMPs will not be listed and will be replaced with one lump sum item for the services. Payment will be pro-rated based on the Project Schedule as submitted by the Contractor and as agreed to by the Engineer.

The contractor shall be responsible for applying "good engineering practices" as required by the KPDES permit. The contractor may use any temporary BMPs with the approval of the KYTC Engineer.

The contractor shall provide the Engineer copies of all documents required by the KPDES permit at the time they are prepared.

The contractor shall be responsible for the examination of the soils to be encountered and make his own independent determination of the temporary BMPs that will be required to accomplish effective erosion prevention and sediment control.

The Contractor shall be responsible for filing the KPDES permit Notice of Termination (NOT) with the Kentucky DOW and any local MS4 program that has jurisdiction. The NOT shall be filed after the Engineer agrees that the project is stabilized or the project has been formally accepted.

Payment: Payment will be by lump sum under the bid item "K.P.D.E.S. Permit & Temporary Erosion Control".

Special Note For Fixed Completion Date and Liquidated Damages Jefferson County Item No. 5-2053

Contrary to Section 108.09, Liquidated Damages of $5,000 per calendar day will be assessed for each day or fraction thereof work remains uncompleted beyond the Specified Completion Date. This project has a Fixed Completion Date of December 15, 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 the prohibited period outlined in the Traffic Control Plan:

Mainline:	$5,000 for the first hour or fraction thereof $20,000 for the second hour or fraction thereof $40,000 for any additional hour or fraction thereof
Ramps:	$1,500 for the first hour or fraction thereof $3,000 any additional hour or fraction thereof

These hourly disincentives will still be in effect after the Fixed Completion Date and will be charged in addition to the $5,000 per calender day if warranted. The contractor is expected to make every effort to complete the work in order to open the ramp or mainline lane closure within a specified timeframe.

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.

INTERSTATE 71 RESURFACING PROJECT
MILE POINTS 0.0 TO 5.5
ITEM # 5-2053
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 and ramp closures. The KYTC District 5 Public Information Officer (PIO) will coordinate and disseminate to stakeholders and the media appropriate information regarding the construction plans.

LOCAL STAKEHOLDERS

- Elected Officials
  - State Senator Julie Denton – (502) 489-9058; julie.denton@lrc.ky.gov
  - State Senator Gerald Neal – (502) 584-8500; gerald.neal@lrc.ky.gov
  - State Senator Ernie Harris – (502) 241-8307; ernie.harris@lrc.ky.gov
  - State Representative Julie Adams – (502) 744-9264; julie.adams@lrc.ky.gov
  - State Representative Darryl Owens – (502) 584-6341; darryl.owens@lrc.ky.gov
  - State Representative Tom Riner – (502) 584-3639; tom.riner@lrc.ky.gov
  - Mayor Greg Fischer – (502) 574-2003; greg.fischer@louisvillky.gov
  - Metro Councilman Ken Fleming – (502) 574-1107; ken.fleming@louisvilleky.gov
  - Metro Councilman Kelly Downard (502) 574-1116; kelly.downard@louisvilleky.gov
  - Metro Councilwoman Tina Ward-Pugh – (502) 574-1109; tina.ward-pugh@louisvilleky.gov

- Local Agencies
  - Rick Caple, Director of Transportation for Jefferson County Public Schools – (502) 485-3470; richard.caple@jefferson.kyschools.us
  - Barry Barker, Transit Authority of the River City (TARC) – (502) 561-5100; jbarrybarker@ridetarc.org
  - Lt. Doug Sweeney, Louisville Metro Police Department Traffic Division – (502) 574-2445; doug.sweeney@louisvilleky.gov
  - Mark Giuffre, UPS – (502) 329-3060; mgiuffre@ups.com
  - Virgie Long, Overdimensional Permits – (502) 564-7150; virgie.long@ky.gov
  - Ted Pullen, Louisville Metro Public Works – (502) 574-5810; ted.pullen@louisvilleky.gov
  - Ellen Wade, President of Northeast Louisville Business Association (NELBA) – (502) 905-4408; bigole@aol.com

- Utility Companies

  - Local utility companies are kept apprised of this project at the monthly utility coordination meetings hosted by District 5

- Neighborhoods and their Mayors
  - Louis Phillips, Windy Hills – (502) 899-9971; info@cityofwindyhills.com
  - Thomas Eifler, Indian Hills – (502) 896-8076; info@indianhillsky.org
  - Randy Chappell, Northfield – (502) 425-4733; mayor@cityofnorthfield.com
  - Andy Cornelius, Butchertown; butchertown@gmail.com

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 5 website and the weekly District 5 Road Show 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 five (5) days prior to the change.

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

DIVISION OF PLANNING

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

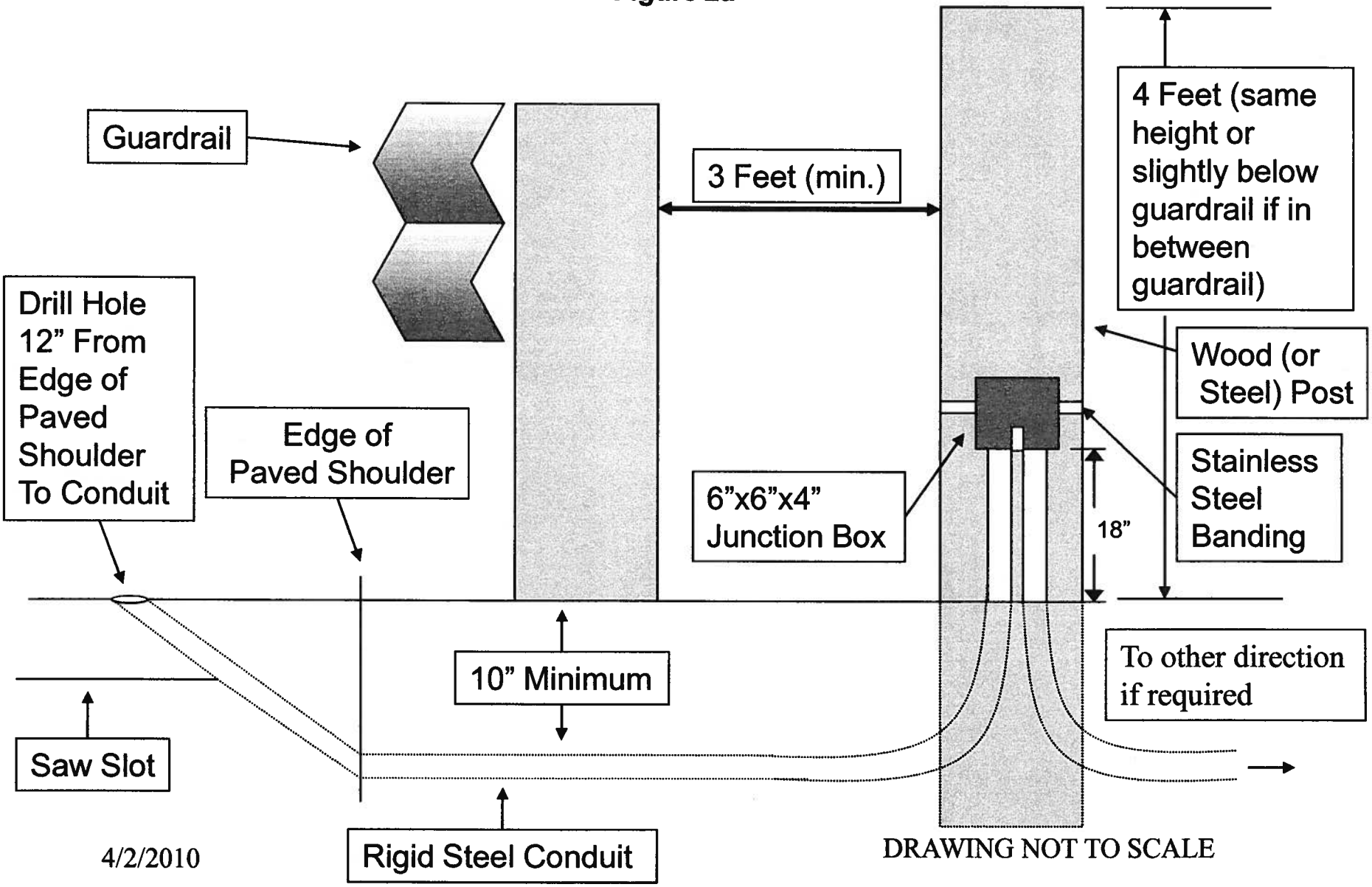
DRAWINGS ARE NOT TO SCALE

4/2/2010

Rev. 3/10

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

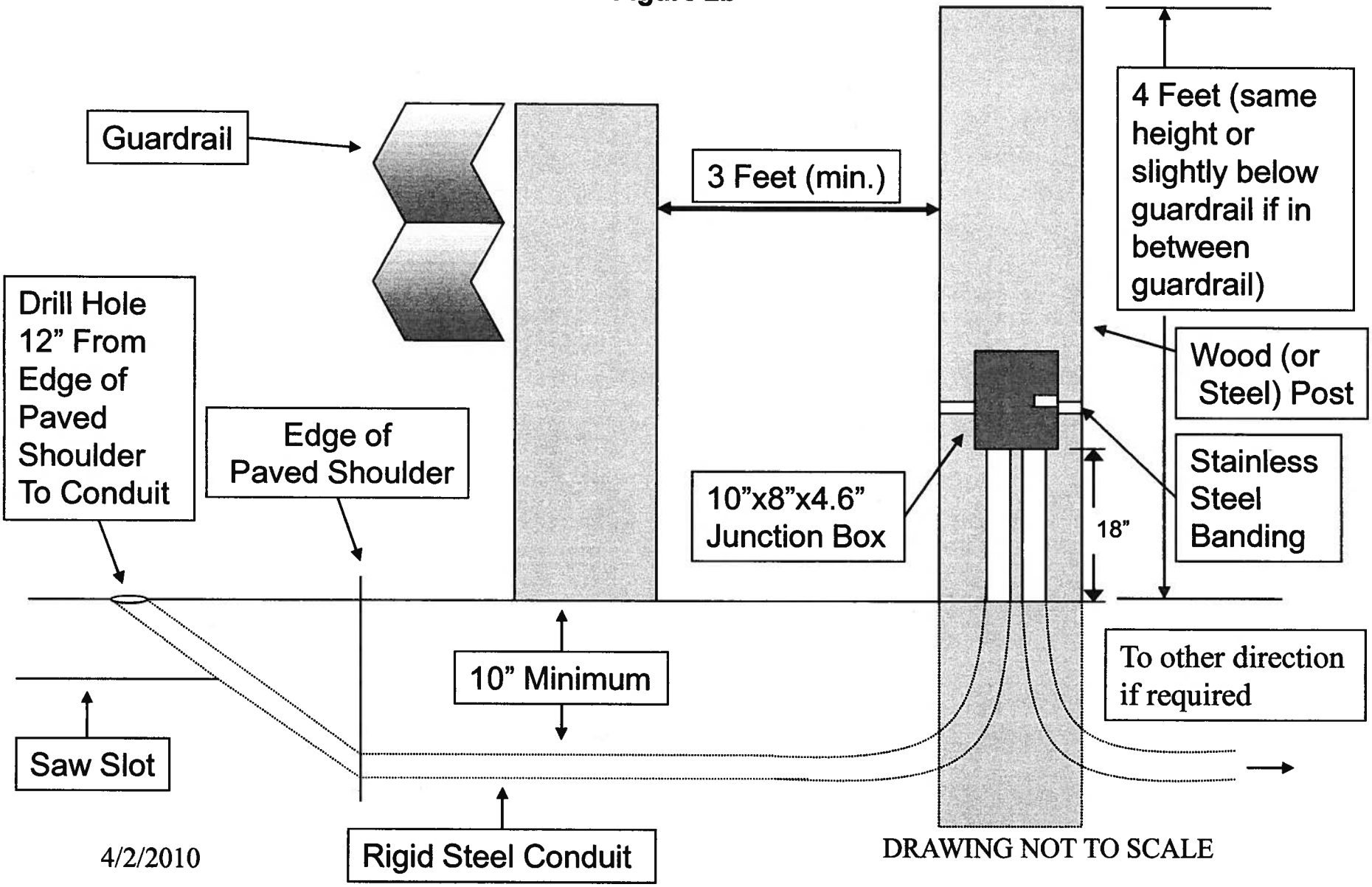
Figure 2a



4/2/2010

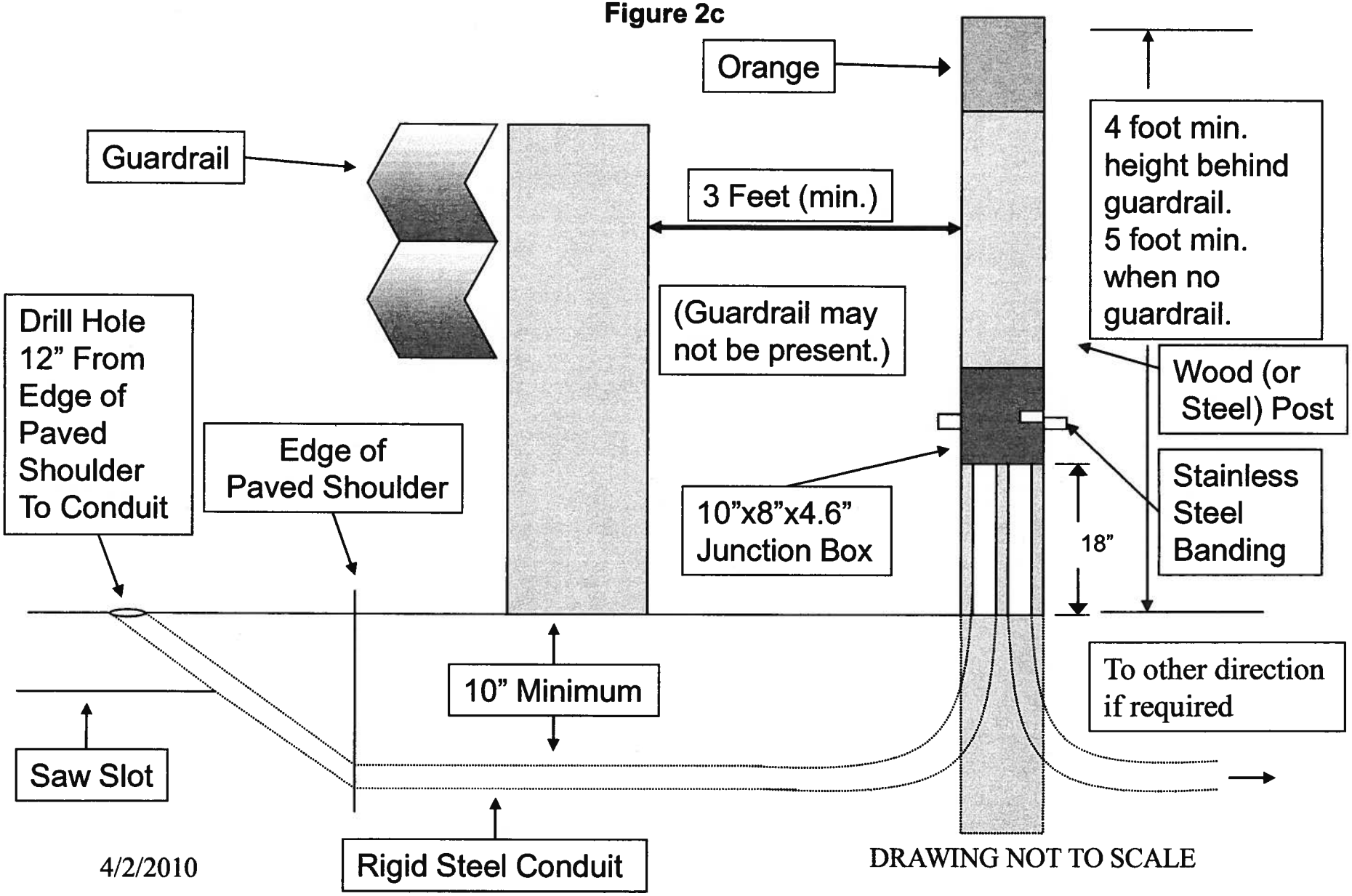
Junction Box Type 10"x 8"x 4" Detail

Figure 2b



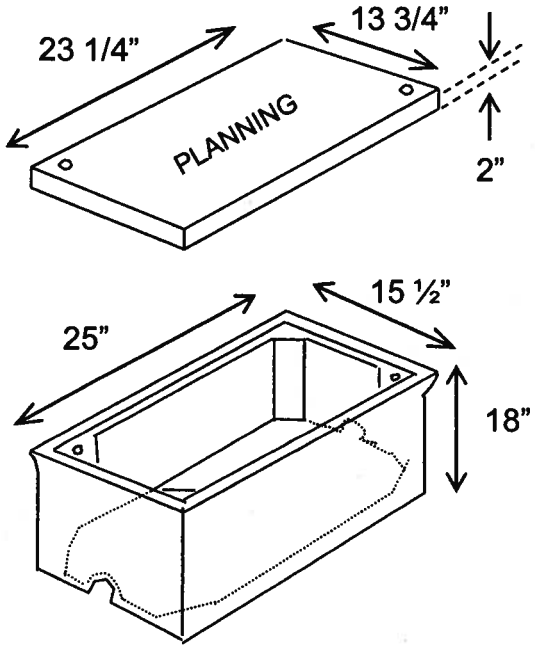
Junction Box Type 10"x 8"x 4" Detail

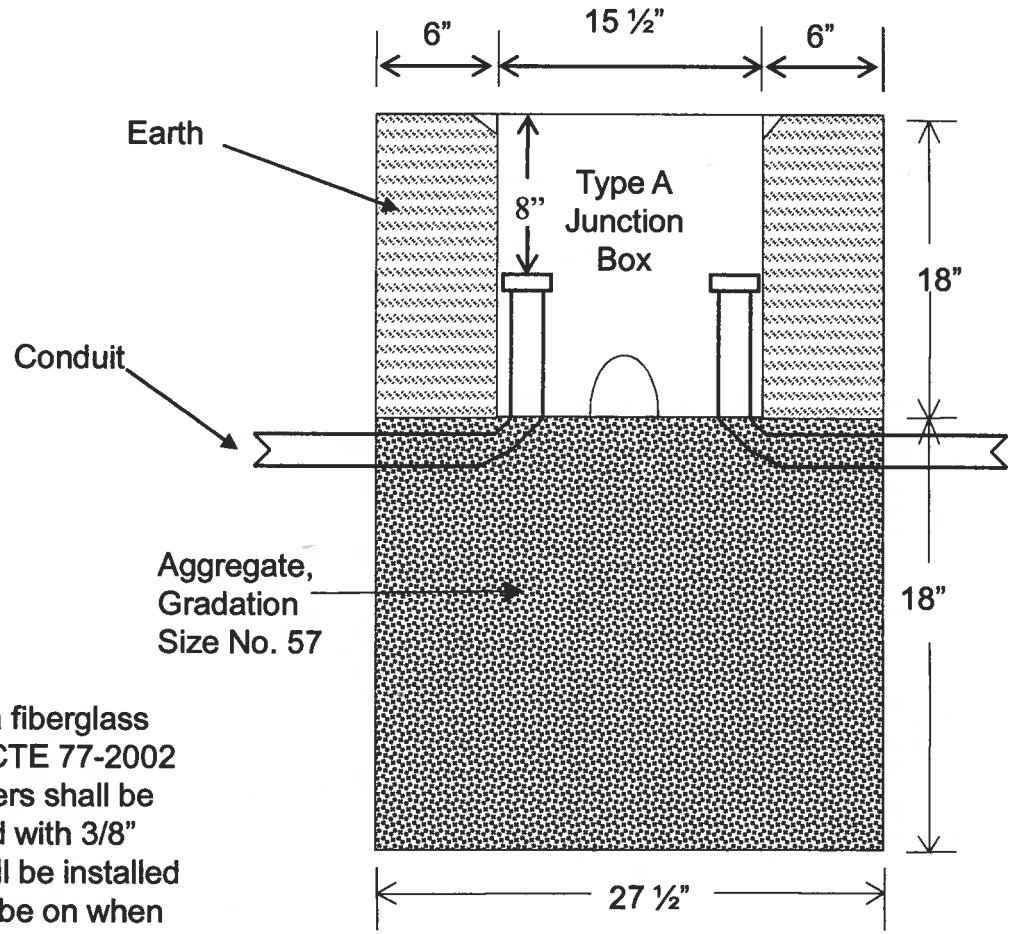
Figure 2c



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

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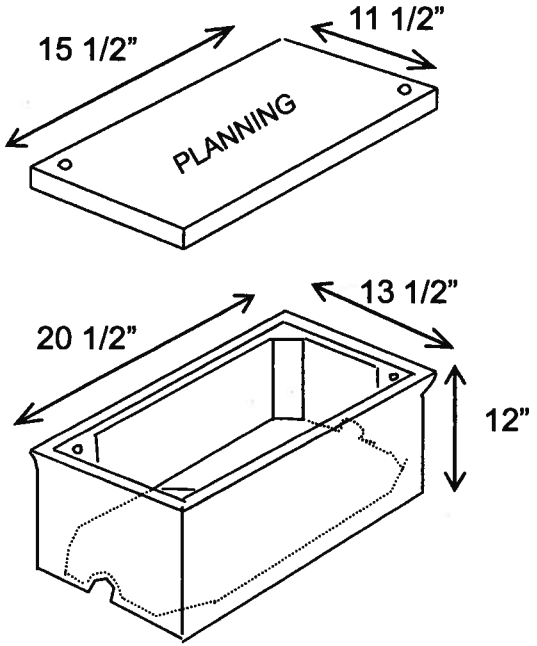
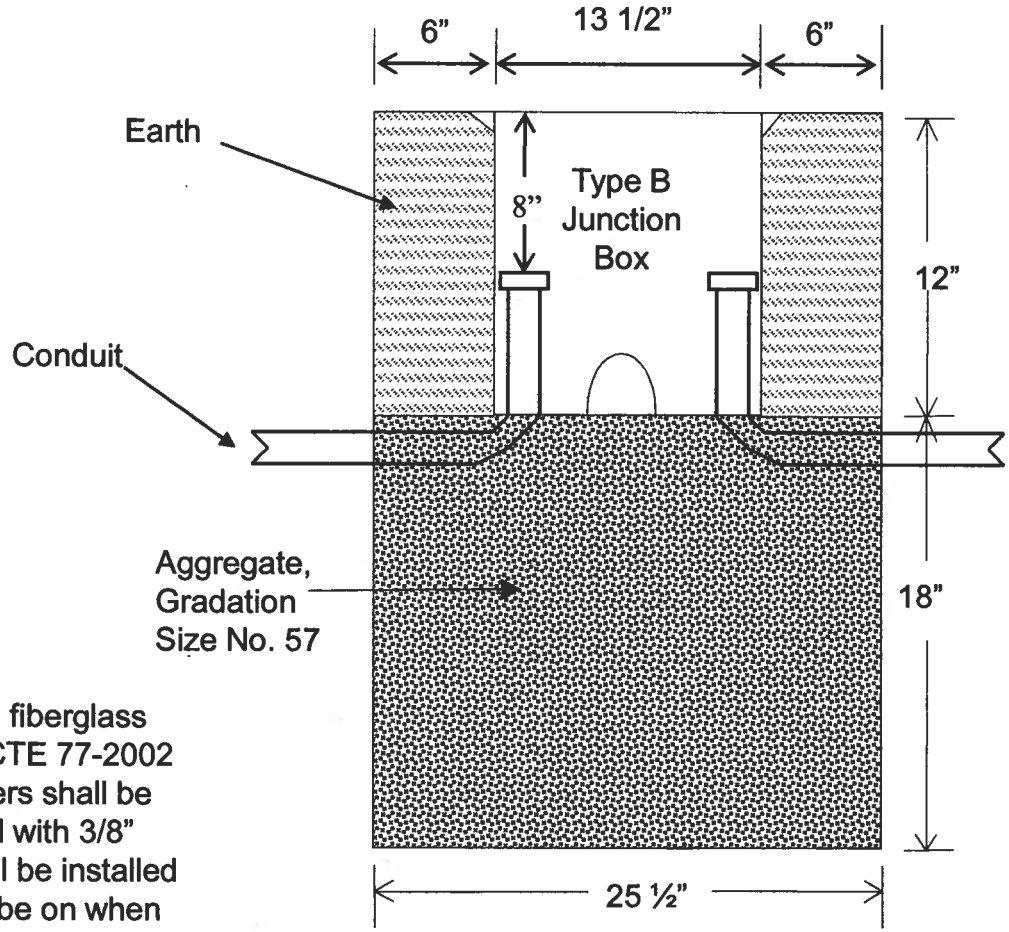
Junction Box Type B Installation

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.

4/2/2010

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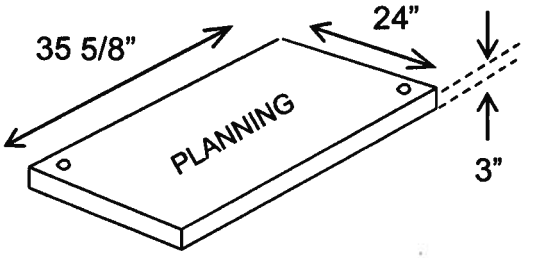
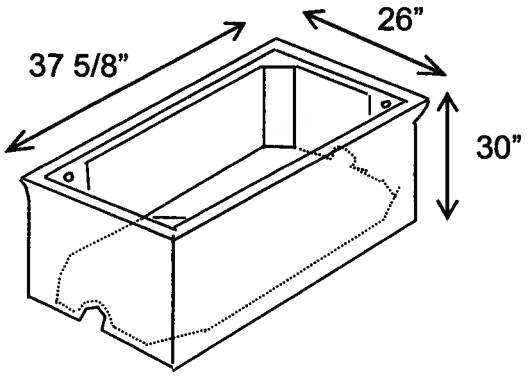
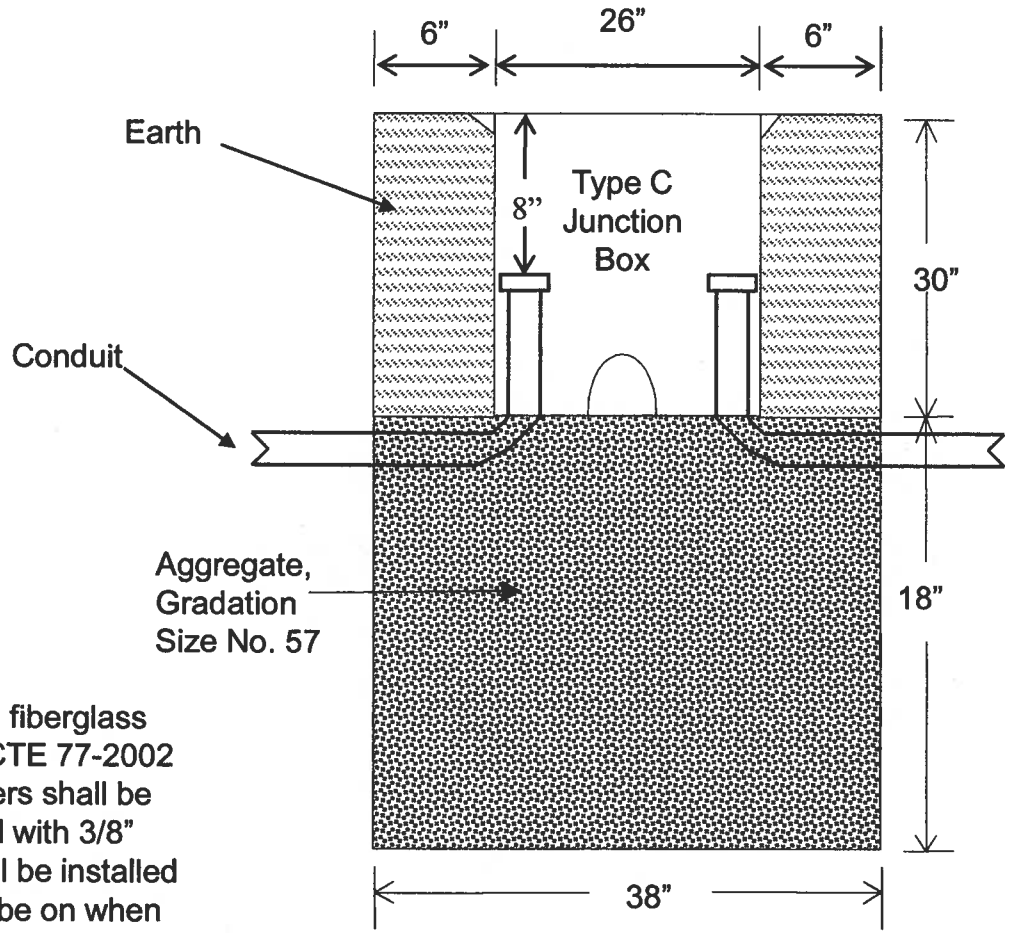
Junction Box Type C Installation

Figure 3c







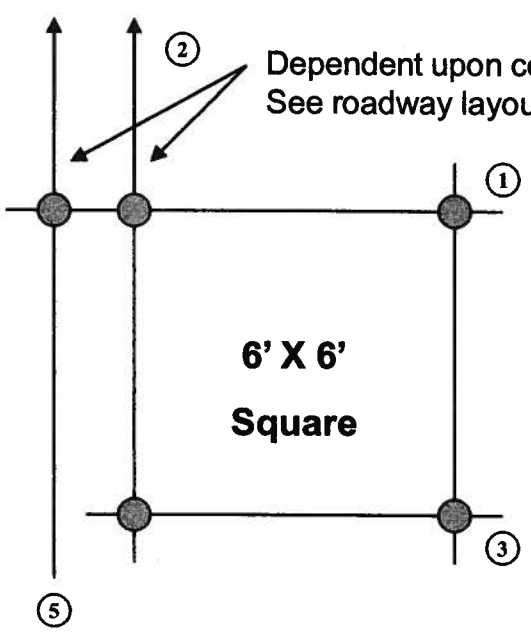
Junction box shall be constructed of a fiberglass reinforced polymer concrete, ANSI/SCTE 77-2002 Tier 15 style or approved equal. Covers shall be marked "PLANNING" and be attached with 3/8" stainless hex bolts. Junction box shall be installed flush with ground line. Covers should be on when filling in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

4/2/2010

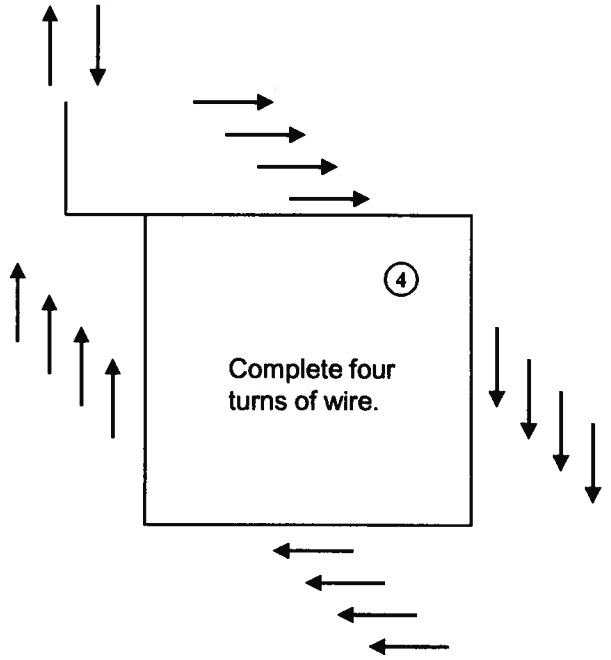
DRAWING NOT TO SCALE

Loop Installation Instructions

Loop Installation in Existing Roadways
Figure 4



Saw Slot Plan



Loop Wiring Plan

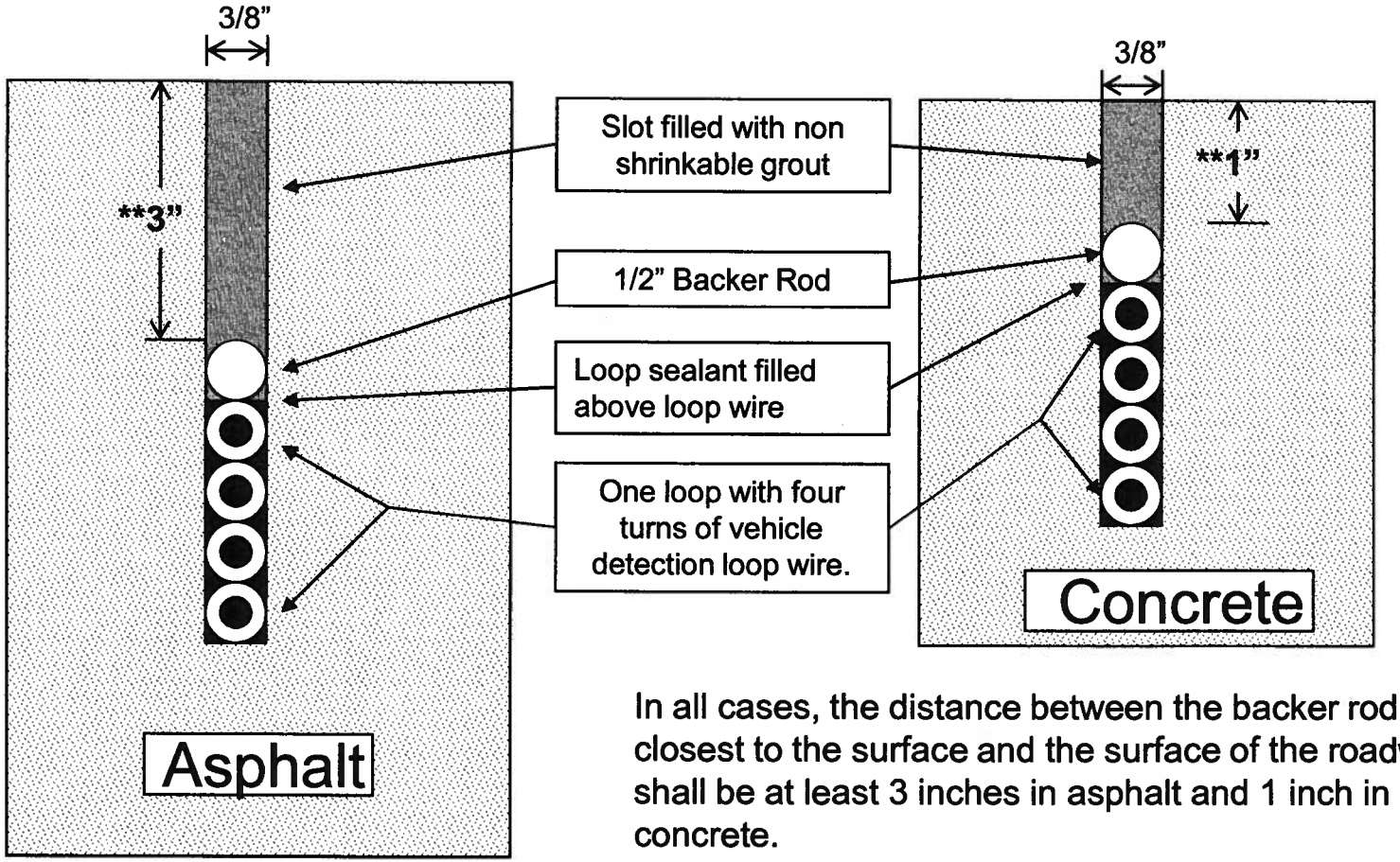
Notes:

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.

4/2/2010

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.

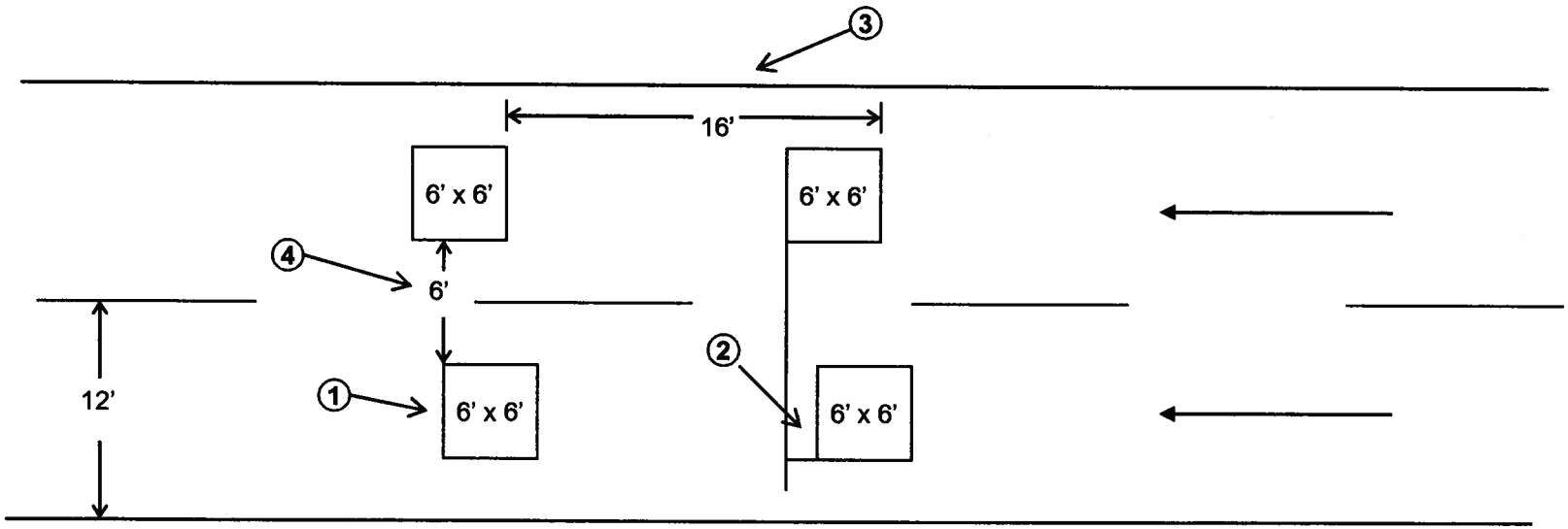
**Saw slot level shall be lowered at edge of roadway to meet the conduit level.

4/2/2010

DRAWING NOT TO SCALE

Loop Characteristics

Figure 6

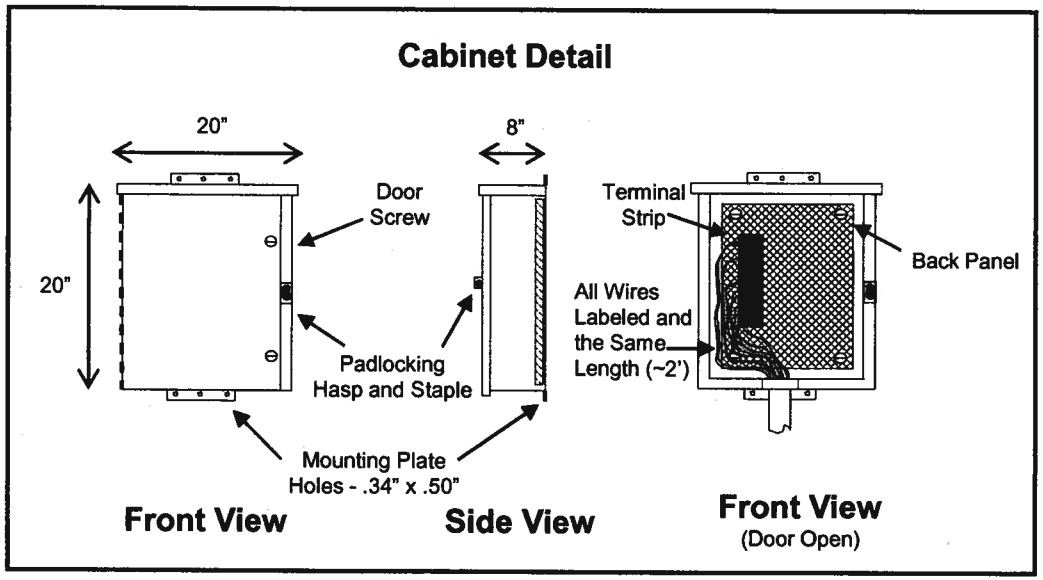


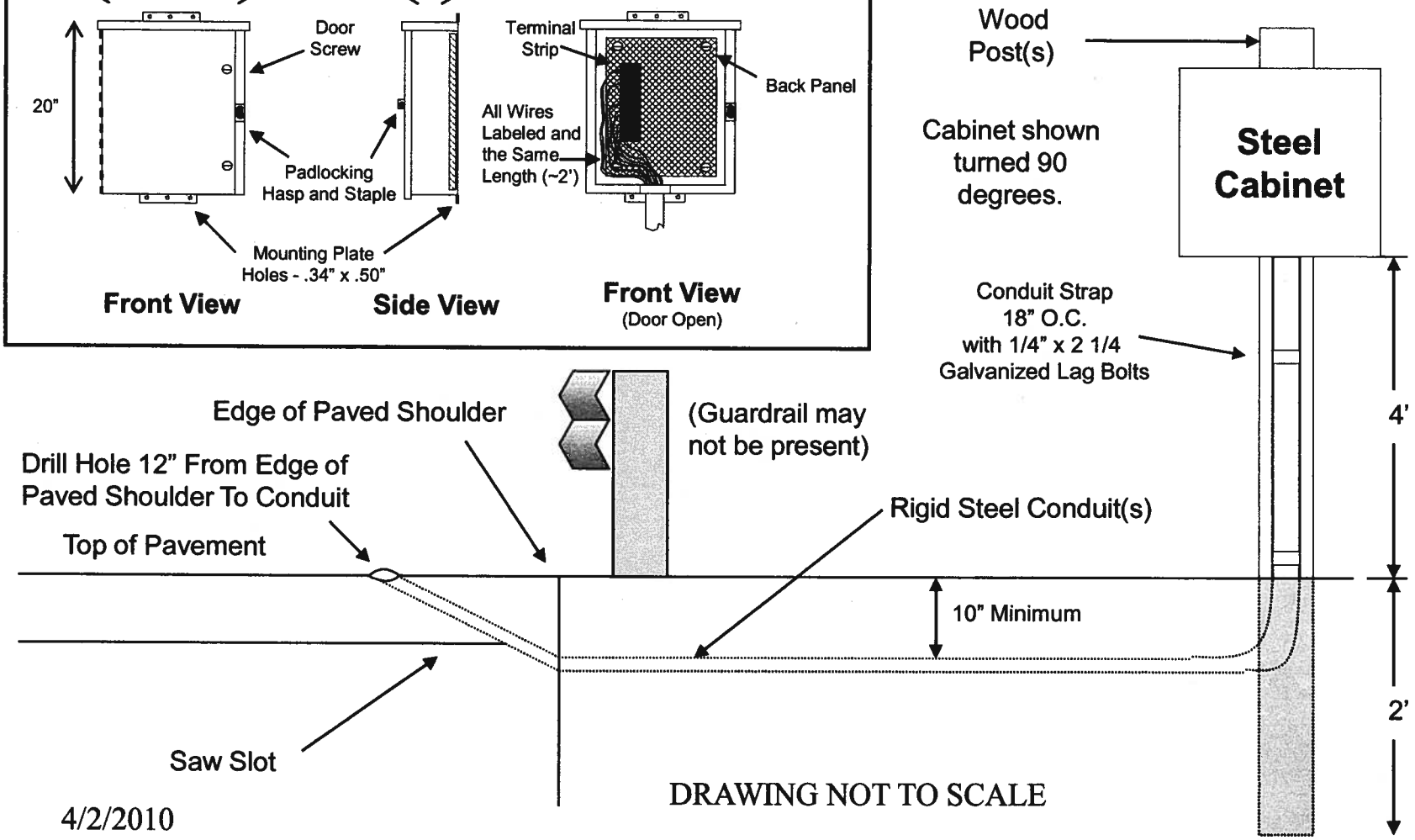
1. Unless denoted otherwise, all loops are 6' x 6' square, positioned in center of lane with 4 turns of 14 AWG loop wire.
2. Minimum 12" between loop and lead-ins. Lead-ins should be on the trailing edge of the loop.
3. If two loops are installed in a lane, space loops 16' from leading edge to leading 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.

4/2/2010

Galvanized Steel Cabinet and Post Installation

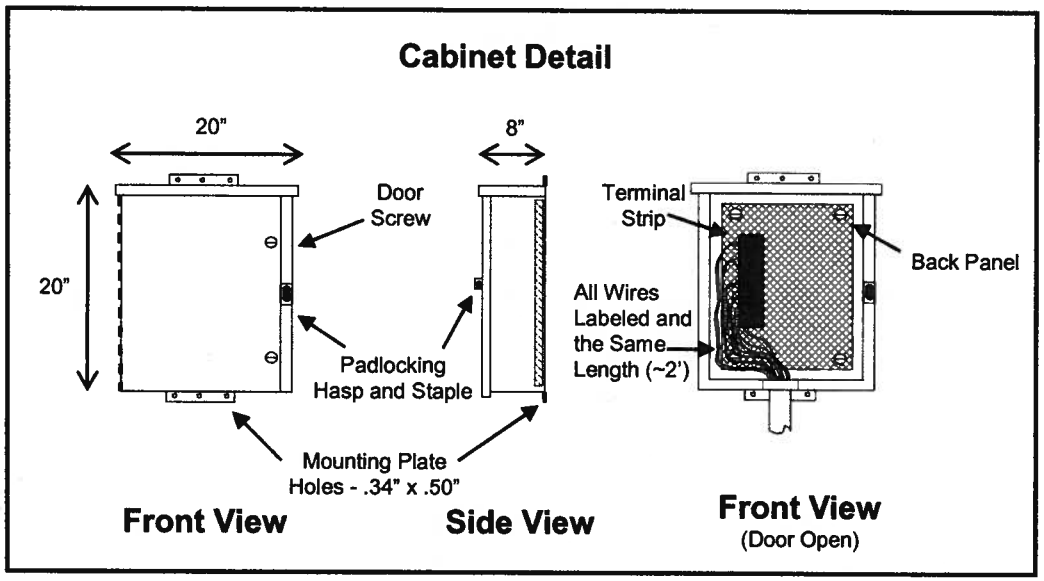
Figure 7a

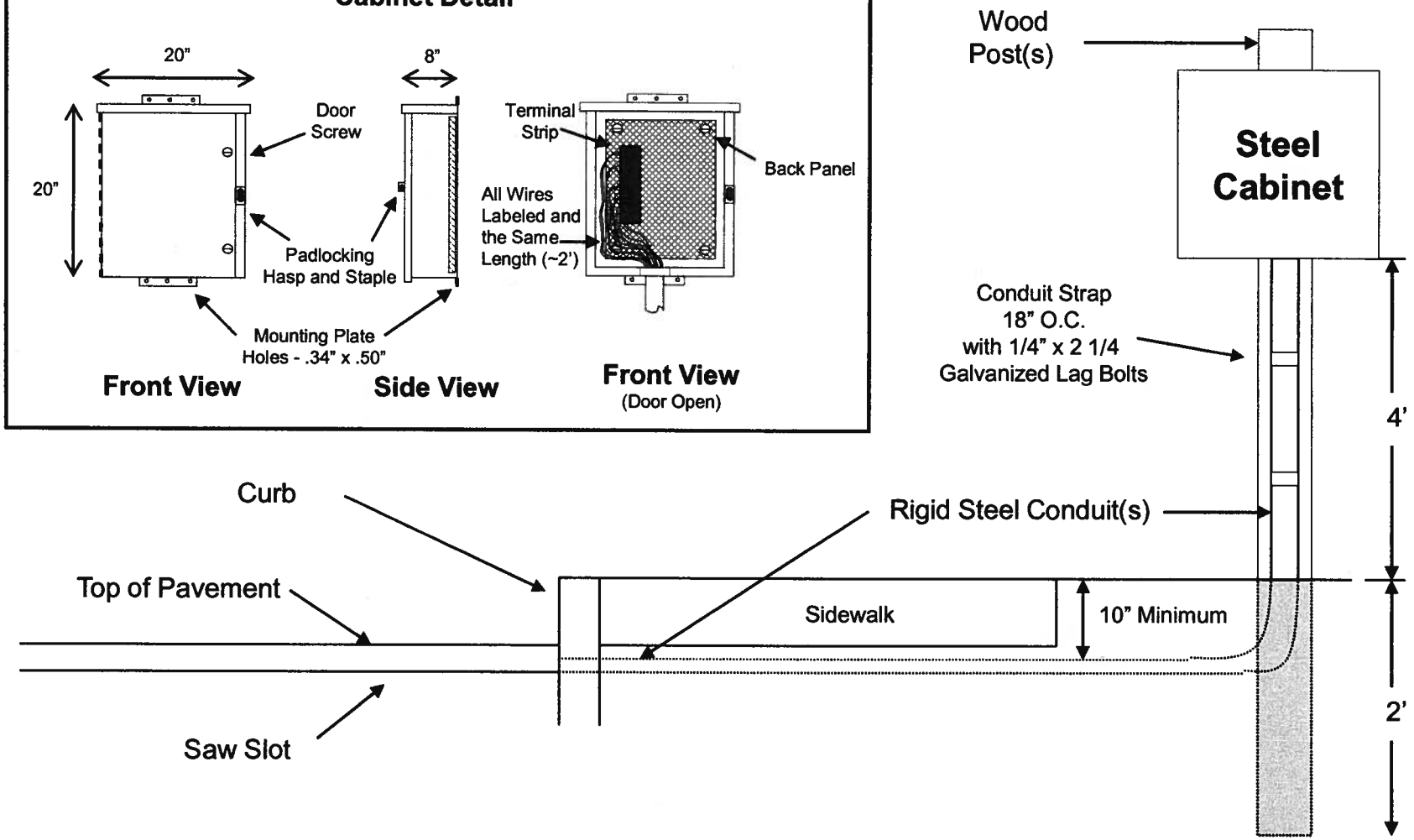




Galvanized Steel Cabinet and Post Installation

Figure 7b





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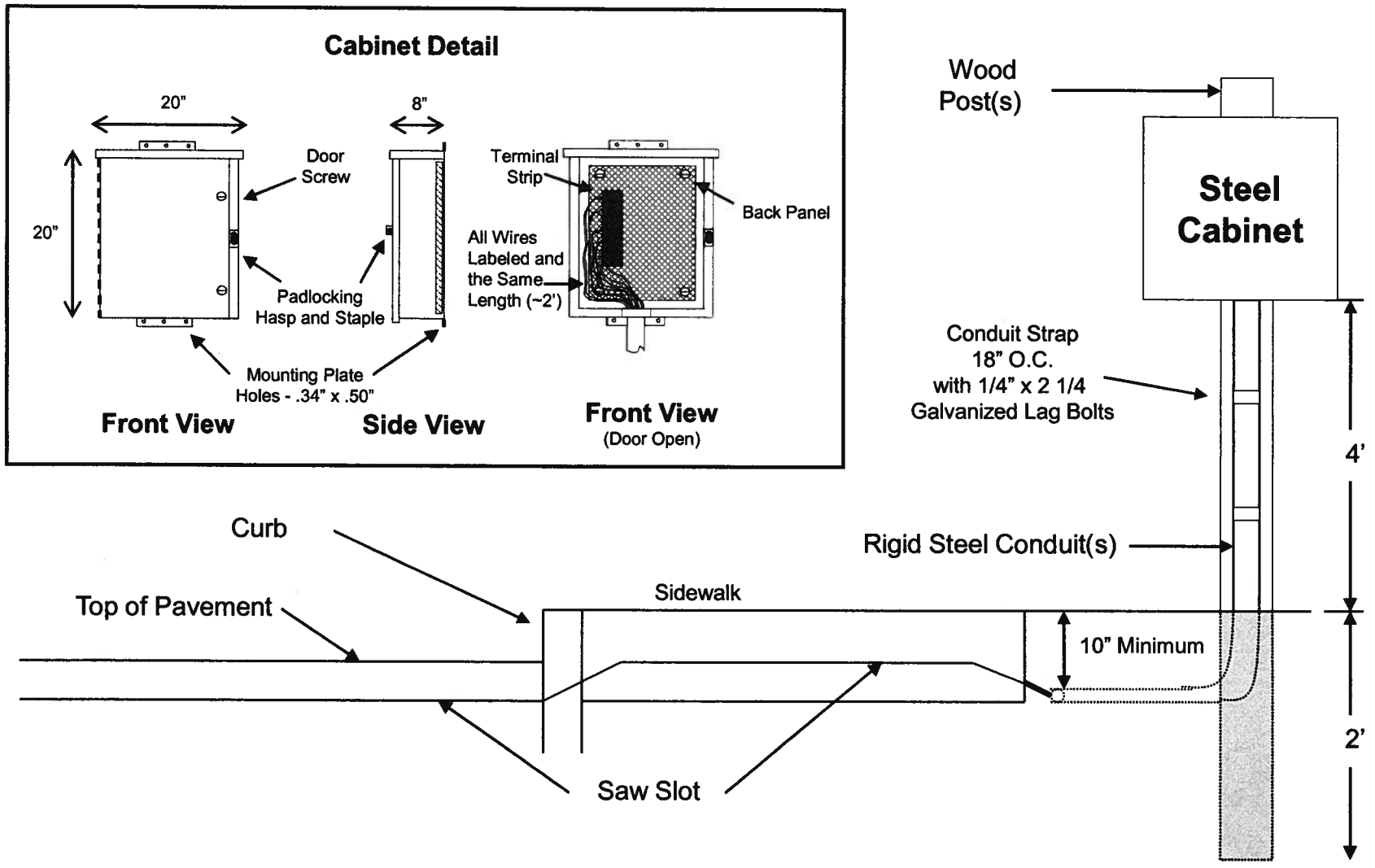
4/2/2010

Galvanized Steel Cabinet and Post Installation

Figure 7c



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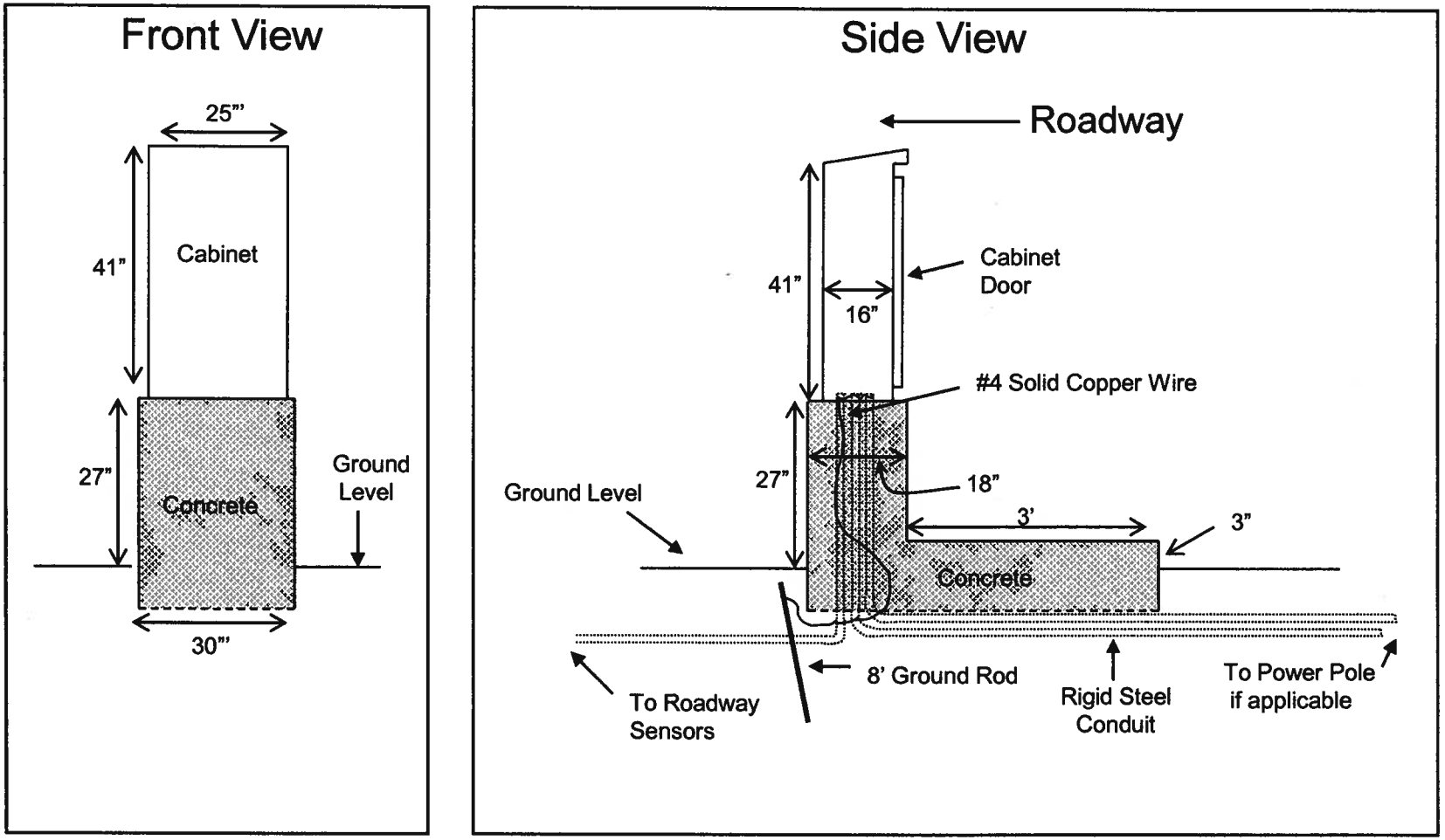
4/2/2010

Cabinet Type G

Figure 8

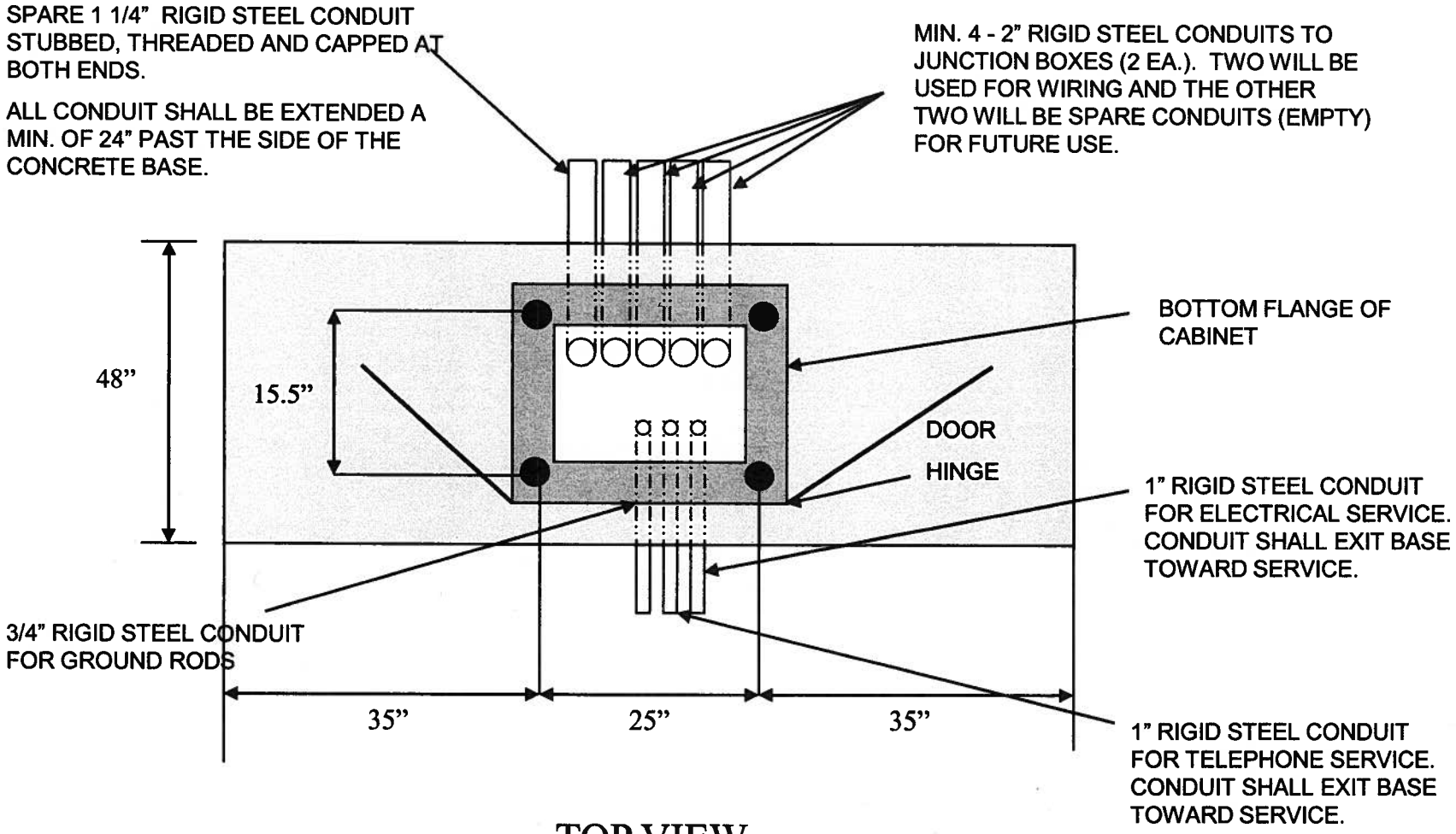


DRAWING NOT TO SCALE

4/2/2010

Base Mounted 170 Cabinet Detail

Figure 9a



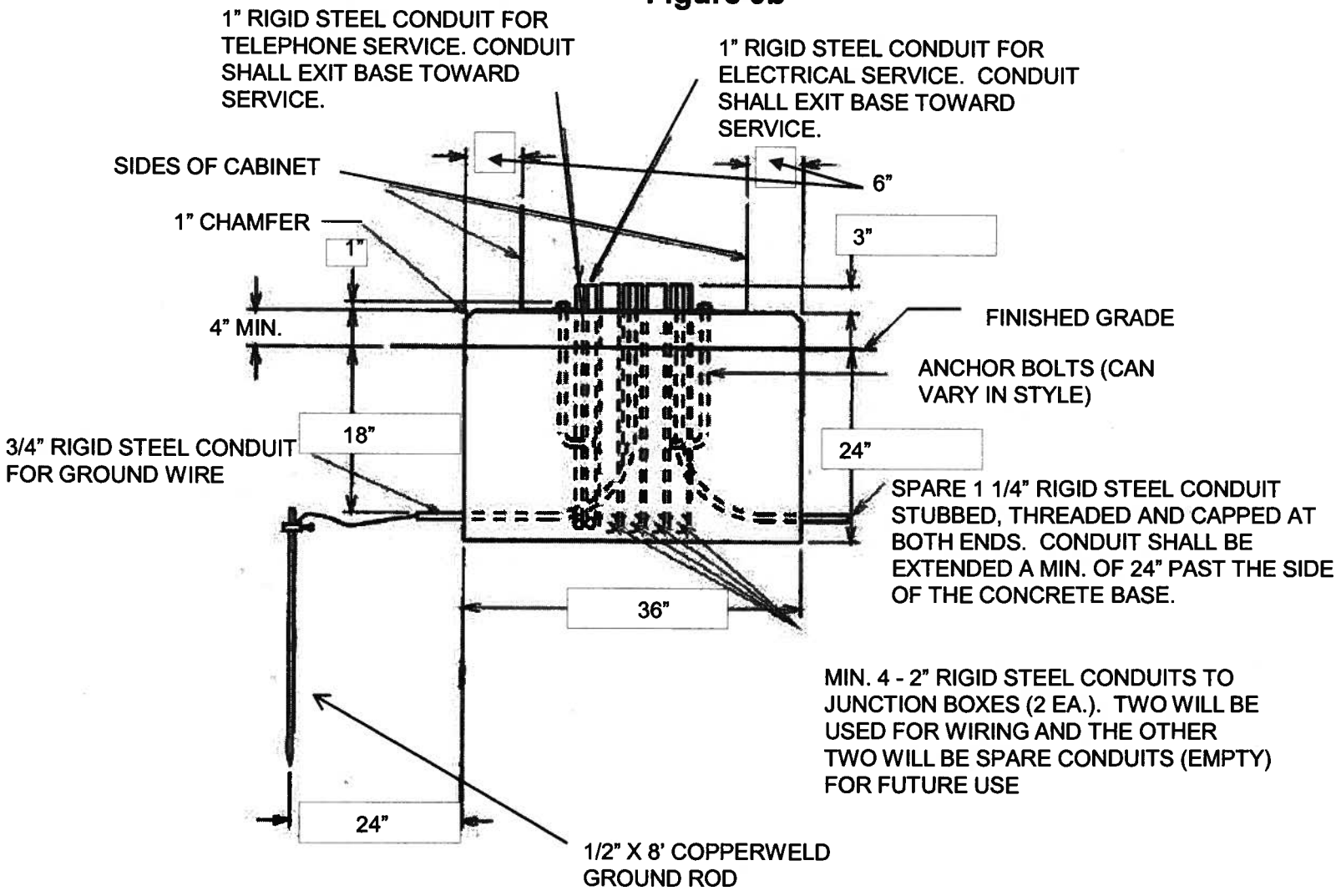
TOP VIEW

4/2/2010

DRAWING NOT TO SCALE

Base Mounted 170 Cabinet Detail

Figure 9b



SIDE VIEW

4/2/2010

DRAWING NOT TO SCALE

GENERAL NOTE
JEFFERSON COUNTY – I-71
ATR TRAFFIC STATION TRIMARC – MP 1.12

The Division of Planning needs to re-establish an ATR data collection station within a section of the rehabilitation project in Jefferson County on I-71. Planning is requesting to have service replaced at a site with an approximate mile-point of 1.12, with the installation of traffic loop sensors before the final surface course is placed. The center of the loops shall be marked on the shoulder so the piezoelectric sensors can be installed once the new rehabilitation project is deemed completed. Exact location will be determined in the field.

