



**CALL NO. 404**

**CONTRACT ID. 192605**

**OHIO COUNTY**

**FED/STATE PROJECT NUMBER 092GR19M050 - FE02**

**DESCRIPTION WESTERN KY PKWY BRIDGE REPAIR AND SUPER REPLACEMENT**

**WORK TYPE BRIDGE REPAIRS**

**PRIMARY COMPLETION DATE 8/30/2020**

**LETTING DATE: June 21,2019**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME June 21,2019. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

**NO PLANS ASSOCIATED WITH THIS PROJECT.**

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

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**REFERENCES**

**FE02 092 9001 B00072L**  
**FE02 092 9001 B00072R**  
**FE02 092 9001 B00130L**  
**FE02 092 9001 B00130R**  
**FE02 092 9001 B00133L**  
**FE02 092 9001 B00133R**  
**FE02 092 9001 B00134L**  
**FE02 092 9001 B00134R**

1. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2019.
2. FHWA Manual on Uniform Traffic Control Devices – 2009 Edition.
3. Kentucky Department of Highways Standard Drawings, Current Edition, as applicable:

BJE-001-013	NEOPRENE EXPANSION DAMS AND ARMORED EDGE
RBM-020-09	DELINEATORS FOR CONCRETE BARRIERS
RBM-115-10	CONCRETE BARRIER WALL TYPE 9T (TEMPORARY)
TTC-100-04	LANE CLOSURE TWO LANE HIGHWAY
TTC-115-03	LANE CLOSURE MULTI-LANE HIGHWAY CASE I
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TTC-135-02	SHOULDER CLOSURE
TTC-160-02	TEMPORARY PAVEMENT MARKER ARRANGEMENTS FOR LANE CLOSURES
TTD-120-02	WORK ZONE SPEED LIMIT AND DOUBLE FINE SIGNS
TTD-125-02	PAVEMENT CONDITION WARNING SIGNS
TTS-110-01	MOBILE OPERATION FOR PAINT STRIPING CASE III
TTS-115-02	MOBILE OPERATION FOR PAINT STRIPING CASE IV
TTS-120-02	MOBILE OPERATION FOR DURABLE STRIPING CASE 1
SEPIA 008	RUMBLE STRIP DETAILS MULTI-LANE ROADWAYS AND RAMPS
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SEPIA 015	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A
SEPIA 016	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1
SEPIA 021	CRASH CUSHION TYPE VI-BT
SEPIA 027	STEEL BEAM GUARDRAIL “W” BEAM
SEPIA 028	STEEL GUARDRAIL POSTS

**REFERENCES**

- FE02 092 9001 B00072L**
- FE02 092 9001 B00072R**
- FE02 092 9001 B00130L**
- FE02 092 9001 B00130R**
- FE02 092 9001 B00133L**
- FE02 092 9001 B00133R**
- FE02 092 9001 B00134L**
- FE02 092 9001 B00134R**

4. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2019, Appendix B - Supplemental Specifications, as applicable:

- Special Note Fixed Completion Date and Liquidated Damages *attached*
- Special Note Asphalt Milling and Texturing *attached*
- Special Note Special Note for Significant Project *attached*
- Special Note Special Note for Non-Tracking Tack Coat *attached*
- Special Note Special Note for 3/8" Epoxy-Urethane Waterproofing Overlay for Bridge Decks *attached*
- Special Note Special Note for Replacing Expansion Dams and/or Installing Armored Edges for Concrete Bridges *attached*
- Special Note Special Note for Bridge Cleaning and Preventative Maintenance: Bearing Cleaning and Lubricating *attached*
- Special Note Special Note for Bridge Barrier Retrofit *attached*
- Special Note Special Note for Bridge Restoration and Waterproofing with Concrete Overlays *attached*
- Special Note Special Note for Replacing Compression Seal in Existing Expansion Joint *attached*
- Special Note Special Note for Bridge Demolition, Renovation and Asbestos Abatement *attached*

BRIDGE SUMMARY															
WESTERN KENTUCKY PARKWAY - OHIO COUNTY															
BID CODE	ITEM	NOTE	UNIT	QUANTITIES											
				MP 69.73 WKP OVER LEWIS CREEK 092B00134L/R		MP 72.42 WKP OVER KY 369 092B00133L/R		MP 76.74 WKP OVER NATCHER PKWY. 092B00072L/R		MP 85.76 WKP OVER KY 2713 092B00130L/R		TOTAL			
				EB	WB	EB	WB	EB	WB	EB	WB	EB	WB		
				R	L	R	L	R	L	R	L	R	L		
2363	GUARD. CONN. TO BRIDGE END TY A		EACH	-	-	-	-	2	2	-	-	-	-		
2372	REMOVE GUARDRAIL CON TO BR END	5	EACH	-	-	-	-	3	3	-	-	-	-		
2387	GUARD. CONN. TO BRIDGE END TY A-1		EACH	-	-	-	-	1	1	-	-	-	-		
2998	MASONRY COATING		SQ. YD.	-	-	-	-	260	260	-	-	-	-		
3293	EXPAN JOINT REPLACE 1 IN	1	LIN. FT.	92	92	34	34	-	-	86	86	86	86		
3294	EXPAN JOINT REPLACE 1.5 IN	1	LIN. FT.	-	-	-	-	85	85	-	-	-	-		
3298	EXPAN JOINT REPLACE 4.0 IN	1	LIN. FT.	-	-	34	34	-	-	-	-	-	-		
3299	ARMORED EDGE FOR CONCRETE		LIN. FT.	92	92	67	67	85	85	86	86	86	86		
6556	PAVE STRIPING-DUR TY 1-6 IN W		LIN. FT.	162.5	162.5	232.5	232.5	312.5	312.5	150.0	150.0	150.0	150.0		
6557	PAVE STRIPING-DUR TY 1-6 IN Y		LIN. FT.	130.0	130.0	186.0	186.0	250.0	250.0	120.0	120.0	120.0	120.0		
8504	EPOXY SAND SLURRY		SQ. YD.	60	60	249	249	100	100	58	58	58	58		
8510	REM EPOXY BIT FOREIGN OVERLAY		SQ. YD.	507	507	619	619	-	-	490	490	490	490		
8526	CONC CLASS M FULL DEPTH PATCH	3	CU. YD.	2.8	2.8	6.3	2.8	5.6	2.8	4.4	3.8	3.8	3.8		
8534	CONCRETE OVERLAY-LATEX		CU. YD.	28.2	28.2	34.4	34.4	-	-	20.4	20.4	20.4	20.4		
8549	BLAST CLEANING		SQ. YD.	567	567	868	868	1247	1247	548	548	548	548		
8551	MACHINE PREP OF SLAB		SQ. YD.	-	-	-	-	1147	1147	-	-	-	-		
23032EN	BRIDGE BARRIER RETROFIT		LIN. FT.	-	-	-	-	542	542	-	-	-	-		
23331EC	EPOXY-URETHANE WATERPROOFING		SQ. FT.	-	-	-	-	10322	10322	-	-	-	-		
23949EC	BRIDGE CLEANING AND PREV. MAINT.	4	LS	-	-	1	1	1	1	-	-	-	-		
24094EC	PARTIAL DEPTH PATCHING	2	CU. YD.	0.8	0.8	1.0	1.0	1.9	1.9	0.8	0.8	0.8	0.8		

BRIDGE SUMMARY													
WESTERN KENTUCKY PARKWAY - OHIO COUNTY													
BID CODE	ITEM	NOTE	UNIT	QUANTITIES								TOTAL	
				MP 69.73 WKP OVER LEWIS CREEK 092B00134L/R	MP 72.42 WKP OVER KY 369 092B00133L/R	MP 76.74 WKP OVER NATCHER PKWY. 092B00072L/R	MP 85.76 WKP OVER KY 2713 092B00130L/R						
2562	TEMPORARY SIGNS		SQ. FT.	149	149	149	149	149	149	149	149	149	1,192
2650	MAINTAIN AND CONTROL TRAFFIC		LS	1	1	1	1	1	1	1	1	1	1
2003	RELOCATE TEMP CONC BARRIER		LIN. FT.	480	420	380	380	480	480	480	480	480	3,520
2671	PORTABLE CHANGEABLE MESSAGE SIGN		EACH	1	1	1	1	1	1	1	1	1	8
2775	ARROW PANEL		EACH	1	1	1	1	1	1	1	1	1	8
3171	CONCRETE BARRIER WALL TYPE 9T		LIN. FT.	480	420	400	400	480	480	480	480	480	3,560
6549	PAVE STRIPING - TEMP REM TAPE-B		LIN. FT.	2280	1610	780	780	2280	2280	2280	2280	2280	13,900
6556	PAVE STRIPING-DUR TY 1-6 IN W		LIN. FT.	162.5	232.5	312.5	312.5	162.5	150	150	150	150	1,715
6557	PAVE STRIPING-DUR TY 1-6 IN Y		LIN. FT.	130	186	250	250	130	120	120	120	120	1,372
8150	STEEL REINFORCEMENT		LBS.	300	300	300	300	300	300	300	300	300	2,400
6550	PAVE STRIPING - TEMP REM TAPE-W		LIN. FT.	3240	2875	6070	6070	3240	3240	3240	3240	3240	30,850
6551	PAVE STRIPING - TEMP REM TAPE-Y		LIN. FT.	3365	2875	4600	4600	3365	3365	3365	3365	3365	28,410
8903	CRASH CUSHION TY VI CLASS BT TL3		EACH	1	1	1	1	1	1	1	1	1	8
2898	RELOCATE CRASH CUSHION		EACH	1	1	1	1	1	1	1	1	1	8
1984	DELINEATOR FOR BARRIER - WHITE		EACH	33	27	33	33	33	33	33	33	33	252
1985	DELINEATOR FOR BARRIER - YELLOW		EACH	33	30	32	32	33	33	33	33	33	256
2014	BARRICADE-TYPE III		EACH	1	1	1	1	1	1	1	1	1	8
20099ES842	PAVE MARK TEMP PAINT STOP BAR		LIN. FT.	0	0	80	80	0	0	0	0	0	160
2676	MOBILIZATION FOR MILL & TEXT		LS	1	1	1	1	1	1	1	1	1	8
2677	ASPHALT PAVE MILLING & TEXTURING		TONS	505	124	209	209	505	505	505	505	505	2,686
0219	CL4 ASPH BASE 1.00D PG76-22		TONS	505	124	209	209	505	505	505	505	505	2,686
2696	SHOULDER RUMBLE STRIPS		LIN. FT.	1500	840	500	500	1500	1500	1500	1500	1500	8,680
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING		TONS	0.6	0.2	0.3	0.3	0.6	0.6	0.6	0.6	0.6	3

NOTES:

1. EXPANSION JOINT REPLACEMENT SIZE BASED ON EXISTING PLANS. CONTRACTOR SHALL FIELD VERIFY JOINT SEAL WIDTH BEFORE ORDERING MATERIAL.
2. PARTIAL DEPTH QUANTITY IS BASED ON APPROXIMATE ESTIMATE OF 0.50% OF THE OVERALL OVERLAY AREA.
3. FULL DEPTH CONCRETE PATCHING QUANTITY BASED ON VISUAL INSPECTION OF EACH BRIDGE.
4. BRIDGE CLEANING & PREVENTATIVE MAINTENANCE CORRESPONDS TO THE CLEANING AND LUBRICATION OF ALL MOVEABLE BEARINGS. SEE THE SPECIAL NOTE FOR BEARING CLEANING AND LUBRICATION.
5. SHALL INCLUDE REMOVAL OF 25' OF GUARDRAIL.

## **CONTRACT NOTES**

### **PROPOSAL ADDENDA**

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

### **BID SUBMITTAL**

Bidder must use the Department's electronic bidding software. The Bidder must download the bid file located on the Bid Express website ([www.bidx.com](http://www.bidx.com)) to prepare a bid packet for submission to the Department. The bidder must submit electronically using Bid Express.

### **JOINT VENTURE BIDDING**

Joint venture bidding is permissible. All companies in the joint venture must be prequalified in one of the work types in the Qualifications for Bidders for the project. The bidders must get a vendor ID for the joint venture from the Division of Construction Procurement and register the joint venture as a bidder on the project. Also, the joint venture must obtain a digital ID from Bid Express to submit a bid. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

### **UNDERGROUND FACILITY DAMAGE PROTECTION**

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. When prescribed in said directives, the contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom shall be contacted through their individual Protection Notification Center. Non-compliance with these directives can result in the enforcement of penalties.

### **REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY**

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by [KRS 14A.9-010](#) to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under [KRS 14A.9-030](#) unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the foreign entity is not required to obtain a certificate as provided in [KRS 14A.9-010](#), the foreign entity should identify the applicable exception. Foreign entity is defined within [KRS 14A.1-070](#).

**For all foreign entities required to obtain a certificate of authority to transact business in the Commonwealth, if a copy of the certificate is not received by the contracting agency within the time frame identified above, the foreign entity's solicitation response shall be deemed non-responsive or the awarded contract shall be cancelled.**

Businesses can register with the Secretary of State at <https://secure.kentucky.gov/sos/ftbr/welcome.aspx>.

#### **SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT**

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by fax (502) 564-7299 or email to [kytc.projectquestions@ky.gov](mailto: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](http://www.transportation.ky.gov/contract)). The answers provided shall be considered part of this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

#### **HARDWOOD REMOVAL RESTRICTIONS**

The US Department of Agriculture has imposed a quarantine in Kentucky and several surrounding states, to prevent the spread of an invasive insect, the emerald ash borer. Hardwood cut in conjunction with the project may not be removed from the state. Chipping or burning on site is the preferred method of disposal.

#### **INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES**

Identification of excess material sites and borrow sites shall be the responsibility of the Contractor. The Contractor shall be responsible for compliance with all applicable state and federal laws and may wish to consult with the US Fish and Wildlife Service to seek protection under Section 10 of the Endangered Species Act for these activities.

#### **ACCESS TO RECORDS**

The contractor, as defined in KRS 45A.030 (9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially

disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

In the event of a dispute between the contractor and the contracting agency, Attorney General, or the Auditor of Public Accounts over documents that are eligible for production and review, the Finance and Administration Cabinet shall review the dispute and issue a determination, in accordance with Secretary's Order 11-004.

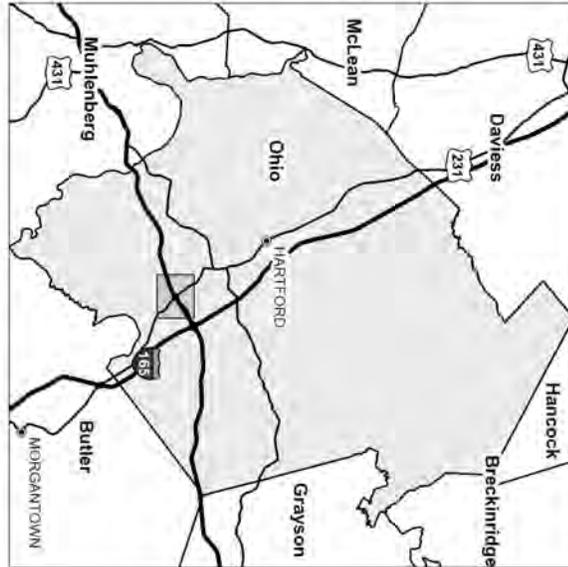
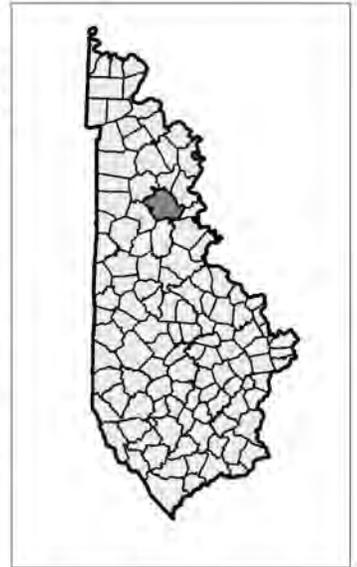
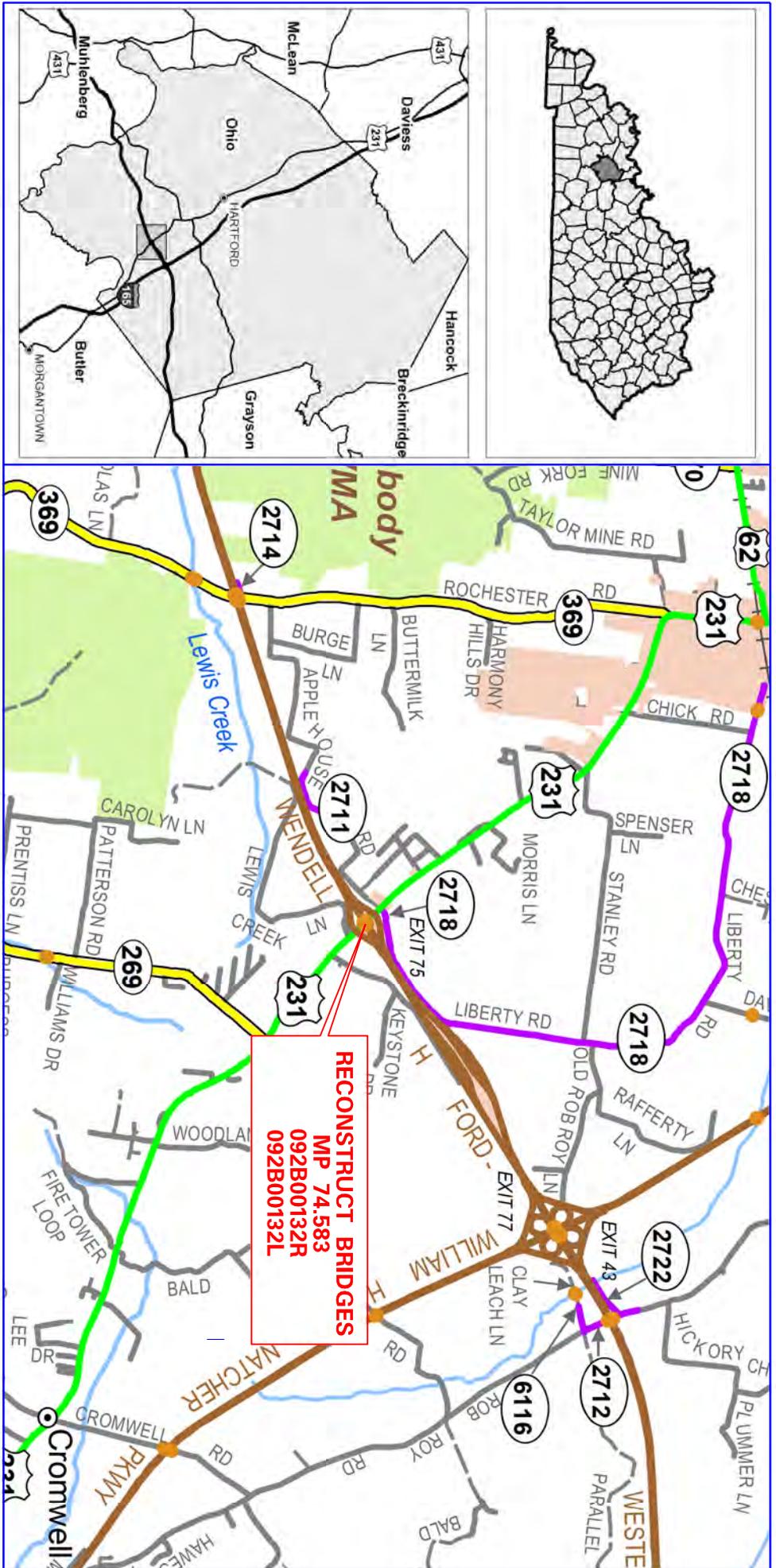
April 30, 2018

## **SPECIAL NOTE FOR RECIPROCAL PREFERENCE**

### **RECIPROCAL PREFERENCE TO BE GIVEN BY PUBLIC AGENCIES TO RESIDENT BIDDERS**

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

April 30, 2018



**PROJECT NUMBER:** WK - 9001 BRIDGE REPLACEMENTS

**ITEM NUMBER:** 6-20002.00 **LETTING DATE:** JUNE 21, 2019

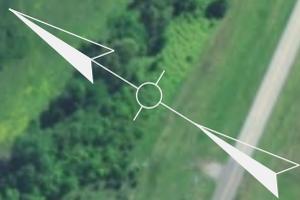
**RECOMMENDED BY:** - **DATE:** \_\_\_\_\_  
Project Manager

**PLAN APPROVED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
State Highway Engineer

**FHWA APPROVED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_



1 HARRIS CREEK, U.S. 460  
FARMERSVILLE, OHIO 46031  
502.495.5800



MP 74.7

W. KY. PARKWAY  
W. KY. PARKWAY

REMOVE 250 LF OF GUARDRAIL  
PLACE 100 LF OF GUARDRAIL  
PLACE 137.5 LF OF DBL FACE GR  
PLACE CC TY IX-A

REMOVE 50 LF OF GUARDRAIL  
PLACE 50 LF OF GUARDRAIL  
PLACE THRIE BM GR TRANS TL-3

REMOVE 112.5 LF OF GUARDRAIL  
PLACE 112.5 LF OF GUARDRAIL  
PLACE BR END CONN TY A  
PLACE GR END TY 1

PLACE THRIE BM GR TRANS TL-3

REMOVE 50 LF OF GUARDRAIL  
PLACE 50 LF OF GUARDRAIL  
PLACE THRIE BM GR TRANS TL-3

REMOVE 87.5 LF OF GUARDRAIL  
PLACE 87.5 LF OF GUARDRAIL  
PLACE BR END CONN TY A  
PLACE GR END TY 1

MP 74.6

CONCRETE PAVEMENT REPAIR  
AREAS, LOCATIONS TO BE  
DETERMINED

REMOVE 87.5 LF OF GUARDRAIL  
PLACE 87.5 LF OF GUARDRAIL  
PLACE BR END CONN TY A  
PLACE GR END TY 1

REMOVE 87.5 LF OF GUARDRAIL  
PLACE 87.5 LF OF GUARDRAIL  
PLACE BR END CONN TY A  
PLACE GR END TY 1

REMOVE 50 LF OF GUARDRAIL  
PLACE 50 LF OF GUARDRAIL  
PLACE THRIE BM GR TRANS TL-3  
PLACE 17 LF ISLAND C & G

REMOVE 50 LF OF GUARDRAIL  
PLACE 50 LF OF GUARDRAIL  
PLACE THRIE BM GR TRANS TL-3  
PLACE 17 LF ISLAND C & G

REMOVE FLUME  
PLACE TY 2 FLUME  
PLACE 52 TON CL III

MP 74.5

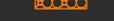
PLACE THRIE BM GR TRANS TL-3  
PLACE 25 LF ISLAND C & G

REMOVE 83 LF OF PAVED DITCH  
REMOVE FLUME  
PLACE TY 2 FLUME  
PLACE 62 TON CL III

REMOVE 250 LF OF GUARDRAIL  
PLACE 100 LF OF GUARDRAIL  
PLACE 137.5 LF OF DBL FACE GR  
PLACE CC TY IX-A

MP 74.4

**LEGEND**

-  REMOVE PAVED DITCH
-  PROPOSED GUARDRAIL
-  EXISTING GUARDRAIL
-  CHANNEL LINING
-  ISLAND HEADER CURB
-  FLUME INLET

SCALE 1"=200'

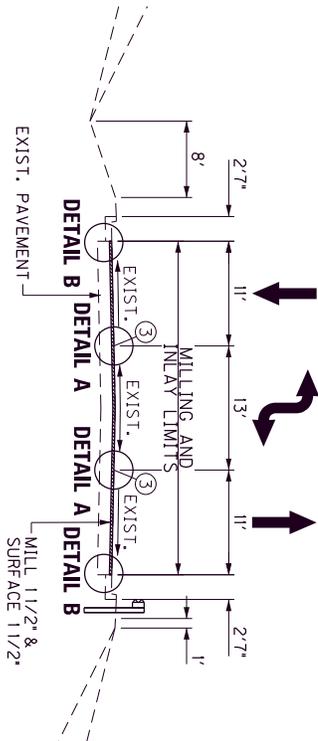
NOTE: SEE STD DRW RBB-002-09 FOR DETAILS PERTAINING TO GUARDRAIL, BRIDGE END DRAINAGE, OR FILL AND GRADE MEDIAN.



# PROPOSED TYPICAL SECTIONS

US 231

County	Item No.	Sheet
OHIO	-	

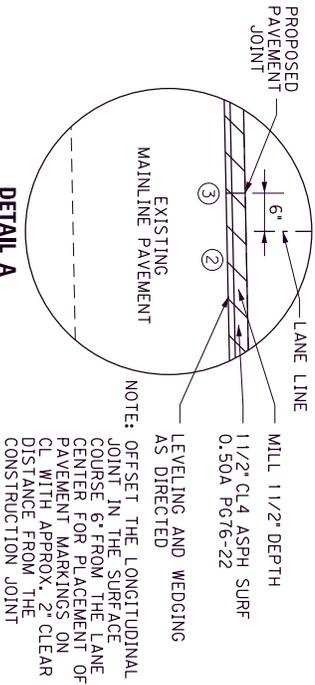


MAINLINE NORMAL SECTION

## SURFACING SCHEDULE

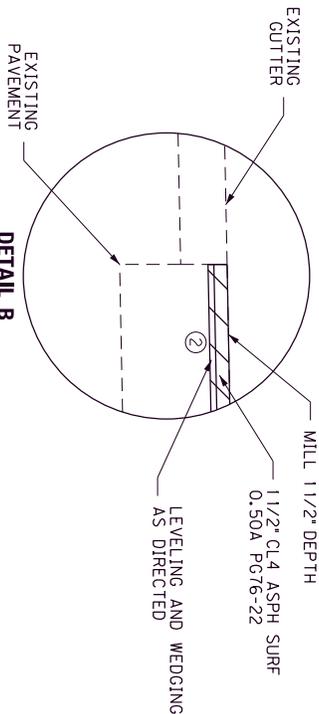
### MAINLINE & SHOULDERS

- ① ASPHALT PAVEMENT MILLING AND TEXTURING.....1 1/2" DEPTH
- ② LEVELING AND WEDGING PGT6-22.....AS DIRECTED
- ③ CL4 ASPH SURFACE 0.50A PGT6-22.....1 1/2" DEPTH



NOTE: OFFSET THE LONGITUDINAL JOINT IN THE SURFACE COURSE 6" FROM THE LANE CENTER FOR PLACEMENT OF PAVEMENT MARKINGS ON CL WITH APPROX. 2" CLEAR DISTANCE FROM THE CONSTRUCTION JOINT

- ① TO BE USED AS DIRECTED BY THE ENGINEER FOR PAVEMENT IRREGULARITIES.
- ② APPLY ASPHALT MATERIAL FOR NON-TRACKING TACK AT A RATE OF 0.5LBS/SY BETWEEN EACH LAYER OF ASPH. CONCRETE.
- ③ JOINT ADHESIVE



NOT TO SCALE

US 231  
TYPICAL SECTIONS

**WKP - KY 9001  
OHIO COUNTY  
BRIDGE OVER US 231 - REPAIR  
MILEPOINT 74.528 TO 74.641  
GENERAL SUMMARY**

ITEM NUMBER	ITEM		UNIT	QUANTITY
00001	DGA BASE	①	TON	200
00100	ASPHALT SEAL AGGREGATE	①	TON	15
00103	ASPHALT SEAL COAT	①	TON	2
00194	LEVELING & WEDGING PG76-22	①	TON	75
00219	CL4 ASPH BASE 1.00D PG76-22	①	TON	220
00335	CL4 ASPH SURF 0.50A PG76-22	①	TON	596
02677	ASPHALT PAVE MILLING & TEXTURING	①	TON	596
20071EC	JOINT ADHESIVE	①	LF	3,332
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	①	TON	3
01691	FLUME INLET TYPE 2	②	EACH	2
01890	ISLAND HEADER CURB TYPE 1	②	LF	34
02165	REMOVE PAVED DITCH	②	SQYD	83
02484	CHANNEL LINING CLASS III	②	TON	114
24894EC	REMOVE FLUME	②	EACH	2
01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	③	EACH	14
01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	③	EACH	9
02351	GUARDRAIL-STEEL W BEAM-S FACE	③	LF	775
02352	GUARDRAIL-STEEL W BEAM-D FACE	③	LF	275
02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	③	EACH	4
02365	CRASH CUSHION TYPE IX-A	③	EACH	2
02367	GUARDRAIL END TREATMENT TYPE 1	③	EACH	4
02381	REMOVE GUARDRAIL	③	LF	1,075
25025ED	THRIE BEAM GUARDRAIL TRANSITION TL-3	③	EACH	6
02360	GUARDRAIL TERMINAL SECTION NO 1	③	EACH	2
02159	TEMP DITCH		LF	675
02160	CLEAN TEMP DITCH		LF	337.5
02703	SILT TRAP TYPE A		EACH	6
02704	SILT TRAP TYPE B		EACH	1
02705	SILT TRAP TYPE C		EACH	1
02706	CLEAN SILT TRAP TYPE A		EACH	6
02707	CLEAN SILT TRAP TYPE B		EACH	1
02708	CLEAN SILT TRAP TYPE C		EACH	1
05950	EROSION CONTROL BLANKET		SQYD	2,420
05952	TEMP MULCH		SQYD	1,613
05953	TEMP SEEDING AND PROTECTION		SQYD	1,210

- ① Carried Over from Paving Sum
- ② Carried Over from Pipe Sum
- ③ Carried Over from Guardrail Sum

**WKP - KY 9001  
OHIO COUNTY  
BRIDGE OVER US 231 - REPAIR  
MILEPOINT 74.528 TO 74.641  
GENERAL SUMMARY**

ITEM NUMBER	ITEM	UNIT	QUANTITY
05963	INITIAL FERTILIZER	TON	0.3
05964	FERTILIZER 20-10-10	TON	0.2
05989	SPECIAL SEEDING CROWN VETCH	SQYD	290
05992	AGRICULTURAL LIMESTONE	TON	0.1
40030	TEMPORARY SILT FENCE	LF	1,210
02562	TEMPORARY SIGNS	SQFT	1,000
02650	MAINTAIN & CONTROL TRAFFIC	LS	1
02671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	6
02676	MOBILIZATION FOR MILL & TEXT	LS	1
02775	ARROW PANEL	EACH	2
23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN	LF	72
04933	TEMP SIGNAL 2 PHASE	EACH	2
06511	PAVE STRIPING-TEMP PAINT-6 IN	LF	15,500
06542	PAVE STRIPING-THERMO-6 IN W	LF	3,023
06543	PAVE STRIPING-THERMO-6 IN Y	LF	2,181
06556	PAVE STRIPING-DUR TY 1-6 IN W	LF	400
06557	PAVE STRIPING-DUR TY 1-6 IN Y	LF	300
24489EC	INLAID PAVEMENT MARKER	EACH	42
06568	PAVE MARKING-THERMO STOP BAR-24IN	LF	51
23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	LF	69
06574	PAVE MARKING-THERMO CURV ARROW	EACH	8
02545	CLEARING AND GRUBBING	④ LS	1
02726	STAKING	LS	1
02696	SHOULDER RUMBLE STRIPS	LF	1,632
21451ED	FILL AND GRADE MEDIAN	LF	500
20191ED	OBJECT MARKER TY 3	EACH	4
02091	REMOVE PAVEMENT	SQYD	250
02023	JPC PAVEMENT-9 IN/24	SQYD	250
01984	DELINEATOR FOR BARRIER - WHITE	EACH	16
01985	DELINEATOR FOR BARRIER - YELLOW	EACH	8

④ APPROXIMATELY .5 ACRES



**WKP - KY 9001  
OHIO COUNTY  
BRIDGE OVER US 231 - REPAIR  
MILEPOINT 74.528 TO 74.641  
PAVING SUMMARY**

PAVING AREAS		PAVING AREAS	
ITEM	TOTAL	ITEM	TOTAL
<b>MAINLINE (TRAVEL LANES &amp; SHOULDERS)</b>			
1 1/2" CL4 ASPH SURF 0.50A PG76-22	7,229		
1 1/2" ASPHALT PAVE MILLING & TEXTURING	7,229		
<b>BRIDGE APPROACHES</b>			
4" CL4 ASPH BASE 1.00D PG76-22 (3 COURSE)	1,008		
4" DGA BASE	336		
<b>SHOULDERS</b>			
ASPHALT SEAL AGGREGATE	729		
ASPHALT SEAL COAT	729		

**PAVING SUMMARY**

ITEM NUMBER	ITEM	UNIT	QUANTITY
00001	DGA BASE (2)	TON	200
00100	ASPHALT SEAL AGGREGATE (3)	TON	15
00103	ASPHALT SEAL COAT (4)	TON	2
00194	LEVELING & WEDGING PG76-22 (1)	TON	75
00219	CL4 ASPH BASE 1.00D PG76-22	TON	220
00335	CL4 ASPH SURF 0.50A PG76-22	TON	596
02677	ASPHALT PAVE MILLING & TEXTURING	TON	596
20071EC	JOINT ADHESIVE	LF	3,332
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING (5)	TON	3

- ① TO BE USED AS DIRECTED BY ENGINEER
  - ② 50 TONS ADDED FOR SHOULDER DROPOFF
  - ③ BASED ON 2 APPLICATIONS OF 20 LBS/SY
  - ④ BASED ON 2 APPLICATIONS OF 2.4 LBS/SY
  - ⑤ BASED ON 0.5 LBS/SY PER APPLICATION
- ALL ASPHALT MIXES BASED ON 110 LBS/SY AND ALL STONE  
BASE BASED ON 115 LBS/SY OR 2.07 TONS PER CY



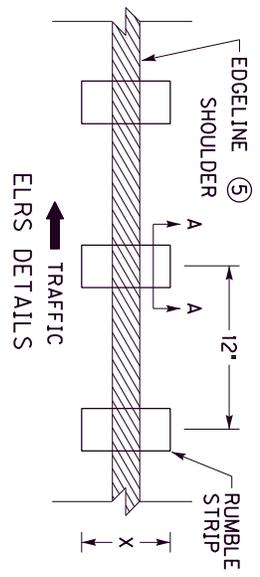
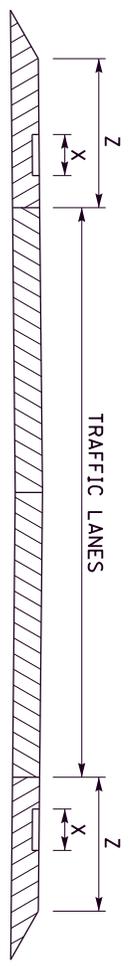
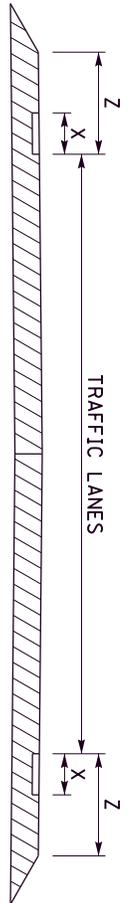


MicroStation v8.11.9.459

E-SHEET NAME:

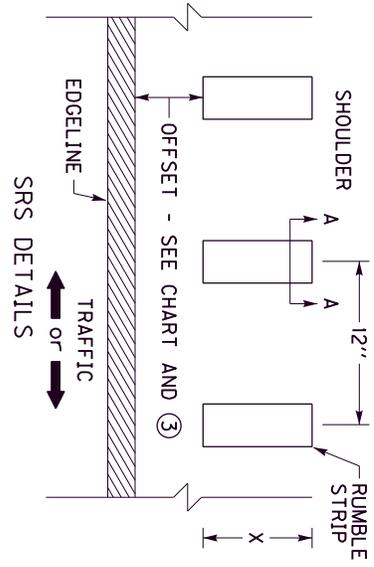
USER: mspbes  
DATE PLOTTED: May 17, 2019

FILE NAME: G:\ENGR\HD1332.01\BRIDGES\CAD\PLAN\SEPIA\SEPIA\_006.DGN



SECTION A-A  
3/8" MIN. / 1/2" MAX.

SHOULDER WIDTH (Z) ②	RUMBLE TYPE ①	RUMBLE LENGTH (X) ③	OFFSET ③
>=1'	ELRS	8"	N/A
2'	ELRS or SRS	8"	ELRS-N/A SRS-6"
3'	ELRS or SRS	8"	ELRS-N/A SRS-6"
4'	ELRS or SRS	8"	ELRS-N/A SRS-6"
5'	SRS ⑥	8"	6"
6'	SRS ⑥	8"	6"
7'	SRS ⑥	12"	12"
>=8'	SRS ⑥	16"	12"



~ NOTES ~

- FOR MULTI-LANE ROADWAYS, THE RUMBLE TYPE TO BE INSTALLED IS BASED ON SHOULDER WIDTH (Z). FOR SHOULDER WIDTHS OF 2', 3', AND 4' THE RUMBLE TYPE MAY BE SPECIFIED AS EITHER EDGELINE RUMBLE STRIPS (ELRS) OR SHOULDER RUMBLE STRIPS (SRS). IN THESE SITUATIONS, THE RUMBLE TYPE TO BE INSTALLED WILL BE SPECIFIED IN THE PLANS, PROPOSAL, AND/OR BID ITEMS, OR AS DIRECTED BY THE ENGINEER.
- WHEN SRS ARE SPECIFIED, SHOULDER WIDTH (Z) IS FROM LANE SIDE EDGE OF RUMBLE STRIP TO OUTSIDE EDGE OF TRAVERSABLE PAVEMENT.
- RUMBLE LENGTH (X) AND/OR OFFSET DISTANCE MAY BE MODIFIED AS THE ENGINEER DIRECTS, IF THE SHOULDER WIDTH (Z) IS EQUAL TO OR LESS THAN THE COMBINED WIDTH OF THE PROPOSED RUMBLE LENGTH (X) AND OFFSET DISTANCE.
- DISTANCES SHOWN ARE APPROXIMATE. MAINTAIN RUMBLE STRIP DIMENSIONS AND SPACING AS MUCH AS POSSIBLE.
- WHEN ELRS ARE SPECIFIED, THE EDGELINE MARKING SHALL BE PLACED IN THE CENTER OF THE RUMBLE STRIP.
- SHOULDER RUMBLE STRIPS (SRS) ALONG OUTSIDE (RIGHT) SHOULDERS THAT ARE 5' OR WIDER SHOULD INCLUDE BICYCLE GAPS AS DETAILED. BICYCLE GAPS ARE NOT REQUIRED ON INSIDE (LEFT) SHOULDERS. BICYCLE GAPS SHALL NOT BE USED ON INTERSTATES AND PARKWAYS.
- RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS, OR WHEN THE SHOULDER WIDTH IS LESS THAN 1FT.

DRAWING NOT TO SCALE

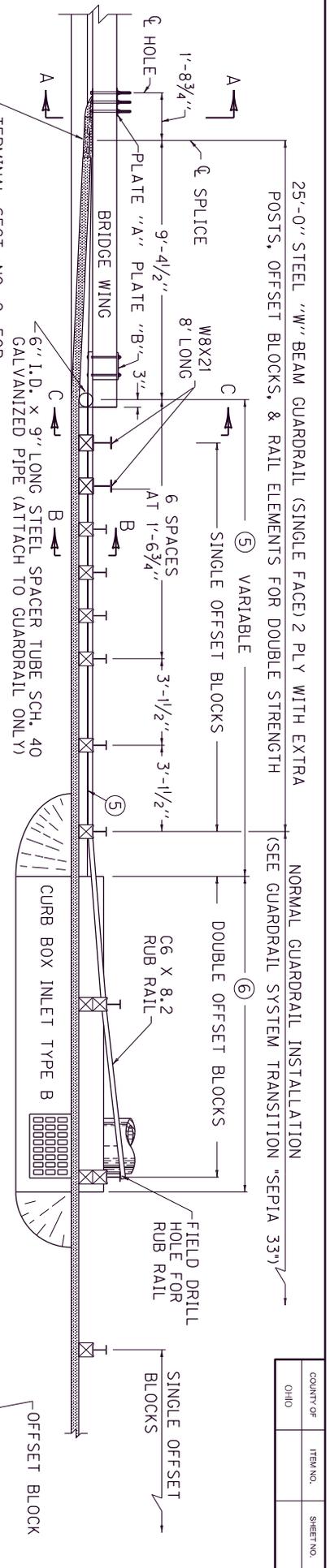
USE WITH SEPIA 005

KENTUCKY  
DEPARTMENT OF HIGHWAYS  
RUMBLE STRIP DETAILS  
MULTI-LANE ROADWAYS  
AND RAMPS

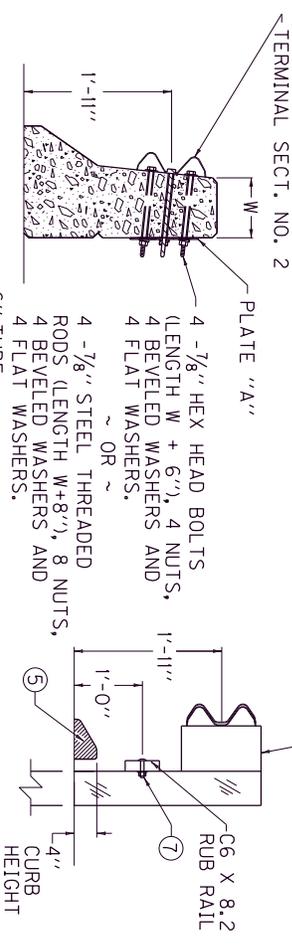
SUBMITTED: *B. Gifford* 11-23-16  
DATE

008

COUNTY OF OHIO	ITEM NO.	SHEET NO.
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PLAN VIEW



SECTION A-A

SECTION B-B

SECTION C-C

TERMINAL SECT. NO. 2: FOR RECTANGULAR PLATE WASHER REQUIREMENTS AT SPLICE SEE CUR. STD. DWG. RBR-010

~ NOTES ~

1. GENERAL
  - a. SEE CUR. STD. DWGS. IN THE RBB, RBI, RBR, AND RPM-SERIES FOR OTHER RELATED GUARDRAIL DETAILS AND BRIDGE PLANS FOR BRIDGE WING DETAIL.
  - b. SEE CUR. STD. DWG. RDB-SERIES FOR CURB BOX INLET TYPE B.
  - c. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A IS FOR USE ON BOTH BRIDGE ENDS OF AN UNDIVIDED HIGHWAY AND ON THE APPROACH BRIDGE ENDS OF A DIVIDED HIGHWAY.
2. MATERIAL REQUIREMENTS
 

ALL HARDWARE SHALL BE GALVANIZED. (AASHTO M-232)

  - 5/8" STEEL PLATE "A" AND "B" (AASHTO M-270)
  - 7/8" HEX HEAD BOLTS OR STEEL THREADED RODS (LENGTH AS SHOWN)
  - 7/8" HEAVY HEX NUTS (7/8" THICK) (AASHTO M-291)
  - 7/8" FLAT WASHERS (3/16" THICK) (AASHTO M-293)
  - 7/8" BEVELED WASHERS (5/16" MEAN THICKNESS) (AASHTO M-293)

BOTH THE BOLT AND THREADED ROD SHALL HAVE A MINIMUM OF 50,000 LBS. TENSILE STRENGTH AT THE NARROWEST POINT.
3. CONSTRUCTION METHODS
 

ELIMINATE EXTRA OFFSET BLOCKS WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.
4. HOLES TO BE FORMED THROUGH BRIDGE WING WITH 1" I.D. PLASTIC PIPE FOR 7/8" BOLTS AND 5/8" I.D. PLASTIC PIPE FOR 5/8" BOLTS. PIPE SHALL REMAIN IN PLACE.
5. METHOD OF MEASUREMENT AND BASIS OF PAYMENT
6. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND INCLUDES: TERMINAL SECTION NO. 2; ALL ITEMS WHICH ARE IN ADDITION TO THE NORMAL INSTALLATION OF STEEL BEAM GUARDRAIL (EXTRA POSTS, OFFSET BLOCKS, RAIL ELEMENTS, SPACER TUBE, HARDWARE, RUB RAIL, ETC.), AND OTHER INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION AS DETAILED. STEEL "W" BEAM GUARDRAIL (SINGLE FACE) AND ISLAND HEADER CURB ARE SEPARATE BID ITEMS WHICH ARE ALWAYS REQUIRED. CURB BOX INLET TYPE B IS A SEPARATE BID ITEM THAT WILL BE USED WHEN REQUIRED FOR BRIDGE END DRAINAGE.
7. BID ITEMS AND UNIT TO BID
  - GUARDRAIL CONNECTOR TO BRIDGE END TY A EACH
  - GUARDRAIL-STEEL "W" BEAM-S FACE LF
  - ISLAND HEADER CURB TYPE 1 OR 2 LF
  - CURB BOX INLET TYPE B (AS REQUIRED) EACH
8. THE PLASTIC PIPE AND COST OF FORMING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR BRIDGE SUPERSTRUCTURE CONCRETE.