Contractor shall install two (2) loop sensors and two (2) piezos in each lane, in the same proximity as that of the old site. Four (4) new Type-A junction boxes will be installed and conduit will be run into the existing concrete junction box which has existing conduit that runs into the concrete footer that holds the traffic cabinet that all the wires will be run into. See Figure 1.

Therefore, the contractor will install a total of eight (8) loop sensors and eight (8) piezo sensors in the roadway and run their lead-ins splice-free through the junction boxes and into the cabinet as indicated in Figure 1. All loops and piezos will run through two inch rigid conduit from edge of pavement to the junction boxes and then through two inch rigid conduit from the junction boxes to the existing junction box and on into the 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:

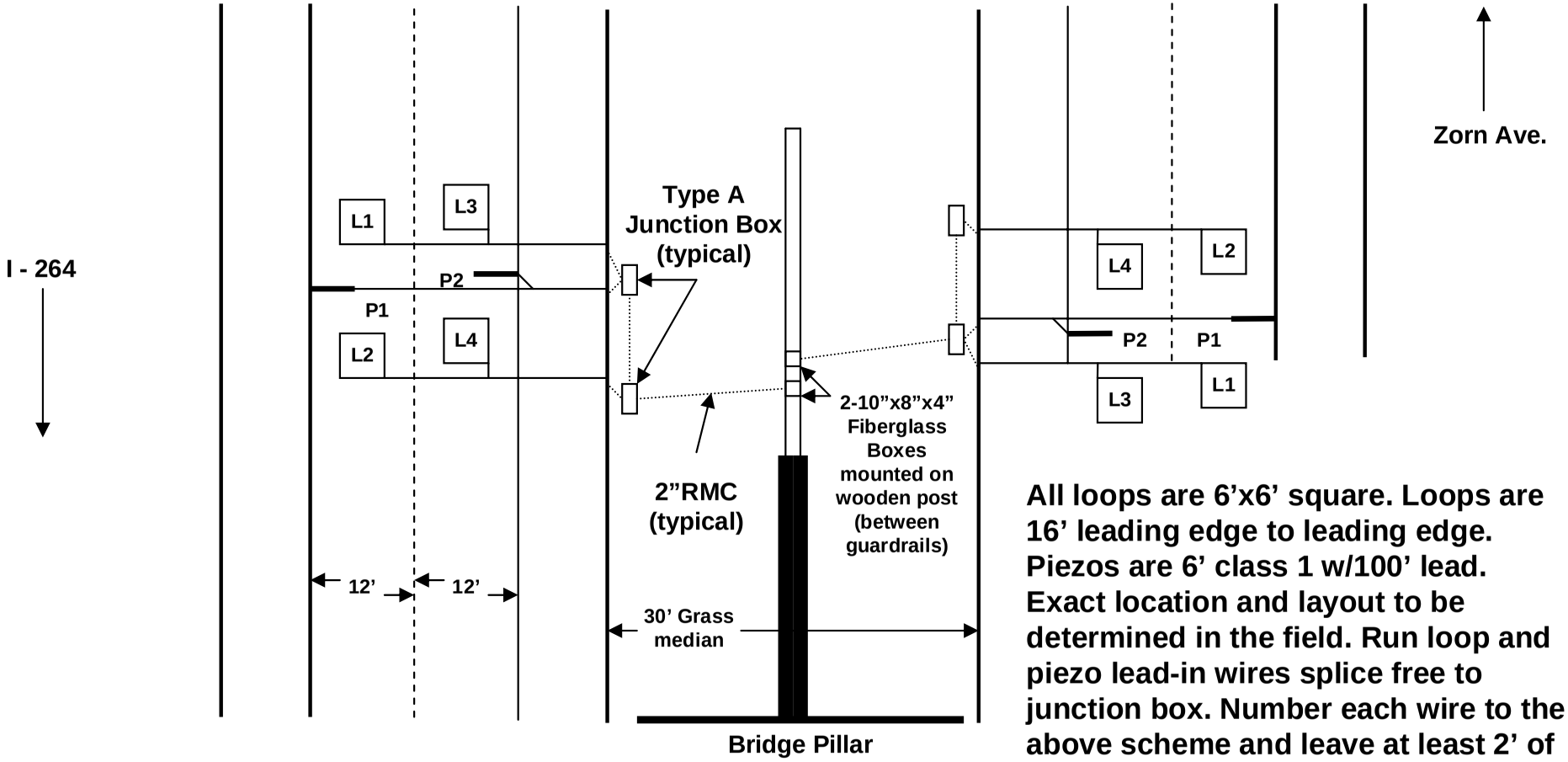
The location listed in the proposal is approximate only. The Engineer, in coordination with the Central Office Division of Planning, will designate the exact location at the time of construction.

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.

Site Drawing

Jefferson Co. I-71 Sta. A03 MP 3.77

Figure 1



All loops are 6’x6’ square. Loops are 16’ leading edge to leading edge. Piezos are 6’ class 1 w/100’ lead. Exact location and layout to be determined in the field. Run loop and piezo lead-in wires splice free to junction box. Number each wire to the above scheme and leave at least 2’ of slack in cabinets and junction boxes.

NOT TO SCALE

3/25/2010

LOCATION TABLE
JEFFERSON COUNTY – I-71
ATR TRAFFIC STATION TRIMARC – MP 1.12

STATION	DESCRIPTION	MP BEGIN	LOCATION	MP END	LANES	PIEZOS	LOOPS	PROJECT MP LIMITS
TRIMARC	2loops, 2 piezos/lane	0.000	1.12	1.752	4	8	8	0.000 – 5.500

ATR TRAFFIC STATION TRIMARC is located on I-71 at approximately the 1.12 mile-point (MP) with the final location confirmed by appropriate Division of Planning staff. This station has four (4) lanes of traffic, two (2) northbound lanes (loops#1-4, and piezos#P1-P4), and two (2) southbound lanes (loops#5-8 and piezos# P5-P8). Each lane will have a loop-piezo-loop-piezo 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, through the existing concrete junction box and into the existing traffic cabinet 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
20391NS835	Junction Box Type A	EACH	4
4820	Trenching and Backfilling	LINEAR FEET	120
4829	Piezoelectric sensor	EACH	8
4830	Loop wire	LINEAR FEET	1916
4895	Loop saw slot and fill	LINEAR FEET	428

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.

GENERAL NOTE
JEFFERSON COUNTY – I-71
ADR TRAFFIC STATION A03 – MP 3.77

The Division of Planning needs to re-establish an ADR data collection station within a section of the rehabilitation project in Jefferson County on I-71. Planning is requesting to have service replaced at a site with an approximate mile-point of 3.77, with the installation of traffic loop sensors before the final surface course is placed. The center of the loops shall be marked on the shoulder so the piezoelectric sensors can be installed once the new rehabilitation 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, in the same proximity as that of the old site. Four (4) new Type-A junction boxes will be installed and conduit will be run into two (2) 10”x8”x4” cabinets which are to be mounted on one (1) 4”x4” wood post installed in between the guardrail in the median as depicted in Figure 1.

Therefore, the contractor will install a total of eight (8) loop sensors and four (4) 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.

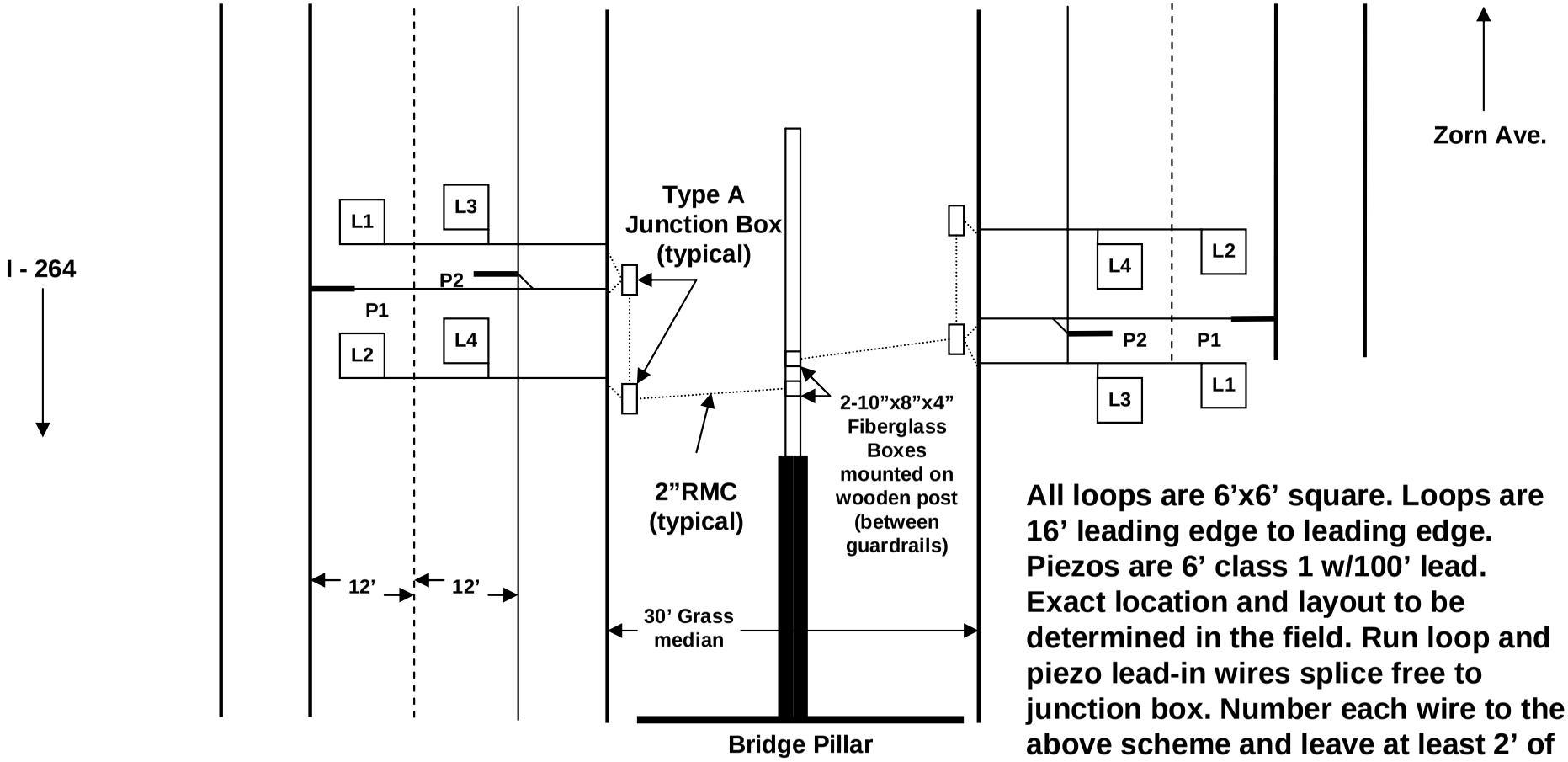
Notify the Central Office Division of Planning (502-564-7183, Equipment Management Team) a minimum of 14 days prior to beginning work in order for them to have the option to be present during sensor installation. The Engineer will contact and maintain liaison with the District Planning Engineer and the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

Site Drawing

Jefferson Co. I-71 Sta. A03 MP 3.77

Figure 1

North



All loops are 6’x6’ square. Loops are 16’ leading edge to leading edge. Piezos are 6’ class 1 w/100’ lead. Exact location and layout to be determined in the field. Run loop and piezo lead-in wires splice free to junction box. Number each wire to the above scheme and leave at least 2’ of slack in cabinets and junction boxes.

NOT TO SCALE

3/25/2010

LOCATION TABLE
JEFFERSON COUNTY – I-71
ADR TRAFFIC STATION A03 – MP 3.77

STATION	DESCRIPTION	MP BEGIN	LOCATION	MP END	LANES	PIEZOS	LOOPS	PROJECT MP LIMITS
A03	2loop, 1 piezo/lane	1.752	3.77	4.966	4	4	8	0.000 – 5.500

ADR TRAFFIC STATION A03 is located on I-71 at approximately the 3.77 mile-point (MP) with the final location confirmed by appropriate Division of Planning staff. This station has four (4) lanes of traffic, two (2) northbound lanes (loops#1-4, and piezos#P1-P2), and two (2) southbound lanes (loops#1-4 and piezos# P1-P2). 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 10”x8”x4” 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	100
20391NS835	Junction Box Type A	EACH	4
4820	Trenching and Backfilling	LINEAR FEET	94
4829	Piezoelectric sensor	EACH	4
4830	Loop wire	LINEAR FEET	1850
4895	Loop saw slot and fill	LINEAR FEET	380
20360ES818	Wood Post	EACH	1
20468EC	Junction Box 10x8x4	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.

JEFFERSON COUNTY, I-71

ITEM NO. 5-2053.00

BRIDGE REHABILITATION
(10 LOCATIONS)

MILE POINT 0.00 TO 5.55

INDEX

SPECIAL NOTE FOR BRIDGE BARRIER RETROFIT

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 specified portions of existing bridge barrier wall, brush blocks and wing walls
(3) Install additional steel reinforcement and new concrete as specified and in accordance with the attached detail drawings
(4) Paint exposed existing reinforcement and masonry coat all new concrete
(5) Maintain and control traffic
(6) Any other work specified as part of this contract

II. MATERIALS

A. Class "AA" Concrete. See Section 601.
B. Steel Reinforcement-Epoxy Coated. Use Grade 60. See Section 602.

III. CONSTRUCTION

A. Remove Existing Materials. Remove the existing bridge barrier wall to the limits shown on the plans and as directed by the Engineer including the existing brush blocks, rails, posts, and wing walls. Dispose of all removed material entirely away from the job site. This work shall be included in the contract unit price for "Bridge Barrier Retrofit" or "Bridge Barrier Removal".

B. Concrete Sawing. Existing barrier and wingwall parapet sections shall be carefully removed to lines designated on plans by using diamond saw blades or an approved equivalent. The surfaces presented as a result of this removal shall be reasonably true and even with sharp straight corners. Sawing shall be dust free and without vibration. Payment for this work is incidental to "Bridge Barrier Retrofit" or "Bridge Barrier Removal".

C. Steel Reinforcement. All steel reinforcement shall be epoxy-coated in accordance with Section 811.10. Install the steel reinforcement in accordance with Section 602 and as directed by the Engineer. In the attached detail drawings, dimensions shown from face of concrete to bars are clear distances unless otherwise shown. Spacing of bars is from center to center of bars. Payment for steel reinforcement will be incidental to "Bridge Barrier Retrofit".

D. Place New Concrete. 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 "AA" Concrete. The surface areas of existing concrete to come in contact with the new Class "AA" Concrete are to be coated with an epoxy bond coat immediately prior to placing new concrete in accordance with Section 511. This work is incidental to the pay item "Bridge Barrier Retrofit".

E. Masonry Coating. A masonry coating shall be applied to all new concrete surfaces; existing concrete surfaces that have been sawcut; and to front, top, and end faces of existing wingwalls. Payment for this work is incidental to "Bridge Barrier Retrofit".

F. Exposed Reinforcing Bars (Final). The existing reinforcing steel exposed by sawcutting shall be painted a color that is compatible with the sawed concrete face. The paint shall be a heavy duty epoxy with epoxy/polyamide resin. This work should be completed as soon as practicable to reduce rusting and streaking. Payment for this work is incidental to "Bridge Barrier Retrofit".

G. Bonding of Drilled Reinforcement. Where shown on the plans, drill holes and anchor / bond new reinforcement into existing concrete using a polyester resin adhesive conforming to special note 6J for non-epoxy adhesives. Embedment shall be sufficient to develop the full tensile strength of the reinforcing bar in accordance with the polyester resin manufacturer's recommendations. In no case shall embedment be less than the minimum embedment shown in the plans. Installation shall be in strict conformance with the manufacturer's recommendations for the polyester adhesive being used and section 511 of the standard specifications. Holes shall be wire brushed and blown out with air from the bottom up to ensure good bonding. Where indicated in the drawings, holes shall be core drilled.

H. Electrical Conduit. Electrical Conduit is in the brush blocks and/or plinths of some of the barriers. The contractor shall determine if live electricity is in the conduit before removing any portions of the barrier.

IV. MEASUREMENT

A. Bridge Barrier Retrofit. The Department will measure the quantity in linear feet measured along gutterline from end to end of bridge barrier retrofit rail.

B. Bridge Barrier Removal. The Department will measure the quantity of barrier removed in lineal feet measured along gutterline from end to end of bridge slab, not to include sections remaining for signage.

V. PAYMENT

A. Bridge Barrier Retrofit. Payment for this item of work shall be at the contract unit price and payment will be full compensation for the following: (1) Furnish all labor, materials (including reinforcing steel, plastic pipe, and concrete), tools, and equipment; (2) Remove existing brush blocks and wing wall parapets as shown in the attached detail drawings (steel bridges requiring substantial barrier removal will have a separate "Bridge Barrier Removal" pay item); (3) Install additional steel reinforcement and new concrete; (4) Paint exposed existing reinforcement and masonry coat all new concrete and existing sawcut surfaces; and (5) Any other work specified as part of this contract and the attached detail drawings.

B. Bridge Barrier Removal. Payment for this item of work shall be at the contract unit price and payment will be full compensation for the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove existing bridge barrier wall, curb, and wing wall; (3) Dispose of debris; and (4) Any other work specified as part of this contract and the attached detail drawings.

The Department will consider payment as full compensation for all work required by this note and the 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) Remove the existing overlay
(3) Place new concrete overlay and epoxy-sand slurry in accordance with Section 606
(4) Maintain and control traffic
(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 and use Type III cement
B. Class "M" Concrete. Use either "M1" or "M2". See Section 601.
C. Epoxy-Sand Slurry. See Section 606.03.10.

III. CONSTRUCTION

A. Remove Existing Overlay. In addition to Section 606.03.03, 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. Machine preparation of the existing slab to a depth of at least ¼" below the existing surface 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 Epoxy, Bituminous or Foreign Overlay".

B. Partial and Full Depth Slab Repair: Prior to the placement of the overlay, as directed by the Engineer, repair all partial and full-depth patches in accordance with Section 606.03.05 and Section 606.03.06. Contrary to the specifications, finish all patching areas to the elevation of the scarified deck. Payment for partial depth patching will be considered incidental to the pay item "Concrete Overlay-Latex", and payment for full depth patching will be included with "Concrete Class M Full Depth Patch".

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 1 ¼" for the Latex Cement Concrete.

D. Approach Pavement Repair. The Contractor shall repair any and all damage to the approach pavement due to this construction when applicable. As required or directed by the Engineer, a new asphalt surface wedge for all approaches to each structure in this project shall be placed and compacted to the satisfaction of the Engineer prior to allowing traffic back on a section of the new overlay. No additional payment will be allowed for this work, as it will be considered incidental to the pay item "Concrete Overlay-Latex".

IV. MEASUREMENT

See Section 606

V. PAYMENT

See Section 606

SPECIAL NOTE FOR CONRETE PATCHING REPAIR

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, and this Note. 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 bridge substructure, in accordance with Section 107.01.01, for the Engineer to sound possible repair areas and for workers to complete the construction
(3) Remove the deteriorated concrete
(4) Blast clean and prepare the surfaces for patching
(5) Prime the areas immediately prior to patching
(6) Apply the Vertical and Overhead Patch or Class M Concrete
(7) Finish the patched surface
(8) Maintain and control traffic
(9) Any other work specified as part of this contract

II. MATERIALS

A. Vertical and Overhead Patching Material. Conform to Manufacturer's Technical Guidance.

B. Class "M" Concrete. Use either "M1" or "M2". See Section 601.

III. CONSTRUCTION

A. Remove Deteriorated Concrete. Prior to beginning the concrete repairs, provide safe access to the substructure, in accordance with Section 107.01.01, for the Engineer to sound possible repair areas. The Engineer will sound the concrete with a hammer and mark the areas of concrete to be removed and patched. All areas of deteriorated concrete found should 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.

Remove specified areas of deteriorated concrete 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, route, or otherwise manipulate the sides of the patch so that the interface between the old concrete and patch area are perpendicular. Remove all deteriorated loose concrete to a minimum depth of 2" for repairs using vertical and overhead patching material and 4" for repairs using Class M Concrete. Also ensure concrete removal in the patch area extends at least three-quarters (3/4) inch

beyond any steel reinforcement more than 50 percent exposed. Dispose of all removed material entirely away from the job site or as directed by the Engineer.

Extreme care shall be taken when removing the existing spalled or delaminated concrete so as not to damage the existing reinforcing steel. Completely clean all existing steel reinforcement encountered free of rust and leave in place. Wire brushing may be required to thoroughly clean exposed steel reinforcement. Repair or replace any damaged steel reinforcement as directed by the Engineer at no additional cost to the Department. Ensure that all exposed steel reinforcement is tied in accordance with Section 602.03.04. The Contractor must consult the Engineer before removing any concrete that is directly below the beam bearings.

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.

C. Apply Vertical and Overhead Patching Material or Class M Concrete. The Engineer shall have the option of designating a spalled or delaminated area to be repaired using Class M high early strength concrete or a Vertical and Overhead Patching Material. Any material used must be approved by the Engineer. Refer to the Transportation Cabinet, Division of Materials' List of Approved Materials for currently approved materials for vertical and overhead patching. Place either the class M Concrete or Vertical and Overhead Patching Material as approved by the Engineer. Place the epoxy resin primer in accordance with the standard specifications and manufacturer's recommendations. Place the Vertical and Overhead Patching Material in accordance with the manufacturer's specifications to restore the deteriorated areas to their original dimensions as directed by the Engineer. Place Class M Concrete according to the Standard Specifications.

IV. MEASUREMENT

A. Concrete Repair. The Department will measure the quantity in square feet.

V. PAYMENT

A. Concrete 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 Vertical and Overhead Patching Material or Class M Concrete, application of the epoxy resin seal coat, and all incidental items necessary to complete the work in accordance with this Note.

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

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
(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. Class "AA" Concrete. See Section 601.
C. Steel Reinforcement - Epoxy Coated. Use Grade 60. See Section 602.
D. 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. When deteriorated concrete adjacent to the limits of removal is encountered, extend the removal area 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 or proposed grade (See attached detail drawings). Place the new Class "M" concrete to the original or proposed grade and finish with broom strokes drawn transversely from gutterline to gutterline. For eliminating joints over piers on bridges that are to receive a latex concrete overlay, place the new Class "M" Concrete to the scarified grade and finish it to receive the new overlay. When the bridge is being rehabilitated with a full depth overlay ("Reinforced Concrete Slab") place Class "AA" concrete monolithically with

the new slab. On the curb and/or brush block, place the new concrete to the original grade shown on the detail drawings and finish to match the existing surface.

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 new concrete. The surface areas of existing concrete to come in contact with the new 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 attached detail drawings. 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 concrete. Reinforcement, bar splices and mechanical connectors are incidental to the contract unit price for "Eliminate Transverse Joint".

D. Shop Plans. Shop Plans will not be required. The contractor is responsible for obtaining field measurements and supplying properly sized materials to complete the work.

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. All work shown on the "Elimination Transverse Joint" detail drawings that is outside of the pay limits shall be incidental to the bid item.

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 and 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.

3/8" EPOXY-URETHANE WATERPROOFING OVERLAY FOR BRIDGE DECKS

1. DESCRIPTION

1.1 This specification describes the Pre-treatment and Overlay consisting of multiple layers of hybrid polymer systems and a special blend of extremely hard aggregate designed to provide a minimum of a 3/8" thick application for the purpose of complete waterproofing as well as providing a non-skid surface to withstand continuous heavy traffic and extreme changes in weather conditions.

1.2 Unless otherwise noted, Section references herein are to the Department's *Standard Specifications for Road and Bridge Construction*. All applicable portions of the Department's *Standard Specifications* apply unless specifically modified herein.

2. MATERIALS

Pre-treatment:

2.1 Hairline cracks

This two part hybrid polymer shall be free of any fillers, volatile solvents and shall be formulated to provide simple volumetric ratio of two components such as one to one or two to one by volume.

This hybrid polymer system shall be formulated to provide a unique combination of extremely low viscosity and low surface tension coupled with a built in affinity for concrete and steel.

Overlay:

2.2 The two-part epoxy-urethane co-polymer system shall be free of any fillers volatile solvents and shall be formulated to provide simple volumetric mixing ratio of two components such as one to one or two to one by volume.

The epoxy-urethane co-polymer system shall be formulated to provide flexibility in the system without any sacrifice of the hardness, chemical resistance or strength of the epoxy-urethane co-polymer system. Use of external/conventional flexibilizers are not acceptable. Flexibility shall be introduced by interaction of elastomers to chemically link in the process of curing so that the flexibility of the molecule is least affected during the low temperature conditions that are confronted in actual use.

2.3 Material Requirements

2.3.1 Physical Requirements of Cured *Pretreatment for Cracks* System. When Components A and B are mixed in the appropriate ratio, the cured resin shall conform to the requirements of Table 1. (Test methods are discussed in detail in Item 3 of this specification.)

TABLE 1	
PHYSICAL PROPERTIES OF THE CURED SYSTEM	
Property	**Value**
Compressive Strength, min. psi	5000
Tensile Strength, min. psi	2500
Tensile Elongation, percent	$25^{\pm}5$
Water Absorption, percent by wt. max.	0.5%
Shore D hardness, 25°C (77°F)	$70^{\pm}5$
Gel Time, minutes	48-52 (100gms)
Adhesion to Concrete	100% failure in concrete
Percent Solids	100

2.3.2 Physical requirements of Epoxy-Urethane Copolymer Overlay System. When Components A and B are mixed in the appropriate ratio, the cured resin shall conform to the requirements of Table 2. (Test methods are discussed in detail in Item 3 of this specification.)

TABLE 2	
PHYSICAL PROPERTIES OF THE CURED SYSTEM	
Property	**Value**
Compressive Strength, min. psi	6000
Tensile Strength, min. psi	2000
Tensile Elongation, percent	$30^{\pm}10$
Water Absorption, percent by wt. max.	0.5%
Shore D hardness, 25°C (77°F)	$70^{\pm}5$
Gel Time, minutes	25-31 (100gms)
Abrasion Resistance, mg., max.	85
Adhesion to Concrete	100% failure in concrete
Flexural Yield Strength, min. psi	5000
Percent Solids	100

2.3.2.1 Visco-Elastic Properties of Epoxy-Urethane Copolymer system. The modulus of the cured epoxy-urethane system determined by variable temperature Dynamic Mechanical Analysis (DMA) using DMA instruments and according to ASTM D4065-95, shall conform to the following minimum values as given in Table 3.

TABLE 3		
VISCO-ELASTIC PROPERTIES OF THE CURED SYSTEM		
Temperature	**Storage Modulus Dynes/Sq.Cm.**	**Loss Modulus Dynes/Sq.Cm.**
-10°C	1×10^9	7×10^7
20°C	6×10^8	7×10^7
50°C	4×10^7	2×10^7
60°C	1×10^7	5×10^6
70°C	6×10^6	1×10^6

The tests shall be conducted at a frequency of 1 Hz with a 0.3% strain in accordance with the guidelines described in the testing equipment manual.

2.3.2.2 Load Bearing Capabilities. The cured epoxy-urethane system must exhibit the following load bearing capacity. At approximately 20% strain, the polymer shall retain at least 85% of its original load bearing strength (tensile stress) as per ASTM D-638.

2.4 Material Provider. The bridge deck restoration system shall be provided by one of the following manufacturers or an approved equivalent.

POLY-CARB, INC.,
Pretreatment: MARK-135
Overlay: MARK-163 FLEXOGRID
33095 Bainbridge Road
Solon, Ohio 44139
(440) 248-1223

Unitex
Pretreatment: Pro-Poxy 2500
Overlay: Pro-Poxy Type III DOT
3101 Gardner Ave.
Kansas City, MO 64120
(816) 231-7700

2.5 Aggregate

2.5.1 Aggregate used for all layers shall be non-friable, non-polishing, clean and free from surface moisture. It shall be durable and sound and have a proven record of performance in applications of this type. The aggregate shall be 100 percent fractured, thoroughly washed and kiln dried to a maximum moisture content of 0.2 percent by weight, measured in accordance with ASTM C566. The fracture requirements shall be at least one mechanically fractured face and will apply to materials retained on

U.S. No. 10 sieve. The recommended sources of aggregate are **Washington Stone** or **Oklahoma Flint.**

2.5.2 Aggregate for all layers shall have a minimum Mohs scale hardness of 6.5.

2.5.3 The grading of the aggregate shall conform to the requirements of Table 4.

TABLE 4	
AGGREGATE GRADATION	
Sieve Size	**Percent Passing**
No. 6	60 - 100
No. 10	0 - 40
No. 20	0 - 10

2.6 Thermoplastic. Conform to Section 837.

3. METHOD OF TESTING

3.1 Tests shall be conducted in accordance with the following methods:

3.1.1 Compressive Strength: ASTM C109, *Compressive Strength of Hydraulic Cement Mortars*. The two components of the resin are to be thoroughly mixed in their appropriate ratios. Two volumes of graded silica sand in accordance with ASTM C778 shall be added to one volume of mixed resin. The samples shall then be prepared according to the requirements of ASTM C109 and allowed to cure for 7 days at 23 ± 2°C.

3.1.2 Tensile Strength and Elongation: ASTM D638, *Tensile Properties of Plastics,* Specimen Type I or Type II. Samples shall be cured at 23 ± 2°C (73.4 ± 3.6°F) and 50 ± 5% relative humidity. Speed of testing shall be at 0.5 in./min.

3.1.3 Water Absorption: ASTM D570, *Water Absorption of Plastics*. Sample specimens shall be prepared according to section 4.1 and allowed to cure at 23 ± 2°C (73.4 ± 3.6°F) and 50 ± 5% relative humidity. Tests are then to be carried out as per section 6.1.

3.1.4 Shore D Hardness: ASTM D2240, *Rubber Property – Durometer Hardness*. Specimen shall be prepared as per ASTM D570 section 4.1 and allowed to cure at 23 ± 2°C (73.4 ± 3.6°F).

3.1.5 Gel Time: The following procedure shall be used to determine gel time. Measure 4 oz. of Part A and 2 oz. of Part B each at 25°C (77°F), into an unwaxed paper cup and record the time and mix immediately. 100 gms of this mixture shall be poured into a 6 oz. unwaxed paper cup and placed on a wooden bench top. Starting twenty minutes from the time recorded

above, the mixture shall be probed every two minutes with a small stick until a small ball forms in the center of the container. The total time, including mixing, required for the ball to form shall be regarded as the gel time. The test shall be performed in a room or enclosed area maintained at 25 ± 2°C (77 ± 3.6°F) and 50 ± 5% relative humidity.

3.1.6 **Abrasion Resistance:** ASTM C501, *Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abrader*. Tests shall be done using a CS-17 wheel and a 1,000 gram load for 1,000 cycles.

3.1.7 **Adhesion to Concrete:** ACI-503-R; Pull Out Test.

3.1.8 **Flexural Yield Strength:** ASTM D-790.

3.1.9 **DMA:** ASTM D-4065-95

4. CONSTRUCTION PRACTICE

4.1 Surface Preparation

4.1.1 Perform full depth patching in accordance with the requirements of Section 606.03.05. All patching materials shall be in accordance with the requirements of Section 601 and be free of Magnesium Phosphate.

4.1.2 Patching shall be scheduled so that the bridge can be open to traffic during all non-working hours.

4.1.3 Polymer patching system such as **POLY-CARB, Inc.'s MARK-120** is recommended for *shallow* and *partial* depth repair. Completion of Partial Depth Patching including removal of concrete, cleaning, and placing the material will not be measured for payment and shall be considered incidental to "Epoxy-Urethane Waterproofing Overlay". The pay item includes additional quantity for partial depth patching.

4.1.4 The entire concrete deck shall be cleaned by shotblasting to remove any oil, dirt, rubber or any other potentially detrimental material such as curing compound and laitances which, in the manufacturer and engineer's opinion, would prevent proper bonding to and curing of the material.

4.1.5 In areas that the shotblasting equipment cannot reach (i.e., along curbs and median walls) or cannot remove (linemarking, asphalt, etc.), sandblasting and walk behind grinders are permitted to an extent satisfactory to the manufacturer and engineer. This should be performed prior to the shotblasting whenever applicable and practical.

4.1.6 Steel surfaces such as expansion joints, sidewalks, steel grids and steel plate to be treated with the restoration system, shall be shot or sand blasted clean to **SSPC-SP-6** standards.

4.1.7 The overlay application equipment is allowed to drive on the deck surface during application provided precautions have been taken to insure that the deck surface will not become contaminated. For any reason traffic is to be allowed on the deck after surface preparation, or between layers, a visual inspection by the manufacturer and state engineer will be required to determine if additional surface preparation is needed before applying material.

4.1.8 All surfaces to be treated shall be dry at the time of application. Immediately before the application of any liquids, all prepared surfaces shall be cleaned with compressed air (or vacuumed) to remove dust and debris.

4.1.9 The application of the system shall not be made when it has rained 24 hours before application or rain is forecast (greater than 50%) within eight hours after application or as determined by the manufacturer (fog and high humidity will not impede the application of or affect the performance of the overlay). If waiting for 24 hours is impractical, then the moisture content in concrete substrate shall not exceed 4.5% when measured by an electronic moisture meter. Any exception shall be determined by the moisture content present in the deck which shall not exceed 75% of air entrainment in the mix design.

4.1.10 The minimum recommended temperature in which the system shall be applied is 50°F and rising. All applications at temperatures below 50°F shall require prior written approval from the manufacturer.

4.2 Application of Overlay System

4.2.1 **The manufacturer of the epoxy-urethane overlay material shall have a representative on the jobsite at all times** who, upon consultation with the engineer, may suspend any item of work that is suspect and does not meet the requirements of this specification. Resumption of work will occur only after the manufacturer's representative and the engineer are satisfied that appropriate remedial action has been taken by the contractor.

4.2.2 The overlay shall be applied on all deck areas using metering, mixing and distribution machinery **owned and operated by the manufacturer of the epoxy-urethane overlay system.** The application machine shall feature positive displacement volumetric metering pumps controlled by a hydraulic power unit. Components A and B shall be stored in temperature controlled reservoirs capable of maintaining 100°F + 10°F to insure optimum mixing. Ratio check verification at the pump outlets

as well as cycle counting capabilities to monitor output will be standard features. In line mixing shall be motionless so as to not overly shear the material or entrap air in the mix. The machine shall also make maximum use of the working time of the material to insure proper "wetting" of the system by mixing it immediately prior to dispensing onto the deck.

4.2.3 The number of layers (a minimum of three) and the application rates of the liquid in the various layers shall be as recommended by the manufacturer in order to achieve an average overlay thickness of 3/8**".**

4.2.4 Hand mixing of material is not permitted.

4.2.5 Application of Pre-treatment

Crack Filling (First Layer)

Application of the Liquid: After mechanically measuring and mixing of the components, the liquid shall be evenly distributed on the clean, dry deck surface at the rate/process recommended by the manufacturer. The overlay application equipment may drive on this layer (prior to being cured) when applying the overlay system. If the overlay application is going to be applied after 6-8 hrs of the pretreatments application, a medium size coarse silica sand shall be broadcasted evenly into the pre-treatment system (prior to it curing) as directed by the manufacturer.

4.2.6 Overlay (Second and Third Layers)

Application of Liquid: Prior to the application, if there exists any excess or loose aggregate from the previous coat, such excess aggregate shall be completely removed by vacuum or with compressed air. After mixing of the components via the mechanical application equipment, the liquid shall be evenly distributed on the clean, dry deck surface at the rate recommended by the manufacturer.

4.2.7 After the application of the liquid in the second and third coats, the maximum time allowed before broadcasting of the aggregate is as follows:

Above 90°F	. . . . .	10 minutes
80°F to 90°F	. . . . .	15 minutes
70°F to 80°F	. . . . .	20 minutes
60°F to 70°F	. . . . .	25 minutes
50°F to 60°F	. . . . .	35 minutes

4.2.8 <u>No vehicle shall be allowed on the overlay during the curing period.</u>

4.2.9 Broadcasting on decks shall be by truck-mounted equipment capable of dispensing the aggregate onto the deck in a uniform manner as directed or otherwise approved by the manufacturer of the epoxy-urethane overlay.

4.2.10 The aggregate shall be broadcast as described below such that to cover the surface so that no wet spots appear and before the co-polymer begins to gel (see section 3.1.5). The aggregate must be dropped vertically in such a manner that the level of the liquid is not disturbed.

4.2.10.1 In the second and third layers of **FLEXOGRID** (or approved equivalent) liquid aggregate conforming to table 4 shall be broadcast to saturation.

4.2.11 Removal of Excess Aggregate: After the overlay has hardened, removal of all loose and excess aggregate with a power vacuum or other method shall be made prior to the application of subsequent coats.

4.2.12 Joints in the Overlay: (i.e., between two adjacent lanes) shall be staggered and overlapped between successive coats so that no ridges will appear.

4.2.13 Traffic may be allowed on the final layer (or in between layers) after the resin has cured (as determined by the manufacturer) and after removal of all excess, loose aggregate.

5. STORAGE AND HANDLING

5.1 Liquid Material: All material shall be transported and stored in their original containers inside a dry, temperature controlled facility and maintained at a minimum temperature of 60°F and not to exceed 120°F.

5.2 Job Site Storage: The materials shall be stored on the jobsite in a dry, weather protected facility away from moisture and within the temperature range of 60°F to 90°F. When the materials are transported or stored on the job in the application machine tanks, the material must also be maintained at a temperature of 60°F to 90°F. Outdoor storage is permitted with manufacturer's approval.

5.3 Handling of Liquid Materials on the Job: Protective gloves, clothing, and goggles shall be provided to workers and inspectors directly exposed to the material if required. Product safety data sheets shall be provided to all workers and inspectors as obtained from the manufacturer.

5.4 Packing Requirement: All materials must be packaged in strong, substantial containers. The containers shall be identified as Part A and Part B and shall be plainly marked with the name and address of the manufacturer, name of the product, mixing proportions and instructions, lot and batch numbers, date of manufacture, and quantity contained therein.

5.5 Aggregate: All aggregate shall be stored in a dry, moisture-free atmosphere. The aggregate shall be fully protected from any contaminants on the jobsite and shall be stored so as not to be exposed to rain or other moisture sources.

6. SAMPLING AND ACCEPTANCE

6.1 Product Acceptance: The manufacturer of the system shall provide evidence of field performance, lab performance with infrared spectra in order to obtain state approval of the overlay system for use on the project:

6.1.1 Independent Lab Performance

A nationally recognized independent lab must verify that the material:

1. Has the capability of preventing the ingress of essentially all the chloride ions into the concrete at 1" depth when tested according to NCHRP-244 method.
2. Has the capability to de-activate the existing chloride ions present in the concrete specimen so that the corrosion of steel rebars embedded in the concrete stop corroding.
3. When tested as per Tables 1,2 and 3, fully comply with the test results specified for cured system.

6.1.2 Infrared Spectrograph: In addition to the initial certification process each manufacturer shall furnish the state an infrared spectra of each component of system for its permanent record and for individual installation verification.

6.1.3 Field Performance: The selected material must have verifiable satisfactory performance of at least five (5) years in the state of Kentucky and a minimum of twelve (12) years in three neighboring states with comparable weather conditions.

6.2 Certification for Compliance: At the pre-construction conference, the contractor shall notify the state project engineer of the source of material.

6.2.1 Independent Test Lab Report: Test results certified and verified by a nationally recognized independent testing laboratory verifying properties of the cured system as per Table 1, 2 & 3 shall be submitted to the engineer for approval prior to the bid opening. This certification shall be provided on each lot number to be used on the project.

6.2.2 Infrared Spectra: Infrared spectra of each component from each lot number (to be used on the project) shall be submitted with the independent lab certification.

6.2.3 Test Sample for DOT Laboratory: The manufacturer shall furnish at least a one-quart sample of each component from each lot to the DOT laboratory to verify material supplied by the manufacturer. Material shall be taken at job site.

6.3 Performance Acceptance

6.3.1 Thickness Verification: The state shall be notified of the number of gallons used on the project with two notarized statements - one from the contractor and one from the manufacturer. In addition, the contractor shall verify to the State that the overlay is an average of at least 3/8" thick at three random locations agreed upon by the state engineer and material manufacturer representative. If 3/8" average is not achieved, a retest shall be performed in adjoining areas. Thin areas shall be re-coated as described above by the contractor and re-verified at no additional cost to the State. This verification may consist of cores, holes, etc., but in all cases, any destructively tested areas shall be repaired by the contractor before final acceptance by the engineer.

6.3.2 Performance Guarantee: The epoxy-urethane co-polymer manufacturer and the contractor, by acceptance of the work described in this specification, jointly agree to guarantee the wearing surface against all defects incurred during normal traffic use for a period of five (5) years. The guarantee period shall commence on the date of acceptance of the work, usually the date the final layer of the overlay has been applied and cured. The guarantee covers all labor and materials required to satisfactorily repair or replace the wearing surface. Manufacturer will be responsible for integrity of warranty and will be removed from QPL if warranty repair not upheld within timely manner.

7. MEASUREMENT

7.1 Epoxy-Urethane Waterproofing Overlay. The Department will measure the square feet of overlay application.

7.2 Shotblasting. The Department will measure "Blast Cleaning" in Square Yard. The Department will only measure this quantity once for any area to be shotblast. Additional blast cleaning to meet the requirements of this note shall be performed at the Contractor's expense.

7.3 Full Depth Patching. The Department will measure "Concrete Class M Full Depth Patching" in Cubic Yard.

7.4 Thermoplastic Pavement Markings. See Section 714.

8. PAYMENT

8.1 Epoxy-Urethane Waterproofing Overlay. The Department will pay for the measured quantities at the Contract unit bid price for "Epoxy-Urethane Waterproofing".

8.2 Shotblasting. The payment at the contract unit price for the pay item "Blast Cleaning" shall include all labor, equipment and material needed to complete the task as described in paragraphs 4.1.4 and 4.1.5.

8.3 Full Depth Patching. The payment at the contract unit price shall include all labor, equipment and material needed to complete this task. The Department will not measure material removal, forming, blast cleaning, or retying steel reinforcement in the patches and will consider this work incidental to the pay item "Concrete Class M Full Depth Patching".

8.4 Thermoplastic Pavement Markings. See Section 714.

SPECIAL NOTE FOR REPLACING EXPANSION DAMS AND/OR INSTALLING ARMORED EDGES FOR CONCRETE 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 devices 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
(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, for Armored Edges. See manufacturer's specifications for Armored Edges on Strip Seal Expansion Dams.

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 - Epoxy Coated. Use Grade 60. See Section 602.

E. Epoxy Bond Coat. See Section 511.

F. Preformed Expansion Joint Strip Seals. Provide 4" Seals, See Section 807.03.03.

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. When deteriorated concrete adjacent to the limits of removal is encountered, extend the removal area 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. 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 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 (See attached detail drawings).

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 this work, as directed by the Engineer, steel reinforcement as shown in the attached detail drawings. Splice these bars to the existing reinforcement in the deck in the areas of removed concrete as shown in the attached detail drawings or as 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. 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.

Reinforcement, bar splices and mechanical connectors are incidental to the contract unit price for "Expansion Joint Replacement" or "Replace Armored Edge".

D. Stage Construction. Install concrete and armored edges in two (or more if specified) stages as necessary. Join the armored edges at or near the centerline of the roadway or lane line, field weld, and grind smooth.

E. Preformed Expansion Joint Strip Seals. Place the strip seal in one continuous, unbroken length. Place joints as recommended by the manufacturer and in accordance with Section 609.03.04 (E).

F. 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 – 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.

V. PAYMENT

A. Expansion Joint Replacement – 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, reinforcement, preformed expansion joint strip 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.

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, reinforcement, and all incidental items necessary to complete 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 REINFORCED CONCRETE SLAB

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 and dispose of existing overlay and top of original concrete deck down to the top layer of steel reinforcement.
(3) Install additional steel reinforcement and new concrete as specified and in accordance with the attached detail drawings
(4) Maintain and control traffic
(5) Any other work specified as part of this contract

II. MATERIALS

A. Class "AA" Concrete. See Section 601.
B. Class "M" Concrete. Use either "M1" or "M2". See Section 602.
C. Steel Reinforcement-Epoxy Coated. Use Grade 60. See Section 602.

III. CONSTRUCTION

A. Removal of Epoxy, Asphalt, and Foreign Overlay. Remove any latex, bituminous, epoxy or foreign surface that was not part of the original bridge deck.

B. Remove Concrete Masonry. In addition to removing any existing overlays, remove the original surface of the deck down to the top reinforcement. The original plans call for 1½" top reinforcement to top of slab clearance. The contractor must use equipment that results in ¼" amplitude surface roughness. Any deteriorated areas of concrete shall be removed according to the applicable portions of Section 606.03.03. Partial depth patches can be poured monolithically with the reinforced concrete slab. This work is incidental to the pay item "Removal of Concrete Masonry".

C. Steel Reinforcement. All steel reinforcement shall be epoxy-coated in accordance with Section 811.10. Install the steel reinforcement in accordance with Section 602 and as directed by the Engineer. In the attached detail drawings, dimensions shown from face of concrete to bars are clear distances unless otherwise shown. Spacing of bars is from center to center of bars. Payment for steel reinforcement, bar splices and mechanical connectors will be included with "Reinforced Concrete Slab".

D. Full Depth Slab Repair. Prior to the placement of the Reinforced Concrete Slab, as directed by the Engineer, repair all full-depth patches in accordance with Sections 606.03.05. Contrary to the specifications, finish all patching areas to the elevation of the scarified deck. Payment for full depth patching will be included with "Concrete Class M Full Depth Patch".

E. Place New Concrete. 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 reinforcement steel and Class "AA" Concrete. Prewet the deck for one hour before placing the new concrete and maintain visible moisture on the deck without standing water while the new slab is being poured. The contractor has the option to modify the Class "AA" concrete to achieve quicker set times. All concrete mix modifications must be approved by the engineer. This work and quick setting concrete are incidental to the pay item "Reinforced Concrete Slab".

F. Working the Surface. Work the new slab surface in accordance with section 609.03.08. The Engineer shall check the alignment of the finishing machine rails to verify that the new slab will have a smooth driving surface. Dead load camber is insignificant.

G. Surface Texturing. Texture the new slab surface in accordance with section 609.03.10.

H. Phase Construction. The contractor is to construct this project in phases. Refer to the Roadway Plans and Roadway Notes to determine where to place the longitudinal construction joint. All work is to be preformed in accordance with the scheduling and time restraints outlined in the maintenance of traffic notes. All extra cost associated with phase construction are incidental to the pay item "Reinforced Concrete Slab".

IV. MEASUREMENT

A. Removal of Epoxy, Asphalt, and Foreign Overlay. The Department will measure the quantity in square yards.

B. Remove Concrete Masonry. The Department will measure the quantity in cubic yards.

C. Reinforced Concrete Slab. The Department will measure the quantity in square feet.

D. Concrete Class M for Full Depth Patching. The Department will measure the quantity in cubic yards.

V. PAYMENT

A. Removal of Epoxy, Asphalt, and Foreign Overlay. See Section 606.05

B. Remove Concrete Masonry. Payment for this item of work shall be at the contract unit price and payment will be full compensation for the following: (1) Removal of the original surface to the top reinforcement and provide ¼" amplitude surface roughness. (2) Remove deteriorated areas of concrete according to the applicable portions of Section 606.03.03.

C. Reinforced Concrete Slab. Payment for this item of work shall be at the contract unit price and payment will be full compensation for the following: (1) Furnish all labor, materials (including reinforcing steel, and concrete), tools, and equipment; (2) Prepare the existing deck drains and concrete surfaces, (3) Install steel reinforcement and new concrete; and (4) Any other work specified as part of this contract and the attached detail drawings.

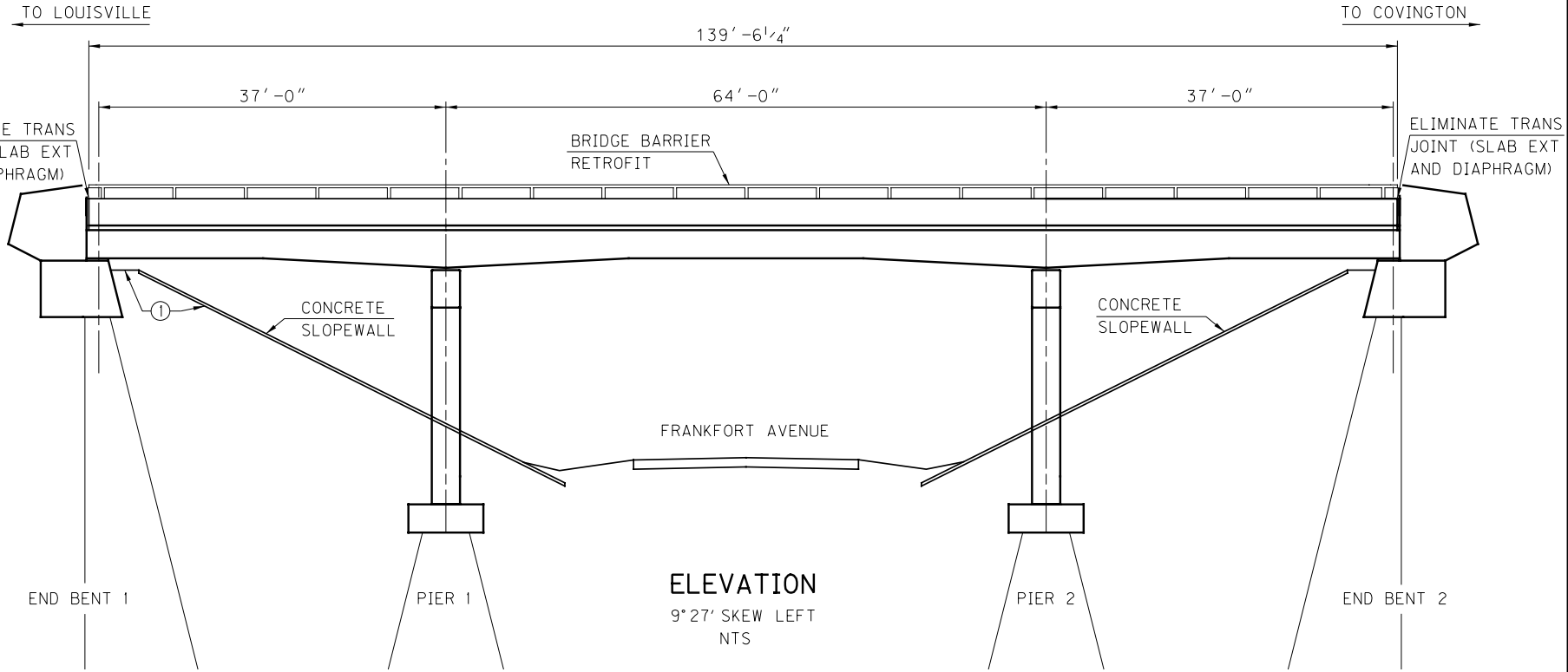
D. Concrete Class M for Full Depth Patching. See Section 606.05

The Department will consider payment as full compensation for all work required by this note and the detail drawings.

I-71 OVER FRANKFORT AVENUE (056B00165L&R)

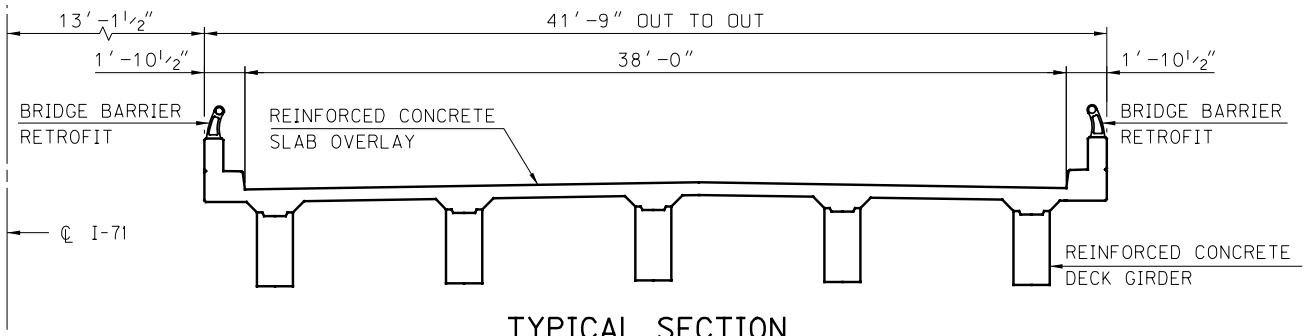
(MP 0.02)

SUMMARY OF QUANTITIES			
ITEM CODE	**DESCRIPTION**	**QUANTITY**	**UNIT**
8510	REMOVE EPOXY, BITUMINOUS OR FOREIGN OVERLAY	1132	SQYD
20186ED	REINFORCED CONCRETE SLAB	1132	SQYD
8526	CONCRETE CLASS M FULL DEPTH PATCH	3	CUYD
2403	REMOVE CONCRETE MASONRY	47	CUYD
3300	ELIMINATE TRANSVERSE JOINT (SLAB EXT. AND DIAPHRAGM)	152	LF
2220	FLOWABLE FILL	40	CUYD
23032EN	BRIDGE BARRIER RETROFIT	598	LF



ELEVATION

9°27′ SKEW LEFT
NTS



TYPICAL SECTION

NTS

NOTE:
ALL DIMENSIONS ON THESE DETAIL SHEETS THAT REFER TO THE EXISTING STRUCTURE ARE FROM THE EXISTING PLANS AND ARE APPROXIMATE.