25'-0" STEEL "W" BEAM GUARDRAIL (SINGLE FACE) 2 PLY WITH EXTRA POSTS, OFFSET BLOCKS, & RAIL ELEMENTS FOR DOUBLE STRENGTH

(SEE GUARDRAIL SYSTEM TRANSITION "SEPIA 33")

NORMAL GUARDRAIL INSTALLATION

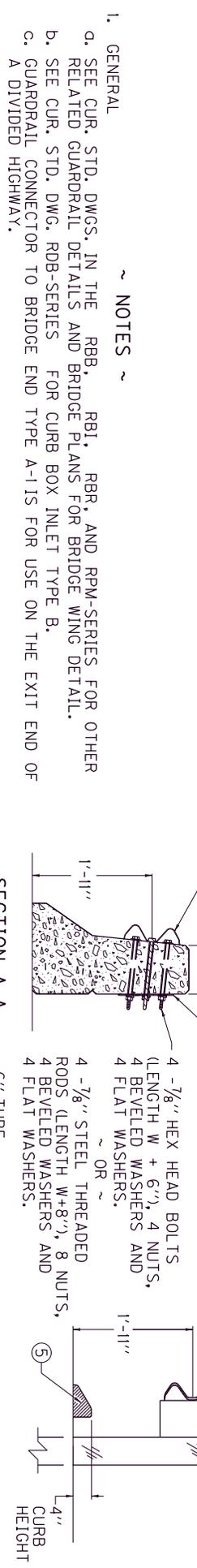
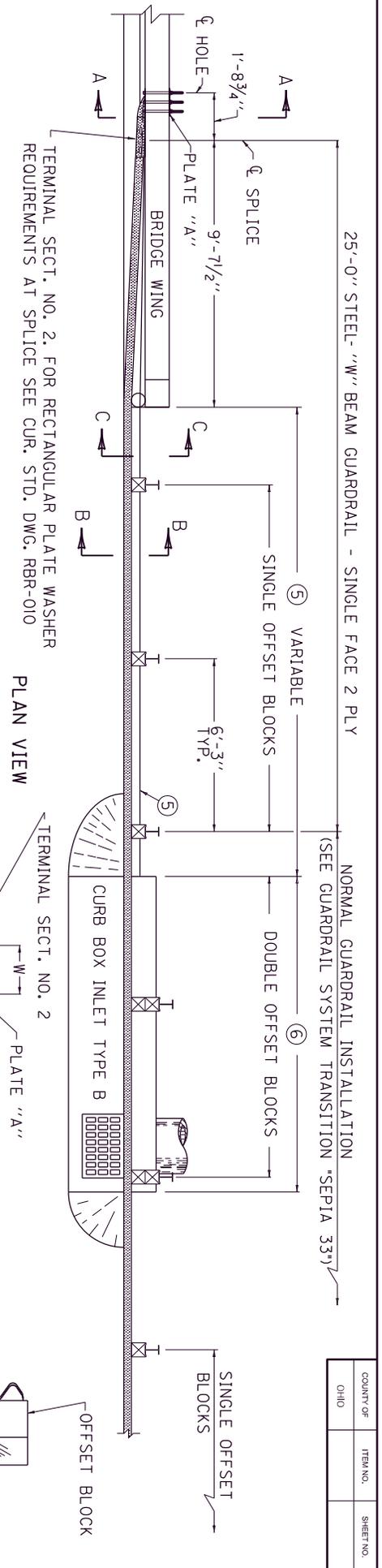
COUNTY OF	ITEM NO.	SHEET NO.
OHIO		

- ⑤ VARIABLE SINGLE OFFSET BLOCKS
  - ⑥ DOUBLE OFFSET BLOCKS
  - ⑦ 6'-4" WHEN L=5'-0"
  - ⑧ 11'-4" WHEN L=10'-0"
  - ⑨ 21'-4" WHEN L=20'-0"
  - ⑩ 5/8" X 3/2" BUTTON HEAD BOLT, HEX HEAD NUT.
  - ⑪ CURB BOX NOT REQUIRED UNLESS NEEDED FOR DRAINAGE.
  - ⑫ 10'-0" LENGTH IS REQUIRED UNLESS OTHERWISE NOTED.
  - ⑬ L EQUALS THROAT LENGTH OF BOX.
- ISLAND HEADER CURB. TRANSITION FROM ISLAND CURB SHAPE TO SHAPE ON BRIDGE WING WITHIN 7'-3", LENGTH OF CURB VARIABLE (22'-3" WHEN L=5'-0") (17'-3" WHEN L=10'-0") (12'-3" WHEN L=15'-0") (7'-3" WHEN L=20'-0"), ON APPROACH END CONSTRUCT 25'-0" OF ISLAND HEADER CURB EVEN WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.
- USE WITH CUR. STD. DWGS. BHS-008, RBC-002, RBC-003 RBR-010

**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**

GUARDRAIL CONNECTOR TO BRIDGE END TYPE A

SUBMITTED: *[Signature]* 4-04-18  
DIRECTOR DIVISION OF DESIGN DATE  
015



1. GENERAL

- a. SEE CUR. STD. DWGS. IN THE RBB, RBI, RBR, AND RPM-SERIES FOR OTHER RELATED GUARDRAIL DETAILS AND BRIDGE PLANS FOR BRIDGE WING DETAIL.
- b. SEE CUR. STD. DWG. RDB-SERIES FOR CURB BOX INLET TYPE B.
- c. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1 IS FOR USE ON THE EXIT END OF A DIVIDED HIGHWAY.

2. MATERIAL REQUIREMENTS

- a. ALL HARDWARE SHALL BE GALVANIZED. (AASHTO M-232)
- b. 5/8" STEEL PLATE "A" (AASHTO M-270)
- c. 7/8" HEX HEAD BOLTS OR STEEL THREADED RODS (LENGTH AS SHOWN)
- d. 7/8" HEAVY HEX NUTS (7/8" THICK) (AASHTO M-291)
- e. 7/8" FLAT WASHERS (3/16" THICK) (AASHTO M-293)
- f. 7/8" BEVELED WASHERS (3/16" MEAN THICKNESS) (AASHTO M-293)
- g. BOTH THE BOLT AND THREADED ROD SHALL HAVE A MINIMUM OF 50,000 LBS. TENSILE STRENGTH AT THE NARROWEST POINT.

3. CONSTRUCTION METHODS

- a. ELIMINATE EXTRA OFFSET BLOCKS WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.
- b. HOLES TO BE FORMED THROUGH BRIDGE WING WITH 1" I.D. PLASTIC PIPE FOR 7/8" BOLTS. PLASTIC PIPE SHALL REMAIN IN PLACE.
- c. METHOD OF MEASUREMENT AND BASIS OF PAYMENT
- d. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1 SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH INCLUDES TERMINAL SECT. NO. 2, RAIL ELEMENTS, SPACER TUBE, HARDWARE AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION. STEEL "W" BEAM GUARDRAIL (SINGLE FACE) AND ISLAND HEADER CURB ARE SEPARATE BID ITEMS WHICH ARE ALWAYS REQUIRED. CURB BOX INLET TYPE B IS A SEPARATE BID ITEM THAT WILL BE USED WHEN REQUIRED FOR BRIDGE END DRAINAGE.
- e. BID ITEMS AND UNIT TO BID
- f. GUARDRAIL CONNECTOR TO BRIDGE END TY A-1 EACH
- g. GUARDRAIL-STEEL "W" BEAM-S FACE LF
- h. ISLAND HEADER CURB TYPE 1 OR 2 LF
- i. CURB BOX INLET TYPE B (AS REQUIRED) EACH
- j. THE PLASTIC PIPE AND COST OF FORMING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR BRIDGE SUPERSTRUCTURE CONCRETE.

NORMAL GUARDRAIL INSTALLATION  
(SEE GUARDRAIL SYSTEM TRANSITION "SEPIA 33")

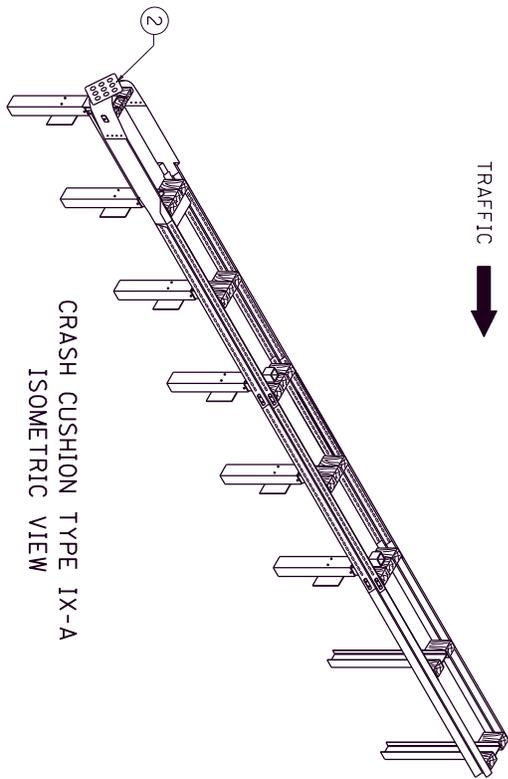
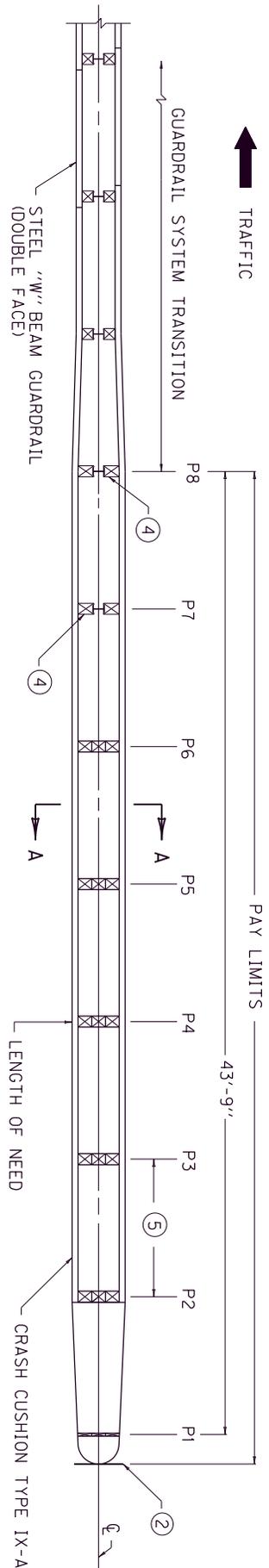
COUNTY OF	ITEM NO.	SHEET NO.
OHIO		

- 5. ISLAND HEADER CURB. TRANSITION FROM ISLAND CURB SHAPE TO SHAPE ON BRIDGE WING WITHIN 7'-3", LENGTH OF CURB VARIABLE (22'-3" WHEN L=5'-0") (17'-3" WHEN L=10'-0") (12'-3" WHEN L=15'-0") (7'-3" WHEN L=20'-0"), ON THE APPROACH END CONSTRUCT 25'-0" OF ISLAND HEADER CURB EVEN WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.
- 6. 6'-4" WHEN L=5'-0"  
11'-4" WHEN L=10'-0"  
16'-4" WHEN L=15'-0"  
21'-4" WHEN L=20'-0"
- 7. CURB BOX NOT REQUIRED UNLESS NEEDED FOR DRAINAGE.
- 8. 10'-0" LENGTH IS REQUIRED UNLESS OTHERWISE NOTED.  
L EQUALS THROAT LENGTH OF BOX.

USE WITH CUR. STD. DWGS.  
BHS-008, RBC-002, RBC-003,  
RBR-010

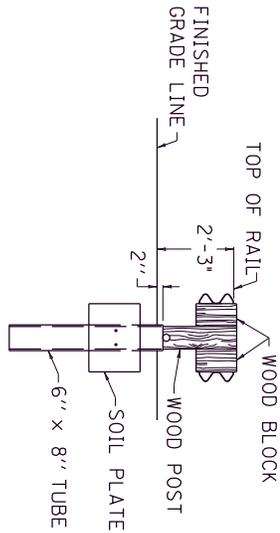
**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
GUARDRAIL CONNECTOR  
TO BRIDGE END  
TYPE A-1

SUBMITTED: *Michael P. Blodgett*  
DIRECTOR DIVISION OF DESIGN  
DATE: 4-04-18  
016

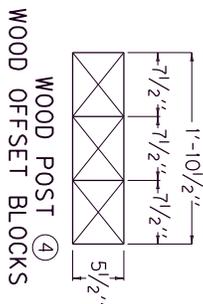


CRASH CUSHION TYPE IX-A  
ISOMETRIC VIEW

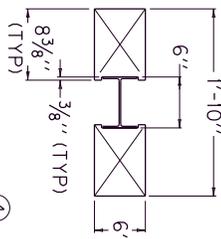
PLAN VIEW



SECTION A-A



WOOD POST (4)



WOOD OFFSET BLOCKS

~ NOTES ~

1. CRASH CUSHION TYPE IX-A SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND INCLUDES POSTS, RAIL ELEMENTS, OBJECT MARKER TYPE 1, HARDWARE, AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION AS DETAILED.
2. OBJECT MARKER TYPE 1, (SEE CURRENT MUTCD MANUAL FOR DETAILS) CENTER HORIZ. AND VERT. CRASH CUSHION TYPE IX-A IS A PATENTED (ONE SOURCE) PRODUCT MANUFACTURED BY TRINITY INDUSTRIES, INC. OF DALLAS, TX.
3. AT POST P7 AND P8 THE POSTS AND OFFSET BLOCKS MAY BE WOOD OR STEEL POST AND WOOD OFFSET BLOCKS.
4. POST P1 THROUGH P8 ARE SPACED 6'-3" ON CENTER.
5. BACK-UP PLATES REQUIRED AT POST P7.
6. THE MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP PLANS TO THE CONTRACTOR WITH EACH INSTALLATION.
7. FOR NON-PAVEMENT APPLICATIONS SEE ROADWAY PLANS FOR GRADING DETAILS.
8. BID ITEM AND UNIT TO BID  
CRASH CUSHION TYPE IX-A  
EACH
9. NCHRP-350-COMPLIANT CRASH CUSHIONS WILL BE ACCEPTED IN INSTANCES WHERE MASH-COMPLIANT DEVICES ARE NOT YET AVAILABLE.

COUNTY OF	ITEM NO.	SHEET NO.
OHIO		

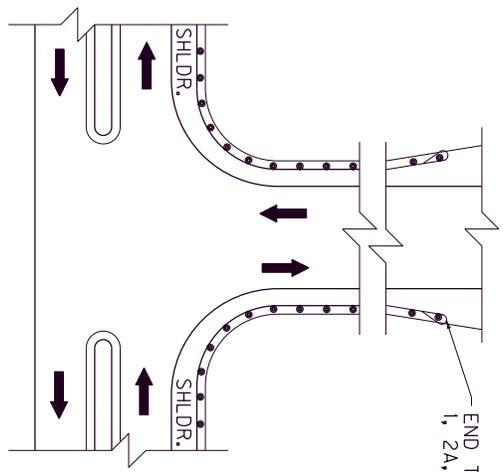
**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**

**CRASH CUSHION**  
**TYPE IX-A**

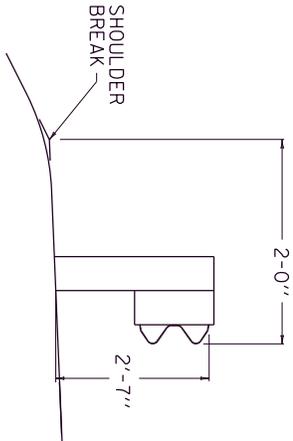
SUBMITTED: *[Signature]* 1-02-19  
ACTIVE DIRECTOR DIVISION OF HIGHWAY DESIGN DATE  
023

COUNTY OF OHIO	ITEM NO.	SHEET NO.
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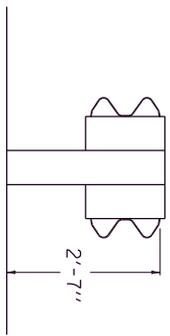
- ~ NOTES ~
1. FOR END TREATMENT TYPE 4A USE CUR. STD. DWG. RBR-035 FOR OFFSETS.
  2. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET: (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).



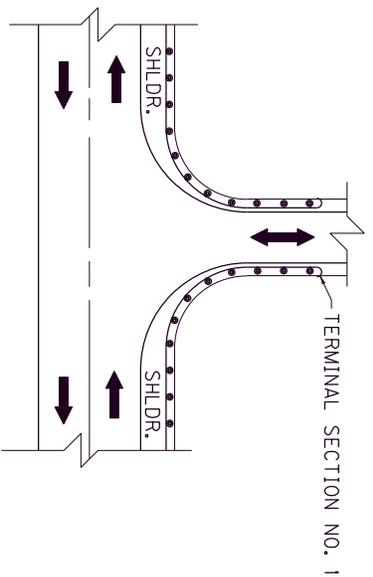
APPROACH ROADS



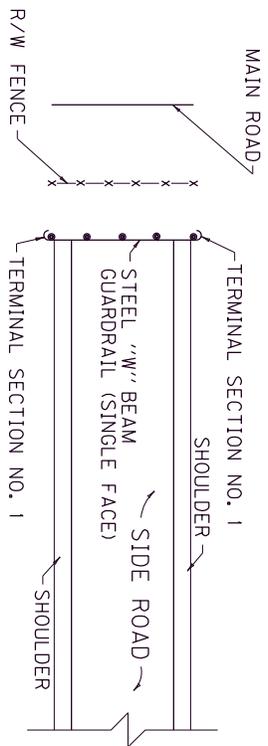
NORMAL GUARDRAIL INSTALLATION



TYPICAL DOUBLE FACE GUARDRAIL INSTALLATION



ENTRANCES



GUARDRAIL USED AS A BARRICADE

USE WITH CUR. STD. DWG.  
RBI-002, RBR-035

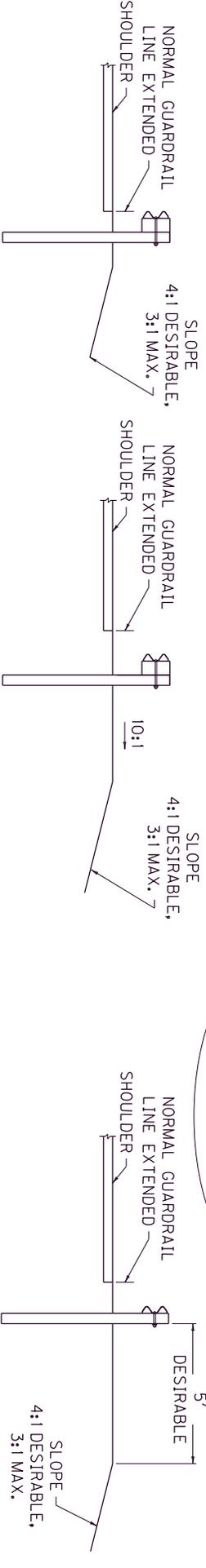
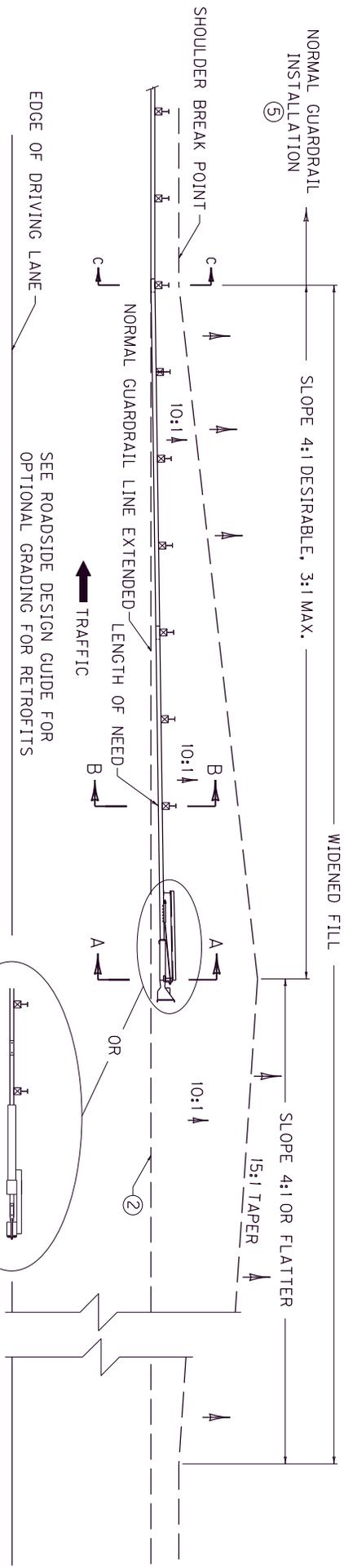
**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**

TYPICAL GUARDRAIL INSTALLATIONS

SUBMITTED: *Matthew P. Blalock* 11-17-17  
DIRECTOR DIVISION OF DESIGN DATE

024

COUNTY OF OHIO	ITEM NO.	SHEET NO.
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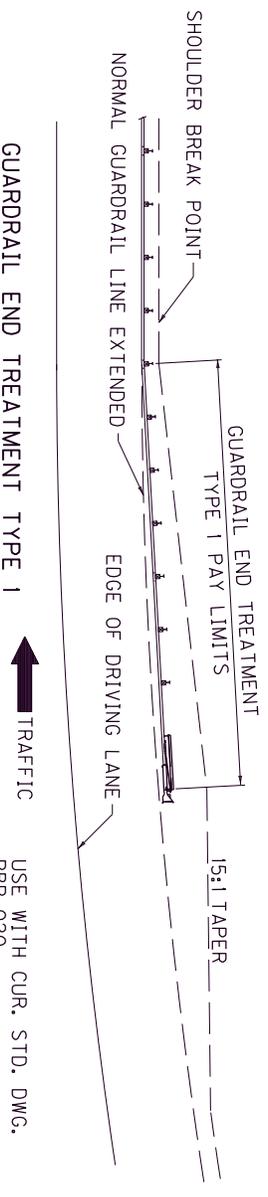
SECTION C-C

SECTION B-B

SECTION A-A

~ NOTES ~

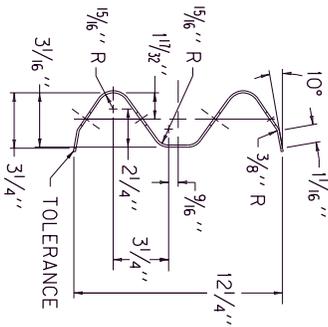
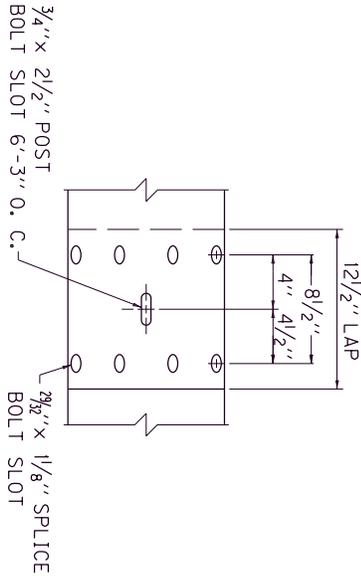
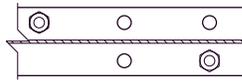
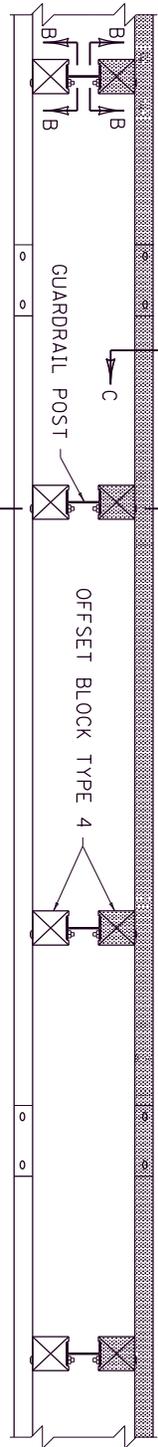
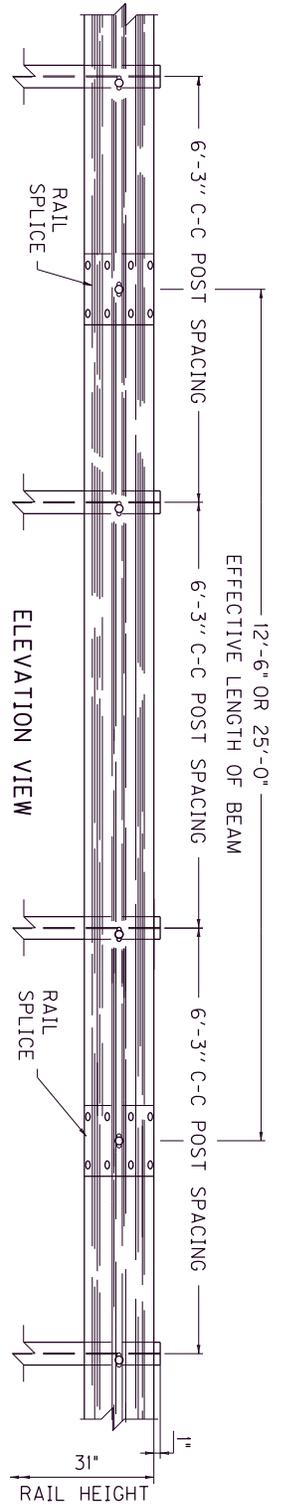
1. BID ITEMS AND UNIT TO BID: GUARDRAIL END TREATMENT TYPE I ROADWAY OR BORROW EXCAVATION, OR EMBANKMENT IN PLACE EACH CUYD
2. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).
3. GUARDRAIL EXTRUDER EDGE CLOSEST TO TRAFFIC SHALL BE PLACED ON NORMAL GUARDRAIL LINE EXTENDED.
4. END TREATMENT TYPE I MAY BE ATTACHED TO CURVED GUARDRAIL PROVIDED CURVE IS A 550' RADIUS OR MORE. END TREATMENT TYPE I SHALL BE INSTALLED ON A STRAIGHT LINE TAPER WITHIN THE PAY LIMITS.
5. INTENDED USE: FILLS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND GUARDRAIL.
6. FOR MAINTENANCE AND REPAIR PROJECTS, USE "GUARDRAIL SYSTEM TRANSITION "SEPIA 33", TO TRANSITION BACK TO 27" OR 29" GUARDRAIL HEIGHT, IF ONLY THE TERMINAL IS PROPOSED TO BE REPLACED.



USE WITH CUR. STD. DWG.  
RBR-020

**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
INSTALLATION OF  
GUARDRAIL  
END TREATMENT  
TYPE I

SUBMITTED: *Mark P. Baker* 11-17-17  
DIRECTOR DIVISION OF DESIGN DATE  
025



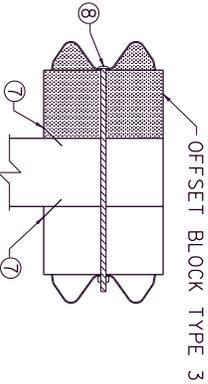
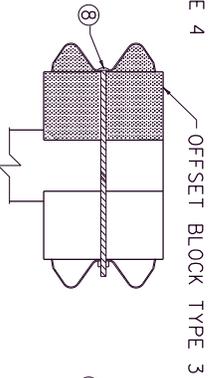
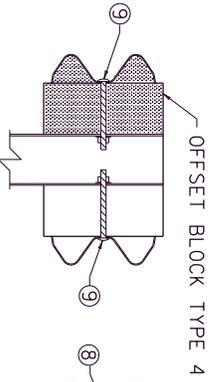
PLAN VIEW  
(DOUBLE FACE RAIL OR SINGLE FACE RAIL)

ELEVATION VIEW  
TRAFFIC

SECTION B-B

RAIL SPLICE (5)

SECTION C-C  
(RAIL CORRUGATED SHEET STEEL BEAM)



SECTION A-A

SECTION A-A

SECTION A-A

DOUBLE FACE RAIL WITH STEEL POST (W6x9) (TIMBER OR APPROVED COMPOSITE OFFSET BLOCK)

DOUBLE FACE RAIL WITH ROUND TIMBER POST

DOUBLE FACE RAIL WITH TIMBER POST

TRAFFIC

NOTES

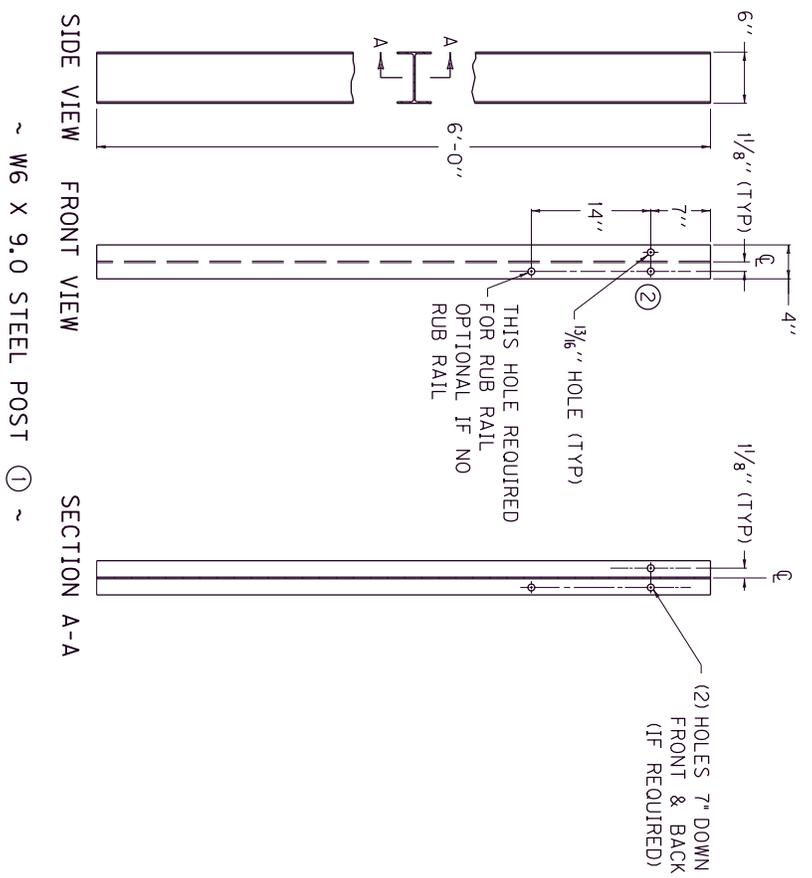
1. BID ITEM AND UNIT TO BID GUARDRAIL-STEEL W BEAM-S FACE OR GUARDRAIL-STEEL W BEAM-D FACE LF
2. DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE AND ACCEPTED MANUFACTURING PRACTICES.
3. THE RAIL ELEMENT SHALL COMPLY WITH AASHTO M-180 -CLASS A, TYPE II.
4. ALL LAPS SHALL BE PLACED IN THE DIRECTION OF TRAFFIC FLOW.
5. TOLERANCE + 1/4", -1/4"
6. 8-5/8" x 1/4" LONG BUTTON HEAD BOLTS AND HEX HEAD RECESS NUTS REQUIRED FOR EACH RAIL SPLICE.
7. LENGTH EQUALS POST AND BLOCK WIDTH PLUS 2" FOR BOLT OR 2 1/4" FOR THREADED ROD.
8. GALVANIZED STEEL 10d COMMON COATED NAIL (DRIVE NAIL AT THE TOP OR BOTTOM CENTER OF BLOCK AND POST AFTER BOLT IS INSTALLED).
9. 5/8" x 8" STEEL THREADED ROD AND TWO (2) HEX HEAD NUTS OR 3/8" x 6" BUTTON OR HEX HEAD BOLT AND HEX HEAD NUT.
10. 5/8" x 8" BUTTON HEAD BOLT, HEX HEAD RECESS NUT AND ONE 3/8" ROUND WASHER (TYP.), BOLT SHALL HAVE A MINIMUM THREAD LENGTH OF 2".
11. REQUIRED FOR DOUBLE RAIL
12. BOTH 12'-6" AND 25' LENGTHS OF "W" BEAM GUARDRAIL SECTIONS WILL BE PERMITTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

COUNTY OF OHIO	ITEM NO.	SHEET NO.
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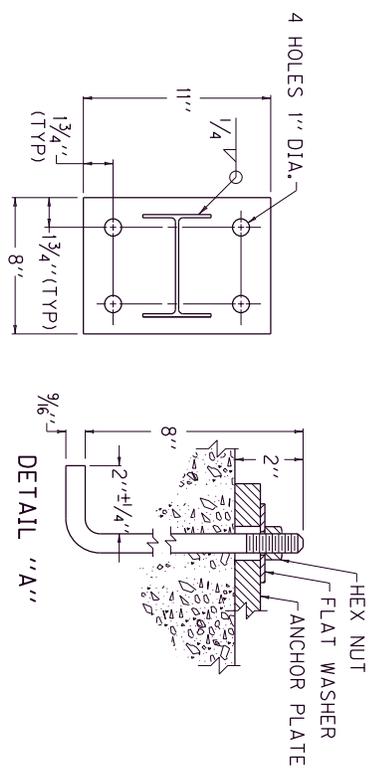
**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
STEEL BEAM  
GUARDRAIL  
( "W" BEAM )

SUBMITTED: *[Signature]* 11-17-17  
DIRECTOR DIVISION OF DESIGN DATE  
027

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OHIO		



- ~ NOTES ~
- ① W6 X 8.5 IS AN ACCEPTABLE ALTERNATE.
  - ② THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.
  - ③ TIMBER OR COMPOSITE BLOCKOUTS MAY BE USED WITH STEEL POST.



REAR ELEVATION

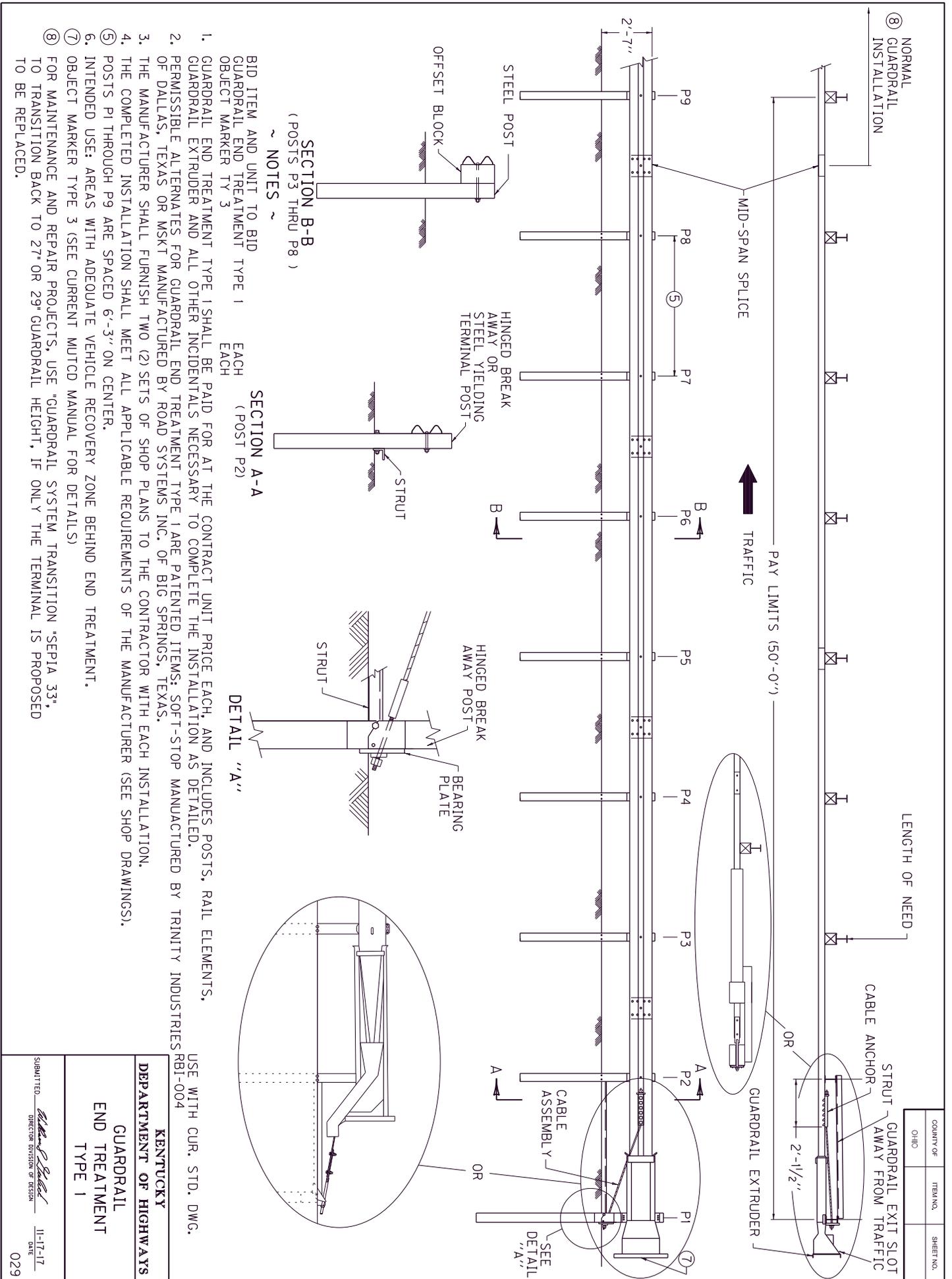
PLAN VIEW

OFFSET BLOCK TYPE 4  
6" X 8" (Nominal Size)  
(TIMBER OR APPROVED COMPOSITE)  
(FOR USE WITH STEEL POST ONLY)

KENTUCKY  
DEPARTMENT OF HIGHWAYS

STEEL  
GUARDRAIL POSTS

SUBMITTED: *Walter P. Bledsoe* 3-06-18  
DIRECTOR DIVISION OF DESIGN DATE  
028



COUNTY OF OHIO	ITEM NO.	SHEET NO.
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**SECTION B-B**  
(POSTS P3 THRU P8 )  
NOTES ~

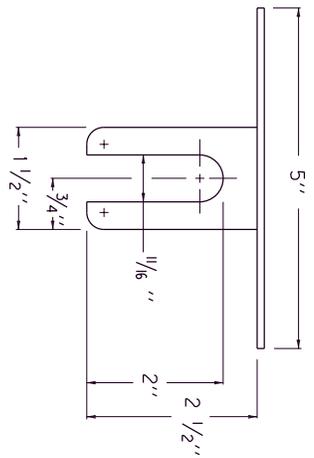
**SECTION A-A**  
(POST P2)  
DETAIL "A"

1. GUARDRAIL END TREATMENT TYPE 1 SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND INCLUDES POSTS, RAIL ELEMENTS, GUARDRAIL END TREATMENT TYPE 1 EACH (POST P2) EACH (POST P2)
2. PERMISSIBLE ALTERNATES FOR GUARDRAIL END TREATMENT TYPE 1 ARE PATENTED ITEMS: SOFT-STOP MANUFACTURED BY TRINITY INDUSTRIES RRI-004 OF DALLAS, TEXAS OR MSKT MANUFACTURED BY ROAD SYSTEMS INC. OF BIG SPRINGS, TEXAS.
3. THE MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP PLANS TO THE CONTRACTOR WITH EACH INSTALLATION.
4. THE COMPLETED INSTALLATION SHALL MEET ALL APPLICABLE REQUIREMENTS OF THE MANUFACTURER (SEE SHOP DRAWINGS).
5. POSTS P1 THROUGH P9 ARE SPACED 6'-3" ON CENTER.
6. INTENDED USE: AREAS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND END TREATMENT.
7. OBJECT MARKER TYPE 3 (SEE CURRENT MUTCD MANUAL FOR DETAILS)
8. FOR MAINTENANCE AND REPAIR PROJECTS, USE "GUARDRAIL SYSTEM TRANSITION "SEPIA 33" TO TRANSITION BACK TO 27" OR 29" GUARDRAIL HEIGHT, IF ONLY THE TERMINAL IS PROPOSED TO BE REPLACED.

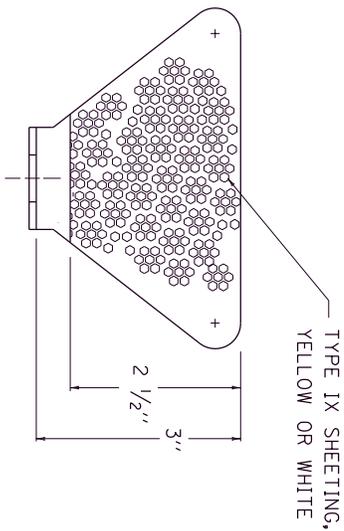
USE WITH CUR. STD. DWG. RRI-004

**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
**GUARDRAIL**  
**END TREATMENT**  
**TYPE 1**

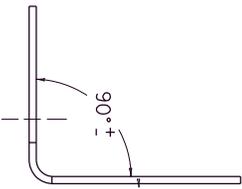
SUBMITTED: *Mark P. Bledsoe* 11-17-17  
DIRECTOR DIVISION OF DESIGN DATE  
029



PLAN VIEW



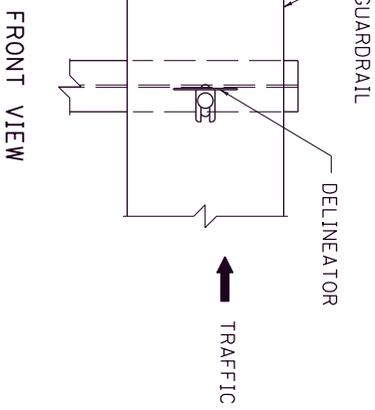
FRONT VIEW



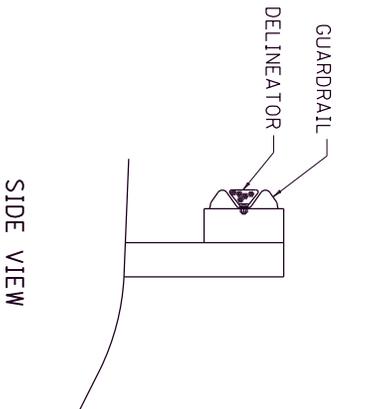
SIDE VIEW

- ~ NOTES ~**
- BID ITEMS AND UNIT TO BID  
 DELINEATOR FOR GUARDRAIL B/W  
 DELINEATOR FOR GUARDRAIL M/W  
 DELINEATOR FOR GUARDRAIL M/Y  
 EACH  
 EACH  
 EACH
1. DELINEATORS 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. DELINEATOR SHAPE AND DIMENSIONS ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY.
  3. TYPES OF DELINEATORS PERMITTED SHALL BE FROM THE LIST OF APPROVED MATERIALS.
  4. GUARDRAIL DELINEATORS SHALL BE REQUIRED ON ALL GUARDRAIL.
  5. DELINEATORS SHALL NOT BE INSTALLED WITHIN THE PAY LIMITS OF THE END TREATMENT.
  6. DELINEATORS SHALL BE MANUFACTURED FROM 12 GA. GALVANIZED STEEL.
  7. DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MANUFACTURER'S TOLERANCES.
  8. 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 STANDARD DRAWING RBM-020.
  9. DELINEATORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

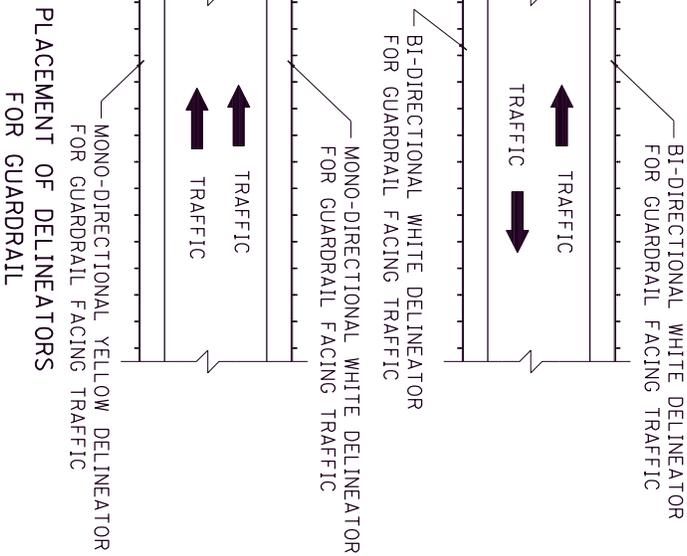
DIMENSIONS SHOWN ARE FOR ONE VERSION OF A WEB-MOUNTED GUARDRAIL DELINEATOR. DELINEATORS WITH ALTERNATE DIMENSIONS MAY BE CONSIDERED FOR INCLUSION ON THE APPROVED PRODUCTS LIST.



FRONT VIEW



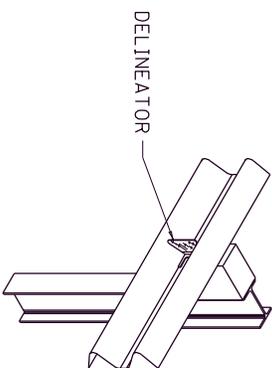
SIDE VIEW



PLACEMENT OF DELINEATORS FOR GUARDRAIL

APPROXIMATE DELINEATOR SPACING	
TANGENT	100'
CURVE	50'

SPACING SHOULD BE ADJUSTED IN CURVES SO THAT SEVERAL DELINEATORS ARE ALWAYS SIMULTANEOUSLY VISIBLE TO THE ROAD USER.



ISOMETRIC VIEW

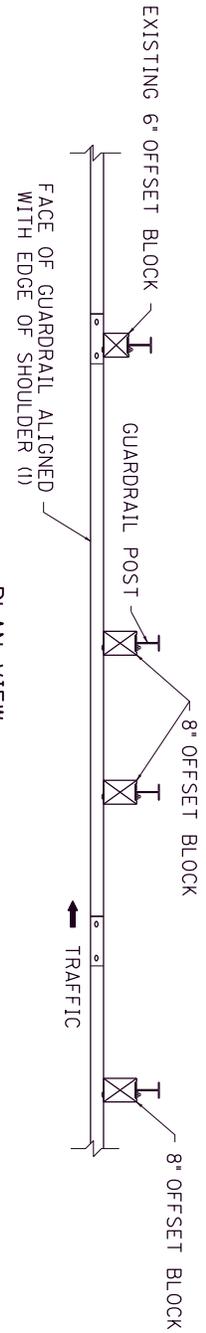
USE WITH CUR. STD. DWGS.  
RBM-020, RBR-060

**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
**DELINEATORS**  
**FOR GUARDRAIL**

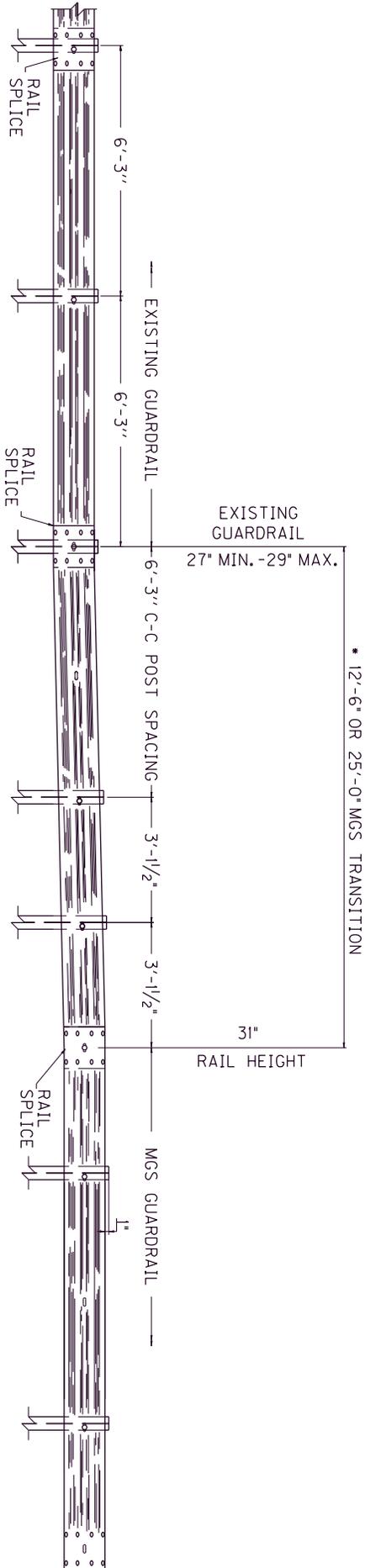
SUBMITTED *William P. Seibel*  
DIRECTOR DIVISION OF DESIGN

11-17-17  
DATE  
032

COUNTY OF	ITEM NO.	SHEET NO.
OHIO		



\* 12'-6" TRANSITION FROM 29" TO 31" SHOWN,  
25'-0" REQUIRED FOR 27" TO 31" TRANSITION.