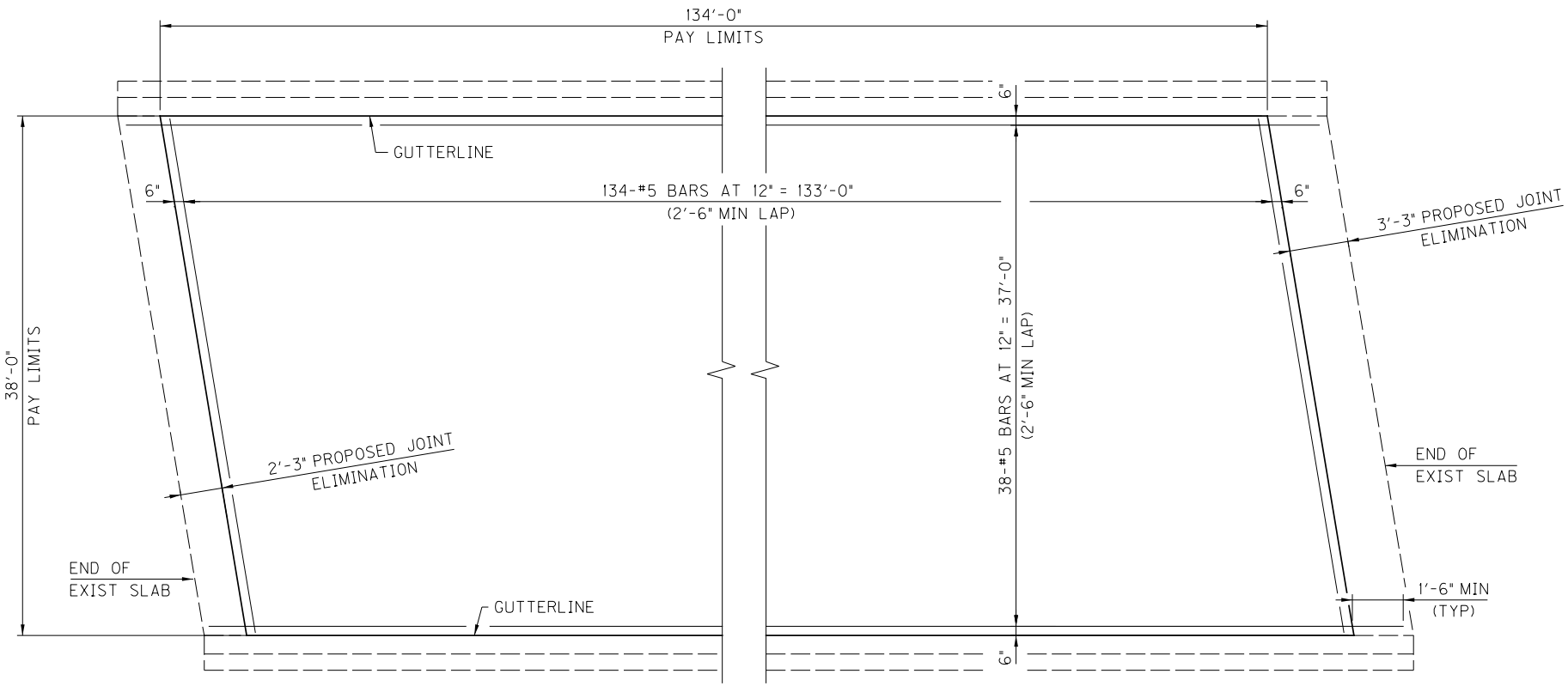
NOTATION:
(1) FILL SCOUR HOLES UNDER SLOPEWALLS AND ABUTMNETS WITH FLOWABLE FILL. POUR CONCRETE LEVEL WITH TOP OF SLOPEWALL. PLACE FLOWABLE FILL IN ACCORDANCE WITH SECTION 601.03.09 OF THE STANDARDS SPECS.

ALL REPAIRS TYPICAL FOR NB & SB BRIDGES, UNLESS NOTED OTHERWISE.

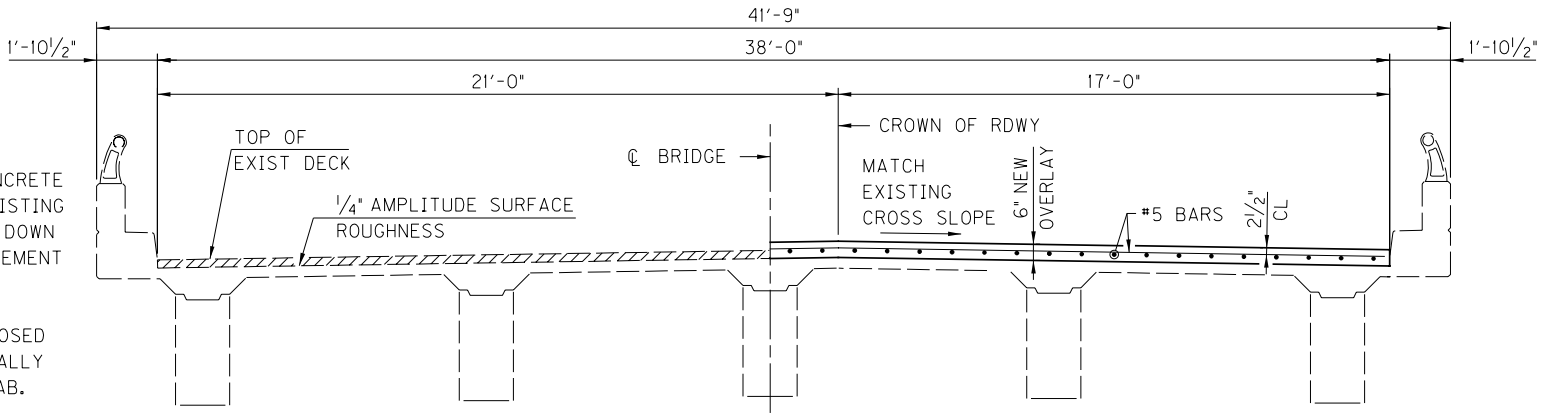
ENTRAN

ELEVATION AND TYPICAL SECTION

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: FRANKFORT AVENUE



PLAN (NB OR SB BRIDGE)



NOTES:
REMOVE HATCHED AREAS OF CONCRETE APPROXIMATELY 3" DEEP (1½" EXISTING OVERLAY & 1½" EXISTING SLAB) DOWN TO TOP OF EXISITING REINFORCEMENT BETWEEN GUTTERLINES.

PLACE "AA" CONCRETE FOR PROPOSED JOINT ELIMINATION MONOLITHICALLY WITH REINFORCED CONCRETE SLAB.

TYPICAL SECTION (NB OR SB BRIDGE)
(SHOWING EXISTING AND PROPSED DECK)

(SHEET 1 OF 1)

ENTRAN

REINFORCED CONCRETE SLAB DETAILS

COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	FRANKFORT AVENUE

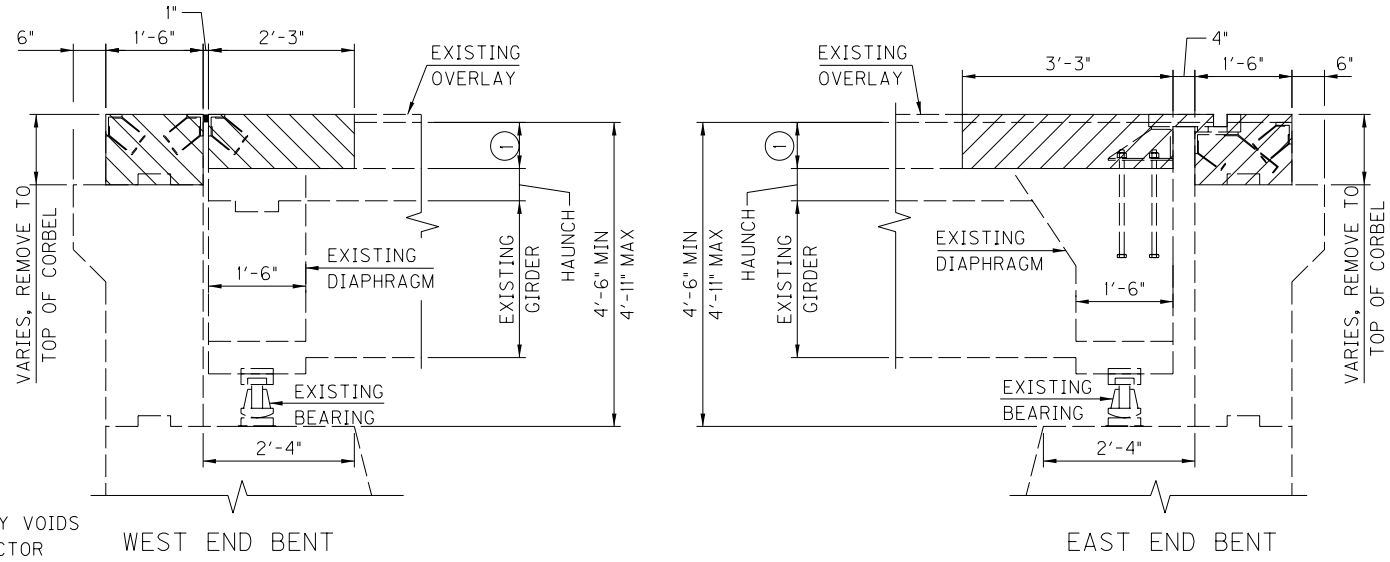
NOTES:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN & REUSE EXISTING LONGITUDINAL REINFORCEMENT. REPLACE EXISTING TRANSVERSE REINFORCING. DO NOT DISTURB TOP OF BEAMS.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES & DOWELING INTO EXISTING CONCRETE, SEE SECTION 511 OF STANDARD SPECIFICATIONS.

ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.

NEW CONCRETE IS TO BE CLASS "AA"

CONTRACTOR SHALL PLACE NEW CONCRETE DIAPHRAGM SO THAT IT IS FREE FROM ANY VOIDS AROUND THE EXISTING BEARINGS. CONTRACTOR SHALL REPAIR ALL CONCRETE VOIDS AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.



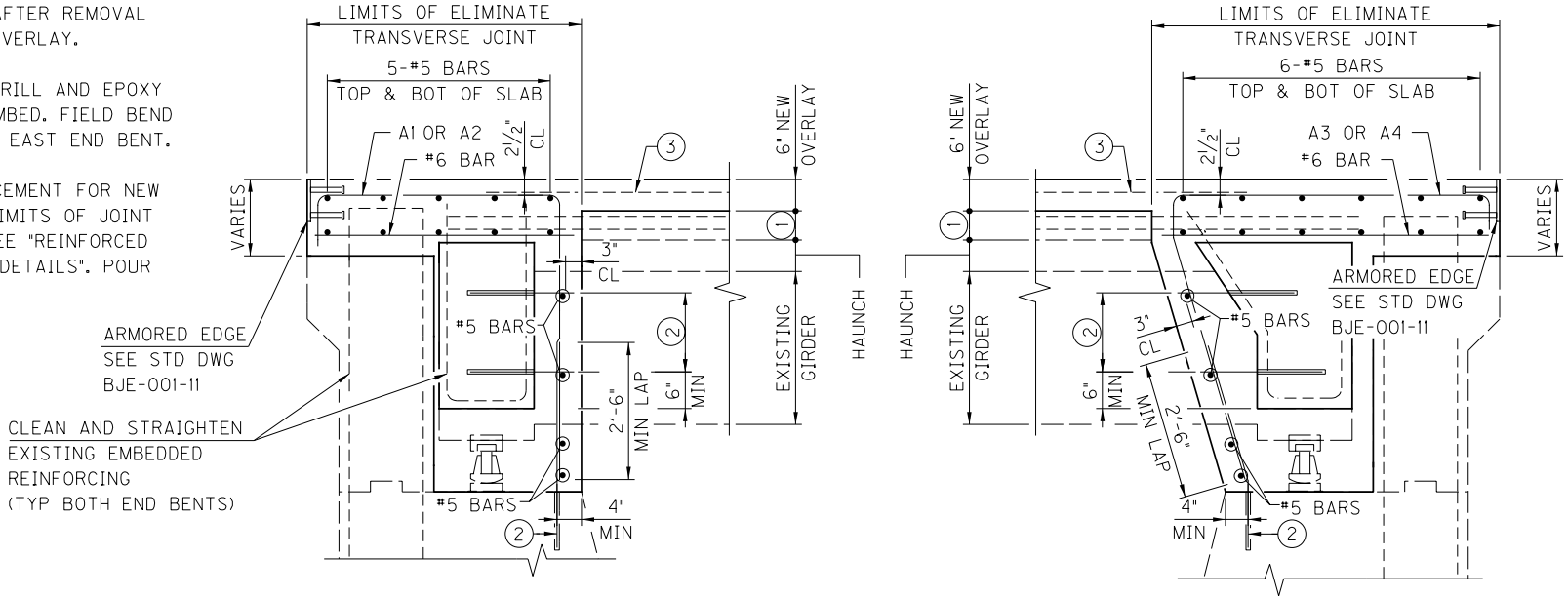
EXISTING SECTION AT END BENTS
(SHOWING REMOVAL)

NOTATIONS:

(1) 7" EXISTING SLAB. APPROX 5½" REMAINING AFTER REMOVAL FOR NEW DECK OVERLAY.

(2) #5 BARS, CORE DRILL AND EPOXY GROUT 12" MIN EMBED. FIELD BEND AS REQUIRED AT EAST END BENT.

(3) EXTEND REINFORCEMENT FOR NEW OVERLAY INTO LIMITS OF JOINT ELIMINATION. SEE "REINFORCED CONCRETE SLAB DETAILS". POUR MONOLITHICALLY.



PROPOSED SECTION AT END BENTS

ENTRAN	ELIMINATE TRANSVERSE JT (SLAB EXT & DIAPHRAGM)	COUNTY: JEFFERSON ROUTE: I-71 CROSSING: FRANKFORT AVENUE

NOTES:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN & REUSE EXISTING LONGITUDINAL REINFORCEMENT. REPLACE EXISTING TRANSVERSE REINFORCING. DO NOT DISTURB TOP OF BEAMS

FOR BONDING NEW CONCRETE TO EXISTING SURFACES & DOWELING INTO EXISTING CONCRETE, SEE SECTION 511 OF STANDARD SPECIFICATIONS.

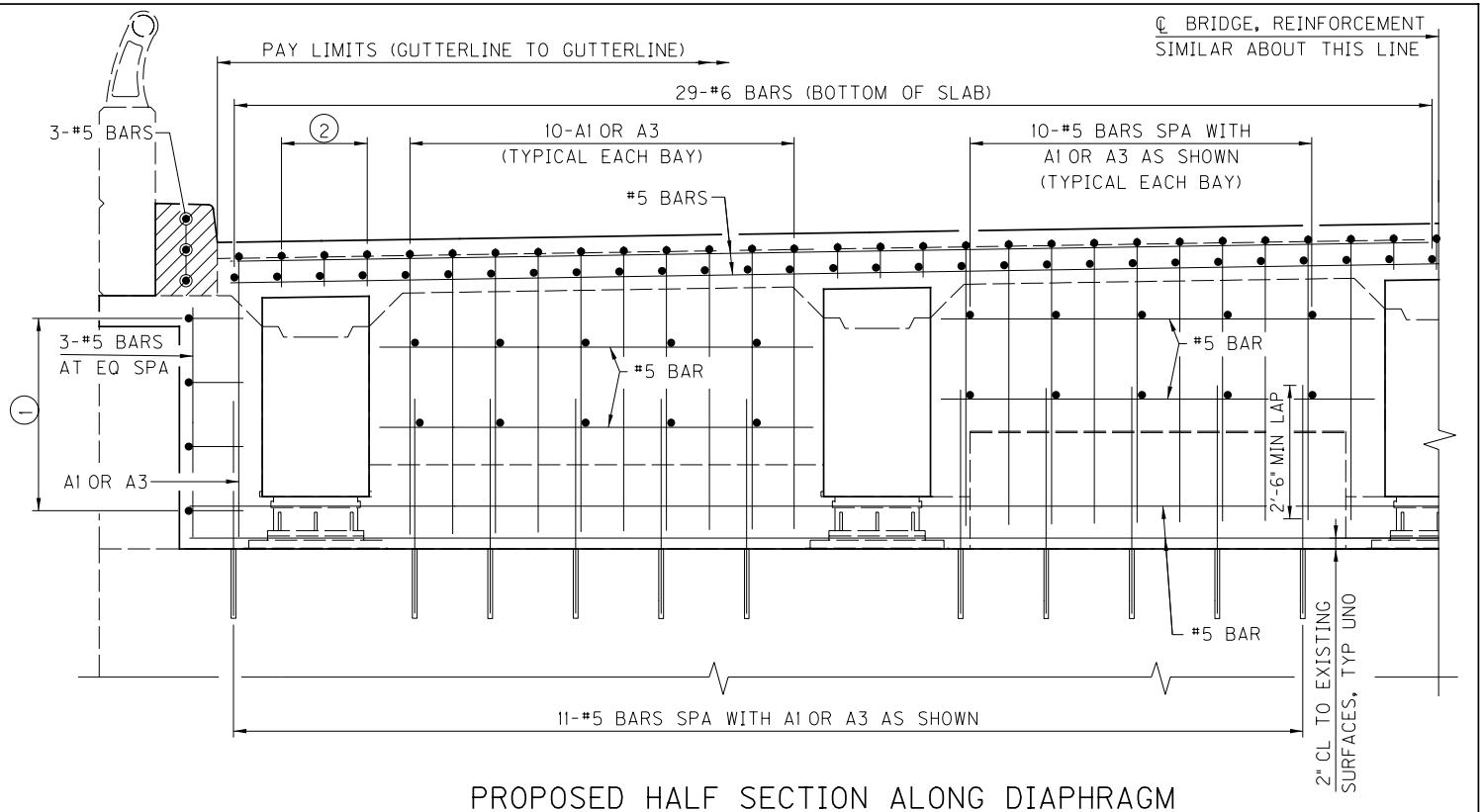
ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.

NEW CONCRETE IS TO BE CLASS "AA".

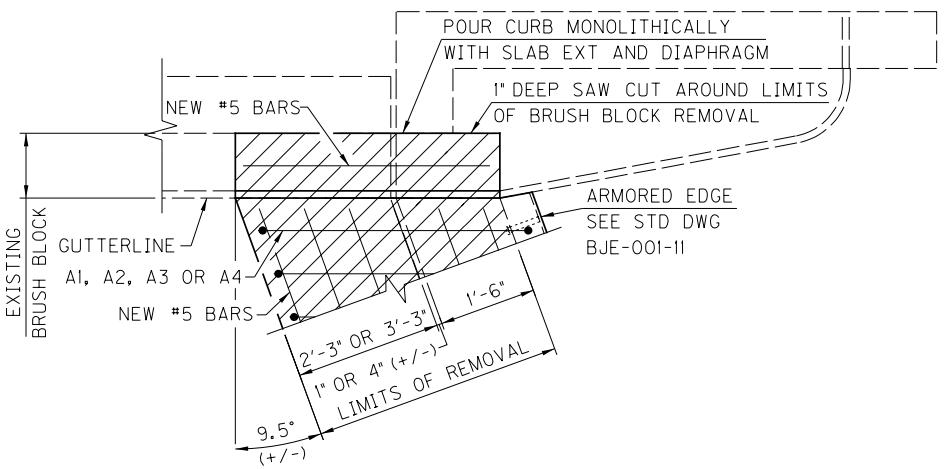
NOTATIONS:

(1) 4-A5 AT EQUAL SPACING (WEST END BENT) OR 1 EACH A6-A9 (EAST END BENT), DRILL AND EPOXY GROUT 12" MIN EMBED INTO EXISTING BACKWALL

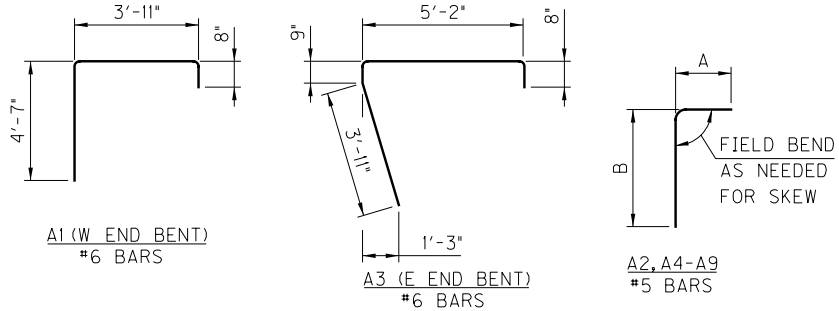
(2) 3-A2 OR A4 (TYPICAL OVER GIRDERS)



PROPOSED HALF SECTION ALONG DIAPHRAGM



PLAN AT EXP JOINT
(SHOWING REMOVAL AND PROPOSED)



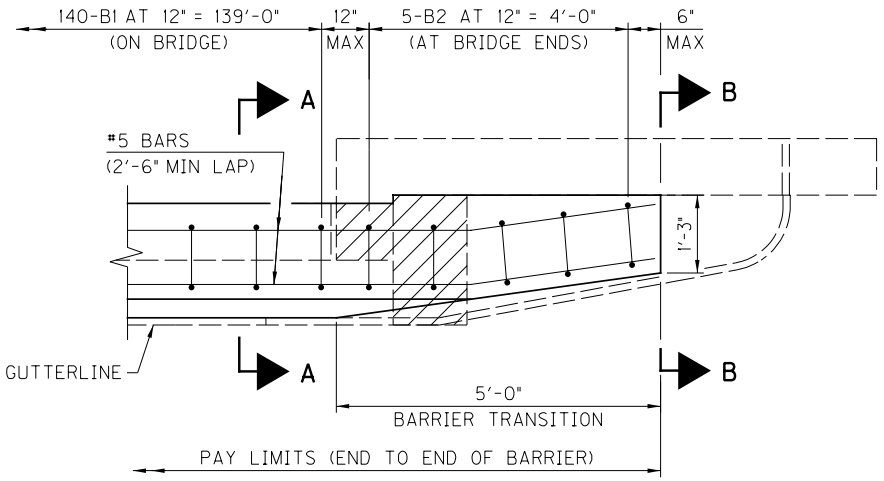
BAR	A	B	LOCATION
A2	8"	3'-11"	W END BENT
A4	8"	5'-2"	E END BENT
A5	11"	3'-1"	W END BENT
A6	11"	3'-2"	E END BENT
A7	11"	3'-6"	E END BENT
A8	11"	3'-10"	E END BENT
A9	11"	4'-2"	E END BENT

(SHEET 2 OF 2)

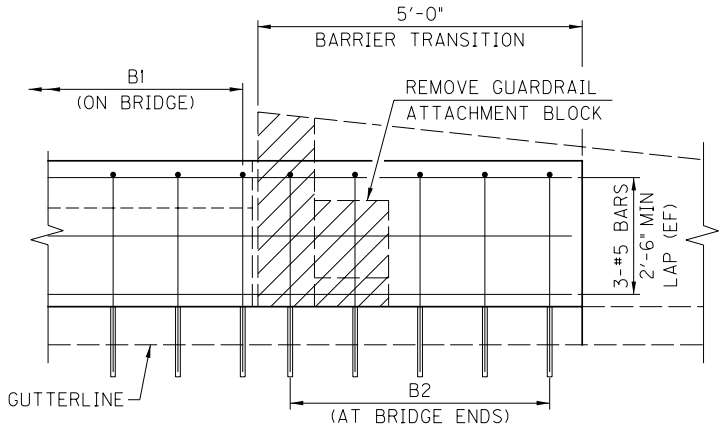
ENTRAN

ELIMINATE TRANSVERSE JT (SLAB EXT & DIAPHRAGM)

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: FRANKFORT AVENUE



PLAN OF BARRIER RETROFIT AT BRIDGE END



ELEVATION OF BARRIER RETROFIT AT BRIDGE END

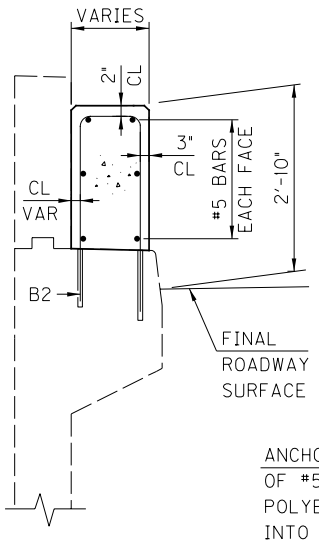
NOTES:
REMOVE HATCHED AREAS OF CONCRETE AND EXISTING REINFORCEMENT BY SAW CUTTING. PAINT ANY PERMANENTLY EXPOSED REINFORCING STEEL, SEE SPECIAL NOTE.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.

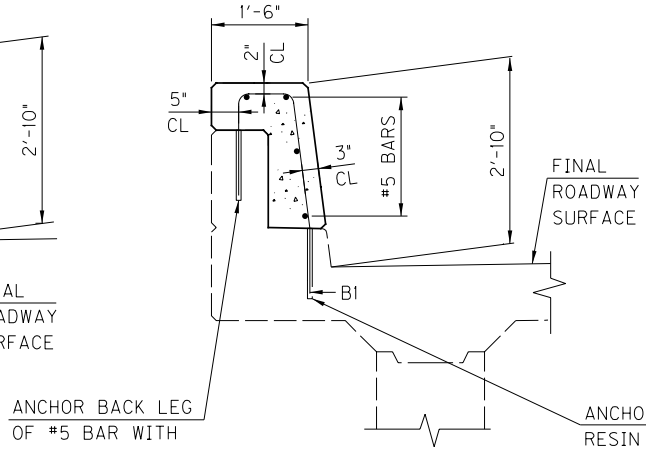
APPLY MASONRY COATING TO BARRIER & WINGWALL. SEE SPECIAL NOTE FOR LIMITS.

NEW CONCRETE IS TO BE CLASS "AA".

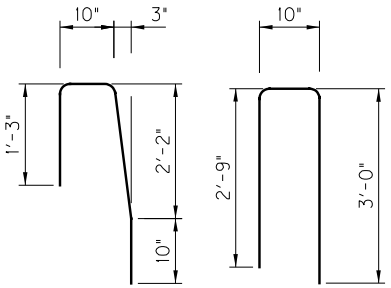
ATTACH GUARDRAIL CONNECTOR (TYPE A OR A-1) TO BARRIER RETROFIT AT BRIDGE END IN GENERAL CONFORMITY TO STD DWG RBC-001-09 WITH ALL MODIFICATIONS APPROVED BY THE ENGINEER.



SECTION B-B
(AT BRIDGE ENDS)



SECTION A-A
(ON BRIDGE)



(SHEET 1 OF 1)

ENTRAN

BRIDGE BARRIER RETROFIT

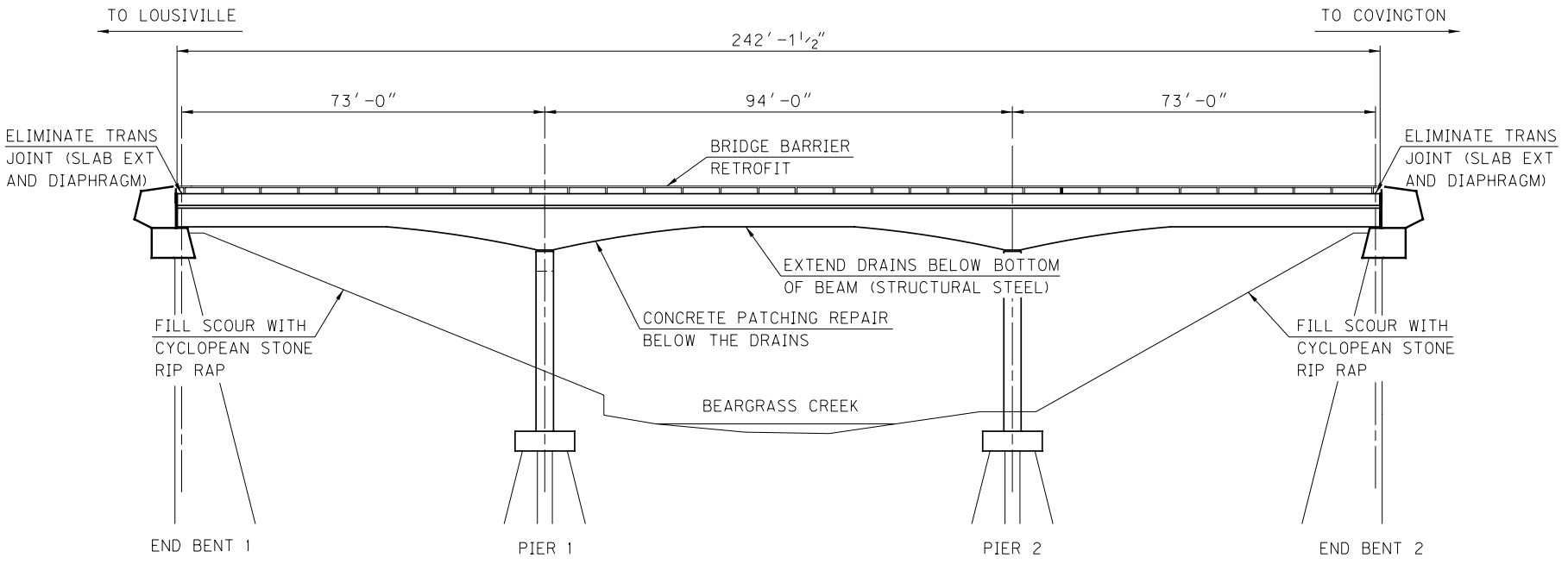
COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: FRANKFORT AVENUE

I-71 OVER BEARGRASS CREEK (056B00169L&R)

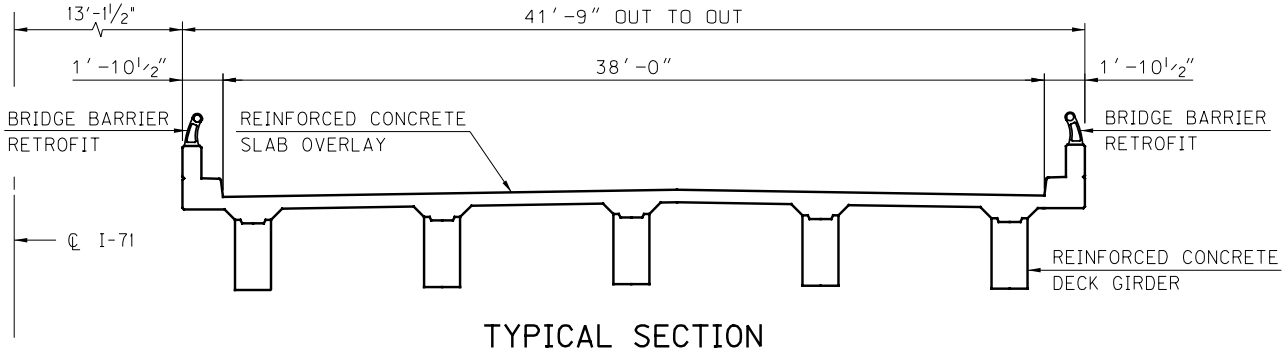
(MP 0.32)

SUMMARY OF QUANTITIES			
ITEM CODE	**DESCRIPTION**	**QUANTITY**	**UNIT**
8510	REMOVE EPOXY, BITUMINOUS OR FOREIGN OVERLAY	1998	SQYD
20186ED	REINFORCED CONCRETE SLAB	1998	SQYD
8526	CONCRETE CLASS M FULL DEPTH PATCH	5	CUYD
2403	REMOVE CONCRETE MASONRY	83	CUYD
3300	ELIMINATE TRANSVERSE JOINT (SLAB EXT. AND DIAPHRAGM)	162	LF
8160	STRUCTURAL STEEL	1[A]	LS
8019	CYCLOPEAN STONE RIP RAP	6480	TONS
22146EN	CONCRETE PATCHING REPAIR	194	SQFT
23032EN	BRIDGE BARRIER RETROFIT	1008	LF

A: Approximate weight of structural steel is 3200 lbs.



ELEVATION
20° SKEW LEFT
NTS



TYPICAL SECTION
NTS

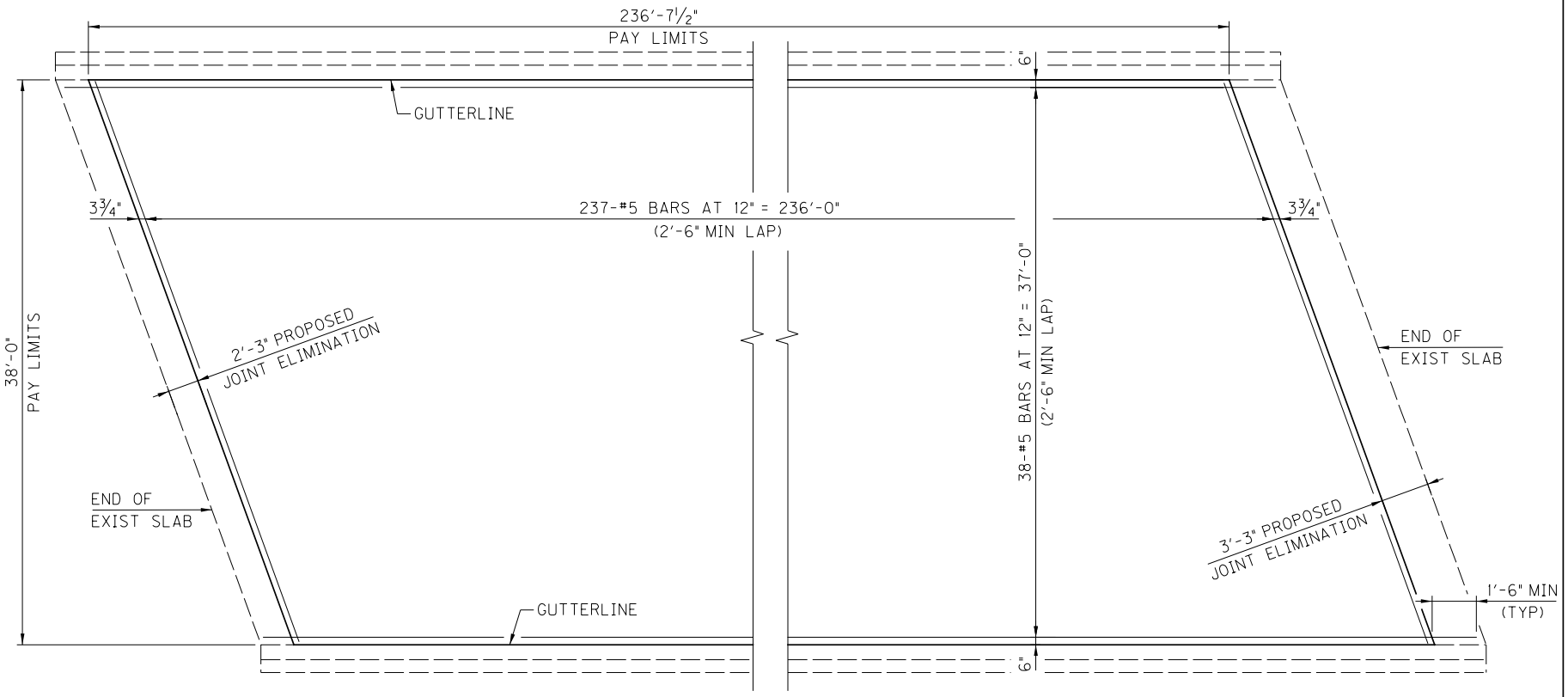
NOTE:
ALL DIMENSIONS ON THESE DETAIL SHEETS THAT REFER TO THE EXISTING STRUCTURE ARE FROM THE EXISTING PLANS AND ARE APPROXIMATE.

ALL REPAIRS TYPICAL FOR NB & SB BRIDGES, UNLESS NOTED OTHERWISE

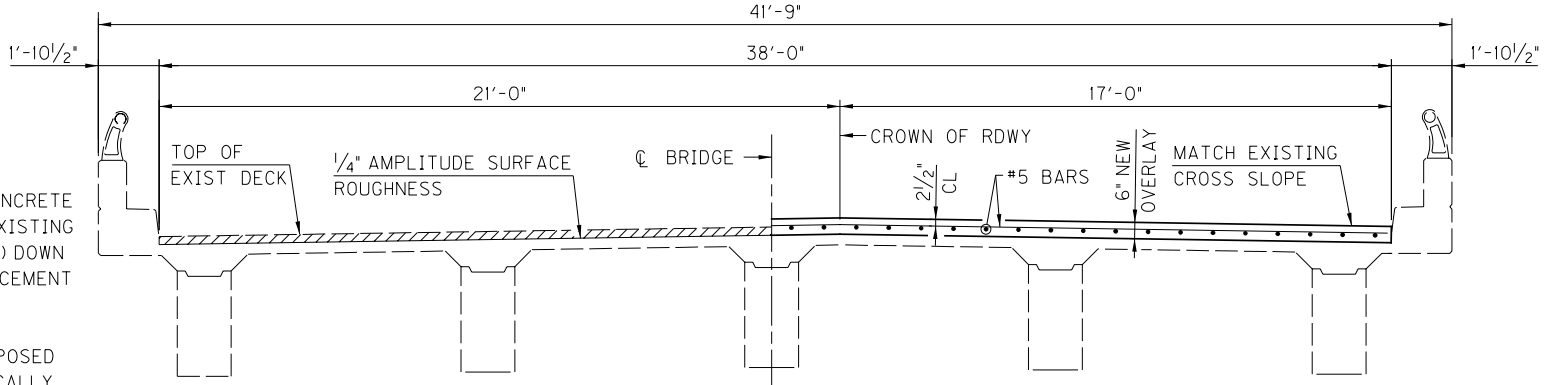
ENTRAN

ELEVATION AND TYPICAL SECTION

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: BEARGRASS CREEK



PLAN (NB OR SB BRIDGE)



TYPICAL SECTION (NB OR SB BRIDGE)
(SHOWING EXISTING AND PROPOSED DECK)

NOTES:
REMOVE HATCHED AREAS OF CONCRETE APPROXIMATELY 3" DEEP (1½" EXISTING OVERLAY & 1½" EXISTING SLAB) DOWN TO TOP OF EXISITING REINFORCEMENT BETWEEN GUTTERLINES.

PLACE "AA" CONCRETE FOR PROPOSED JOINT ELIMINATION MONOLITHICALLY WITH REINFORCED CONCRETE SLAB.

(SHEET 1 OF 1)

ENTRAN

REINFORCED CONCRETE SLAB DETAILS

COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	BEARGRASS CREEK

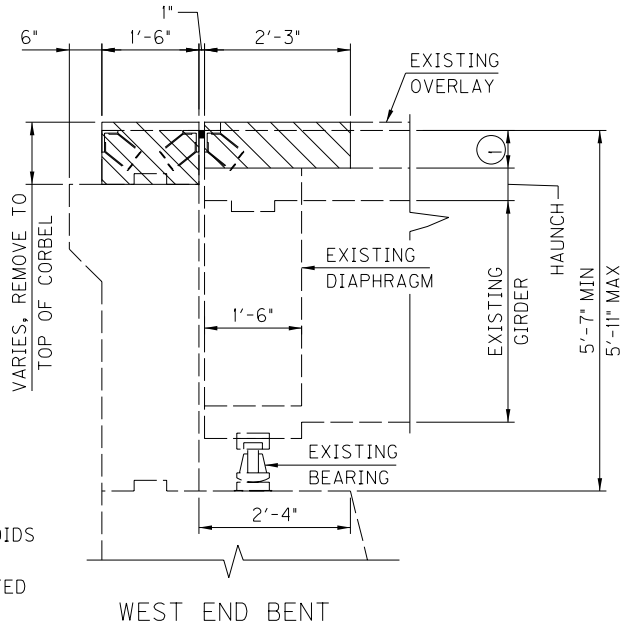
NOTES:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN & REUSE EXISTING LONGITUDINAL REINFORCEMENT. REPLACE EXISTING TRANSVERSE REINFORCING. DO NOT DISTURB TOP OF BEAMS.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES & DOWELING INTO EXISTING CONCRETE, SEE SECTION 511 OF STANDARD SPECIFICATIONS.

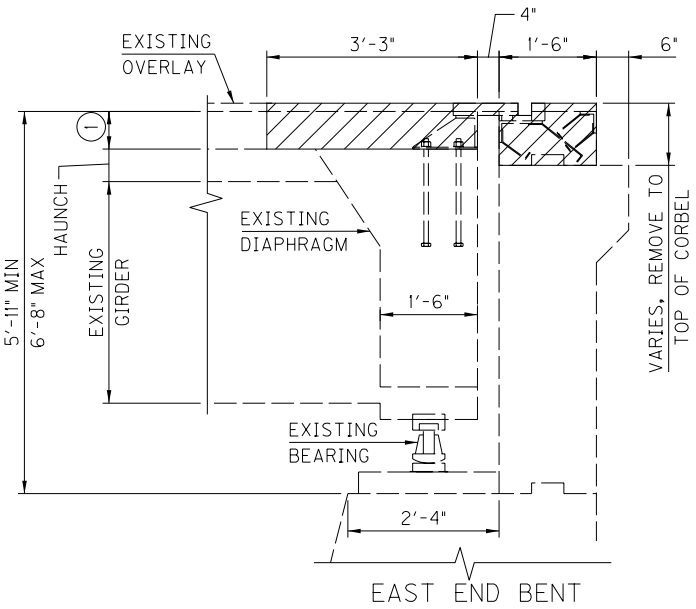
ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.

NEW CONCRETE IS TO BE CLASS "AA".

CONTRACTOR SHALL PLACE NEW CONCRETE DIAPHRAGM SO THAT IT IS FREE FROM ANY VOIDS AROUND THE EXISTING BEARINGS. CONTRACTOR SHALL REPAIR ALL CONCRETE VOIDS AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.



WEST END BENT



EAST END BENT

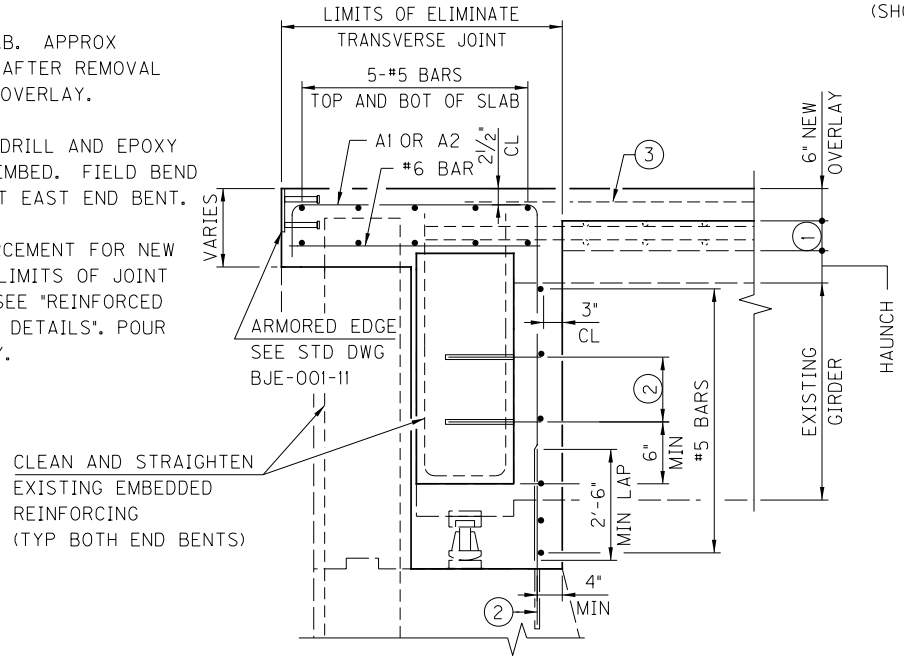
EXISTING SECTION AT END BENTS
(SHOWING REMOVAL)

NOTATIONS:

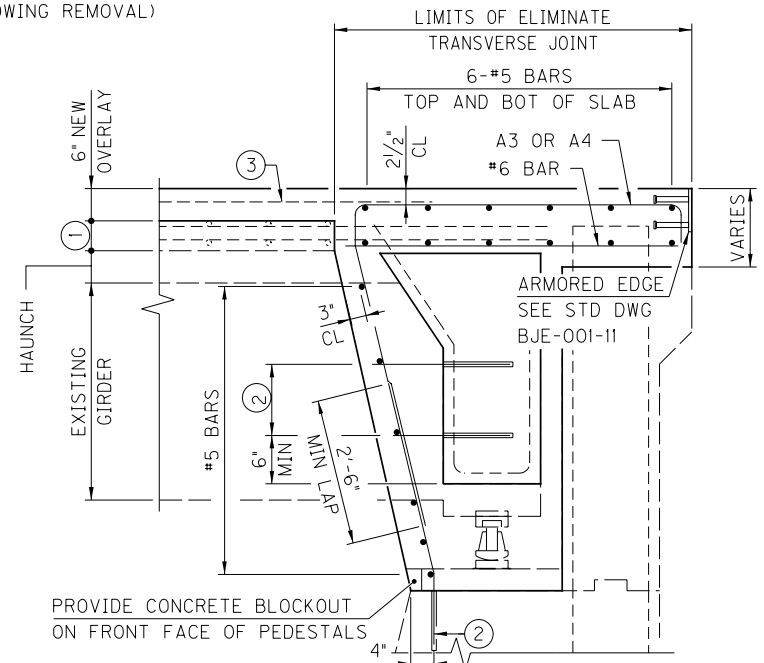
(1) 7" EXISTING SLAB. APPROX 5½" REMAINING AFTER REMOVAL FOR NEW DECK OVERLAY.

(2) #5 BARS, CORE DRILL AND EPOXY GROUT 12" MIN EMBED. FIELD BEND AS REQUIRED AT EAST END BENT.

(3) EXTEND REINFORCEMENT FOR NEW OVERLAY INTO LIMITS OF JOINT ELIMINATION. SEE "REINFORCED CONCRETE SLAB DETAILS". POUR MONOLITHICALLY.



WEST END BENT



EAST END BENT

PROPOSED SECTION AT END BENTS

ENTRAN

ELIMINATE TRANSVERSE JT (SLAB EXT & DIAPHRAGM)

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: BEARGRASS CREEK

NOTES:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN & REUSE EXISTING LONGITUDINAL REINFORCEMENT. REPLACE EXISTING TRANSVERSE REINFORCING. DO NOT DISTURB TOP OF BEAMS.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES & DOWELING INTO EXISTING CONCRETE, SEE SECTION 511 OF STANDARD SPECIFICATIONS.

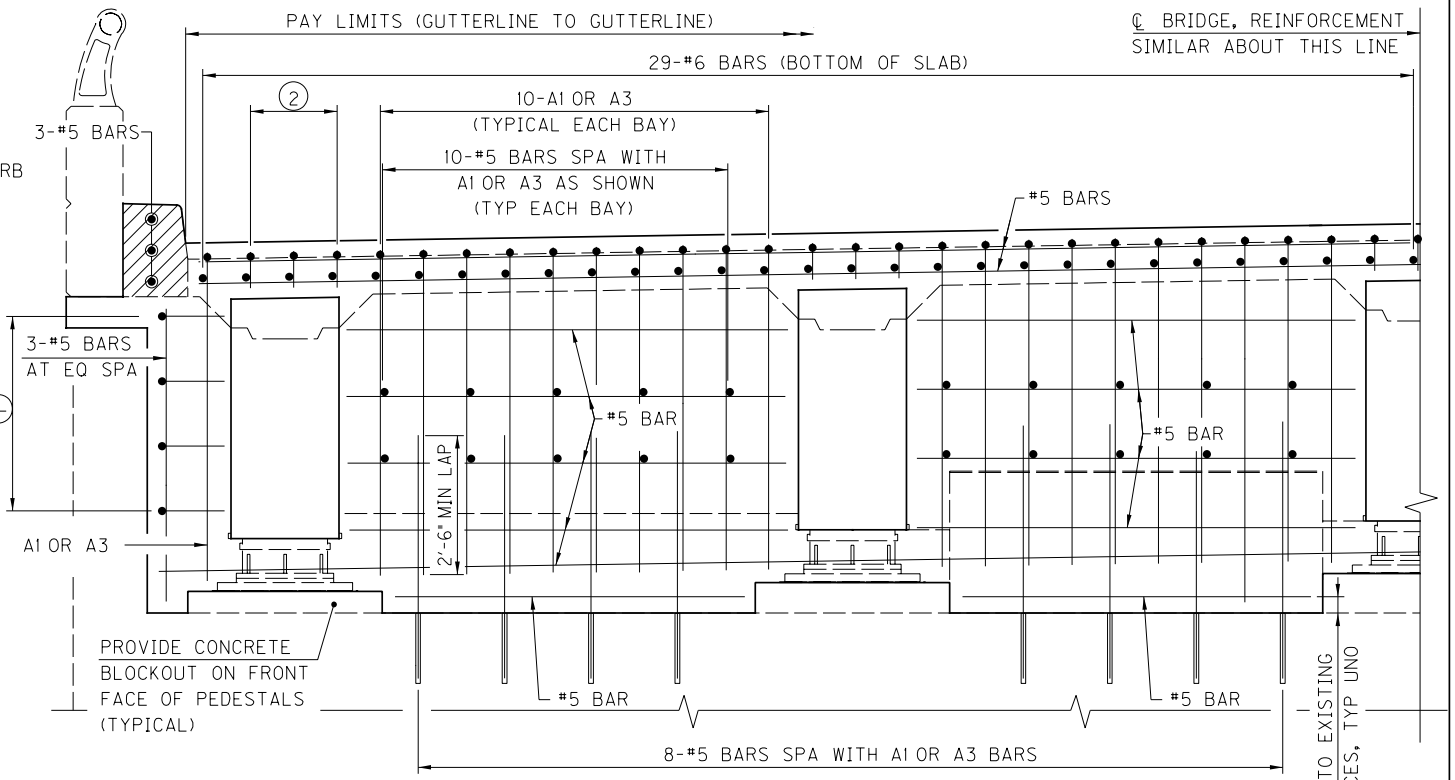
ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.

NEW CONCRETE IS TO BE CLASS "AA".

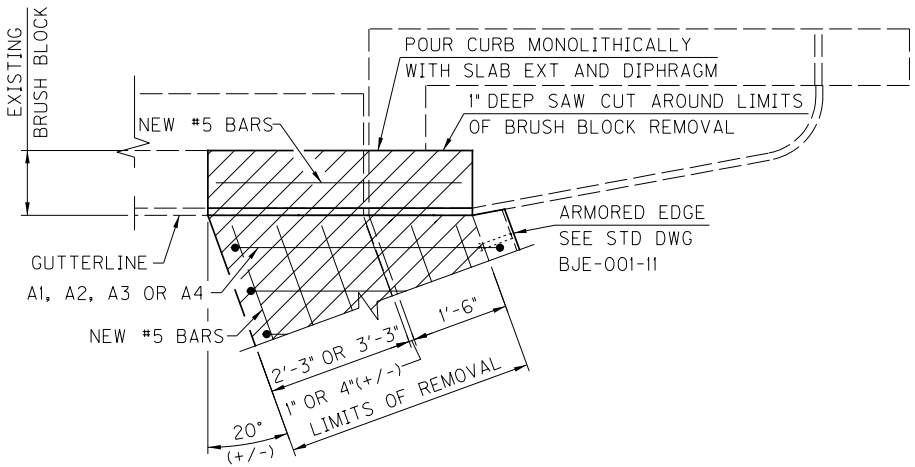
NOTATIONS:

(1) 4-A5 AT EQUAL SPACING (WEST END BENT) OR 1 EACH A6-A9 (EAST END BENT), DRILL AND EPOXY GROUT 12" MIN EMBED INTO EXISTING BACKWALL

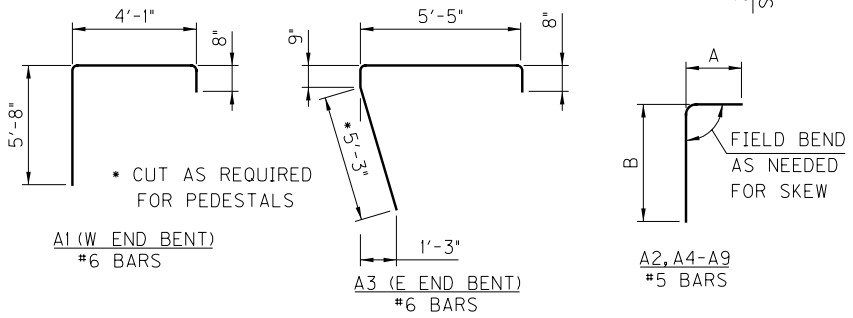
(2) 3-A2 OR A4 (TYPICAL OVER GIRDERS)



PROPOSED HALF SECTION ALONG DIAPHRAGM



PLAN AT EXP. JOINT
(SHOWING REMOVAL AND PROPOSED)



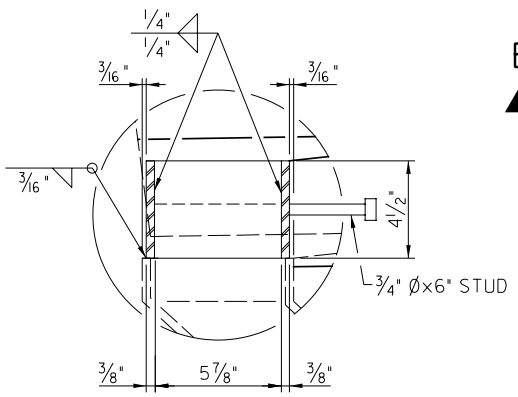
BAR	A	B	LOCATION
A2	8"	4'-1"	W END BENT
A4	8"	5'-5"	E END BENT
A5	11"	3'-1"	W END BENT
A6	11"	3'-2"	E END BENT
A7	11"	3'-6"	E END BENT
A8	11"	3'-10"	E END BENT
A9	11"	4'-2"	E END BENT

(SHEET 2 OF 2)

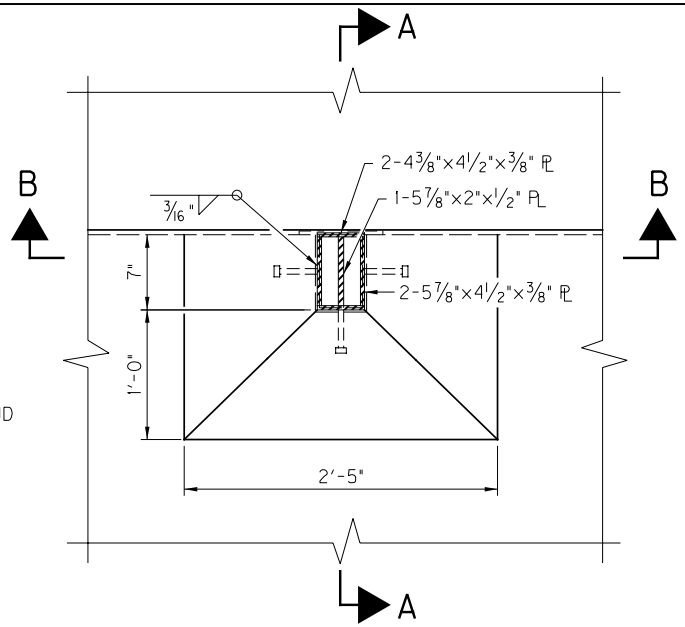
ENTRAN

ELIMINATE TRANSVERSE JT (SLAB EXT & DIAPHRAGM)

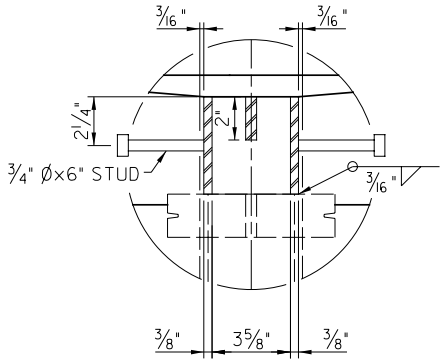
COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: BEARGRASS CREEK



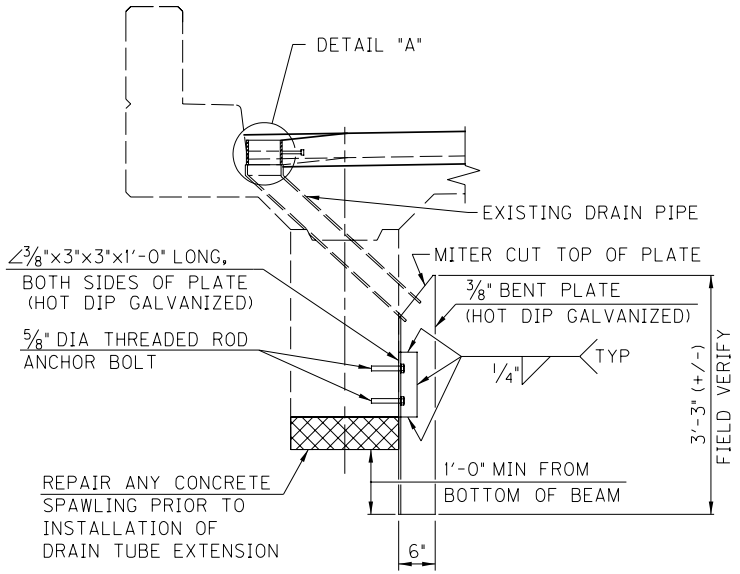
DETAIL "A"



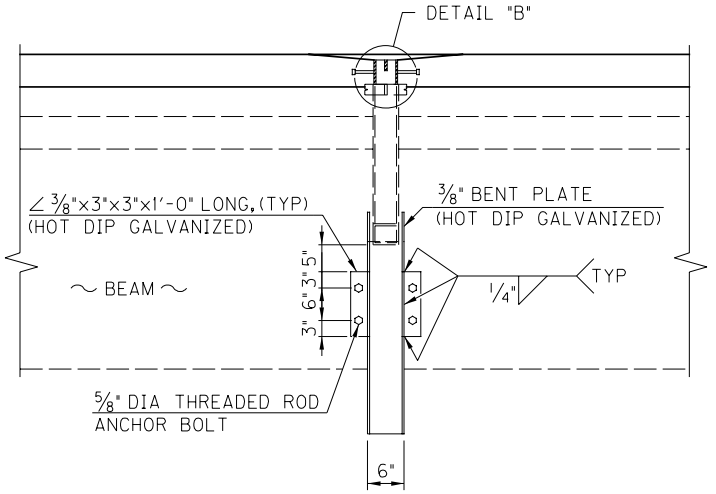
PLAN



DETAIL "B"



SECTION A-A



SECTION B-B

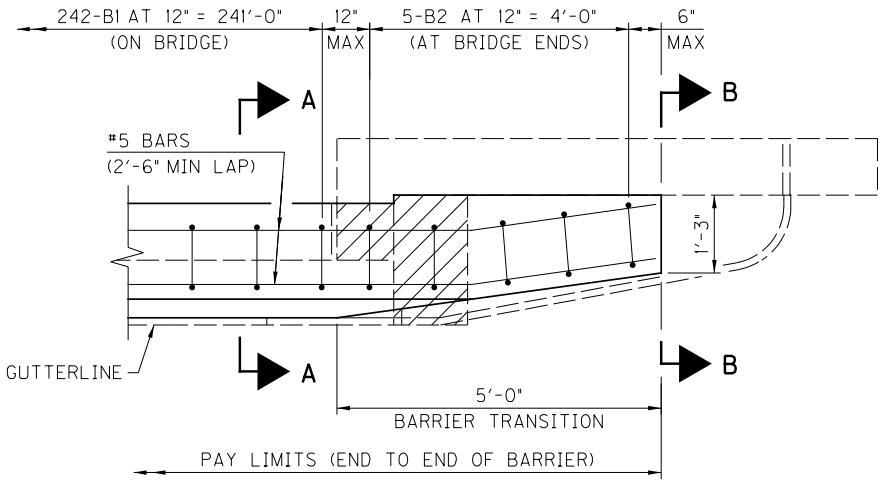
NOTE:
ANCHOR BOLTS SHALL BE 5/8" DIAMETER THREADED ROD ASTM-A36 WITH ONE HARDENED STEEL WASHER PLACED UNDER HEX NUT. ALL ANCHOR BOLTS, WASHERS AND NUTS SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM B695-04, CLASS 50. EMBED THE THREADED ROD ANCHOR BOLTS INTO THE BEAMS WITH A POLYESTER RESIN ANCHOR SYSTEM MANUFACTURED BY KELKEN CONSTRUCTION SYSTEM OR AN APPROVED EQUIVALENT. ESTIMATED REQUIRED EMBEDMENT DEPTH IS 6".

(SHEET 1 OF 1)

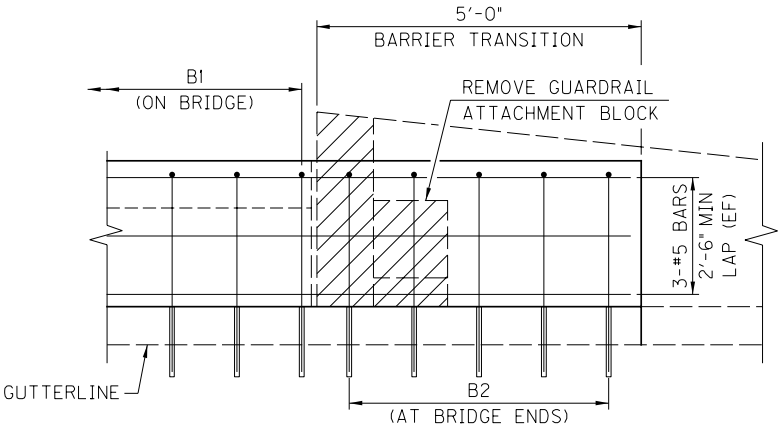
ENTRAN

PROPOSED DRAIN EXTENSION AND DETAILS

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: BEARGRASS CREEK



PLAN OF BARRIER RETROFIT AT BRIDGE END



ELEVATION OF BARRIER RETROFIT AT BRIDGE END

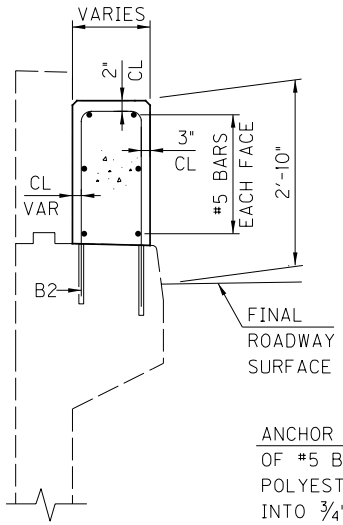
NOTES:
REMOVE HATCHED AREAS OF CONCRETE AND EXISTING REINFORCEMENT BY SAW CUTTING. PAINT ANY PERMANENTLY EXPOSED REINFORCING STEEL, SEE SPECIAL NOTE.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.

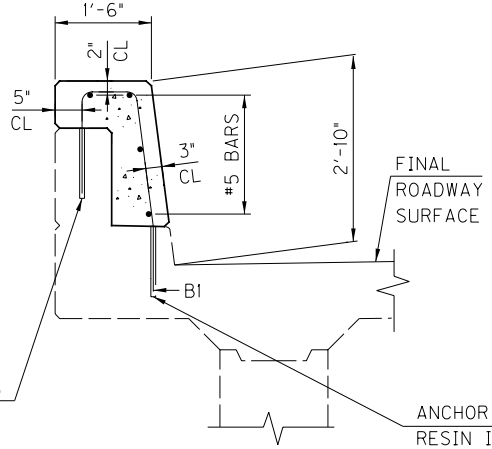
APPLY MASONRY COATING TO BARRIER & WINGWALL. SEE SPECTIAL NOTE FOR LIMITS.

NEW CONCRETE IS TO BE CLASS "AA".

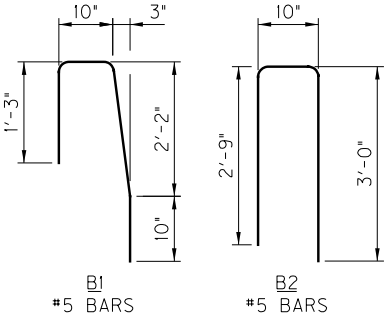
ATTACH GUARDRAIL CONNECTOR (TYPE A OR A-1) TO BARRIER RETROFIT AT BRIDGE END IN GENERAL CONFORMITY TO STD DWG RBC-001-09 WITH ALL MODIFICATIONS APPROVED BY THE ENGINEER.



SECTION B-B
(AT BRIDGE ENDS)



SECTION A-A
(ON BRIDGE)



(SHEET 1 OF 1)

ENTRAN

BRIDGE BARRIER RETROFIT

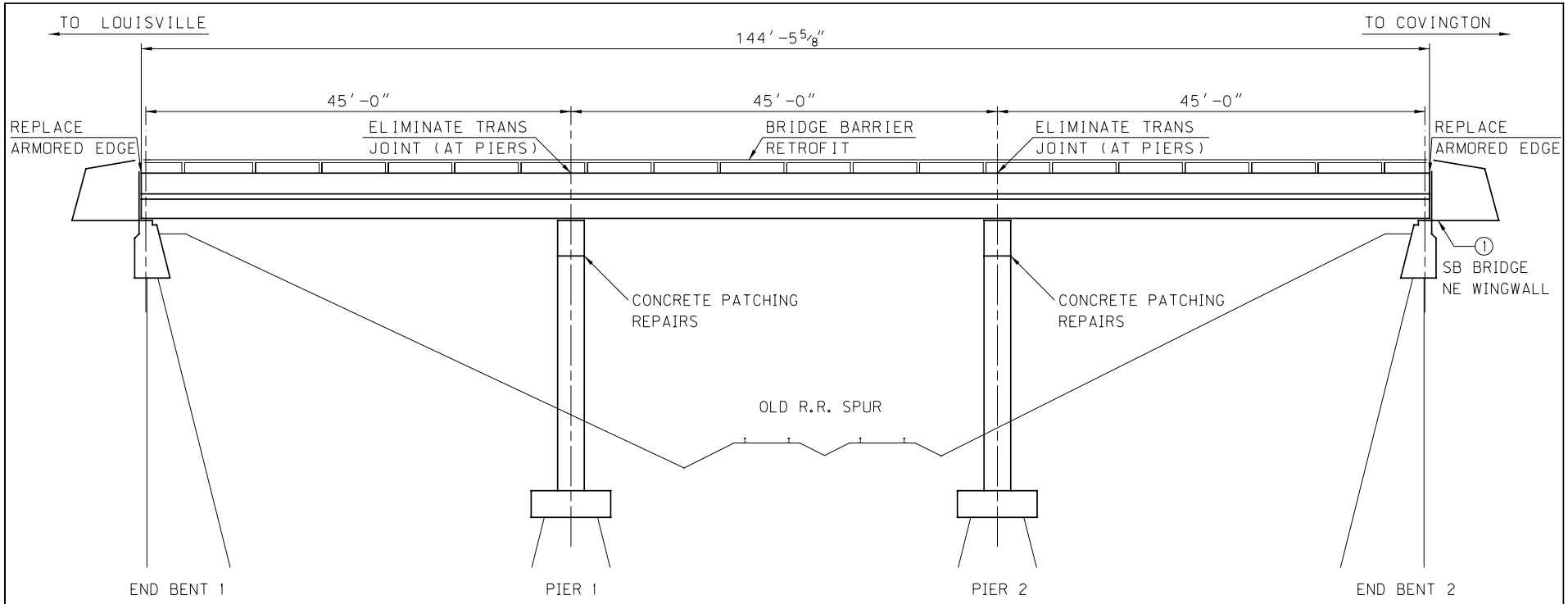
COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	BEARGRASS CREEK

I-71 OVER OLD RAILROAD SPUR (056B00168L&R)

(MP 0.53)

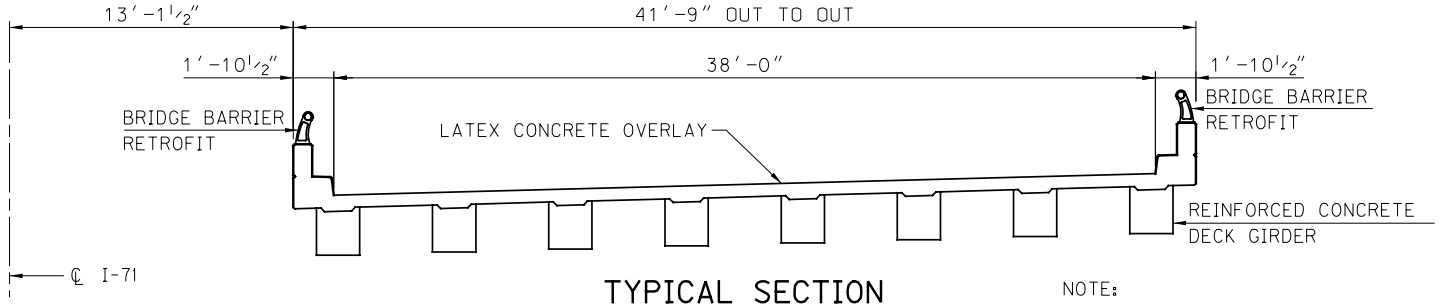
SUMMARY OF QUANTITIES			
ITEM CODE	**DESCRIPTION**	**QUANTITY**	**UNIT**
8549	BLAST CLEANING	1220	SQYD
8534	CONCRETE OVERLAY – LATEX*	51	CUYD
3300	ELIMINATE TRANSVERSE JOINT (AT PIERS)	160	LF
20663ED	REPLACE ARMORED EDGE	160	LF
22146EN	CONCRETE PATCHING REPAIR	250	SQFT
2220	FLOWABLE FILL	5	CUYD
23032EN	BRIDGE BARRIER RETROFIT	618	LF
8504	EPOXY SAND SLURRY	115	SQYD

* An overrun quantity of Latex has been included in this Bid Item for anticipated Partial Depth Patching. Payment shall be made by Section 606.04.06.



ELEVATION

18°13′23″ SKEW LEFT
NTS



TYPICAL SECTION

NTS

NOTATION:

① FILL SCOUR HOLES UNDER APPROACH PAVEMENTS ADJACENT TO ABUTMENTS WITH FLOWABLE FILL. PLACE FLOWABLE FILL IN ACCORDANCE WITH SECTION 601.03.09 OF THE STANDARD SPECS.

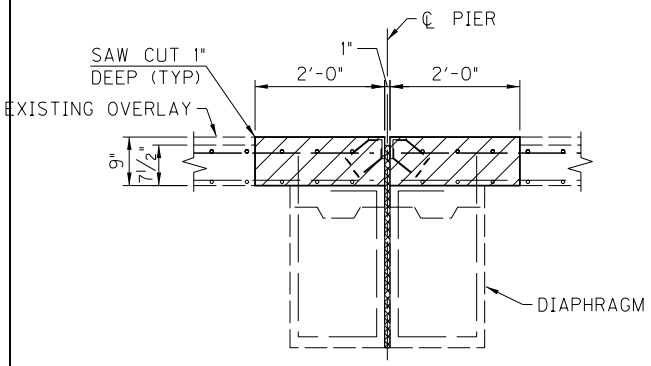
NOTE:
ALL DIMENSIONS ON THESE DETAIL SHEETS THAT REFER TO THE EXISTING STRUCTURE ARE FROM THE EXISTING PLANS AND ARE APPROXIMATE.

ALL REPAIRS TYPICAL FOR NB & SB BRIDGES, UNLESS NOTED OTHERWISE.

ENTRAN

ELEVATION AND TYPICAL SECTION

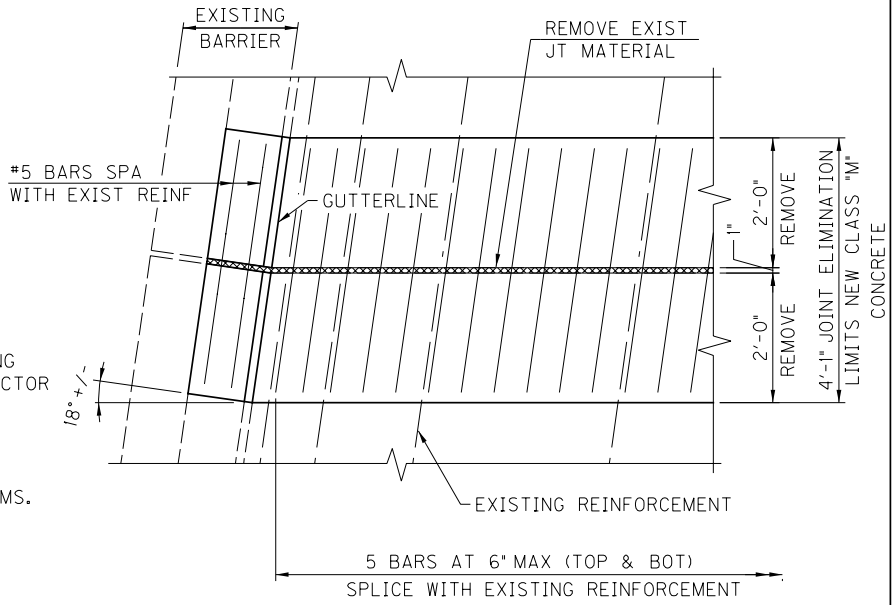
COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: OLD RAILROAD SPUR



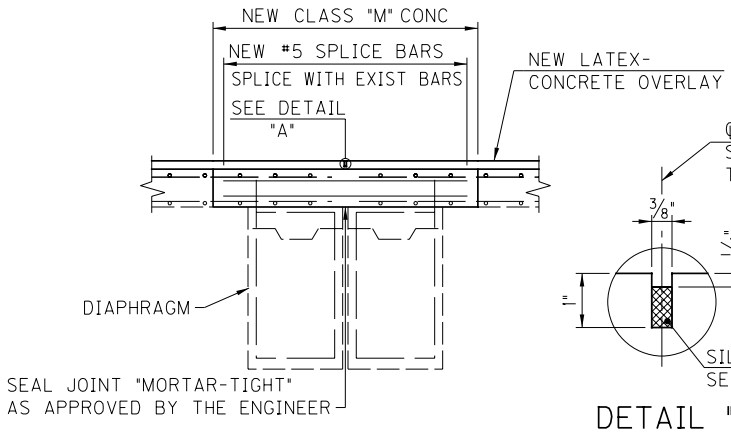
EXISTING SECTION AT PIERS
(SHOWING REMOVAL OF DECK)

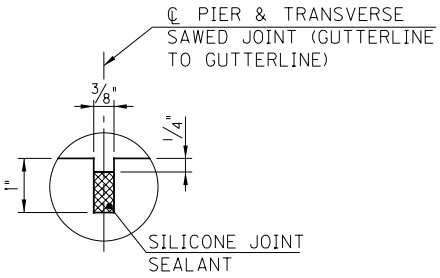
NOTE:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN, STRAIGHTEN & REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REPLACE EXISTING TRANSVERSE REINFORCEMENT.

DO NOT DISTURB TOP OF BEAMS.



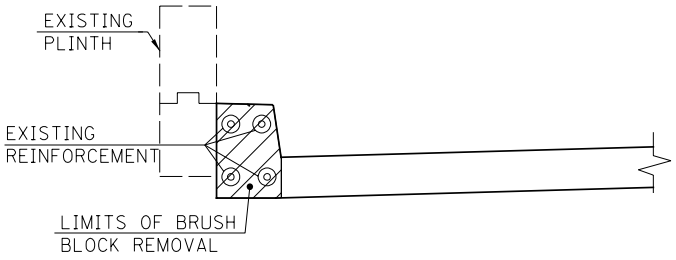
PLAN AT PIERS



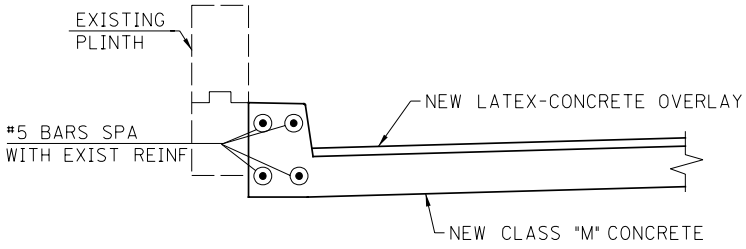


DETAIL "A"

PROPOSED ELIMINATED JOINT SECTION



EXISTING SECTION AT BARRIER
(SHOWING REMOVAL OF BRUSH BLOCK)



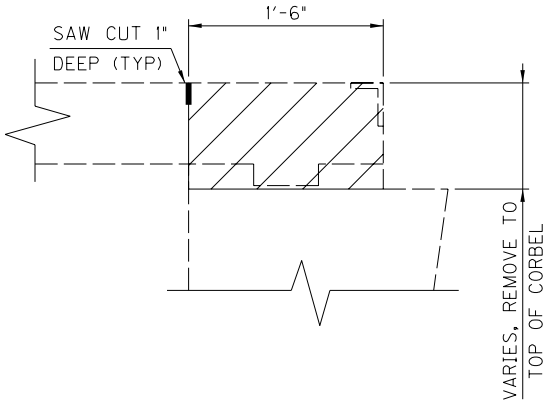
SECTION AT BARRIER

(SHEET 1 OF 1)

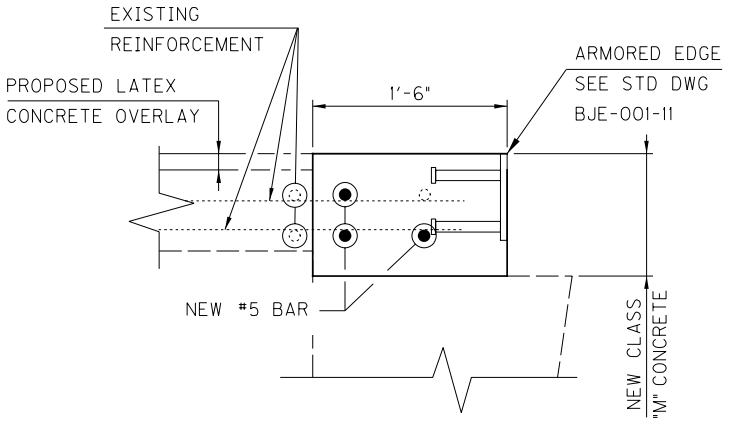
ENTRAN

ELIMINATE TRANSVERSE JOINT (AT PIERS)

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: OLD RAILROAD SPUR



EXISTING END OF SLAB DETAIL



PRPOSED END OF SLAB DETAIL

NOTES:

REMOVE HATCHED AREAS OF CONCRETE
& ARMORED EDGE BETWEEN GUTTERLINES.
CLEAN & REUSE EXISTING REINFORCEMENT.
THE CONTRACTOR HAS THE OPTION TO REPLACE
EXISTING TRANSVERSE REINFORCEMENT.

DO NOT DISTURB TOP OF BEAMS.

FOR BONDING NEW CONCRETE TO EXISTING
SURFACES, SEE SECTION 511 OF THE STANDARD
SPECIFICATIONS.

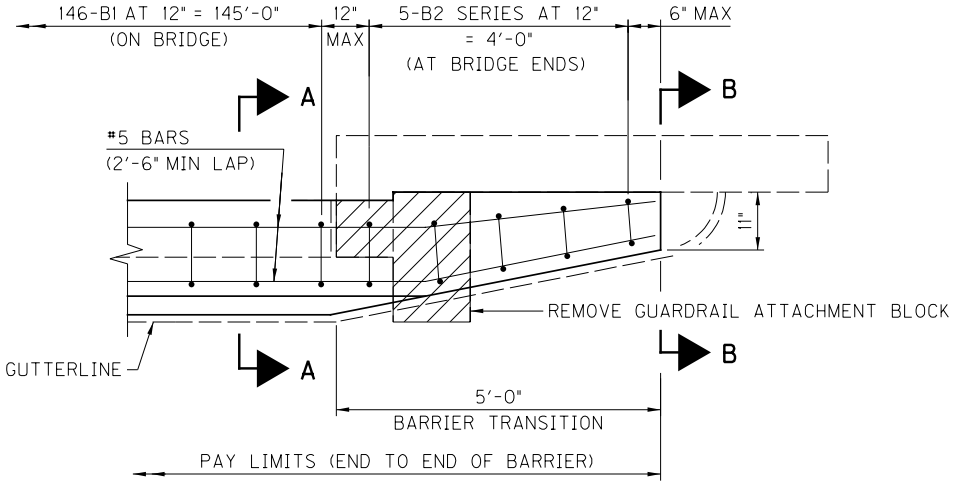
NEW CONCRETE IS TO BE CLASS "M".

(SHEET 1 OF 1)

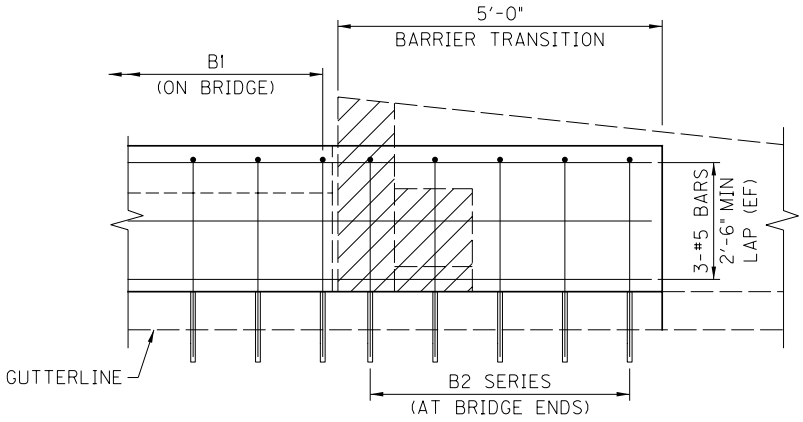
ENTRAN

ARMORED EDGE REPLACEMENT

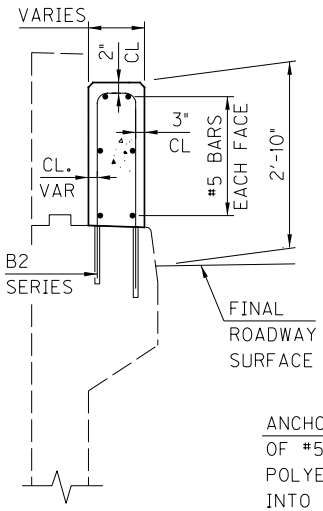
COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	OLD RAILROAD SPUR



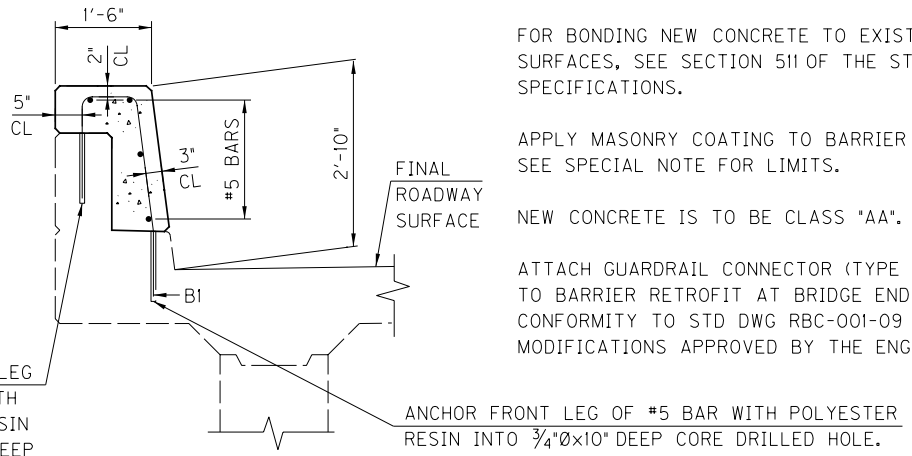
PLAN OF BARRIER RETROFIT AT BRIDGE END



ELEVATION OF BARRIER RETROFIT AT BRIDGE END



SECTION B-B
(AT BRIDGE ENDS)



SECTION A-A
(ON BRIDGE)

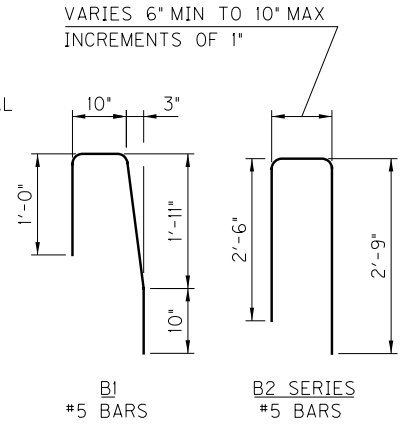
NOTES:
REMOVE HATCHED AREAS OF CONCRETE AND EXISTING REINFORCEMENT BY SAW CUTTING. PAINT ANY PERMANENTLY EXPOSED REINFORCING STEEL, SEE SPECIAL NOTE.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.

APPLY MASONRY COATING TO BARRIER & WINGWALL. SEE SPECIAL NOTE FOR LIMITS.

NEW CONCRETE IS TO BE CLASS "AA".

ATTACH GUARDRAIL CONNECTOR (TYPE A OR A-1) TO BARRIER RETROFIT AT BRIDGE END IN GENERAL CONFORMITY TO STD DWG RBC-001-09 WITH ALL MODIFICATIONS APPROVED BY THE ENGINEER.



(SHEET 1 OF 1)

ENTRAN

BRIDGE BARRIER RETROFIT

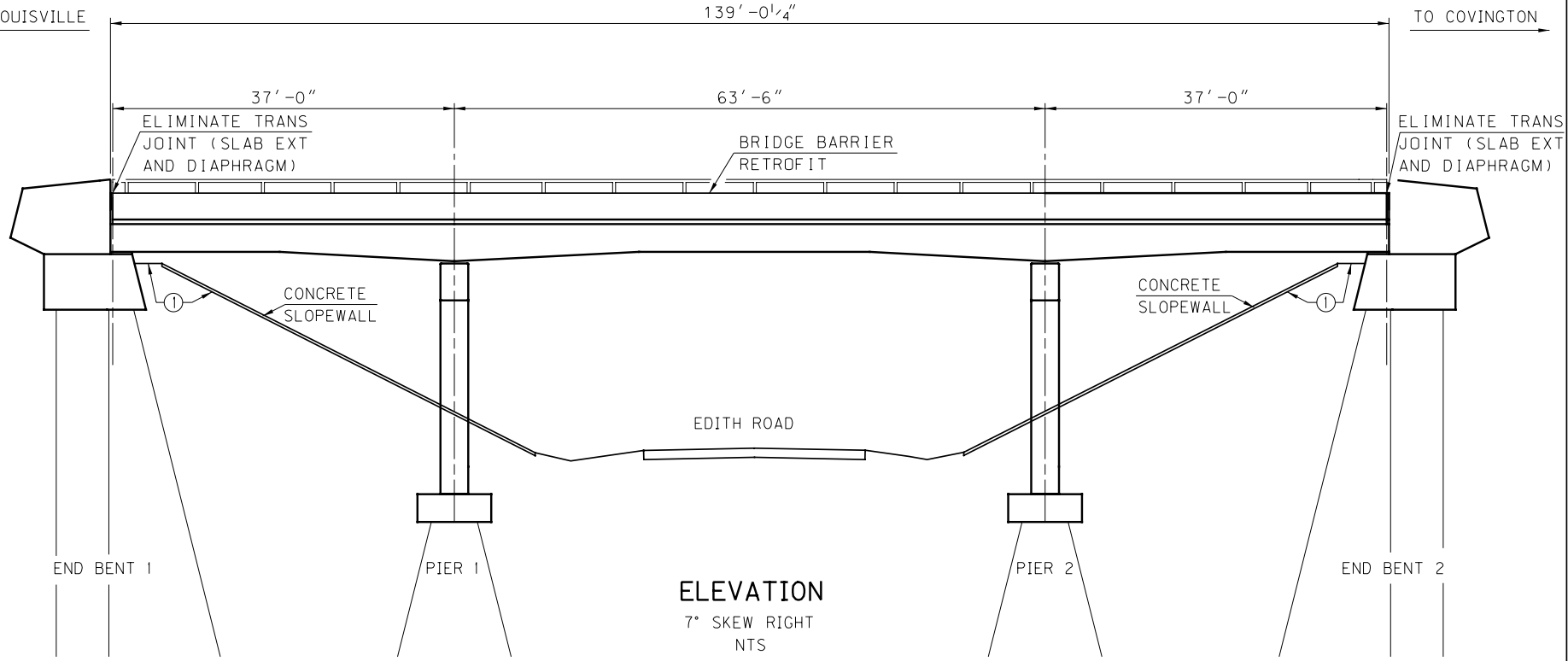
COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: OLD RAILROAD SPUR

I-71 OVER EDITH ROAD (056B00166L&R)

(MP 0.80)

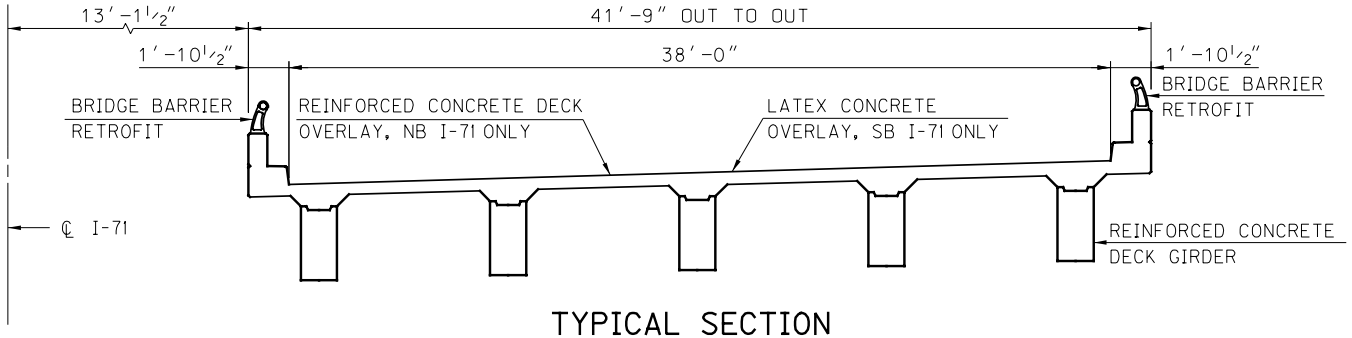
SUMMARY OF QUANTITIES			
ITEM CODE	**DESCRIPTION**	**QUANTITY**	**UNIT**
8510	REMOVE EPOXY, BITUMINOUS OR FOREIGN OVERLAY	564	SQYD
20186ED	REINFORCED CONCRETE SLAB	564	SQYD
8549	BLAST CLEANING	587	SQYD
2403	REMOVE CONCRETE MASONRY	24	CUYD
8526	CONCRETE CLASS M FULL DEPTH PATCH	3	CUYD
3300	ELIMINATE TRANSVERSE JOINT (SLAB EXT. AND DIAPHRAGM)	152	LF
2220	FLOWABLE FILL	160	CUYD
23032EN	BRIDGE BARRIER RETROFIT	596	LF
8534	CONCRETE OVERLAY – LATEX*	26	CUYD
8504	EPOXY SAND SLURRY	55	SQYD

* An overrun quantity of Latex has been included in this Bid Item for anticipated Partial Depth Patching. Payment shall be made by Section 606.04.06.



ELEVATION

7° SKEW RIGHT
NTS



TYPICAL SECTION

NTS

NOTATION:
① FILL SCOUR HOLES UNDER SLOPEWALLS AND ABUTMENTS WITH FLOWABLE FILL. POUR CONCRETE LEVEL WITH TOP OF SLOPEWALL. PLACE FLOWABLE FILL IN ACCORDANCE WITH SECTION 601.03.09 OF THE STANDARD SPECS.

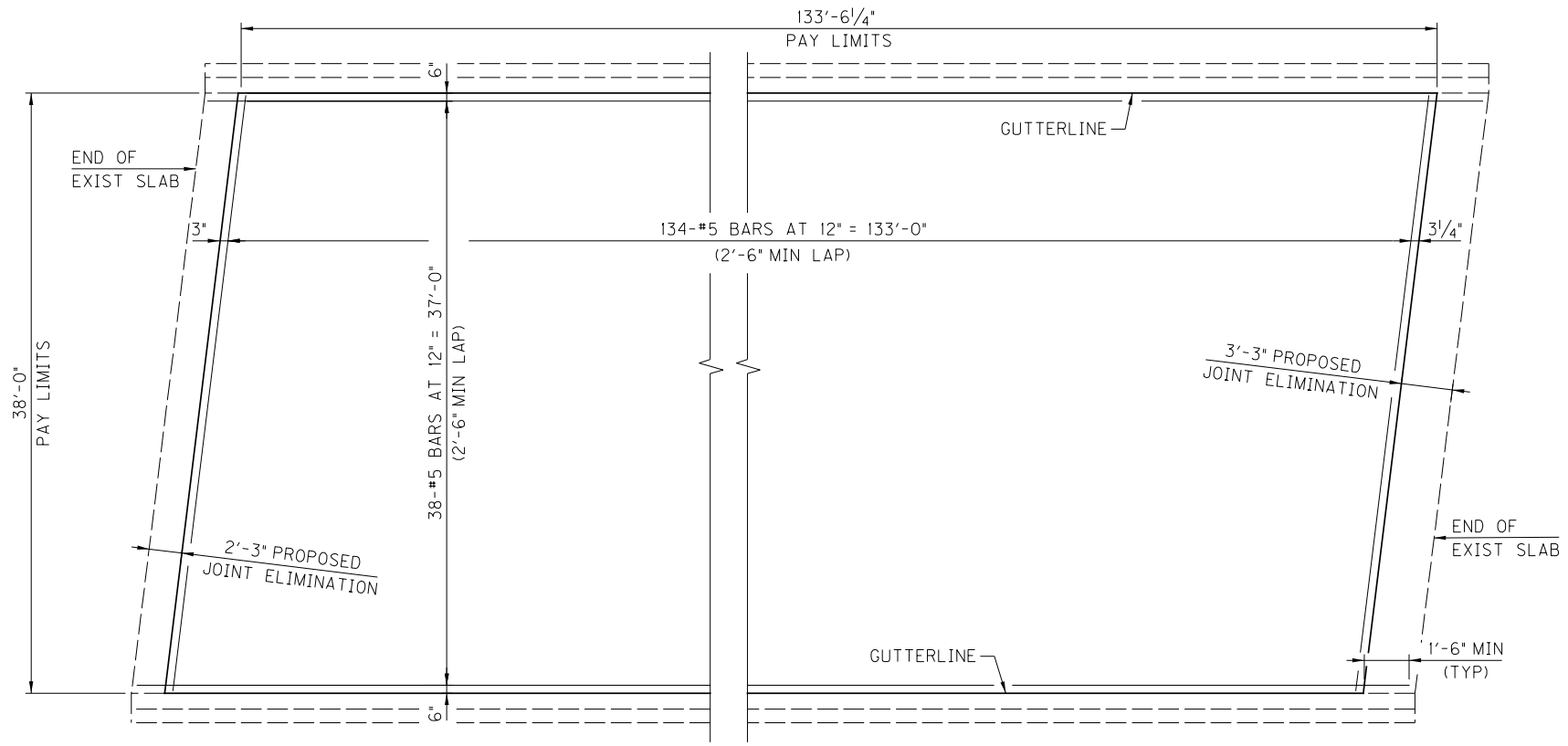
NOTE:
ALL DIMENSIONS ON THESE DETAIL SHEETS THAT REFER TO THE EXISTING STRUCTURE ARE FROM THE EXISTING PLANS AND ARE APPROXIMATE.

ALL REPAIRS TYPICAL FOR NB & SB BRIDGES, UNLESS NOTED OTHERWISE.

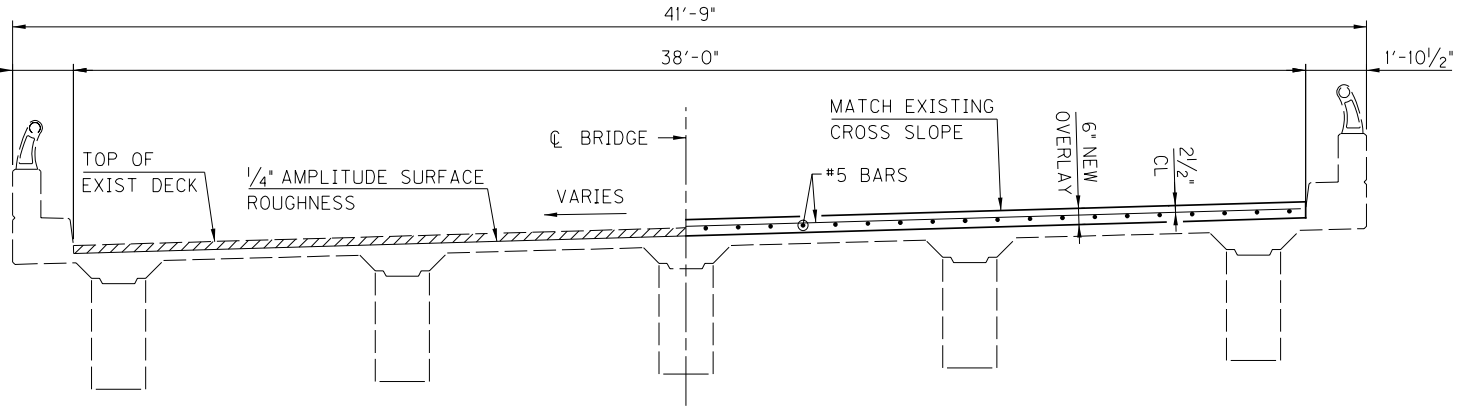
ENTRAN

ELEVATION AND TYPICAL SECTION

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: EDITH ROAD



PLAN (NB BRIDGE)



NOTES:
REMOVE HATCHED AREAS OF CONCRETE APPROXIMATELY 3" DEEP (1½" EXISTING OVERLAY & 1½" EXISTING SLAB) DOWN TO TOP OF EXISITING REINFORCEMENT BETWEEN GUTTERLINES.

PLACE "AA" CONCRETE FOR PROPOSED JOINT ELIMINATION MONOLITHICALLY WITH REINFORCED CONCRETE SLAB.

TYPICAL SECTION (NB BRIDGE)
(SHOWING EXISTING AND PROPOSED DECK)

(SHEET 1 OF 1)

ENTRAN

REINFORCED CONCRETE SLAB DETAILS

COUNTY:	JEFFERSON
ROUTE:	I-71 NORTHBOUND
CROSSING:	EDITH ROAD

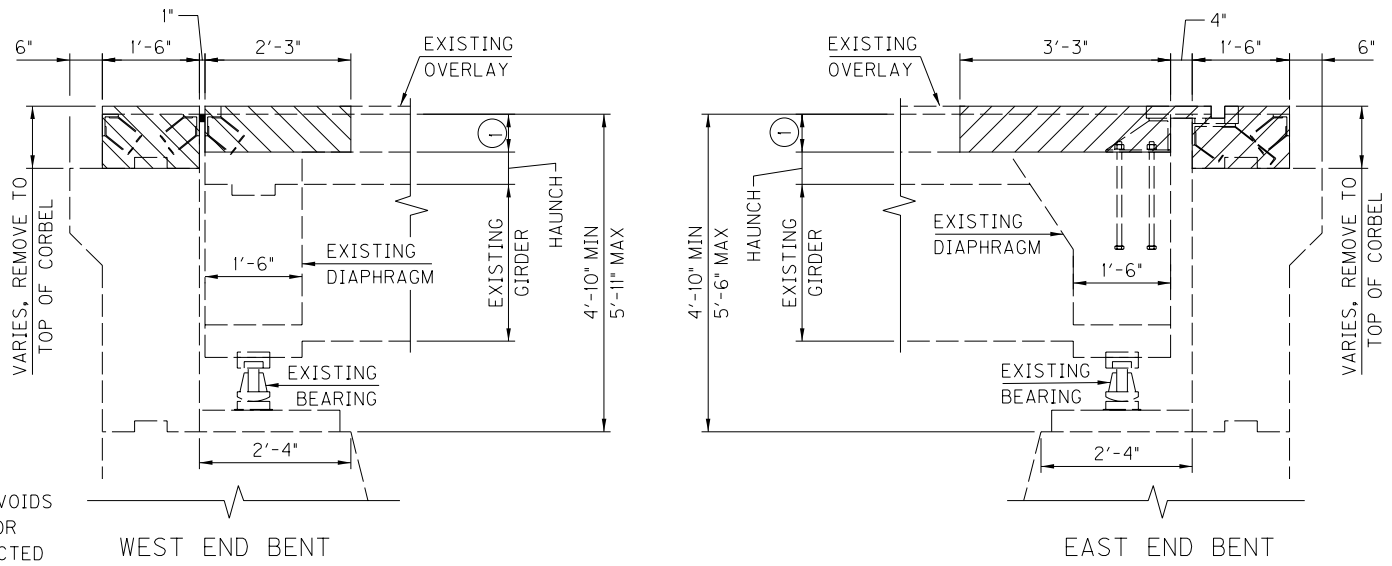
NOTES:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN & REUSE EXISTING LONGITUDINAL REINFORCEMENT. REPLACE EXISTING TRANSVERSE REINFORCING. DO NOT DISTURB TOP OF BEAMS.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES & DOWELING INTO EXISTING CONCRETE, SEE SECTION 511 OF STANDARD SPECIFICATIONS.

ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.

NEW CONCRETE IS TO BE CLASS "AA"

CONTRACTOR SHALL PLACE NEW CONCRETE DIAPHRAGM SO THAT IT IS FREE FROM ANY VOIDS AROUND THE EXISTING BEARINGS. CONTRACTOR SHALL REPAIR ALL CONCRETE VOIDS AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.



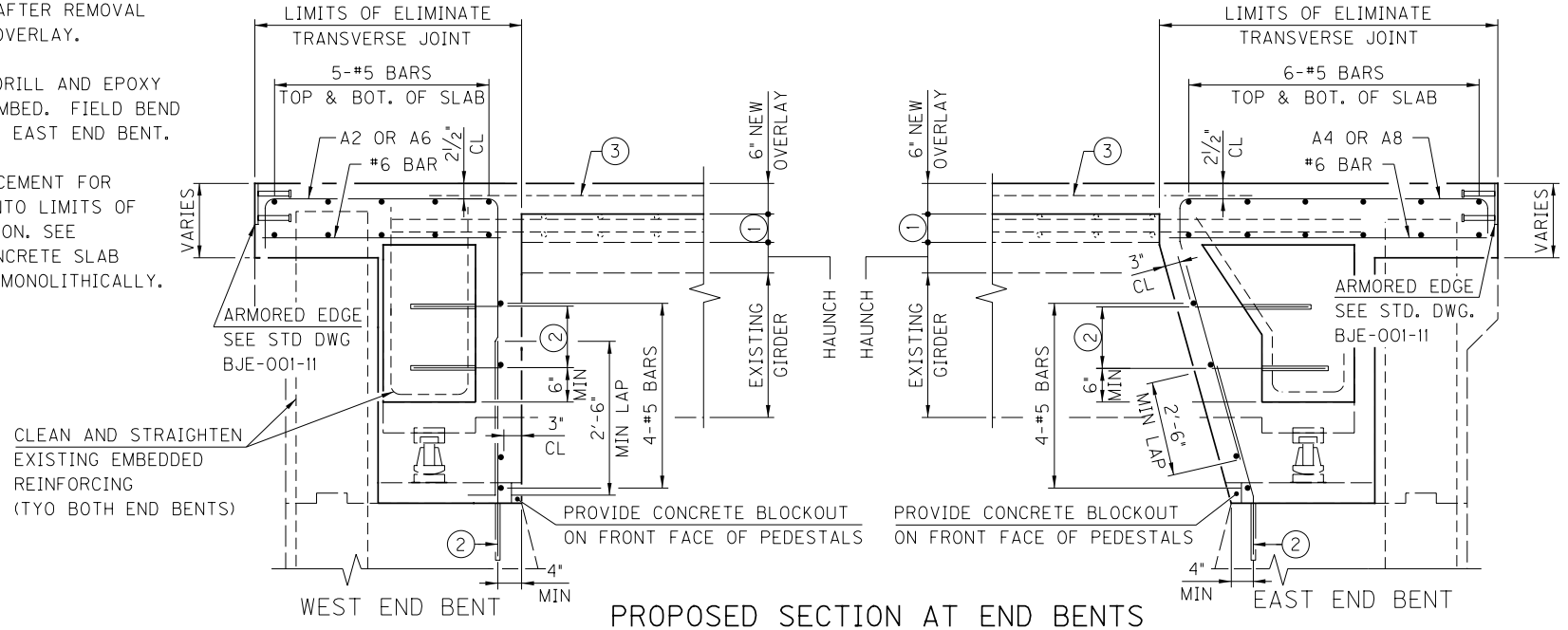
EXISTING SECTION AT END BENTS
(SHOWING REMOVAL)

NOTATIONS:

(1) 7" EXISTING SLAB. APPROX 5½" REMAINING AFTER REMOVAL FOR NEW DECK OVERLAY.

(2) #5 BARS, CORE DRILL AND EPOXY GROUT 12" MIN EMBED. FIELD BEND AS REQUIRED AT EAST END BENT.

(3) EXTEND REINFORCEMENT FOR NEW OVERLAY INTO LIMITS OF JOINT ELIMINATION. SEE "REINFORCED CONCRETE SLAB DETAILS". POUR MONOLITHICALLY.



PROPOSED SECTION AT END BENTS

(SHEET 1 OF 3)

ENTRAN

ELIMINATE TRANSVERSE JT (SLAB EXT & DIAPHRAGM)

COUNTY: JEFFERSON
ROUTE: I-71 NORTHBOUND
CROSSING: EDITH ROAD

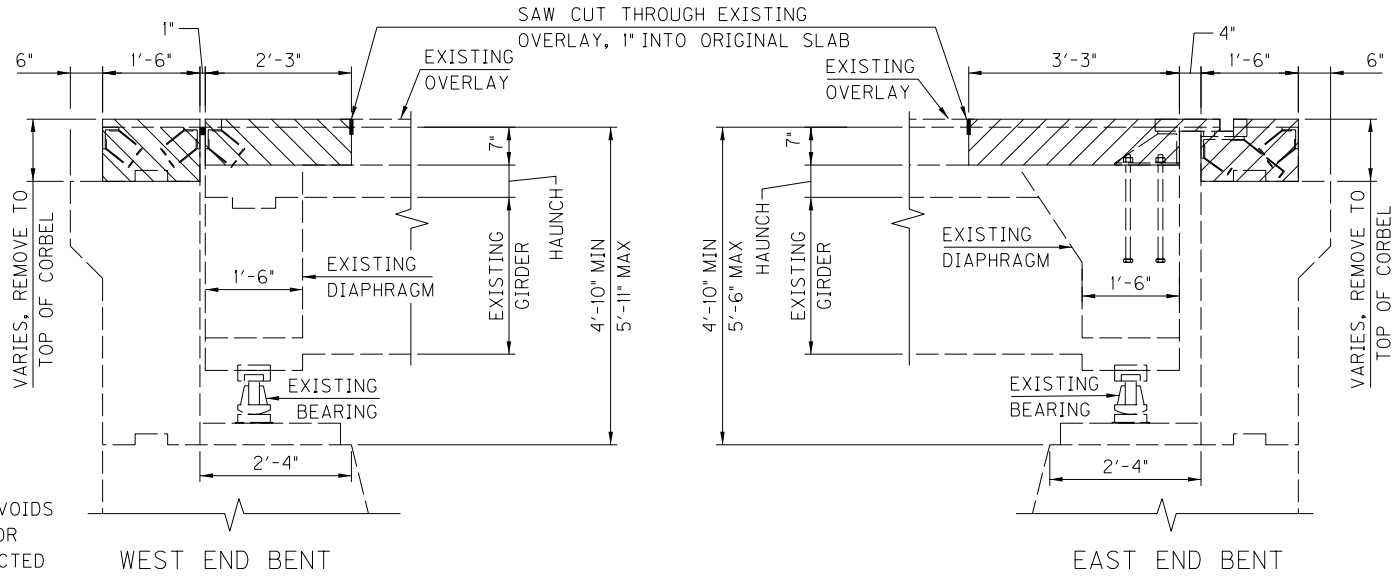
NOTES:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN & REUSE EXISTING LONGITUDINAL REINFORCEMENT. REPLACE EXISTING TRANSVERSE REINFORCING. DO NOT DISTURB TOP OF BEAMS.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES & DOWELING INTO EXISTING CONCRETE, SEE SECTION 511 OF STANDARD SPECIFICATIONS.

ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.

NEW CONCRETE IS TO BE CLASS "M"

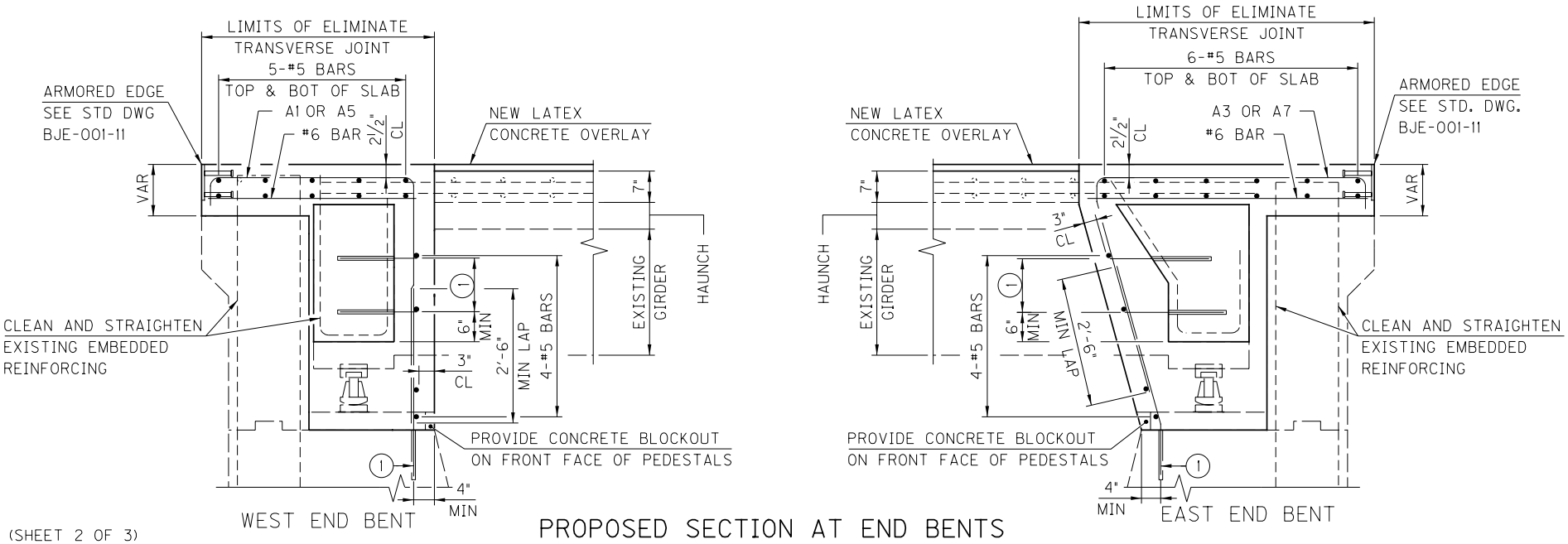
CONTRACTOR SHALL PLACE NEW CONCRETE DIAPHRAGM SO THAT IT IS FREE FROM ANY VOIDS AROUND THE EXISTING BEARINGS. CONTRACTOR SHALL REPAIR ALL CONCRETE VOIDS AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.



EXISTING SECTION AT END BENTS
(SHOWING REMOVAL)

NOTATIONS:

(1) #5 BARS, CORE DRILL AND EPOXY GROUT 12" MIN EMBED FIELD BEND AS REQUIRED AT EAST END BENT.



PROPOSED SECTION AT END BENTS

ENTRAN

ELIMINATE TRANSVERSE JT (SLAB EXT & DIAPHRAGM)

COUNTY: JEFFERSON
ROUTE: I-71 SOUTHBOUND
CROSSING: EDITH ROAD

NOTES:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN & REUSE EXISTING LONGITUDINAL REINFORCEMENT. REPLACE EXISTING TRANSVERSE REINFORCING. DO NOT DISTURB TOP OF BEAMS.

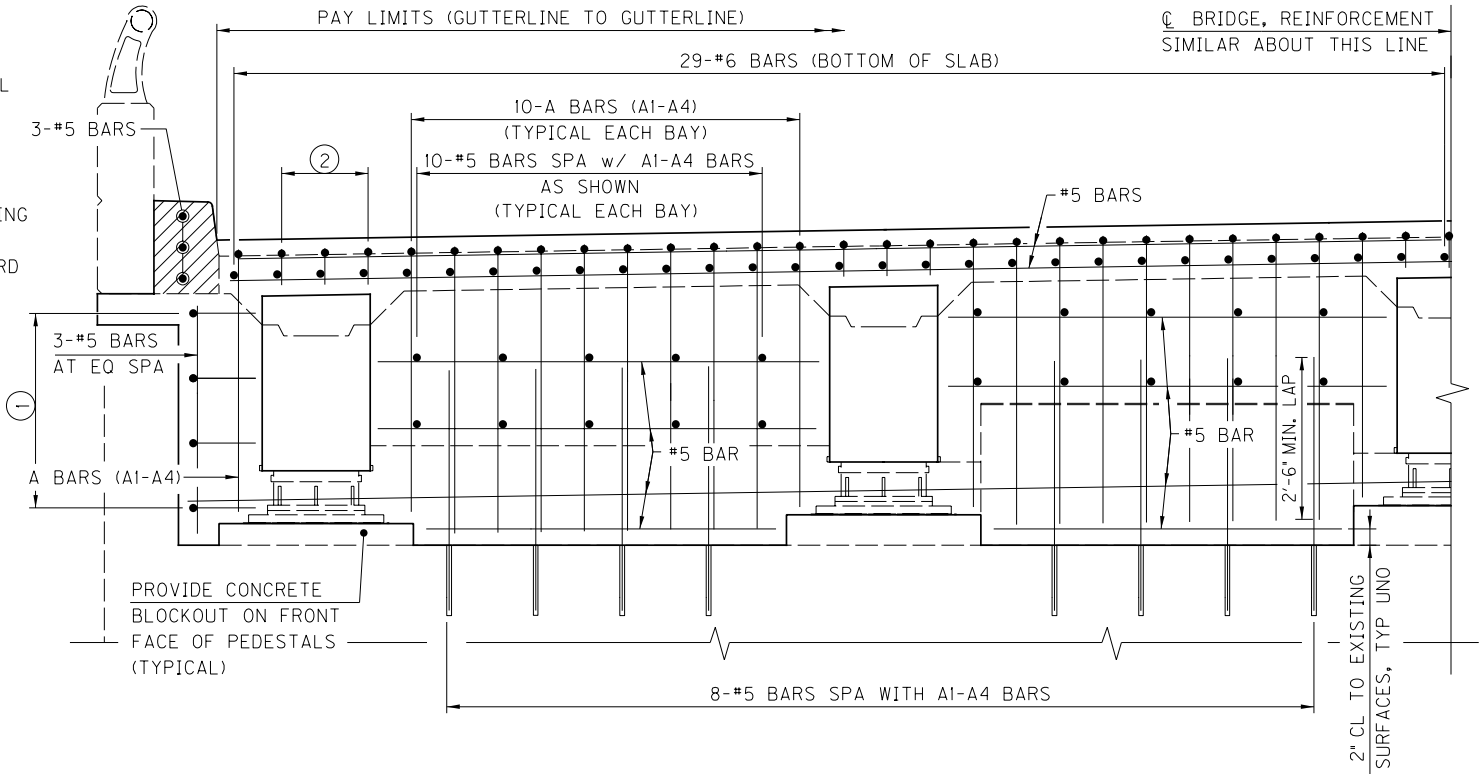
FOR BONDING NEW CONCRETE TO EXISTING SURFACES & DOWELING INTO EXISTING CONCRETE, SEE SECTION 511 OF STANDARD SPECIFICATIONS.

ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.

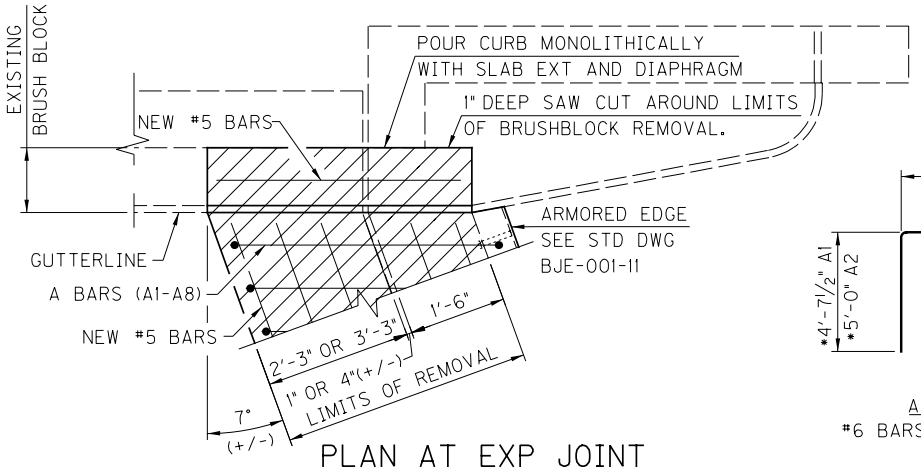
NOTATIONS:

(1) 4-A9 AT EQUAL SPACING (WEST END BENT) OR 1 EACH A10-A13 (EAST END BENT) DRILL AND EPOXY GROUT 12" MIN EMBED INTO EXISTING BACKWALL

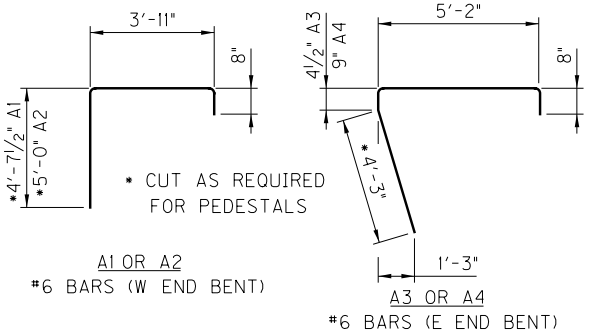
(2) 3-A BARS (A5-A8) (TYPICAL OVER GIRDERS)

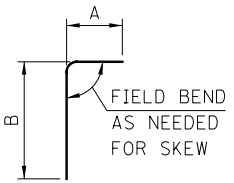


PROPOSED HALF SECTION ALONG DIAPHRAGM



PLAN AT EXP JOINT
(SHOWING REMOVAL AND PROPOSED)





A5-A13
#5 BARS

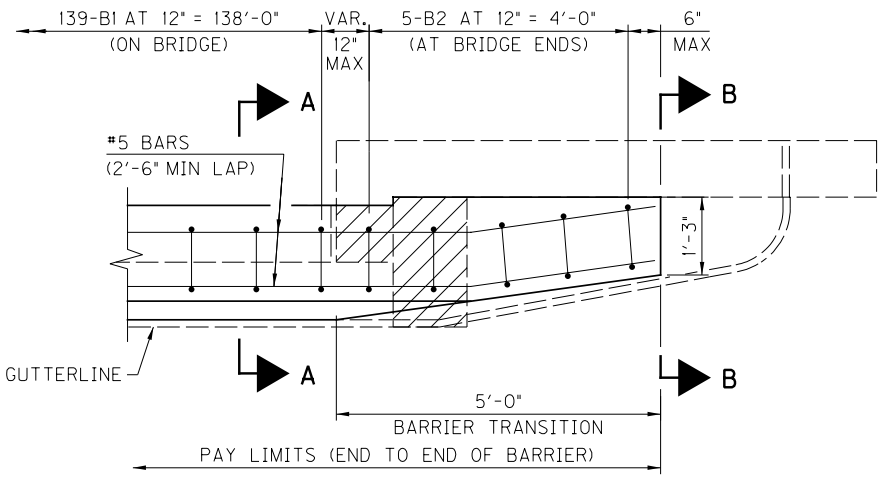
BAR	A	B	LOCATION
A5	8"	3'-10½"	W END BENT
A6	8"	3'-10½"	W END BENT
A7	8"	5'-2"	E END BENT
A8	8"	5'-2"	E END BENT
A9	11"	3'-1"	W END BENT
A10	11"	3'-2"	E END BENT
A11	11"	3'-6"	E END BENT
A12	11"	3'-10"	E END BENT
A13	11"	4'-2"	E END BENT

(SHEET 3 OF 3)

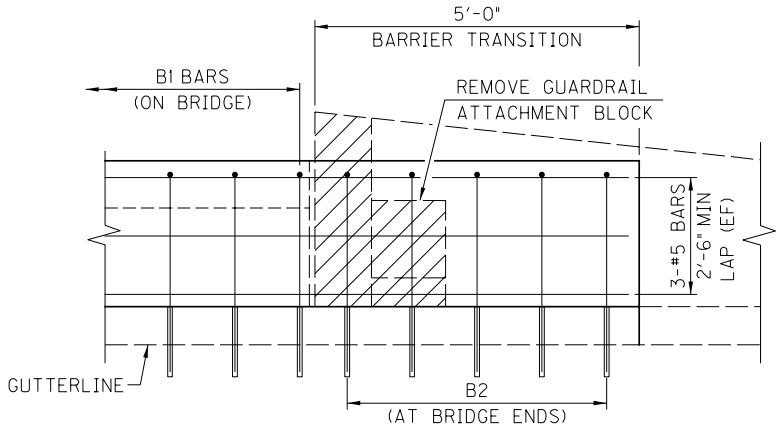
ENTRAN

ELIMINATE TRANSVERSE JT (SLAB EXT & DIAPHRAGM)

COUNTY: JEFFERSON
ROUTE: I-71 NORTHBOUND & SOUTHBOUND
CROSSING: EDITH ROAD



PLAN OF BARRIER RETROFIT AT BRIDGE END



ELEVATION OF BARRIER RETROFIT AT BRIDGE END

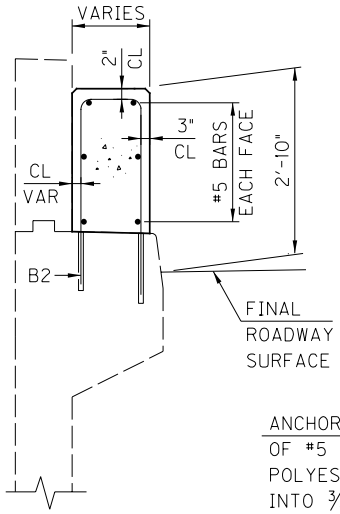
NOTES:
REMOVE HATCHED AREAS OF CONCRETE AND EXISTING REINFORCEMENT BY SAW CUTTING. PAINT ANY PERMANENTLY EXPOSED REINFORCING STEEL, SEE SPECIAL NOTE.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.