ELEVATION VIEW

~ NOTES ~

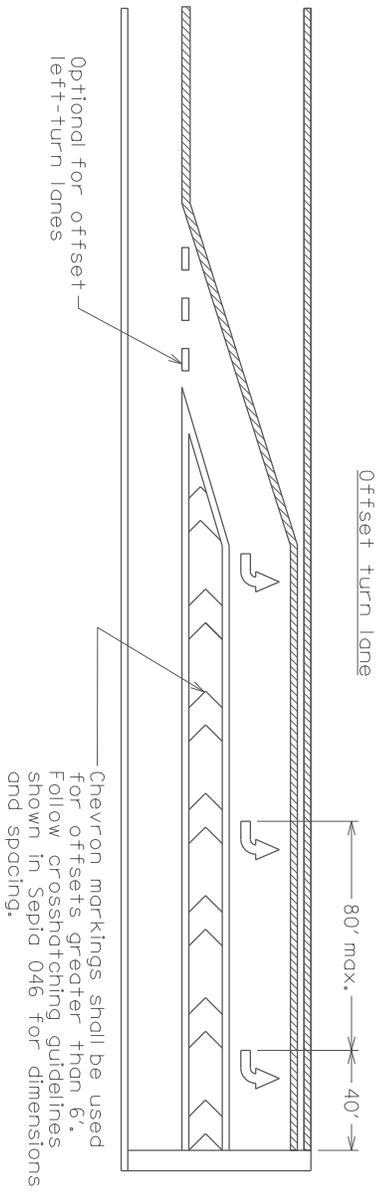
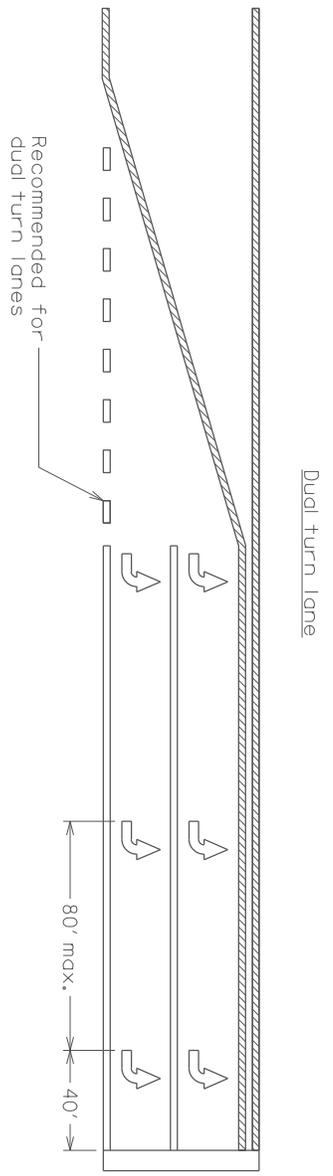
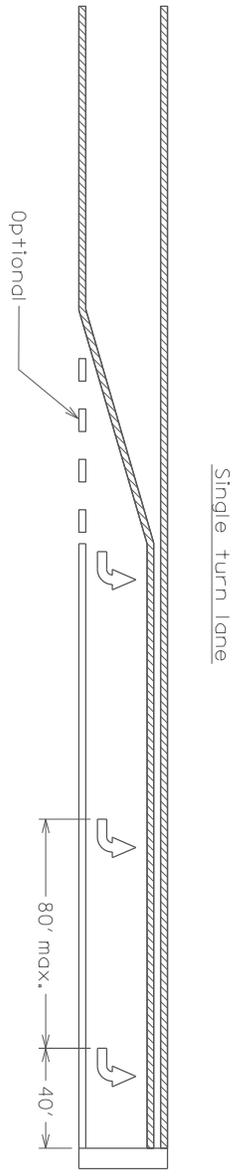
- 1) WHERE POST OFFSET IS CONSTRAINED, AND WHEN THE EXISTING SHOULDER IS WIDER THAN 4 FEET, THE EXISTING SHOULDER MAY BE REDUCED UP TO 2 INCHES TO ACCOMMODATE THE 8 INCH BLOCKS OF THE MGS GUARDRAIL. WHERE SITE CONSTRAINTS PROHIBIT THE POST FROM BEING PLACED AT LEAST 6 INCHES IN FRONT OF THE SLOPE BREAK POINT, USE 7 FOOT POSTS.
- 2) MGS TRANSITION FROM EXISTING GUARDRAIL SHALL BE COMPLETED OUTSIDE THE 50 FEET MGS END TERMINAL LIMITS.

COUNTY OF OHIO	ITEM NO.	SHEET NO.
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**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
**GUARDRAIL SYSTEM**  
**TRANSITION**

SUBMITTED: *[Signature]* 4-04-18  
DIRECTOR DIVISION OF DESIGN DATE  
033

COUNTY OF	ITEM NO.	SHEET NO.
OHM		



**STRIPING NOTES:**

- ARROWS SHALL BE USED IN ANY EXCLUSIVE TURN LANES.
- IN A SINGLE TURN LANE, DOTTED WHITE LANE LINE EXTENSIONS MAY BE USED THROUGH THE TAPER OF THE TURN LANE.
- IF USED, DOTTED WHITE LANE LINE EXTENSIONS SHALL BE NORMAL WIDTH, AND SHOULD BE 2' LONG, WITH A GAP OF 2-6' BETWEEN EACH LINE.
- IN DUAL TURN LANES, DOTTED WHITE LANE LINE EXTENSIONS SHOULD BE USED THROUGH THE TAPER OF THE TURN LANE. BOTH SOLID LINES FORMING THE TURN LANES SHALL BEGIN AT THE DOWNSTREAM END OF THE TAPER.

**ARROW SPACING NOTES:**

- IN SINGLE-DIRECTION TURN LANES, ARROWS SHOULD BE SPACED AS FOLLOWS:
- AT LEAST TWO ARROWS SHOULD BE USED IN EACH TURN LANE. HOWEVER, IF A TURN LANE IS LESS THAN 80' IN LENGTH, THE DOWNSTREAM ARROW MAY BE ELIMINATED.
- THE FIRST UPSTREAM ARROW SHALL BE PLACED AT THE BEGINNING OF THE SOLID LINE FOR THE TURN LANE.
- THE LAST DOWNSTREAM ARROW SHOULD BE PLACED 40' FROM THE STOP BAR.
- ANY ADDITIONAL ARROWS SHOULD BE EVENLY SPACED. SPACING SHOULD NOT EXCEED 80'.
- ARROW SPACING AND NUMBER OF ARROWS MAY VARY BASED ON SITE CONDITIONS.

**DOTTED EXTENSION DIMENSIONS:**



Dotted extensions shall be normal width.

DRAWING NOT TO SCALE

**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
**TYPICAL MARKINGS**  
**FOR TURN LANES**

**LEGEND**

	WHITE
	YELLOW

**MARKINGS**

SUBMITTED: *R. Allen*  
DATE: 11-30-18  
042



**TRAFFIC CONTROL PLAN  
OHIO COUNTY  
WK - 9001**

---

**THIS PROJECT IS A FULLY  
CONTROLLED ACCESS HIGHWAY**

**TRAFFIC CONTROL GENERAL**

Except as provided herein, "Maintain and Control Traffic" shall be in accordance with the 2019 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 55 miles per hour (35 miles per hour for or US 231) 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 Temporary Signs. Any relocation or covering of the signs will be incidental to "Maintain and Control Traffic", lump sum.

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

## **MAINTENANCE OF TRAFFIC OVERVIEW**

Demolition of the existing structures will be achieved by routing traffic down the exit ramps diverting traffic from the mainline structures, one direction at a time. The westbound structure is considered to be in the worse condition and is to be reconstructed first.

## **TIMES OF PROHIBITED LANE CLOSURES AND DIVERSIONS**

No lane closures or diversions will be allowed on the project during the following days unless otherwise approved by the Engineer:

December 15, 2019 – January 15, 2020.

## **Project Phasing:**

### **PHASE I**

Install a temporary signal system and all required striping, signage, temporary lighting, etc. at the termini of the westbound ramps of Exit 75 and US 231.

Close the left lane of mainline WK – 9001 approximately ½ mile in advance of the exit ramp taper. Use a series of 2 message boards indicating “TRAFFIC MUST EXIT” within the lane closure and in advance of the exit ramp taper. Place two Type 3 barricades near the exit gore on mainline with road closed signs. Place drums on 20’ spacing routing traffic into the exit gore and down the ramps. Maintain drums on 40’ spacing on the ramps. Allow service area traffic to enter the one lane traffic flow by placement of additional merge signs. Place signs to reduce speed limit to 35 mph for travel approaching the exit ramp and within the ramp travel limits.

Use an additional message board as needed to warn of possible stopped traffic and advance warning of lane closures. Use a message board in advance of the project in each direction to provide messages to US 231 traffic. Reduce speed limits on US 231 to 35 mph.

Remove the existing westbound mainline WK - 9001 structure and reconstruct the new westbound WK – 9001 structure. Complete westbound bridge approach pavement as detailed, complete guardrail, and pavement markings, and restore traffic to WK – 9001 in its original configuration. Remove the temporary signal at the westbound ramp termini.

**Attention:** See Special Note for Fixed Completion Date and Liquidated Damages for duration limits on ramp diversion and required completion date for Phase I work.

## PHASE II

Install a temporary signal system and all required striping, signage, temporary lighting, etc. at the termini of the eastbound ramps of Exit 75 and US 231.

Close the left lane of mainline WK – 9001 approximately ½ mile in advance of the exit ramp taper. Use a series of 2 message boards indicating “TRAFFIC MUST EXIT” within the lane closure and in advance of the exit ramp taper. Place two Type 3 barricades near the exit gore on mainline with road closed signs. Place drums on 20’ spacing routing traffic into the exit gore and down the ramps. Maintain drums on 40’ spacing on the ramps. Place signs to reduce speed limit to 35 mph for travel approaching the exit ramp and within the ramp travel limits.

Use an additional message board as needed to warn of possible stopped traffic and advance warning of lane closures. Use a message board in advance of the project in each direction to provide messages to US 231 traffic. Reduce speed limits on US 231 to 35 mph.

Remove the existing eastbound mainline WK - 9001 structure and reconstruct the new eastbound WK – 9001 structure. Complete eastbound bridge approach pavement as detailed, complete guardrail, and pavement markings, and restore traffic to WK – 9001 in its original configuration. Remove the temporary signal at the eastbound ramp termini.

**Attention:** See Special Note for Fixed Completion Date and Liquidated Damages for duration limits on ramp diversion for Phase II work.

## PHASE III

Using alternating lane closures on US 231 complete all items of cleanup, permanent erosion control etc. Complete concrete repairs, final surfacing, guardrail, final pavement markings and all other uncompleted items of work on US 231.

Using alternating lane closures, complete final cleanup, permanent erosion control, rumble strips, and all remaining items of work on mainline WK – 9001.

## MINIMUM LANE AND MINIMUM LANE WIDTH REQUIREMENTS

Maintain a minimum 12’ lane width on WK – 9001 at all times. Traffic may be reduced to one lane per direction in accordance with phasing requirements and lane closure requirements.

On US 231, traffic may be reduced to two 10’ through lanes while work is active in the vicinity of the bridge construction work by shifting traffic into the center turn lane. If traffic is diverted to the center turn lane, limit the lane reduction area in length to maintain all three existing lanes within 200 feet of the ramp termini to maintain two through lanes and a left turn lane at the ramp intersections a minimum distance of 200 feet. Restore US 231 traffic to three lanes any time workers are not present.

## **LANE CLOSURES**

Contrary to Section 112.04.17, Lane closures, whether long term or short term, will not be measured for payment and will be incidental to the bid item "Maintain and Control Traffic". Lane closures must be installed on both inside lanes while work is being performed in the median.

Remove lane closures and restore traffic to two lanes on the mainline for any period of time more than 3 days that no work will be performed requiring a lane closure.

## **SIGNS**

Additional traffic control signs in addition to normal lane closure signing detailed on the Standard Drawings may be required by the Engineer. Additional signs needed for lane closures may include, but are not limited to, dual mounted LEFT/RIGHT LANE CLOSED 1 MILE, LEFT/RIGHT LANE CLOSED 2 MILE, LEFT/RIGHT LANE CLOSED 3 MILE, SLOWED/STOPPED TRAFFIC AHEAD, KEEP LEFT/RIGHT. 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 "Roadwork Ahead" signs on entrance ramps, extra double fine signs, keep left/keep right and speed limit signs. These are to be paid for only once regardless of how many times they are moved or relocated.

## **FLASHING ARROWS**

Flashing arrows will be paid for once, regardless of how many times they are moved or relocated. The Department **WILL NOT** take possession of the flashing arrows upon completion of the work.

## **PORTABLE CHANGEABLE MESSAGE SIGNS**

Provide portable changeable message signs (PCMS) 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 PCMS. Place PCMS one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens relocate or provide additional PCMS 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 PCMS will be in operation at all times. In the event of damage or mechanical/electrical failure, the contractor will repair or replace the PCMS immediately. PCMS 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 (TMA) 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. TMA will not be measured for payment, but are incidental to "Maintain and Control Traffic," Lump Sum. The Department **WILL NOT** take possession of the TMAs upon completion of the work.

## **PAVEMENT MARKINGS**

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 or covering and uncovering the lenses, but will be incidental to "Maintain and Control Traffic," lump sum.

Place temporary and permanent striping in accordance with Section 112, and Section 714 for Thermoplastic Markings and Section 714 for Durable Type I Tape and:

1. Temporary striping will be 6" in width.
2. Edge lines will be required for temporary striping during the lane closures.
3. Existing, temporary, or permanent striping will be in place before a lane is opened to traffic
4. Place permanent striping on bridge decks and pavement within the project limits.
5. Permanent striping will be Durable Type I Tape Markings on bridge decks or other concrete, and will be 6" Thermoplastic on asphalt paving.

Should the Contractor change the existing striping pattern, the Contractor is to restripe the roadway back to its original configuration 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.

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.

## **TRAFFIC COORDINATOR**

Designate an employee to be traffic coordinator. The designated Traffic Coordinator must meet the requirements of section 112.03.12 of the Standard Specifications. 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.

## **WIDE LOADS**

Wide load detours will not be established on this project. Provide for passage of wide loads up to 16 feet. Wide loads may use a portion of the shoulder to allow for passage. Temporarily shift traffic drums to allow for passage of wide loads when necessary.

## **ROAD CLOSURES**

US 231 may be closed up to 3 nights per structure to facilitate the removal of the existing bridge superstructure only. All other work must be accomplished by maintaining at least two lanes of traffic on US 231. Partial demolition of structures may be accomplished while maintaining traffic on US 231 as approved by the engineer, provided the demolition activities can be achieved safely. An approved demolition plan must be in place prior to any demolition activities and prior to road closures for demolition purposes. Allowable times of closure are as follows:

Nightly from 8:00 PM to 6:00 AM.

Provide a minimum of two weeks notice to the engineer prior to US 231 road closures. Place messages on message boards on US 231 notifying times and dates of road closures a minimum of 7 days prior to closures.

**WK-9001  
Ohio County  
Bridge Replacement over US 231**

**THIS PROJECT IS A FULLY  
CONTROLLED ACCESS HIGHWAY**

## **I. DESCRIPTION**

Perform all work in accordance with the Department's 2019 Standard Specifications, Supplemental Specifications, 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) Drainage structure work; (3) Concrete Pavement Repairs; (4) Remove and replace Guardrail and Guardrail End treatments; (5) Asphalt Pavement and Milling and Texturing; (6) Pavement markers and markings; (7) Erosion Control (8) Bridge Reconstruction Work (9) 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. **Pavement Markings -6 inch.** Use Thermoplastic Pavement Markings for permanent striping on asphalt pavement. Use Durable Type I Tape for all concrete surfaces requiring striping.
- C. **Channel Lining Class III.** Channel lining will be limestone and is to be placed in ditches as directed by the engineer.
- D. **Inlaid Pavement Markers.** Furnish and install markers in accordance with the "Special Note for Inlaid Pavement Markers".

- E. **Asphalt Material for Tack Non-Tracking.** See Special Note for Non Tracking Tack Coat.
- F. **Joint Adhesive.** See “Special Note for Longitudinal Pavement Joint Adhesive”

### III. CONSTRUCTION METHODS

- A. **Maintain and Control Traffic.** See Traffic Control Plan. Use waterblasting methods only for striping removal when necessary in lieu of abrasive or other methods.
- 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.
- C. **Disposal of Waste.** Dispose of all cuttings, debris, and other waste off the right-of-way at approved sites obtained by the Contractor. 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 obtaining the necessary permits, but will be incidental to the other items of the work. Disposal of existing cuttings and brush shall adhere to Section 202 of the current Standard Drawings.
- 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 and use erosion control blanket in lieu of “Seeding and Protection” in all seeding applications. Install erosion control blanket in all ditching areas not receiving aggregate channel lining.

Additional borrow material may be needed for regrading slopes in pipe extension locations that are intended for elimination of guardrail. The Contractor may suggest potential borrow locations from the right of way to be approved by the engineer. Use only soil material suitable for sustaining vegetation.

- E. **Guardrail.** Remove guardrail where necessary to perform work at designated locations. Replace guardrail as soon as practical at the conclusion of the work requiring the removal of the guardrail.

- F. **Pavement Striping and Inlaid Pavement Markers.** Permanent striping will be in accordance with Section 112 for temporary striping, 714 for Durable Type I Tape, and Section 714 for Thermoplastic Markings, except that:
- (1). Striping will be 6" in width.
  - (2). Permanent striping or temporary striping will be in place before a lane is opened to traffic.
  - (3). Pavement Markers shall be installed per Standard Drawings TPM-105-02 (Arrangement C), TPM-125-02, TPM-130-02 and TPM-135-02, and Special Note for Inlaid Pavement Markers.
- G. **On-Site Inspection.** In accordance with section 102.06, 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.
- J. **Joint Adhesive.** See "Special Note for Longitudinal Pavement Joint Adhesive".
- K. **Roadway Excavation, Embankment in Place, or Borrow Excavation.** Perform any necessary excavation or embankment required to complete any and all items of work in the contract.
- L. **Remove Paved Ditch.** Completely remove the existing flumes and paved ditch on the west side of WK – 9001 mainline bridges and completely dispose of the rubble and debris.
- M. **Fill and Grade Median.** Grade bridge approach medians in accordance with RBB-002-09.

#### IV. METHOD OF MEASUREMENT

- A. **Maintain and Control Traffic.** See Traffic Control Plan. Only the bid items listed will be measured for payment. No measurement or payment for striping removal or removal or covering of existing pavement marker lenses will be made and will be considered incidental to “Maintain and Control Traffic”. No measurement or payment will be made for removal of existing striping and will be considered incidental to “Maintain and Control Traffic”. Maintenance and repairs of damages to shoulders used as temporary travel lanes caused by the application of traffic, will be considered incidental to “Maintain and Control Traffic” with no separate measurement or payment.
- 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. **Erosion Control.** Erosion control items will be measured and paid in accordance with the Standard Specifications for Road and Bridge Construction. No direct measurement for seeding will be made as the seeding is incidental to the erosion control blanket in accordance with the specifications.
- D. **Concrete Pavement Repair.** See Special Note for Concrete Pavement Repair.
- E. **Remove Existing Paved Ditch.** Removal of paved ditches will be measured by the square yard.
- F. **Temporary Signal 2-Phase.** See Special Note for Temporary Traffic Signals.
- G. **Joint Adhesive.** See “Special Note for Longitudinal Pavement Joint Adhesive”.
- H. **Roadway Excavation, Embankment in Place, or Borrow Excavation.** No direct measurement will be made for Roadway Excavation, Embankment in Place or Borrow Excavation as these items will be considered incidental to the specific item requiring the excavation or embankment work.
- I. **Inlaid Pavement Markers.** Inlaid pavement markers are to be measured in accordance with the “Special Note for Inlaid Pavement Markers”. No direct payment will be made for the removal of the existing pavement markers prior to the milling operation and shall be considered incidental to milling and texturing.
- J. **Fill and grade Median.** The bid item “Regrade Median” will be measured longitudinally along the centerline of WK – 9001 for the required length of median reshaping.

## 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. Payment will be made in accordance with the KYTC Standard Specifications, current edition with supplemental specifications and current Standard Drawings unless otherwise specified herein.

- 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. **Pavement Markers and Permanent Striping.** See Traffic Control Plan, Standard Specifications and “Special Note for Inlaid Pavement Markers”.
- D. **Temporary Striping.** Contrary to Section 714.04.01, the Department **WILL** measure temporary paint used for interim markings for Thermoplastic Paint applications.
- E. **Lane Closures.** Contrary to Section 112, lane closures will not be measured for payment but will be incidental to the bid item “Maintain and Control Traffic”. Arrow boards, portable message boards, Type III barricades, and signs shall be paid for one time regardless of how many times they are moved.
- F. **Remove Existing Paved Ditch.** The removal of the existing paved ditch shall be paid for as “square yards” and shall include the removal and disposal of all existing paved ditch materials.
- G. **Milling and Texturing.** Milling and texturing will be paid for per section 408.05 of the 2019 Standard Specifications. No direct payment will be made for disposal of millings or for removal of existing pavement markers.
- H. **Waterblasting Striping Removal.** Waterblasting Striping Removal will be required for all striping removal applications and will be considered incidental to “Maintain and Control Traffic”.
- I. **Joint Adhesive.** See “Special Note for Longitudinal Pavement Joint Adhesive”
- J. **Asphalt Material for Tack Non-Tracking.** See Special Note for Non Tracking Tack Coat.
- K. **Roadway Excavation, Embankment in Place, or Borrow Excavation.** No direct measurement will be made for Roadway Excavation, Embankment in Place or Borrow Excavation as these items will be considered incidental to the specific item requiring the excavation or embankment work.

- L. **Temporary Signal 2-Phase.** See Special Note for Temporary Traffic Signals.
- M. **Concrete Pavement Repair.** See Special Note for Concrete Pavement Repair.
- N. **Fill andgrade Median.** The item “Regrade Median” will be considered full compensation for all labor, materials and equipment required to reshape the median in accordance with RBB-002-09. Excavate as necessary and provide soil embankment materials capable of sustaining vegetation if additional material is needed, incidental to this item of work.

**WK - 9001  
Ohio County  
BRIDGE RECONSTRUCTION**

1. This project is intended to replace the superstructure and portions of the substructure of both twin bridges of the WK – 9001 Parkway over US 231. Incidental paving and other removal and replacement items are required.
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 otherwise specified in the Proposal.
3. The contractor is to be advised of the locations of overhead utility wires on the project. The following locations are approximate:

WK 9001 Mainline  
MP 74.50  
MP 74.61  
MP 74.74  
E.B. on Ramp  
MP 74.61  
W.B. off Ramp  
MP 74.60  
W.B. on Ramp  
MP 74.47  
US 231  
MP 6.81  
MP 6.65

**CAUTION:** Other overhead utility 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. The Cabinet is currently in discussions with the overhead power company concerning the viability of a temporary relocation of the overhead power on the east end of the bridges. No commitment to move this utility has currently been reached and the Contractor is to consider in his bid the impacts of this utility in its existing location in the event it cannot or will not be moved. No claim for failure to relocate this or any utility will be entertained as by submittal of his bid the contractor agrees that he can perform this work with the utilities in their current configuration.

4. The contractor is advised that the planned locations of work established by milepoints are referenced from the Kentucky Transportation Cabinet's Official Route Log. The existing reference markers may not correspond to the established work locations.

5. Quantities of guardrail removal and installation of new guardrail have been established. The contractor will place traffic drums on 20' spacing in the areas and pin down exposed blunt ends until such time that guardrail is re-established. Either a lane closure or shoulder closure shall be in place at any time that a section of guardrail is not in place.
6. 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 3:30PM, Monday through Friday. There is a Guardrail Delivery Verification Sheet which must be completed and signed by the Contractor, Engineer and a representative of the Central Sign Shop and Recycle Center. A copy of this sheet is included elsewhere in the proposal.
7. The speed limit on the project will be reduced to 55 mph (35 mph for ramps and US 231) while lane closures are in place. Any time work is suspended the speed limit will revert back to the original speed limit. Also, double fine signs are set up in the project to be installed while workers are present in the work zone.
8. The contractor will be allowed to access median U-turns and cross the median provided proper lane closures of the inside lanes are utilized at the entry and exit locations at the contractor's expense. Use only short duration lane closures and remove lane closures when median U-turn access is not needed.
9. Quantities of Channel Lining Class III have been included to be used in eroded areas as directed and/or approved by the Engineer. The actual limits of the channel lining will be as directed and/or approved by the Engineer. Geotextile Fabric Type I, as outlined in Section 214 of the Standard Specifications, will not be measured for payment and will be considered incidental to channel lining.
10. The contractor is to take care not to damage any existing roadway signs. Any roadway signs that are damaged during construction are to be replaced at the contractor's expense in accordance with section 105.08 of the standard specifications. Remove any roadway signs that are in conflict with the work and either temporarily install at a location outside the work area or store in a controlled environment. Reinstall all signs that require removal at the conclusion of the work. Removal, temporary installation, removal and storage and reinstalling signs will be considered incidental to "Maintain and Control Traffic". Reinstall signs by methods approved by District 2 Traffic.
11. The contractor is to take care not to damage any existing light poles and wiring. Any light poles or wiring that is damaged during construction is to be replaced at the contractor's expense in accordance with section 105.08 of the standard specifications. Contact District 2 Traffic for locations or as-built drawings for existing lighting.

12. Areas established as concrete pavement repair locations will be replaced as directed by the Engineer. After the contractor has closed the roadway the Engineer will mark the areas to be repaired. The engineer reserves the right to increase, decrease, or eliminate this item of work based on the field conditions encountered.
13. Coordinate activities of any adjacent contracts with this contract. This project is to be combined and bid with other maintenance bridge restoration projects. The engineer will determine the relative priority of the work and traffic control if conflicts exist.

## REFERENCES

1. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2019.
2. FHWA Manual on Uniform Traffic Control Devices – 2009 Edition.
3. Kentucky Department of Highways Standard Drawings, Current Edition, as applicable:

RBB-002-09	GUARDRAIL AND BRIDGE END DRAINAGE FOR TWIN STRUCTURES
RBB-003-03	LAYOUT OF GUARDRAIL AT TWIN STRUCTURES (DEPRESSED MEDIAN)
RBC-002-03	GUARDRAIL TO BRIDGE END TYPE A COMPONENTS
RBI-002-07	TYPICAL GUARDRAIL INSTALLATIONS
RBM-020-09	DELINEATORS FOR CONCRETE BARRIERS
RBR-005-11	GUARDRAIL COMPONENTS
RBR-010-06	GUARDRAIL TERMINAL SECTIONS
RDD-040-05	CHANNEL LINING CLASS II AND III
RDD-021-07	FLUME INLET TYPE 2
RDI-040-01	EROSION CONTROL BLANKET SLOPE INSTALLATION
RDI-041-01	EROSION CONTROL BLANKET CHANNEL INSTALLATION
RDP-001-06	PERFORATED PIPE TYPES AND COVER HEIGHTS
RDP-010-09	PERFORATED PIPE HEADWALLS
RDX-160-06	SECURITY DEVICES FOR FRAMES, GRATES AND LIDS
RDX-210-03	TEMPORARY SILT FENCE
RDX-220-05	SILT TRAP - TYPE A
RDX-225-01	SILT TRAP - TYPE B
RDX-230-01	SILT TRAP - TYPE C
RGX-001-06	MISCELLANEOUS STANDARDS
RPX-015-04	HOT POURED ELASTIC JOINT SEALS FOR CONCRETE PAVEMENT
TPM-105-03	PAVEMENT MARKER ARRANGEMENTS MULTI-LANE ROADWAYS
TPM-110-03	PAVEMENT MARKER ARRANGEMENTS FOR MULTI-LANE ROADWAYS
TTC-100-04	LANE CLOSURE TWO LANE HIGHWAY
TTC-110-03	LANE CLOSURE USING TRAFFIC SIGNALS
TTC-115-03	LANE CLOSURE MULTI-LANE HIGHWAY CASE I
TTC-120-03	LANE CLOSURE MULTI-LANE HIGHWAY CASE II
TTC-135-02	SHOULDER CLOSURE
TTD-120-02	WORK ZONE SPEED LIMIT AND DOUBLE FINE SIGNS
TTD-125-02	PAVEMENT CONDITION WARNING SIGNS
TTS-110-01	MOBILE OPERATION FOR PAINT STRIPING CASE III
TTS-115-02	MOBILE OPERATION FOR PAINT STRIPING CASE IV
TTS-120-02	MOBILE OPERATION FOR DURABLE STRIPING CASE 1

4. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2019, Appendix B - Supplemental Specifications, as applicable:

Special Note	Typical Section Dimensions <i>attached</i>
Special Note	Portable Changeable Message Signs <i>attached</i>
Special Note	Before You Dig <i>attached</i>
Special Note	Fixed Completion Date and Liquidated Damages <i>attached</i>
General Note	Asphalt Pavement Ride Quality <i>attached</i>
General Note	Compaction of Asphalt Mixtures <i>attached</i>
Special Note	Asphalt Milling and Texturing <i>attached</i>
Special Note	Special Note for Significant Project <i>attached</i>
Special Note	Special Note for Demolition <i>attached</i>
Special Note	Special Note for Temporary Traffic Signals <i>attached</i>
Special Note	Special Note for Concrete Pavement Repairs <i>attached</i>
Special Note	Guardrail Delivery Verification Sheet <i>attached</i>
Special Note	Special Note for Inlaid Pavement Markers <i>attached</i>
Special Note	Special Note for Longitudinal Pavement Joint Adhesive <i>attached</i>
Special Note	Special Note for Non-Tracking Tack Coat <i>attached</i>
Special Note	1-122 Special Note for Expedite Work Order

**SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS**  
**WK-9001**  
**OHIO COUNTY**

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 or narrowed **EXCEPT** where specified elsewhere in the Proposal.

## **SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS**

### **WK-9001 OHIO COUNTY**

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

### **2.0 MATERIALS.**

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

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

**2.2 Sign and Controls.** All signs must:

- 1) Provide 3-line messages with each line being 8 characters long and at least 18 inches tall. Each character comprises 35 pixels.
- 2) Provide at least 40 preprogrammed messages available for use at any time. Provide for quick and easy change of the displayed message; editing of the message; and additions of new messages.
- 3) Provide a controller consisting of:
  - a) Keyboard or keypad.
  - b) Readout that mimics the actual sign display. (When LCD or LCD type readout is used, include backlighting and heating or otherwise arrange for viewing in cold temperatures.)
  - c) Non-volatile memory or suitable memory with battery backup for storing pre-programmed messages.
  - d) Logic circuitry to control the sequence of messages and flash rate.
- 4) Provide a serial interface that is capable of supporting complete remote control ability through land line and cellular telephone operation. Include communication software capable of immediately updating the message, providing complete sign status, and allowing message library queries and updates.
- 5) Allow a single person easily to raise the sign to a satisfactory height above the pavement during use, and lower the sign during travel.
- 6) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
- 7) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
- 8) Provide the driver board as part of a module. All modules are interchangeable, and have

plug and socket arrangements for disconnection and reconnection. Printed circuit boards associated with driver boards have a conformable coating to protect against moisture.

- 9) Provide a sign case sealed against rain, snow, dust, insects, etc. The lens is UV stabilized clear plastic (polycarbonate, acrylic, or other approved material) angled to prevent glare.
- 10) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
- 11) Provide a photocell control to provide automatic dimming.
- 12) Allow an on-off flashing sequence at an adjustable rate.
- 13) Provide a sight to aim the message.
- 14) Provide a LED display color of approximately 590 nm amber.
- 15) Provide a controller that is password protected.
- 16) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

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

\*Insert numerals as directed by the Engineer.

Add other messages during the project when required by the Engineer.

### 2.3 Power.

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

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

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

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

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

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02671	Portable Changeable Message Sign	Each

**SPECIAL NOTE FOR BEFORE YOU DIG**

**WK-9001  
OHIO COUNTY**

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.

## **Special Note for Fixed Completion Date and**

### **Liquidated Damages**

#### **WK-9001 OHIO COUNTY**

Contrary to Section 108.09, Liquidated Damages of \$5,000 per calendar day will be assessed for each day work remains incomplete beyond the Specified Project Completion Date. This project has a Fixed Project Completion Date of August 30<sup>th</sup> 2020.

#### **Westbound Bridge over US 231**

Additionally, the contractor will be required to complete the bridge demolition and reconstruction of the westbound bridge over US 231 and restoration of traffic to its original mainline WK-9001 configuration within 120 Calendar Days from the time that traffic is diverted onto the ramps. The contractor may choose the starting date for this work. Additionally, the contractor will be required to complete the bridge demolition and reconstruction of the westbound bridge over US 231 and restore traffic to its original mainline WK-9001 configuration by December 15, 2019.

Calendar Days will be tracked and charged from the time that traffic is diverted onto the ramps until such time that the contractor completes all items of work associated with the westbound bridge removal and replacement, approach paving, installation of guardrail, striping and safety appurtenances, and restores westbound mainline traffic to its original configuration.

Liquidated Damages in the amount of \$5,000 per day will be assessed for each day or portion of a day that either work remains incomplete on the westbound bridge and mainline westbound WK-9001 traffic remains diverted onto the exit ramps in excess of 120 Calendar Days, or for any day or portion of a day that work remains incomplete on the westbound bridge and mainline westbound WK-9001 traffic remains diverted onto the exit ramps beyond December 15, 2019. Liquidated Damages will be assessed if either the Calendar Day requirement or the specified date requirement is not met.

Traffic must be restored to its original mainline WK-9001 configuration from December 15, 2019 to January 15, 2020. No work may begin on the eastbound structure until after January 15, 2020.

#### **Eastbound Bridge over US 231**

Additionally, the contractor will be required to complete the bridge demolition and reconstruction of the eastbound bridge over US 231 and restoration of traffic to its original mainline WK-9001 configuration within 120 Calendar Days from the time that traffic is diverted onto the ramps. The contractor may choose the starting date for this work (after January 15, 2020).

Calendar Days will be tracked and charged from the time that traffic is diverted onto the ramps until such time that the contractor completes all items of work associated with the eastbound bridge removal and replacement, approach paving, installation of guardrail, striping and safety appurtenances, and restores westbound mainline traffic to its original configuration.

Liquidated Damages in the amount of \$5,000 per day will be assessed for each day or portion of a day that work remains incomplete on the eastbound bridge and mainline eastbound WK-9001 traffic remains diverted onto the exit ramps in excess of 120 Calendar Days.

All penalties or Liquidated Damages will be assessed cumulatively, and charged concurrently when applicable.

Also contrary to Section 108, liquidated damages will be charged during the months of December through March.

**Asphalt Pavement Ride Quality  
WK-9001  
OHIO COUNTY**

Pavement Rideability Requirements will not apply on this project.

**General Note 448**

**Compaction of Asphalt Mixtures  
WK - 9001  
OHIO COUNTY**

Will accept the compaction of asphalt mixtures furnished for the driving lanes and ramps by option B.

**SPECIAL NOTE FOR  
ASPHALT MILLING AND TEXTURING  
WK - 9001  
OHIO COUNTY**

The Contractor will take possession of the millings. Do not allow traffic to drive on the milled surface on mainline WK – 9001. Traffic may run on the milled surface up to 3 days on US 231.

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

**Significant Project- Project Traffic Coordinator (PTC)**

Be advised this project is a significant project pursuant to section 112.03.12.

**SPECIAL NOTE FOR  
BRIDGE DEMOLITION  
WK - 9001  
OHIO COUNTY**

Conduct all bridge demolition activities and masonry removal activities in accordance with the structure plans, the Maintenance of Traffic Plans, and in accordance with the approved Demolition Plan.

Prior to initiation of bridge demolition activities, the contractor will be required to submit a Demolition Plan for the engineer's approval. The Demolition Plan shall be of sufficient detail to prove that the demolition activities can be both carried out in a manner that poses no threat of falling debris to the traveling public and must prove that any demolition and cleanup activities requiring road closures can be completed within the time frame allowed in the Maintenance of Traffic plans.

In order to limit the duration of road closures, the contractor is encouraged to conduct as much demolition as safely possible without a full roadway closure to traffic. The contractor will be required to demonstrate, in his Demolition Plan, a complete understanding of the mechanics of the existing bridge design and demonstrate a complete understanding of the effects of the removal sequence and methods to the stability of the overall structure stability. The Demolition Plan shall be stamped by a registered professional engineer in the state of Kentucky and will be required to have a background in structural engineering.

Remove the structure in a manner to protect the existing roadway features and protect portions of the existing structure designated to remain in place. This may include installation of measures to cushion or protect the existing features. Any damage to existing roadway features not intended to be replaced in these plans shall be repaired or replaced, at the discretion of the engineer and as directed by the engineer, and at the contractor's expense, including but not limited to existing bridge substructure designated to remain, existing crash walls, existing curbs, existing US 231 pavement base, etc. Minor damage to the US 231 pavement surface is to be expected and minor cosmetic damage will be remedied by milling and inlaying as part of this contract.

**SPECIAL NOTE FOR  
TEMPORARY TRAFFIC SIGNALS  
WK - 9001  
OHIO COUNTY**

Temporary signals will be used for Maintenance of Traffic to use the existing interchange ramps as a through route to divert mainline WK – 9001 traffic away from the mainline structures. A temporary signal system will be installed at the termini of the westbound ramps at the intersection with US 231 first. At the conclusion of the bridge reconstruction westbound, the temporary signal will be removed and taken out of service and a temporary signal system installed for the east ramp termini at the intersection with US 231 for the eastbound bridge reconstruction. Traffic will only be diverted to ramps, one ramp at a time, employing the use of only one temporary signal at a time. Construct and maintain temporary signals in accordance with section 112 of the Specifications with the following additions/clarifications.

Each of the required temporary signal systems will be required to meet all characteristics of and employ typical features used for the ramp termini of a typical diamond interchange. The contractor will be required to maintain all existing lanes a minimum distance of 200’ from the ramp termini in order to maintain a left turn lane onto the ramps.

This project location contains existing roadway lighting, thus temporary luminaires required by TTC-110-03 will not be required. Install temporary stop bars on US 231. Install “STOP HERE ON RED” signs in accordance with TTC-110-03. Maintain existing striping pattern in the intersection vicinity, contrary to TTC-110-03. Install sign no 4, signal symbol, per TTC-110-03 for each of the three approaching legs, and install an additional “Signal Ahead” sign each approach direction. Maintain other signs and pavement markings as construction sequence dictate.

Signal system will be required to provide signal heads that are overhead and shall not be post mounted beside the roadway. Signal heads will be required to be located over the through lanes and will be dual 3 section heads per each approach. The signal systems will be 2 phase. Actuation will be required for all through lanes and all turn lanes. Use camera actuation only. Maintain a minimum 17’ clearance for all signal heads. Install signs indicating “LEFT TURN YIELD ON GREEN” R10-12, where applicable.

The contractor will be required to obtain a typical temporary signal design, to be approved by District 2 Traffic, from a licensed professional engineer with a background in traffic engineering and signal design. Use a signal controller approved by District 2 Traffic.

The contractor, at his option, may use carriage mounted temporary signals with mast arms capable of projecting signals over the through lanes, temporary ground mounted mast arms, or temporary wooden poles with a diagonal messenger span for signal placement. Wiring for temporary signals should be installed in a manner to limit exposure to the traveling public.

District 2 will provide signal timing. Contact Kenny Potts, TEEM, District 2, 1840 N. Main St., Madisonville, KY 42431, (270) 824-7080.

Measurement and Payment

Measurement and payment will be made in accordance with Section 112.04.10 and Section 112.05 of the Specifications for each installation of item:

<u>Code</u>	<u>Pay Item</u>	<u>Unit</u>
04933	Temporary Signal – Two Phase	Each

**SPECIAL NOTE FOR  
CONCRETE PAVEMENT REPAIRS  
WK - 9001  
OHIO COUNTY**

Existing “White Topping” concrete pavement is located at the intersection of US 231 and the westbound ramp termini. At or near the conclusion of the project, remove and replace existing damaged concrete and any damaged concrete locations, and underlying asphalt pavement as directed by the engineer.

The engineer will determine locations to be patched in the field prior to the repairs. Contact the engineer 1 week prior to beginning this operation. Saw cut the perimeter of the repair to a depth of 9 inches. Remove the existing concrete overlay in a manner that is non-destructive to the surrounding concrete intended to remain in place. Remove existing underlying asphalt concrete to a depth of 9 inches below the surface by methods approved by the engineer and in a manner that is non-destructive to the surrounding asphalt and concrete pavements designated to remain in place. The contractor may choose his removal methods as approved by the engineer, however, the contractor shall modify his methods if suitable removal results cannot be obtained. The resulting trench will be replaced with JPC Pavement-9 In/24. Construct JPC Pavement in accordance with Section 501 of the Specifications.

Tie bars and load transfer assemblies will not be required for this operation. Restore saw cuts at the original pattern for the proposed JPC Pavement at the depth required for 9” JPC specified in the Standard Drawings. Seal the resulting joints with Hot Pour Elastic sealant only.

Measurement and Payment

The pay item 02091 Remove Pavement (SY) will be considered full compensation for all labor, materials and equipment required to saw cut, remove existing concrete and asphalt pavement to a depth of 9”, conduct any remedial or preparatory work prior to placement of JPC Pavement, and any other items of work necessary to remove the required pavement. Any over-excavation of pavement will not be considered for payment.

The pay item 2023 JPC Pavement-9 In/24 (SY) will be considered full compensation for all labor, materials and equipment to construct concrete pavement in the removal areas in accordance with section 501 of the Specifications. This item will include all curing, saw cutting of joints and sealing of joints and all other items of work required. The contractor will be required to place replacement of the full depth of pavement removal regardless of irregularities or depth. No direct payment will be made for over-excavation of existing pavement.

# GUARDRAIL DELIVERY VERIFICATION SHEET

Contract Id: \_\_\_\_\_

Contractor: \_\_\_\_\_

Section Engineer: \_\_\_\_\_

District & County: \_\_\_\_\_

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

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

Printed Section Engineer's Representative \_\_\_\_\_ & Date \_\_\_\_\_

Signature Section Engineer's Representative \_\_\_\_\_ & Date \_\_\_\_\_

Printed Contractor's Representative \_\_\_\_\_ & Date \_\_\_\_\_

Signature Contractor's Representative \_\_\_\_\_ & Date \_\_\_\_\_

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

Printed Bailey Bridge Yard Representative \_\_\_\_\_ & Date \_\_\_\_\_

Signature Bailey Bridge Yard Representative \_\_\_\_\_ & Date \_\_\_\_\_

Printed Contractor's Representative \_\_\_\_\_ & Date \_\_\_\_\_

Signature Contractor's Representative \_\_\_\_\_ & Date \_\_\_\_\_

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

Completed Form Submitted to Section Engineer Date: \_\_\_\_\_ By: \_\_\_\_\_

**SPECIAL NOTE FOR INLAID PAVEMENT MARKERS**

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**I. DESCRIPTION**

Except as provided herein, perform all work in accordance with the Department's Standard and Supplemental Specifications and applicable Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications. This work shall consist of:

- (1) Maintain and Control Traffic; and (2) furnish and install Inlaid Pavement Markers (IPMs) in recessed grooves; and (3) any other work as specified by these notes and the Contract.

**II. MATERIALS**

The Department will sample all materials in accordance with the Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing unless otherwise specified in these Notes.

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

**B. Markers.** Provide reflective lenses with depth control breakaway positioning tabs. Before furnishing the markers, provide to the Engineer the manufacturer's current recommendations for adhesives and installation procedures. Use one brand and design throughout the project. Use markers meeting the specifications in the table below.

<b>SPECIFICATIONS FOR HOUSING AND REFLECTOR</b>	
Material:	Polycarbonate Plastic
Weight:	Housing 2.00 oz.
	Reflector 2.00oz.
Housing Size:	5.00" x 3.00" x 0.70" high
Specific Intensity of Reflectivity at 0.2° Observation Angle	
White:	3.0 at 0°entrance angle
	1.2 at 20°entrance angle
Yellow:	60% of white values
Red:	25% of white values

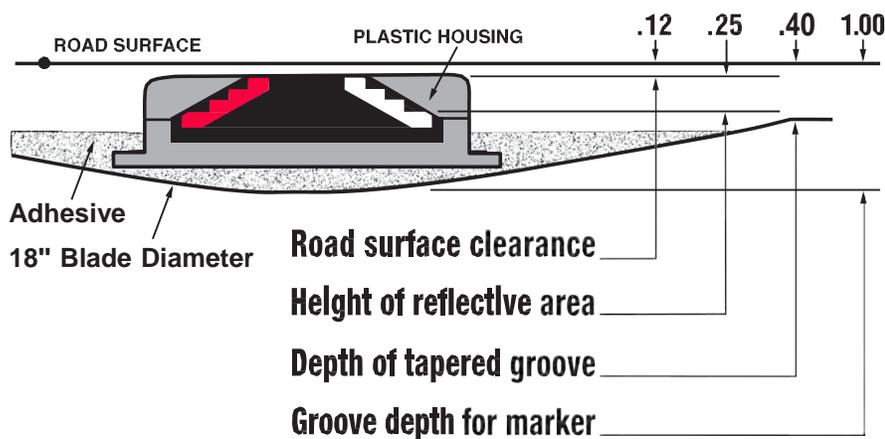
**C. Adhesives.** Use adhesives that conform to the manufacturer's recommendations.

### III. CONSTRUCTION

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

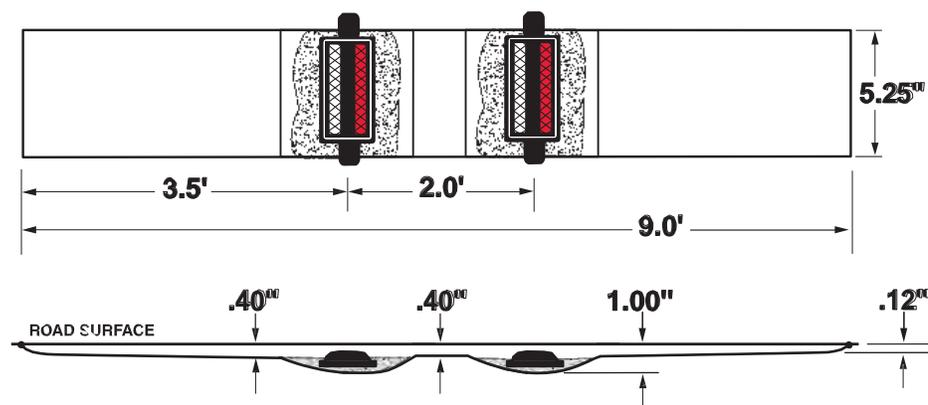
**B. Installation.** Install IPMs in recessed grooves cut into the final course of pavement according to the manufacturer's recommendations. Do not cut the grooves until the pavement has cured sufficiently to prevent damaging the pavement. Cut installation grooves using diamond blades on saws that accurately control groove dimensions. Remove all dirt, grease, oil, loose or unsound layers, and any other material from the marker area which would reduce the bond of the adhesive. Maintain pavement surfaces in a clean condition until placing markers.