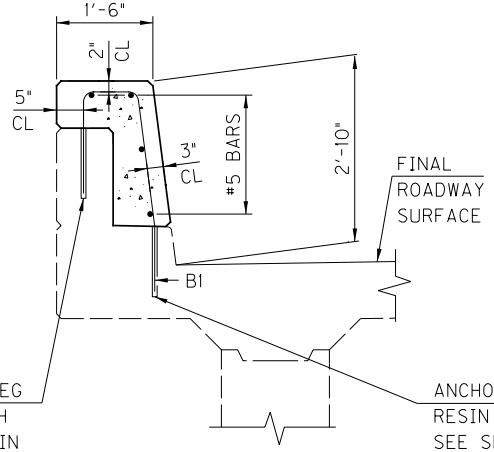
APPLY MASONRY COATING TO BARRIER & WINGWALL. SEE SPECIAL NOTE FOR LIMITS.

NEW CONCRETE IS TO BE CLASS "AA".

ATTACH GUARDRAIL CONNECTOR (TYPE A OR A-1) TO BARRIER RETROFIT AT BRIDGE END IN GENERAL CONFORMITY TO STD DWG RBC-001-09 WITH ALL MODIFICATIONS APPROVED BY THE ENGINEER.



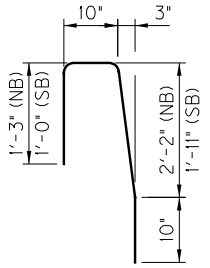
SECTION B-B
(AT BRIDGE ENDS)



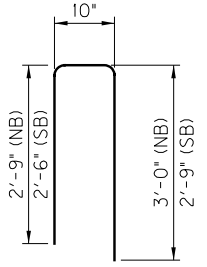
ANCHOR BACK LEG OF #5 BAR WITH POLYESTER RESIN INTO ¾"Ø×7" DEEP HOLE. SEE SPECIAL NOTE.

ANCHOR FRONT LEG OF #5 BAR WITH POLYESTER RESIN INTO ¾"Ø×10" DEEP CORE DRILLED HOLE. SEE SPECIAL NOTE.

SECTION A-A
(ON BRIDGE)



B1
#5 BARS



B2
#5 BARS

(SHEET 1 OF 1)

ENTRAN

BRIDGE BARRIER RETROFIT

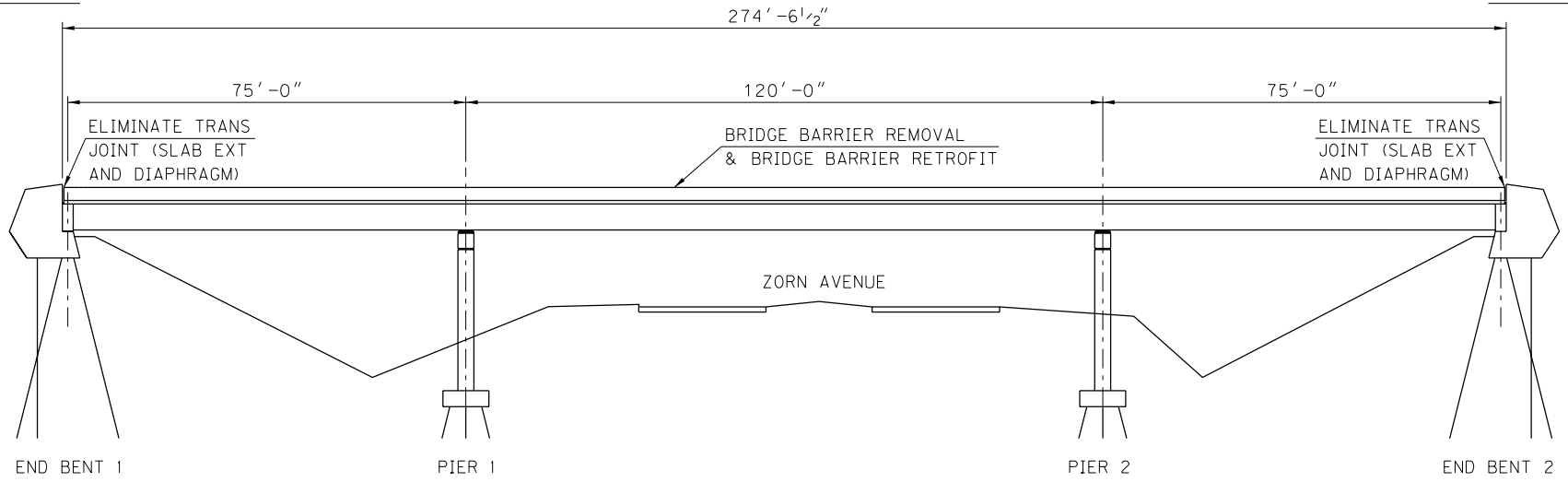
COUNTY:	JEFFERSON
ROUTE:	I-71 NORTHBOUND & SOUTHBOUND
CROSSING:	EDITH ROAD

I-71 OVER ZORN AVENUE (056B00167L&R)

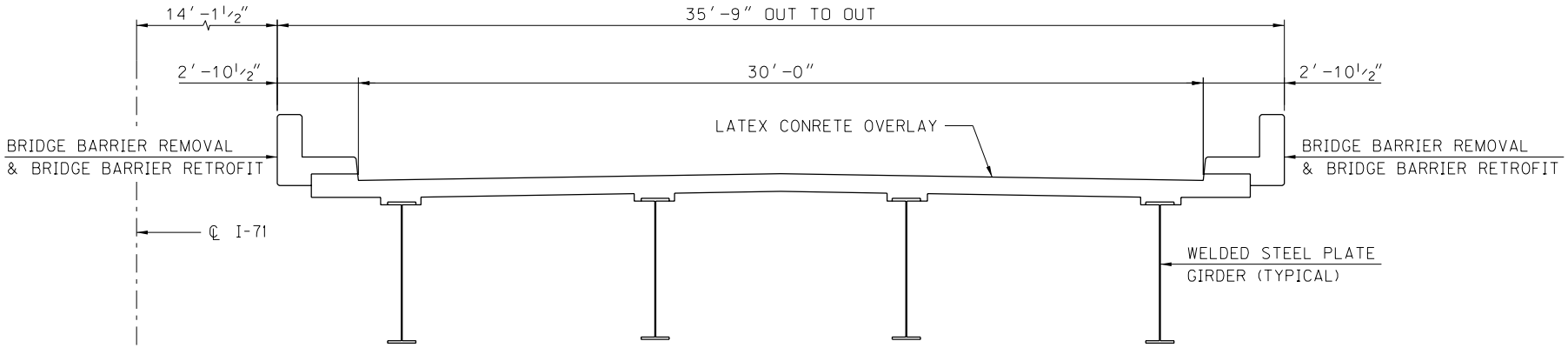
(MP 1.75)

SUMMARY OF QUANTITIES			
ITEM CODE	**DESCRIPTION**	**QUANTITY**	**UNIT**
8510	REMOVE EPOXY, BITUMINOUS OR FOREIGN OVERLAY	1792	SQYD
8549	BLAST CLEANING	1792	SQYD
8504	EPOXY SAND SLURRY	215	SQYD
8534	CONCRETE OVERLAY-LATEX*	76	CUYD
8526	CONCRETE CLASS M FULL DEPTH PATCH	4	CUYD
3300	ELIMINATE TRANSVERSE JOINT (SLAB EXT. AND DIAPHRAGM)	120	LF
23033EN	BRIDGE BARRIER REMOVAL	1086	LF
23032EN	BRIDGE BARRIER RETROFIT	1142	LF
4795	CONDUIT – 2 INCH	660	LF
4810	JUNCTION BOX – ELECTRICAL	7	EACH

* An overrun quantity of Latex has been included in this Bid Item for anticipated Partial Depth Patching. Payment shall be made by Section 606.04.06.



ELEVATION
6°13′00" SKEW RIGHT
NTS

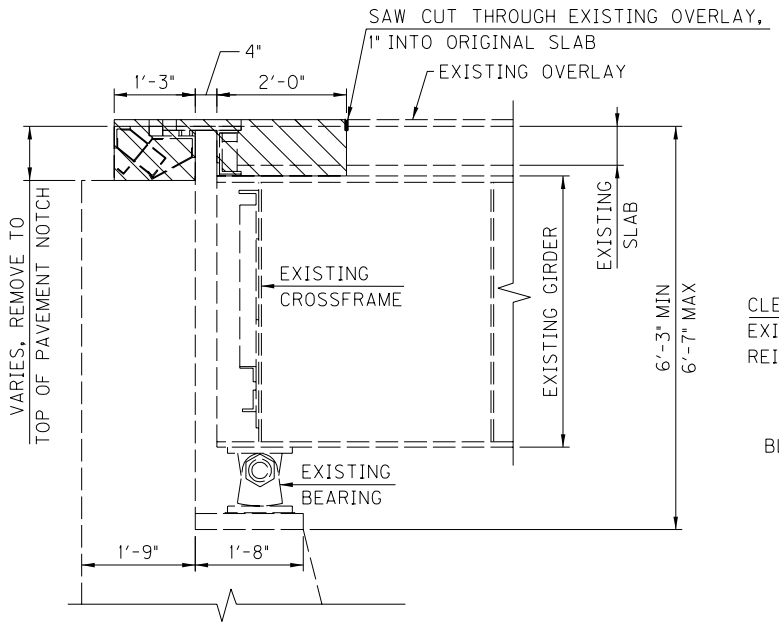


TYPICAL SECTION
NTS

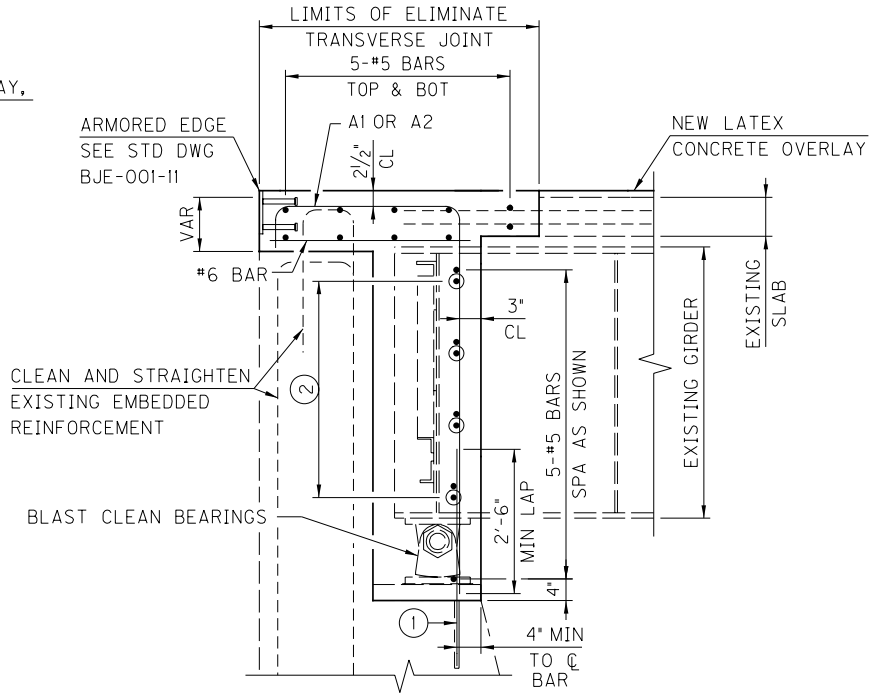
NOTE:
ALL DIMENSIONS ON THESE DETAIL SHEETS THAT REFER TO THE EXISTING STRUCTURE ARE FROM THE EXISTING PLANS AND ARE APPROXIMATE.

ALL REPAIRS TYPICAL FOR NB & SB BRIDGES, UNLESS NOTED OTHERWISE

ENTRAN	ELEVATION AND TYPICAL SECTION	COUNTY: JEFFERSON ROUTE: I-71 CROSSING: ZORN AVENUE



TYPICAL SECTION SHOWING REMOVAL



TYPICAL SECTION SHOWING NEW CONSTRUCTION

NOTATIONS:

(1) #5 BAR, CORE DRILL AND EPOXY GROUT 12" MIN EMBED

(2) #5 BARS, FIELD DRILL 4 - 1½" Ø HOLES IN WEB AT FASCIA GIRDERS ONLY

NOTES:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN & REUSE EXISTING LONGITUDINAL REINFORCEMENT. REPLACE EXISTING TRANSVERSE REINFORCING.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES & DOWELING INTO EXISTING CONCRETE, SEE SECTION 511 OF STANDARD SPECIFICATIONS.

ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.

NEW CONCRETE IS TO BE CLASS "M"

EXISTING JOINTS ON NB I-71 HAVE BEEN PREVIOUSLY RETROFIT WITH COMPRESSION SEAL JOINTS. ORIGINAL SLIDING PLATE JOINTS ON SB I-71 ARE SHOWN HERE.

ENTRAN

ELIMINATE TRANSVERSE JT (SLAB EXT & DIAPHRAGM)

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: ZORN AVENUE

NOTATIONS:

(1) 2-A2 (TYP. OVER GIRDERS)

(2) 4-#5 BARS SPA WITH A1 BARS, CORE DRILL AND EPOXY GROUT 12" MIN EMBEDMENT

(3) 2-#5 BARS, CORE DRILL AND EPOXY GROUT 12" MIN EMBEDMENT

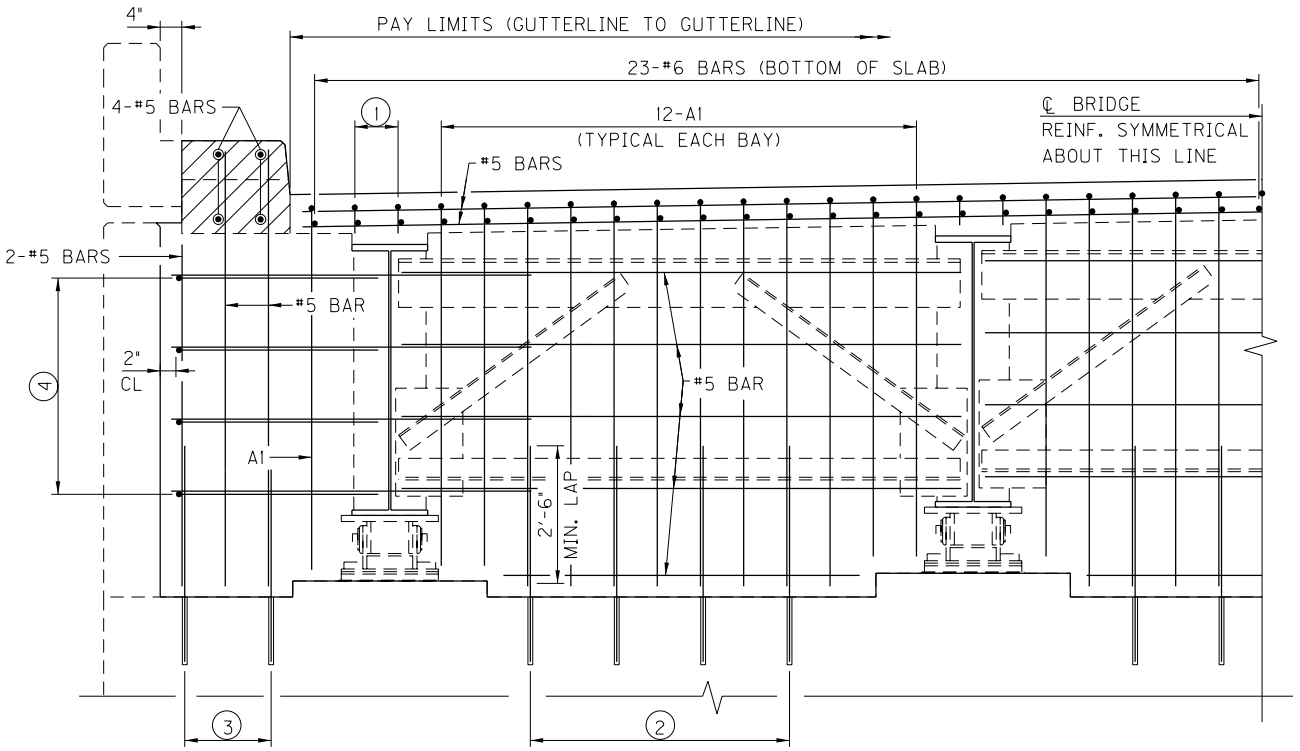
(4) 4-A3 SPA WITH #5 BARS THROUGH THE FASCIA GIRDERS, DRILL AND EPOXY GROUT 12" MIN EMBED INTO EXISTING END BENT BACKWALL

NOTES:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN & REUSE EXISTING LONGITUDINAL REINFORCEMENT. REPLACE EXISTING TRANSVERSE REINFORCING.

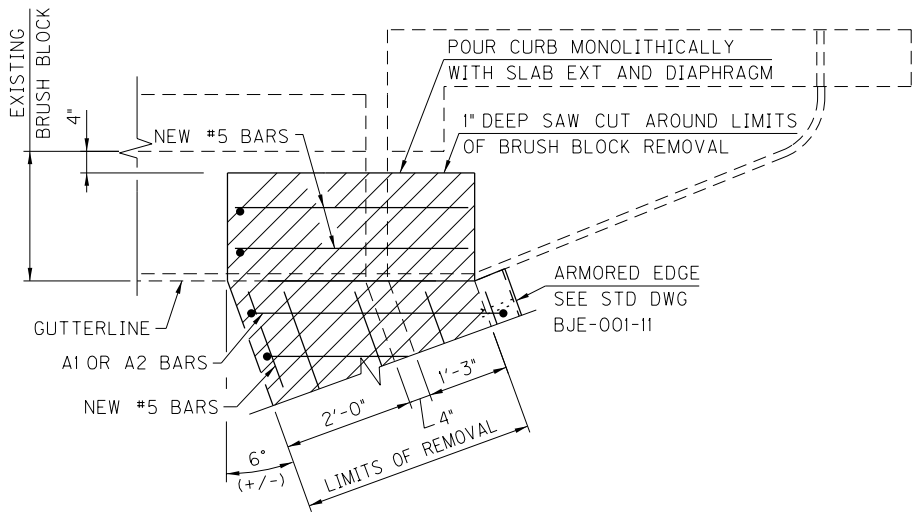
FOR BONDING NEW CONCRETE TO EXISTING SURFACES & DOWELING INTO EXISTING CONCRETE, SEE SECTION 511 OF STANDARD SPECIFICATIONS.

ROUGHEN EXISTING SURFACES WHEN IN CONTACT WITH NEW CONCRETE.

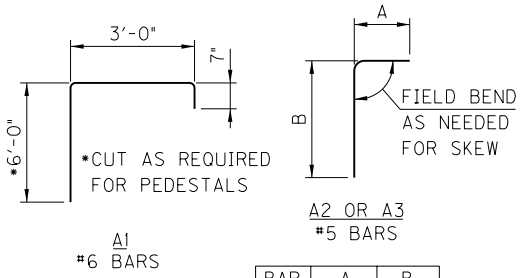
NEW CONCRETE IS TO BE CLASS "M"



PROPOSED HALF SECTION ALONG DIAPHRAGM



PLAN AT EXP JOINT
(SHOWING REMOVAL & PROPOSED)



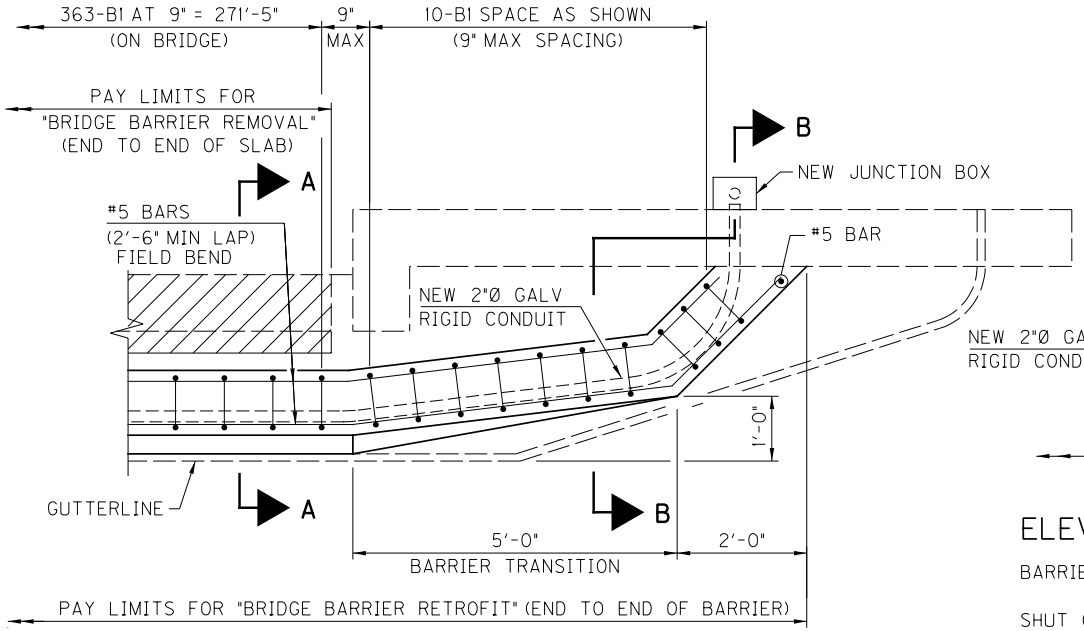
BAR	A	B
A2	7"	3'-8"
A3	2'-4"	3'-2"

(SHEET 2 OF 2)

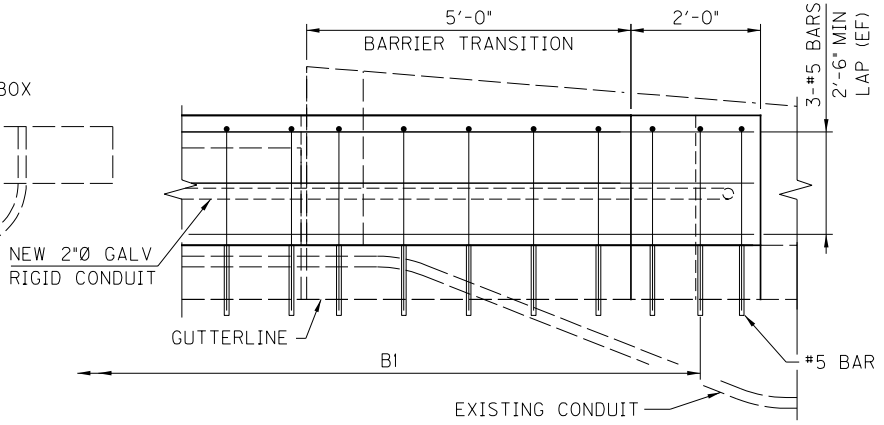
ENTRAN

ELIMINATE TRANSVERSE JT (SLAB EXT & DIAPHRAGM)

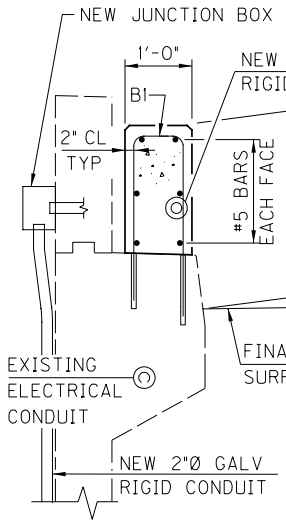
COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	ZORN AVENUE



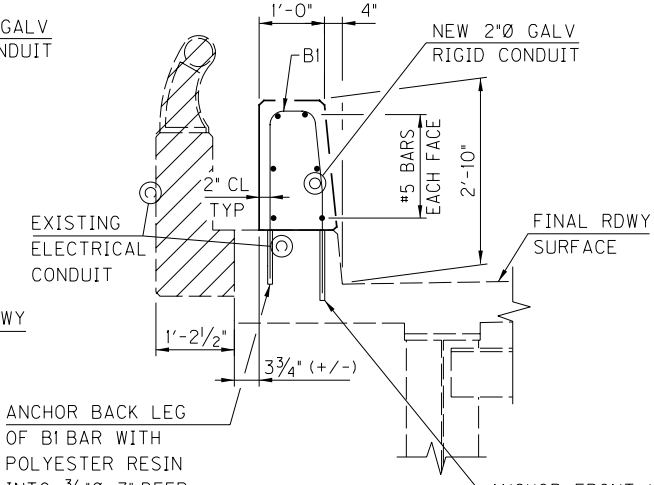
PLAN OF BARRIER RETROFIT AT BRIDGE END



ELEVATION OF BARRIER RETROFIT AT BRIDGE END



SECTION B-B
(AT BRIDGE ENDS)



SECTION A-A
(ON BRIDGE)

BARRIER RETROFIT NOTES:

SHUT OFF POWER TO ELECTRICAL CIRCUITS IN EXISTING CONDUIT BEFORE BEGINNING WORK ON BRIDGE BARRIER.

REMOVE HATCHED AREAS OF CONCRETE, RAILING, AND EXISTING REINFORCEMENT BY SAW CUTTING. PAINT ANY PERMANENTLY EXPOSED REINFORCING STEEL. SEE SPECIAL NOTE.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.

APPLY MASONRY COATING TO BARRIER, WINGWALL, AND EXPOSED SAW CUT SURFACES. SEE SPECIAL NOTE FOR LIMITS.

NEW CONCRETE IS TO BE CLASS "AA".

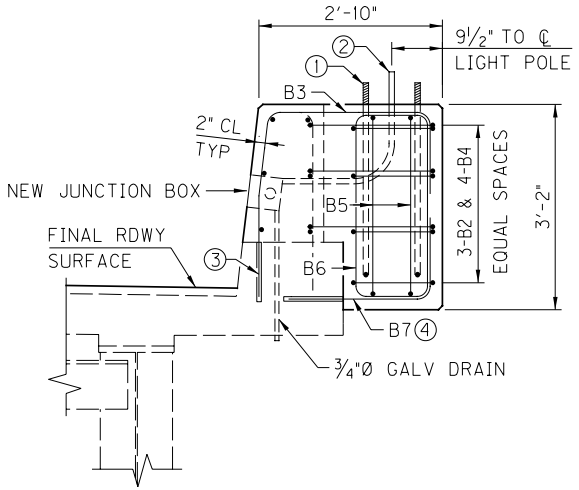
ATTACH GUARDRAIL CONNECTOR (TYPE A OR A-1) TO BARRIER RETROFIT AT BRIDGE END IN GENERAL CONFORMITY TO STD DWG RBC-001-09 WITH ALL MODIFICATIONS APPROVED BY THE ENGINEER.

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. THE QUANTITY OF GUARDRAIL REMOVAL IS LISTED IN THE GUARDRAIL SUMMARY. PAYMENT IS INCLUDED IN THE BID ITEM "REMOVE GUARDRAIL".

ENTRAN

BRIDGE BARRIER RETROFIT

COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	ZORN AVENUE



SECTION C-C

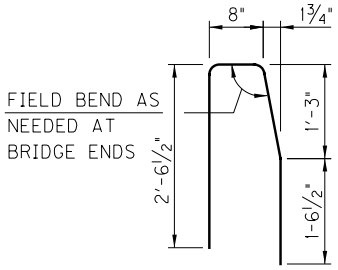
① GALVANIZED ANCHOR BOLTS. LAYOUT BOLT CIRCLE ACCORDING TO LIGHT POLE MANUFACTURER'S RECOMMENDATION (15"Ø MAX). ADJUST REINFORCING STEEL SPACING IF NECESSARY.

② 1¼"Ø GALV RIGID CONDUIT WITH GROUNDING BUSHING AND CAP (6" PROJECTION).

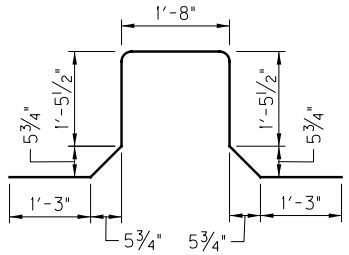
③ ANCHOR B3 BAR WITH POLYESTER RESIN INTO ¾"Ø×10" DEEP CORE DRILLED HOLE. CENTER OF HOLE SHALL BE 3" MIN FROM FACE OF EXISTING BRUSH BLOCK, SEE SPECIAL NOTE.

④ ANCHOR B7 BAR WITH POLYESTER RESIN INTO ¾"Ø×10" DEEP HOLE, SEE SPECIAL NOTE.

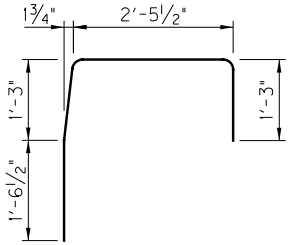
⑤ PLUG HOLE FROM EXISTING CONDUIT CROSSING SAWCUT EDGE WITH WATERTIGHT SEAL.



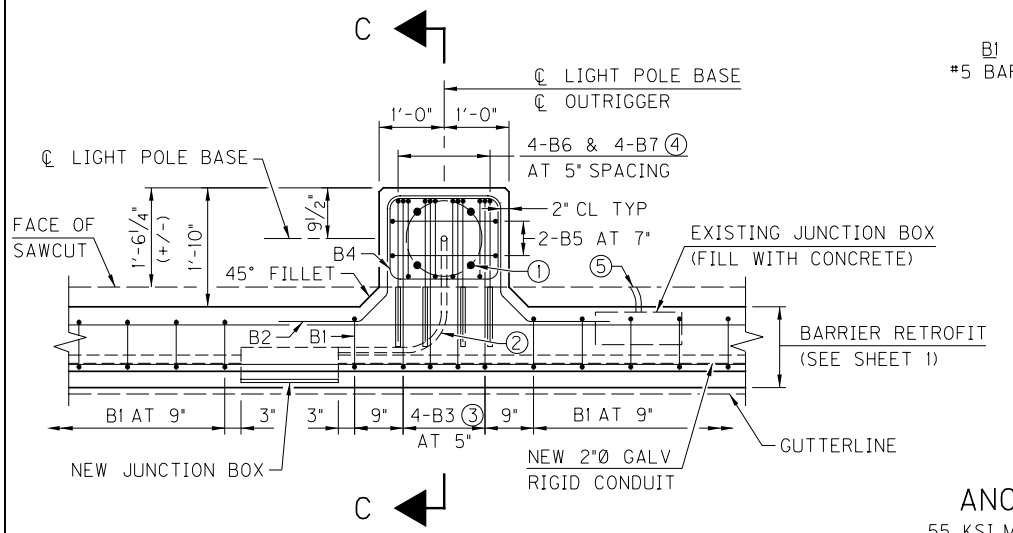
B1
#5 BARS



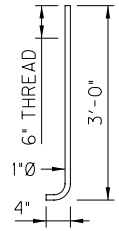
B2
#5 BARS



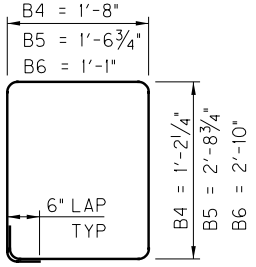
B3
#5 BARS



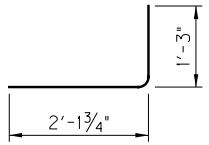
NEW LIGHT POLE OUTRIGGER PLAN
(CENTER NEW OUTRIGGERS AT EXISTING LOCATIONS)



ANCHOR BOLTS
55 KSI MIN YIELD STRENGTH
15"Ø MAX BOLT LAYOUT CIRCLE



B4, B5, & B6
#5 BARS



B7
#5 BARS

(SHEET 2 OF 3)

ENTRAN

BRIDGE BARRIER RETROFIT

COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	ZORN AVE

BRIDGE CONDUIT NOTES:

INSTALL NEW CONDUIT INSIDE BARRIER RETROFIT ONLY FOR THOSE BARRIERS THAT CURRENTLY CONTAIN CONDUIT.

JUNCTION BOXES AND CONDUIT ARE TO BE PLACED SO AS TO INTERFERE WITH A MINIMUM AMOUNT OF REINFORCEMENT. BEND REINFORCEMENT WHERE NECESSARY.

DRILL THROUGH EXISTING DECK AND WINGWALL AS NEEDED TO INSTALL NEW CONDUIT AND JUNCTION BOX DRAINS.

CONDUIT SHOULD BE CONNECTED TO BOXES WITH THREADED HUBS OR APPROVED THREADED HUB FITTINGS.

JUNCTION BOXES CAST INSIDE BARRERS SHALL BE OF THE FOLLOWING TYPE (OR AN APPROVED EQUIVALENT): O-Z GEDNEY, TYPE YR OR YU. INSIDE DIMENSIONS SHALL BE 18"x6"x6" (MIN).

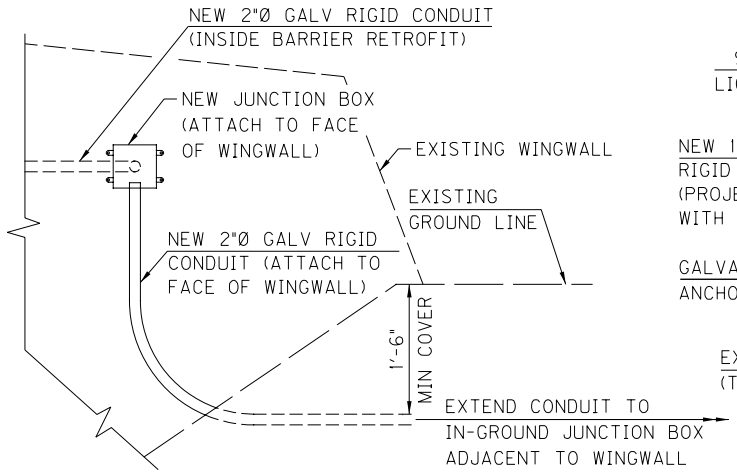
JUNCTION BOXES ATTACHED TO WINGS SHALL BE OF THE FOLLOWING TYPE (OR AN APPROVED EQUIVALENT): O-Z GEDNEY, TYPE YS. INSIDE DIMENSIONS SHALL BE 8"x8"x6" (MIN) AND SHALL INCLUDE 4 MOUNTING LUGS.

EXTERNALLY MOUNTED JUNCTION BOXES AND CONDUIT SHALL BE ATTACHED TO BRIDGE WITH APPROVED CONCRETE ANCHORS. MAXIMUM SPACING OF FASTENERS FOR CONDUIT SHALL BE PER THE MANUFACTURER'S RECOMMENDATION.

THE COST OF ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH COMPLETE INSTALLATION OF THE 2"Ø CONDUIT SHALL BE PAID BY THE BID ITEM "CONDUIT - 2 INCH".

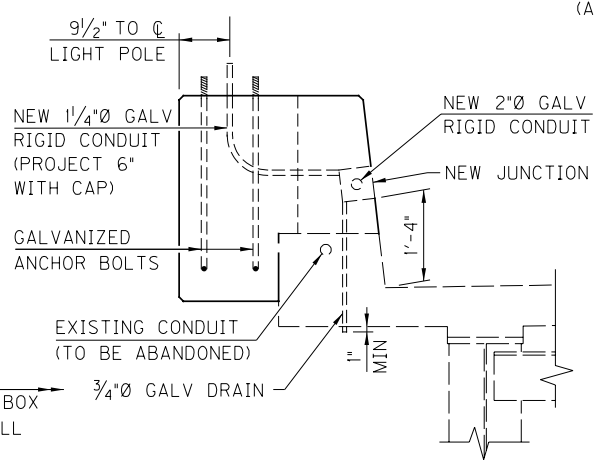
THE COST OF ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH COMPLETE INSTALLATION OF THE JUNCTION BOXES AND ¾"Ø DRAINS SHALL BE PAID BY THE BID ITEM "JUNCTION BOX - ELECTRICAL".

SEE LIGHTING BID ITEM NOTES FOR ADDITIONAL REQUIREMENTS AND QUANTITIES RELATED TO CONNECTING THE NEW CONDUIT AND WIRING TO THE EXISTING CIRCUITS.



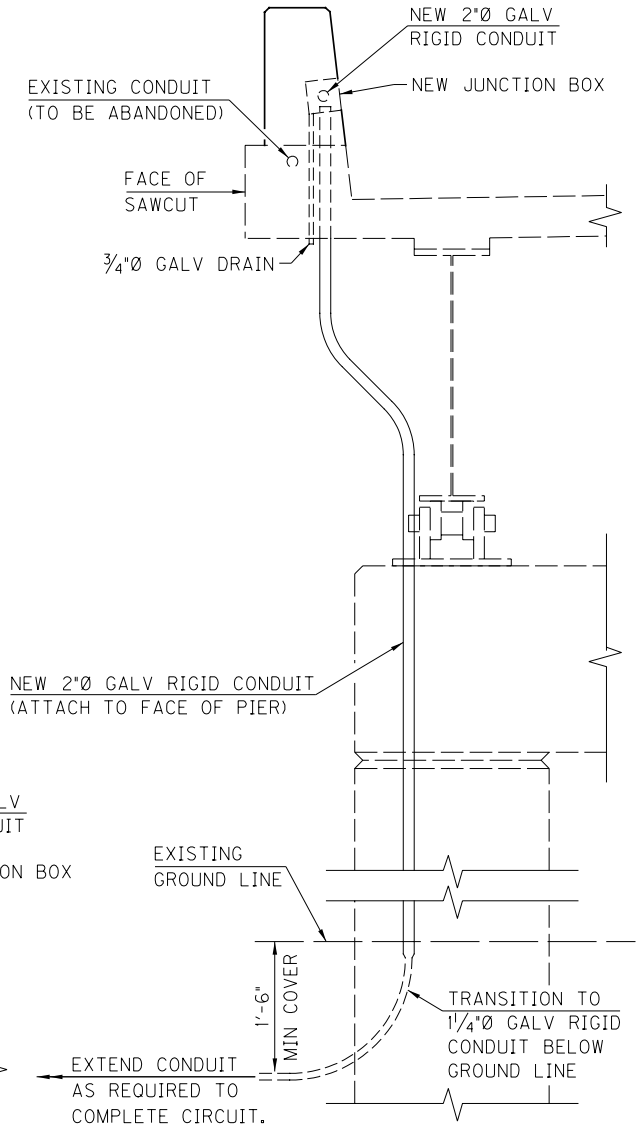
WINGWALL ELEVATION

(LIGHTING CONDUIT CONNECTIONS AT BRIDGE ENDS)
(NB AND SB BRIDGES - TWO LOCATIONS EACH)



CONNECTION TO LIGHT POLE BASE DETAIL

(NB AND SB BRIDGES - ONE LOCATION EACH)



PIER 2 - SOUTHBOUND BRIDGE

(SIMILAR TO EXISTING CONDITION)

(SHEET 3 OF 3)

ENTRAN

BRIDGE BARRIER RETROFIT

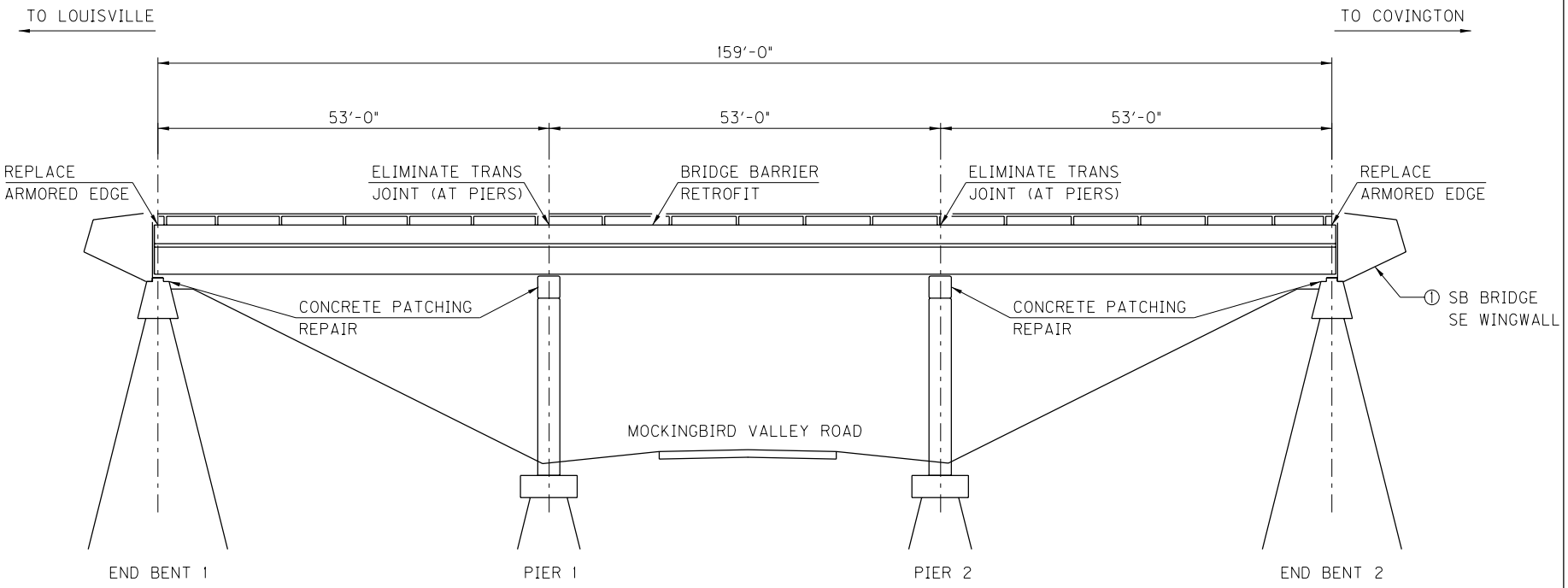
COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	ZORN AVE

I-71 OVER MOCKINGBIRD VALLEY ROAD (056B00063L&R)

(MP 1.99)

SUMMARY OF QUANTITIES			
ITEM CODE	**DESCRIPTION**	**QUANTITY**	**UNIT**
8510	REMOVE EPOXY, BITUMINOUS OR FOREIGN OVERLAY	2158	SQYD
8549	BLAST CLEANING	2158	SQYD
8504	EPOXY SAND SLURRY	125	SQYD
8534	CONCRETE OVERLAY-LATEX*	90	CUYD
8526	CONCRETE CLASS M FULL DEPTH PATCH	5	CUYD
3300	ELIMINATE TRANSVERSE JOINT (AT PIERS)	235	LF
20663ED	REPLACE ARMORED EDGE	235	LF
22146EN	CONCRETE PATCHING REPAIR	260	SQFT
2220	FLOWABLE FILL	6	CUYD
23032EN	BRIDGE BARRIER RETROFIT	676	LF
4795	CONDUIT – 2 INCH	400	LF
4810	JUNCTION BOX – ELECTRICAL	5	EACH

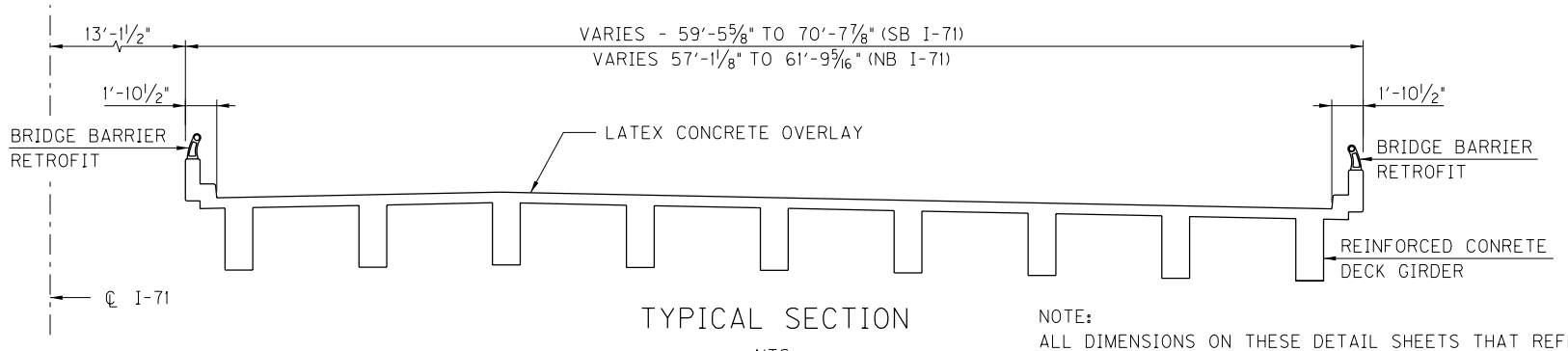
* An overrun quantity of Latex has been included in this Bid Item for anticipated Partial Depth Patching. Payment shall be made by Section 606.04.06.



ELEVATION

4°08' SKEW LEFT
NTS

NOTATION:
① FILL SCOUR HOLES UNDER APPROACH PAVEMENTS ADJACENT TO ABUTMENTS WITH FLOWABLE FILL. PLACE FLOWABLE FILL IN ACCORDANCE WITH SECTION 601.03.09 OF THE STANDARD SPECS.



TYPICAL SECTION

NTS

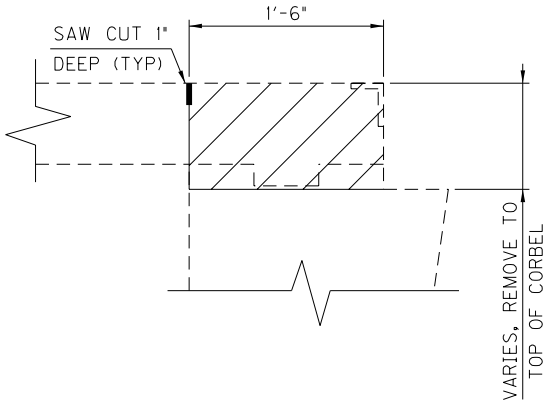
NOTE:
ALL DIMENSIONS ON THESE DETAIL SHEETS THAT REFER TO THE EXISTING STRUCTURE ARE FROM THE EXISTING PLANS AND ARE APPROXIMATE.

ALL REPAIRS TYPICAL FOR NB & SB BRIDGES, UNLESS NOTED OTHERWISE

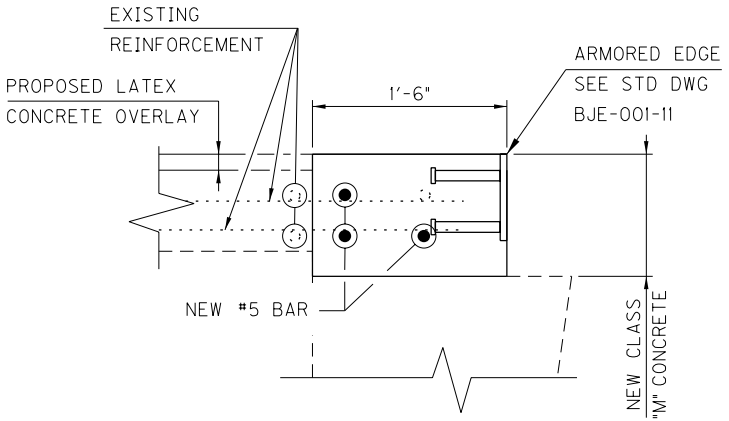
ENTRAN

ELEVATION AND TYPICAL SECTION

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: MOCKINGBIRD VALLEY ROAD



EXISTING END OF SLAB DETAIL



PRPOSED END OF SLAB DETAIL

NOTES:

REMOVE HATCHED AREAS OF CONCRETE
& ARMORED EDGE BETWEEN GUTTERLINES.
CLEAN & REUSE EXISTING REINFORCEMENT.
THE CONTRACTOR HAS THE OPTION TO REPLACE
EXISTING TRANSVERSE REINFORCEMENT.

DO NOT DISTURB TOP OF BEAMS.

FOR BONDING NEW CONCRETE TO EXISTING
SURFACES, SEE SECTION 511 OF THE STANDARD
SPECIFICATIONS.

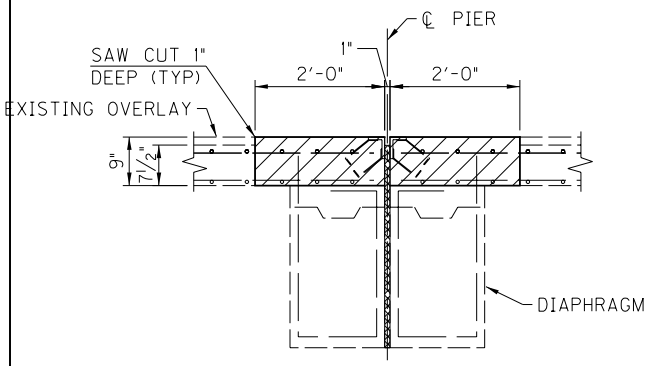
NEW CONCRETE IS TO BE CLASS "M".

(SHEET 1 OF 1)

ENTRAN

ARMORED EDGE REPLACEMENT

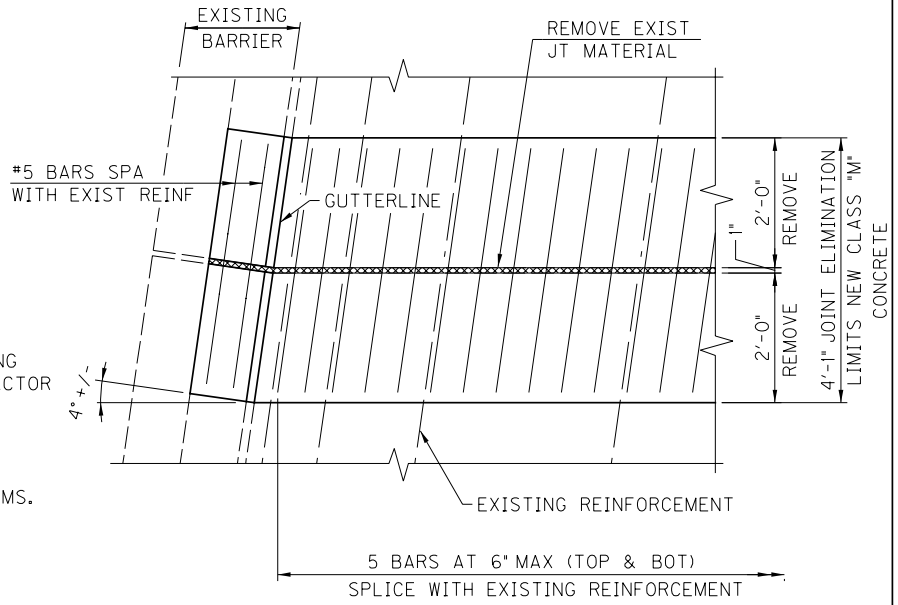
COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	MOCKINGBIRD VALLEY ROAD



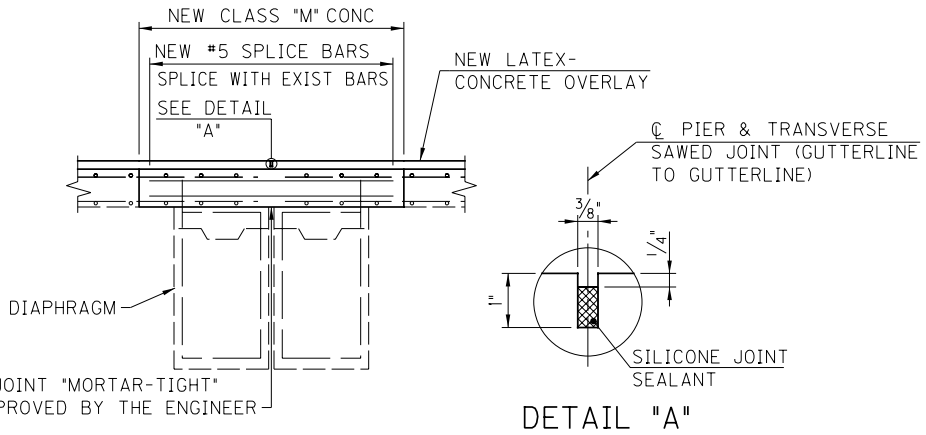
EXISTING SECTION AT PIERS
(SHOWING REMOVAL OF DECK)

NOTE:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN, STRAIGHTEN & REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REPLACE EXISTING TRANSVERSE REINFORCEMENT.

DO NOT DISTURB TOP OF BEAMS.

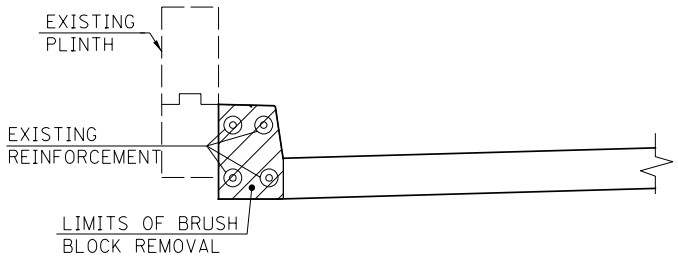


PLAN AT PIERS

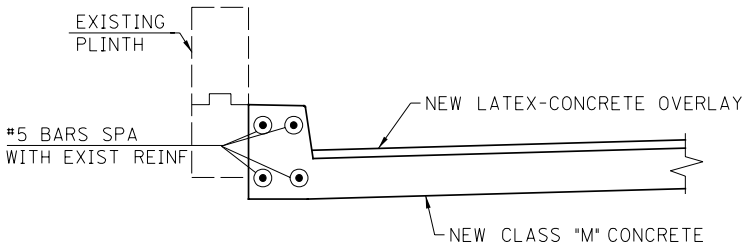


PROPOSED ELIMINATED JOINT SECTION

DETAIL "A"



EXISTING SECTION AT BARRIER
(SHOWING REMOVAL OF BRUSH BLOCK)



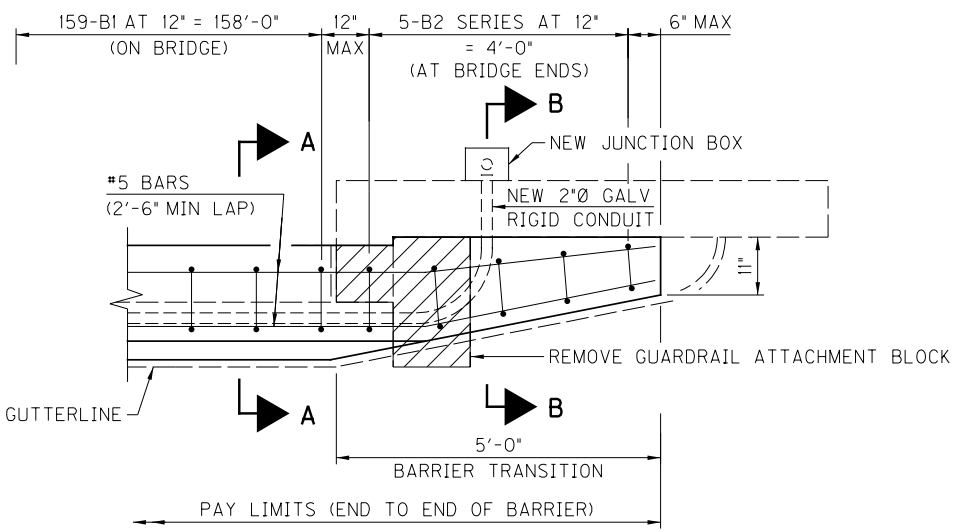
SECTION AT BARRIER

(SHEET 1 OF 1)

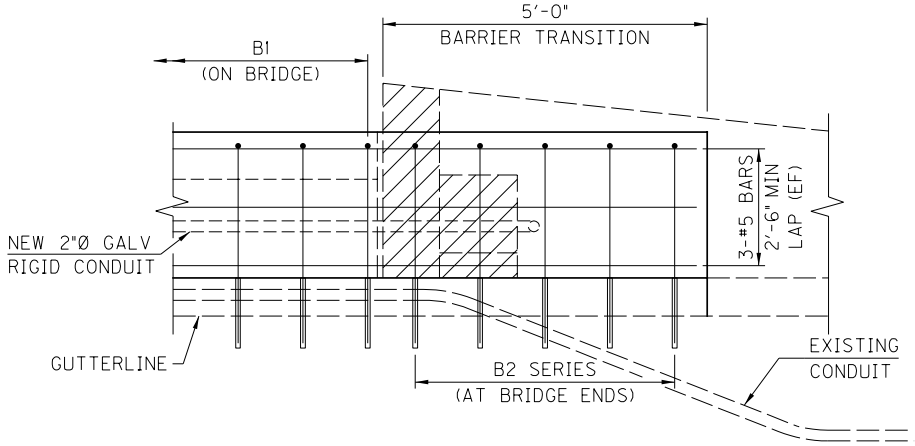
ENTRAN

ELIMINATE TRANSVERSE JOINT (AT PIERS)

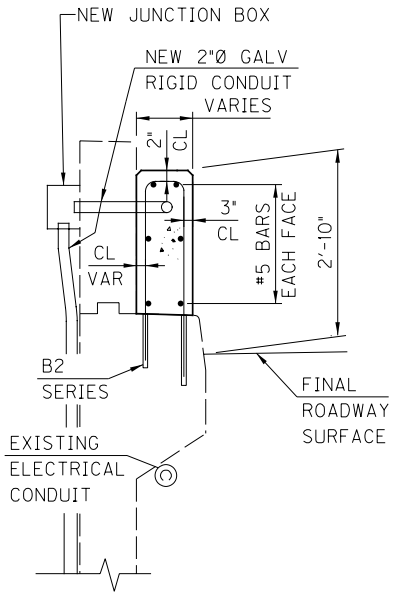
COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: MOCKINGBIRD VALLEY ROAD



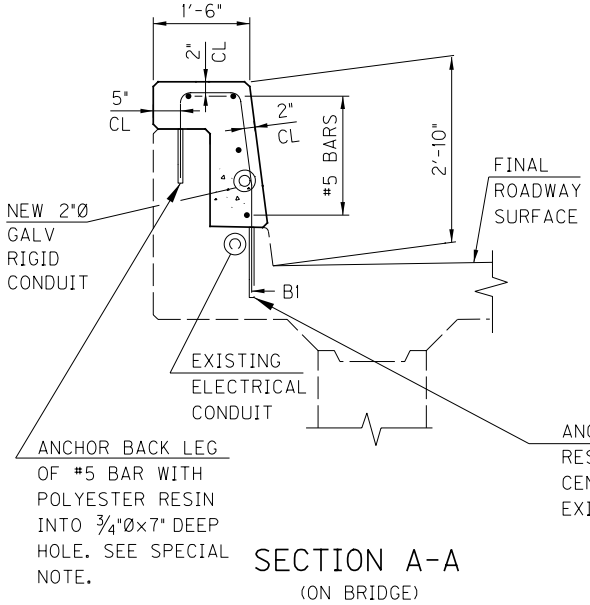
PLAN OF BARRIER RETROFIT AT BRIDGE END



ELEVATION OF BARRIER RETROFIT AT BRIDGE END



SECTION B-B
(AT BRIDGE ENDS)



SECTION A-A
(ON BRIDGE)

BARRIER RETROFIT NOTES:

SHUT OFF POWER TO ELECTRICAL CIRCUITS IN EXISTING CONDUIT BEFORE BEGINNING WORK ON BRIDGE BARRIER.

REMOVE HATCHED AREAS OF CONCRETE, RAILING, AND EXISTING REINFORCEMENT BY SAW CUTTING. PAINT ANY PERMANENTLY EXPOSED REINFORCING STEEL. SEE SPECIAL NOTE.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.

APPLY MASONRY COATING TO BARRIER, WINGWALL, AND EXPOSED SAW CUT SURFACES. SEE SPECIAL NOTE FOR LIMITS.

NEW CONCRETE IS TO BE CLASS "AA".

ATTACH GUARDRAIL CONNECTOR (TYPE A OR A-1) TO BARRIER RETROFIT AT BRIDGE END IN GENERAL CONFORMITY TO STD DWG RBC-001-09 WITH ALL MODIFICATIONS APPROVED BY THE ENGINEER.

(SHEET 1 OF 3)

ENTRAN

BRIDGE BARRIER RETROFIT

COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	MOCKINGBIRD VALLEY ROAD

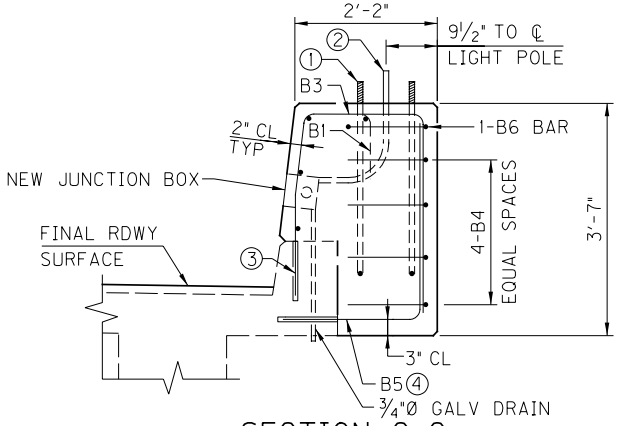
① GALVANIZED ANCHOR BOLTS. LAYOUT BOLT CIRCLE ACCORDING TO LIGHT POLE MANUFACTURER'S RECOMMENDATION (15"Ø MAX). ADJUST REINFORCING STEEL SPACING IF NECESSARY.

② 1¼"Ø GALV RIGID CONDUIT WITH GROUNDING BUSHING AND CAP (6" PROJECTION).

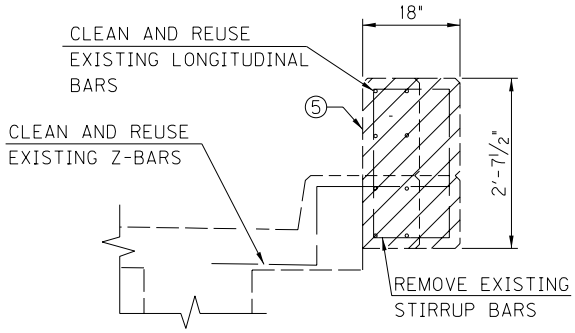
③ ANCHOR B3 BAR WITH POLYESTER RESIN INTO ¾"Ø×10" DEEP CORE DRILLED HOLE. CENTER OF HOLE SHALL BE 3" MIN FROM FACE OF EXISTING BRUSH BLOCK, SEE SPECIAL NOTE.

④ ANCHOR B5 BAR WITH POLYESTER RESIN INTO ¾"Ø×10" DEEP HOLE, SEE SPECIAL NOTE.

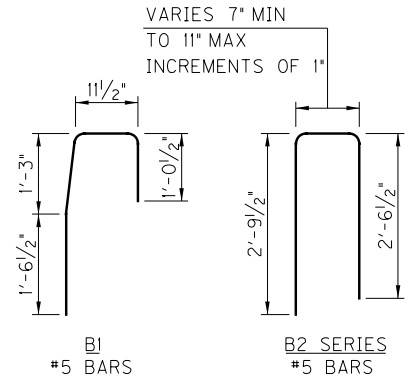
⑤ REMOVE HATCHED AREA OF CONCRETE BY CHIPPING AROUND EXISTING REINFORCING STEEL. REPAIR OR REPLACE ANY DAMAGED STEEL REINFORCEMENT AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.



SECTION C-C

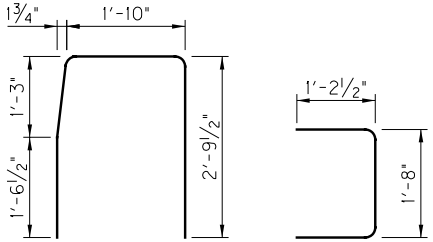


SECTION D-D



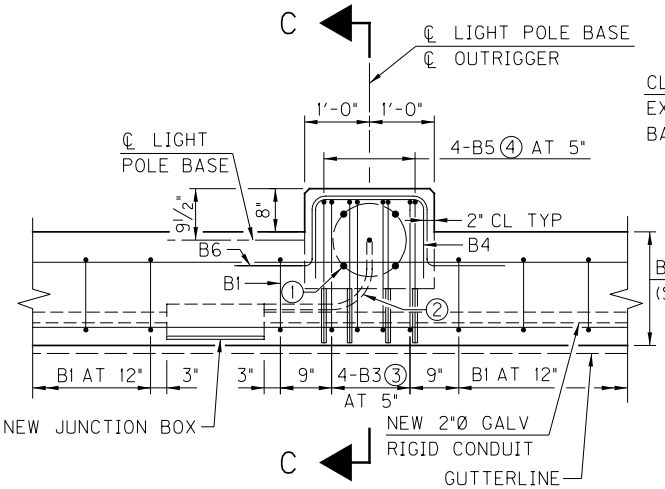
B1 #5 BARS

B2 SERIES #5 BARS



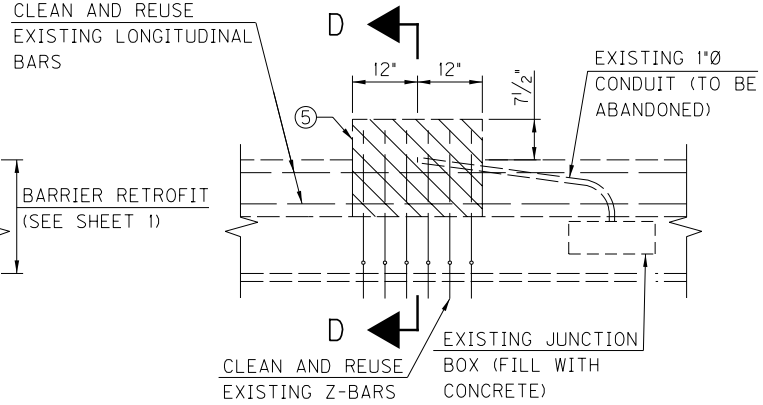
B3 #5 BARS

B4 #5 BARS



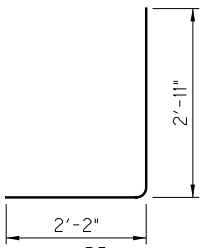
NEW LIGHT POLE OUTRIGGER PLAN

(CENTER NEW OUTRIGGERS AT EXISTING LOCATION)

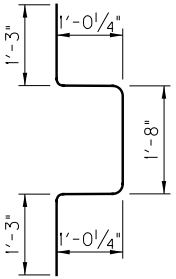


EXISTING LIGHT POLE OUTRIGGER PLAN

(TO BE REMOVED)



B5 #5 BARS



B6 #5 BARS

(SHEET 2 OF 3)

ENTRAN

BRIDGE BARRIER RETROFIT

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: MOCKINGBIRD VALLEY RD

BRIDGE CONDUIT NOTES:

INSTALL NEW CONDUIT INSIDE BARRIER RETROFIT ONLY FOR THOSE BARRIERS THAT CURRENTLY CONTAIN CONDUIT.

JUNCTION BOXES AND CONDUIT ARE TO BE PLACED SO AS TO INTERFERE WITH A MINIMUM AMOUNT OF REINFORCEMENT. BEND REINFORCEMENT WHERE NECESSARY.

DRILL THROUGH EXISTING DECK AND WINGWALL AS NEEDED TO INSTALL NEW CONDUIT AND JUNCTION BOX DRAINS.

CONDUIT SHOULD BE CONNECTED TO BOXES WITH THREADED HUBS OR APPROVED THREADED HUB FITTINGS.

JUNCTION BOXES CAST INSIDE BARRERS SHALL BE OF THE FOLLOWING TYPE (OR AN APPROVED EQUIVALENT): O-Z GEDNEY, TYPE YR OR YU. INSIDE DIMENSIONS SHALL BE 18"x6"x6" (MIN).

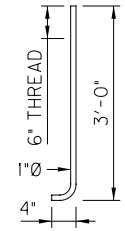
JUNCTION BOXES ATTACHED TO WINGS SHALL BE OF THE FOLLOWING TYPE (OR AN APPROVED EQUIVALENT): O-Z GEDNEY, TYPE YS. INSIDE DIMENSIONS SHALL BE 8"x8"x6" (MIN) AND SHALL INCLUDE 4 MOUNTING LUGS.

EXTERNALLY MOUNTED JUNCTION BOXES AND CONDUIT SHALL BE ATTACHED TO BRIDGE WITH APPROVED CONCRETE ANCHORS. MAXIMUM SPACING OF FASTENERS FOR CONDUIT SHALL BE PER THE MANUFACTURER'S RECOMMENDATION.

THE COST OF ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH COMPLETE INSTALLATION OF THE 2"Ø CONDUIT SHALL BE PAID BY THE BID ITEM "CONDUIT - 2 INCH".

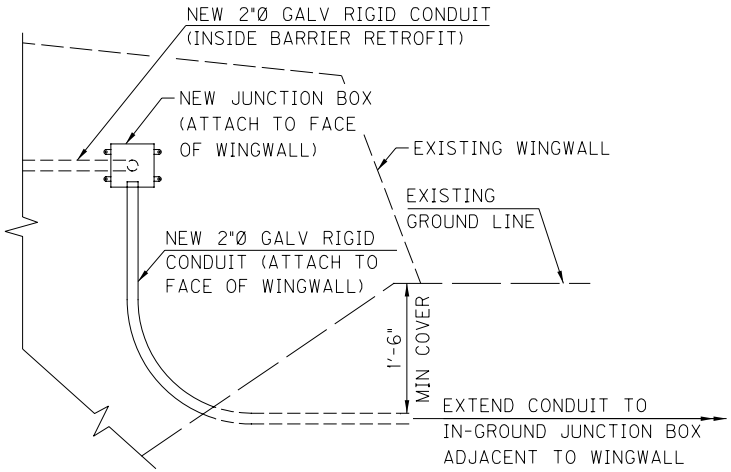
THE COST OF ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH COMPLETE INSTALLATION OF THE JUNCTION BOXES AND ¾"Ø DRAINS SHALL BE PAID BY THE BID ITEM "JUNCTION BOX - ELECTRICAL".

SEE LIGHTING BID ITEM NOTES FOR ADDITIONAL REQUIREMENTS AND QUANTITIES RELATED TO CONNECTING THE NEW CONDUIT AND WIRING TO THE EXISTING CIRCUITS.



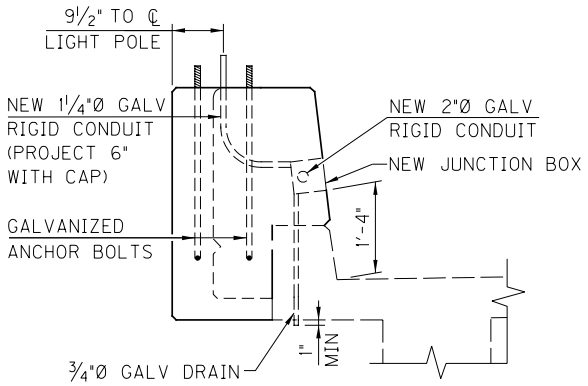
ANCHOR BOLTS

55 KSI MIN YIELD STRENGTH
15"Ø MAX BOLT LAYOUT CIRCLE



WINGWALL ELEVATION

(LIGHTING CONDUIT CONNECTIONS AT BRIDGE ENDS)
(NB AND SB BRIDGES - TWO LOCATIONS EACH)



CONNECTION TO LIGHT POLE BASE DETAIL

(SB BRIDGE - ONE LOCATION)

ENTRAN

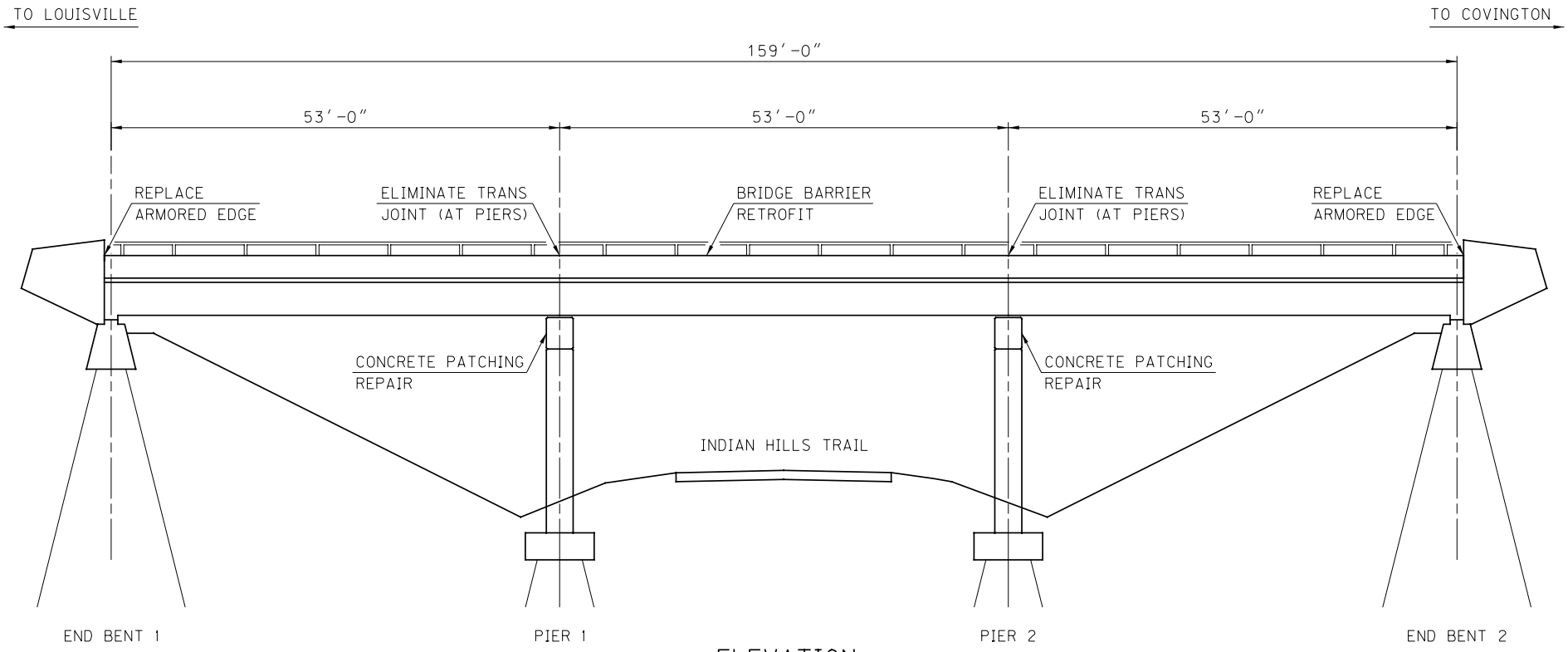
BRIDGE BARRIER RETROFIT

COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	MOCKINGBIRD VALLEY RD

I-71 OVER INDIAN HILLS TRAIL (056B0064L&R)

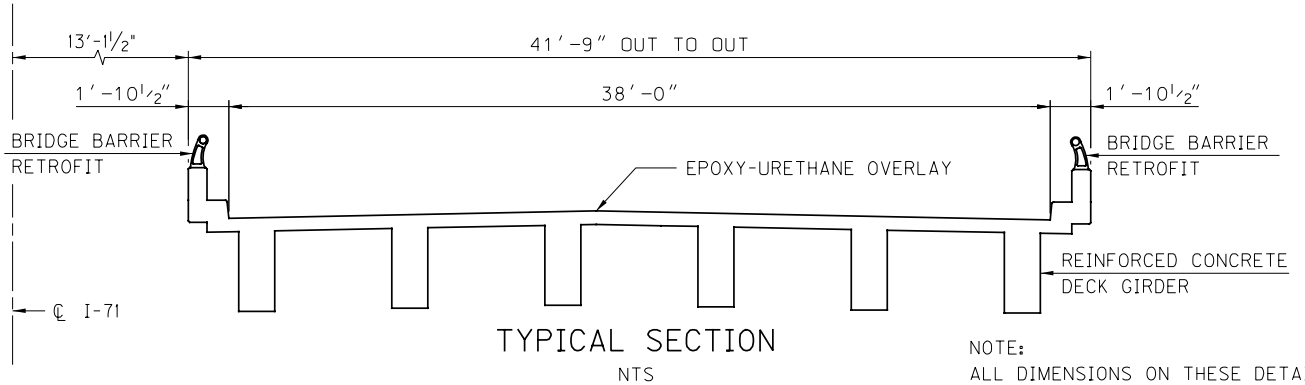
(MP 3.01)

SUMMARY OF QUANTITIES			
ITEM CODE	**DESCRIPTION**	**QUANTITY**	**UNIT**
8549	BLAST CLEANING	1342	SQYD
23331EC	EPOXY-URETHANE WATERPROOFING	12100	SQFT
3300	ELIMINATE TRANSVERSE JOINT (AT PIERS)	152	LF
20663ED	REPLACE ARMORED EDGE	152	LF
22146EN	CONCRETE PATCHING REPAIR	260	SQFT
23032EN	BRIDGE BARRIER RETROFIT	676	LF
6543	PAVEMENT STRIPING – THERMOPLASTIC – 6in YELLOW	320	LF
6542	PAVEMENT STRIPING – THERMOPLASTIC – 6in WHITE	420	LF



ELEVATION

6°56′15″ SKEW RIGHT
NTS



TYPICAL SECTION

NTS

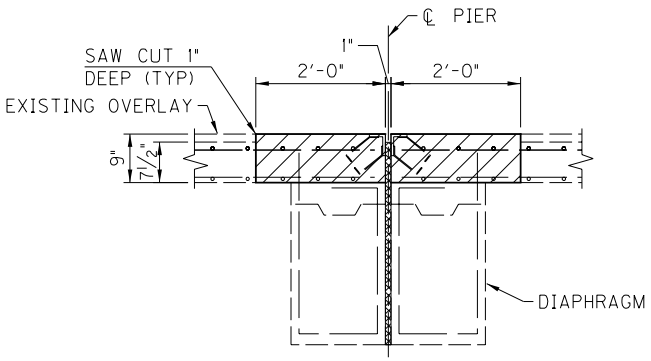
NOTE:
ALL DIMENSIONS ON THESE DETAIL SHEETS THAT REFER TO THE EXISTING STRUCTURE ARE FROM THE EXISTING PLANS AND ARE APPROXIMATE.

ALL REPAIRS TYPICAL FOR NB & SB BRIDGES, UNLESS NOTED OTHERWISE

ENTRAN

ELVATION AND TYPICAL SECTION

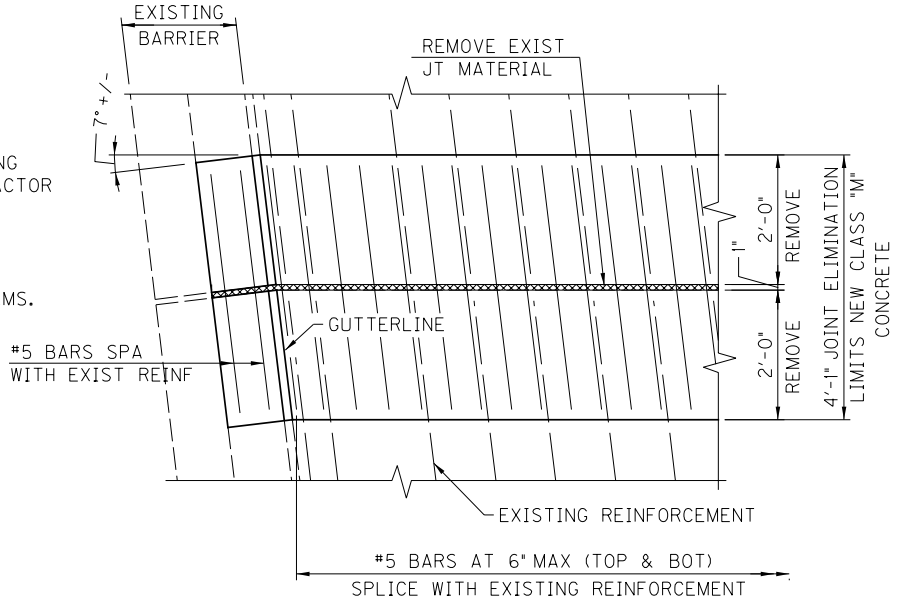
COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: INDIAN HILLS TRAIL



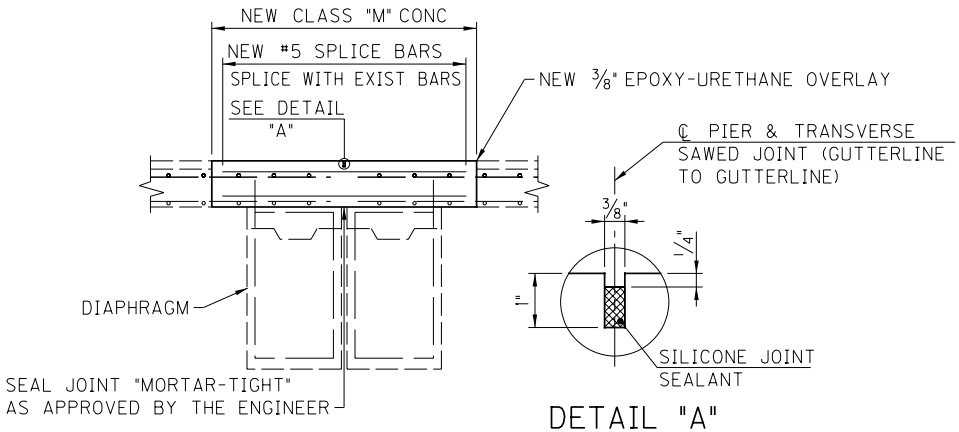
EXISTING SECTION AT PIERS
(SHOWING REMOVAL OF DECK)

NOTE:
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN, STRAIGHTEN & REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REPLACE EXISTING TRANSVERSE REINFORCEMENT.

DO NOT DISTURB TOP OF BEAMS.

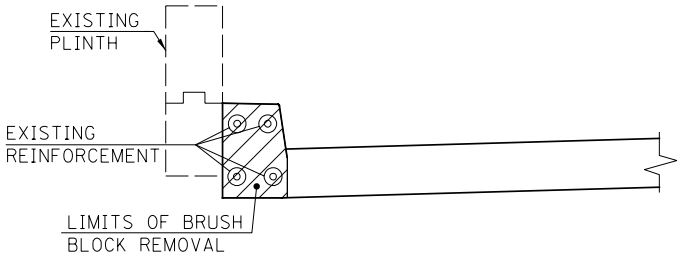


PLAN AT PIERS

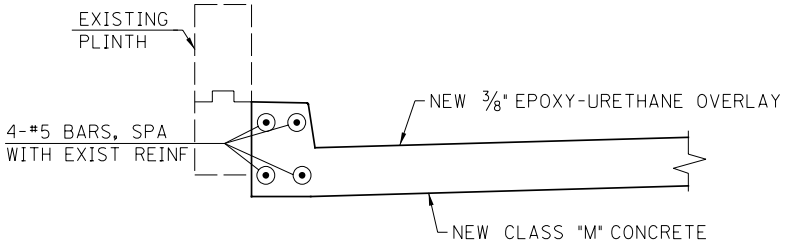


DETAIL "A"

PROPOSED ELIMINATED JOINT SECTION



EXISTING SECTION AT BARRIER
(SHOWING REMOVAL OF BRUSH BLOCK)



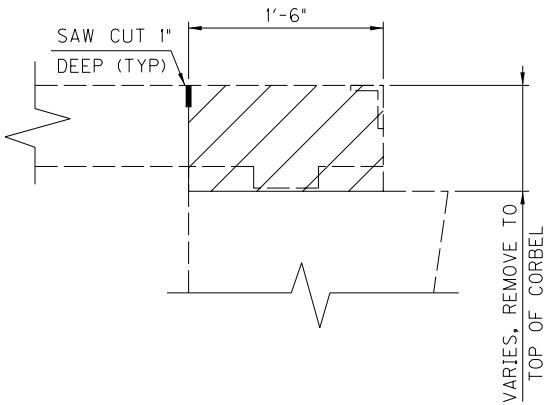
SECTION AT BARRIER

(SHEET 1 OF 1)

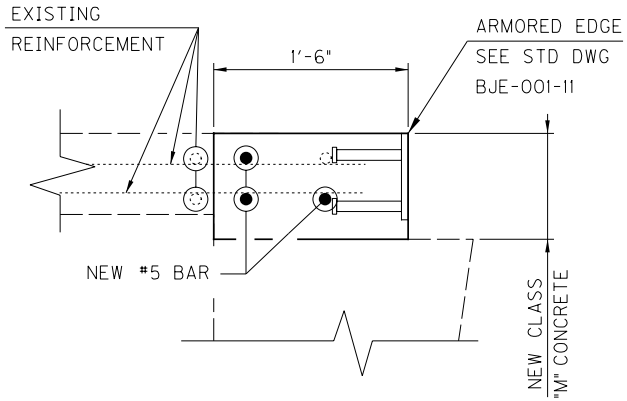
ENTRAN

ELIMINATE TRANSVERSE JOINT (AT PIERS)

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: INDIAN HILLS TRAIL



EXISTING END OF SLAB DETAIL



PRPOSED END OF SLAB DETAIL

NOTES:

REMOVE HATCHED AREAS OF CONCRETE
& ARMORED EDGE BETWEEN GUTTERLINES.
CLEAN & REUSE EXISTING REINFORCEMENT.
THE CONTRACTOR HAS THE OPTION TO REPLACE
EXISTING TRANSVERSE REINFORCEMENT.

DO NOT DISTURB TOP OF BEAMS.

FOR BONDING NEW CONCRETE TO EXISTING
SURFACES, SEE SECTION 511 OF THE STANDARD
SPECIFICATIONS.

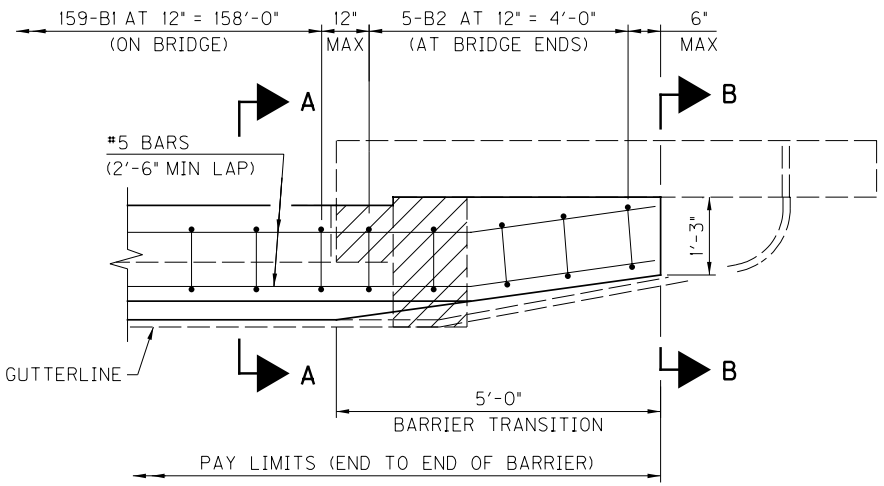
NEW CONCRETE IS TO BE CLASS "M".

SHEET 1 OF 1

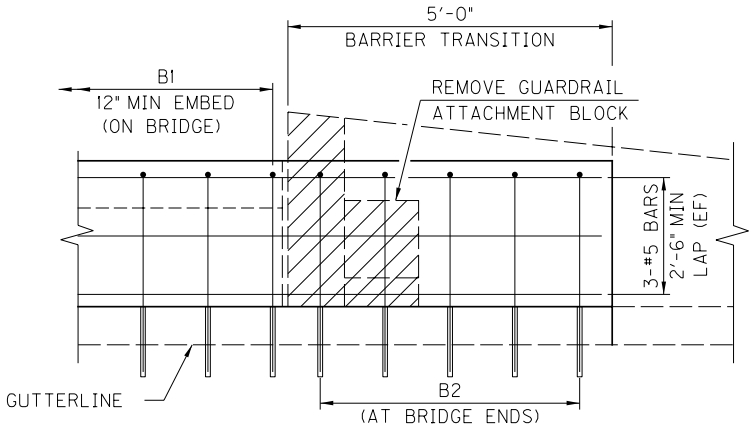
ENTRAN

ARMORED EDGE REPLACEMENT

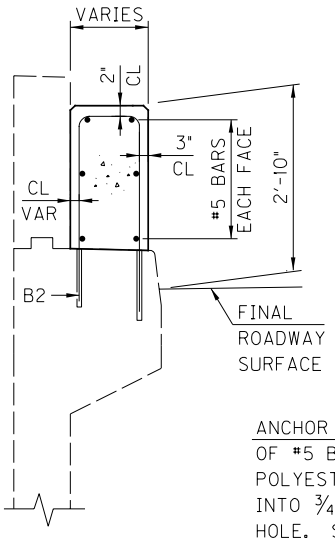
COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	INDIAN HILLS TRAIL



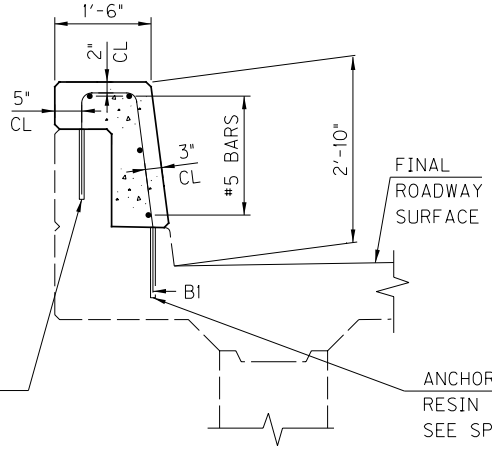
PLAN OF BARRIER RETROFIT AT BRIDGE END



ELEVATION OF BARRIER RETROFIT AT BRIDGE END



SECTION B-B
(AT BRIDGE ENDS)



SECTION A-A
(ON BRIDGE)

ANCHOR BACK LEG OF #5 BAR WITH POLYESTER RESIN INTO ¾"Ø×7" DEEP HOLE. SEE SPECIAL NOTE.

ANCHOR FRONT LEG OF #5 BAR WITH POLYESTER RESIN INTO ¾"Ø×10" DEEP CORE DRILLED HOLE. SEE SPECIAL NOTE.

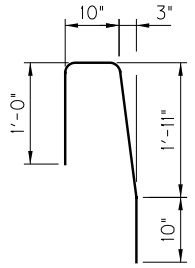
NOTES:
REMOVE HATCHED AREAS OF CONCRETE AND EXISTING REINFORCEMENT BY SAW CUTTING. PAINT ANY PERMANENTLY EXPOSED REINFORCING STEEL, SEE SPECIAL NOTE.

FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.

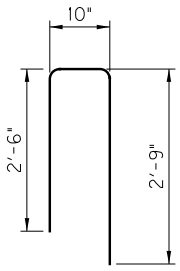
APPLY MASONRY COATING TO BARRIER & WINGWALL. SEE SPECIAL NOTE FOR LIMITS.

NEW CONCRETE IS TO BE CLASS "AA".

ATTACH GUARDRAIL CONNECTOR (TYPE A OR A-1) TO BARRIER RETROFIT AT BRIDGE END IN GENERAL CONFORMITY TO STD DWG RBC-001-09 WITH ALL MODIFICATIONS APPROVED BY THE ENGINEER.



B1
#5 BARS



B2
#5 BARS

(SHEET 1 OF 1)

ENTRAN

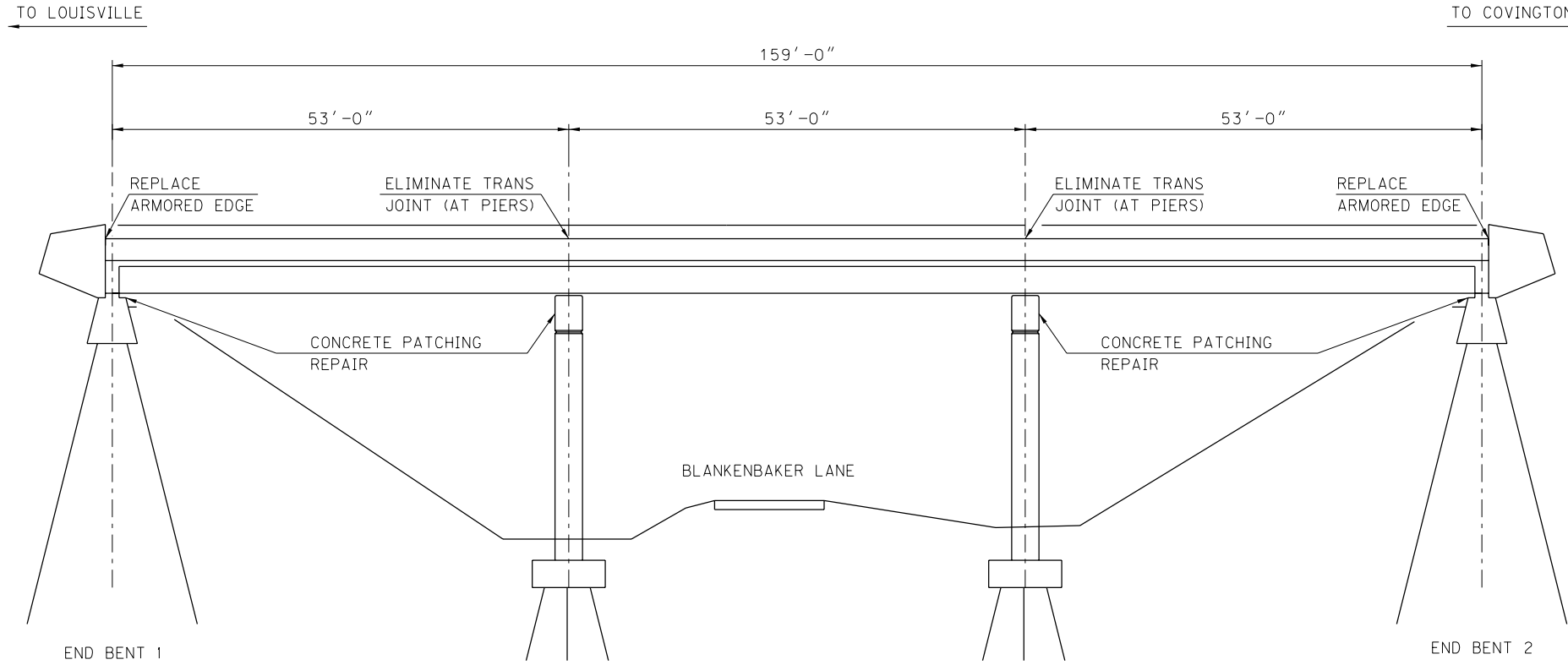
BRIDGE BARRIER RETROFIT

COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	INDIAN HILLS TRAIL

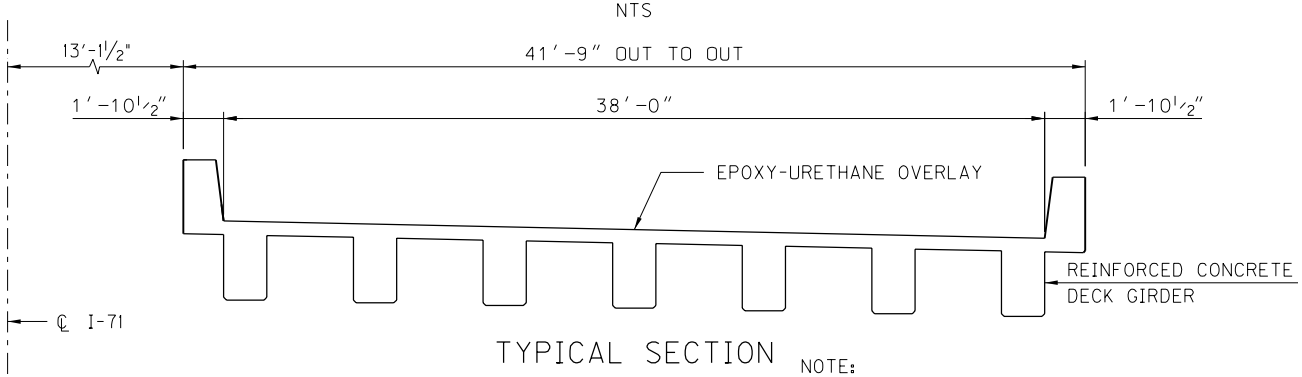
I-71 OVER BLANKENBAKER LANE (056B0065L&R)

(MP 3.68)

SUMMARY OF QUANTITIES			
ITEM CODE	**DESCRIPTION**	**QUANTITY**	**UNIT**
8549	BLAST CLEANING	1342	SQYD
23331EC	EPOXY-URETHANE WATERPROOFING	12100	SQFT
3300	ELIMINATE TRANSVERSE JOINT (AT PIERS)	152	LF
20663ED	REPLACE ARMORED EDGE	152	LF
22146EN	CONCRETE PATCHING REPAIR	50	SQFT
6543	PAVEMENT STRIPING – THERMOPLASTIC – 6in YELLOW	320	LF
6542	PAVEMENT STRIPING – THERMOPLASTIC – 6in WHITE	420	LF



ELEVATION
NO SKEW
NTS



TYPICAL SECTION
NTS

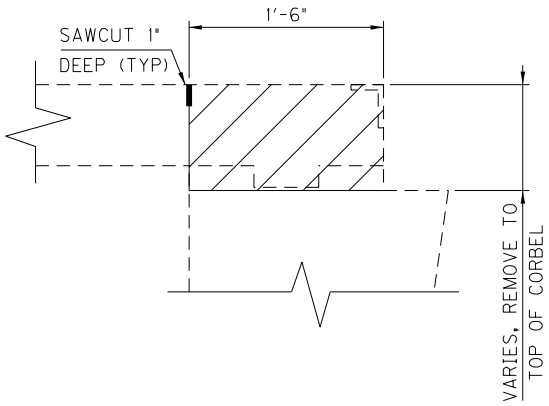
NOTE:
ALL DIMENSIONS ON THESE DETAIL SHEETS THAT REFER TO THE EXISTING STRUCTURE ARE FROM THE EXISTING PLANS AND ARE APPROXIMATE.

ALL REPAIRS TYPICAL FOR NB & SB BRIDGES, UNLESS OTHERWISE NOTED.

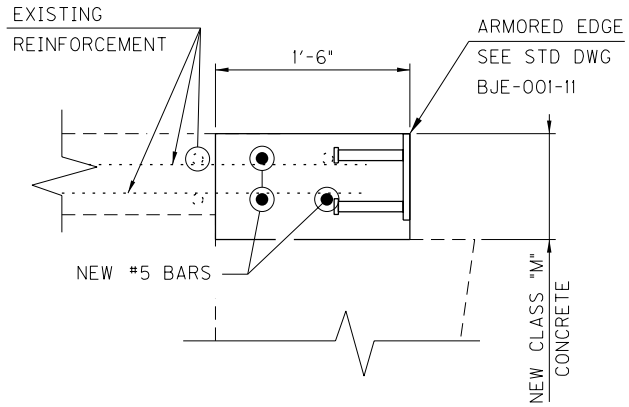
ENTRAN

ELEVATION AND TYPICAL SECTION

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: BLANKENBAKER LANE



EXISTING END OF SLAB DETAIL



PRPOSED END OF SLAB DETAIL

NOTES:

REMOVE HATCHED AREAS OF CONCRETE
& ARMORED EDGE BETWEEN GUTTERLINES.
CLEAN & REUSE EXISTING REINFORCEMENT.
THE CONTRACTOR HAS THE OPTION TO REPLACE
EXISTING TRANSVERSE REINFORCEMENT.

DO NOT DISTURB TOP OF BEAMS.

FOR BONDING NEW CONCRETE TO EXISTING
SURFACES, SEE SECTION 511 OF THE STANDARD
SPECIFICATIONS.

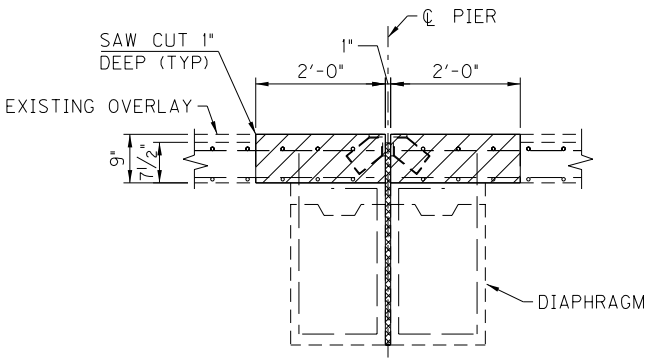
NEW CONCRETE IS TO BE CLASS "M".

(SHEET 1 OF 1)

ENTRAN

ARMORED EDGE REPLACEMENT

COUNTY:	JEFFERSON
ROUTE:	I-71
CROSSING:	BLANKENBAKER LANE

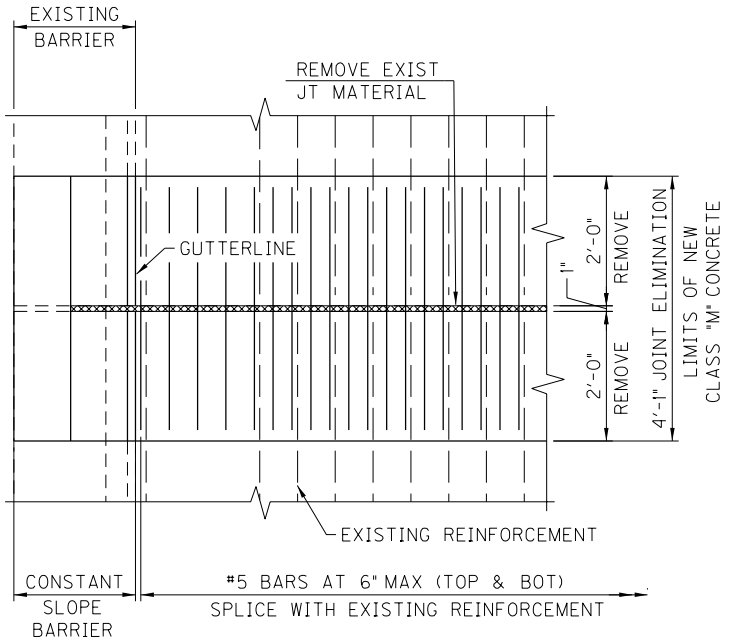


EXISTING SECTION AT PIERS
(SHOWING REMOVAL OF DECK)

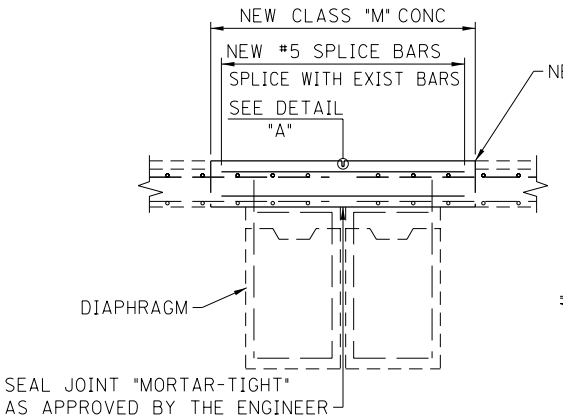
NOTE:

REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN, STRAIGHTEN & REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REPLACE EXISTING TRANSVERSE REINFORCEMENT.

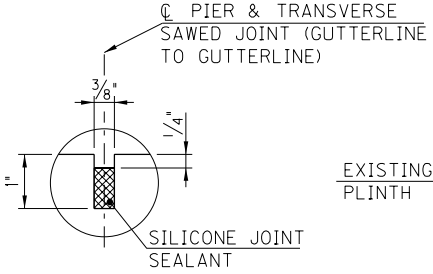
DO NOT DISTURB TOP OF BEAMS.



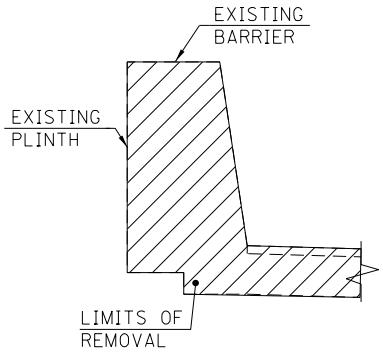
PLAN AT PIERS



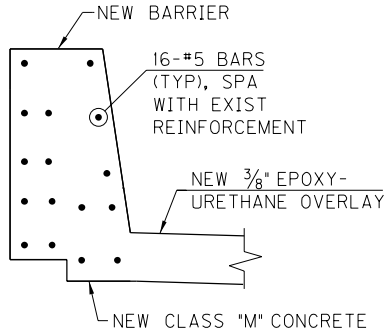
PROPOSED ELIMINATED JOINT SECTION



DETAIL "A"



EXISTING SECTION AT BARRIER
(SHOWING REMOVAL)



PROPOSED SECTION AT BARRIER

(SHEET 1 OF 1)

ENTRAN

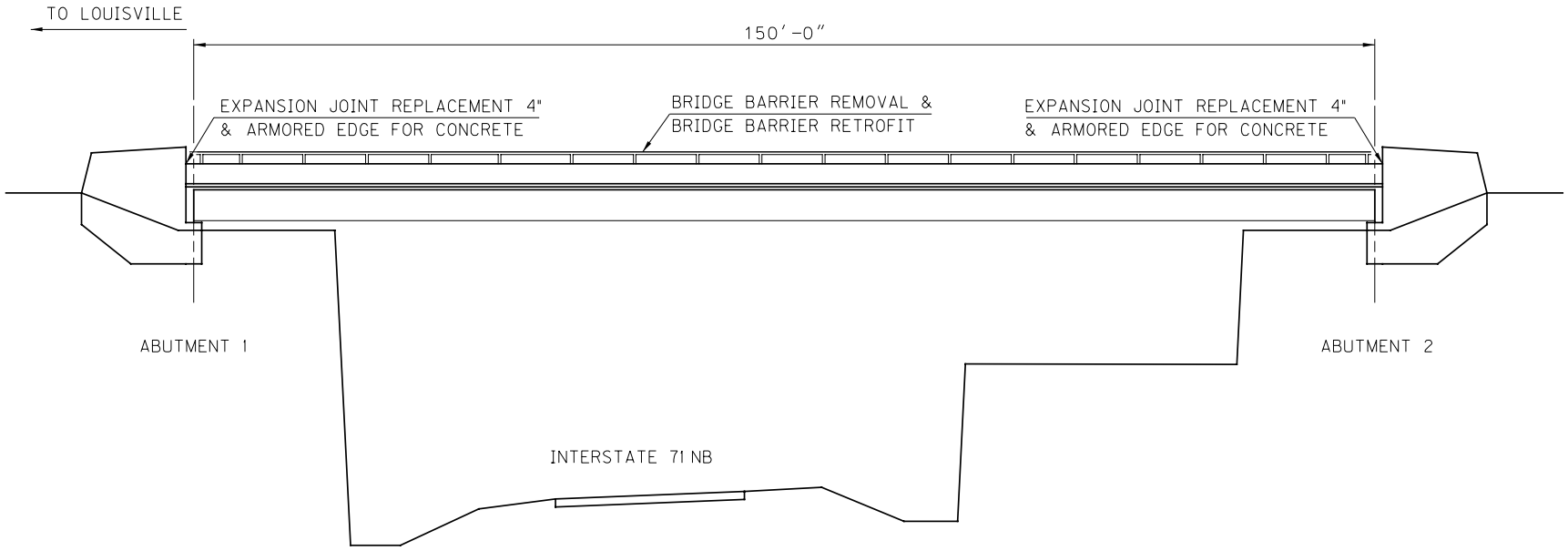
ELIMINATE TRANSVERSE JOINT (AT PIERS)

COUNTY: JEFFERSON
ROUTE: I-71
CROSSING: BLANKENBAKER LANE

EB I-264 TO SB I-71 (TOP) RAMP (056B00057N)

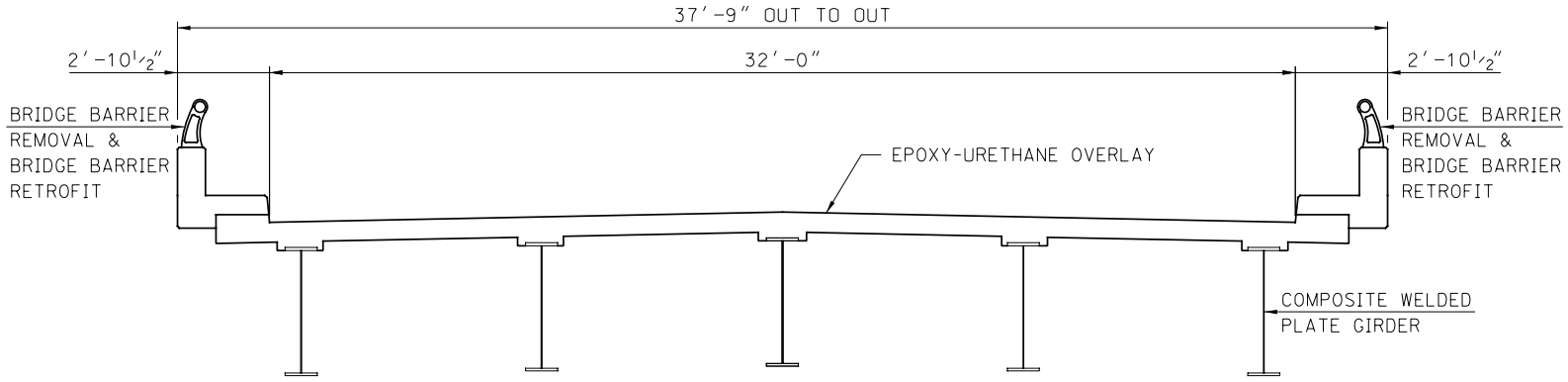
(MP 5.10)

SUMMARY OF QUANTITIES			
ITEM CODE	**DESCRIPTION**	**QUANTITY**	**UNIT**
8549	BLAST CLEANING	558	SQYD
23331EC	EPOXY-URETHANE WATERPROOFING	5024	SQFT
3298	EXPANSION JOINT REPLACEMENT 4 IN	84	LF
3299	ARMORED EDGE FOR CONCRETE	84	LF
23033EN	BRIDGE BARRIER REMOVAL	282	LF
23032EN	BRIDGE BARRIER RETROFIT	334	LF
6543	PAVEMENT STRIPING – THERMOPLASTIC – 6in YELLOW	200	LF
6542	PAVEMENT STRIPING – THERMOPLASTIC – 6in WHITE	150	LF



ELEVATION

SKEW VARIES
NTS



TYPICAL SECTION

NTS

NOTE:
ALL DIMENSIONS ON THESE DETAIL SHEETS THAT REFER TO THE EXISTING STRUCTURE ARE FROM THE EXISTING PLANS AND ARE APPROXIMATE.

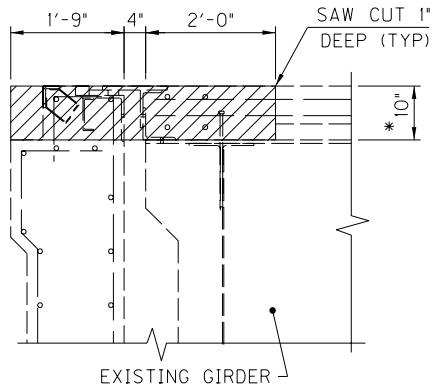
ENTRAN

ELEVATION AND TYPICAL SECTION

COUNTY: JEFFERSON
ROUTE: EB I-264 TO SB I-71 (TOP RAMP)
CROSSING: SB I-71 TO WB I-264 (BOTTOM RAMP)

NOTATION:

* FIELD VERIFY, REMOVE TO TOP OF GIRDER



EXISTING SECTION AT SOUTH ABUTMENT
(SHOWING REMOVAL)

NOTES:

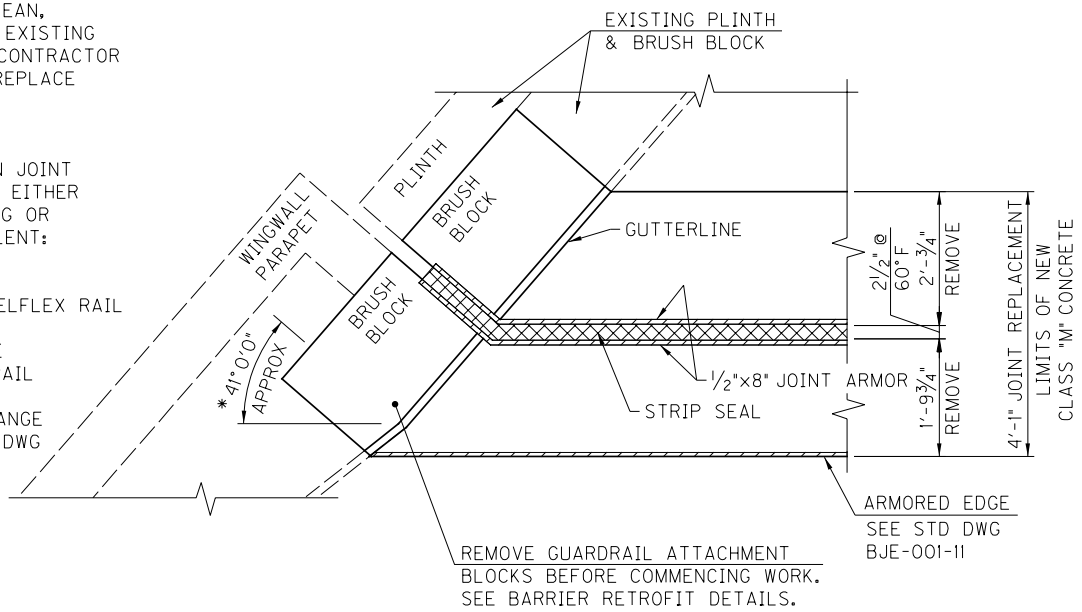
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN, STRAIGHTEN & REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REPLACE EXISTING TRANSVERSE REINFORCEMENT.

PREFORMED EXPANSION JOINT STRIP SEAL SHALL BE EITHER ONE OF THE FOLLOWING OR AN APPROVED EQUIVALENT:

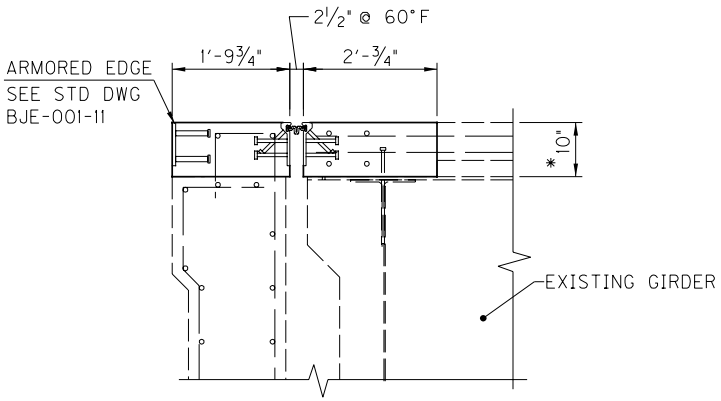
D.S. BROWN COMPANY
L2-400 W/ SSPA STEELFLEX RAIL

WATSON BOWMAN ACME
SE-400 W/ TYPE "P" RAIL

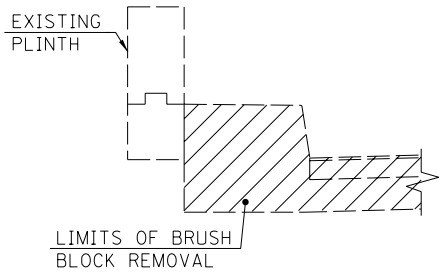
FOR TEMPERATURE CHANGE INCREMENTS SEE STD DWG BJE-001-11



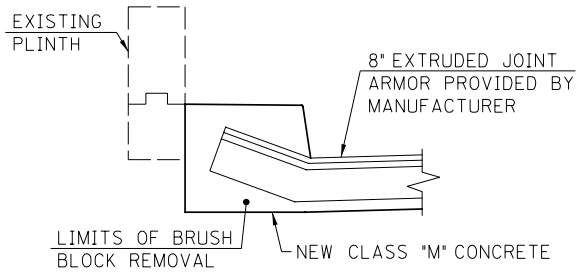
PLAN AT SOUTH ABUTMENT



PROPOSED SECTION AT SOUTH ABUTMENT



EXISTING SECTION AT BARRIER
(SHOWING REMOVAL)



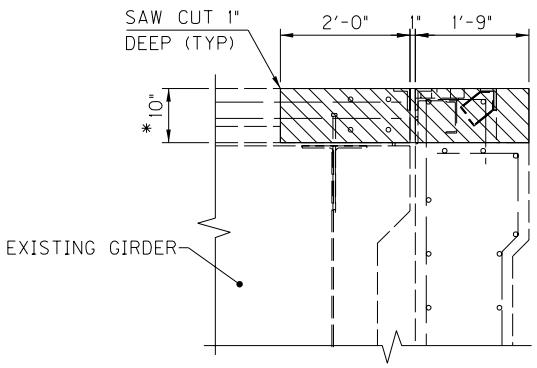
PROPOSED SECTION AT BARRIER

(SHEET 1 OF 1)

ENTRAN

EXPANSION JOINT REPLACEMENT 4 INCH

COUNTY: JEFFERSON
ROUTE: EB I-264 TO SB I-71 (TOP RAMP)
CROSSING: SB I-71 TO WB I-264 (BOTTOM RAMP)



EXISTING SECTION
AT NORTH ABUTMENT
(SHOWING REMOVAL)

NOTATION:

* FIELD VERIFY, REMOVE TO TOP OF GIRDER

NOTES:

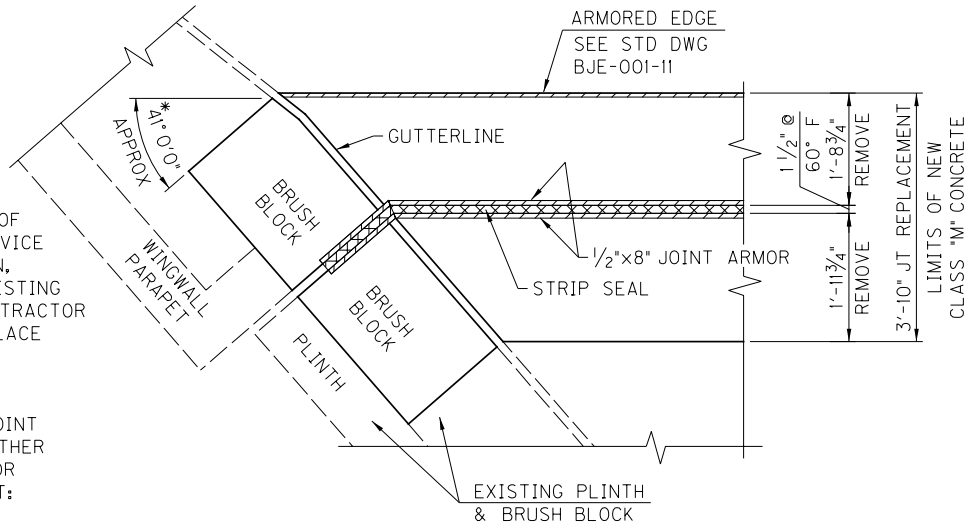
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN, STRAIGHTEN & REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REPLACE EXISTING TRANSVERSE REINFORCEMENT.