Prepare the pavement surfaces, and install the markers in the recessed groove according to the drawing below. Use an approved snowplowable epoxy adhesive. Ensure that the adhesive bed area is equal to the bottom area of the marker, and apply adhesive in sufficient quantity to force excess out around the entire perimeter of the marker. Use materials, equipment, and construction procedures that ensure proper adhesion of the markers to the pavement surface according to the manufacturer's recommendations. Remove all excess adhesive from in front of the reflective faces. If any adhesive or foreign matter cannot be removed from the reflective faces, or if any marker fails to properly adhere to the pavement surface, remove and replace the marker at no additional cost to the Department.



Inlaid Pavement Markers  
Page 3 of 4

**C. Location and Spacing.** Install the markers in the pattern for high reflectivity with two (2) IPMs per groove. Locate and space markers as shown in the current standard drawings or sepias (note: use Inlaid Pavement Markers wherever Type V Pavement Markers are called for). Do not install markers on bridge decks. Do not install a marker on top of a pavement joint or crack. Offset the recessed groove a minimum of **3** inches from any longitudinal pavement joint or crack and at least one inch from the painted stripe, ensuring that the finished line of markers is straight with minimal lateral deviation. Give preference to maintaining the **3**-inch offset between recessed groove and joint as opposed to keeping the line of markers straight.



Place inlaid markers as much in line with existing pavement striping as possible. Place markers installed along an edge line or channelizing line so that the near edge of the plastic housing is no more than one inch from the near edge of the line. Place markers installed along a lane line between and in line with the dashes. Do not place markers over the lines except where the lines deviate visibly from their correct alignment, and then only after obtaining the Engineer's prior approval of the location.

If conflicts between recessed groove placement in relation to pavement joint and striping cannot be resolved, obtain the Engineer's approval to eliminate the marker or revise the alignment.

**D. Disposal of Waste.** Dispose of all removed pavement, debris, and other waste at sites off the right of way obtained by the Contractor at no additional cost to the Department. See Special Note for waste and Borrow.

**E. Restoration.** Be responsible for all damage to public and/or private property resulting from the work. Restore all damaged features in like kind materials and design at no additional cost to the Department.

## Inlaid Pavement Markers

Page 4 of 4

**F. On-Site Inspection.** Make a thorough inspection of the site prior to submitting a bid and be thoroughly familiar with existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid as evidence of this inspection having been made and will not honor any claims for money or grant Contract time extensions resulting from site conditions.

**G. Caution.** Do not take information shown on the drawings and in this proposal and the types and quantities of work listed as an accurate or complete evaluation of the material and conditions to be encountered during construction, but consider the types and quantities of work listed as approximate only. 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 or extension of Contract time if the conditions encountered are not in accordance with the information shown.

## IV. MEASUREMENT

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

**B. "INLAID PAYMENT MARKER"** shall be measured as each. One (1) installation of "INLAID PAVEMENT MARKER" will consist of grooving the pavement, removing cuttings and debris, preheating pavement to remove moisture, adhesives, and installation of two (2) markers with all lenses in accordance with this note.

**Note: Each pay item of Inlaid Pavement Marker will require two markers.**

## V. PAYMENT

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

**B. Inlaid Pavement Markers.** The Department will make payment for the completed and accepted quantity of completely installed "INLAID PAVEMENT MARKERS" at the Contract unit price, each. Accept payment as full compensation for all labor, equipment, materials, and incidentals to accomplish this work to the satisfaction of the Engineer. A system of one (1) groove and two (2) markers shall be paid as one "INLAID PAVEMENT MARKER". The bid item "INLAID PAVEMENT MARKER" shall be used regardless of the color and type of lenses required.

December 5, 2018

**SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE**

1. DESCRIPTION. This specification covers the requirements and practices for applying an asphalt adhesive material to the longitudinal joint of the surface course of an asphalt pavement. Apply the adhesive to the face of longitudinal joint between driving lanes for the first lane paved. Then, place and compact the adjacent lane against the treated face to produce a strong, durable, waterproof longitudinal joint.
2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Joint Adhesive. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide an adhesive conforming to the following requirements:

Property	Specification	Test Procedure
Viscosity, 400 ° F (Pa·s)	4.0 – 10.0	ASTM D 4402
Cone Penetration, 77 ° F	60 – 100	ASTM D 5329
Flow, 140 ° F (mm)	5.0 max.	ASTM D 5329
Resilience, 77 ° F (%)	30 min.	ASTM D 5329
Ductility, 77 ° F (cm)	30.0 min.	ASTM D 113
Ductility, 39 ° F (cm)	30.0 min.	ASTM D 113
Tensile Adhesion, 77 ° F (%)	500 min.	ASTM D 5329, Type II
Softening Point, ° F	171 min.	AASHTO T 53
Asphalt Compatibility	Pass	ASTM D 5329

Ensure the temperature of the pavement joint adhesive is between 380 and 410 °F when the material is extruded in a 0.125-inch-thick band over the entire face of the longitudinal joint.

2.2. Equipment.

2.2.1 Melter Kettle. Provide an oil-jacketed, double-boiler, melter kettle equipped with any needed agitation and recirculating systems.

2.2.2 Applicator System. Provide a pressure-feed-wand applicator system with an applicator shoe attached.

2.3 Personnel. Ensure a technical representative from the manufacturer of the pavement joint adhesive is present during the initial construction activities and available upon the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the pavement joint adhesive, ensure the face of the longitudinal joint is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the joint face by the use of compressed air.

11N

Ensure this preparation process occurs shortly before application to prevent the return of debris on the joint face.

3.2 Pavement Joint Adhesive Application. Ensure the ambient temperature is a minimum of 40 ° F during the application of the pavement joint adhesive. Prior to applying the adhesive, demonstrate competence in applying the adhesive according to this note to the satisfaction of the Engineer. Heat the adhesive in the melter kettle to the specified temperature range. Pump the adhesive from the melter kettle through the wand onto the vertical face of the cold joint. Apply the adhesive in a continuous band over the entire face of the longitudinal joint. Do not use excessive material in either thickness or location. Ensure the edge of the extruded adhesive material is flush with the surface of the pavement. Then, place and compact the adjacent lane against the joint face. Remove any excessive material extruded from the joint after compaction (a small line of material may remain).

3.3 Pavement Joint Adhesive Certification. Furnish the joint adhesive's certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a random sample of pavement joint adhesive from each manufacturer's lot of material. Extrude two 5 lb. samples of the heated material and forward the sample to the Division of Materials for testing. Reynolds oven bags, turkey size, placed inside small cardboard boxes or cement cylinder molds have been found suitable. Ensure the product temperature is 400°F or below at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of Pavement Joint Adhesive in linear feet. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of Pavement Joint Adhesive, the cleaning of the joint face, or furnishing and placing the adhesive. The Department will consider all such items incidental to the Pavement Joint Adhesive.
5. PAYMENT. The Department will pay for the Pavement Joint Adhesive at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

11N

Pavement Joint Adhesive Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Joint Adhesive Referenced in Subsection 2.1.1						
Viscosity, 400 ° F (Pa•s) ASTM D 3236	4.0-10.0	3.5-10.5	3.0-3.4 10.6-11.0	2.5-2.9 11.1-11.5	2.0-2.4 11.6-12.0	≤1.9 ≥ 12.1
Cone Penetration, 77 ° F ASTM D 5329	60-100	57-103	54-56 104-106	51-53 107-109	48-50 110-112	≤ 47 ≥ 113
Flow, 140 ° F (mm) ASTM D 5329	≤ 5.0	≤ 5.5	5.6-6.0	6.1-6.5	6.6-7.0	≥ 7.1
Resilience, 77 ° F (%) ASTM D 5329	≥ 30	≥ 28	26-27	24-25	22-23	≤ 21
Tensile Adhesion, 77 ° F (%) ASTM D 5329	≥ 500	≥ 490	480-489	470-479	460-469	≤ 459
Softening Point, ° F AASHTO T 53	≥ 171	≥ 169	166-168	163-165	160-162	≤ 159
Ductility, 77 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9
Ductility, 39 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9

Code  
20071EC

Pay Item  
Joint Adhesive

Pay Unit  
Linear Foot

May 7, 2014

**SPECIAL NOTE FOR NON-TRACKING TACK COAT**

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

2. MATERIALS, EQUIPMENT, AND PERSONNEL.

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

2.1.1 Provide a tack conforming to the following material requirements:

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

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

2.2. Equipment. Provide a distributor truck capable of heating, circulating, and spraying the tack between 170 °F and 180 °F. Do not exceed 180 °F. Circulate the material while heating. As required by the manufacturer, ensure the spray bar is equipped with #1 or #2 ¼” V-slot Etnyre nozzles. Other nozzles are not acceptable. Arrange the nozzles in the following patterns from left to right:

Nozzle number(s)	Activity	Orientation
1	On	Vertical
2	Off	-
3	On	Horizontal
4 & 5	Off	-
6	On	Horizontal
Continue 2 off and 1 on pattern through rest of spray bar system.		

Ensure the bar can be raised to between 14 and 18” from the roadway.

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

3. CONSTRUCTION.

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

3.2 Non-tracking Tack Application. Ensure the roadway temperature is a minimum of 40 °F and rising during the application of the tack. This material is not suitable for use in colder temperatures. Prior to applying the tack, demonstrate competence in applying the tack according to this note to the satisfaction of the Engineer. Heat the tack in the distributor to between 170 – 180 °F. After initial heating to between 170 – 180 °F, the material may be sprayed between 165 °F and 180 °F. Do not apply outside this temperature range. Apply material at a rate of 0.50 pounds (0.06 gallons) per square yard. Ensure full coverage of the material on the pavement surface. Full coverage of this material is critical. If full coverage is not achieved, material application rate may be increased to ensure full coverage. Do not heat material more than twice in one day.

3.3 Non-tracking Tack Certification. Furnish the tacks certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a sample of non-tracking tack be taken from the distributor at a rate of one sample per 15,000 tons of mix. Take two 1 gallon samples of the heated material and forward the sample to the Division of Materials for testing within 7 days. Ensure the product temperature is between 170 and 180 °F at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of non-tracking tack in tons. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of non-tracking tack, the cleaning of the pavement surface, or furnishing and placing the adhesive. The Department will consider all such items incidental to the non-tracking tack.

5. PAYMENT. The Department will pay for the non-tracking tack at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

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

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

April 30, 2018



The results of the samples collected were negative for the presence of asbestos above 1%.  
No abatement is required at this time.  
It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

### Results and Recommendations

Inspection Date: May 1, 2019

Sample Description: The samples collected were negative for asbestos.

Structure Location: Wendell Ford Parkway over Natcher Parkway

Structure ID: 092B00072L

Project Number: Ohio Bridge Maintenance

### Project and Structure Identification

Report Prepared By: O'Dail Lawson

Conducted By: O'Dail Lawson

Date: May 22, 2019

District: Central Office

To: Andre Johannes

## Asbestos Inspection Report

Matthew G. Bevin  
Governor

COMMONWEALTH OF KENTUCKY  
TRANSPORTATION CABINET  
Frankfort, Kentucky 40622  
www.transportation.ky.gov/

Greg Thomas  
Secretary



AJHA #1 02459

AJHA # 102459

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

Methodology : EPA Method 600/R-93-116  
Date Analyzed : 16-May-19  
Analyst : Winterford Mensah

Reviewed By:

*Winterford Mensah*  
Signature

Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.	
# 72 - 1	Gray	Yes	No				None				100%	
# 72 - 2	Gray	Yes	No				None				100%	
			% FIBROUS ASBESTOS					% NON-ASBESTOS FIBERS				

Analysis # : # 905165 A  
Client Name: K Y T C  
Sampled By: O'Dail Lawson

Address: Ohio 092800072L

**BULK SAMPLE ASBESTOS ANALYSIS**

332 West Broadway / Suite # 902  
Louisville, Kentucky - 40202 - 2133  
(502) 495-1212  
Fax: (502) 491-7111

**MRS, INC.**  
MRS, Inc. Analytical Laboratory Division

# Chain of Custody Record

Kentucky Transportation Cabinet

200 Mero Street, 5th Floor West

Frankfort, Kentucky 40622

(502) 564-7250 fax (502) 564-5655



**KENTUCKY  
TRANSPORTATION  
CABINET**

O'Dail Lawson [odail.lawson@ky.gov](mailto:odail.lawson@ky.gov)  
 KYTC  
 Address: 200 Mero Street Frankfort KY  
 Phone: 502-564-7250 Fax: 502-564-5655  
 PO#:  
 Project or Subject Reference: **OHio 092B0072L**

Client Information: **KY TRANS CABINET**  
 Results Code: **ND = None Detected**  
**FTD = Filter Tampering or Damaged**  
**N/A = Not Applicable**

Wenell food why. over Marcher Akly (165)

Samplers (signature): *[Signature]*

Sample ID	Sample Description	Collected		Analysis Requested	Grab/Comp.	No. of Cont.	Cont. Type	Preservative
		Date	Time					
72-1	Joint Compound	5/1/19	14:20	Asbest bulk	grey			N/A
72-2	Gravel from MASTR			↓	grey			

Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: *[Signature]* Date/Time: *5/13/19*

Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received at Lab By: \_\_\_\_\_ Date/Time: \_\_\_\_\_



The results of the samples collected were negative for the presence of asbestos above 1%.  
No abatement is required at this time.  
It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

### Results and Recommendations

Inspection Date: May 1, 2019

Sample Description: The samples collected were negative for asbestos.

Structure Location: Wendell Ford Parkway over Arnold Butler Road

Structure ID: 092B00130L

Project Number: Ohio Bridge Maintenance

### Project and Structure Identification

Report Prepared By: O'Dail Lawson

Conducted By: O'Dail Lawson

Date: May 22, 2019

District: Central Office

To: Andre Johannes

## Asbestos Inspection Report

Matthew G. Bevin  
Governor

COMMONWEALTH OF KENTUCKY  
TRANSPORTATION CABINET  
Frankfort, Kentucky 40622  
www.transportation.ky.gov/

Greg Thomas  
Secretary



AJHA #1 02459

AJHA # 102459

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

Methodology : EPA Method 600/R-93-116

Date Analyzed : 16-May-19

Analyst : Winterford Mensah

Reviewed By:

*Winterford Mensah*  
Signature

Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.
#130-1	Black	Yes	No				None				100%
#130-2	Gray	Yes	No				None	2%			98%
		% FIBROUS ASBESTOS		% NON-ASBESTOS FIBERS							

Analysis N #  
Client Name:  
Sampled By:

# 905165 B

K Y T C

O'Dail Lawson

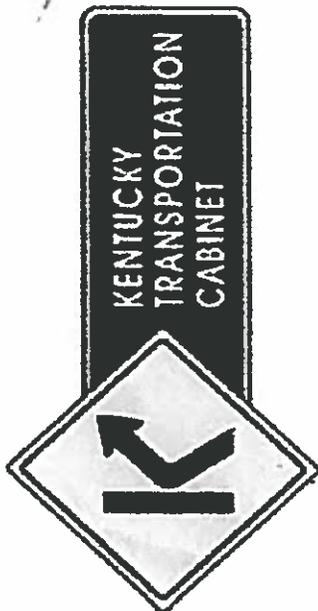
Address: Ohio 092B00130L

**BULK SAMPLE ASBESTOS ANALYSIS**

MRS, Inc. Analytical Laboratory Division

**MRS, INC.**

332 West Broadway / Suite # 902  
Louisville, Kentucky - 40202 - 2133  
(502) 495-1212 Fax: (502) 491-7111



# Chain of Custody Record

Kentucky Transportation Cabinet  
200 Mero Street, 5th Floor West  
Frankfort, Kentucky 40622  
(502) 564-7250 fax (502) 564-5655

O'Dail Lawson [o'dail.lawson@kv.gov](mailto:o'dail.lawson@kv.gov)  
KYTC  
Address: 200 Mero Street Frankfort KY  
Phone: 502-564-7250 Fax: 502-564-5655  
PO#:  
Project or Subject Reference: **OHIO 092B00130L**

Client Information: **KY TRANS CABINET**  
Results Code: **ND = None Detected**  
**FTD = Filter Tampering or Damaged**  
**N/A = Not Applicable**  
Analysis Requested: **Asbestos Bulk**  
Samplers (signature): *[Signature]*

Wenell Fore Wky over Arnold Barber Road

Sample ID	Sample Description	Collected		Analysis Requested	Grab/Comp.	No. of Cont.	Cont. Type	Preservative
		Date	Time					
130-1	Joint Compound	5/1/19	14:03	Asbestos Bulk	black			N/A
130-2	Guano Rail Mast				grey			

Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: *[Signature]* Date/Time: **5/03/19**  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received at Lab By: \_\_\_\_\_ Date/Time: \_\_\_\_\_



The results of the samples collected were negative for the presence of asbestos above 1%. No abatement is required at this time.  
It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

### Results and Recommendations

Inspection Date: May 1, 2019

Sample Description: The samples collected were negative for asbestos.

Structure Location: Wendell Ford Parkway over US 231

Structure ID: 092B00132L

Project Number: Ohio Bridge Maintenance

### Project and Structure Identification

Report Prepared By: O'Dail Lawson

Conducted By: O'Dail Lawson

Date: May 22, 2019

District: Central Office

To: Andre Johannes

## Asbestos Inspection Report

Matthew G. Bevin  
Governor

COMMONWEALTH OF KENTUCKY  
TRANSPORTATION CABINET  
Frankfort, Kentucky 40622  
www.transportation.ky.gov/

Greg Thomas  
Secretary



AJHA #1 02459

AJHA # 102459

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

Methodology : EPA Method 600/R-93-116

Date Analyzed : 16-May-19

Analyst : Winterford Mensah

Reviewed By: *Winterford Mensah*

Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.	
# 132-1	Black	Yes	No				None				100%	
# 132-2	Gray	Yes	No				None				100%	
			% FIBROUS ASBESTOS					% NON-ASBESTOS FIBERS				

Analysis N #  
Client Name:  
Sampled By:

# 905165 C

K Y T C

O'Dail Lawson

Address: Ohio 092800132L

**BULK SAMPLE ASBESTOS ANALYSIS**

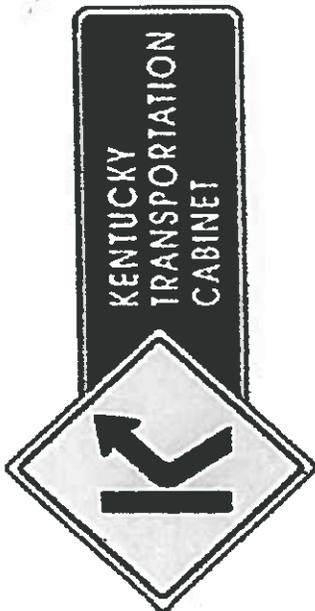
332 West Broadway / Suite # 902  
Louisville, Kentucky - 40202 - 2133  
(502) 495-1212  
Fax: (502) 491-7111



# Chain of Custody Record

## Kentucky Transportation Cabinet

200 Mero Street, 5th Floor West  
Frankfort, Kentucky 40622  
(502) 564-7250 fax (502) 564-5655



Wendell Ford wky usa US 231

Client Information KY TRANS CABINET

Results Code:  
ND = None Detected  
FTD = Filter Tampering or Damaged  
N/A = Not Applicable

Samplers (signature):

*[Signature]*

Project or Subject Reference OHIO 09A300132L

O'Dail Lawson [odail.lawson@ky.gov](mailto:odail.lawson@ky.gov)

KYTC

Address: 200 Mero Street  
Frankfort KY

Phone: 502-564-7250 Fax: 502-564-5655

PO#:

Project or Subject Reference

Sample ID	Sample Description	Collected		Analysis Requested	Grab/Comp.	No. of Cont.	Cont. Type	Preservative
		Date	Time					
132-1	Joint Compound	5/1/19	14:30	Asbestos bulk	Black			N/A
132-2	Gypsum Nail Matrix	↓	↓		gray			

Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: *[Signature]* Date/Time: 5/22/19

Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received at Lab By: \_\_\_\_\_ Date/Time: \_\_\_\_\_



The results of the samples collected were negative for the presence of asbestos above 1%.  
No abatement is required at this time.  
It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

### Results and Recommendations

Inspection Date: May 1, 2019  
Sample Description: The samples collected were negative for asbestos.  
Structure Location: Wendell Ford Parkway over KY 369  
Structure ID: 092B00133L  
Project Number: Ohio Bridge Maintenance

### Project and Structure Identification

To: Andre Johannes  
District: Central Office  
Date: May 22, 2019  
Conducted By: O'Dail Lawson  
Report Prepared By: O'Dail Lawson

## Asbestos Inspection Report

Matthew G. Bevin  
Governor

COMMONWEALTH OF KENTUCKY  
TRANSPORTATION CABINET  
Frankfort, Kentucky 40622  
www.transportation.ky.gov/

Greg Thomas  
Secretary



AJHA #1 02459

AJHA # 102459

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Methodology : EPA Method 600/R-93-116

Date Analyzed : 16-May-19

Analyst : Winterford Mensah

Reviewed By:

*Winterford Mensah*  
Signature

Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.
# 133-1	Black	Yes	No				None				100%
# 133-2	Gray	Yes	No				None				100%
			% FIBROUS ASBESTOS					% NON-ASBESTOS FIBERS			

Analysis N #  
Client Name:  
Sampled By:

# 905165 D

K Y T C

O'Dail Lawson

Address: Ohio 092800133L

**BULK SAMPLE ASBESTOS ANALYSIS**

**MRS, INC.**

MRS, Inc. Analytical Laboratory Division

Louisville, Kentucky - 40202 - 2133

Fax: (502) 491-7111

332 West Broadway / Suite # 902

(502) 495-1212



# Chain of Custody Record

## Kentucky Transportation Cabinet

200 Mero Street, 5th Floor West  
Frankfort, Kentucky 40622  
(502) 564-7250 fax (502) 564-5655

O'Dail Lawson [odail.lawson@ky.gov](mailto:odail.lawson@ky.gov)  
KYTC  
Address: 200 Mero Street  
Frankfort KY  
Phone: 502-564-7250 Fax: 502-564-5655  
PO#:

Client Information KY TRANS CABINET  
Results Code:  
ND = None Detected  
FTD = Filter Tampering or Damaged  
N/A = Not Applicable

Wenell REPORT Wks over KY 369

Samplers (signature):

*[Signature]*

Project or Subject Reference OHIO 092B00133L

Sample ID	Sample Description	Collected		Analysis Requested	Grab/Comp.	No. of Cont.	Cont. Type	Preservative
		Date	Time					
133-1	Joint Compound	5/1/19	14:45	Asbestos bulk	Black			N/A
133-2	Guano Rail MASHZ				gray			

Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: *[Signature]* Date/Time: 5/2/19

Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received at Lab By: \_\_\_\_\_ Date/Time: \_\_\_\_\_



The results of the samples collected were negative for the presence of asbestos above 1%.  
No abatement is required at this time.  
It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

### Results and Recommendations

Inspection Date: May 1, 2019

Sample Description: The samples collected were negative for asbestos.

Structure Location: Wendell Ford Parkway over Lewis Creek

Structure ID: 092B00134L

Project Number: Ohio Bridge Maintenance

### Project and Structure Identification

Report Prepared By: O'Dall Lawson

Conducted By: O'Dall Lawson

Date: May 22, 2019

District: Central Office

To: Andre Johannes

## Asbestos Inspection Report

Matthew G. Bevin  
Governor

COMMONWEALTH OF KENTUCKY  
TRANSPORTATION CABINET  
Frankfort, Kentucky 40622  
www.transportation.ky.gov/

Greg Thomas  
Secretary



AJHA #1 02459

AJHA # 102459

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

Methodology : EPA Method 600/R-93-116

Date Analyzed : 16-May-19

Analyst : Winterford Mensah

Reviewed By:

*Winterford Mensah*  
Signature

Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. fiber	Other/Mat.
# 134 - 1 Black		Yes	No	< 1 %				2%			98%
% FIBROUS ASBESTOS			% NON-ASBESTOS FIBERS								

Analysis # :  
Client Name:  
Sampled By:

# 905165 E  
K Y T C  
O'Dail Lawson

Address: Ohio 092B00134L

**BULK SAMPLE ASBESTOS ANALYSIS**

332 West Broadway / Suite # 902  
Louisville, Kentucky - 40202 - 2133  
(502) 495-1212  
Fax: (502) 491-7111

**MRS, INC.**  
MRS, Inc. Analytical Laboratory Division



**ENVIRONMENTAL TRAINING CONCEPTS, INC**  
P.O. Box 99603 Louisville, KY 40269  
(502)640-2951

Certification Number: ETC-AIR-041619-00415

# O'Dail Lawson

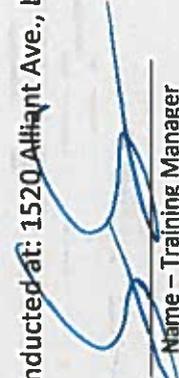
has on 04-16-2019, attended and successfully completed the requirements and passed the examination with a score of 70% of better on the entitled course.

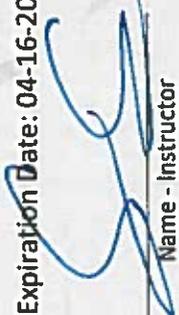
## ASBESTOS INSPECTOR REFRESHER

Training was in accordance with 40 CFR Part 763 (AHERA) approved by the Commonwealth of Kentucky, the Indiana Department of Environmental Management and Tennessee Department of Environment & Conservation The above student received requisite training for Asbestos Accreditation under Title II of the Toxic Substance Act (TSCA).

Conducted at: 1520 Alliant Ave., Louisville, KY

Expiration Date: 04-16-2020

  
Name - Training Manager

  
Name - Instructor

# MATERIAL SUMMARY

**CONTRACT ID: 192605**

**092GR19M050 - FE02**

**MB09290011903**

WK 9001 WB (MP 76.74). BRIDGE OVER NATCHER PKWY BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	24094EC	PARTIAL DEPTH PATCHING	1.90	CUYD
0010	02569	DEMOBILIZATION	1.00	LS
0015	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
0020	02372	REMOVE GUARDRAIL CON TO BR END	3.00	EACH
0025	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	1.00	EACH
0030	02998	MASONRY COATING	260.00	SQYD
0035	03294	EXPAN JOINT REPLACE 1 1/2 IN	85.00	LF
0040	03299	ARMORED EDGE FOR CONCRETE	85.00	LF
0045	06556	PAVE STRIPING-DUR TY 1-6 IN W	312.50	LF
0050	06557	PAVE STRIPING-DUR TY 1-6 IN Y	250.00	LF
0055	08504	EPOXY SAND SLURRY	100.00	SQYD
0065	08526	CONC CLASS M FULL DEPTH PATCH	2.80	CUYD
0070	08549	BLAST CLEANING	1,247.00	SQYD
0080	23032EN	BRIDGE BARRIER RETROFIT	542.00	LF
0085	23331EC	EPOXY-URETHANE WATERPROOFING	10,322.00	SQFT
0090	23949EC	BRIDGE CLEANING & PREVENTIVE MAINTENANCE - APPLIES TO 092B00072L	1.00	LS
0095	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO 092B00072L	1.00	LS
0100	02562	TEMPORARY SIGNS - (ADDED: 6-17-2019)	149.00	SQFT
0105	02003	RELOCATE TEMP CONC BARRIER - (ADDED: 6-17-2019)	380.00	LF
0110	02671	PORTABLE CHANGEABLE MESSAGE SIGN - (ADDED: 6-17-2019)	1.00	EACH
0115	02775	ARROW PANEL - (ADDED: 6-17-2019)	1.00	EACH
0120	03171	CONCRETE BARRIER WALL TYPE 9T - (ADDED: 6-17-2019)	400.00	LF
0125	06549	PAVE STRIPING-TEMP REM TAPE-B - (ADDED: 6-17-2019)	780.00	LF
0130	08150	STEEL REINFORCEMENT - (ADDED: 6-17-2019)	300.00	LB
0135	06550	PAVE STRIPING-TEMP REM TAPE-W - (ADDED: 6-17-2019)	6,070.00	LF
0140	06551	PAVE STRIPING-TEMP REM TAPE-Y - (ADDED: 6-17-2019)	4,600.00	LF
0145	08903	CRASH CUSHION TY VI CLASS BT TL3 - (ADDED: 6-17-2019)	1.00	EACH
0150	02898	RELOCATE CRASH CUSHION - (ADDED: 6-17-2019)	1.00	EACH
0155	01984	DELINEATOR FOR BARRIER - WHITE - (ADDED: 6-17-2019)	33.00	EACH
0160	01985	DELINEATOR FOR BARRIER - YELLOW - (ADDED: 6-17-2019)	32.00	EACH
0165	02014	BARRICADE-TYPE III - (ADDED: 6-17-2019)	1.00	EACH
0170	20099ES842	PAVE MARK TEMP PAINT STOP BAR - (ADDED: 6-17-2019)	80.00	LF
0175	02676	MOBILIZATION FOR MILL & TEXT - (B000072L) (ADDED: 6-17-2019)	1.00	LS

## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0180	02677	ASPHALT PAVE MILLING & TEXTURING - (ADDED: 6-17-2019)	209.00	TON
0185	00219	CL4 ASPH BASE 1.00D PG76-22 - (ADDED: 6-17-2019)	209.00	TON
0190	02696	SHOULDER RUMBLE STRIPS - (ADDED: 6-17-2019)	500.00	LF
0195	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING - (ADDED: 6-17-2019)	.30	TON

**CONTRACT ID: 192605**

**092GR19M050 - FE02**

**MB09290011904**

WK 9001 EB (MP 76.74). BRIDGE OVER NATCHER PKWY BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0200	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
0205	02372	REMOVE GUARDRAIL CON TO BR END	3.00	EACH
0210	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	1.00	EACH
0215	02998	MASONRY COATING	260.00	SQYD
0220	03294	EXPAN JOINT REPLACE 1 1/2 IN	85.00	LF
0225	03299	ARMORED EDGE FOR CONCRETE	85.00	LF
0230	06556	PAVE STRIPING-DUR TY 1-6 IN W	312.50	LF
0235	06557	PAVE STRIPING-DUR TY 1-6 IN Y	250.00	LF
0240	08504	EPOXY SAND SLURRY	100.00	SQYD
0250	08526	CONC CLASS M FULL DEPTH PATCH	5.60	CUYD
0255	08549	BLAST CLEANING	1,247.00	SQYD
0265	23032EN	BRIDGE BARRIER RETROFIT	542.00	LF
0270	23331EC	EPOXY-URETHANE WATERPROOFING	10,322.00	SQFT
0275	23949EC	BRIDGE CLEANING & PREVENTIVE MAINTENANCE - APPLIES TO 092B00072R	1.00	LS
0280	24094EC	PARTIAL DEPTH PATCHING	1.90	CUYD
0285	02569	DEMOBILIZATION	1.00	LS
0290	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO 092B00072R	1.00	LS
0295	02562	TEMPORARY SIGNS - (ADDED: 6-17-2019)	149.00	SQFT
0300	02003	RELOCATE TEMP CONC BARRIER - (ADDED: 6-17-2019)	380.00	LF
0305	02671	PORTABLE CHANGEABLE MESSAGE SIGN - (ADDED: 6-17-2019)	1.00	EACH
0310	02775	ARROW PANEL - (ADDED: 6-17-2019)	1.00	EACH
0315	03171	CONCRETE BARRIER WALL TYPE 9T - (ADDED: 6-17-2019)	400.00	LF
0320	06549	PAVE STRIPING-TEMP REM TAPE-B - (ADDED: 6-17-2019)	780.00	LF
0325	08150	STEEL REINFORCEMENT - (ADDED: 6-17-2019)	300.00	LB
0330	06550	PAVE STRIPING-TEMP REM TAPE-W - (ADDED: 6-17-2019)	6,070.00	LF
0335	06551	PAVE STRIPING-TEMP REM TAPE-Y - (ADDED: 6-17-2019)	4,600.00	LF
0340	08903	CRASH CUSHION TY VI CLASS BT TL3 - (ADDED: 6-17-2019)	1.00	EACH
0345	02898	RELOCATE CRASH CUSHION - (ADDED: 6-17-2019)	1.00	EACH

## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0350	01984	DELINEATOR FOR BARRIER - WHITE - (ADDED: 6-17-2019)	33.00	EACH
0355	01985	DELINEATOR FOR BARRIER - YELLOW - (ADDED: 6-17-2019)	32.00	EACH
0360	02014	BARRICADE-TYPE III - (ADDED: 6-17-2019)	1.00	EACH
0365	20099ES842	PAVE MARK TEMP PAINT STOP BAR - (ADDED: 6-17-2019)	80.00	LF
0370	02676	MOBILIZATION FOR MILL & TEXT - (B00072R) (ADDED: 6-17-2019)	1.00	LS
0375	02677	ASPHALT PAVE MILLING & TEXTURING - (ADDED: 6-17-2019)	209.00	TON
0380	00219	CL4 ASPH BASE 1.00D PG76-22 - (ADDED: 6-17-2019)	209.00	TON
0385	02696	SHOULDER RUMBLE STRIPS - (ADDED: 6-17-2019)	500.00	LF
0390	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING - (ADDED: 6-17-2019)	.30	TON

# MATERIAL SUMMARY

**CONTRACT ID: 192605**

**092GR19M050 - FE02**

**MB09290011905**

WK 9001 WB (MP 85.76). BRIDGE OVER KY-2713 BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0395	03299	ARMORED EDGE FOR CONCRETE	86.00	LF
0400	06556	PAVE STRIPING-DUR TY 1-6 IN W	150.00	LF
0405	06557	PAVE STRIPING-DUR TY 1-6 IN Y	120.00	LF
0410	08504	EPOXY SAND SLURRY	58.00	SQYD
0415	08510	REM EPOXY BIT FOREIGN OVERLAY - (REVISED: 6-19-19)	490.00	SQYD
0420	08526	CONC CLASS M FULL DEPTH PATCH	3.80	CUYD
0425	08549	BLAST CLEANING	548.00	SQYD
0435	24094EC	PARTIAL DEPTH PATCHING	.80	CUYD
0440	02569	DEMOBILIZATION	1.00	LS
0445	03293	EXPAN JOINT REPLACE 1 IN	86.00	LF
0450	08534	CONCRETE OVERLAY-LATEX	20.40	CUYD
0455	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000130L	1.00	LS
0460	02562	TEMPORARY SIGNS - (ADDED: 6-17-2019)	149.00	SQFT
0465	02003	RELOCATE TEMP CONC BARRIER - (ADDED: 6-17-2019)	480.00	LF
0470	02671	PORTABLE CHANGEABLE MESSAGE SIGN - (ADDED: 6-17-2019)	1.00	EACH
0475	02775	ARROW PANEL - (ADDED: 6-17-2019)	1.00	EACH
0480	03171	CONCRETE BARRIER WALL TYPE 9T - (ADDED: 6-17-2019)	480.00	LF
0485	06549	PAVE STRIPING-TEMP REM TAPE-B - (ADDED: 6-17-2019)	2,280.00	LF
0490	08150	STEEL REINFORCEMENT - (ADDED: 6-17-2019)	300.00	LB
0495	06550	PAVE STRIPING-TEMP REM TAPE-W - (ADDED: 6-17-2019)	3,240.00	LF
0500	06551	PAVE STRIPING-TEMP REM TAPE-Y - (ADDED: 6-17-2019)	3,365.00	LF
0505	08903	CRASH CUSHION TY VI CLASS BT TL3 - (ADDED: 6-17-2019)	1.00	EACH
0510	02898	RELOCATE CRASH CUSHION - (ADDED: 6-17-2019)	1.00	EACH
0515	01984	DELINEATOR FOR BARRIER - WHITE - (ADDED: 6-17-2019)	33.00	EACH
0520	01985	DELINEATOR FOR BARRIER - YELLOW - (ADDED: 6-17-2019)	33.00	EACH
0525	02014	BARRICADE-TYPE III - (ADDED: 6-17-2019)	1.00	EACH
0530	02676	MOBILIZATION FOR MILL & TEXT - (B00130L) (ADDED: 6-17-2019)	1.00	LS
0535	02677	ASPHALT PAVE MILLING & TEXTURING - (ADDED: 6-17-2019)	505.00	TON
0540	00219	CL4 ASPH BASE 1.00D PG76-22 - (ADDED: 6-17-2019)	505.00	TON
0545	02696	SHOULDER RUMBLE STRIPS - (ADDED: 6-17-2019)	1,500.00	LF
0550	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING - (ADDED: 6-17-2019)	.60	TON

# MATERIAL SUMMARY

**CONTRACT ID: 192605**

**092GR19M050 - FE02**

**MB09290011906**

WK 9001 EB (MP 85.76). BRIDGE OVER KY-2713 BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0555	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000130R	1.00	LS
0560	03293	EXPAN JOINT REPLACE 1 IN	86.00	LF
0565	03299	ARMORED EDGE FOR CONCRETE	86.00	LF
0570	06556	PAVE STRIPING-DUR TY 1-6 IN W	150.00	LF
0575	06557	PAVE STRIPING-DUR TY 1-6 IN Y	120.00	LF
0580	08504	EPOXY SAND SLURRY	58.00	SQYD
0585	08510	REM EPOXY BIT FOREIGN OVERLAY - (REVISED: 6-19-19)	490.00	SQYD
0590	08526	CONC CLASS M FULL DEPTH PATCH	4.40	CUYD
0595	08534	CONCRETE OVERLAY-LATEX	20.40	CUYD
0600	08549	BLAST CLEANING	548.00	SQYD
0610	24094EC	PARTIAL DEPTH PATCHING	.80	CUYD
0615	02569	DEMOBILIZATION	1.00	LS
0620	02562	TEMPORARY SIGNS - (ADDED: 6-17-2019)	149.00	SQFT
0625	02003	RELOCATE TEMP CONC BARRIER - (ADDED: 6-17-2019)	480.00	LF
0630	02671	PORTABLE CHANGEABLE MESSAGE SIGN - (ADDED: 6-17-2019)	1.00	EACH
0635	02775	ARROW PANEL - (ADDED: 6-17-2019)	1.00	EACH
0640	03171	CONCRETE BARRIER WALL TYPE 9T - (ADDED: 6-17-2019)	480.00	LF
0645	06549	PAVE STRIPING-TEMP REM TAPE-B - (ADDED: 6-17-2019)	2,280.00	LF
0650	08150	STEEL REINFORCEMENT - (ADDED: 6-17-2019)	300.00	LB
0655	06550	PAVE STRIPING-TEMP REM TAPE-W - (ADDED: 6-17-2019)	3,240.00	LF
0660	06551	PAVE STRIPING-TEMP REM TAPE-Y - (ADDED: 6-17-2019)	3,365.00	LF
0665	08903	CRASH CUSHION TY VI CLASS BT TL3 - (ADDED: 6-17-2019)	1.00	EACH
0670	02898	RELOCATE CRASH CUSHION - (ADDED: 6-17-2019)	1.00	EACH
0675	01984	DELINEATOR FOR BARRIER - WHITE - (ADDED: 6-17-2019)	33.00	EACH
0680	01985	DELINEATOR FOR BARRIER - YELLOW - (ADDED: 6-17-2019)	33.00	EACH
0685	02014	BARRICADE-TYPE III - (ADDED: 6-17-2019)	1.00	EACH
0690	02676	MOBILIZATION FOR MILL & TEXT - (B00130R) (ADDED: 6-17-2019)	1.00	LS
0695	02677	ASPHALT PAVE MILLING & TEXTURING - (ADDED: 6-17-2019)	505.00	TON
0700	00219	CL4 ASPH BASE 1.00D PG76-22 - (ADDED: 6-17-2019)	505.00	TON
0705	02696	SHOULDER RUMBLE STRIPS - (ADDED: 6-17-2019)	1,500.00	LF
0710	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING - (ADDED: 6-17-2019)	.60	TON

# MATERIAL SUMMARY

**CONTRACT ID: 192605**

**092GR19M050 - FE02**

**MB09290011907**

WK 9001 WB (MP 74.59). BRIDGE OVER US 231 BRIDGE SUPERSTRUCTURE REPLACEMENT.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0715	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000132L	1.00	LS
0720	03299	ARMORED EDGE FOR CONCRETE	77.80	LF
0725	02569	DEMOBILIZATION	1.00	LS
0730	08100	CONCRETE-CLASS A	93.50	CUYD
0735	08104	CONCRETE-CLASS AA	169.00	CUYD
0740	08150	STEEL REINFORCEMENT	15,656.00	LB
0745	08151	STEEL REINFORCEMENT-EPOXY COATED	51,489.50	LB
0750	08020	CRUSHED AGGREGATE SLOPE PROT	130.50	TON
0755	02231	STRUCTURE GRANULAR BACKFILL	102.00	CUYD
0760	02998	MASONRY COATING	739.50	SQYD
0765	08669	PRECAST PC BOX BEAM SB21	507.25	LF
0770	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	259.00	LF
0775	02403	REMOVE CONCRETE MASONRY	67.00	CUYD
0780	00001	DGA BASE	100.00	TON
0785	00100	ASPHALT SEAL AGGREGATE	7.50	TON
0790	00103	ASPHALT SEAL COAT	1.00	TON
0795	00194	LEVELING & WEDGING PG76-22	37.50	TON
0800	00219	CL4 ASPH BASE 1.00D PG76-22	110.00	TON
0805	00335	CL4 ASPH SURF 0.50A PG76-22	298.00	TON
0810	02677	ASPHALT PAVE MILLING & TEXTURING	298.00	TON
0815	20071EC	JOINT ADHESIVE	1,666.00	LF
0820	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	1.50	TON
0825	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	7.00	EACH
0830	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	4.50	EACH
0835	02351	GUARDRAIL-STEEL W BEAM-S FACE	387.50	LF
0840	02352	GUARDRAIL-STEEL W BEAM-D FACE	137.50	LF
0845	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
0850	02365	CRASH CUSHION TYPE IX-A	1.00	EACH
0855	02367	GUARDRAIL END TREATMENT TYPE 1	2.00	EACH
0860	02381	REMOVE GUARDRAIL	537.50	LF
0865	25025ED	THRIE BEAM GUARDRAIL TRANSITION TL-3	3.00	LF
0870	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
0875	02159	TEMP DITCH	337.50	LF
0880	02160	CLEAN TEMP DITCH	168.75	LF
0885	02703	SILT TRAP TYPE A	3.00	EACH
0890	02704	SILT TRAP TYPE B	1.00	EACH
0895	02705	SILT TRAP TYPE C	1.00	EACH
0900	02706	CLEAN SILT TRAP TYPE A	3.00	EACH
0905	02707	CLEAN SILT TRAP TYPE B	1.00	EACH
0910	02708	CLEAN SILT TRAP TYPE C	1.00	EACH
0915	05950	EROSION CONTROL BLANKET	1,210.00	SQYD
0920	05952	TEMP MULCH	806.50	SQYD
0925	05953	TEMP SEEDING AND PROTECTION	605.00	SQYD

## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0930	05963	INITIAL FERTILIZER	.15	TON
0935	05964	MAINTENANCE FERTILIZER	.10	TON
0940	05989	SPECIAL SEEDING CROWN VETCH	145.00	SQYD
0945	05992	AGRICULTURAL LIMESTONE	.05	TON
0950	40030	TEMPORARY SILT FENCE	605.00	LF
0955	02562	TEMPORARY SIGNS	500.00	SQFT
0960	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0965	02676	MOBILIZATION FOR MILL & TEXT - (B00132L)	1.00	LS
0970	02775	ARROW PANEL	1.00	EACH
0975	23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN	38.00	LF
0980	04933	TEMP SIGNAL 2 PHASE	1.00	EACH
0985	06511	PAVE STRIPING-TEMP PAINT-6 IN	7,750.00	LF
0990	06542	PAVE STRIPING-THERMO-6 IN W	1,511.50	LF
0995	06543	PAVE STRIPING-THERMO-6 IN Y	1,090.50	LF
1000	06556	PAVE STRIPING-DUR TY 1-6 IN W	200.00	LF
1005	06557	PAVE STRIPING-DUR TY 1-6 IN Y	150.00	LF
1010	24489EC	INLAID PAVEMENT MARKER	21.00	EACH
1015	06568	PAVE MARKING-THERMO STOP BAR-24IN	25.50	LF
1020	23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	34.50	LF
1025	06574	PAVE MARKING-THERMO CURV ARROW	4.00	EACH
1030	02545	CLEARING AND GRUBBING - APPLIES TO 092B00132L	1.00	LS
1035	02726	STAKING - (B00132L)	1.00	LS
1040	02696	SHOULDER RUMBLE STRIPS	816.00	LF
1045	21451ED	FILL AND GRADE MEDIAN	250.00	LF
1050	20191ED	OBJECT MARKER TY 3	2.00	EACH
1055	02091	REMOVE PAVEMENT	125.00	SQYD
1060	02023	JPC PAVEMENT-9 IN/24	125.00	SQYD
1065	01984	DELINEATOR FOR BARRIER - WHITE	8.00	EACH
1070	01985	DELINEATOR FOR BARRIER - YELLOW	4.00	EACH
1075	01691	FLUME INLET TYPE 2	1.00	EACH
1080	01890	ISLAND HEADER CURB TYPE 1	17.00	LF
1085	02165	REMOVE PAVED DITCH	41.50	SQYD
1090	02484	CHANNEL LINING CLASS III	57.00	TON
1095	24894EC	REMOVE - REMOVE FLUME - APPLIES TO 092B00132L	1.00	EACH
1100	08301	REMOVE SUPERSTRUCTURE - APPLIES TO 092B00132L	1.00	LS

**CONTRACT ID: 192605**

**092GR19M050 - FE02**

**MB09290011908**

WK 9001 EB (MP 74.59). BRIDGE OVER US231 BRIDGE SUPERSTRUCTURE REPLACEMENT.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1105	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000132R	1.00	LS
1110	03299	ARMORED EDGE FOR CONCRETE	77.80	LF
1115	02569	DEMOBILIZATION	1.00	LS

## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1120	08100	CONCRETE-CLASS A	93.50	CUYD
1125	08104	CONCRETE-CLASS AA	169.00	CUYD
1130	08150	STEEL REINFORCEMENT	15,656.00	LB
1135	08151	STEEL REINFORCEMENT-EPOXY COATED	51,489.50	LB
1140	02998	MASONRY COATING	739.50	SQYD
1145	08020	CRUSHED AGGREGATE SLOPE PROT	130.50	TON
1150	02231	STRUCTURE GRANULAR BACKFILL	102.00	CUYD
1155	08669	PRECAST PC BOX BEAM SB21	507.25	LF
1160	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	259.00	LF
1165	02403	REMOVE CONCRETE MASONRY	67.00	CUYD
1170	00001	DGA BASE	100.00	TON
1175	00103	ASPHALT SEAL COAT	1.00	TON
1180	00194	LEVELING & WEDGING PG76-22	37.50	TON
1185	00219	CL4 ASPH BASE 1.00D PG76-22	110.00	TON
1190	00335	CL4 ASPH SURF 0.50A PG76-22	298.00	TON
1195	02677	ASPHALT PAVE MILLING & TEXTURING	298.00	TON
1200	20071EC	JOINT ADHESIVE	1,666.00	LF
1205	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	1.50	TON
1210	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	7.00	EACH
1215	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	4.50	EACH
1220	02351	GUARDRAIL-STEEL W BEAM-S FACE	387.50	LF
1225	02352	GUARDRAIL-STEEL W BEAM-D FACE	137.50	LF
1230	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH
1235	02365	CRASH CUSHION TYPE IX-A	1.00	EACH
1240	02367	GUARDRAIL END TREATMENT TYPE 1	2.00	EACH
1245	02381	REMOVE GUARDRAIL	537.50	LF
1250	25025ED	THRIE BEAM GUARDRAIL TRANSITION TL-3	3.00	LF
1255	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
1260	02159	TEMP DITCH	337.50	LF
1265	02703	SILT TRAP TYPE A	3.00	EACH
1270	02704	SILT TRAP TYPE B	1.00	EACH
1275	02705	SILT TRAP TYPE C	1.00	EACH
1280	02706	CLEAN SILT TRAP TYPE A	3.00	EACH
1285	02707	CLEAN SILT TRAP TYPE B	1.00	EACH
1290	02708	CLEAN SILT TRAP TYPE C	1.00	EACH
1295	05950	EROSION CONTROL BLANKET	1,210.00	SQYD
1300	05952	TEMP MULCH	806.50	SQYD
1305	05953	TEMP SEEDING AND PROTECTION	605.00	SQYD
1310	05963	INITIAL FERTILIZER	.15	TON
1315	05964	MAINTENANCE FERTILIZER	.10	TON
1320	05989	SPECIAL SEEDING CROWN VETCH	145.00	SQYD
1325	05992	AGRICULTURAL LIMESTONE	.05	TON
1330	40030	TEMPORARY SILT FENCE	605.00	LF
1335	02562	TEMPORARY SIGNS	500.00	SQFT
1340	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
1345	02676	MOBILIZATION FOR MILL & TEXT - (B00132R)	1.00	LS
1350	02775	ARROW PANEL	1.00	EACH
1355	23010EN	PAVE MARK TEMP PAINT STOP BAR-24 IN	38.00	LF
1360	04933	TEMP SIGNAL 2 PHASE	1.00	EACH

## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1365	06511	PAVE STRIPING-TEMP PAINT-6 IN	7,750.00	LF
1370	06542	PAVE STRIPING-THERMO-6 IN W	1,511.50	LF
1375	06543	PAVE STRIPING-THERMO-6 IN Y	1,090.50	LF
1380	06556	PAVE STRIPING-DUR TY 1-6 IN W	200.00	LF
1385	06557	PAVE STRIPING-DUR TY 1-6 IN Y	150.00	LF
1390	24489EC	INLAID PAVEMENT MARKER	21.00	EACH
1395	06568	PAVE MARKING-THERMO STOP BAR-24IN	25.50	LF
1400	23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	34.50	LF
1405	06574	PAVE MARKING-THERMO CURV ARROW	4.00	EACH
1410	02545	CLEARING AND GRUBBING - APPLIES TO 092B00132R	1.00	LS
1415	02726	STAKING - (B00132R)	1.00	LS
1420	02696	SHOULDER RUMBLE STRIPS	816.00	LF
1425	21451ED	FILL AND GRADE MEDIAN	250.00	LF
1430	20191ED	OBJECT MARKER TY 3	2.00	EACH
1435	02091	REMOVE PAVEMENT	125.00	SQYD
1440	02023	JPC PAVEMENT-9 IN/24	125.00	SQYD
1445	01984	DELINEATOR FOR BARRIER - WHITE	8.00	EACH
1450	01985	DELINEATOR FOR BARRIER - YELLOW	4.00	EACH
1455	01691	FLUME INLET TYPE 2	1.00	EACH
1460	01890	ISLAND HEADER CURB TYPE 1	17.00	LF
1465	02165	REMOVE PAVED DITCH	41.50	SQYD
1470	02484	CHANNEL LINING CLASS III	57.00	TON
1475	24894EC	REMOVE - REMOVE FLUME - APPLIES TO 092B00132R	1.00	EACH
1480	08301	REMOVE SUPERSTRUCTURE - APPLIES TO 092B00132R	1.00	LS

**CONTRACT ID: 192605**

**092GR19M050 - FE02**

**MB09290011909**

WK 9001 WB (MP 72.42). BRIDGE OVER KY-369 BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1485	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000133L	1.00	LS
1490	03299	ARMORED EDGE FOR CONCRETE	67.00	LF
1495	06556	PAVE STRIPING-DUR TY 1-6 IN W	232.50	LF
1500	06557	PAVE STRIPING-DUR TY 1-6 IN Y	186.00	LF
1505	08504	EPOXY SAND SLURRY	249.00	SQYD
1510	08534	CONCRETE OVERLAY-LATEX	34.40	CUYD
1515	02569	DEMOBILIZATION	1.00	LS
1520	03293	EXPAN JOINT REPLACE 1 IN	34.00	LF
1525	03298	EXPAN JOINT REPLACE 4 IN	34.00	LF
1530	08510	REM EPOXY BIT FOREIGN OVERLAY - (REVISED: 6-19-19)	619.00	SQYD
1535	08526	CONC CLASS M FULL DEPTH PATCH	2.80	CUYD
1540	08549	BLAST CLEANING	868.00	SQYD
1550	23949EC	BRIDGE CLEANING & PREVENTIVE MAINTENANCE - APPLIES TO 093B00133L	1.00	LS

## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1555	24094EC	PARTIAL DEPTH PATCHING	1.00	CUYD
1560	02562	TEMPORARY SIGNS - (ADDED: 6-17-2019)	149.00	SQFT
1565	02003	RELOCATE TEMP CONC BARRIER - (ADDED: 6-17-2019)	420.00	LF
1570	02671	PORTABLE CHANGEABLE MESSAGE SIGN - (ADDED: 6-17-2019)	1.00	EACH
1575	02775	ARROW PANEL - (ADDED: 6-17-2019)	1.00	EACH
1580	03171	CONCRETE BARRIER WALL TYPE 9T - (ADDED: 6-17-2019)	420.00	LF
1585	06549	PAVE STRIPING-TEMP REM TAPE-B - (ADDED: 6-17-2019)	1,610.00	LF
1590	08150	STEEL REINFORCEMENT - (ADDED: 6-17-2019)	300.00	LB
1595	06550	PAVE STRIPING-TEMP REM TAPE-W - (ADDED: 6-17-2019)	2,875.00	LF
1600	06551	PAVE STRIPING-TEMP REM TAPE-Y - (ADDED: 6-17-2019)	2,875.00	LF
1605	08903	CRASH CUSHION TY VI CLASS BT TL3 - (ADDED: 6-17-2019)	1.00	EACH
1610	02898	RELOCATE CRASH CUSHION - (ADDED: 6-17-201)	1.00	EACH
1615	01984	DELINEATOR FOR BARRIER - WHITE - (ADDED: 6-17-2019)	27.00	EACH
1620	01985	DELINEATOR FOR BARRIER - YELLOW - (ADDED: 6-17-2019)	30.00	EACH
1625	02014	BARRICADE-TYPE III - (ADDED: 6-17-2019)	1.00	EACH
1630	02676	MOBILIZATION FOR MILL & TEXT - (B00133L) (ADDED: 6-17-2019)	1.00	LS
1635	02677	ASPHALT PAVE MILLING & TEXTURING - (ADDED: 6-17-2019)	124.00	TON
1640	00219	CL4 ASPH BASE 1.00D PG76-22 - (ADDED: 6-17-2019)	124.00	TON
1645	02696	SHOULDER RUMBLE STRIPS - (ADDED: 6-17-2019)	840.00	LF
1650	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING - (ADDED: 6-17-2019)	.20	TON

**CONTRACT ID: 192605**

**092GR19M050 - FE02**

**MB09290011910**

WK 9001 EB (MP 72.42). BRIDGE OVER KY-369 BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1655	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000133R	1.00	LS
1660	03293	EXPAN JOINT REPLACE 1 IN	34.00	LF
1665	03298	EXPAN JOINT REPLACE 4 IN	34.00	LF
1670	03299	ARMORED EDGE FOR CONCRETE	67.00	LF
1675	06556	PAVE STRIPING-DUR TY 1-6 IN W	232.50	LF
1680	06557	PAVE STRIPING-DUR TY 1-6 IN Y	186.00	LF
1685	08504	EPOXY SAND SLURRY	249.00	SQYD
1690	08510	REM EPOXY BIT FOREIGN OVERLAY - (REVISED: 6-19-19)	619.00	SQYD
1695	08526	CONC CLASS M FULL DEPTH PATCH	6.30	CUYD
1700	08534	CONCRETE OVERLAY-LATEX	34.40	CUYD

## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1705	08549	BLAST CLEANING	868.00	SQYD
1715	23949EC	BRIDGE CLEANING & PREVENTIVE MAINTENANCE - APPLIES TO 093B00133R	1.00	LS
1720	24094EC	PARTIAL DEPTH PATCHING	1.00	CUYD
1725	02569	DEMOBILIZATION	1.00	LS
1730	02562	TEMPORARY SIGNS - (ADDED: 6-17-2019)	149.00	SQFT
1735	02003	RELOCATE TEMP CONC BARRIER - (ADDED: 6-17-2019)	420.00	LF
1740	02671	PORTABLE CHANGEABLE MESSAGE SIGN - (ADDED: 6-17-2019)	1.00	EACH
1745	02775	ARROW PANEL - (ADDED: 6-17-2019)	1.00	EACH
1750	03171	CONCRETE BARRIER WALL TYPE 9T - (ADDED: 6-17-2019)	420.00	LF
1755	06549	PAVE STRIPING-TEMP REM TAPE-B - (ADDED: 6-17-2019)	1,610.00	LF
1760	08150	STEEL REINFORCEMENT - (ADDED: 6-17-2019)	300.00	LB
1765	06550	PAVE STRIPING-TEMP REM TAPE-W - (ADDED: 6-17-2019)	2,875.00	LF
1770	06551	PAVE STRIPING-TEMP REM TAPE-Y - (ADDED: 6-17-2019)	2,875.00	LF
1775	08903	CRASH CUSHION TY VI CLASS BT TL3 - (ADDED: 6-17-2019)	1.00	EACH
1780	02898	RELOCATE CRASH CUSHION - (ADDED: 6-17-2019)	1.00	EACH
1785	01984	DELINEATOR FOR BARRIER - WHITE - (ADDED: 6-17-2019)	27.00	EACH
1790	01985	DELINEATOR FOR BARRIER - YELLOW - (ADDED: 6-17-2019)	30.00	EACH
1795	02014	BARRICADE-TYPE III - (ADDED: 6-17-2019)	1.00	EACH
1800	02676	MOBILIZATION FOR MILL & TEXT - (B00133R) (ADDED: 6-17-2019)	1.00	LS
1805	02677	ASPHALT PAVE MILLING & TEXTURING - (ADDED: 6-17-2019)	124.00	TON
1810	00219	CL4 ASPH BASE 1.00D PG76-22 - (ADDED: 6-17-2019)	124.00	TON
1815	02696	SHOULDER RUMBLE STRIPS - (ADDED: 6-17-2019)	840.00	LF
1820	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING - (ADDED: 6-17-2019)	.20	TON

# MATERIAL SUMMARY

**CONTRACT ID: 192605**

**092GR19M050 - FE02**

**MB09290011911**

WK 9001 WB (MP 69.73). BRIDGE OVER LEWIS CREEK BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1825	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000134L	1.00	LS
1830	03293	EXPAN JOINT REPLACE 1 IN	92.00	LF
1835	03299	ARMORED EDGE FOR CONCRETE	92.00	LF
1840	06556	PAVE STRIPING-DUR TY 1-6 IN W	162.50	LF
1845	06557	PAVE STRIPING-DUR TY 1-6 IN Y	130.00	LF
1850	08504	EPOXY SAND SLURRY	60.00	SQYD
1855	08510	REM EPOXY BIT FOREIGN OVERLAY - (REVISED: 6-19-19)	507.00	SQYD
1860	08526	CONC CLASS M FULL DEPTH PATCH	2.80	CUYD
1865	08534	CONCRETE OVERLAY-LATEX	28.20	CUYD
1870	08549	BLAST CLEANING	567.00	SQYD
1880	24094EC	PARTIAL DEPTH PATCHING	.80	CUYD
1885	02569	DEMOBILIZATION	1.00	LS
1890	02562	TEMPORARY SIGNS - (ADDED: 6-17-2019)	149.00	SQFT
1895	02003	RELOCATE TEMP CONC BARRIER - (ADDED: 6-17-2019)	480.00	LF
1900	02671	PORTABLE CHANGEABLE MESSAGE SIGN - (ADDED: 6-17-2019)	1.00	EACH
1905	02775	ARROW PANEL - (ADDED: 6-17-2019)	1.00	EACH
1910	03171	CONCRETE BARRIER WALL TYPE 9T - (ADDED: 6-17-2019)	480.00	LF
1915	06549	PAVE STRIPING-TEMP REM TAPE-B - (ADDED: 6-17-2019)	2,280.00	LF
1920	08150	STEEL REINFORCEMENT - (ADDED: 6-17-2019)	300.00	LB
1925	06550	PAVE STRIPING-TEMP REM TAPE-W - (ADDED: 6-17-2019)	3,240.00	LF
1930	06551	PAVE STRIPING-TEMP REM TAPE-Y - (ADDED: 6-17-2019)	3,365.00	LF
1935	08903	CRASH CUSHION TY VI CLASS BT TL3 - (ADDED: 6-17-2019)	1.00	EACH
1940	02898	RELOCATE CRASH CUSHION - (ADDED: 6-17-2019)	1.00	EACH
1945	01984	DELINEATOR FOR BARRIER - WHITE - (ADDED: 6-17-2019)	33.00	EACH
1950	01985	DELINEATOR FOR BARRIER - YELLOW - (ADDED: 6-17-2019)	33.00	EACH
1955	02014	BARRICADE-TYPE III - (ADDED: 6-17-2019)	1.00	EACH
1960	02676	MOBILIZATION FOR MILL & TEXT - (B00134L) (ADDED: 6-17-2019)	1.00	LS
1965	02677	ASPHALT PAVE MILLING & TEXTURING - (ADDED: 6-17-2019)	505.00	TON
1970	00219	CL4 ASPH BASE 1.00D PG76-22 - (ADDED: 6-17-2019)	505.00	TON
1975	02696	SHOULDER RUMBLE STRIPS - (ADDED: 6-17-2019)	1,500.00	LF
1980	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING - (ADDED: 6-17-2019)	.60	TON

# MATERIAL SUMMARY

**CONTRACT ID: 192605**

**092GR19M050 - FE02**

**MB09290011912**

WK 9001 EB (MP 69.73). BRIDGE OVER LEWIS CREEK BRIDGE DECK RESTORATION & WATERPROOFING.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1985	02650	MAINTAIN & CONTROL TRAFFIC - APPLIES TO BRIDGE 092B000134R	1.00	LS
1990	03293	EXPAN JOINT REPLACE 1 IN	92.00	LF
1995	03299	ARMORED EDGE FOR CONCRETE	92.00	LF
2000	06556	PAVE STRIPING-DUR TY 1-6 IN W	162.50	LF
2005	06557	PAVE STRIPING-DUR TY 1-6 IN Y	130.00	LF
2010	08504	EPOXY SAND SLURRY	60.00	SQYD
2015	08510	REM EPOXY BIT FOREIGN OVERLAY - (REVISED: 6-19-19)	507.00	SQYD
2020	08526	CONC CLASS M FULL DEPTH PATCH	2.80	CUYD
2025	08534	CONCRETE OVERLAY-LATEX	28.20	CUYD
2030	08549	BLAST CLEANING	567.00	SQYD
2040	24094EC	PARTIAL DEPTH PATCHING	.80	CUYD
2045	02569	DEMOBILIZATION	1.00	LS
2050	02562	TEMPORARY SIGNS - (ADDED: 6-17-2019)	149.00	SQFT
2055	02003	RELOCATE TEMP CONC BARRIER - (ADDED: 6-17-2019)	480.00	LF
2060	02671	PORTABLE CHANGEABLE MESSAGE SIGN - (ADDED: 6-17-2019)	1.00	EACH
2065	02775	ARROW PANEL - (ADDED: 6-17-2019)	1.00	EACH
2070	03171	CONCRETE BARRIER WALL TYPE 9T - (ADDED: 6-17-2019)	480.00	LF
2075	06549	PAVE STRIPING-TEMP REM TAPE-B - (ADDED: 6-17-2019)	2,280.00	LF
2080	08150	STEEL REINFORCEMENT - (ADDED: 6-17-2019)	300.00	LB
2085	06550	PAVE STRIPING-TEMP REM TAPE-W - (ADDED: 6-17-2019)	3,240.00	LF
2090	06551	PAVE STRIPING-TEMP REM TAPE-Y - (ADDED: 6-17-2019)	3,365.00	LF
2095	08903	CRASH CUSHION TY VI CLASS BT TL3 - (ADDED: 6-17-2019)	1.00	EACH
2100	02898	RELOCATE CRASH CUSHION - (ADDED: 6-17-2019)	1.00	EACH
2105	01984	DELINEATOR FOR BARRIER - WHITE - (ADDED: 6-17-2019)	33.00	EACH
2110	01985	DELINEATOR FOR BARRIER - YELLOW - (ADDED: 6-17-2019)	33.00	EACH
2115	02014	BARRICADE-TYPE III - (ADDED: 6-17-2019)	1.00	EACH
2120	02676	MOBILIZATION FOR MILL & TEXT - (B000134R) (ADDED: 6-17-2019)	1.00	LS
2125	02677	ASPHALT PAVE MILLING & TEXTURING - (ADDED: 6-17-2019)	505.00	TON
2130	00219	CL4 ASPH BASE 1.00D PG76-22 - (ADDED: 6-17-2019)	505.00	TON
2135	02696	SHOULDER RUMBLE STRIPS - (ADDED: 6-17-2019)	1,500.00	LF
2140	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING - (ADDED: 6-17-2019)	.60	TON



**GENERAL NOTES**

SPECIFICATIONS TO THE STANDARD SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR BEAMS AND SLABS. SUPPLEMENTAL SPECIFICATIONS TO THE STANDARD SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH INTERIMS.

THIS BRIDGE IS DESIGNED FOR A MODIFIED HL-93 (K1 HL-93) LIVE LOAD OBTAINED BY INCREASING THE AASHTO LOADING BY 25%. SEE EXISTING PLANS FOR THE DESIGN LOAD USED FOR THE SUBSTRUCTURE THAT WILL REMAIN IN-PLACE.

FUTURE WEARING SURFACE  
THIS BRIDGE IS DESIGNED FOR A 15 PSF FUTURE WEARING SURFACE LOAD.

DESIGN METHOD  
ALL REINFORCED CONCRETE MEMBERS ARE DESIGNED BY THE LOAD AND RESISTANCE FACTOR METHOD. THE DESIGN METHOD USED FOR THE SUBSTRUCTURE THAT WILL REMAIN IN-PLACE FOR THE DESIGN METHOD USED FOR THE SUBSTRUCTURE THAT WILL REMAIN IN-PLACE.

MATERIALS DESIGN SPECIFICATIONS  
F<sub>c</sub> = 3500 PSI FOR CLASS 'A' REINFORCED CONCRETE  
F<sub>c</sub> = 4000 PSI FOR CLASS 'A1' REINFORCED CONCRETE  
F<sub>y</sub> = 60000 PSI FOR STEEL REINFORCEMENT

FOR PRESTRESSED BEAM MATERIAL SPECIFICATIONS, SEE BEAM SHEET.

MATERIAL SPECIFICATIONS  
ASTM OR AASHTO SPECIFICATIONS, CURRENT EDITION, AS DESIGNATED BELOW SHALL GOVERN THE MATERIALS FURNISHED.

STRUCTURAL STEEL, 36,000 PSI MIN. YIELD  
UNCOATED SEVEN-WIRE LOW-RELAXATION STRAND  
STEEL REINFORCEMENT, GRADE 60

CONCRETE  
CLASS 'A' CONCRETE IS TO BE USED IN THE SUPERSTRUCTURE. CLASS 'A' CONCRETE IS TO BE USED IN THE SUBSTRUCTURE. CLASS 'A' CONCRETE SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

ABUTMENT CONSTRUCTION  
THE PIPE UNDERDRAIN AND GEOTEXTILE FABRIC SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR STRUCTURE GRANULAR BACKFILL.

MASONRY COATING  
THE SUPER EXPOSED SUBSTRUCTURE SHALL BE COATED IN ACCORDANCE WITH THE SPECIFICATIONS. CRASHWALL AND ABUTMENTS SHALL RECEIVE MASONRY COATING TO 6" BELOW THE FINISHED GROUND LINE.

ON-SITE INSPECTION  
EACH CONTRACTOR SUBMITTING A BID FOR THIS WORK SHALL MAKE A THOROUGH INSPECTION OF THE PROJECT SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS SO THAT 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 DISCREPANCIES RESULTING FROM SITE CONDITIONS WILL NOT BE HONORED BY THE DEPARTMENT OF HIGHWAYS.

DAMAGE TO THE SUBSTRUCTURES  
THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES TO THE EXISTING SUBSTRUCTURES DURING RECONSTRUCTION EVEN TO THE REPLACEMENT OF THE ENTIRE SUBSTRUCTURE. SHOULD THEY BE DAMAGED DUE TO HIS ACTIONS.

SLOPE PROTECTION  
SLOPE PROTECTION SHALL BE CRUSHED AGGREGATE SLOPE PROTECTION IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. GEOTEXTILE FABRIC UNDER THE SLOPE PROTECTION SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR CRUSHED AGGREGATE SLOPE PROTECTION.

REINFORCEMENT  
DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN OR NOTED. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS. THE CLEAR DISTANCE TO FACE OF CONCRETE IS 2" UNLESS OTHERWISE NOTED. ANY REINFORCING BARS DESIGNATED BY THE SUFFIX 'W' IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH THE SPECIFICATIONS. ALL REINFORCING BARS SHALL BE CONSIDERED A STIRRUP FOR PURPOSES OF BEND DIAMETERS.

CONTRACTOR VERIFY DIMENSIONS  
CONTRACTOR SHALL VERIFY DIMENSION AND ELEVATIONS SHOWN IN THE PLANS BEFORE AND DURING CONSTRUCTION AND ADJUST BAR LENGTHS AND OR BEAM LENGTHS TO ENSURE PROPER FIT AND FINISH IN THE FINAL PRODUCT. DIMENSIONS ARE FOR HORIZONTAL DIMENSIONS ARE TO FACE OF 60 DEGREES FAHRENHEIT. LAYOUT DIMENSIONS ARE HORIZONTAL DIMENSIONS.

BEVELED EDGES  
ALL EXPOSED EDGES SHALL BE BEVELED 3/4" UNLESS OTHERWISE NOTED.

COMPLETION OF THE STRUCTURE  
THE CONTRACTOR IS REQUIRED TO COMPLETE THE STRUCTURE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. MATERIAL, LABOR OR CONSTRUCTION OPERATIONS, NOT OTHERWISE SPECIFIED, ARE TO BE INCLUDED IN THE BID ITEM MOST APPROPRIATE TO THE WORK INVOLVED. THIS MAY INCLUDE COFFERDAMS, SHORING, EXCAVATIONS, BACKFILLING, REMOVAL OF ALL OR PARTS OF EXISTING STRUCTURE, INCIDENTAL MATERIALS, LABOR, OR ANYTHING ELSE REQUIRED TO COMPLETE THE STRUCTURE.

BEFORE YOU DIG  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIREMENTS AND CONFORMANCE WITH THE UNDERGROUND FACILITY DAMAGE PREVENTION ACT OF 1994. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INFORMATION FROM THE UTILITY OWNERS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS ADVISED TO CALL (800) 752-6007 A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION FOR INFORMATION ON THE LOCATION OF SOME BUT NOT NECESSARILY ALL UNDERGROUND UTILITIES.

STAY-IN-PLACE METAL FORMS  
THE USE OF STAY-IN-PLACE FORMWORK FOR THE BRIDGE DECK IS PERMITTED PROVIDED THE CORRUGATIONS ARE FILLED WITH EXPANDED POLYSTYRENE.

SAW CUTTING EXISTING CONCRETE  
PRIOR TO REMOVAL OF THE EXISTING CONCRETE MASONRY CUT THE SURFACE WITH A CONCRETE SAW TO A DEPTH OF 1" TO FACILITATE A NEAT LINE. THE COST OF CUTTING CONCRETE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR REMOVE CONCRETE MASONRY.

EXISTING REINFORCING STEEL  
THE COST OF CUTTING, BENDING AND CLEANING EXISTING REINFORCING STEEL IS TO BE INCIDENTAL TO THE LUMP SUM BID FOR REMOVE EXISTING SUPERSTRUCTURE.

TEMPORARY SUPPORTS  
TEMPORARY SUPPORTS OR SHORING WILL NOT BE PERMITTED UNDER THE BEAMS WHEN POURING THE CONCRETE DECK SLAB OR WHEN TAKING "TOP" OF BEAM ELEVATIONS.

STRUCTURE EXCAVATION  
SHEETING OR SHORING MAY BE NECESSARY FOR CONSTRUCTION. THE COST OF ANY SUCH WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR REMOVE EXISTING SUPERSTRUCTURE, LUMP SUM OR REMOVE CONCRETE MASONRY, CY, AS APPROPRIATE.

CONSTRUCTION IDENTIFICATION  
THE DESIGNER, PRIME CONTRACTOR AND THE SUBCONTRACTOR SHALL BE IDENTIFIED IN THE SHOP DRAWINGS. THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENT AND LABOR NECESSARY TO DO THE WORK FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

DISCLAIMER  
ACCEPTANCE OF ANY CONTRACTOR'S SUBMISSION REQUIRED ON THIS PROJECT DOES NOT CONSTITUTE ENDORSEMENT OR APPROVAL. THE ACCEPTANCE IS ACKNOWLEDGEMENT OF THE RECEIPT OF THE SUBMISSION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INFORMATION FROM THE UTILITY OWNERS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS ADVISED TO CALL (800) 752-6007 A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION FOR INFORMATION ON THE LOCATION OF SOME BUT NOT NECESSARILY ALL UNDERGROUND UTILITIES.

SHOP DRAWINGS  
WHEN CHANGES IN THE SHOP DRAWINGS ARE PROPOSED BY THE FABRICATOR OR SUPPLIER, THE SHOP DRAWINGS REFLECTING THESE CHANGES SHALL BE SUBMITTED TO THE CONSULTANT THROUGH THE CONTRACTOR. THE CONSULTANT SHALL PROVIDE THE DIVISION OF STRUCTURAL DESIGN ONE COPY OF THE FINAL APPROVED SHOP PLANS.

SLAB POURING SEQUENCE  
SLAB SHALL BE POURED CONTINUOUSLY OUT TO OUT.

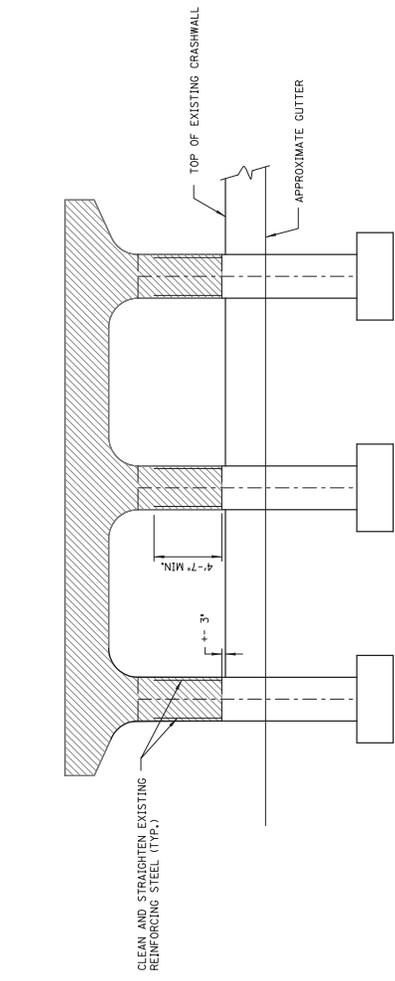
EXISTING PLANS  
EXISTING PLANS CAN BE FOUND UNDER DRAWING NUMBER 15027.

DATE:	APRIL 2019	CHECKED BY:	
DESIGNED BY:	DKK	IN CHARGE:	MM
DETAILED BY:	BTP	DATE:	DKK
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS COUNTY: OHIO			
ROUTE:	WKPK	CROSSING:	US 231
GENERAL NOTES			
PREPARED BY:			
HMB PROFESSIONAL ENGINEERS, INC.			
SHEET NO. S2			
CONTRACT NO. 28038			

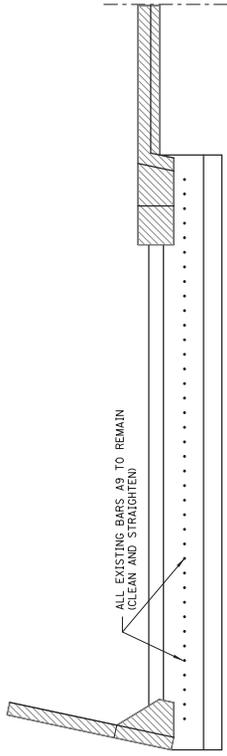


ITEM NUMBER	
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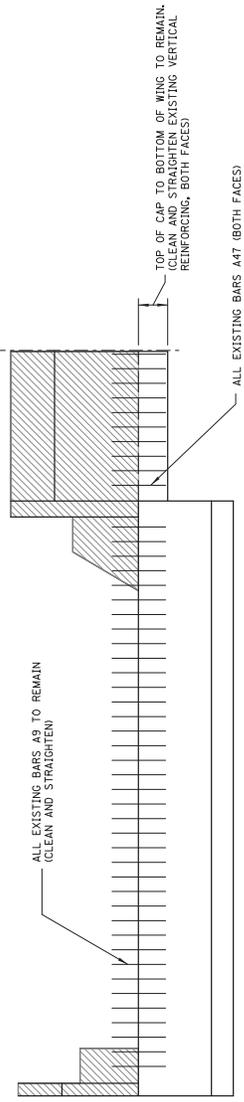


**PIER ELEVATION**



**ABUTMENT PLAN**

NOTE: REMOVE ENTIRE SUPERSTRUCTURE. TAKE CARE TO REMOVE EXISTING END DIAPHRAGM SO THAT EXISTING BARS A9 (EXISTING PLANS) CAN BE CLEANED AND STRAIGHTENED. THESE BARS GET REMOVED OR DAMAGED. THEN CONTRACTOR MUST DRILL AND GROUT THESE BARS. CONTRACTOR SHALL REMOVE ALL EXISTING REINFORCING STEEL FROM THE NEW TOP PORTION OF THE ABUTMENT CAP. IF DRILLING AND GROUTING ANCHORS IS REQUIRED, IT SHALL BE DONE IN ACCORDANCE WITH SPECIAL NOTE 6-J, NON-EPOXY ADHESIVES.



**ABUTMENT ELEVATION**



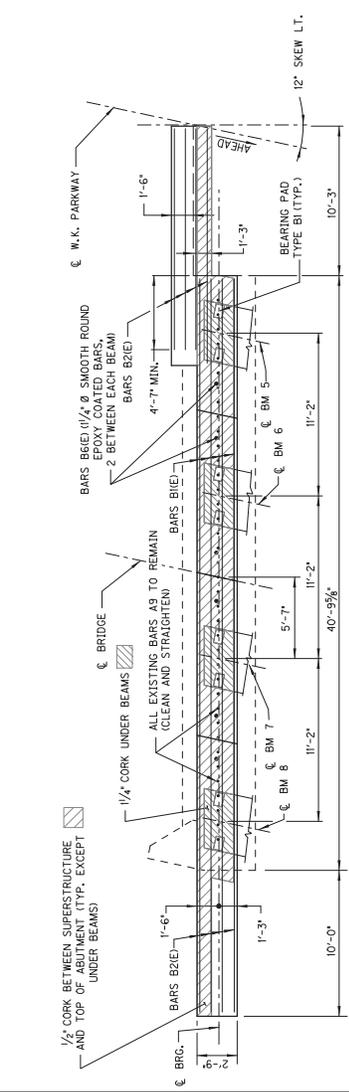
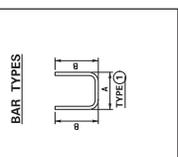
DATE:	APRIL, 2019	DESIGNED BY:	DKP	CHECKED BY:	MM
REVISION		DETAILS BY:	DKP	DATE	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS COUNTY: OHIO					
ROUTE:	WKP	CROSSING:	US 231	REMOVAL LIMITS	
PREPARED BY: HMB PROFESSIONAL ENGINEERS, INC.			SHEET NO.: SA CONTRACT NO.: 28038		

ITEM NUMBER	
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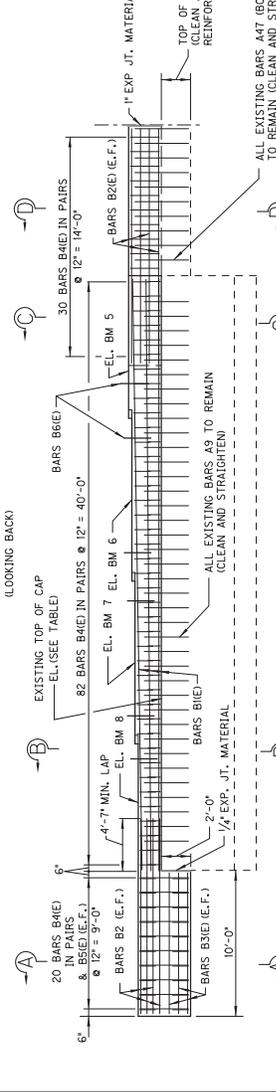
**ABUTMENT BILL OF REINFORCEMENT**

MARK	TYPE	NO.	SIZE	LENGTH		LOCATION		A		B		C		D	
				FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
B1(E)	STR	8	#6	40	5	CAP									
B2(E)	STR	20	#8	14	7	WING									
B3(E)	STR	6	#5	9	8	WING									
B4(E)	STR	132	#5	5	5	CAP			2	5	1	6			
B5(E)	STR	20	#5	3	0	WING									
B6(E)	STR	6	D	2	0	CAP									

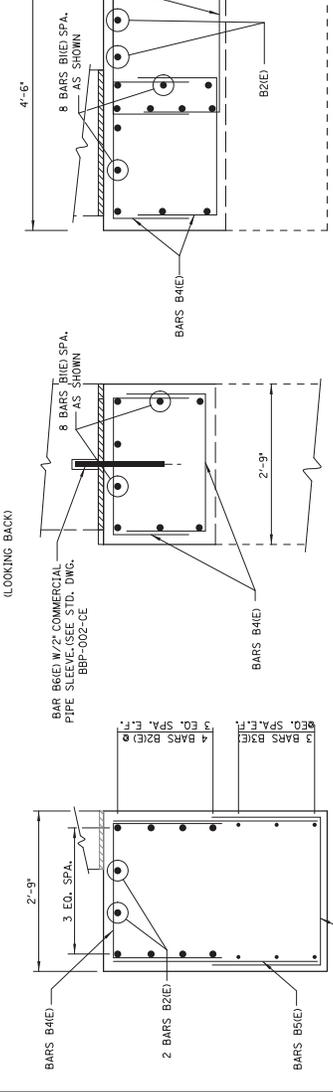
NOTE: D INDICATES A 1/4" DIAMETER SMOOTH ROUND EPOXY COATED BAR  
NOTE: BILL OF REINFORCEMENT SHOWS REBAR FOR SINGLE ABUTMENT



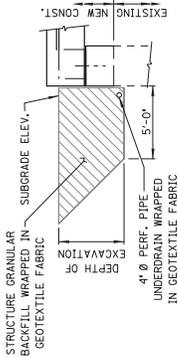
**ABUTMENT PLAN**  
(ABUTMENT 1 EB SHOWN, OTHERS SIMILAR)  
(LOOKING BACK)



**ABUTMENT ELEVATION**  
(ABUTMENT 1 EB SHOWN, OTHERS SIMILAR)  
(LOOKING BACK)



**STRUCTURE GRANULAR BACKFILL**



NOTE: ANY EXCAVATION REQUIRED IS INCIDENTAL TO REMOVE EXISTING STRUCTURE OR REMOVE CONCRETE MASONRY.

**BRIDGE SEAT ELEVATIONS**

ABUTMENT 1	ABUTMENT 2
BEAM 1 501.146	BEAM 1 501.703
BEAM 2 501.377	BEAM 2 501.928
BEAM 3 501.609	BEAM 3 502.153
BEAM 4 501.841	BEAM 4 502.378
BEAM 5 501.874	BEAM 5 502.393
BEAM 6 501.668	BEAM 6 502.181
BEAM 7 501.463	BEAM 7 501.969
BEAM 8 501.257	BEAM 8 501.756

**APPROX. TOP OF EXISTING ABUT. CAP ELEV.**

ABUT. 1 EB	499.40
ABUT. 2 EB	499.89
ABUT. 1 WB	499.33
ABUT. 2 WB	499.88

DATE: APRIL, 2019	CHECKED BY:
DESIGNED BY: DCK	INM
DETAILED BY: STP	DCK
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
OHIO COUNTY	
ROUTE: WKPK	CRSISING: US 231
ABUTMENT DETAILS	
PREPARED BY:	SHEET NO.
HMB PROFESSIONAL ENGINEERS, INC.	SS
	CONTRACT NO.
	28038



ITEM NUMBER

**SECTION D-D**

**SECTION C-C**

**SECTION B-B**

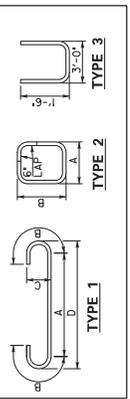
**SECTION A-A**

### PIER BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	#	LENGTH	LOCATION	A		B		C		D	
							FT	IN	FT	IN	FT	IN	FT	IN
P1	②	104	#4	11	4	CAP	2	0	3	2				
P2	③	36	#4	11	8	COLUMN	2	8	2	8				
P3	①	6	#8	41	10	CAP	39	0	1	5	0	8	39	8
P4	STR	6	#8	39	8	CAP								
P5	STR	10	#5	39	8	CAP								
P6	STR	4	#5	19	4	CAP								
P7	③	20	#4	6	0	CAP								
P8 (E)	STR	6	D	2	0	CAP								
P9	STR	54	#8	14	0	COLUMN								

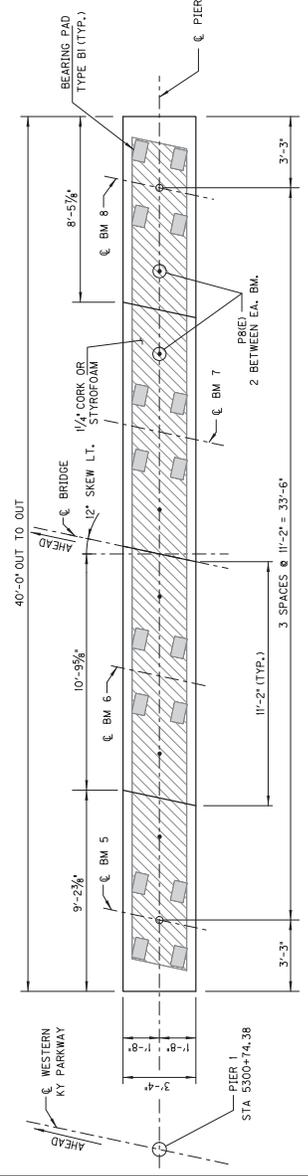
NOTE: D INDICATES 1/2" DIAMETER SMOOTH ROUND EPOXY COATED BAR.  
NOTE: BILL OF REINFORCEMENT SHOWS REBAR FOR SINGLE PIER.

### BAR TYPES



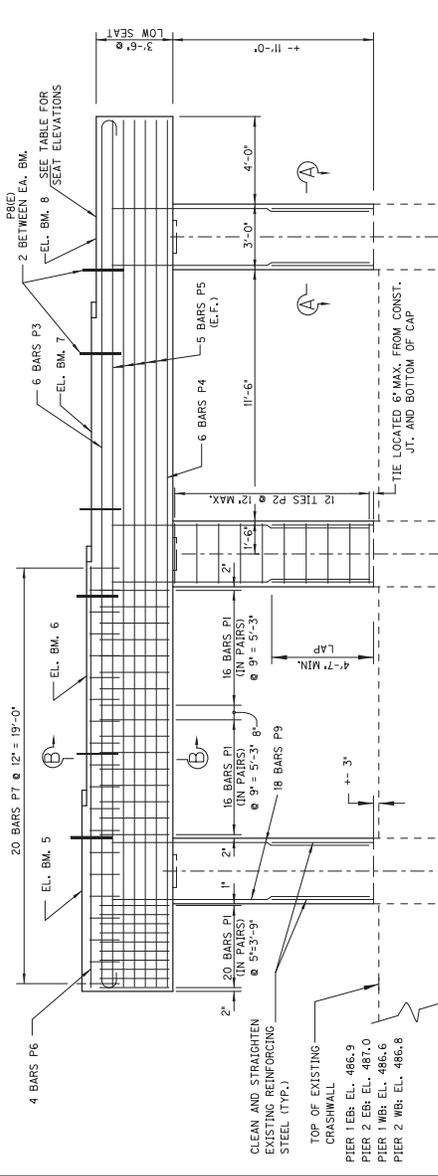
### BRIDGE SEAT ELEVATIONS

PIER	SEAT	BEAM	NO.	SIZE	LENGTH
PIER 1	EAST	1	501.339	#4	11
		2	501.569	#4	11
		3	501.799	#4	11
		4	502.029	#4	11
		5	502.051	#4	11
PIER 2	EAST	6	501.849	#4	11
		7	501.642	#4	11
		8	501.434	#4	11



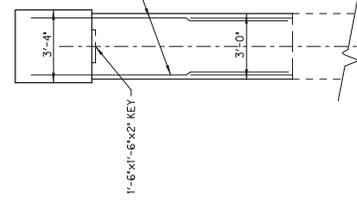
### PLAN

(PIER 1 EB SHOWN, OTHERS SIMILAR)  
(LOOKING AHEAD)

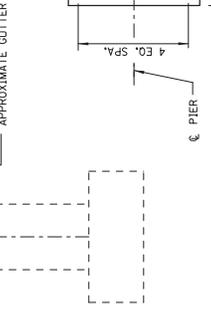


### PIER ELEVATION

(PIER 1 EB SHOWN, OTHERS SIMILAR)  
(LOOKING AHEAD)

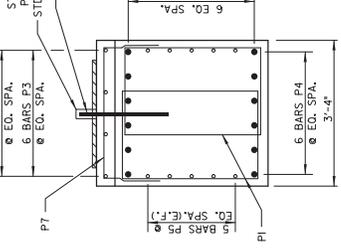


### END ELEVATION



### SECTION A-A

NOTE: NON-CONTACT LAP SPLICES ARE ACCEPTABLE AS THERE ARE ONLY 12 BARS IN THE EXISTING COLUMN.



### SECTION B-B

REVISION	DATE	CHECKED BY
APRIL 2019		
DESIGNED BY:	DKK	MM
DETAILED BY:	STP	DKK

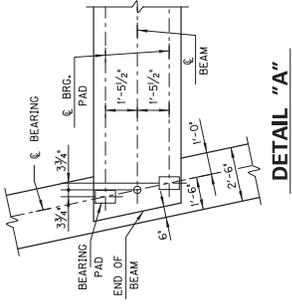
COMMUNICATED BY  
DEPARTMENT OF HIGHWAYS  
OHIO COUNTY

ROUTE: WKP CROSSING: US 231

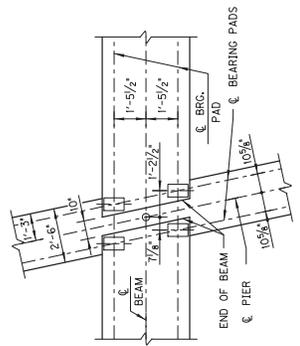
PIER DETAILS  
PREPARED BY: HMB PROFESSIONAL ENGINEERS, INC.

SHEET NO. 58  
DRAWING NO. 28038

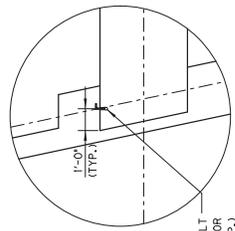
ITEM NUMBER



**DETAIL "A"**

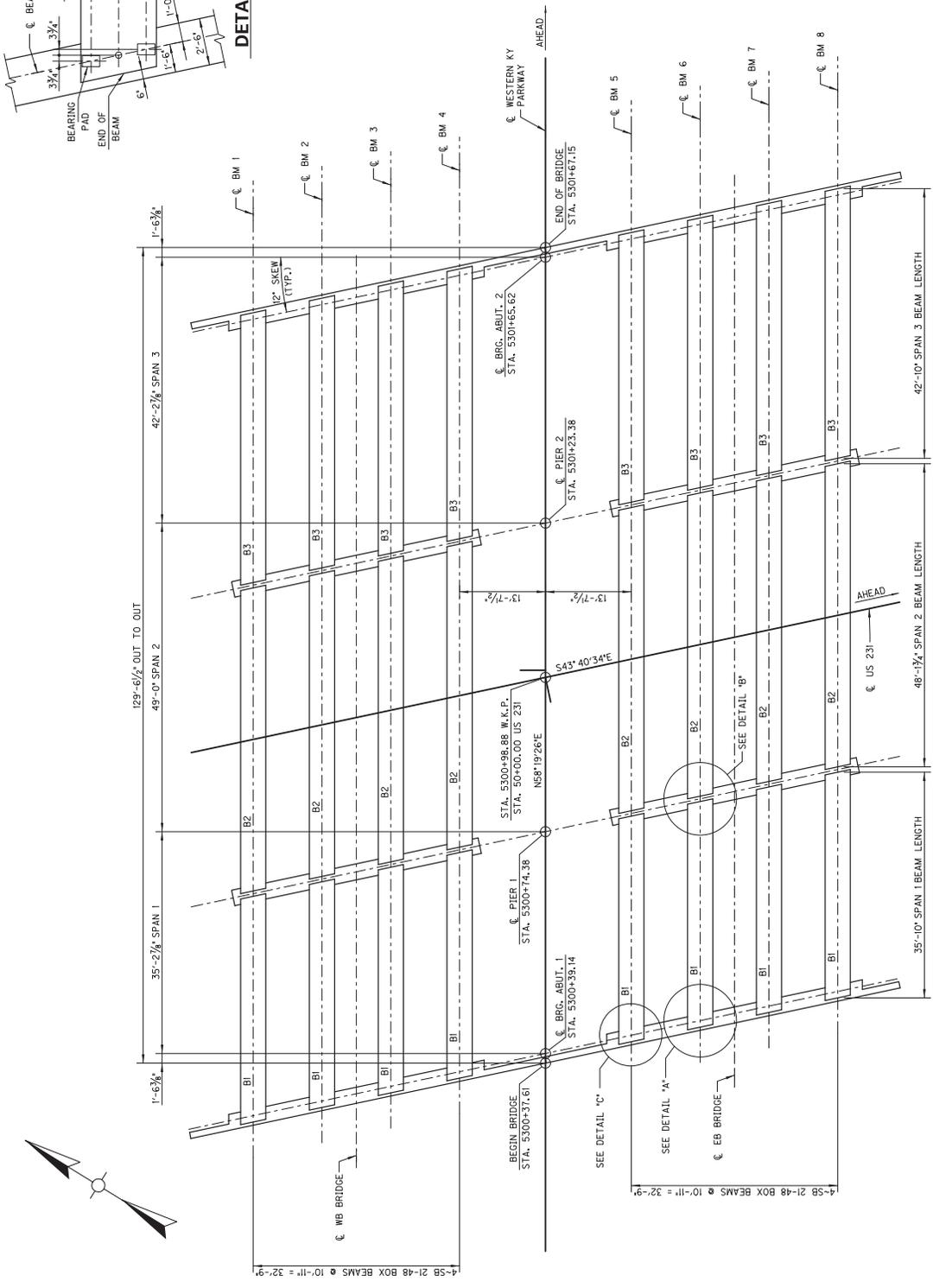


**DETAIL "B"**



**DETAIL "C"**

INSERT AND 1/2 Ø HOOK BOLT  
IN EXTERIOR FACE OF EXTERIOR  
BEAM AT ABUTMENTS (TYP.)