PREFORMED EXPANSION JOINT STRIP SEAL SHALL BE EITHER ONE OF THE FOLLOWING OR AN APPROVED EQUIVALENT:

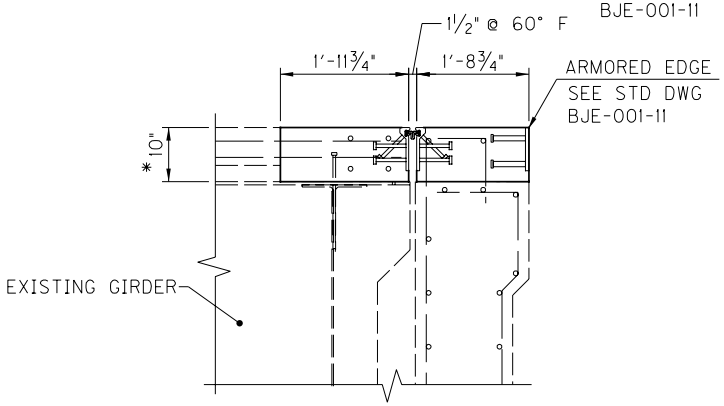
D.S. BROWN COMPANY
L2-400 W/ SSPA STEELFLEX RAIL

WATSON BOWMAN ACME
SE-400 W/ TYPE "P" RAIL

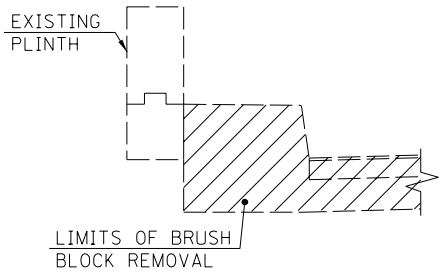
FOR TEMPERATURE CHANGE INCREMENTS SEE STD DWG BJE-001-11



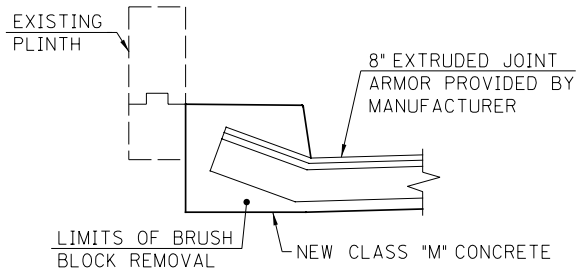
PLAN AT NORTH ABUTMENT



PROPOSED SECTION
AT NORTH ABUTMENT



EXISTING SECTION
AT BARRIER
(SHOWING REMOVAL)



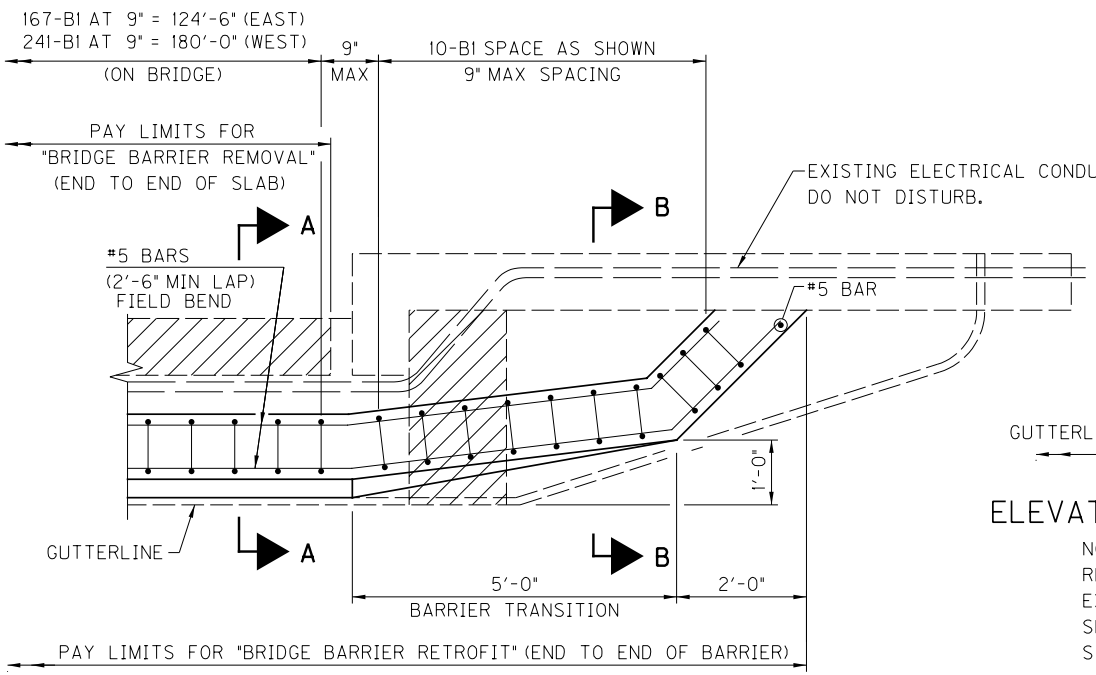
PROPOSED SECTION
AT BARRIER

(SHEET 1 OF 1)

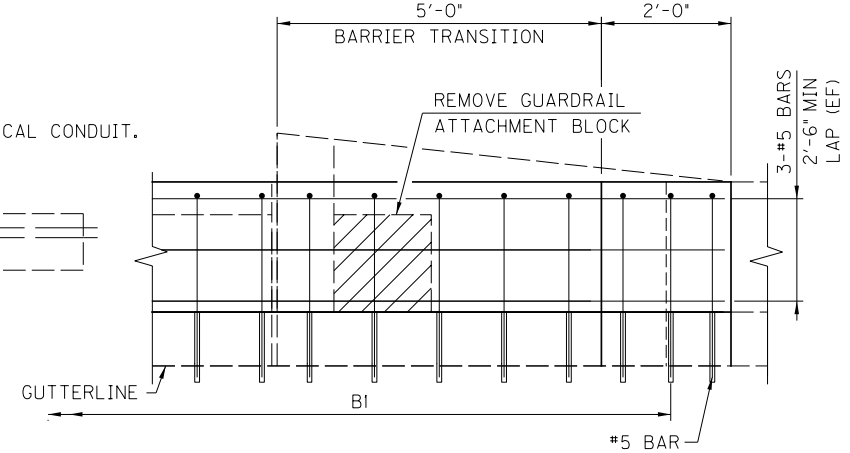
ENTRAN

EXPANSION JOINT REPLACEMENT 4 INCH

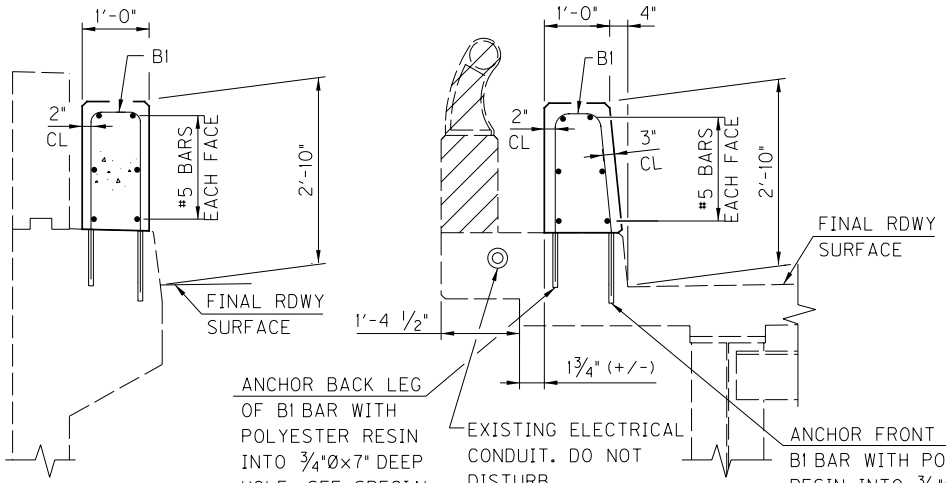
COUNTY: JEFFERSON
ROUTE: EB I-264 TO SB I-71 (TOP RAMP)
CROSSING: SB I-71 TO WB I-264 (BOTTOM RAMP)



PLAN OF BARRIER RETROFIT AT BRIDGE END



ELEVATION OF BARRIER RETROFIT AT BRIDGE END



SECTION B-B
(AT BRIDGE ENDS)

SECTION A-A
(ON BRIDGE)

NOTES:

REMOVE HATCHED AREA OF CONCRETE, RAILING, AND EXISTING REINFORCEMENT BY SAW CUTTING AT LIMITS SHOWN. PAINT ANY PERMANENTLY EXPOSED REINFORCING STEEL, SEE SPECIAL NOTE.

DO NOT DISTURB OVERHEAD ROADWAY SIGN ATTACHED TO EXISTING BARRIER. STOP LIMITS OF "BRIDGE BARRIER REMOVAL" 2'-0" FROM NEAREST CONNECTION BRACKET. NO PAYMENT WILL BE MADE FOR THE PORTION OF THE BRIDGE BARRIER NOT REMOVED.

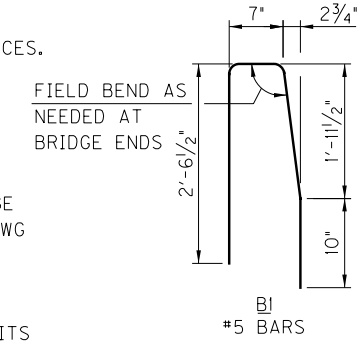
FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.

APPLY MASONRY COATING TO BARRIER, WINGWALL, AND EXPOSED SAWCUT SURFACES. SEE SPECIAL NOTE FOR LIMITS.

NEW CONCRETE IS TO BE CLASS "AA".

ATTACH GUARDRAIL CONNECTOR (TYPE A OR A-1) TO BARRIER RETROFIT AT BRIDGE END IN GENERAL CONFORMITY TO STD DWG RBC-001-09 WITH ALL MODIFICATIONS APPROVED BY THE ENGINEER.

SHUT OFF POWER TO ELECTRICAL CIRCUITS IN EXISTING CONDUIT BEFORE BEGINNING WORK ON BRIDGE BARRIER. RESTORE POWER AFTER COMPLETING WORK.



(SHEET 1 OF 1)

ENTRAN

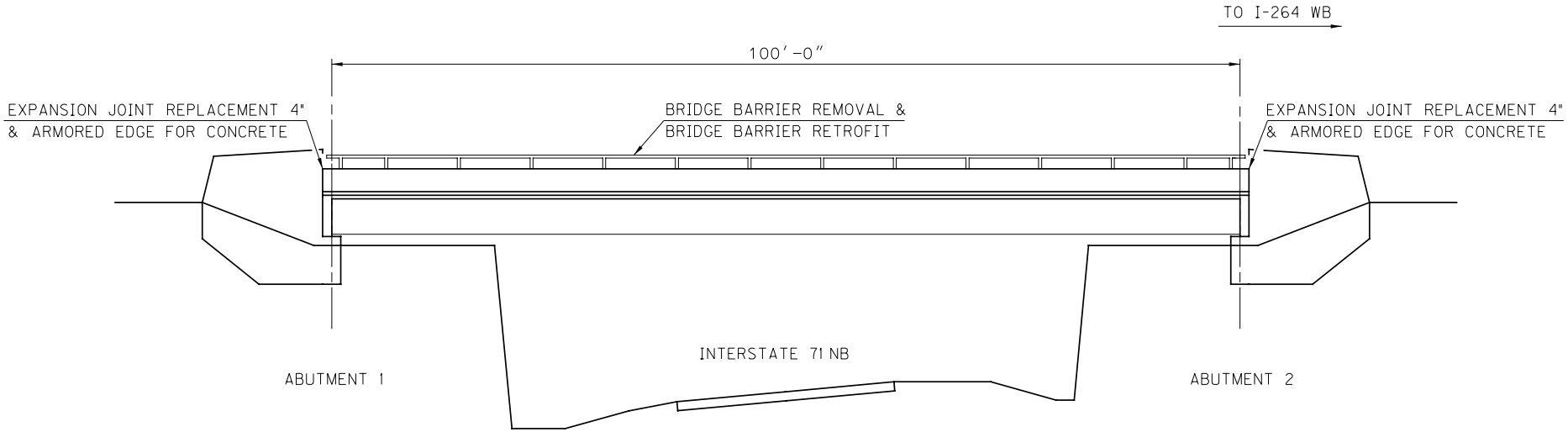
BRIDGE BARRIER RETROFIT

COUNTY:	JEFFERSON
ROUTE:	EB I-264 RAMP TO SB I-75 (TOP RAMP)
CROSSING:	SB I-71 TO WB I-264 (BOTTOM RAMP)

SB I-71 TO WB I-264 (BOTTOM) RAMP (056B00056N)

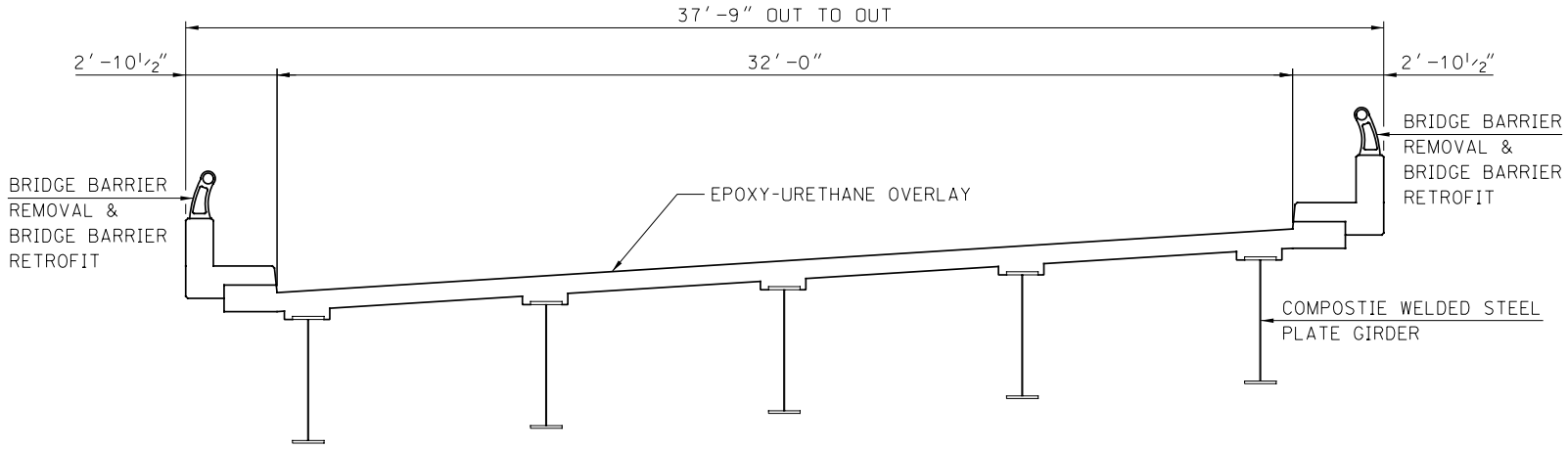
(MP 5.10)

SUMMARY OF QUANTITIES			
ITEM CODE	**DESCRIPTION**	**QUANTITY**	**UNIT**
8549	BLAST CLEANING	365	SQYD
23331EC	EPOXY-URETHANE WATERPROOFING	3285	SQFT
3298	EXPANSION JOINT REPLACEMENT 4 IN	66	LF
3299	ARMORED EDGE FOR CONCRETE	66	LF
23033EN	BRIDGE BARRIER REMOVAL	205	LF
23032EN	BRIDGE BARRIER RETROFIT	233	LF
6543	PAVEMENT STRIPING – THERMOPLASTIC – 6in YELLOW	100	LF
6542	PAVEMENT STRIPING – THERMOPLASTIC – 6in WHITE	100	LF



ELEVATION

16°30′ SKEW LEFT
NTS



TYPICAL SECTION

NTS

NOTE:
ALL DIMENSIONS ON THESE DETAIL SHEETS THAT REFER TO THE EXISTING STRUCTURE ARE FROM THE EXISTING PLANS AND ARE APPROXIMATE.

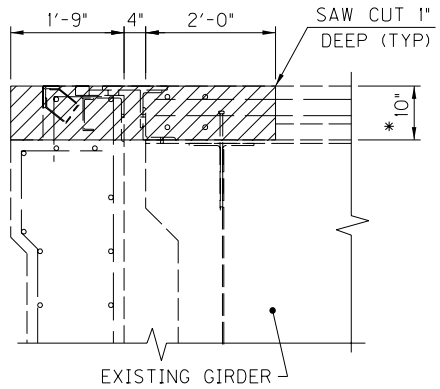
ENTRAN

ELEVATION AND TYPICAL SECTION

COUNTY: JEFFERSON
ROUTE: SB I-71 TO WB I-264 (BOTTOM RAMP)
CROSSING: NB I-71

NOTATION:

*FIELD VERIFY, REMOVE TO TOP OF GIRDER



EXISTING SECTION AT NORTH ABUTMENT
(SHOWING REMOVAL)

NOTES:

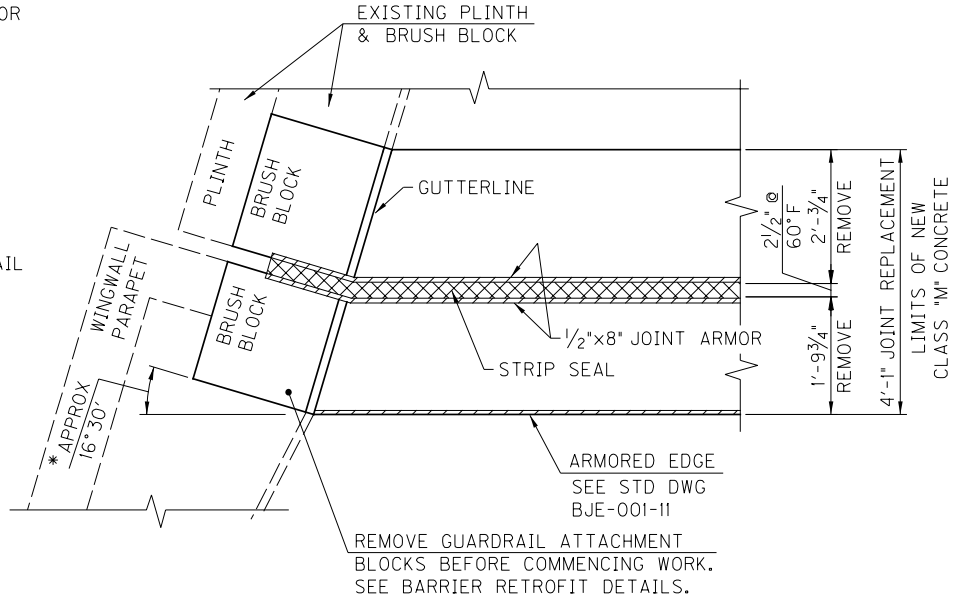
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN, STRAIGHTEN & REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REPLACE EXISTING TRANSVERSE REINFORCEMENT.

PREFORMED EXPANSION JOINT STRIP SEAL SHALL BE EITHER ONE OF THE FOLLOWING OR AN APPROVED EQUIVALENT:

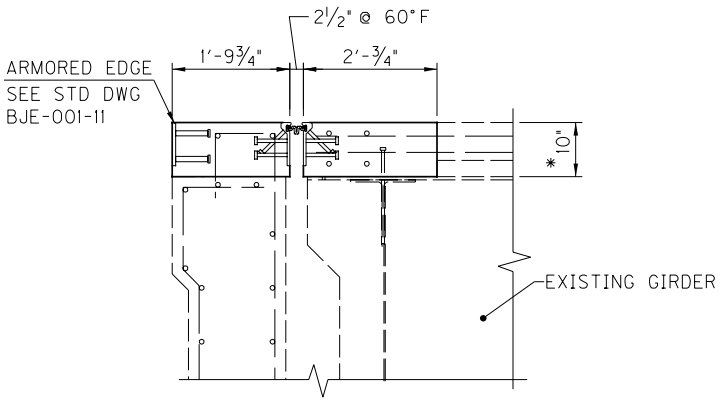
D.S. BROWN COMPANY
L2-400 W/ SSPA STEELFLEX RAIL

WATSON BOWMAN ACME
SE-400 W/ TYPE "P" RAIL

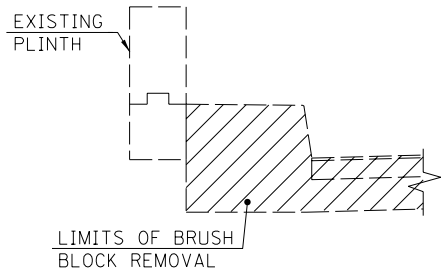
FOR TEMPERATURE CHANGE INCREMENTS SEE STD DWG BJE-001-11



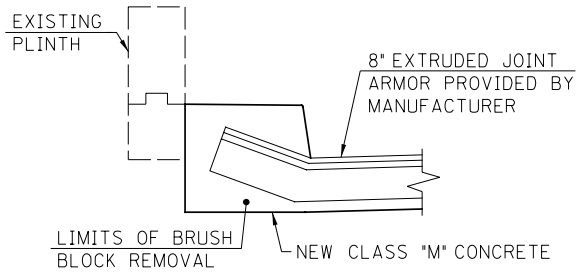
PLAN AT NORTH ABUTMENT



PROPOSED SECTION AT NORTH ABUTMENT



EXISTING SECTION AT BARRIER
(SHOWING REMOVAL)



PROPOSED SECTION AT BARRIER

(SHEET 1 OF 1)

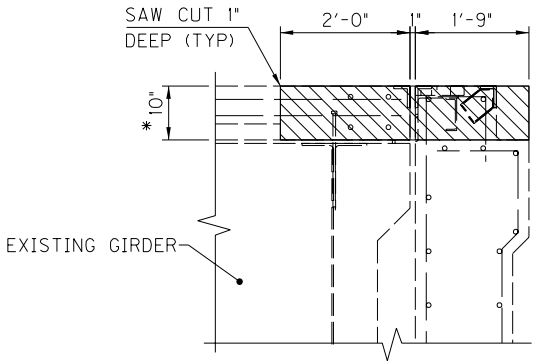
ENTRAN

EXPANSION JOINT REPLACEMENT 4 INCH

COUNTY: JEFFERSON
ROUTE: SB I-71 TO WB I-264 (BOTTOM RAMP)
CROSSING: NB I-71

NOTATION:

*FIELD VERIFY, REMOVE TO TOP OF GIRDER



EXISTING SECTION AT SOUTH ABUTMENT
(SHOWING REMOVAL)

NOTES:

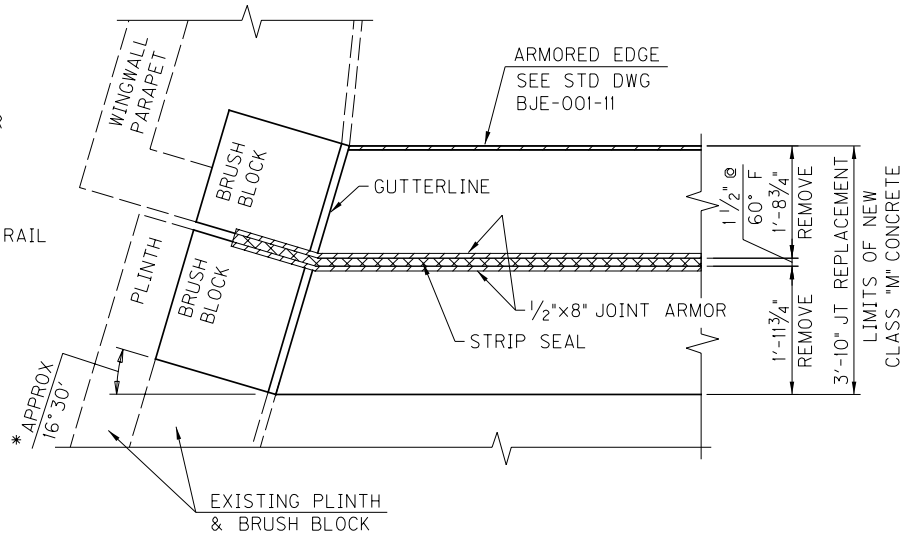
REMOVE HATCHED AREAS OF CONCRETE, EXPANSION DEVICE & ARMORED EDGE. CLEAN, STRAIGHTEN & REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REPLACE EXISTING TRANSVERSE REINFORCEMENT.

PREFORMED EXPANSION JOINT STRIP SEAL SHALL BE EITHER ONE OF THE FOLLOWING OR AN APPROVED EQUIVALENT:

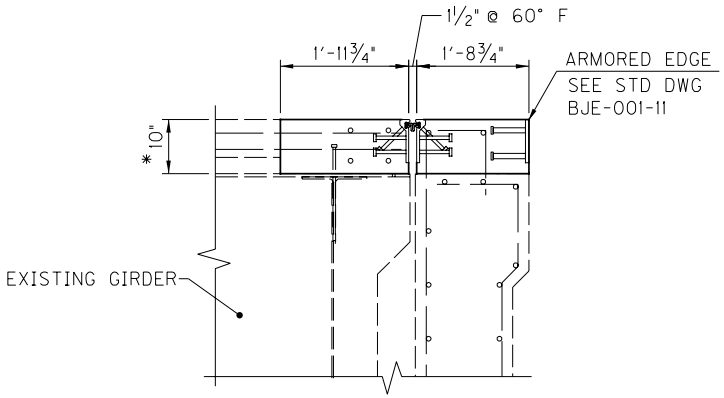
D.S. BROWN COMPANY
L2-400 W/ SSPA STEELFLEX RAIL

WATSON BOWMAN ACME
SE-400 W/ TYPE "P" RAIL

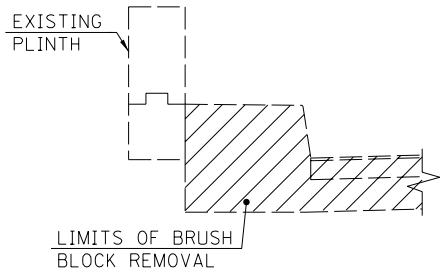
FOR TEMPERATURE CHANGE INCREMENTS SEE STD DWG BJE-001-11



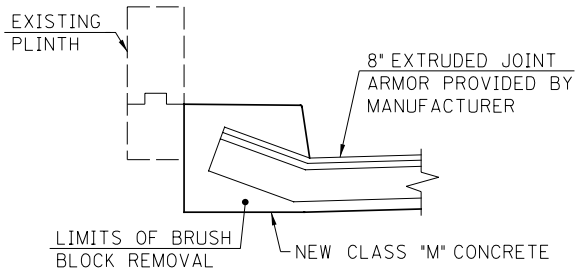
PLAN AT SOUTH ABUTMENT



PROPOSED SECTION AT SOUTH ABUTMENT



EXISTING SECTION AT BARRIER
(SHOWING REMOVAL)



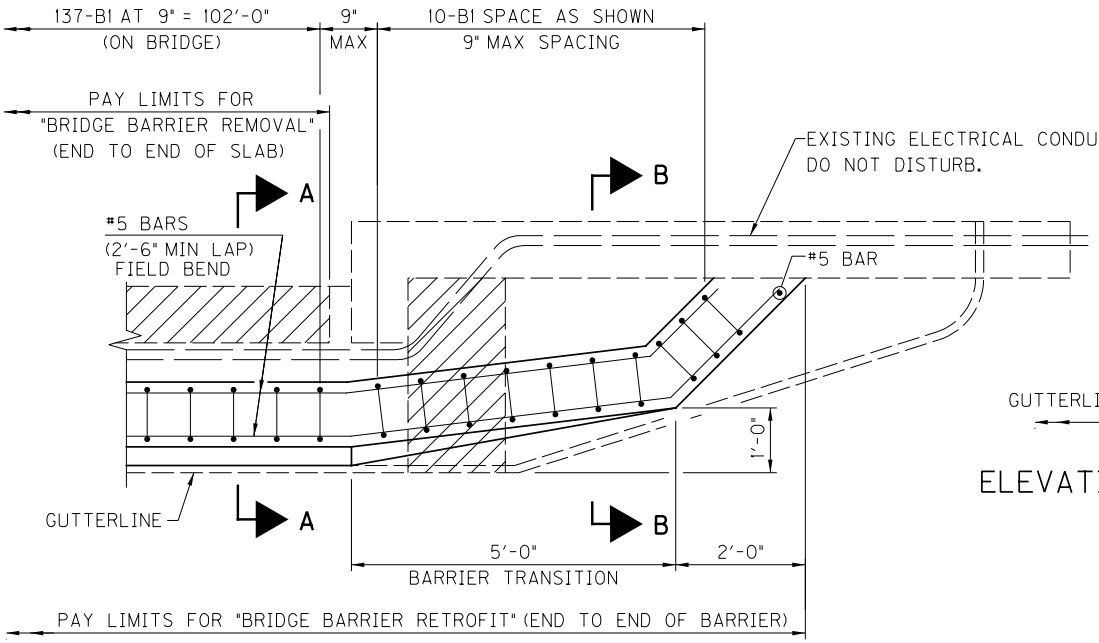
PROPOSED SECTION AT BARRIER

(SHEET 1 OF 1)

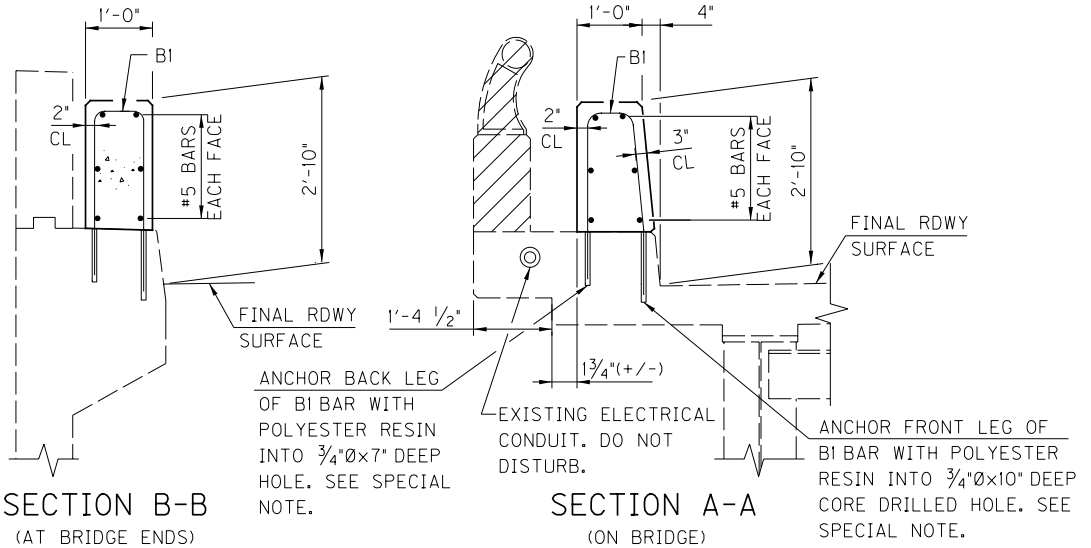
ENTRAN

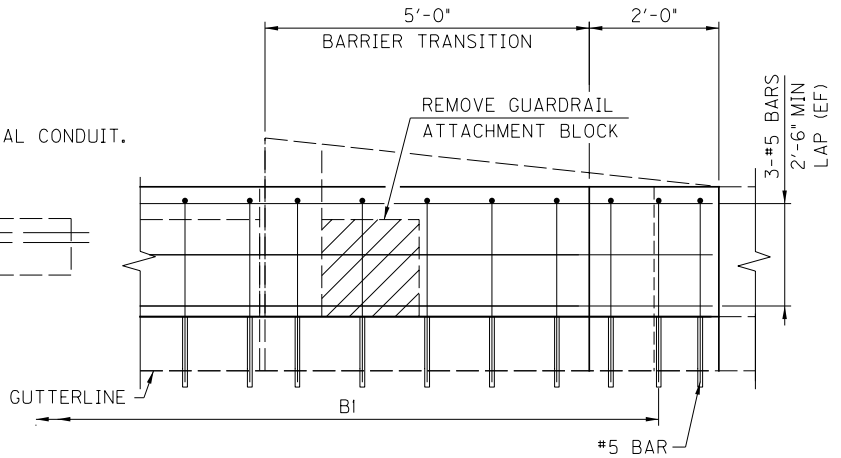
EXPANSION JOINT REPLACEMENT 4 INCH

COUNTY: JEFFERSON
ROUTE: SB I-71 TO WB I-264 (BOTTOM RAMP)
CROSSING: NB I-71



PLAN OF BARRIER RETROFIT AT BRIDGE END





ELEVATION OF BARRIER RETROFIT AT BRIDGE END

NOTES:

REMOVE HATCHED AREA OF CONCRETE, RAILING, AND EXISTING REINFORCEMENT BY SAW CUTTING AT LIMITS SHOWN. PAINT ANY PERMANENTLY EXPOSED REINFORCING STEEL, SEE SPECIAL NOTE.

DO NOT DISTURB OVERHEAD ROADWAY SIGN ATTACHED TO EXISTING BARRIER. STOP LIMITS OF "BRIDGE BARRIER REMOVAL" 2'-0" FROM NEAREST CONNECTION BRACKET. NO PAYMENT WILL BE MADE FOR THE PORTION OF THE BRIDGE BARRIER NOT REMOVED.

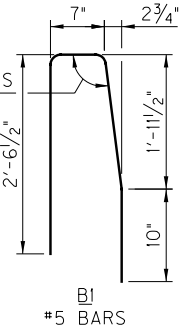
FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.

APPLY MASONRY COATING TO BARRIER, WINGWALL, AND EXPOSED SAWCUT SURFACES. SEE SPECIAL NOTE FOR LIMITS.

NEW CONCRETE IS TO BE CLASS "AA".

ATTACH GUARDRAIL CONNECTOR (TYPE A OR A-1) TO BARRIER RETROFIT AT BRIDGE END IN GENERAL CONFORMITY TO STD DWG RBC-001-09 WITH ALL MODIFICATIONS APPROVED BY THE ENGINEER.

SHUT OFF POWER TO ELECTRICAL CIRCUITS IN EXISTING CONDUIT BEFORE BEGINNING WORK ON BRIDGE BARRIER. RESTORE POWER AFTER COMPLETING WORK.



(SHEET 1 OF 1)

ENTRAN

BRIDGE BARRIER RETROFIT

COUNTY:	JEFFERSON
ROUTE:	SB I-71 TO WB I-264 (BOTTOM RAMP)
CROSSING:	NB I-71

SPECIAL PROVISION FOR WASTE AND BORROW SITES

The contractor is advised that it is their responsibility to gain U.S. Army Corp of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". "Waters of the United States" are defined as perennial or intermittent streams, ponds or wetlands. Ephemeral streams are also considered jurisdictional waters, and are typically dry except during rainfall, but have a defined drainage channel. Questions concerning any potential impacts to "Waters…" should be brought to the attention of the appropriate District Office for the Corps of Engineers for a determination, prior to disturbance. Any fees associated with obtaining approval from the U.S. Army Corp of Engineer or other appropriate regulatory agencies for waste and borrow sites is the responsibility of the contractor.

01/01/2009

Right-of-Way Certification Form

Revised 2/22/11

☑ Federal Funded ☐ State Funded

☑ Original ☐ Re-Certification

This form must be completed and submitted to FHWA with the PS&E package for federal-aid funded Interstate, Appalachia, and Major projects. This form shall also be submitted to FHWA for all federal-aid projects that fall under Conditions No. 2 or 3 outlined elsewhere in this form. When Condition No. 2 or 3 apply, KYTC shall resubmit this ROW Certification prior to construction contract Award. For all other federal-aid projects, this form shall be completed and retained in the KYTC project file.

Date: 5-23-11

Project Name: overlay on I-71
Letting Date:
Project #:
County: Jefferson
Item #: 05-2053.00
Federal #: FD52 056-0071-000-006

Description of Project: overlay on I-71 from MP 0.00 to MP 5.55

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, families, and businesses ("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.)

☐ **Condition 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 all improvements and enter on all land. Fair market value has been paid or deposited with the court.

☐ **Condition 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 right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. 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 AWARD of construction contract. (See note 1 below.)

Note 1: The KYTC shall re-submit a right-of-way certification form for this project prior to AWARD of **all** Federal-Aid construction contracts. Award must not to be made until after KYTC has obtained full legal possession and fair market value for all parcels has been paid or deposited with the court and FHWA has concurred in the re-submitted right-of-way certification.

Right-of-Way Certification Form

Revised 2/22/11

☐ **Condition 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 bid letting even though the necessary rights-of-way will not be fully acquired, and/or some occupants will not be relocated, and/or the fair market value will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction. 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 concurrence. (See note 2.)

Note 2: The KYTC may request authorization on this basis only in unique and unusual circumstances. Proceeding to bid letting shall be the exception and never become the rule. In all cases, the KYTC shall make extraordinary efforts to expedite completion of the acquisition, payment for all affected parcels, and the relocation of all relocatees prior to AWARD of all Federal-Aid construction contracts or force account construction.

Approved:	Ron Geveden Printed Name	Ron Geveden Signature	Right-of-Way Supervisor
Approved:	Keith McDonald Printed Name	Keith McDonald Signature	5/26/11 KYTC, Director of ROW &Utilities
Approved:	David Whitworth Printed Name	David Whitworth Signature	5/31/11 FHWA, ROW Officer (when applicable)

Right-of-Way Certification Form

Revised 2/22/11

Date: 5-23-11

Project Name: overlay
Project #:
Item #: 05-2053.00
Letting Date:

County: Jefferson
Federal #: FD52 056-0071-000-006

This project has 0 total number of parcels to be acquired, and 0 total number of individuals or families to be relocated, as well as 0 total number of businesses to be relocated.

_____ Parcels where acquired by a signed fee simple deed and fair market value has been paid

_____ Parcels have been acquired by IOJ through condemnation and fair market value has been deposited with the court

_____ Parcels have not been acquired at this time (*explain below for each parcel*)

_____ Parcels have been acquired or have a "right of entry" but fair market value has not been paid or has not been deposited with the court *(explain below for each parcel)*

_____ Relocatees have not been relocated from parcels ____, ____, ____, ____, ____, ____, and ____ *(explain below for each parcel)*

Parcel #	Name/Station	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 ____, ____, ____, ____, and ____. All have been acquired and are the responsibility of the project contractor to close/cap.

Form Effective Date: April 1, 2006
Last Revised: February 22, 2011

UTILITY NOTES TO BE INCLUDED IN THE PROPOSAL
SPECIAL NOTES FOR UTILITY
IMPACT ON CONSTRUCTION

JEFFERSON COUNTY, IM 71-1(101)
FD52 056 83725 01C
REPAIR AND GRIND PAVEMENT ON I-71
ITEM NO. 5-2053.00

Utility coordination efforts determined that no significant utility relocation work is required to complete the project. 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 contactor will be responsible for any coordination or adjustments that are discussed or quantified in the proposal.

Utility Information Note

Insight, Louisville Gas & Electric and AT&T-KY may have service in the general vicinity of the construction. However, there is no impact or adjustments required of their services.
These facilities are not to be disturbed due to construction.

Kentucky Transportation Cabinet There is existing electric service for lighting along the edge of the roadway. No impact or adjustments are expected.
These facilities are not to be disturbed due to construction.

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.

Jefferson County
FD52 056 83725 01C
Item Number 5-2053.00

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.

Utility Owners and Contact Person

For
Jefferson County

1.	LG&E KU (Electric) 820 West Broadway Louisville, KY 40202 LG&E Emergency Number (502) 589-1444 KU Emergency Number 1-800-331-7370	Greg Geiser work: (502) 627-3708 Greg.Geiser@lge-ku.com
2.	LG&E (Gas) 820 West Broadway Louisville, KY 40202 Emergency Number (502) 589-5511	Greg Geiser work: (502) 627-3708 Greg.Geiser@lge-ku.com
3.	Louisville Water Company 550 South Third Street Louisville, KY 40202	Daniel Tegene, PE (502) 569-3649 dtegene@lwcky.com
4.	AT&T KY 3719 Bardstown Road - 2nd Floor Louisville, KY 40218	Morgan Herndon morgan.herndon@att.com (502) 458-7312
5.	Metropolitan Sewer District 700 West Liberty Street Louisville, KY 40202 (502)	Steve Emly emly@msdlouky.org 540-6509 AND Brad Selch selchb@msdlouky.org (502) 540-6614 **Send to both contacts**

Jefferson County
FD52 056 83725 01C
Item Number 5-2053.00

6.	Insight Communications Company 4701 Commerce Crossings Dr. Louisville, KY 40229	Deno Barbour Cell: (502) 664-7395 barbour.d@insightcom.com
7.	Texas Gas Transmission Corporation 3800 Frederica Street Owensboro, KY 42302 (270) 688-6325	Tim Turner (270) 688-6461 tim.turner@bwpmlp.com
8.	Marathon Ashland Pipeline Company 1046 Pleasant Valley Rd. Owensboro, KY 42303	Jeff Erwin JAErwin@MAPLLC.com or JAErwin@MarathonOil.com (270) 926-5579
9.	Indiana Gas Company Inc d.b.a. Vectren Energy Delivery of Indiana, Inc or Ohio River Pipeline Corporation 2520 Lincoln Drive Clarksville, Indiana 47129	Mary Barber mbarber@vectren.com (812) 948-4952
	Line Maintained By Texas Gas Transmission, LLC 3800 Frederica Street Owensboro, Kentucky 42302 Cell: (270) 485-1152	Tim Turner (270) 688-6461 Tim.Turner@bwpmlp.com
10.	Indiana Utilities Corporation 123 West Chestnut Street Corydon, Indiana 47112 (812) 738-3235	Kevin Kinney Ron Timberlake Jackie Rogers iucjrogers@portative.net
11.	Sprint - Fiber Optics 11370 Enterprise Park Dr. Sharonville, OH 45241	Joe Thomas Joseph.J.Thomas@Sprint.com Office (513) 612-4204 Cell (937) 209-9754
12.	Mid-Valley Pipeline Company 4910 Limaburg Road Burlington, KY 41005	Todd Calfee (Richard) (859) 371-4469x14 (859) 630-8271 FAX (866) 699-1185 RTCALFEE@sunocologistics.com
13.	Level 3 Communications 848 S.8th St. Louisville, KY 40202	Kevin Webster Kevin.webster@level3.com (502) 777-8622
14.	Jefferson County Public Schools (JCPS) MIS Dept. 3332 Newburg Road Louisville, KY 40218	Bo Lowrey bo.lowrey@jefferson.kyschools.us Cell (502) 639-2311 (502) 485-3116
15.	Kentucky Data Link (KDL now Windstream)	Rick Cunico

Jefferson County
FD52 056 83725 01C
Item Number 5-2053.00

	Project Manager 3701 Communications Way Evansville, IN 47715	ph: (618) 648-2420 cell: (812) 760-6602 Fax: (812) 456-4731 (812) 759-7844(Maintenance) WCI.maintenance.south@windstream.com
16	AT&T Legacy 5390 Overbend Trail Suwanee, GA 30024	Scott Logeman Cell: (770) 335-8255 SL1213@att.com
17.	TW Telecom Medinger Tower 462 S. 4th St., Suite 210 Louisville, KY 40202	Jeremy Cornell Jeremy.cornell@TWTELECOM.com (502) 992-1168
	333 West Vine Street, Suite 330 Lexington, KY 40507	Gerald Long Gerald.Long@twtelecom.com (502) 719-2387
18.	City of Taylorsville Sewer & Water 70 Taylorsville Rd., P O Box 279 Taylorsville, KY 40071	Harold Compton hcompton@taylorsvillewater.org (502) 477-3235 Fax: (502) 477-1310
19.	Qwest Communications Company, LLC 700 W Mineral Ave, UTD2734 Littleton, Colorado 80120	George McElvain George.McElvain@qwest.com (303) 992-9931 Cell:720-260-2514 Fax:303-707-3252
20.	Shelby Energy Cooperative P.O. Box 311, 620 Old Finchville Road Shelbyville, KY 40065 (502) 633-4420	Jason Ginn Jason@shelbyenergy.com cell: 502-643-2778
21.	Atmos Energy 130 Stonecrest Road Suite105 (502) 633-2831 ext. 104 Shelbyville, KY 40065	Bernie Anderson cell: 502-321-8073 bernie.anderson@atmosenergy.com AND Earl Taylor Earl.taylor@atmosenergy.com Cell: 859-583-0306 Office: 859-236-2300

AIRPORT CONTACTS

Steve Stoker (502) 375-7360 – FFA Location Manager

Jefferson County
FD52 056 83725 01C
Item Number 5-2053.00

Jack Stauble (502) 664-9637 cell – FFA Location Technician

Chuck Hensley (502) 380-8356 EXT 356 – Construction Manager
Louisville Regional Airport Authority

Andy Hepfinger (502) 329-3706 – UPS Construction
Brian Knesco (502) 741-2922 – UPS Construction

Railroad Companies

1. **C.S.X. Transportation, Inc.**
Contacts:
David Hall, KY Liaison, (502) 815-1865
Milton Holder – crossings – cell (502) 817-2011
John Williams – crossings – cell (502) 376-8745, Office (502) 364-1133
Joe Malandruco (Florida) – signals (904) 245-1160

2. Norfolk - Southern Railway Company
Norfolk - Southern Railway Company (Roy Johnson to provide contact data)
Mr. J. N. Carter, Jr. Chief Engineer
Bridges and Structures
Norfolk Southern Corporation
1200 Peachtree Street
Atlanta, Georgia 30309

3. Paducah and Louisville Railway, Inc.
Gerald Gupton, Office: (270) 444-4386

KENTUCKY TRANSPORTATION CABINET

COMMUNICATING ALL PROMISES (CAP)

JEFFERSON COUNTY

5-2053.00

(NO CAPS INVOLVED IN PROJECT)

June 9, 2011

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.*

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(Effective with the July15, 2011 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 an 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.

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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.

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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.
SUBSECTION: **REVISION:**	103.02 Award of Contract. 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: **REVISION:**	105.02 Plans and Working Drawings. Insert the following after the fourth paragraph: Submit electrical shop drawings, design data, and descriptive literature for materials in electronic format to the Division of Traffic Operations for approval. Drawings and literature shall be submitted for lighting and signal components. Notify the Engineer when submitting information to the Division of Traffic Operations. Do not begin work until shop drawings are approved. Submit shop drawings for traffic counting equipment and materials in electronic format to the Engineer or the Division of Planning. Notify the Engineer when submitting information directly to the Division of Planning. Do not begin work until shop drawings are reviewed and approved.
SUBSECTION: **REVISION:**	105.03 Record Plans. 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.

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SUBSECTION: **REVISION:**	105.12 Final Inspection and Acceptance of Work. 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.
SUBSECTION: **REVISION:**	105.13 Claim Resolution Process. 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.

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SUBSECTION: **REVISION:**	106.04 Buy America Requirement. 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.
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.

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	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.
SUBSECTION: **REVISION:**	109.07.01 Liquid Asphalt. Add the following to the Adjustable Contract Items: • Stone Matrix Asphalt for Base • Stone Matrix Asphalt for Surface
SUBSECTION: **REVISION:**	110.01 Mobilization. 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: **REVISION:**	110.02 Demobilization. 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: **REVISION:**	110.04 Payment. 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.

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SUBSECTION: **REVISION:**	112.03.01 General Traffic Control. 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: **PART:** **REVISION:**	112.03.11 Temporary Pavement Markings. B) Placement and Removal of Temporary Striping. 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: **REVISION:**	112.03.12 Project Traffic Coordinator (PTC). 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.
SUBSECTION: **REVISION:**	112.03.15 Non-Compliance of Maintain and Control of Traffic. 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.

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	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 work that occupies a location for more than 1 hour within a single 24-hour 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.
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. Replace the last sentence of the second paragraph with the following: Initiate corrective action within 24 hours of any noted deficiency and complete the work within 7 calendar days of receipt of the report. The Contractor shall make a concentrated effort to complete any corrective action required prior to the next predicted rainfall event. 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 7calendar days of receipt of the report. The Contractor shall make a concentrated effort to complete any corrective action required prior to the next predicted rainfall event.

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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.
SUBSECTION: **REVISION:**	401.02.04 Special Requirements for Dryer Drum Plants. 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: **REVISION:**	401.03.01 Preparation of Mixtures. Replace the last sentence of the second paragraph with the following: Do not use asphalt binder while it is foaming in a storage tank.

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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.

SUBSECTION 402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval.
REVISION: 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: 402.05.02 Asphalt Mixtures and Mixtures With RAP.
REVISION: Replace Subsection Title as below:

402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.

SUBSECTION: 402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
REVISION: 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.

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SUBSECTION: 402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
PART: C) Conventional and RAP Mixtures Placed on Shoulders.
REVISION: Replace Title and Text with the following:

C) HMA, WMA and RAP Mixtures Placed on Shoulders or Placed as Asphalt Pavement Wedge.

1) Placed monolithically with the Mainline – Width of 4 feet or less. The Department will pay as mainline mixture.
2) Placed monolithically with the Mainline – Width of greater than 4 feet. The Department will pay as mainline mixture but use 1.00 for the Lane and Joint Density Pay Value for shoulder or Asphalt Pavement Wedge quantities.
3) Placed Separately. The Department will use 1.00 for the Lane and Joint Density Pay Value.

SUBSECTION: 402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
PART: D) Conventional and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge.
REVISION: Replace the title with the following:
D) HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge.

Delete the following:
D) HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge. The Department will pay as mainline mixture but use a 1.00 pay value for all properties.

SUBSECTION: 402.05.02 Asphalt Mixtures for Temporary Pavement.
PART: E) Asphalt Mixtures for Temporary Pavement.
REVISION: Replace E) Asphalt Mixtures for Temporary Pavement with the following:

D) Asphalt Mixtures for Temporary Pavement.

SUBSECTION: 402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
PART: Lot Pay Adjustment Schedule, Compaction Option A, Base and Binder 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 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.

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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 bel w min.
0.9	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.

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.

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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.

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.

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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.

SUBSECTION: 505.04.04 Detectable Warnings.
REVISION: 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: 505.05 PAYMENT.
REVISION: Add the following to the bid item table:

Code	Pay Item	Pay Unit
23158ES505	Detectable Warnings	Square Foot

SUBSECTION: 509.01 DESCRIPTION.
REVISION: 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.)

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SUBSECTION: **REVISION:**	601.03.02 Concrete Producer Responsibilities. Replace the first sentence with the following: Obtain the concrete from producers that are in compliance with KM 64-323 and on the Department's List of Approved Materials. 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: **PART:** **REVISION:**	601.03.02 Concrete Producer Responsibilities. B) Certified Personnel. Replace the second sentence with the following: Ensure that the concrete technicians are certified as ACI Level I (Level I) and KRMCA Level II (Level II).
SUBSECTION: **PART:** **REVISION:**	601.03.02 Concrete Producer Responsibilities. C) Quality Control. Replace the second sentence with the following: Ensure that the Level II concrete technician is present when work is in progress and is responsible for inspecting trucks, batch weight calculations, monitoring batching, making mixture adjustments, reviewing the slump, air content, unit weight, temperature, and aggregate tests, all to provide conforming concrete to the project.
SUBSECTION: **PART:** **REVISION:**	601.03.02 Concrete Producer Responsibilities. D) Producer Testing. Replace with the following: When producing for state work, have a Qualified Concrete Aggregate Technician or KYTC Qualified Aggregate Technician perform, at a minimum, weekly gradations and minus 200 wash tests and daily moisture contents of coarse and fine aggregate (Fine aggregates will not require a minus 200 wash test). Using the daily moisture contents, adjust the approved mix design accordingly prior to production. Ensure that the Level II concrete technician is present when work is in progress and is responsible for inspecting trucks, batch weight calculations, monitoring batching, making mixture adjustments, reviewing the slump, air content, unit weight, temperature, and aggregate tests, all to provide conforming concrete to the project.
SUBSECTION: **PART:** **REVISION:**	601.03.02 Concrete Producer Responsibilities. E) Trip Tickets. Replace the second sentence with the following: Include on the trip ticket the Sample ID for the approved mix design and a statement certifying that the data on the ticket is correct and that the mixture conforms to the mix design.
SUBSECTION: **PART:** **NUMBER:** **REVISION:**	601.03.03 Proportioning and Requirements. C) Mixtures Using Type IP, IS, and I(SM) Cement or Mineral Admixtures 2) Mineral Admixtures. Replace the second sentence with the following: Reduction of the total cement content by a combination of mineral admixtures will be allowed, up to a maximum of 40 percent.

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SUBSECTION: **PART:** **NUMBER:** **LETTER:** **REVISION:**	601.03.03 Proportioning and Requirements. C) Mixtures Using Type IP, IS, and I(SM) Cement or Mineral Admixtures 2) Mineral Admixtures. a) Fly Ash. Delete the last sentence of the third paragraph.
SUBSECTION: **PART:** **NUMBER:** **LETTER:** **REVISION:**	601.03.03 Proportioning and Requirements. C) Mixtures Using Type IP, IS, and I(SM) Cement or Mineral Admixtures 2) Mineral Admixtures. b) Ground Granulated Blast Furnace Slag (GGBF Slag). Delete the second sentence of the third paragraph.
SUBSECTION: **PART:** **REVISION:**	601.03.03 Proportioning and Requirements. E) Measuring. Add the following sentence: Conform to the individual ingredient material batching tolerances in Appendix A.
SUBSECTION: **PART:** **REVISION:**	601.03.09 Placing Concrete. A) General. Replace the last sentence of the fourth paragraph with the following: Do not use aluminum or aluminum alloy troughs, pipes, or chutes that have surface damage or for lengths greater than 20 feet. Replace the second sentence of the fifth paragraph with the following: When pumping, equip the delivery pipe with a nozzle, having a minimum of 2 right angles, at the discharge end. Alternate nozzles or restriction devices may be allowed with prior approval by the Engineer.
SUBSECTION: **REVISION:**	605.02.05 Forms. Delete the last sentence.
SUBSECTION: **REVISION:**	605.03.04 Tack Welding. Replace with the following: The Department does not allow tack welding.
SUBSECTION: **REVISION:**	606.02.11 Coarse Aggregate. Replace with the following: Conform to Section 805, size No. 8 or 9-M.
SUBSECTION: **PART:** **REVISION:**	609.03.04 Expansion and Fixed Joints. D) Preformed Neoprene Joint Seals. Replace the last sentence of paragraph seven with the following: Field splices will not be allowed during partial width construction. It is Contractor's responsibility to determine and install the length of seal required for the joint to barrier wall as per the standard drawing.
SUBSECTION: **REVISION:**	609.03.09 Finish with Burlap Drag. Delete the entire section.
SUBSECTION: **REVISION:**	609.04.06 Joint Sealing. Replace Subsection 601.04 with the following: Subsection 606.04.08.

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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.
SUBSECTION: **REVISION:**	701.03.08 Testing of Pipe. 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: **REVISION:**	701.04.07 Testing. 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.

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SUBSECTION:
REVISION:

701.05 PAYMENT.

Add the following pay item to the list of pay items:

Code	Pay Item	Pay Unit
23131ER701	Pipeline Video Inspection	Linear Foot

SUBSECTION:
TABLE:
REVISION:

701.05 PAYMENT

PIPE DEFLECTION DETERMINED BY CAMERA TESTING

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:
TABLE:
REVISION:

701.05 PAYMENT

PIPE DEFLECTION DETERMINED BY MANDREL TESTING

Delete this table.

SUBSECTION:
REVISION:

713.02.01 Paint.

Replace with the following:

Conform to Section 842 and Section 846.

SUBSECTION:
REVISION:

713.03 CONSTRUCTION.

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:
REVISION:

713.03.03 Paint Application.

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:
REVISION:

713.03.04 Marking Removal.

Replace the last sentence of the paragraph with the following:

Vacuum all marking material and removal debris concurrently with the marking removal operation.

SUBSECTION:
REVISION:

713.05 PAYMENT.

Insert the following codes and pay items below the Pavement Striping – Permanent Paint:

Code	Pay Item	Pay Unit
24189ER	Durable Waterborne Marking – 6 IN W	Linear Foot
24190ER	Durable Waterborne Marking – 6 IN Y	Linear Foot
24191ER	Durable Waterborne Marking – 12 IN W	Linear Foot

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SUBSECTION: **REVISION:**	714.03 CONSTRUCTION. 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.
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 last two sentences of the paragraph with the following: Submit for material approval an electronic file of descriptive literature, drawings, and any requested design data to the Division of Traffic Operations. Do not begin work until shop drawings are approved. Notify the Engineer when submitting any information to the Division of Traffic Operations. Do not make substitutions for approved materials without written permission as described above.
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.

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SUBSECTION: 717.03.05 Proving Period.
PART: A) Requirements.
REVISION: 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.

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: 801.01 REQUIREMENTS.
REVISION: Delete the fourth sentence of the first paragraph and add the following to the second paragraph.

When supplying cement with a SO_3 content above the value in table I of ASTM C 150, include supportive ASTM C 1038 14-day expansion test data for the supplied SO_3 content on the certification.

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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:	Delete footnote (1) The permissible lightweight particle content of gravel coarse aggregate for reinforced concrete box culvert sections, concrete pipe, pipe arches, or for use only in concrete that will be permanently protected from freezing by 2 feet or more of cover is 10.0 percent.
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"

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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 July15, 2011 Letting)

SUBSECTION: 805.16 SAMPLING AND TESTING.
REVISION: 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: 810.04.01 Coating Requirements.
REVISION: Replace the "Subsection 806.07" references with "Subsection 806.06"

SUBSECTION: 810.06.01 Polyvinyl Chloride (PVC) Pipe.
PART: B) Culvert and Entrance Pipe.
REVISION: Replace the title with the following:

B) Culvert Pipe, Storm Sewer, and Entrance Pipe.

SUBSECTION: 823.02 LIQUID MEMBRANE FORMING COMPOUNDS.
REVISION: Add the following:

Effective July 1, 2011, to remain on or be added to the Department's approved list, products must have completed testing or been submitted for testing through the National Transportation Product Evaluation Program (NTPEP) for Concrete Curing Compounds.

SUBSECTION: 837.03 APPROVAL.
REVISION: 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: 837.03.01 Composition.
REVISION: COMPOSITION Table:

Replace

Lead Chromate	0.0 max.	4.0 min.

with

Heavy Metals Content	Comply with 40 CFR 261

SUBSECTION: 842.02 APPROVAL.
TABLE: PAINT COMPOSITION
REVISION: Revise the following in the table:

Replace the 2.0ΔE* values in the table with 4.0ΔE* for both Yellow and White Paint on both the Daytime and Nighttime Color Spectrophotometer.

SECTION: DIVISION 800 MATERIAL DETAILS
REVISION: 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

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(Effective with the July15, 2011 Letting)

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.

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 allowa le variation 4.0ΔE*	L* 93.51 a* -1.01 b* 0.70 Maximum allowable variation 4.0ΔE*
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 4.0ΔE*	L* 93.45 a* -0.79 b* 0.43 Maximum allowable variation 4.0ΔE*
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 l /gal ma .
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%

Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2008 Edition

(Effective with the July15, 2011 Letting)

APPENDIX A:	TABLUATION OF CONSTRUCTION TOLERANCES.
PART:	601.03.03
REVISION:	Replace with the following:
	Concrete accuracy of individual ingredient material for each batch. ± 2.0% for aggregates ± 1.0% for water ± 1.0% for cement in batches of 4 cubic yards or greater ± 1.0% for total cementitious materials in batches of 4 cubic yards or greater 0.0% to + 4.0% for cement in batches less than 4 cubic yards 0.0% to + 4.0% for total cementitious materials in batches less than 4 cubic yards ± 3.0% for admixtures
APPENDIX A:	TABLUATION OF CONSTRUCTION TOLERANCES.
PART:	601.03.03 C) 2)
REVISION:	Delete

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SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

2.1 General. Use LED 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.

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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

10W

SPECIAL NOTE FOR WATERBLASTING STRIPING REMOVAL

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. Remove pavement striping, temporary or permanent, from asphalt or concrete pavement using ultra-high pressure water.

2.0 MATERIALS AND EQUIPMENT.

2.1 Truck Mounted Ultra-high Pressure Pump and Water Tank. Use a truck having a separate hydrostatic transmission capable of speed increments of ±1 foot per minute at operator's discretion. Use a pump capable of delivering a minimum of 30,000 psi to a bumper mounted deck containing an operator controlled rotating manifold that is speed variable up to at least 3,000 rpm and accepts interchangeable waterjet nozzles. Provide all necessary waterjet nozzle setups and patterns to ensure clean sufficient removal. Ensure the deck's discharge directs the water and removal material in a manner that is not hazardous to vehicles or pedestrians.

2.2 Water. Conform to Section 803.

3.0 CONSTRUCTION. Before starting work, provide the Engineer with a contractor work history of 2 projects where striping removal was completed acceptably for a similar type of pavement. If no history is available, complete 1,000 linear feet of striping removal and obtain the Engineer's approval before continuing.

Conduct striping removal under lane closures meeting the conditions of the MUTCD and Kentucky Standard Drawings and Specifications. Waterblast to remove temporary or permanent striping completely as the Engineer directs. Do not damage the pavement in any way and protect all joint seals. If damage is observed, stop the removal process until the operator can make changes and demonstrate acceptable striping removal. Repair any damage to the pavement. Vacuum all marking material and removal debris concurrently with the blasting operation.

4.0 MEASUREMENT. The Department will measure the quantity in linear feet. When the removal area's width exceeds 8 inches and a second pass is required, the Department will measure the length of the additional pass for Payment. The Department will not measure for payment additional passes for widths of 8 inches or less or passes to further eradicate markings. The Department will not measure repair of damaged pavement for payment and will consider it incidental to this item of work.