**FRAMING PLAN**

REVISION	DATE	CHECKED BY
APRIL 2019		
DESIGNED BY:	DCK	HMM
DETAILED BY:	BTP	DCK

Commonwealth of Kentucky  
DEPARTMENT OF HIGHWAYS  
COUNTY  
**OHIO**

ROUTE  
WKPK  
CROSSING  
US 231

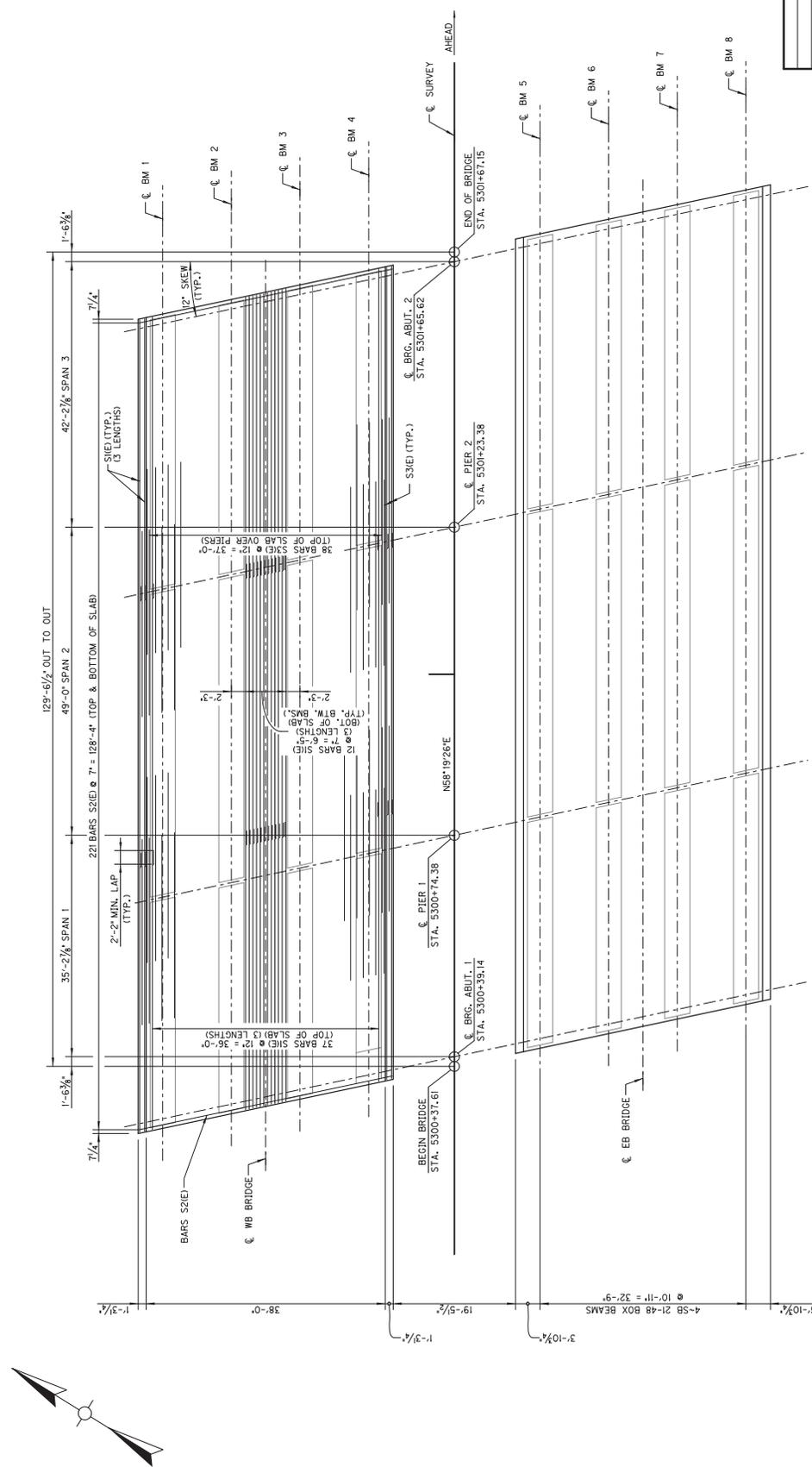
PREPARED BY  
**HMB PROFESSIONAL ENGINEERS, INC.**

SHEET NO.  
**S7**

CONTRACT NO.  
**28038**

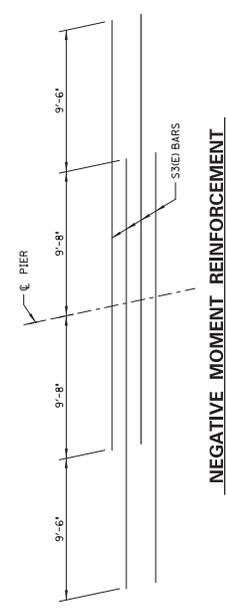
ITEM NUMBER	
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**PLAN**

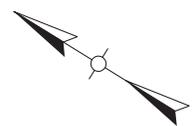
NOTE: DIMENSIONS AND REINFORCEMENT SIMILAR FOR BOTH STRUCTURES



**NEGATIVE MOMENT REINFORCEMENT**

REVISION	DATE	CHECKED BY
	APRIL, 2019	
DESIGNED BY:	DCK	MM
DETAILED BY:	BTP	DCK
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS COUNTY: OHIO		
ROUTE:	CROSSING:	SHEET NO.:
WKP	US 231	S9
SUPERSTRUCTURE		CONTRACT NO.:
PREPARED BY:		28038
HMB PROFESSIONAL ENGINEERS, INC.		

ITEM NUMBER	
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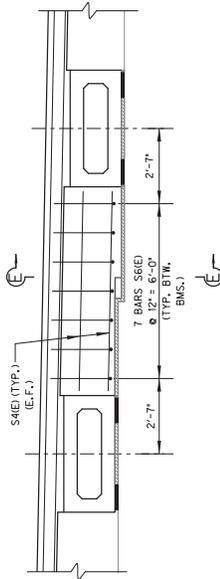
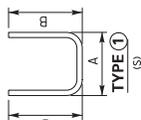




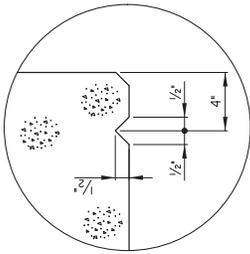
**SUPERSTRUCTURE BILL OF REINFORCEMENT**

MARK	TYPE	NO.	SIZE	LENGTH		A		B		C		D	
				FT	IN	FT	IN	FT	IN	FT	IN	FT	IN
S1(E)	STR	486	#5	44	7								
S2(E)	STR	884	#5	41	1								
S3(E)	STR	188	#6	28	10								
S4(E)	STR	72	#5	6	9								
S5(E)	STR	8	#5	41	1								
S6(E)	STR	184	#5	6	4			2	2	1			
S7(E)	STR	32	#5	10	9								
S8(E)	STR	32	#5	11	6								
S9(E)	STR	76	#6	5	4								
S10(E)	STR	16	#5	1	7			0	8	2	4		

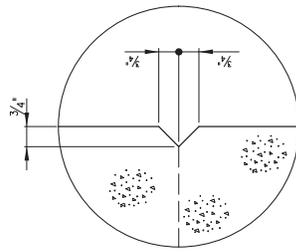
**BAR TYPES**



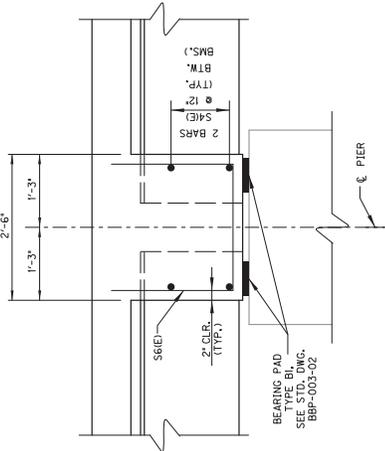
**PIER DIAPHRAGM**



**DRIP NOTCH DETAIL**



**RUSTICATION GROOVE DETAIL**

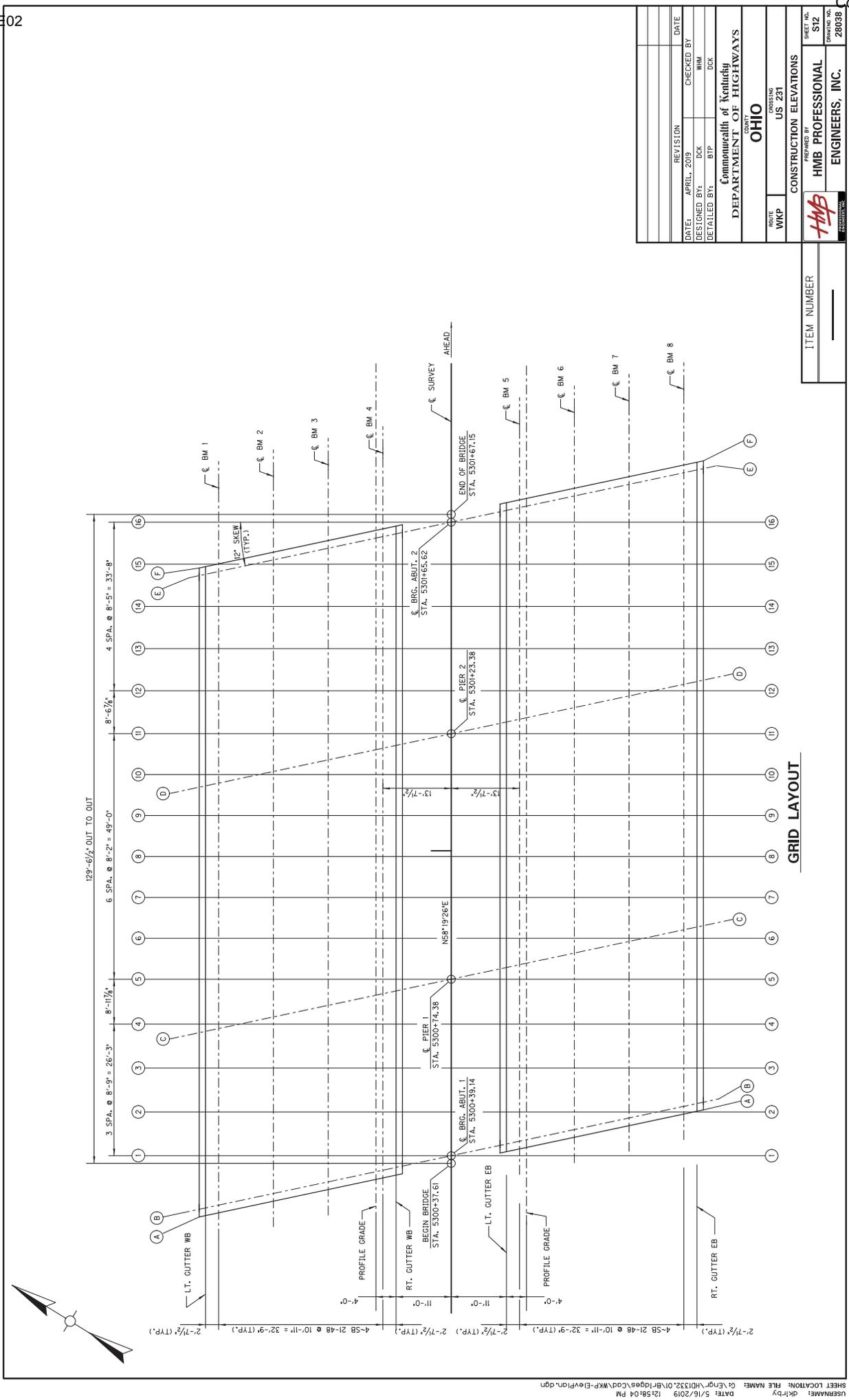


**SECTION E-E**

DATE	REVISION	DATE
APRIL, 2019		
DESIGNED BY:	CHKD BY:	CHECKED BY:
DCK	MM	
DETAILED BY:	DCK	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY		
OHIO		
ROUTE	CROSSING	
WKP	US 281	
SUPERSTRUCTURE		
PREPARED BY:		
HMB PROFESSIONAL ENGINEERS, INC.		
SHEET NO. S11		
CONTRACT NO. 28038		



ITEM NUMBER \_\_\_\_\_



GRID LAYOUT

DATE:	APRIL 2019	CHECKED BY:	
DESIGNED BY:	DCK	INCH:	MM
DETAILED BY:	STP	SCALE:	DCK
PREPARED BY: <b>HMB PROFESSIONAL ENGINEERS, INC.</b> COUNTY: OHIO PROJECT NO.: US 281 SHEET NO.: S12 CONTRACT NO.: 28038			

ROUTE:	WPKP
CONSTRUCTION ELEVATIONS:	US 281
ITEM NUMBER:	

### EASTBOUND CONSTRUCTION ELEVATIONS

LOCATION	L.T. GUTTER	BEAM 5		PROFILE GRADE	BEAM 6		BEAM 7		BEAM 8		RT. GUTTER
		CONST. ELEV.	TOP OF DIM BEAM "A"		CONST. ELEV.	TOP OF DIM BEAM "A"	CONST. ELEV.	TOP OF DIM BEAM "A"	CONST. ELEV.	TOP OF DIM BEAM "A"	
AA	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
AB	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
BB	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
CC	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
DD	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
EE	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
FF	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384

### WESTBOUND CONSTRUCTION ELEVATIONS

LOCATION	L.T. GUTTER	BEAM 1		BEAM 2		BEAM 3		PROFILE GRADE	BEAM 4		RT. GUTTER
		CONST. ELEV.	TOP OF DIM BEAM "A"	CONST. ELEV.	TOP OF DIM BEAM "A"	CONST. ELEV.	TOP OF DIM BEAM "A"		CONST. ELEV.	TOP OF DIM BEAM "A"	
AA	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
AB	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
BB	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
CC	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
DD	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
EE	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384
FF	504.655	504.606	504.384	504.587	504.162	504.001	504.001	504.001	504.001	504.001	504.384

NOTE: CONSTRUCTION ELEVATIONS INCLUDE CAMBER TO ACCOUNT FOR DEAD LOAD DEFLECTION.

**NOTES:**

ELEVATIONS TAKEN ON PRESTRESSED CONCRETE SPANS

TAKE ELEVATIONS ON TOP OF BEAM AT POINTS INDICATED BY THE GRID LAYOUT. THE BEAM ELEVATIONS ARE TO BE READ TO THREE DECIMALS AND ENTERED IN TABLES UNDER "TOP OF BEAM ELEVATIONS."

COMPLETE DIMENSION "X" AS FOLLOWS:

"CONSTRUCTION ELEVATION MINUS TOP OF BEAM ELEVATION EQUALS DIMENSION "X". CONSTRUCTION ELEVATIONS INCLUDE CAMBER DUE TO WEIGHT OF CONCRETE SLAB AND BARRIER. MEASURING OF DIMENSION "X" GIVES THE FINAL CHECK ON BEAM TOLERANCES FOR CAMBER. BEAM DIMENSIONS MUST BE CHECKED TO PREVENT PRODUCE REVERSE CAMBERS, SAGS AND UNSIGHTLY FASCIA BEAMS.

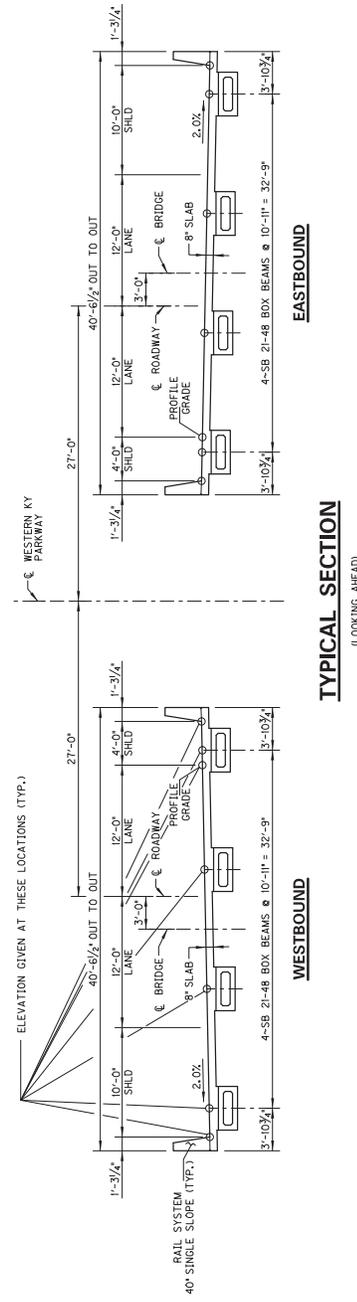
FOR SETTING TEMPLATES MEASURE DIMENSION "X" ABOVE TOP OF BEAMS FOR TOP OF TEMPLATE. DO NOT SET TEMPLATE BY ELEVATIONS.

TEMPORARY SUPPORTS OR SHORING WILL NOT BE PERMITTED UNDER THE BRIDGE FLOOR SLAB. THE CONCRETE FLOOR SLAB OR WHEN TAKING "TOP OF BEAM ELEVATIONS."

CONSTRUCT BARRIER TO ROADWAY GRADE.

NOTE TO RESIDENT: THE "MAXIMUM ALLOWABLE CAMBER" SHOWN ON THE BEAM SHEET IS THE AMOUNT OF CAMBER, MEASURED PRIOR TO CASTING THE SLAB, IF THE MEASURED CAMBER IS GREATER THAN THE "MAXIMUM ALLOWABLE CAMBER" THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY NECESSARY ADJUSTMENTS TO ASSURE A MINIMUM SLAB THICKNESS OF 4 INCHES THROUGHOUT THE ENTIRE BRIDGE. THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE COMPLETION OF THE STRUCTURE AND HAVE THE APPROVAL OF THE ENGINEER.

DATE: APRIL, 2019	REVISION	CHECKED BY
DESIGNED BY: HMM	DATE	DATE
DETAILED BY: HMM	DATE	DATE
COMMUNICATED BY <b>Department of Kentucky</b> DEPARTMENT OF HIGHWAYS COUNTY: OHIO		
ROUTE: WPKP	CROSSING: US 231	CONSTRUCTION ELEVATIONS
PREPARED BY <b>HMM</b> HMM PROFESSIONAL ENGINEERS, INC.		
SHEET NO. S13		CONTRACT NO. 28038



**TYPICAL SECTION**  
(LOOKING AHEAD)

SHEET	TERMIN.	COUNTY OF
S14	OH/ID	

**General Notes**

This rail system has been structurally evaluated to be equivalent or greater in strength to other single slope railings which have been crash tested to MASH TL-4 Criteria. This rail system can be used for speeds of 50 mph or greater when a TL-3 rated transition is used. When a TL-2 transition is used, this railing can only be used for 45 mph or less.

CONCRETE: Use Class AA Concrete throughout.

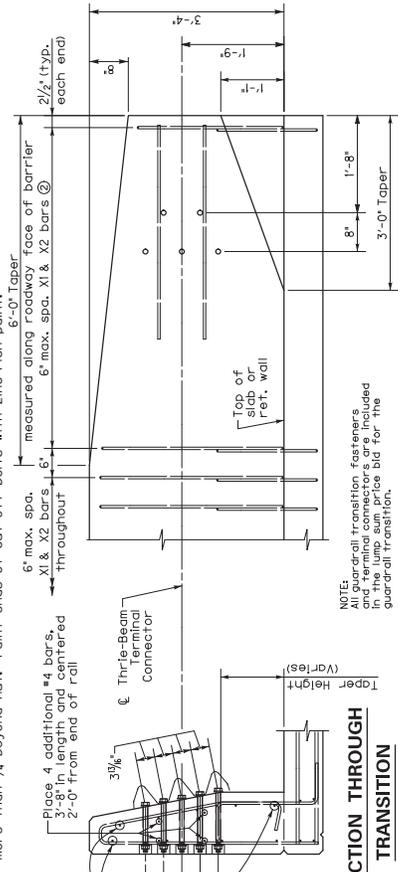
SHOP DRAWINGS: Are not required for this rail.

OPTIONAL WELDED WIRE REINFORCEMENT: At the contractor's option, deformed welded wire reinforcement (WWR) in accordance with ASTM A1064 and epoxy coated in accordance with ASTM A884 may be used in place of stirrup bars X1, X2 and X3 as well as the straight or longitudinal reinforcement attached to these stirrups. Use size D20 wire for both stirrups and straight reinforcement. Locate and space the wire reinforcement the same as the conventional reinforcement. Use a minimum 1-lap for the straight reinforcement between sheets of WWR.

MEASUREMENT: The linear foot for the barrier is measured along the roadway cut/terline. Include all reinforcement shown and all concrete above the top of slab in the bid item for Rail System, 40" Inch Single Slope.

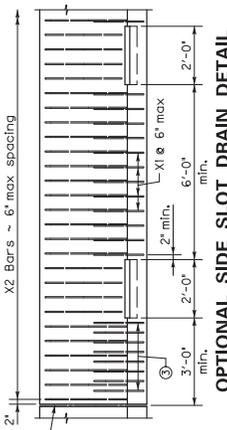
REINFORCEMENT: All reinforcement shown on this sheet is to be epoxy coated Grade 60. Use stirrup bend diameters for all bent bars. Straight reinforcement is to be Size #4 and lapped 1'-11" when necessary. Average weight of rail is 474 lb/ft.

5 ~ 1" Dia. holes and 2 1/2" Dia. x 2" deep recesses. Form or core holes and recesses. Percussion drilling is not permitted. Adjust placement of reinforcing steel as necessary to avoid bolt holes and recesses. Bolt recesses are only required when pedestrian sidewalks are adjacent to back of rail. Tighten the 5 Terminal Connector Bolts in a wall distributed pattern to prevent damage or distortion of the 5 Terminal Connector Bolts. Do not use a hammer or pry bar to force the bolts. Paint ends of out-off bolts with Zinc-rich paint. Paint ends of out-off bolts with Zinc-rich paint.



**SECTION THROUGH TRANSITION**

NOTE: All backfill transition fasteners and terminal connectors are included in the lump sum price bid for the guardrail transition.



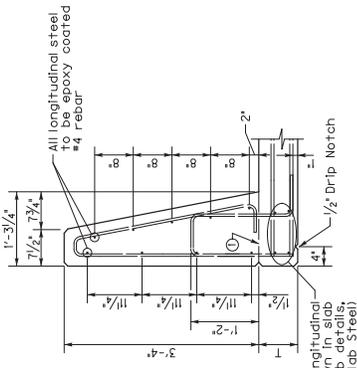
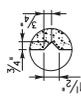
**OPTIONAL SIDE SLOT DRAIN DETAIL**

**ELEVATION**

Note: Open joints are not required.

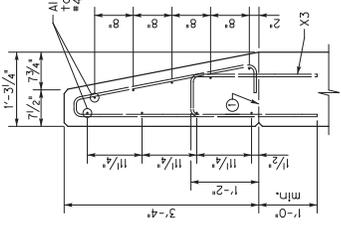
Space XI @ 4" max. when end region of barrier is less than 6'-0" from edge of side slot. Space XI @ 6" max. when end region is greater than 6'-0" from joint to edge of side slot.

**"V-Groove" Rustication**



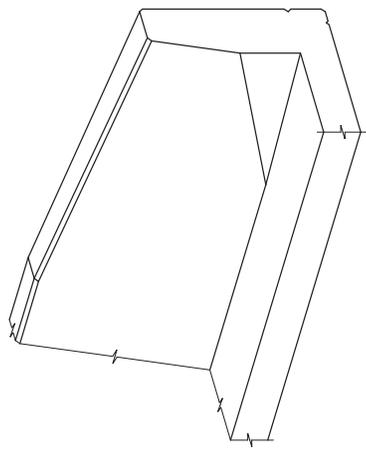
**TYPICAL 40" BARRIER SECTION ON RETAINING WALL**

① Mandatory roughened construction joint. Concrete above this joint is to be placed after slab has been cast. See Note 1 for bid for Rail System, 40" Inch Single Slope.

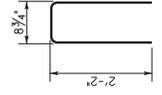


**TYPICAL 40" BARRIER SECTION**

**ON RETAINING WALL**

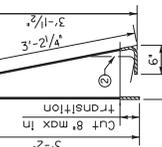


**OBLIQUE VIEW**



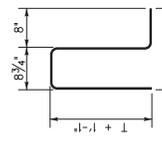
**X2(e) Bars**

#4 Bar



**X1(e) Bars**

#4 Bar



**X3(e) Bars**

#4 Bar

**KENTUCKY DEPARTMENT OF HIGHWAYS**

**RAILING SYSTEM**

**40 INCH SINGLE SLOPE**

SUBMITTED: 5-15-19 DATE

ACTING DEPUTY DIVISION OF HIGHWAY DESIGN

② Bend and field cut X2 bar as necessary to maintain 2" min. clearance to sides of taper and 2" to top of barrier.

① Mandatory roughened construction joint. Concrete above this joint is to be placed after slab has been cast. See Note 1 for bid for Rail System, 40" Inch Single Slope.

**PART II**  
**SPECIFICATIONS AND STANDARD DRAWINGS**

### **SPECIFICATIONS REFERENCE**

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2019* and *Standard Drawings, Edition of 2016*.

## **SUPPLEMENTAL SPECIFICATIONS**

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

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

**PART III**

**EMPLOYMENT, WAGE AND RECORD REQUIREMENTS**

**TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS**

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

- I. Application
- II. Nondiscrimination of Employees (KRS 344)

**I. APPLICATION**

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

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

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

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

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

Revised: January 25, 2017

**II. NONDISCRIMINATION OF EMPLOYEES**

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

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

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

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

## EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

### **Kentucky Equal Employment Opportunity Act of 1978**

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

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

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

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

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

# EMPLOYEE RIGHTS UNDER THE FAIR LABOR STANDARDS ACT

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

## FEDERAL MINIMUM WAGE

# \$7.25 PER HOUR

BEGINNING JULY 24, 2009

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

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

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

**No more than**

- **3** hours on a school day or **18** hours in a school week;
- **8** hours on a non-school day or **40** hours in a non-school week.

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

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

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

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

### ADDITIONAL INFORMATION

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

For additional information:



# 1-866-4-USWAGE

(1-866-487-9243)

TTY: 1-877-889-5627



# WWW.WAGEHOUR.DOL.GOV

**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**

**PROPOSAL BID ITEMS**

192605

Report Date 6/19/19

Page 1 of 4

**Section: 0001 - BRIDGE**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	200.00	TON		\$	
0020	00100		ASPHALT SEAL AGGREGATE	7.50	TON		\$	
0030	00103		ASPHALT SEAL COAT	2.00	TON		\$	
0040	00194		LEVELING & WEDGING PG76-22	75.00	TON		\$	
0050	00219		CL4 ASPH BASE 1.00D PG76-22	220.00	TON		\$	
0060	00219		CL4 ASPH BASE 1.00D PG76-22 (ADDED: 6-17-2019)	2,686.00	TON		\$	
0070	00335		CL4 ASPH SURF 0.50A PG76-22	596.00	TON		\$	
0080	01691		FLUME INLET TYPE 2	2.00	EACH		\$	
0090	01890		ISLAND HEADER CURB TYPE 1	34.00	LF		\$	
0100	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	14.00	EACH		\$	
0110	01984		DELINEATOR FOR BARRIER - WHITE	16.00	EACH		\$	
0120	01984		DELINEATOR FOR BARRIER - WHITE (ADDED: 6-17-2019)	252.00	EACH		\$	
0130	01985		DELINEATOR FOR BARRIER - YELLOW	8.00	EACH		\$	
0140	01985		DELINEATOR FOR BARRIER - YELLOW (ADDED: 6-17-2019)	256.00	EACH		\$	
0150	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	9.00	EACH		\$	
0160	02003		RELOCATE TEMP CONC BARRIER (ADDED: 6-17-2019)	3,520.00	LF		\$	
0170	02014		BARRICADE-TYPE III (ADDED: 6-17-2019)	8.00	EACH		\$	
0180	02023		JPC PAVEMENT-9 IN/24	250.00	SQYD		\$	
0190	02091		REMOVE PAVEMENT	250.00	SQYD		\$	
0200	02159		TEMP DITCH	675.00	LF		\$	
0210	02160		CLEAN TEMP DITCH	168.75	LF		\$	
0220	02165		REMOVE PAVED DITCH	83.00	SQYD		\$	
0230	02231		STRUCTURE GRANULAR BACKFILL	204.00	CUYD		\$	
0240	02351		GUARDRAIL-STEEL W BEAM-S FACE	775.00	LF		\$	
0250	02352		GUARDRAIL-STEEL W BEAM-D FACE	275.00	LF		\$	
0260	02360		GUARDRAIL TERMINAL SECTION NO 1	2.00	EACH		\$	
0270	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	8.00	EACH		\$	
0280	02365		CRASH CUSHION TYPE IX-A	2.00	EACH		\$	
0290	02367		GUARDRAIL END TREATMENT TYPE 1	4.00	EACH		\$	
0300	02372		REMOVE GUARDRAIL CON TO BR END	6.00	EACH		\$	
0310	02381		REMOVE GUARDRAIL	1,075.00	LF		\$	
0320	02387		GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	2.00	EACH		\$	
0330	02403		REMOVE CONCRETE MASONRY	134.00	CUYD		\$	
0340	02484		CHANNEL LINING CLASS III	114.00	TON		\$	
0350	02545		CLEARING AND GRUBBING APPLIES TO 092B00132L	1.00	LS		\$	
0360	02545		CLEARING AND GRUBBING APPLIES TO 092B00132R	1.00	LS		\$	
0370	02562		TEMPORARY SIGNS	1,000.00	SQFT		\$	
0380	02562		TEMPORARY SIGNS (ADDED: 6-17-2019)	1,192.00	SQFT		\$	

**PROPOSAL BID ITEMS**

192605

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Report Date 6/19/19

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0390	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO 092B00072L	1.00	LS		\$	
0400	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO 092B00072R	1.00	LS		\$	
0410	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000130L	1.00	LS		\$	
0420	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000130R	1.00	LS		\$	
0430	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000132L	1.00	LS		\$	
0440	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000132R	1.00	LS		\$	
0450	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000133L	1.00	LS		\$	
0460	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000133R	1.00	LS		\$	
0470	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000134L	1.00	LS		\$	
0480	02650		MAINTAIN & CONTROL TRAFFIC APPLIES TO BRIDGE 092B000134R	1.00	LS		\$	
0490	02671		PORTABLE CHANGEABLE MESSAGE SIGN	6.00	EACH		\$	
0500	02671		PORTABLE CHANGEABLE MESSAGE SIGN (ADDED: 6-17-2019)	8.00	EACH		\$	
0510	02676		MOBILIZATION FOR MILL & TEXT (B000072L) (ADDED: 6-17-2019)	1.00	LS		\$	
0520	02676		MOBILIZATION FOR MILL & TEXT (B000134R) (ADDED: 6-17-2019)	1.00	LS		\$	
0530	02676		MOBILIZATION FOR MILL & TEXT (B00072R) (ADDED: 6-17-2019)	1.00	LS		\$	
0540	02676		MOBILIZATION FOR MILL & TEXT (B00130L) (ADDED: 6-17-2019)	1.00	LS		\$	
0550	02676		MOBILIZATION FOR MILL & TEXT (B00130R) (ADDED: 6-17-2019)	1.00	LS		\$	
0560	02676		MOBILIZATION FOR MILL & TEXT (B00132L)	1.00	LS		\$	
0570	02676		MOBILIZATION FOR MILL & TEXT (B00132R)	1.00	LS		\$	
0580	02676		MOBILIZATION FOR MILL & TEXT (B00133L) (ADDED: 6-17-2019)	1.00	LS		\$	
0590	02676		MOBILIZATION FOR MILL & TEXT (B00133R) (ADDED: 6-17-2019)	1.00	LS		\$	
0600	02676		MOBILIZATION FOR MILL & TEXT (B00134L) (ADDED: 6-17-2019)	1.00	LS		\$	
0610	02677		ASPHALT PAVE MILLING & TEXTURING	596.00	TON		\$	
0620	02677		ASPHALT PAVE MILLING & TEXTURING (ADDED: 6-17-2019)	2,686.00	TON		\$	
0630	02696		SHOULDER RUMBLE STRIPS	1,632.00	LF		\$	
0640	02696		SHOULDER RUMBLE STRIPS (ADDED: 6-17-2019)	8,680.00	LF		\$	
0650	02703		SILT TRAP TYPE A	6.00	EACH		\$	
0660	02704		SILT TRAP TYPE B	2.00	EACH		\$	
0670	02705		SILT TRAP TYPE C	2.00	EACH		\$	
0680	02706		CLEAN SILT TRAP TYPE A	6.00	EACH		\$	
0690	02707		CLEAN SILT TRAP TYPE B	2.00	EACH		\$	
0700	02708		CLEAN SILT TRAP TYPE C	2.00	EACH		\$	

**PROPOSAL BID ITEMS**

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Report Date 6/19/19

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0710	02726		STAKING (B00132L)	1.00	LS		\$	
0720	02726		STAKING (B00132R)	1.00	LS		\$	
0730	02775		ARROW PANEL	2.00	EACH		\$	
0740	02775		ARROW PANEL (ADDED: 6-17-2019)	8.00	EACH		\$	
0750	02898		RELOCATE CRASH CUSHION (ADDED: 6-17-201)	1.00	EACH		\$	
0760	02898		RELOCATE CRASH CUSHION (ADDED: 6-17-2019)	7.00	EACH		\$	
0770	02998		MASONRY COATING	1,999.00	SQYD		\$	
0780	03171		CONCRETE BARRIER WALL TYPE 9T (ADDED: 6-17-2019)	3,560.00	LF		\$	
0790	03293		EXPAN JOINT REPLACE 1 IN	424.00	LF		\$	
0800	03294		EXPAN JOINT REPLACE 1 1/2 IN	170.00	LF		\$	
0810	03298		EXPAN JOINT REPLACE 4 IN	68.00	LF		\$	
0820	03299		ARMORED EDGE FOR CONCRETE	815.60	LF		\$	
0830	04933		TEMP SIGNAL 2 PHASE	2.00	EACH		\$	
0840	05950		EROSION CONTROL BLANKET	2,420.00	SQYD		\$	
0850	05952		TEMP MULCH	1,613.00	SQYD		\$	
0860	05953		TEMP SEEDING AND PROTECTION	1,210.00	SQYD		\$	
0870	05963		INITIAL FERTILIZER	.30	TON		\$	
0880	05964		MAINTENANCE FERTILIZER	.20	TON		\$	
0890	05989		SPECIAL SEEDING CROWN VETCH	290.00	SQYD		\$	
0900	05992		AGRICULTURAL LIMESTONE	.10	TON		\$	
0910	06511		PAVE STRIPING-TEMP PAINT-6 IN	15,500.00	LF		\$	
0920	06542		PAVE STRIPING-THERMO-6 IN W	3,023.00	LF		\$	
0930	06543		PAVE STRIPING-THERMO-6 IN Y	2,181.00	LF		\$	
0940	06549		PAVE STRIPING-TEMP REM TAPE-B (ADDED: 6-17-2019)	13,900.00	LF		\$	
0950	06550		PAVE STRIPING-TEMP REM TAPE-W (ADDED: 6-17-2019)	30,850.00	LF		\$	
0960	06551		PAVE STRIPING-TEMP REM TAPE-Y (ADDED: 6-17-2019)	28,410.00	LF		\$	
0970	06556		PAVE STRIPING-DUR TY 1-6 IN W	2,115.00	LF		\$	
0980	06557		PAVE STRIPING-DUR TY 1-6 IN Y	1,672.00	LF		\$	
0990	06568		PAVE MARKING-THERMO STOP BAR-24IN	51.00	LF		\$	
1000	06574		PAVE MARKING-THERMO CURV ARROW	8.00	EACH		\$	
1010	08020		CRUSHED AGGREGATE SLOPE PROT	261.00	TON		\$	
1020	08100		CONCRETE-CLASS A	187.00	CUYD		\$	
1030	08104		CONCRETE-CLASS AA	338.00	CUYD		\$	
1040	08150		STEEL REINFORCEMENT	31,312.00	LB		\$	
1050	08150		STEEL REINFORCEMENT (ADDED: 6-17-2019)	2,400.00	LB		\$	
1060	08151		STEEL REINFORCEMENT-EPOXY COATED	102,979.00	LB		\$	
1070	08301		REMOVE SUPERSTRUCTURE APPLIES TO 092B00132L	1.00	LS		\$	
1080	08301		REMOVE SUPERSTRUCTURE APPLIES TO 092B00132R	1.00	LS		\$	
1090	08504		EPOXY SAND SLURRY	934.00	SQYD		\$	
1100	08510		REM EPOXY BIT FOREIGN OVERLAY (REVISED: 6-19-19)	3,232.00	SQYD		\$	

**PROPOSAL BID ITEMS**

192605

Page 4 of 4

Report Date 6/19/19

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1110	08526		CONC CLASS M FULL DEPTH PATCH	31.30	CUYD		\$	
1120	08534		CONCRETE OVERLAY-LATEX	166.00	CUYD		\$	
1130	08549		BLAST CLEANING	6,460.00	SQYD		\$	
1150	08669		PRECAST PC BOX BEAM SB21	1,014.50	LF		\$	
1160	08903		CRASH CUSHION TY VI CLASS BT TL3 (ADDED: 6-17-2019)	8.00	EACH		\$	
1170	20071EC		JOINT ADHESIVE	3,332.00	LF		\$	
1180	20099ES842		PAVE MARK TEMP PAINT STOP BAR (ADDED: 6-17-2019)	160.00	LF		\$	
1190	20191ED		OBJECT MARKER TY 3	4.00	EACH		\$	
1200	21451ED		FILL AND GRADE MEDIAN	500.00	LF		\$	
1210	23010EN		PAVE MARK TEMP PAINT STOP BAR-24 IN	76.00	LF		\$	
1220	23032EN		BRIDGE BARRIER RETROFIT	1,084.00	LF		\$	
1230	23265ES717		PAVE MARK TY 1 TAPE STOP BAR-24 IN	69.00	LF		\$	
1240	23331EC		EPOXY-URETHANE WATERPROOFING	20,644.00	SQFT		\$	
1250	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE APPLIES TO 092B00072L	1.00	LS		\$	
1260	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE APPLIES TO 092B00072R	1.00	LS		\$	
1270	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE APPLIES TO 093B00133L	1.00	LS		\$	
1280	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE APPLIES TO 093B00133R	1.00	LS		\$	
1290	24094EC		PARTIAL DEPTH PATCHING	9.00	CUYD		\$	
1300	24489EC		INLAID PAVEMENT MARKER	42.00	EACH		\$	
1310	24894EC		REMOVE REMOVE FLUME - APPLIES TO 092B00132L	1.00	EACH		\$	
1320	24894EC		REMOVE REMOVE FLUME - APPLIES TO 092B00132R	1.00	EACH		\$	
1330	24970EC		ASPHALT MATERIAL FOR TACK NON- TRACKING	3.00	TON		\$	
1340	24970EC		ASPHALT MATERIAL FOR TACK NON- TRACKING (ADDED: 6-17-2019)	3.40	TON		\$	
1350	25025ED		THRIE BEAM GUARDRAIL TRANSITION TL-3	6.00	LF		\$	
1360	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	518.00	LF		\$	
1370	40030		TEMPORARY SILT FENCE	1,210.00	LF		\$	

**Section: 0002 - DEMOBILIZATION**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1380	02569		DEMOBILIZATION	1.00	LS		\$	

**Commonwealth of Kentucky**  
**DEPARTMENT OF HIGHWAYS**  
**WESTERN KENTUCKY PARKWAY**  
**OHIO COUNTY**  
**BRIDGE REHABILITATION**

**MP 69.73 - WKP OVER LEWIS CREEK - 092B00134L/R**

**MP 72.42- WKP OVER KY 369 - 092B00133L/R**

**MP 76.74 - WKP OVER NATCHER PARKWAY - 092B00072L/R**

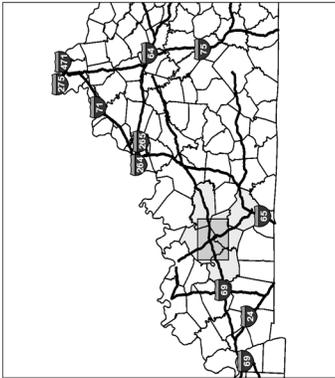
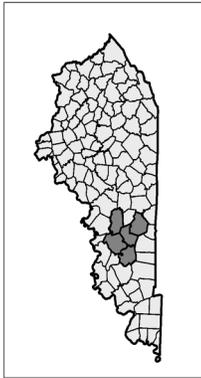
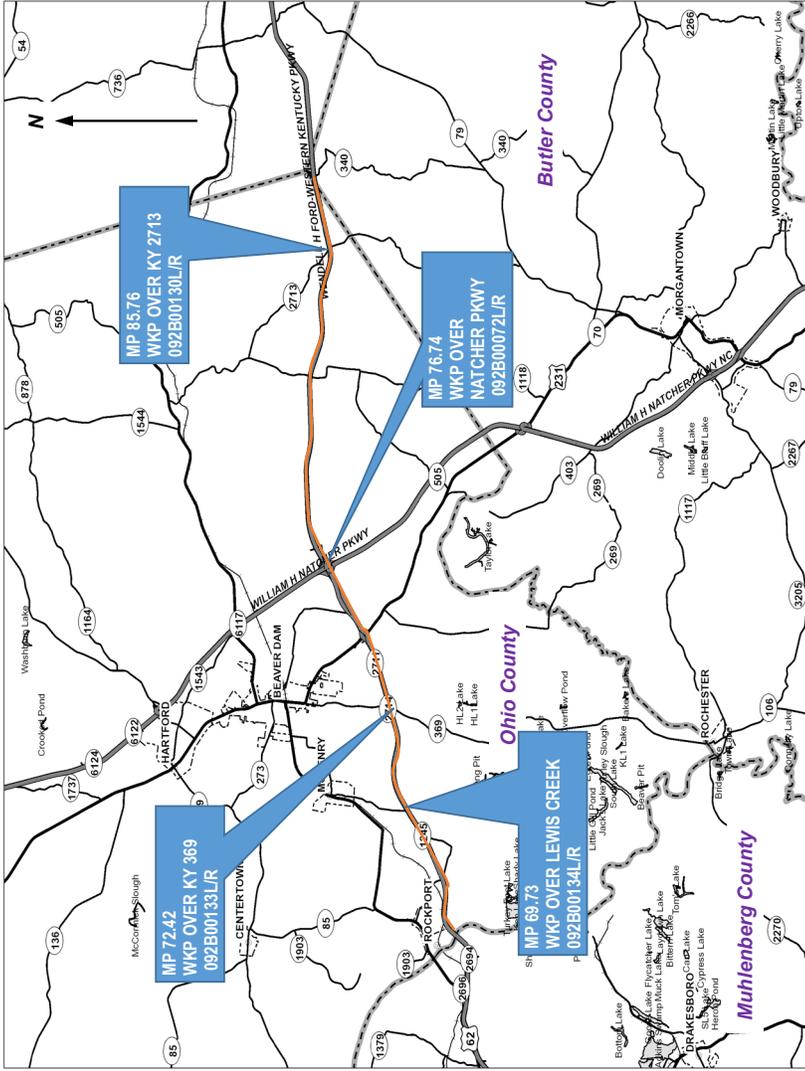
**MP 85.76 - WKP OVER KY 2713 - 092B00130L/R**

**TABLE OF CONTENTS**

LAYOUT SHEET  
LIST OF STANDARD DRAWINGS  
REFERENCES  
BRIDGE SUMMARY  
BRIDGE PLANS AND DETAILS  
APPLICABLE STANDARD DRAWING SEPIA SHEETS  
APPLICABLE SPECIAL NOTES

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

April 26, 2019



**THIS PROJECT IS A FULLY  
CONTROLLED ACCESS HIGHWAY**

NOT TO SCALE

**COUNTY(S):** OHIO

**ITEM NO(S):**

**PROJECT NO(S):**

**LETTING DATE:**

**RECOMMENDED BY:**

KYTC Project Manager

**DATE:**

**PLAN APPROVED BY:**

State Highway Engineer

**DATE:**

**FHWA APPROVED BY:**

**DATE:**

**STANDARD DRAWINGS**  
**WKP - OHIO COUNTY - BRIDGE REHABILITATION**  
**PAGE 1 OF 1**

APPLICABLE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD DRAWINGS - CURRENT EDITIONS:

TTC-120	LANE CLOSURE MULTI-LANE HIGHWAY CASE II
TTC-160	TEMPORARY PAVEMENT MARKER ARRANGEMENTS FOR LANE CLOSURES
RBM-020	DELINEATORS FOR CONCRETE BARRIERS
BJE-001	NEOPRENE EXPANSION DAMS AND ARMORED EDGE

APPLICABLE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD DRAWING SEPIAS (ATTACHED):

013	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A AND A-1 COMPONENTS
015	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A
016	GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1
027	STEEL BEAM GUARDRAIL "W" BEAM
028	STEEL GUARDRAIL POSTS

**REFERENCES**  
**WKP - OHIO COUNTY - BRIDGE REHABILITATION**  
**PAGE 1 OF 1**

1. KENTUCKY TRANSPORTATION CABINET, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.
2. FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) - CURRENT EDITION WITH REVISIONS.
3. APPLICABLE KENTUCKY DEPARTMENT OF HIGHWAYS SUPPLEMENT SPECIFICATIONS (ATTACHED):
  - SPCL. NOTE 3/8" EPOXY-URETHANE WATERPROOFING OVERLAY FOR BRIDGE DECKS
  - SPCL. NOTE REPLACING EXPANSION DAMS AND/OR INSTALLING ARMORED EDGES FOR CONCRETE BRIDGES
  - SPCL. NOTE BRIDGE CLEANING AND PREVENTATIVE MAINTENANCE: BEARING CLEANING AND LUBRICATING
  - SPCL. NOTE BRIDGE BARRIER RETROFIT
  - SPCL. NOTE BRIDGE RESTORATION AND WATERPROOFING WITH CONCRETE OVERLAYS
  - SPCL. NOTE REPLACING COMPRESSION SEAL IN EXISTING EXPANSION JOINT
  - SPCL. NOTE BRIDGE DEMOLITION, RENOVATION AND ASBESTOS ABATEMENT

BRIDGE SUMMARY															
WESTERN KENTUCKY PARKWAY - OHIO COUNTY															
BID CODE	ITEM	NOTE	UNIT	QUANTITIES										TOTAL	
				MP 69.73 WKP OVER LEWIS CREEK 092B00134L/R		MP 72.42 WKP OVER KY 369 092B00133L/R		MP 76.74 WKP OVER NATCHER PKWY. 092B00072L/R		MP 85.76 WKP OVER KY 2713 092B00130L/R					
				EB	WB	EB	WB	EB	WB	EB	WB	EB	WB		
				R	L	R	L	R	L	R	L	R	L		
2363	GUARD. CONN. TO BRIDGE END TY A		EACH	-	-	-	-	2	2	-	-	-	-		4
2372	REMOVE GUARDRAIL CON TO BR END	5	EACH	-	-	-	-	3	3	-	-	-	-		6
2387	GUARD. CONN. TO BRIDGE END TY A-1		EACH	-	-	-	-	1	1	-	-	-	-		2
2998	MASONRY COATING		SQ. YD.	-	-	-	-	260	260	-	-	-	-		520
3293	EXPAN JOINT REPLACE 1 IN	1	LIN. FT.	92	92	34	34	-	-	86	86	-	-		424
3294	EXPAN JOINT REPLACE 1.5 IN	1	LIN. FT.	-	-	-	-	85	85	-	-	-	-		170
3298	EXPAN JOINT REPLACE 4.0 IN	1	LIN. FT.	-	-	34	34	-	-	-	-	-	-		68
3299	ARMORED EDGE FOR CONCRETE		LIN. FT.	92	92	67	67	85	85	86	86	-	-		660
6556	PAVE STRIPING-DUR TY 1-6 IN W		LIN. FT.	162.5	162.5	232.5	232.5	312.5	312.5	150.0	150.0	-	-		1715.0
6557	PAVE STRIPING-DUR TY 1-6 IN Y		LIN. FT.	130.0	130.0	186.0	186.0	250.0	250.0	120.0	120.0	-	-		1372.0
8504	EPOXY SAND SLURRY		SQ. YD.	60	60	249	249	100	100	58	58	-	-		934
8510	REM EPOXY BIT FOREIGN OVERLAY		SQ. YD.	507	507	619	619	1147	1147	490	490	-	-		5,526
8526	CONC CLASS M FULL DEPTH PATCH	3	CU. YD.	2.8	2.8	6.3	2.8	5.6	2.8	4.4	3.8	-	-		31.3
8534	CONCRETE OVERLAY-LATEX		CU. YD.	28.2	28.2	34.4	34.4	-	-	20.4	20.4	-	-		166.0
8549	BLAST CLEANING		SQ. YD.	567	567	868	868	1247	1247	548	548	-	-		6,460
8551	MACHINE PREP OF SLAB		SQ. YD.	507	507	619	619	1147	1147	490	490	-	-		5,526
23032EN	BRIDGE BARRIER RETROFIT		LIN. FT.	-	-	-	-	542	542	-	-	-	-		1,084
23331EC	EPOXY-URETHANE WATERPROOFING		SQ. FT.	-	-	-	-	10322	10322	-	-	-	-		20,644
23949EC	BRIDGE CLEANING AND PREV. MAINT.	4	LS	-	-	1	1	1	1	-	-	-	-		1
24094EC	PARTIAL DEPTH PATCHING	2	CU. YD.	0.8	0.8	1.0	1.0	1.9	1.9	0.8	0.8	-	-		9.0

- NOTES:
- EXPANSION JOINT REPLACEMENT SIZE BASED ON EXISTING PLANS. CONTRACTOR SHALL FIELD VERIFY JOINT SEAL WIDTH BEFORE ORDERING MATERIAL.
  - PARTIAL DEPTH QUANTITY IS BASED ON APPROXIMATE ESTIMATE OF 0.50% OF THE OVERALL OVERLAY AREA.
  - FULL DEPTH CONCRETE PATCHING QUANTITY BASED ON VISUAL INSPECTION + 25%
  - BRIDGE CLEANING & PREVENTATIVE MAINTENANCE CORRESPONDS TO THE CLEANING AND LUBRICATION OF ALL MOVEABLE BEARINGS. SEE THE SPECIAL NOTE FOR BEARING CLEANING AND LUBRICATION
  - SHALL INCLUDE REMOVAL OF 25' OF GUARDRAIL.

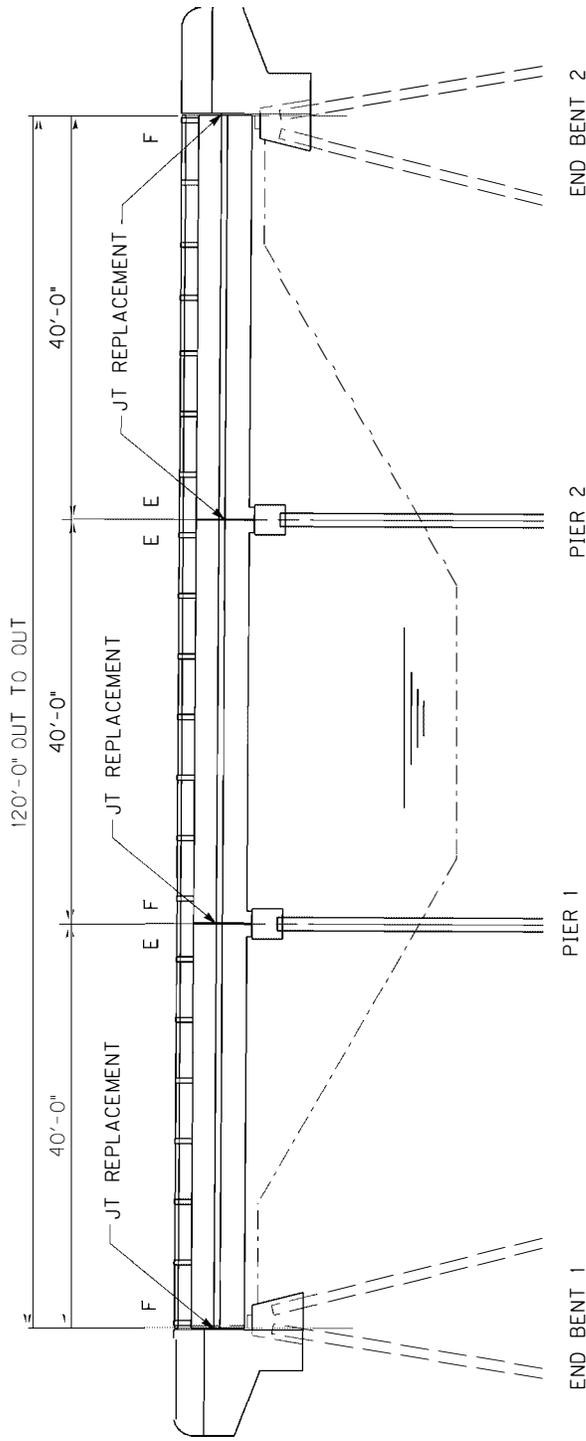
**MP 69.73**  
**WKP OVER LEWIS CREEK**  
**092B00134L/R**

COUNTY OF	Contract ID: 192605
OHIO	ITEM NO. 2-20039.00
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KY 9001 over LEWIS CREEK (092B00134L/R)  
(MP 69.73)



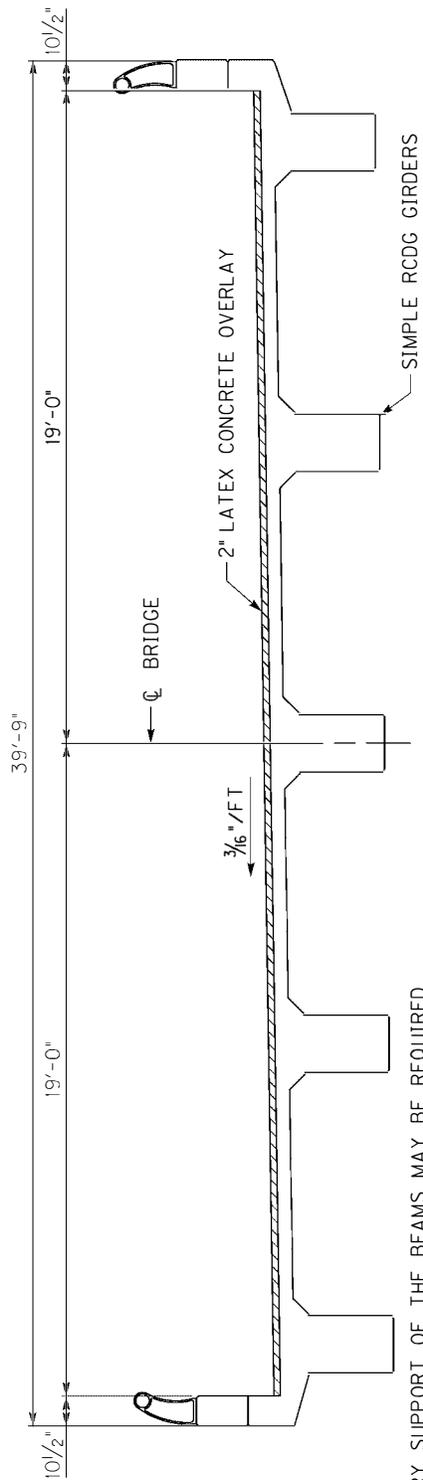
# KY 9001 EB (WKP) OVER LEWIS CREEK BRIDGE MAINTENANCE #092B00134R



**ELEVATION**  
33°00'00" SKEW LT  
(NOT TO SCALE)

CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDITIONS SHOWN.

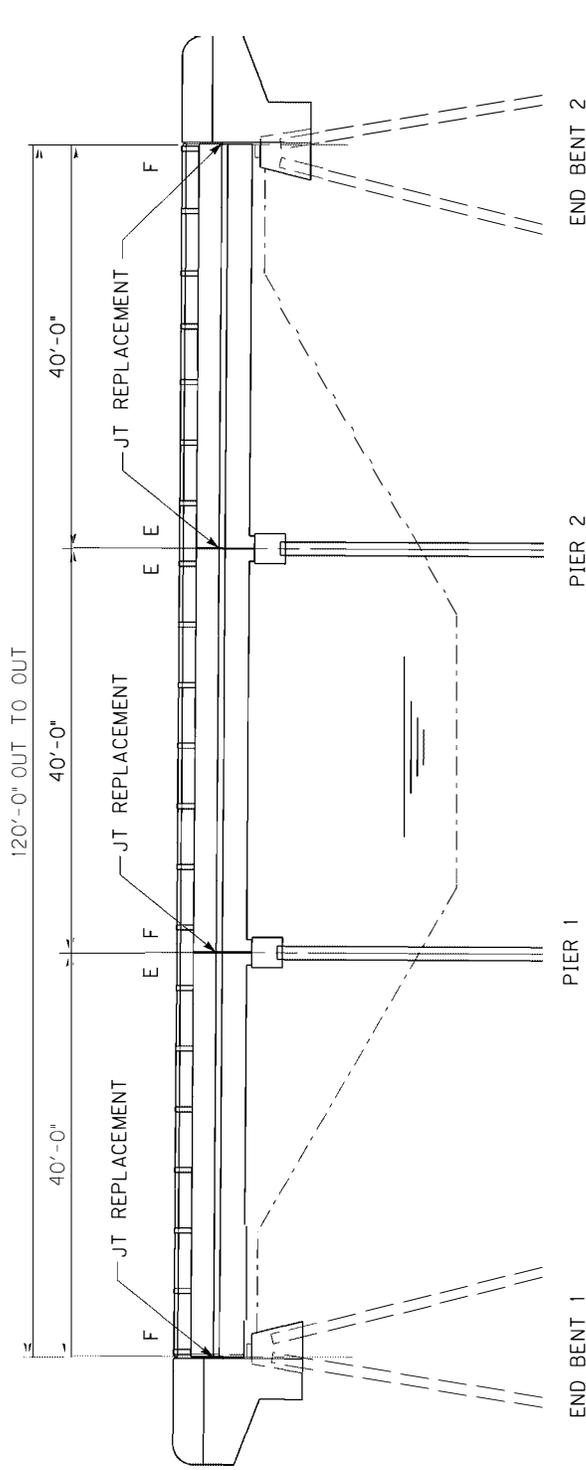
NOTES:  
DETAILS SHOWN ARE BASED ON EXISTING PLANS (DWG NO 15279). FEATURES AND DIMENSIONS SHOWN ARE APPROXIMATE.



## TYPICAL SECTION

\* TEMPORARY SUPPORT OF THE BEAMS MAY BE REQUIRED DURING FULL DEPTH PATCHING. SUBMIT THE PROPOSED METHOD OF SUPPORT TO THE ENGINEER FOR APPROVAL BEFORE BEGINNING WORK.

# KY 9001 WB (WKP) OVER LEWIS CREEK BRIDGE MAINTENANCE #092B00134L

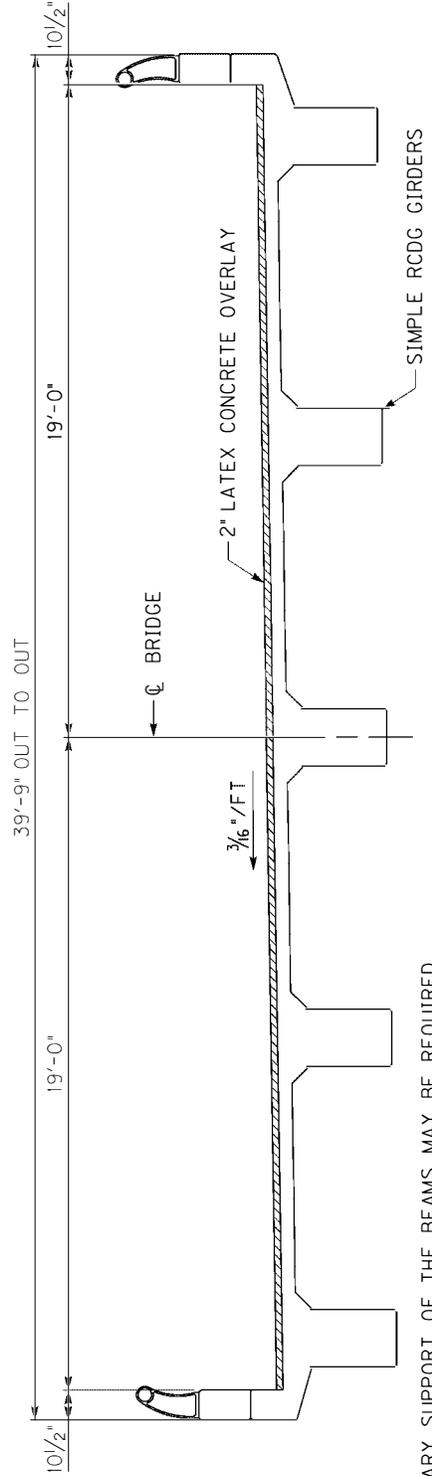


### ELEVATION

33°00'00" SKEW LT  
(NOT TO SCALE)

NOTES:  
DETAILS SHOWN ARE BASED ON EXISTING  
PLANS (DWG NO. 15279). FEATURES AND  
DIMENSIONS SHOWN ARE APPROXIMATE.

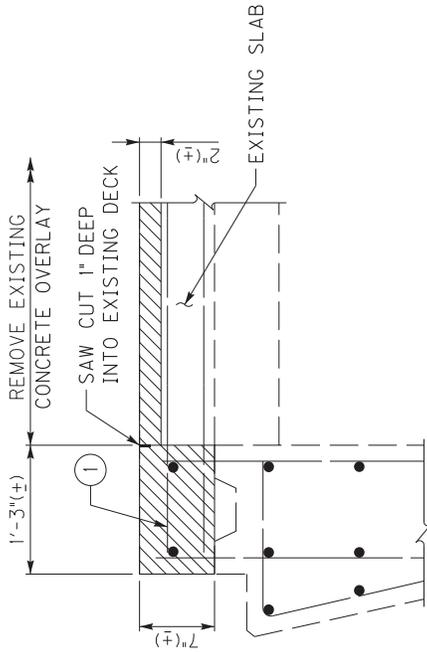
CONTRACTOR SHALL FIELD VERIFY THE  
EXISTING CONDITIONS SHOWN.



### TYPICAL SECTION

\* TEMPORARY SUPPORT OF THE BEAMS MAY BE REQUIRED  
DURING FULL DEPTH PATCHING. SUBMIT THE PROPOSED  
METHOD OF SUPPORT TO THE ENGINEER FOR APPROVAL  
BEFORE BEGINNING WORK.

# KY 9001 (WKP) OVER LEWIS CREEK JOINT REPLACEMENT DETAILS - BENTS 1 & 2



NOTES:  
REMOVE HATCHED AREA OF CONCRETE.  
CLEAN AND REUSE EXISTING REINFORCE-  
MENT. THE CONTRACTOR HAS THE OPTION  
TO REUSE OR REPLACE THE TRANSVERSE  
REINFORCEMENT.

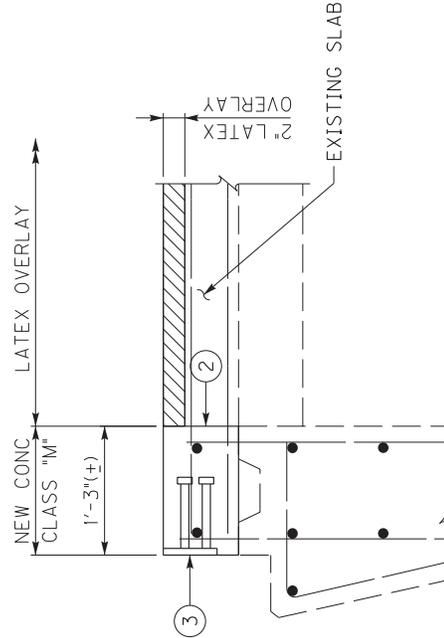
FOR BONDING NEW CONCRETE TO  
EXISTING SURFACES, SEE SECTION 511  
OF THE STANDARD SPECIFICATIONS.

ROUGHEN EXISTING CONCRETE WHEN  
IN CONTACT WITH NEW CONCRETE.

THIS WORK, INCLUDING ALL LABOR,  
TOOLS AND MATERIAL, IS TO BE  
INCLUDED IN THE BID FOR: ITEM  
3299 "ARMORED EDGE FOR CONCRETE".

## EXISTING SECTION AT END BENT

(SHOWING LIMITS OF REMOVAL)



- ① CLEAN AND PROTECT EXISTING REINFORCEMENT
- ② BONDED CONSTRUCTION JOINT
- ③ ARMORED EDGE, SEE STD DWG BJE-001-13.

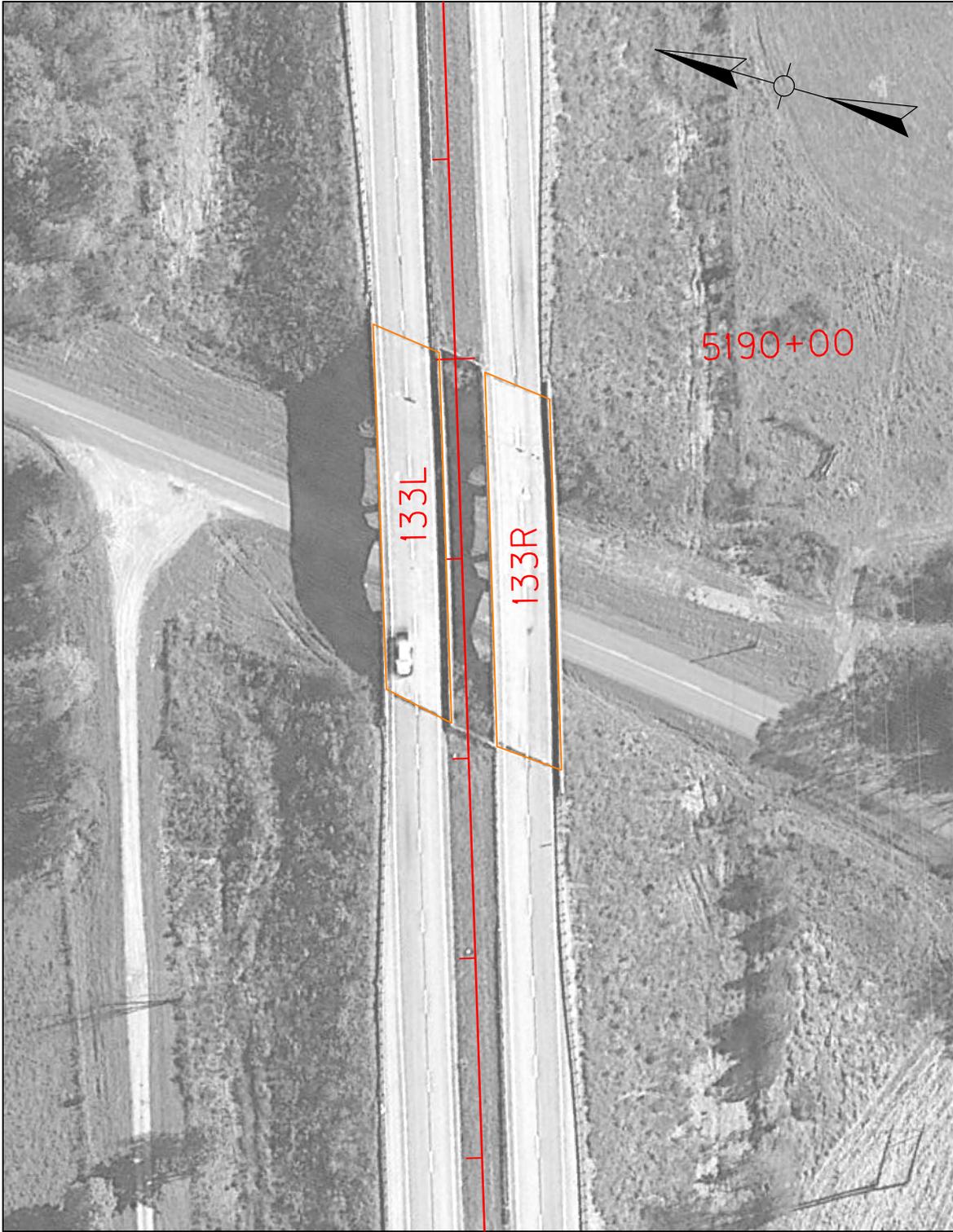
## PROPOSED SECTION AT END BENT



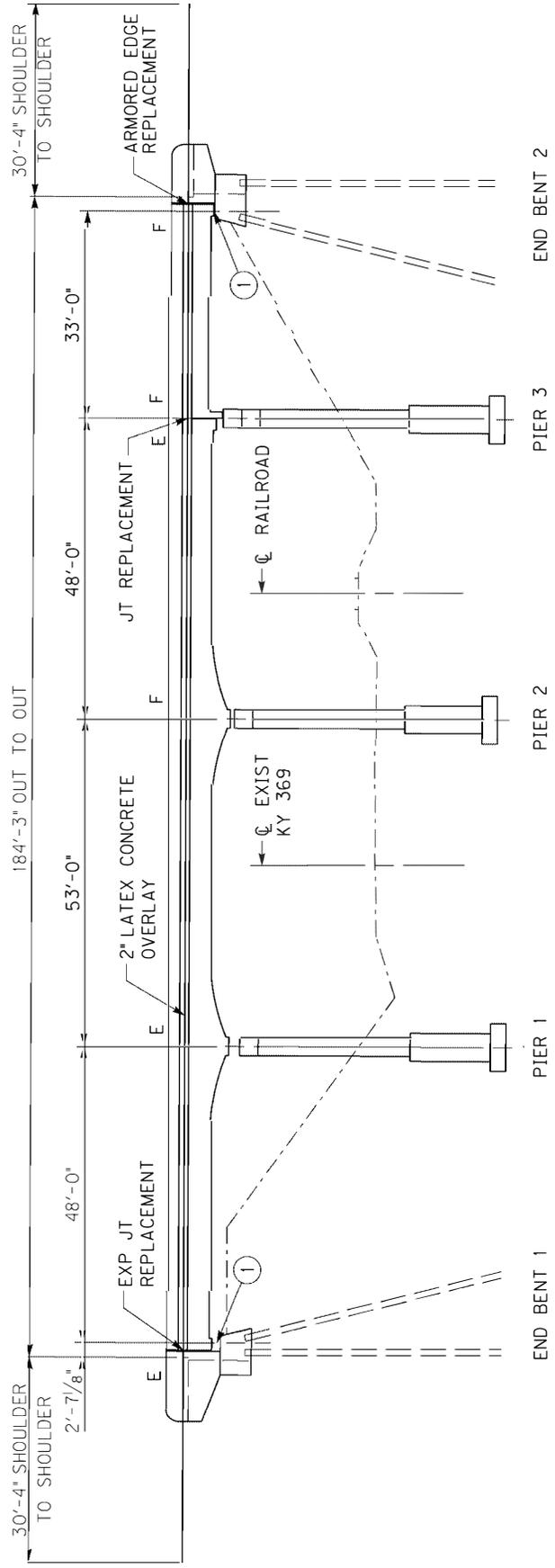
**MP 72.42**  
**WKP OVER KY 369**  
**092B00133L/R**

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	2-20039.00

KY 9001 over KY 369 (092B00133L/R)  
(MP 72.42)



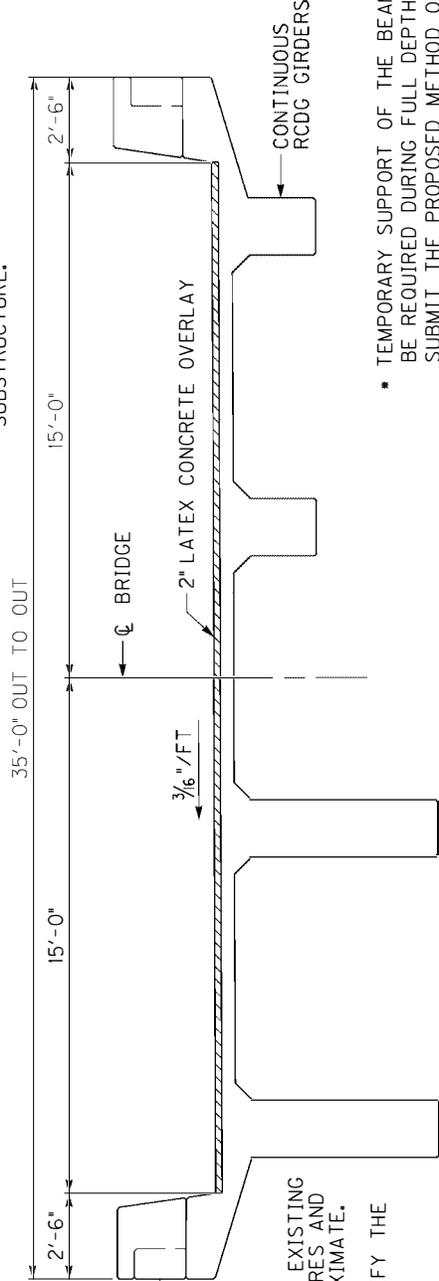
# KY 9001 EB (WKP) OVER KY 369 BRIDGE MAINTENANCE #092B00133R



## ELEVATION

24°48'00" SKEW RT  
(NOT TO SCALE)

① BRIDGE CLEANING AND PREVENTATIVE MAINTENANCE  
(SEE SPECIAL NOTE FOR BEARING CLEANING AND  
LUBRICATION) & MOVEABLE BEARINGS PER NOTED  
SUBSTRUCTURE.

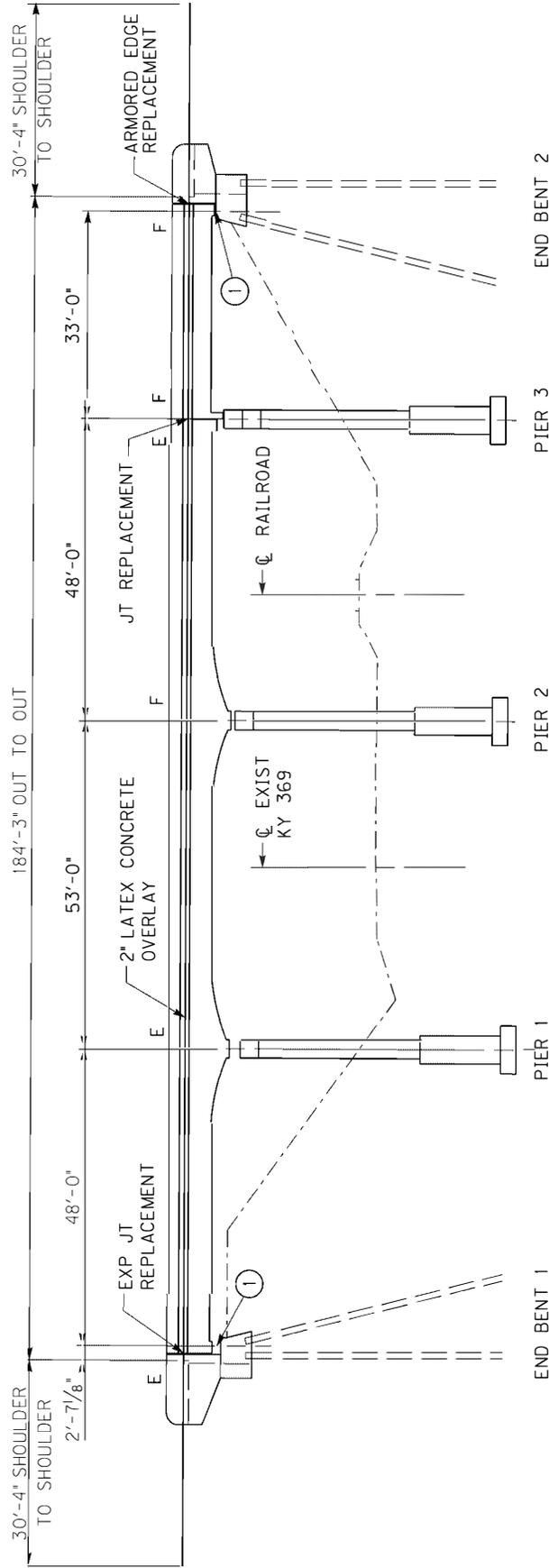


NOTES:  
DETAILS SHOWN ARE BASED ON EXISTING  
PLANS (DWG NO 15022). FEATURES AND  
DIMENSIONS SHOWN ARE APPROXIMATE.  
CONTRACTOR SHALL FIELD VERIFY THE  
EXISTING CONDITIONS SHOWN.

- TEMPORARY SUPPORT OF THE BEAMS MAY  
BE REQUIRED DURING FULL DEPTH PATCHING.  
SUBMIT THE PROPOSED METHOD OF SUPPORT  
TO THE ENGINEER FOR APPROVAL BEFORE  
BEGINNING WORK.

## TYPICAL SECTION

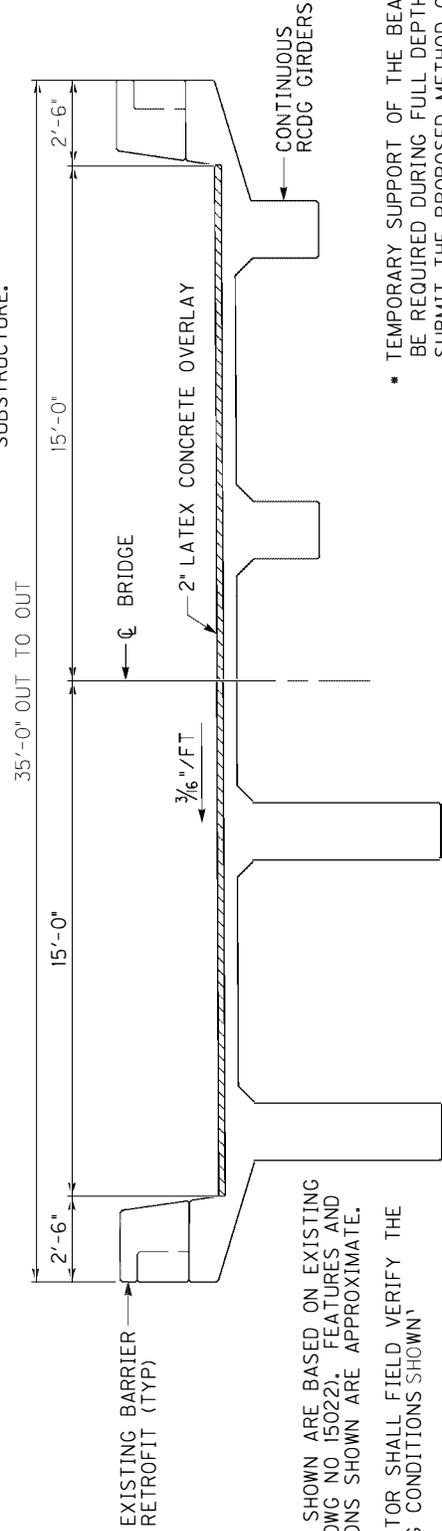
# KY 9001 WB (WKP) OVER KY 369 BRIDGE MAINTENANCE #092B00133L



## ELEVATION

24°48'00" SKEW RT  
(NOT TO SCALE)

① BRIDGE CLEANING AND PREVENTATIVE MAINTENANCE  
(SEE SPECIAL NOTE FOR BEARING CLEANING AND  
LUBRICATION) & MOVEABLE BEARINGS PER NOTED  
SUBSTRUCTURE.



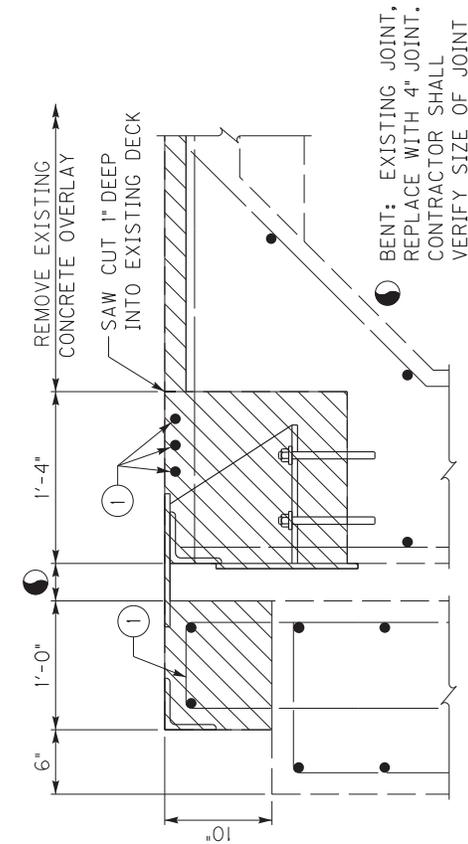
NOTES:  
DETAILS SHOWN ARE BASED ON EXISTING  
PLANS (DWG NO 15022). FEATURES AND  
DIMENSIONS SHOWN ARE APPROXIMATE.

CONTRACTOR SHALL FIELD VERIFY THE  
EXISTING CONDITIONS SHOWN.

\* TEMPORARY SUPPORT OF THE BEAMS MAY  
BE REQUIRED DURING FULL DEPTH PATCHING.  
SUBMIT THE PROPOSED METHOD OF SUPPORT  
TO THE ENGINEER FOR APPROVAL BEFORE  
BEGINNING WORK.

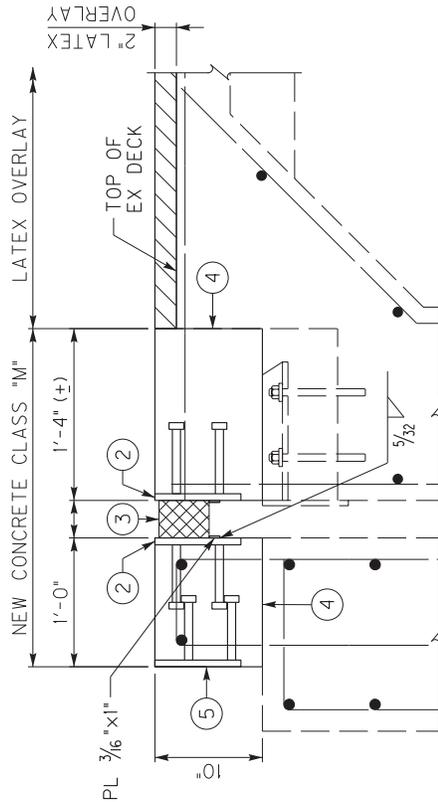
## TYPICAL SECTION

# KY 9001 EB (WKP) OVER KY 369 JOINT REPLACEMENT DETAILS - BENT 1



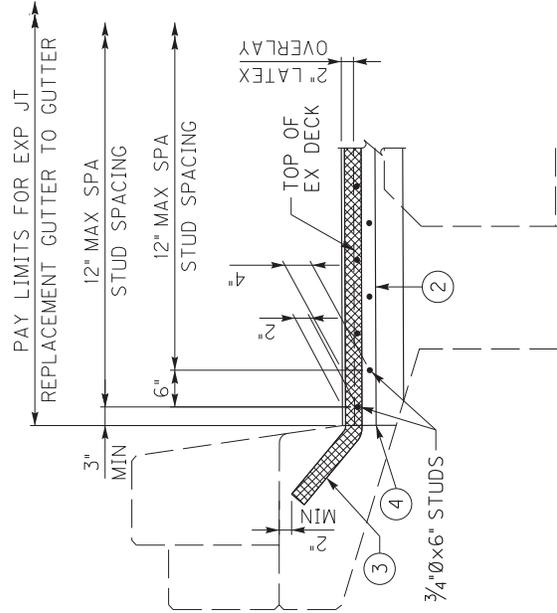
## EXISTING SECTION AT END BENT

(SHOWING LIMITS OF REMOVAL)



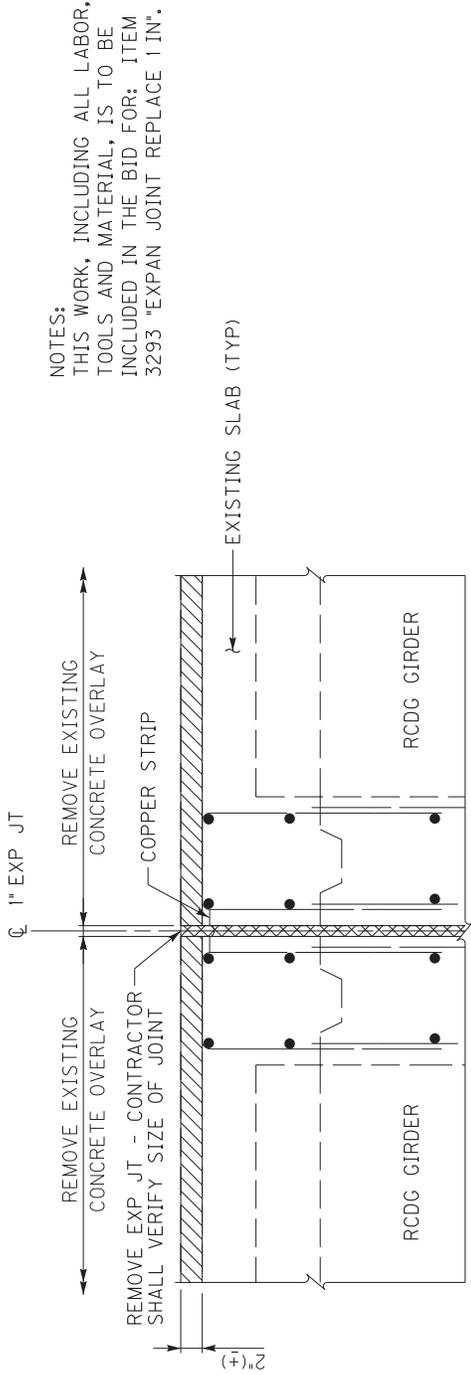
## PROPOSED SECTION AT END BENT

- NOTES:**
- 1 REMOVE HATCHED AREA OF CONCRETE, EXPANSION DEVICE AND ARMORED EDGE. CLEAN AND REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REUSE OR REPLACE THE TRANSVERSE REINFORCEMENT.
  - 2 FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.
  - 3 ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.
  - 4 THIS WORK, INCLUDING ALL LABOR, TOOLS AND MATERIAL, IS TO BE INCLUDED IN THE BID FOR: ITEM 3298 \*EXPAN JOINT REPLACE 4 IN\*.
- 1 CLEAN AND PROTECT EXISTING REINFORCEMENT
  - 2 PL 3/8"x5" WITH 3/4"Øx6" STUDS
  - 3 4" PRECOMPRESSED, SILICONE-AND-FOAM HYBRID JOINT SYSTEM. INSTALL 3/4" FROM TOP OF DECK. MITER CUT THE JOINT TRANSITION INSTALLED AT BARRIERS TO MATCH THE SKEW AT THE GUTTERLINE.
  - 4 BONDED CONSTRUCTION JOINT
  - 5 ARMORED EDGE, SEE STD DWG BJE-001-13.



## PROPOSED SECTION THRU JOINT AT BARRIER

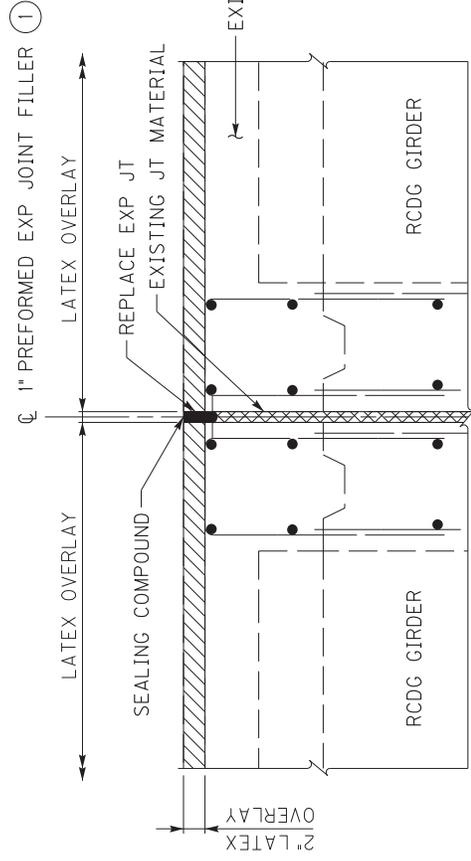
# KY 9001 (WKP) OVER KY 369 JOINT REPLACEMENT DETAILS - PIER 3



NOTES:  
THIS WORK, INCLUDING ALL LABOR,  
TOOLS AND MATERIAL, IS TO BE  
INCLUDED IN THE BID FOR: ITEM  
3293 "EXPAN JOINT REPLACE 1 IN".

## EXISTING SECTION AT PIER (SHOWING LIMITS OF REMOVAL)

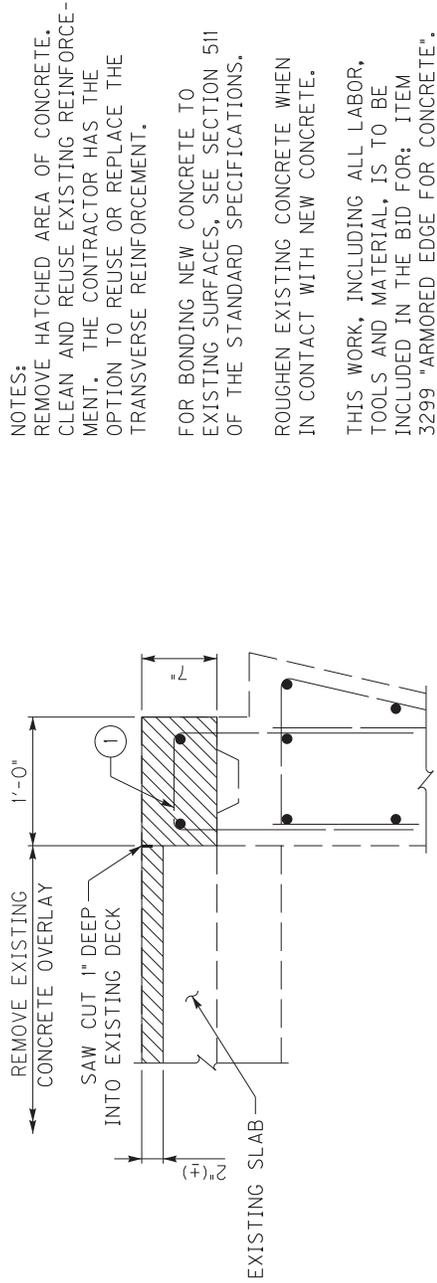
① 1" PRECOMPRESSED, SILICONE-AND  
-FOAM HYBRID JOINT SYSTEM.  
INSTALL 3/4" FROM TOP OF DECK.



① 1" PREFORMED EXP JOINT FILLER

## PROPOSED SECTION AT PIER

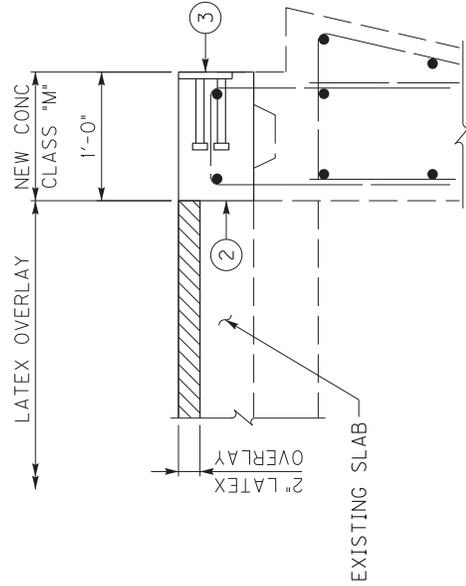
# KY 9001 WB (WKP) OVER KY 369 JOINT REPLACEMENT DETAILS - BENT 2



NOTES:  
REMOVE HATCHED AREA OF CONCRETE. CLEAN AND REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REUSE OR REPLACE THE TRANSVERSE REINFORCEMENT.  
FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.  
ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.  
THIS WORK, INCLUDING ALL LABOR, TOOLS AND MATERIAL, IS TO BE INCLUDED IN THE BID FOR: ITEM 3299 "ARMORED EDGE FOR CONCRETE".