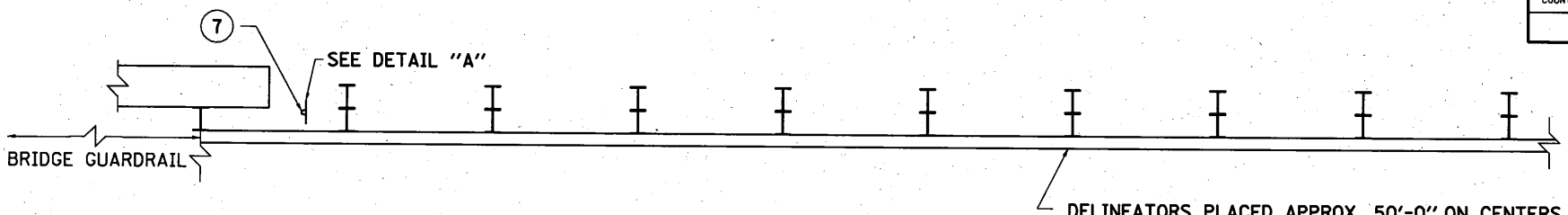
5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

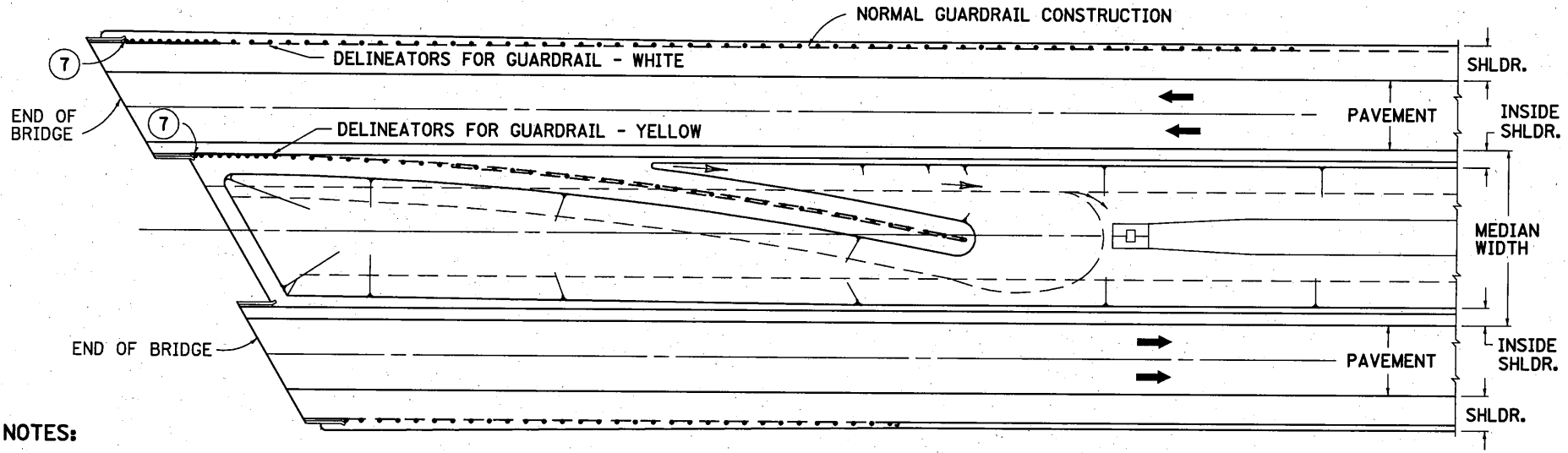
Code	Pay Item	Pay Unit
----	Waterblast Stripe Removal	Linear Foot

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

January 1, 2008

COUNTY OF	ITEM NO.	SHEET NO.





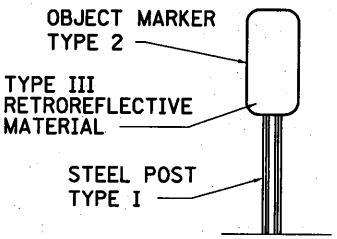
NOTES:

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
	DELINEATORS ON CONCRETE BARRIERS	
1984	DELINEATOR FOR BARRIER - WHITE	EACH
1985	DELINEATOR FOR BARRIER - YELLOW	EACH
	DELINEATORS ON GUARDRAIL	
1982	DELINEATOR FOR GUARDRAIL - WHITE	EACH
1983	DELINEATOR FOR GUARDRL - YELLOW	EACH

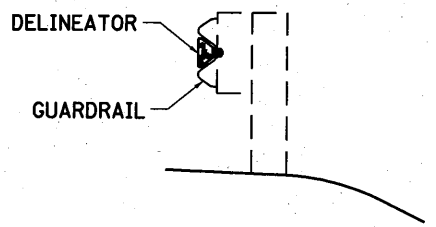
3. THE DELINEATORS SHALL BE YELLOW IN COLOR WHEN THE BARRIER IS PLACED IN THE MEDIAN AND/OR ON THE LEFT SIDE OF THE DRIVING LANE. THE DELINEATORS SHALL BE WHITE IN COLOR WHEN THE BARRIER IS PLACED ON THE RIGHT SIDE OF THE DRIVING LANE.
4. DELINEATORS SHALL BE APPLIED 300 FEET IN ADVANCE OF AND THROUGHOUT THE LENGTH OF ALL BRIDGES THAT DO NOT HAVE FULL WIDTH SHOULDERS. SPACING ON BRIDGES AND 300 FEET IN ADVANCE OF BRIDGES SHALL BE 50 FEET ON CENTERS. THE FIRST DELINEATOR ON THE GUARDRAIL SHALL BE PLACED 50 FEET FROM THE DELINEATOR AT THE END OF THE BRIDGE. DELINEATORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. WHEN CONCRETE BARRIERS EXTEND ACROSS NARROW SHOULDER WIDTH 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.
6. GUARDRAIL DELINEATORS MAY BE AKT CORPORATIONS MODEL NO. 567 MONO-DIRECTIONAL OR APPROVED EQUAL.

(7) SEE SECTION 718 OF THE CURRENT STANDARD SPECIFICATIONS FOR "OBJECT MARKER TYPE 2".



OBJECT MARKER TYPE 2
AND
STEEL POST TYPE I

DETAIL "A" (7)



ELEV. VIEW

PRIMARY USE:
(PAVEMENT REHABILITATION PROJECTS)

KENTUCKY
DEPARTMENT OF HIGHWAYS

DELINEATORS AT NARROW SHOULDER BRIDGES

SUBMITTED _____ 10-28-04
BRM DIRECTOR OF DIVISION — DATE

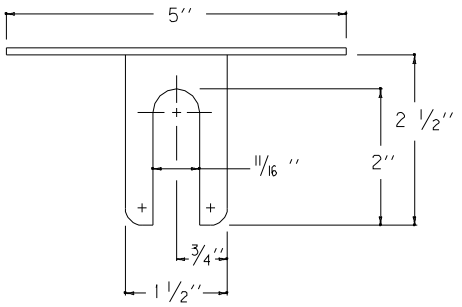
COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS

NOTES

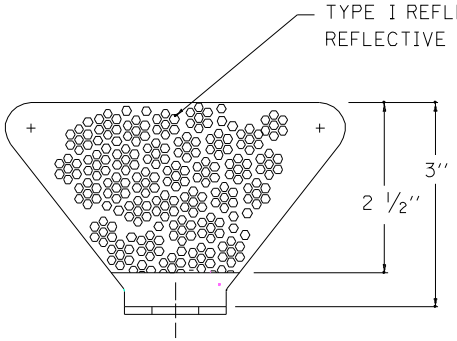
1. DELINEATOR SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR ONE COMPLETE INSTALLATION.
2.

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

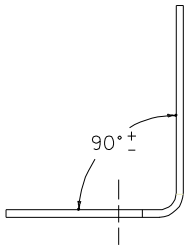
3. GUARDRAIL DELINEATORS SHALL BE REQUIRED ON ALL ROADWAYS WITH SHOULDERS 6'-0" IN WIDTH OR LESS AND AT OTHER LOCATIONS WHERE THE GUARDRAIL LEADS INTO HORIZONTAL CURVES OF LESS THAN 950 FEET RADIUS.
4. DELINEATORS SHALL BE MANUFACTURED FROM 12 GA. GALVANIZED STEEL.
5. DIMENSIONS SHOWN ARE APPROXIMATE 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.



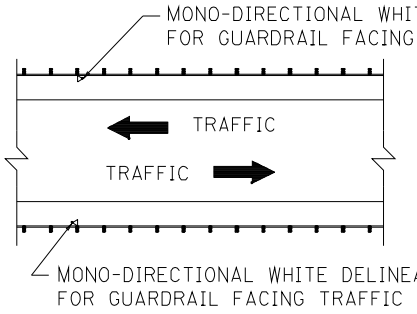
PLAN VIEW

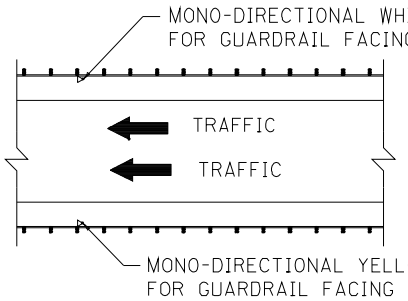


FRONT VIEW

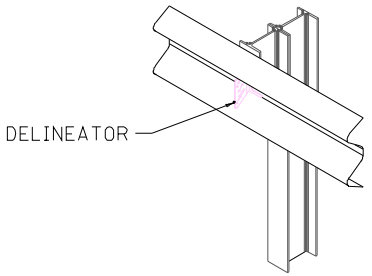


SIDE VIEW

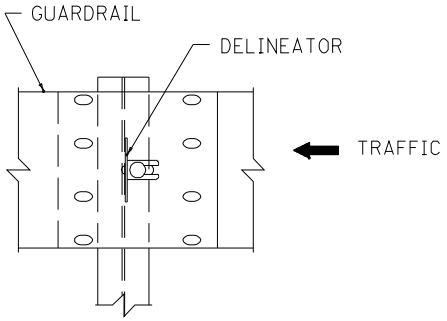




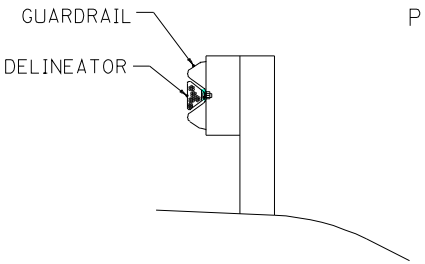
PLACEMENT OF DELINEATORS
FOR GUARDRAIL



ISOMETRIC VIEW



FRONT VIEW



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

SPACING ON TANGENTS = 100' INTERVALS

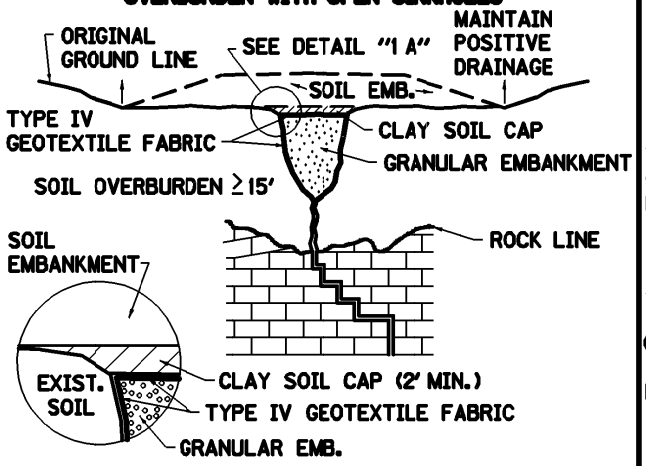
KENTUCKY DEPARTMENT OF HIGHWAYS

DELINEATORS
FOR GUARDRAIL

SUBMITTED William S. Gulick 12-1-99
TEBM DIVISION OF DESIGN — DATE

COUNTY OF	ITEM NO.	SHEET NO.

CONDITION NO. 1: SOIL EMBANKMENT OVER DEEP OVERBURDEN WITH OPEN SINKHOLES

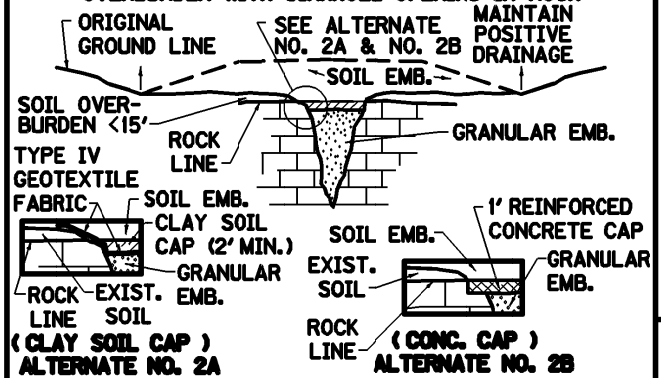


DETAIL "1 A"

PROCEDURE:

a. REMOVE DEBRIS. DO NOT EXCAVATE SOIL OVERBURDEN.
b. LINE OPENING WITH TYPE IV GEOTEXTILE FABRIC.
c. REFILL WITH GRANULAR EMBANKMENT.
d. PLACE TYPE IV GEOTEXTILE FABRIC ON TOP OF GRANULAR EMBANKMENT.
e. REFILL WITH (2' MINIMUM) CLAY SOIL CAP.

CONDITION NO. 2: SOIL EMBANKMENT OVER SHALLOW OVERBURDEN WITH SINKHOLE OPENING IN ROCK



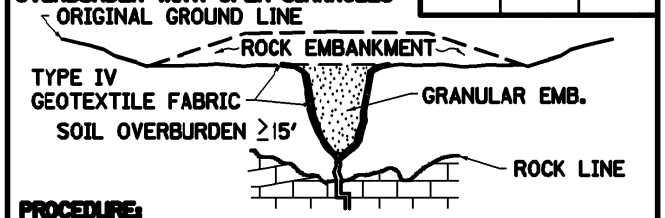
PROCEDURE FOR ALTERNATE NO. 2A

a. REMOVE DEBRIS AND SOIL OVERBURDEN.
b. REFILL OPENING WITH GRANULAR EMBANKMENT TO 2' MIN. BELOW ROCK LINE.
c. PLACE TYPE IV GEOTEXTILE FABRIC ON TOP OF GRANULAR EMB. OVERLAPPING ORIG. GROUND LINE.
d. REFILL WITH (2' MIN.) CLAY SOIL CAP.

PROCEDURE FOR ALTERNATE NO. 2B

a. REMOVE DEBRIS AND SOIL OVERBURDEN.
b. REFILL OPENING WITH GRANULAR EMBANKMENT TO 1' MIN. BELOW ROCK LINE.
c. CONST. 1' REINFORCED CONC. CAP. CAP SHOULD BE INTERLOCKED WITH ROCK FOR SUPPORT.

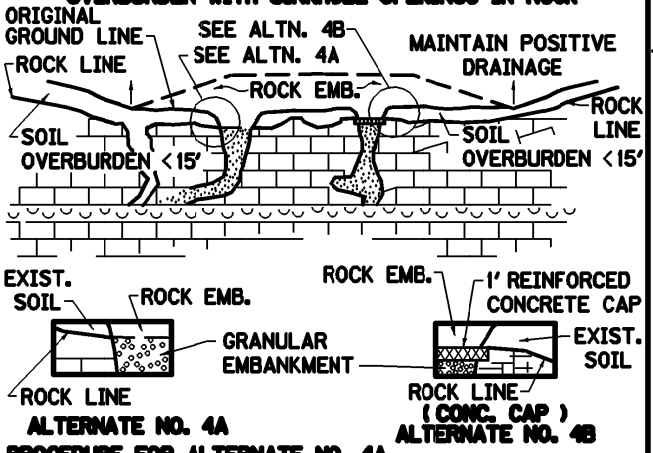
CONDIT. NO. 3: ROCK EMB. OVER DEEP OVERBURDEN WITH OPEN SINKHOLES



PROCEDURE:

a. REMOVE DEBRIS. DO NOT EXCAVATE SOIL OVERBURDEN.
b. LINE OPENING WITH TYPE IV GEOTEXTILE FABRIC.
c. REFILL OPENING WITH GRANULAR EMBANKMENT. TO TOP OF DEPRESSION.

CONDITION NO. 4: ROCK EMBANKMENT OVER SHALLOW OVERBURDEN WITH SINKHOLE OPENINGS IN ROCK



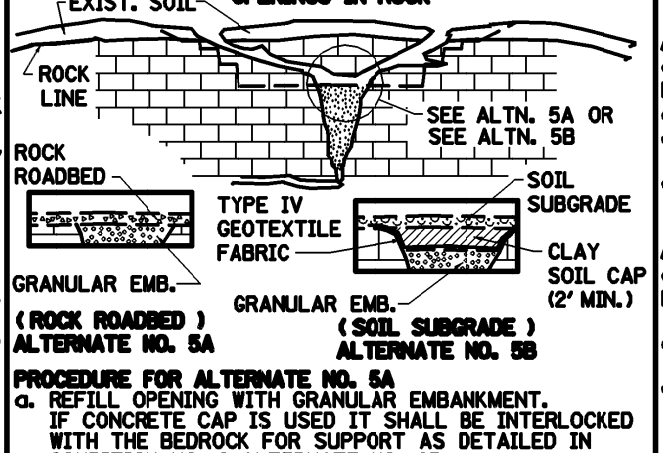
PROCEDURE FOR ALTERNATE NO. 4A

a. REMOVE DEBRIS AND SOIL OVERBURDEN.
b. REFILL OPENING TO ROCK LINE WITH GRANULAR EMBANKMENT.

PROCEDURE FOR ALTERNATE NO. 4B

a. REMOVE DEBRIS AND SOIL OVERBURDEN.
b. REFILL OPENING WITH GRANULAR EMBANKMENT TO 1' MIN. BELOW ROCK LINE.
c. CONST. 1' REINFORCED CONC. CAP. CAP SHOULD BE INTERLOCKED WITH ROCK FOR SUPPORT.

CONDITION NO. 5: CUT SECTIONS WITH SINKHOLE OPENINGS IN ROCK



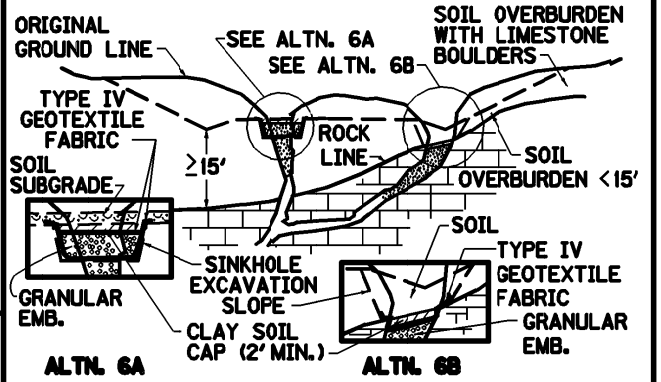
PROCEDURE FOR ALTERNATE NO. 5A

a. REFILL OPENING WITH GRANULAR EMBANKMENT. IF CONCRETE CAP IS USED IT SHALL BE INTERLOCKED WITH THE BEDROCK FOR SUPPORT AS DETAILED IN CONDITION NO. 2 ALTERNATE NO. 2B.

PROCEDURE FOR ALTERNATE NO. 5B

a. REFILL OPENING WITH GRANULAR EMBANKMENT. TO 2' MINIMUM BELOW SOIL SUBGRADE.
b. PLACE TYPE IV GEOTEXTILE FABRIC OVER GRANULAR EMBANKMENT.
c. REFILL WITH (2' MIN.) CLAY SOIL CAP. IF CONCRETE CAP IS USED THE FABRIC SHALL BE OMITTED AND CAP SHALL BE INTERLOCKED WITH THE BEDROCK FOR SUPPORT AS DETAILED IN COND. NO. 2 ALTERNATE NO. 2B.

CONDITION NO. 6: CUT SECTIONS WITH SINKHOLE OPENINGS IN SOIL



ALTERNATE NO. 6A SOIL OVERBURDEN GREATER THAN 15'

a. REMOVE DEBRIS. DO NOT EXCAVATE SOIL OVERBURDEN.
b. LINE OPENING WITH TYPE IV GEOTEXTILE FABRIC.
c. REFILL WITH GRANULAR EMB.
d. PLACE TYPE IV GEOTEXTILE FABRIC OVER GRANULAR EMBANKMENT OVERLAPPING ORIG. GROUND LINE.
e. REFILL WITH (2' MIN.) CLAY SOIL CAP. IF ROCK SUB-GRADE IS USED OMIT SOIL CAP AND FABRIC UNDER-LYING SOIL CAP.

ALTERNATE NO. 6B SOIL OVERBURDEN LESS THAN 15'

a. REMOVE DEBRIS AND SOIL OVERBURDEN.
b. REFILL OPENING WITH GRANULAR EMBANKMENT TO 2' MIN. BELOW ROCK LINE.
c. PLACE TYPE IV GEOTEXTILE FABRIC OVER GRANULAR EMB. OVERLAPPING ORIG. GROUND LINE.
d. REFILL WITH (2' MIN.) CLAY SOIL CAP. IF CONCRETE CAP IS USED THE FABRIC SHALL BE OMITTED AND CAP SHALL BE INTERLOCKED WITH THE BEDROCK FOR SUPPORT AS DETAILED IN COND. NO. 2 ALTERNATE NO. 2B.

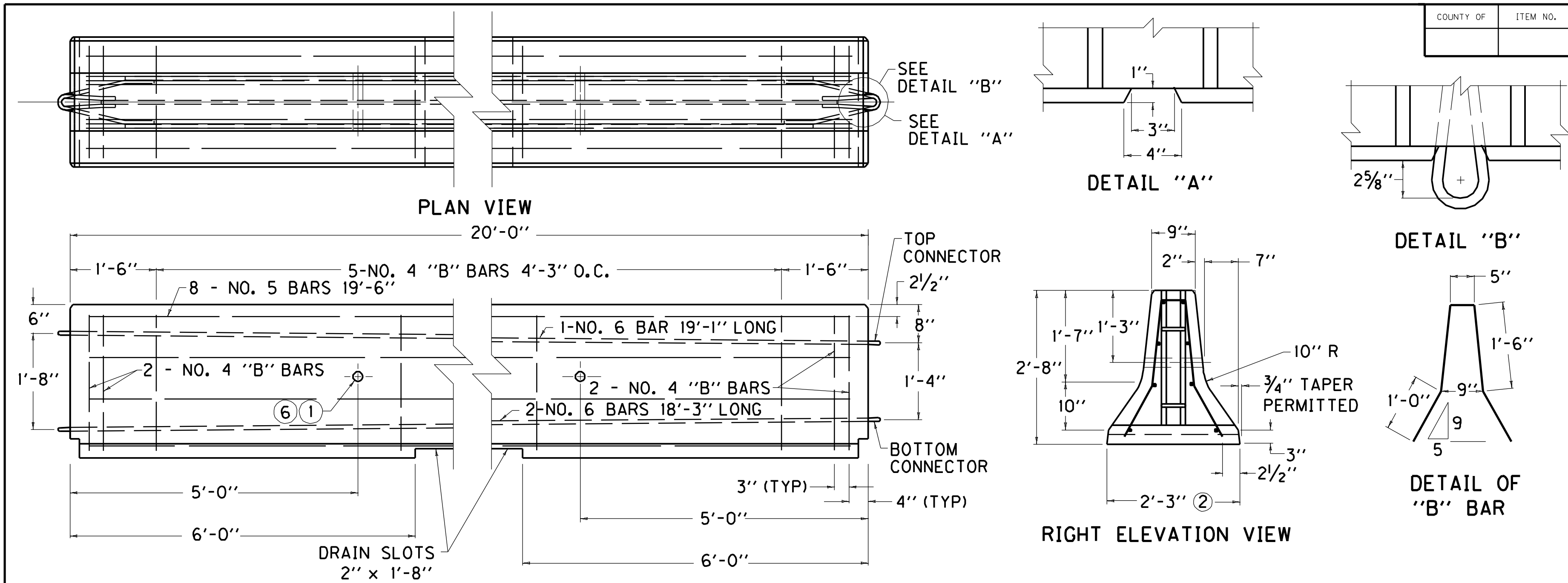
THE CONC. CAP SHALL BE CLASS "B" CONC. AND CONTAIN NO. 8 REINFORCING BARS PLACED AT 12" CTRS. IN BOTH DIRECTIONS AND LOCATED 3" FROM THE BOTTOM SURFACE OF THE CAP.

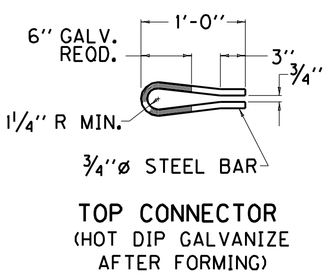
KENTUCKY DEPARTMENT OF HIGHWAYS

TREATMENT OF OPEN SINKHOLES

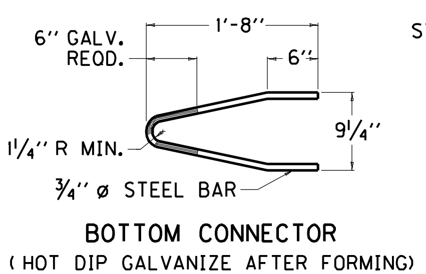
SUBMITTED _____ TEBM DIVISION OF DESIGN 12-1-99 DATE

COUNTY OF	ITEM NO.	SHEET NO.

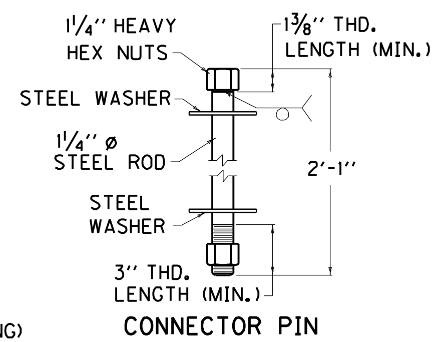




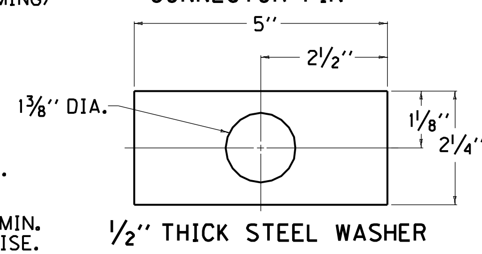
TOP CONNECTOR
(HOT DIP GALVANIZE AFTER FORMING)



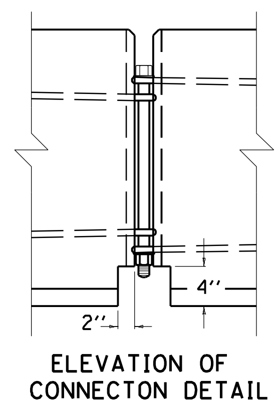
BOTTOM CONNECTOR
(HOT DIP GALVANIZE AFTER FORMING)



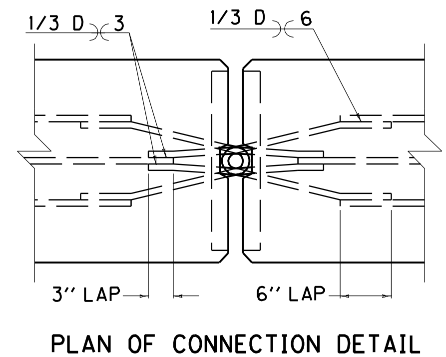
CONNECTOR PIN



½" THICK STEEL WASHER



ELEVATION OF CONNECTON DETAIL



PLAN OF CONNECTION DETAIL

~ 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. ① ⑥

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 [signature] TEBM/DIVISION OF DESIGN
04-15-08
DATE

004

COUNTY OF	ITEM NO.	SHEET NO.

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 _____ TEBM DIVISION OF DESIGN 04-25-08 DATE

SHEET 1 OF 8

COUNTY OF	ITEM NO.	SHEET NO.

PIPE DIA. (IN)	PIPE TYPE	CIRCULAR PIPE COVER HEIGHTS IN FEET (3)												
		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
27 & 30 (8)	2⅔"x½" CSPHS (1)	16 GA.								14 GA.			12 GA.	
	2⅔"x½" CSPLS (1)	16 GA.				12 GA.								
	2⅔"x½" CAPHS	14 GA.								12 GA.			10 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 (10)													
36	2⅔"x½" CSPHS (1)	14 GA.									12 GA.		10 GA.	
	2⅔"x½" CSPLS (1)	14 GA.		12 GA.		10 GA.								
	2⅔"x½" CAPHS	14 GA.						12 GA.			10 GA.		8 GA.	
	SRS (1)	14 GA.								12 GA.				
	SRA	14 GA.				12 GA.				10 GA.				
	PVC	RIBBED (PROFILE WALL)												
	HDPE					FF								
	RCP (10)													
42	2⅔"x½" CSPHS (1)	14 GA.								12 GA.			10 GA.	
	2⅔"x½" CSPLS (1)	14 GA.					12 GA.			10 GA.				
	2⅔"x½" CAPHS	12 GA.								10 GA.		8 GA.		
	SRS (1)	14 GA.						12 GA.						
	SRA	12 GA.					10 GA.							
	PVC	RIBBED (PROFILE WALL)												
	HDPE													
	RCP (10)													
		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

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

NOTES CONTINUED

(10) 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.

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) SEE CURRENT STANDARD DRAWING RDI-001 FOR EXPLANATION OF COVER HEIGHTS LESS THAN 2 FEET.

4. CSP, CAP, SRS AND SRA ARE SHOWN IN GAGE.

5. MAXIMUM COVER HEIGHT MEASURED FROM TOP OF PIPE TO SUB GRADE ELEVATION SHALL GOVERN GAGE OF PIPE TO BE USED FOR ENTIRE LENGTH OF PIPE INSTALLATION.

6. MINIMUM COVER HEIGHT FOR ENTRANCE PIPE SHALL BE 0.5 FEET.

7. ALL CIRCULAR STRUCTURAL PLATE SHALL BE 5% VERTICALLY ELONGATED.

(8) ENTRANCE PIPE GREATER THAN 30" DIA. SHALL BE CULVERT PIPE.

9. SEE CURRENT STANDARD DRAWING RDI-035 FOR COATINGS, LININGS AND PAVINGS FOR NON-STRUCTURAL PIPE.

27" PIPE - 42" PIPE

KENTUCKY DEPARTMENT OF HIGHWAYS

CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS

APPROVED _____ TEBM, DIVISION OF DESIGN 04-25-08 DATE

COUNTY OF	ITEM NO.	SHEET NO.

PIPE DIA. (IN)	PIPE TYPE	CIRCULAR PIPE COVER HEIGHTS IN FEET (3)																						
		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	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120
48	2⅔"x½" CSPHS (1)	14 GA.							12 GA.		10 GA.														
	2⅔"x½" CSPLS (1)	14 GA.				12 GA.																			
	2⅔"x½" CAPHS	12 GA.							10 GA.		8 GA.														
	SRS (1)	14 GA.						12 GA.																	
	SRA	12 GA.						10 GA.																	
	PVC	RIBBED (PROFILE WALL)																							
	HDPE																								
	RCP (9)																								
54 (7)	2⅔"x½" CSPHS (1)	14 GA.						12 GA.							10 GA.										
	2⅔"x½" CSPLS (1)	14 GA.				12 GA.																			
	3"x1" CSPHS (1)	14 GA.							12 GA.						10 GA.										
	3"x1" CSPLS (1)	14 GA.				12 GA.		10 GA.			8 GA.														
	5"x1" CSPHS (1)	14 GA.						12 GA.							10 GA.										
	2⅔"x½" CAPHS	12 GA.					10 GA.				8 GA.														
	3"x1" CAPHS	14 GA.					12 GA.		10 GA.						8 GA.										
	SRS (1)	14 GA.				12 GA.																			
	SRA	12 GA.				10 GA.																			
	RCP (9)																								
		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	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120

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) SEE CURRENT STANDARD DRAWING RDI-001 FOR EXPLANATION OF COVER HEIGHTS LESS THAN 2 FEET.

4. CSP, CAP, SRS AND SRA ARE SHOWN IN GAGE.

5. 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.

6. ALL CIRCULAR STRUCTURAL PLATE SHALL BE 5% VERTICALLY ELONGATED.

(7) 54" DIA. PIPE IS MINIMUM SIZE FOR COVER HEIGHTS GREATER THAN 65 FEET.

8. SEE CURRENT STANDARD DRAWING RDI-035 FOR COATINGS, LININGS AND PAVINGS FOR NON-STRUCTURAL PIPE.

(9) 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

48" PIPE - 54" PIPE

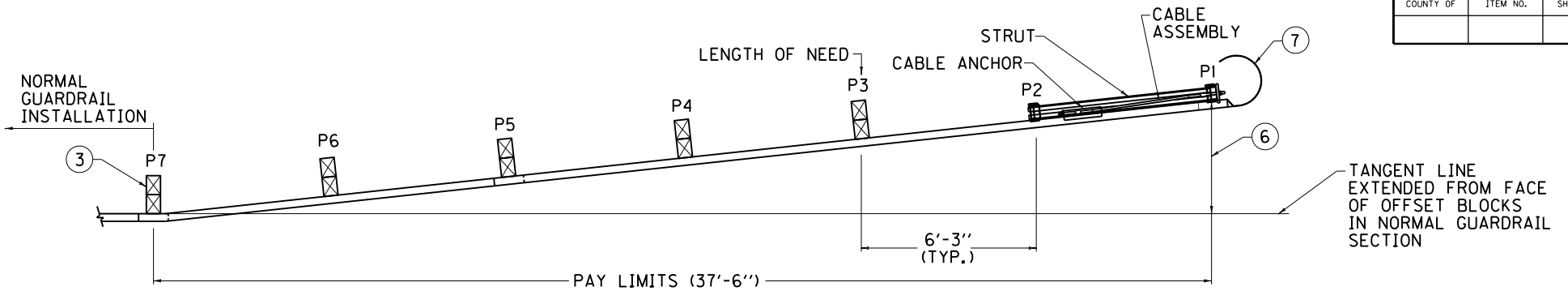
KENTUCKY DEPARTMENT OF HIGHWAYS

CULVERT & STORM SEWER PIPE TYPES & COVER HEIGHTS

APPROVED _____ TEBM DIVISION OF DESIGN 04-25-08 DATE

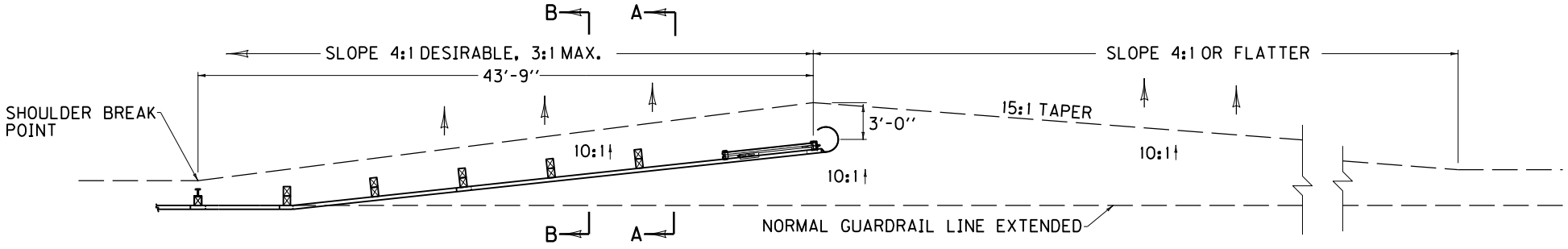
SHEET 3 OF 8

COUNTY OF	ITEM NO.	SHEET NO.

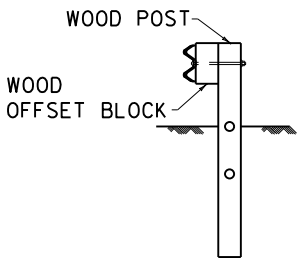


PLAN VIEW

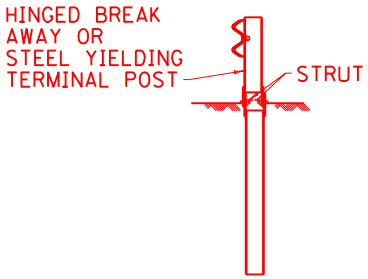
TRAFFIC



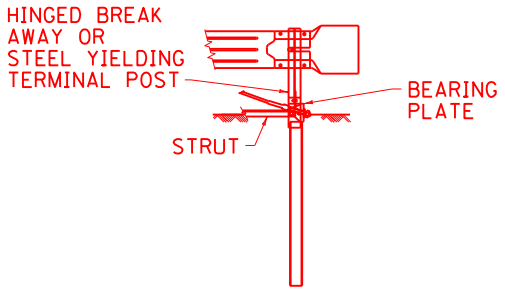
SLOPE LAYOUT AND GRADING DETAIL



SECTION B-B
(POSTS P3 THRU P7)



SECTION A-A
(POST P2)



ENLARGED VIEW P1

1. BID ITEMS AND UNIT TO BID:
   A. GUARDRAIL END TREATMENT TYPE 4A - EACH
   B. MATERIAL USED TO CONSTRUCT WIDENING SHALL BE BID AS ROADWAY OR BORROW EXCAVATION OR EMBANKMENT-IN-PLACE AT THE CONTRACT UNIT PRICE PER CUBIC YARD.
2. INTENDED USE: AREAS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND GUARDRAIL.
3. POST P7 SHALL BE A CRT BREAKAWAY WOOD POST.
4. GUARDRAIL END TREATMENT TYPE 4A IS A PATENTED (ONE SOURCE) PRODUCT MANUFACTURED BY TRINITY INDUSTRIES, INC. OF DALLAS, TX. OR ROAD SYSTEMS, INC. OF BIG SPRING, TX.
5. THE MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP PLANS TO THE CONTRACTOR WITH EACH INSTALLATION.
6. SYSTEM OFFSET OF 4'-0" SHALL BE MEASURED FROM FACE OF OFFSET BLOCK AT NORMAL GUARDRAIL SECTION TO FACE OF POST AT P1.
7. OBJECT MARKER TYPE 3 (SEE CURRENT MUTCD MANUAL FOR DETAILS).

KENTUCKY
DEPARTMENT OF HIGHWAYS

GUARDRAIL
END TREATMENT
TYPE 4A

APPROVED _____ DIRECTOR DIVISION OF DESIGN
03-13-09 DATE

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

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: KY100211 06/03/2011 KY211

State: Kentucky

Construction Type: Highway

Counties: Anderson, Bath, Bourbon, Boyd, Boyle, Bracken, Breckinridge, Bullitt, Carroll, Carter, Clark, Elliott, Fayette, Fleming, Franklin, Gallatin, Grant, Grayson, Greenup, Hardin, Harrison, Henry, Jefferson, Jessamine, Larue, Lewis, Madison, Marion, Mason, Meade, Mercer, Montgomery, Nelson, Nicholas, Oldham, Owen, Robertson, Rowan, Scott, Shelby, Spencer, Trimble, Washington and Woodford Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	10/22/2010
1	11/05/2010
2	12/03/2010
3	12/17/2010
4	12/31/2010
5	01/28/2011
6	03/25/2011
7	05/06/2011
8	06/03/2011

BRIN0004-003 04/01/2010

BRECKENRIDGE COUNTY

	Rates	Fringes
BRICKLAYER	$ 27.47	12.53

BRKY0001-005 06/01/2009

BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, & TRIMBLE COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 24.11	9.97

BRKY0002-006 11/01/2010

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 26.44	10.01

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* BRKY0007-004 06/01/2011

BOYD, CARTER, ELLIOT, FLEMING, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 28.29	16.80

BRKY0017-004 06/01/2009

ANDERSON, BATH, BOURBON, BOYLE, CLARK, FAYETTE, FRANKLIN, HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS, OWEN, SCOTT, WASHINGTON & WOODFORD COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 24.11	9.97

CARP0064-001 07/01/2010

	Rates	Fringes
CARPENTER	$ 25.45	12.21
Diver	$ 37.64	10.23
PILEDRIVERMAN	$ 25.09	10.23

ELEC0212-008 05/31/2010

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 26.11	14.34

ELEC0212-014 01/01/2006

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician	$ 20.45	6.95

ELEC0317-012 06/01/2010

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
Electricians:		
Cable Splicer	$ 32.68	18.13
Electrician	$ 31.87	19.58

ELEC0369-007 05/26/2010

ANDERSON, BATH, BOURBON, BOYLE, BRECKINRIDGE, BULLITT, CARROLL, CLARK, FAYETTE, FRAONKLIN, GRAYSON, HARDIN, HARRISON, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, MONTGOMERY, NELSON, NICHOLAS, OLDHAM, OWEN, ROBERTSON, SCOTT, SHELBY, SPENCER, TRIMBLE, WASHINGTON, & WOODFORD COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 29.27	13.08

ELEC0575-002 05/31/2010

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 30.69	12.48

ENGI0181-018 07/01/2010

	Rates	Fringes
Operating Engineer:		
GROUP 1	$ 25.35	13.00
GROUP 2	$ 22.93	13.00
GROUP 3	$ 23.31	13.00
GROUP 4	$ 22.67	13.00

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge Engineer; Elevating Grader & Loaders; Grade-All; Gurries; Heavy Equipment Robotics Operator/Mechanic; High Lift; Hoe-Type Machine; Hoist (Two or More Drums); Hoisting Engine (Two or More Drums); Horizontal Directional Drill Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

GROUP 2 - Air Compressor (Over 900 cu. ft. per min.); Bituminous Mixer; Boom Type Tamping Machine; Bull Float; Concrete Mixer (Under 21 cu. ft.); Dredge Engineer; Electric Vibrator; Compactor/Self-Propelled Compactor; Elevator (One Drum or Buck Hoist); Elevator (When used to Hoist Building Material); Finish Machine; Firemen & Hoist (One Drum); Flexplane; Forklift (Regardless of Lift Height); Form Grader; Joint Sealing Machine; Outboard Motor Boat; Power Sweeper (Riding Type); Roller (Rock); Ross Carrier; Skid Mounted or Trailer Mounted Conrete Pump; Skid Steer Machine with all Attachments; Switchman or Brakeman; Throttle Valve Person; Tractair & Road Widening Trencher; Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger; Welding Machine; Well Points; & Whirley Oiler

GROUP 3 - All Off Road Material Handling Equipment, including Articulating Dump Trucks; Greaser on Grease Facilities servicing Heavy Equipment

GROUP 4 - Bituminous Distributor; Burlap & Curing Machine; Cement Gun; Concrete Saw; Conveyor; Deckhand Oiler; Grout Pump; Hydraulic Post Driver; Hydro Seeder; Mud Jack; Oiler; Paving Joint Machine; Power Form Handling Equipment; Pump; Roller (Earth); Steerman; Tamping Machine; Tractor (Under 50 H.P.); & Vibrator

CRANES - with booms 150 ft. & Over (Including JIB), and where the length of the boom in combination with the length of the piling leads equals or exceeds 150 ft. - $1.00 over Group 1 rate

EMPLOYEES ASSIGNED TO WORK BELOW GROUND LEVEL ARE TO BE PAID 10%
ABOVE BASIC WAGE RATE. THIS DOES NOT APPLY TO OPEN CUT WORK.

IRON0044-009 06/01/2009

BRACKEN, GALLATIN, GRANT, HARRISON, ROBERTSON,
BOURBON (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan);
CARROLL (Eastern third, including the Township of Ghent);
FLEMING (Western part, excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);
MASON (Western two-thirds, including Townships of Dover, Lewisburg, Mays Lick, Maysville, Minerva, Moranburg, Murphysville, Ripley, Sardis, Shannon, South Ripley & Washington);
NICHOLAS (Townships of Barefoot, Barterville, Carlisle, Ellisville, Headquarters, Henryville, Morningglory, Myers & Oakland Mills);
OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook, Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita & Wheatley);
SCOTT (Northern two-thirds, including Townships of Biddle, Davis, Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall)

	Rates	Fringes
IRONWORKER		
Fence Erector	$ 23.55	16.72
Structural	$ 26.17	16.72

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* IRON0070-006 06/01/2011

ANDERSON, BOYLE, BRECKINRIDGE, BULLITT, FAYETTE, FRANKLIN, GRAYSON, HARDIN, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE, WASHINGTON & WOODFORD
BOURBON (Southern two-thirds, including Townships of Austerlity, Centerville, Clintonville, Elizabeth, Hutchison, Littlerock, North Middletown & Paris);
CARROLL (Western two-thirds, including Townships of Carrollton, Easterday, English, Locust, Louis, Prestonville & Worthville);
CLARK (Western two-thirds, including Townships of Becknerville, Flanagan, Ford, Pine Grove, Winchester & Wyandotte);

OWEN (Eastern eighth, including Townships of Glenmary, Gratz, Monterey, Perry Park & Tacketts Mill);
SCOTT (Southern third, including Townships of Georgetown, Great Crossing, Newtown, Stampling Ground & Woodlake);

	Rates	Fringes
IRONWORKER	$ 25.77	18.28

IRON0372-006 06/01/2010

BRACKEN, GALLATIN, GRANT, HARRISON and ROBERTSON
BOURBON (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan);
CARROLL (Eastern third, including the Township of Ghent);
FLEMING (Western part, Excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains,
Ringos Mills, Tilton & Wallingford);
MASON (Western two-thirds, including Townships of Dover, Lewisburg, Mays Lick, Maysville, Minerva, Moranburg, Murphysville, Ripley, Sardis, Shannon, South Ripley & Washington);
NICHOLAS (Townships of Barefoot, Barterville, Carlisle, Ellisville, Headquarters, Henryville, Morningglory, Myers & Oakland Mills);
OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook, Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita & Wheatley);
SCOTT (Northern two-thirds, including Townships of Biddle, Davis,Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall) COUNTIES

	Rates	Fringes
IRONWORKER, REINFORCING		
Beyond 30-mile radius of Hamilton County, Ohio Courthouse	$ 26.55	17.10
Up to & including 30-mile radius of Hamilton County, Ohio Courthouse	$ 26.30	17.10

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* IRON0769-007 06/01/2011

BATH, BOYD, CARTER, ELLIOTT, GREENUP, LEWIS, MONTGOMERY & ROWAN
CLARK (Eastern third, including townships of Bloomingdale, Hunt, Indian Fields, Kiddville, Loglick, Rightangele & Thomson);
FLEMING (Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);
MASON (Eastern third, including Townships of Helena, Marshall, Orangeburg, Plumville & Springdale);
NICHOLAS (Eastern eighth, including the Township of Moorefield Sprout)

	Rates	Fringes
IRONWORKER	$ 30.96	18.07
ZONE 1	$ 29.59	18.07
ZONE 2	$ 31.36	18.07
ZONE 3	$ 32.96	18.07

ZONE 1 - Up to 10 mi. radius of union hall, Ashland, Ky., 1643 Greenup Avenue
ZONE 2 - 10 to 50 mi. radius of union hall;
ZONE 3 - 50 mi. radius and beyond

LABO0189-003 07/01/2010

BATH, BOURBON, BOYD, BOYLE, BRACKEN, CARTER, CLARK, ELLIOTT, FAYETTE, FLEMING, FRANKLIN, GALLATIN, GRANT, GREENUP, HARRISON, JESSAMINE, LEWIS, MADISON, MASON, MERCER, MONTGOMERY, NICHOLAS, OWEN, ROBERTSON, ROWAN, SCOTT, & WOOLFORD COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 20.61	10.35
GROUP 2	$ 20.86	10.35
GROUP 3	$ 20.91	10.35
GROUP 4	$ 21.51	10.35

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 Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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LABO0189-008 07/01/2010

ANDERSON, BULLITT, CARROLL, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 20.91	10.05
GROUP 2	$ 21.16	10.05
GROUP 3	$ 21.21	10.05
GROUP 4	$ 21.81	10.05

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 Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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LABO0189-009 07/01/2010

BRECKINRIDGE & GRAYSON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 21.16	9.80
GROUP 2	$ 21.41	9.80
GROUP 3	$ 21.46	9.80
GROUP 4	$ 22.06	9.80

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 Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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PAIN0012-005 06/11/2005

BATH, BOURBON, BOYLE, CLARK, FAYETTE, FLEMING, FRANKLIN, HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS, ROBERTSON, SCOTT & WOODFORD COUNTIES:

	Rates	Fringes
PAINTER		
Bridge/Equipment Tender and/or Containment Builder	$ 18.90	5.90
Brush & Roller	$ 21.30	5.90

Elevated Tanks;
Steeplejack Work; Bridge &
Lead Abatement.....$ 22.30 5.90
Sandblasting &
Waterblasting.....$ 22.05 5.90
Spray.....$ 21.80 5.90

PAIN0012-017 06/01/2010

BRACKEN, GALLATIN, GRANT, MASON & OWEN COUNTIES:

	Rates	Fringes
PAINTER (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

PAIN0118-004 05/01/2010

ANDERSON, BRECKINRIDGE, BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES:

	Rates	Fringes
PAINTER		
Brush & Roller	$ 18.50	10.30
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning	$ 19.50	10.30

PAIN1072-003 12/01/2010

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS and ROWAN COUNTIES

	Rates	Fringes
Painters:		
Bridges; Locks; Dams; Tension Towers & Energized Substations	$ 29.03	11.90
Power Generating Facilities	$ 25.79	11.90

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* PLUM0248-003 06/01/2011

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
Plumber and Steamfitter	$ 32.00	16.24

PLUM0392-007 06/01/2008

BRACKEN, CARROLL (Eastern Half), GALLATIN, GRANT, MASON, OWEN & ROBERTSON COUNTIES:

	Rates	Fringes
Plumbers and Pipefitters	$ 28.39	14.30

PLUM0502-003 08/01/2010

BRECKINRIDGE, BULLITT, CARROLL (Western Half), FRANKLIN (Western three-fourths), GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES

	Rates	Fringes
PLUMBER	$ 30.50	15.13

SUKY2010-160 10/08/2001

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 16.57	7.34
GROUP 2	$ 16.68	7.34
GROUP 3	$ 16.86	7.34
GROUP 4	$ 16.96	7.34

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Mobile Batch Truck Tender

GROUP 2 - Greaser; Tire Changer; & Mechanic Tender

GROUP 3 - Single Axle Dump; Flatbed; Semi-trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Distributor; Mixer; & Truck Mechanic

GROUP 4 - Euclid & Other Heavy Earthmoving Equipment & Lowboy; Articulator Cat; 5-Axle Vehicle; Winch & A-Frame when used in transporting materials; Ross Carrier; Forklift when used to transport building materials; & Pavement Breaker

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 (29 CFR 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.

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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.

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-III- 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
11.2%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of $10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609

4. As used in this Notice, and in the contract resulting from this solicitation, the **"covered area"** is Jefferson County.

PART IV

INSURANCE

INSURANCE

The Contractor shall procure and maintain the following insurance in addition to the insurance required by law:

1) Commercial General Liability-Occurrence form – not less than $2,000,000 General aggregate, $2,000,000 Products & Completed Aggregate, $1,000,000 Personal & Advertising, $1,000,000 each occurrence.

2) Automobile Liability- $1,000,000 per accident

3) Employers Liability:

   a) $100,000 Each Accident Bodily Injury
   b) $500,000 Policy limit Bodily Injury by Disease
   c) $100,000 Each Employee Bodily Injury by Disease

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) KENTUCKY 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.

The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

PART V

BID ITEMS

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111322 PAGE: 1
COUNTY: JEFFERSON LETTING: 07/15/11
PROPOSAL: IM 0711 (101) CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
	SECTION 0001	ROADWAY				
0010	00001	DGA BASE	13,611.000	TON		
0020	00069	CRUSHED AGGREGATE SIZE NO 3	2,200.000	TON		
0030	00078	CRUSHED AGGREGATE SIZE NO 2	243.000	TON		
0040	00100	ASPHALT SEAL AGGREGATE	1,891.000	TON		
0050	00194	LEVELING & WEDGING PG76-22	102.000	TON		
0060	00214	CL3 ASPH BASE 1.00D PG64-22	15,949.000	TON		
0070	00217	CL4 ASPH BASE 1.00D PG64-22	2,368.000	TON		
0080	00219	CL4 ASPH BASE 1.00D PG76-22	22,565.000	TON		
0090	00291	EMULSIFIED ASPHALT RS-2	227.000	TON		
0100	00339	CL3 ASPH SURF 0.38D PG64-22	4,402.000	TON		
0110	00342	CL4 ASPH SURF 0.38A PG76-22	7,388.000	TON		
0120	01010	NON-PERFORATED PIPE-4 IN	77.000	LF		
0130	01020	PERF PIPE HEADWALL TY 1-4 IN	9.000	EACH		
0140	01458	CURB BOX INLET TYPE A T	30.000	EACH		
0150	01634	CAP CURB BOX INLET	1.000	EACH		
0160	01690	FLUME INLET TYPE 1	7.000	EACH		
0170	01691	FLUME INLET TYPE 2	14.000	EACH		
0180	01791	ADJUST MANHOLE FRAME TO GRADE	1.000	EACH		
0190	01877	SPECIAL HEADER CURB	8,790.000	LF		
0200	01890	ISLAND HEADER CURB TYPE 1	1,490.000	LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111322 PAGE: 2
COUNTY: JEFFERSON LETTING: 07/15/11
PROPOSAL: IM 0711 (101) CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0210	01904	REMOVE CURB	9,265.000 LF		
0220	01982	DELINEATOR FOR GUARDRAIL-WHITE	431.000 EACH		
0230	01983	DELINEATOR FOR GUARDRAIL-YELLOW	54.000 EACH		
0240	01984	DELINEATOR FOR BARRIER-WHITE	58.000 EACH		
0250	01985	DELINEATOR FOR BARRIER-YELLOW	58.000 EACH		
0260	02003	RELOCATE TEMP CONC BARRIER	3,690.000 LF		
0270	02014	BARRICADE-TYPE III	10.000 EACH		
0280	02200	ROADWAY EXCAVATION	2,614.000 CUYD		
0290	02220	FLOWABLE FILL	15.000 CUYD		
0300	02230	EMBANKMENT IN PLACE	630.000 CUYD		
0310	02237	DITCHING	69,352.000 LF		
0320	02351	GUARDRAIL-STEEL W BEAM-S FACE	43,712.500 LF		
0330	02352	GUARDRAIL-STEEL W BEAM-D FACE	1,787.500 LF		
0340	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	33.000 EACH		
0350	02365	CRASH CUSHION TYPE IX-A	13.000 EACH		
0360	02367	GUARDRAIL END TREATMENT TYPE 1	1.000 EACH		
0370	02369	GUARDRAIL END TREATMENT TYPE 2A	20.000 EACH		
0380	02373	GUARDRAIL END TREATMENT TYPE 3	2.000 EACH		
0390	02381	REMOVE GUARDRAIL	44,825.000 LF		
0400	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	26.000 EACH		
0410	02391	GUARDRAIL END TREATMENT TYPE 4A	1.000 EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111322 PAGE: 3
COUNTY: JEFFERSON LETTING: 07/15/11
PROPOSAL: IM 0711 (101) CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0420	02460	REMOVE TREES OR STUMPS	2.000 EACH		
0430	02483	CHANNEL LINING CLASS II	1,081.000 TON		
0440	02484	CHANNEL LINING CLASS III	368.000 TON		
0450	02562	SIGNS	1,500.000 SQFT		
0460	02565	OBJECT MARKER TYPE 2	40.000 EACH		
0470	02599	FABRIC-GEOTEXTILE TYPE IV	6,559.000 SQYD		
0480	02650	MAINTAIN & CONTROL TRAFFIC	(1.00) LS		
0490	02671	PORTABLE CHANGEABLE MESSAGE SIGN	4.000 EACH		
0500	02676	MOBILIZATION FOR MILL & TEXT	(1.00) LS		
0510	02677	ASPHALT PAVE MILLING & TEXTURING	25,991.000 TON		
0520	02775	ARROW PANEL	2.000 EACH		
0530	02898	RELOCATE CRASH CUSHION	7.000 EACH		
0540	03171	CONCRETE BARRIER WALL TYPE 9T	3,690.000 LF		
0550	03262	CLEAN PIPE STRUCTURE	2.000 EACH		
0560	03269	TRIM & REMOVE TREES & BRUSH	160.000 LF		
0570	04700	POLE 30 FT MTG HT	1.000 EACH		
0580	04701	POLE 40 FT MTG HT	3.000 EACH		
0590	04720	BRACKET 4 FT	3.000 EACH		
0600	04750	TRANSFORMER BASE	4.000 EACH		
0610	04770	HPS LUMINAIRE	4.000 EACH		
0620	04780	FUSED CONNECTOR KIT	16.000 EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111322 PAGE: 4
COUNTY: JEFFERSON LETTING: 07/15/11
PROPOSAL: IM 0711 (101) CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0630	04793	CONDUIT-1 1/4 IN	1,400.000 LF		
0640	04820	TRENCHING AND BACKFILLING	1,500.000 LF		
0650	04832	WIRE-NO. 12	400.000 LF		
0660	04833	WIRE-NO. 8	3,900.000 LF		
0670	04834	WIRE-NO. 6	2,200.000 LF		
0680	04940	REMOVE LIGHTING	(1.00) LS		
0690	05950	EROSION CONTROL BLANKET	5,228.000 SQYD		
0700	06417	FLEXIBLE DELINEATOR POST-W	261.000 EACH		
0710	06418	FLEXIBLE DELINEATOR POST-Y	67.000 EACH		
0720	06511	PAVE STRIPING-TEMP PAINT-6 IN	97,597.000 LF		
0730	06568	PAVE MARKING-THERMO STOP BAR-24IN	42.000 LF		
0740	06592	PAVEMENT MARKER TYPE V-B W/R	565.000 EACH		
0750	06593	PAVEMENT MARKER TYPE V-B Y/R	93.000 EACH		
0760	06600	REMOVE PAVEMENT MARKER TYPE V	100.000 EACH		
0770	08905	CRASH CUSHION TY VI CLASS CT	6.000 EACH		
0780	10020NS	FUEL ADJUSTMENT	77,224.000 DOLL	1.00	77,224.00
0790	10030NS	ASPHALT ADJUSTMENT	127,140.000 DOLL	1.00	127,140.00
0800	20314ED	MILLED RUMBLE STRIPS	71,644.000 LF		
0810	20391NS835	JUNCTION BOX TYPE A	1.000 EACH		
0820	20392NS835	JUNCTION BOX TYPE C	1.000 EACH		
0830	20411ED	LAW ENFORCEMENT OFFICER	2,000.000 HOUR		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111322 PAGE: 5
COUNTY: JEFFERSON LETTING: 07/15/11
PROPOSAL: IM 0711 (101) CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0840	20465EC	CLEAN CULVERT	(1.00) LS		
0850	20757ED	PAVEMENT REPAIR	237.300 SQYD		
0860	21415ND	EROSION CONTROL	(1.00) LS		
0870	23143ED	KPDES PERMIT AND TEMP EROSION CONTROL	(1.00) LS		
0880	23237EN10W	WATERBLAST STRIPE REMOVAL	97,597.000 LF		
0890	24189ER	DURABLE WATERBORNE MARKING-6 IN W	55,015.000 LF		
0900	24190ER	DURABLE WATERBORNE MARKING-6 IN Y	42,582.000 LF		
0910	24191ER	DURABLE WATERBORNE MARKING-12 IN W	2,440.000 LF		
	SECTION 0002	BRIDGE			
0920	02220	FLOWABLE FILL	211.000 CUYD		
0930	02403	REMOVE CONCRETE MASONRY	154.000 CUYD		
0940	03298	EXPAN JOINT REPLACE 4 IN	150.000 LF		
0950	03299	ARMORED EDGE FOR CONCRETE	150.000 LF		
0960	03300	ELIMINATE TRANSVERSE JOINT (AT PIERS)	699.000 LF		
0970	03300	ELIMINATE TRANSVERSE JOINT (SLAB EXT. AND DIAPHRAGM)	586.000 LF		
0980	04795	CONDUIT-2 IN	1,060.000 LF		
0990	04810	JUNCTION BOX-ELECTRICAL	12.000 EACH		
1000	06542	PAVE STRIPING-THERMO-6 IN W	1,090.000 LF		
1010	06543	PAVE STRIPING-THERMO-6 IN Y	940.000 LF		
1020	08019	CYCLOPEAN STONE RIP RAP	6,480.000 TON		
1030	08160	STRUCTURAL STEEL (3200 LBS)	(1.00) LS		

KENTUCKY TRANSPORTATION CABINET
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LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
1040	08504	EPOXY SAND SLURRY	510.000 SQYD		
1050	08510	REM EPOXY BIT FOREIGN OVERLAY	7,644.000 SQYD		
1060	08526	CONC CLASS M FULL DEPTH PATCH	20.000 CUYD		
1070	08534	CONCRETE OVERLAY-LATEX	243.000 CUYD		
1080	08549	BLAST CLEANING	9,364.000 SQYD		
1090	20186ED	REINFORCED CONCRETE SLAB	3,694.000 SQYD		
1100	20663ED	REPLACE ARMORED EDGE	699.000 LF		
1110	22146EN	CONCRETE PATCHING REPAIR	1,014.000 SQFT		
1120	23032EN	BRIDGE BARRIER RETROFIT	5,881.000 LF		
1130	23033EN	BRIDGE BARRIER REMOVAL	1,573.000 LF		
1140	23331EC	EPOXY-URETHANE WATERPROOFING	32,509.000 SQFT		
	SECTION 0003	TRAFFIC LOOPS			
1150	04795	CONDUIT-2 IN	220.000 LF		
1160	04820	TRENCHING AND BACKFILLING	214.000 LF		
1170	04829	PIEZOELECTRIC SENSOR	12.000 EACH		
1180	04830	LOOP WIRE	3,766.000 LF		
1190	04895	LOOP SAW SLOT AND FILL	808.000 LF		
1200	20360ES818	WOOD POST	1.000 EACH		
1210	20391NS835	JUNCTION BOX TYPE A	8.000 EACH		
1220	20468EC	JUNCTION BOX-10 X 8 X 4	2.000 EACH		
	SECTION 0004	DEMOBILIZATION / MOBILIZATION			

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
1230	02568	MOBILIZATION	LUMP		
1240	02569	DEMOBILIZATION	LUMP		
		TOTAL BID			