## EXISTING SECTION END BENT (SHOWING LIMITS OF REMOVAL)

- ① CLEAN AND PROTECT EXISTING REINFORCEMENT
- ② BONDED CONSTRUCTION JOINT
- ③ ARMORED EDGE, SEE STD DWG BJE-001-13.



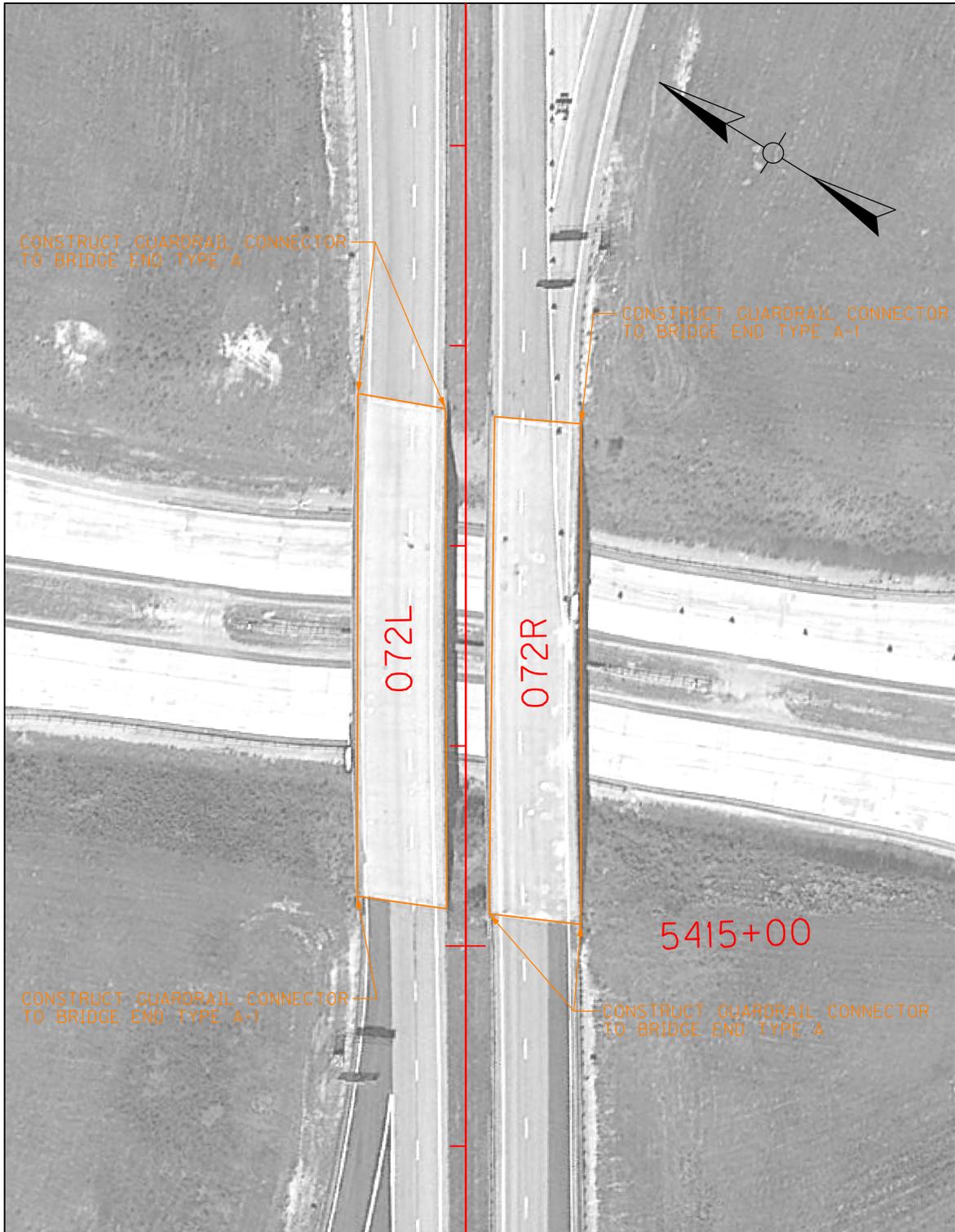
## PROPOSED SECTION AT END BENT

**MP 76.74**  
**WKP OVER NATCHER**  
**PARKWAY**  
**092B00072L/R**

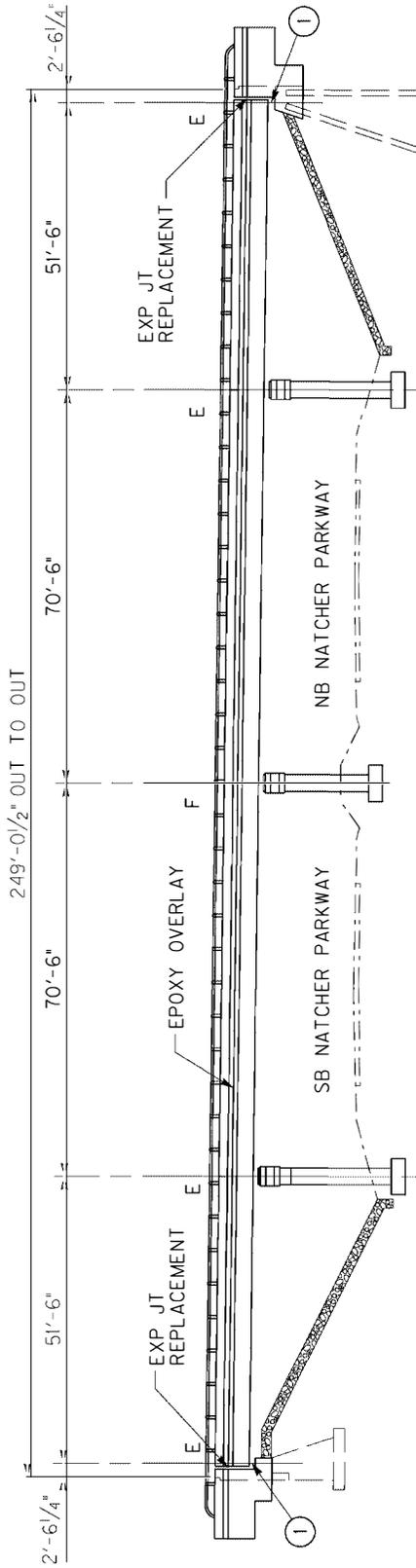
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# KY 9001 over NATCHER PARKWAY (092B00072L/R)

(MP 76.74)



# KY 9001 EB (WKP) OVER NATCHER PARKWAY BRIDGE MAINTENANCE #092B00072R



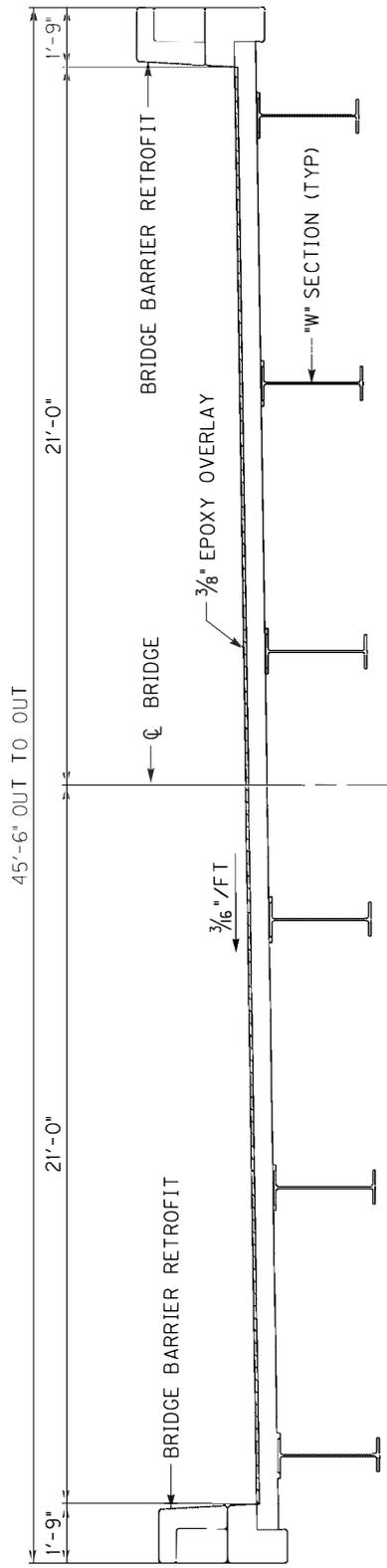
END BENT 1      PIER 1      PIER 2      PIER 3      END BENT 2

### ELEVATION

07°14'53" SKEW RT  
(NOT TO SCALE)

CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDITIONS SHOWN.

NOTES:  
DETAILS SHOWN ARE BASED ON EXISTING PLANS (DWG NO 18094). FEATURES AND DIMENSIONS SHOWN ARE APPROXIMATE.

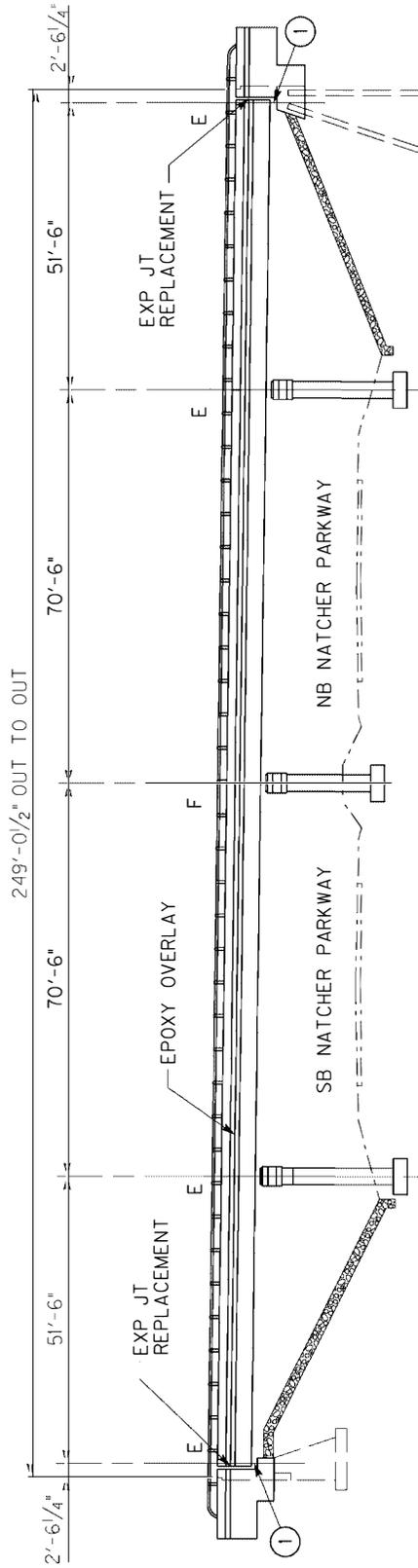


\* TEMPORARY SUPPORT OF THE BEAMS MAY BE REQUIRED DURING FULL DEPTH PATCHING. SUBMIT THE PROPOSED METHOD OF SUPPORT TO THE ENGINEER FOR APPROVAL BEFORE BEGINNING WORK.

① BRIDGE CLEANING AND PREVENTATIVE MAINTENANCE (SEE SPECIAL NOTE FOR BEARING CLEANING AND LUBRICATION) 6 MOVEABLE BEARINGS PER NOTED SUBSTRUCTURE.

### TYPICAL SECTION

# KY 9001 WB (WKP) OVER NATCHER PARKWAY BRIDGE MAINTENANCE #092B00072L

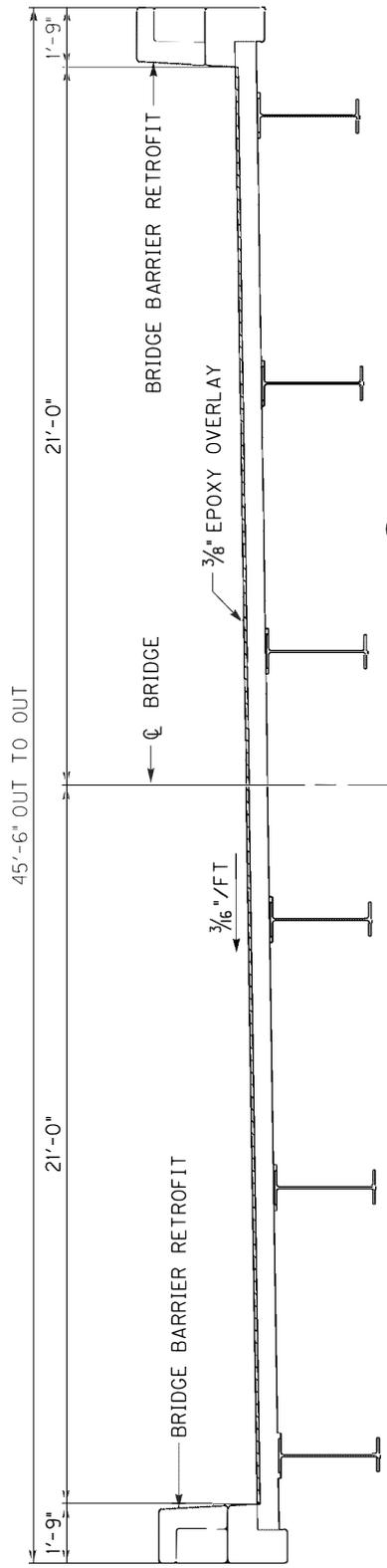


END BENT 1                      PIER 1                      PIER 2                      PIER 3                      END BENT 2

**ELEVATION**  
07°14'53" SKEW RT  
(NOT TO SCALE)

CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDITIONS SHOWN.

**NOTES:**  
DETAILS SHOWN ARE BASED ON EXISTING PLANS (DWG NO 18094). FEATURES AND DIMENSIONS SHOWN ARE APPROXIMATE.



\* TEMPORARY SUPPORT OF THE BEAMS MAY BE REQUIRED DURING FULL DEPTH PATCHING. SUBMIT THE PROPOSED METHOD OF SUPPORT TO THE ENGINEER FOR APPROVAL BEFORE BEGINNING WORK.

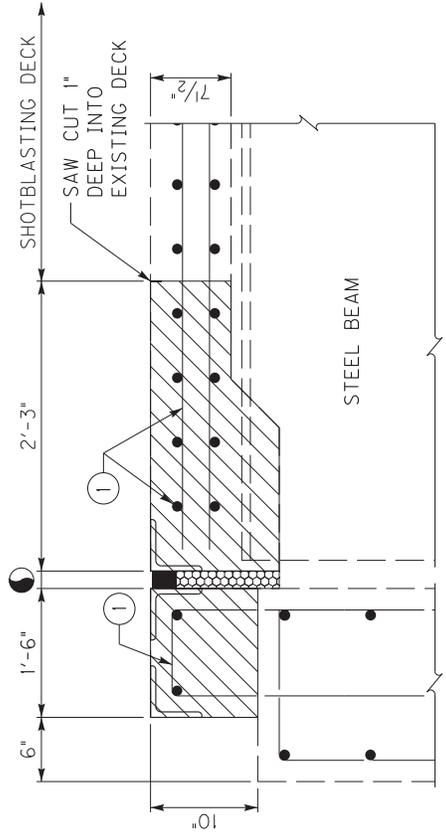
① BRIDGE CLEANING AND PREVENTATIVE MAINTENANCE (SEE SPECIAL NOTE FOR BEARING CLEANING AND LUBRICATION) & MOVEABLE BEARINGS PER NOTED SUBSTRUCTURE.

## TYPICAL SECTION

# KY 9001 (WKP) OVER NATCHER PARKWAY JOINT REPLACEMENT DETAILS - BENTS 1 & 2

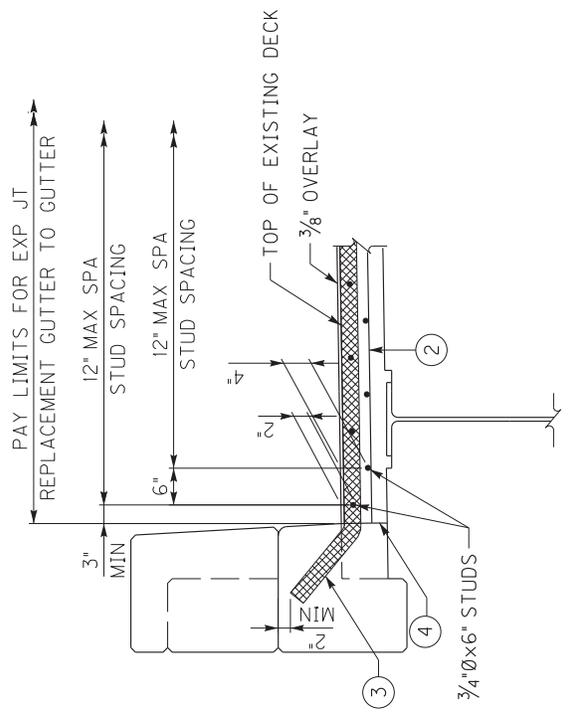
- ① CLEAN AND PROTECT EXISTING REINFORCEMENT
- ② PL 5/8"x5" WITH 3/4"Øx6" STUDS
- ③ 1/2" PRECOMPRESSED, SILICONE-AND-FOAM HYBRID JOINT SYSTEM. INSTALL 3/4" FROM TOP OF DECK. MITER CUT THE JOINT TRANSITION INSTALLED AT BARRIERS TO MATCH THE SKEW AT THE GUTTERLINE.
- ④ BONDED CONSTRUCTION JOINT
- ⑤ ARMORED EDGE, SEE STD DWG BJE-001-13.

NOTES:  
REMOVE HATCHED AREA OF CONCRETE, EXPANSION DEVICE AND ARMORED EDGE. CLEAN AND REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REUSE OR REPLACE THE TRANSVERSE REINFORCEMENT.  
FOR BONDING NEW CONCRETE TO EXISTING SURFACES, SEE SECTION 511 OF THE STANDARD SPECIFICATIONS.  
ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.  
THIS WORK, INCLUDING ALL LABOR, TOOLS AND MATERIAL, IS TO BE INCLUDED IN THE BID FOR: ITEM 3294 \*EXPAN JOINT REPLACE 1/2 IN\*.



## EXISTING SECTION AT END BENT (SHOWING LIMITS OF REMOVAL)

- EXISTING JOINT, REPLACE WITH 1/2" JOINT. CONTRACTOR SHALL VERIFY SIZE OF JOINT.



## PROPOSED SECTION AT END BENT

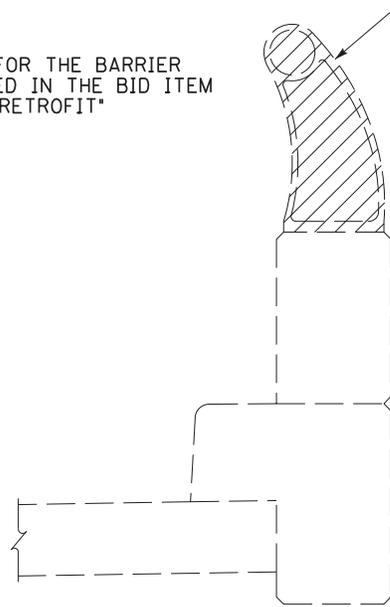
## PROPOSED SECTION THRU JOINT AT BARRIER

# KY 9001 (WKP) OVER NATCHER PARKWAY BARRIER RETROFIT DETAIL

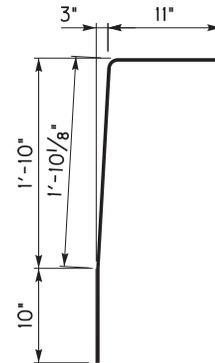
**NOTE:**

ALL ITEMS REQUIRED FOR THE BARRIER RETROFIT ARE INCLUDED IN THE BID ITEM FOR "BRIDGE BARRIER RETROFIT"

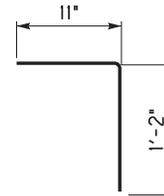
HANDRAIL TO BE REMOVED AND DELIVERED TO THE BAILY BRIDGE LOT IN FRANKFORT. INCLUDED IN THE UNIT BID FOR "BRIDGE BARRIER RETROFIT"



**EXISTING BARRIER SECTION**



S1(E) #5 BAR  
492 REQUIRED

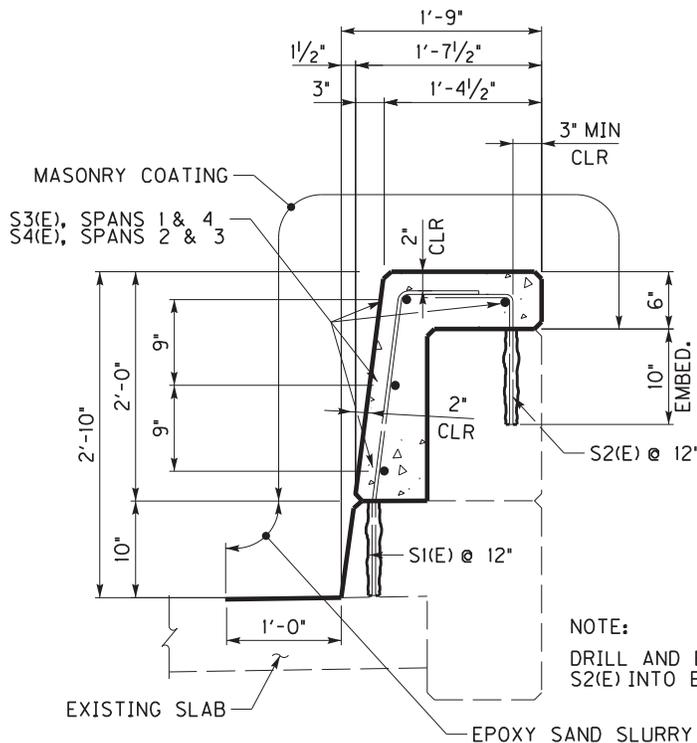


S2(E) #5 BAR  
492 REQUIRED

52'-0" SPAN 1
70'-2" SPAN 2
70'-2" SPAN 3
52'-0" SPAN 4

S3(E) #5 BAR, SPANS 1 & 4  
16 REQUIRED  
S4(E) #5 BAR, SPANS 2 & 3  
16 REQUIRED

**TOTAL WEIGHT 5,080 LBS  
(PER BRIDGE L/R)**



**NOTE:**  
DRILL AND EPOXY BARS S1(E) AND S2(E) INTO EXISTING BARRIER

**BARRIER RETROFIT SECTION**

# KY 9001 (WKP) OVER NATCHER PARKWAY BARRIER RETROFIT DETAIL AT WING

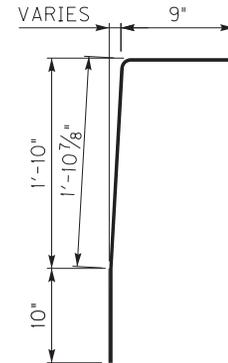
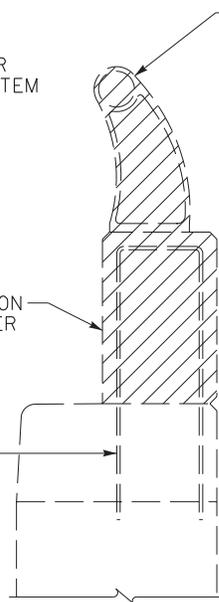
**NOTE:**

ALL ITEMS REQUIRED FOR THE BARRIER RETROFIT ARE INCLUDED IN THE BID ITEM FOR "BRIDGE BARRIER RETROFIT"

HANDRAIL TO BE REMOVED AND DELIVERED TO THE BAILY BRIDGE LOT IN FRANKFORT.

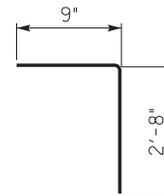
REMOVE THIS SECTION OF EXISTING BARRIER

KEEP EXISTING STIRRUP BARS, CLEAN AND PREPARE FOR REUSE.



S5(E) #5 BAR  
52 REQUIRED

## EXISTING BARRIER SECTION

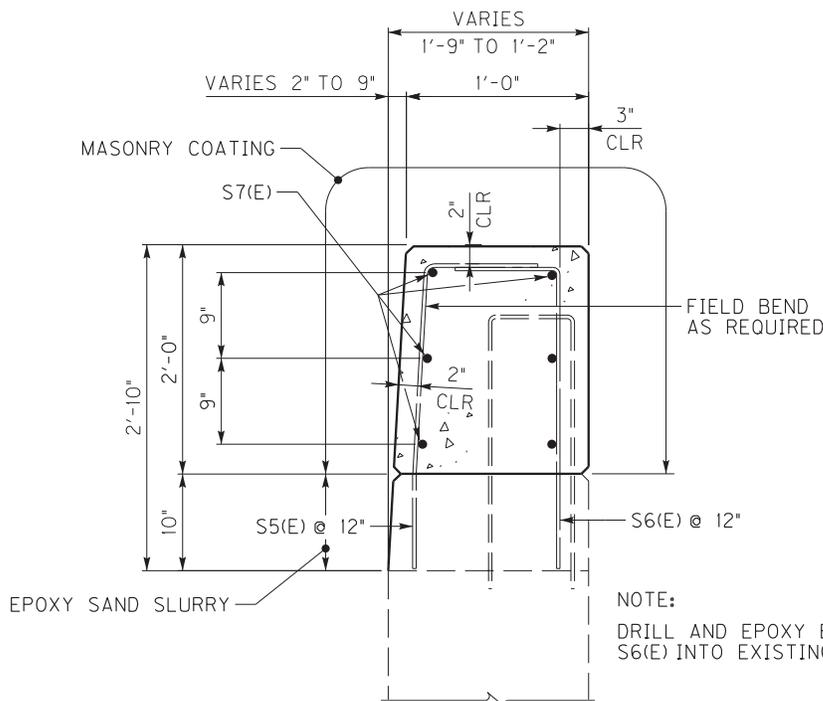


S6(E) #5 BAR  
52 REQUIRED



S7(E) #5 BAR  
24 REQUIRED

TOTAL WEIGHT 679 LBS  
PER BRIDGE L/R



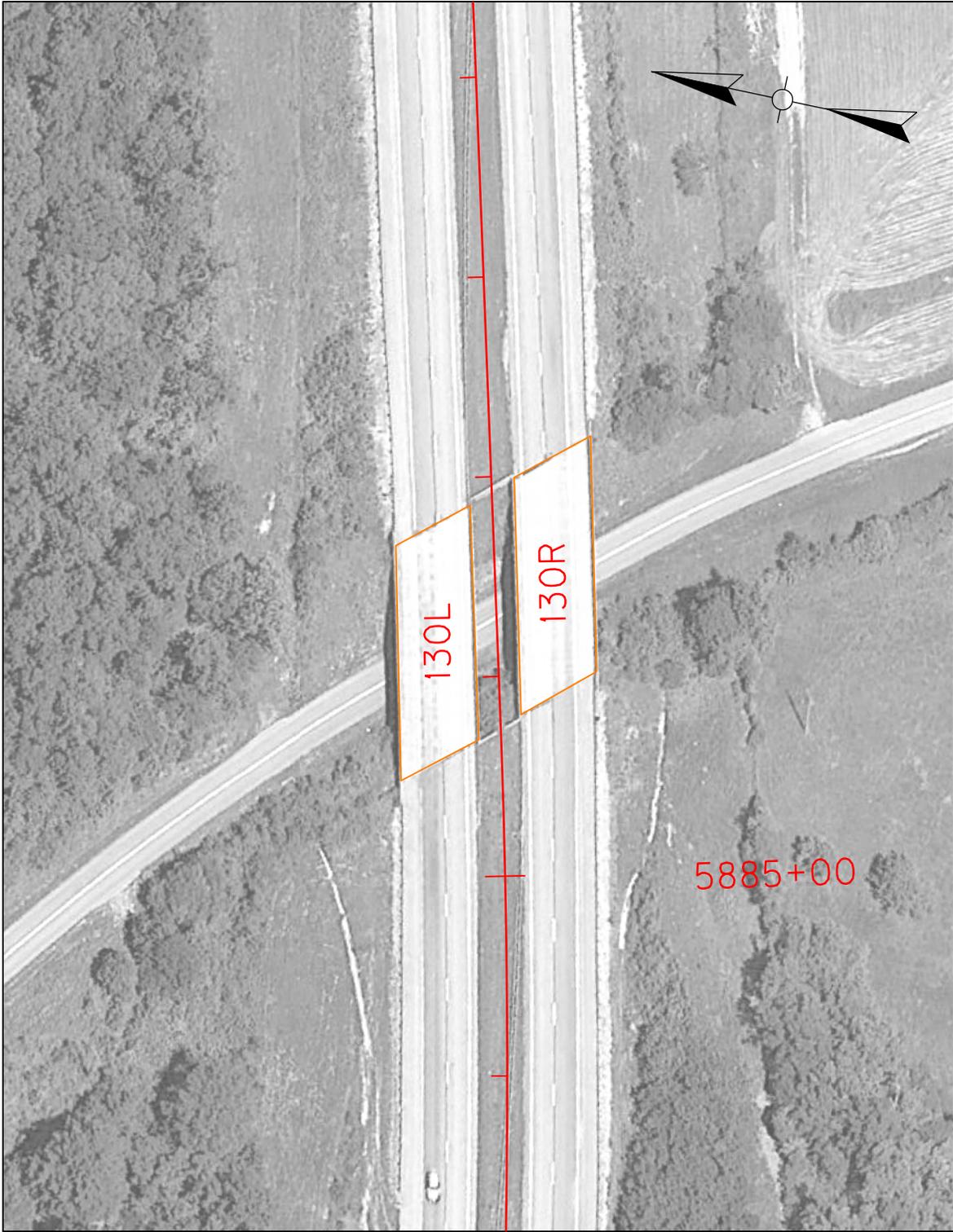
**NOTE:**  
DRILL AND EPOXY BARS S5(E) AND S6(E) INTO EXISTING BARRIER

## BARRIER RETROFIT SECTION

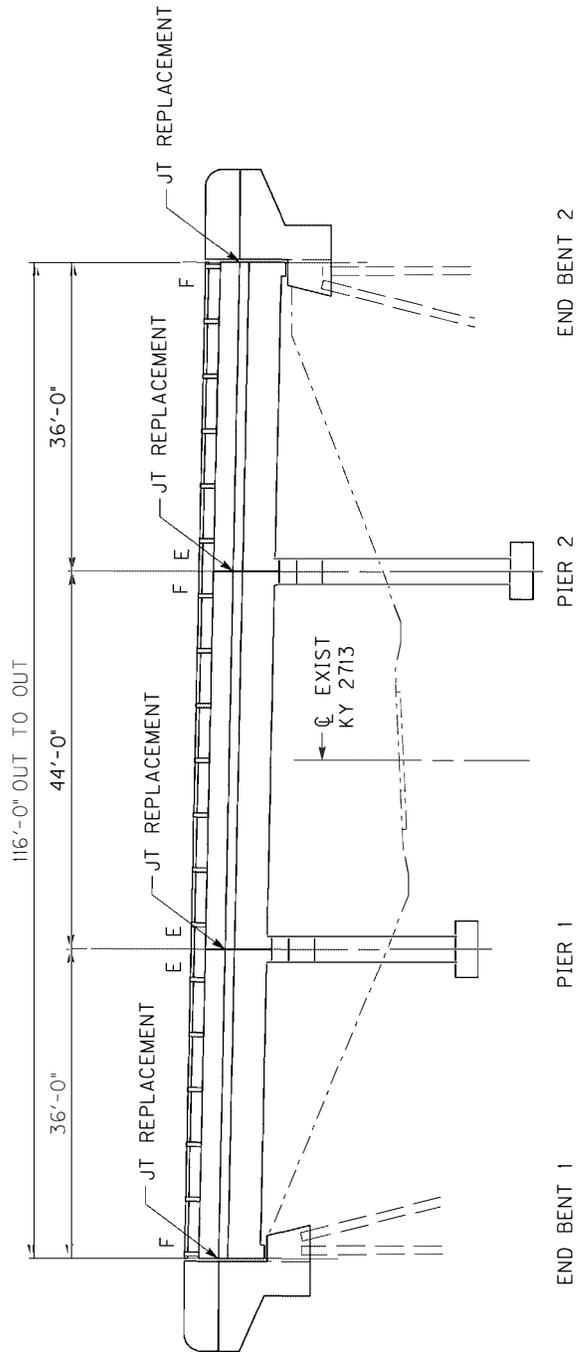
**MP 85.76**  
**WKP OVER KY 2713**  
**092B00130L/R**

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KY 9001 over KY 2713 (092B00130L/R)  
(MP 85.76)



# KY 9001 EB (WKP) OVER KY 2713 BRIDGE MAINTENANCE #092B00130R

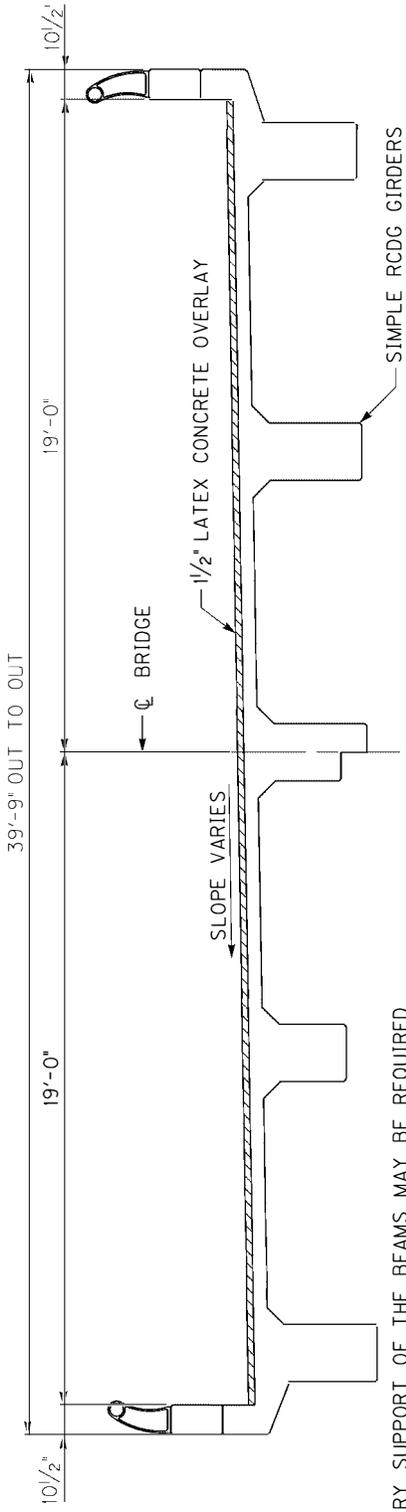


## ELEVATION

27° 59' 26" SKEW LT  
(NOT TO SCALE)

CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDITIONS SHOWN.

NOTES:  
DETAILS SHOWN ARE BASED ON EXISTING PLANS (DWG NO 14759). FEATURES AND DIMENSIONS SHOWN ARE APPROXIMATE.

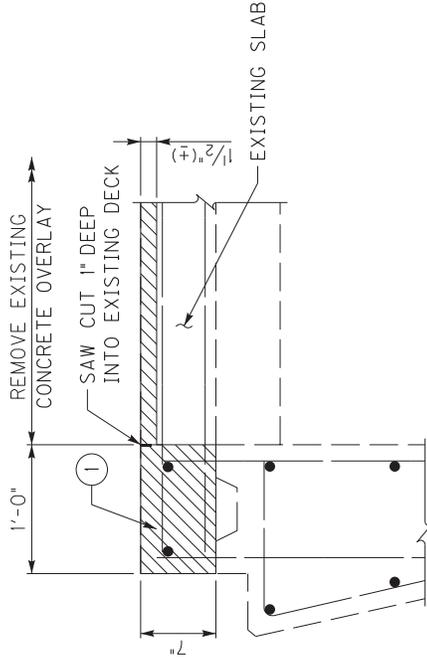


## TYPICAL SECTION

TEMPORARY SUPPORT OF THE BEAMS MAY BE REQUIRED DURING FULL DEPTH PATCHING. SUBMIT THE PROPOSED METHOD OF SUPPORT TO THE ENGINEER FOR APPROVAL BEFORE BEGINNING WORK.



# KY 9001 (WKP) OVER KY 2713 JOINT REPLACEMENT DETAILS - BENTS 1 & 2



NOTES:  
REMOVE HATCHED AREA OF CONCRETE. CLEAN AND REUSE EXISTING REINFORCEMENT. THE CONTRACTOR HAS THE OPTION TO REUSE OR REPLACE THE TRANSVERSE REINFORCEMENT.

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

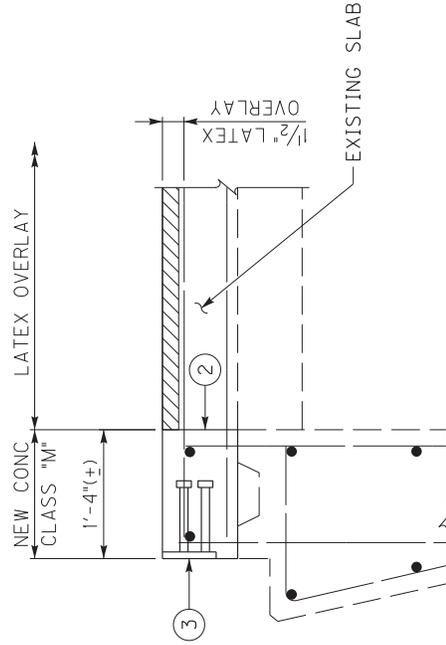
ROUGHEN EXISTING CONCRETE WHEN IN CONTACT WITH NEW CONCRETE.

THIS WORK, INCLUDING ALL LABOR, TOOLS AND MATERIAL, IS TO BE INCLUDED IN THE BID FOR: ITEM 3299 "ARMORED EDGE FOR CONCRETE".

## EXISTING SECTION END BENT

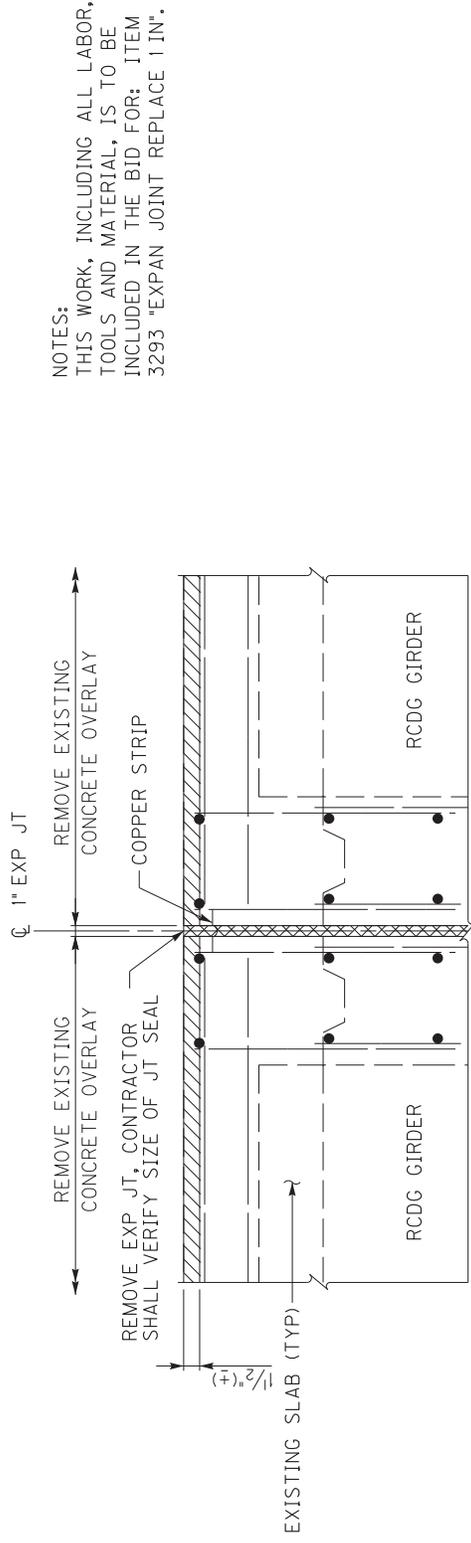
(SHOWING LIMITS OF REMOVAL)

- ① CLEAN AND PROTECT EXISTING REINFORCEMENT
- ② BONDED CONSTRUCTION JOINT
- ③ ARMORED EDGE, SEE STD DWG BJE-001-13.



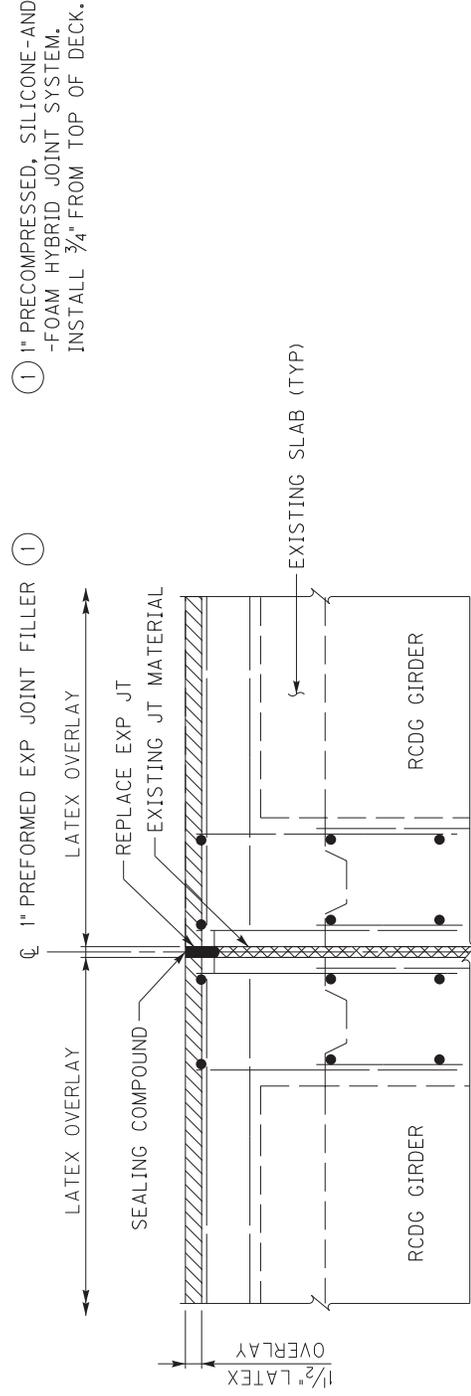
## PROPOSED SECTION AT END BENT

# KY 9001 (WKP) OVER KY 2713 JOINT REPLACEMENT DETAILS - PIERS 1 & 2



NOTES:  
THIS WORK, INCLUDING ALL LABOR, TOOLS AND MATERIAL, IS TO BE INCLUDED IN THE BID FOR: ITEM 3293 "EXPAN JOINT REPLACE 1 IN".

## EXISTING SECTION AT PIERS (SHOWING LIMITS OF REMOVAL)

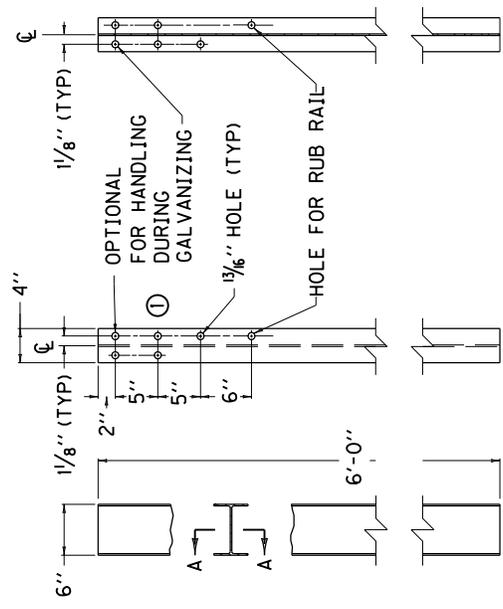


① 1" PRECOMPRESSED, SILICONE-AND-FOAM HYBRID JOINT SYSTEM. INSTALL 3/4" FROM TOP OF DECK.

## PROPOSED SECTION AT PIERS

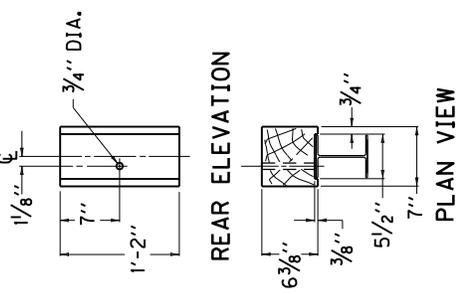
# SEPIAS

COUNTY OF	SHEET NO.

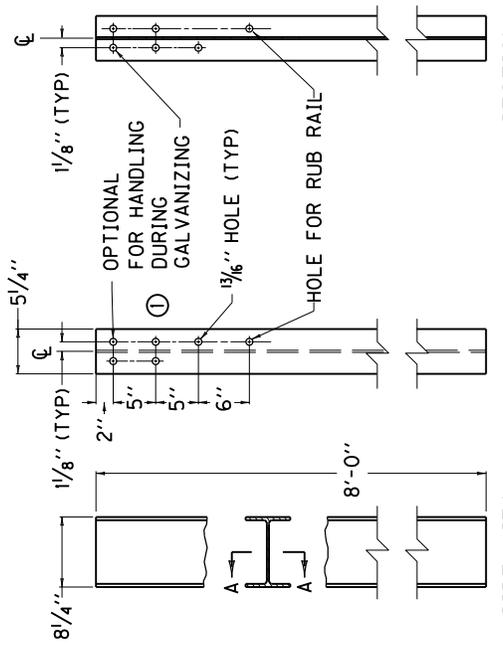


FRONT VIEW SECTION A-A

~ W6 X 9.0 STEEL GUARDRAIL POST ~  
 (USED WITH C6 X 8.2 RUB RAIL)



REAR ELEVATION  
 PLAN VIEW  
 OFFSET BLOCK TYPE 6  
 (TIMBER OR APPROVED COMPOSITE)

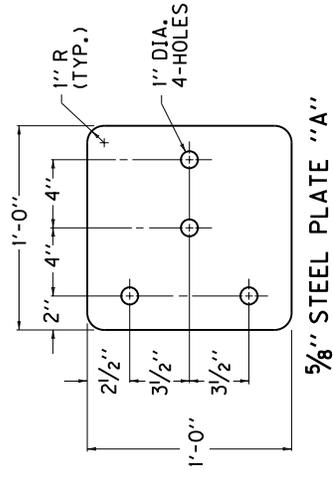


FRONT VIEW SECTION A-A

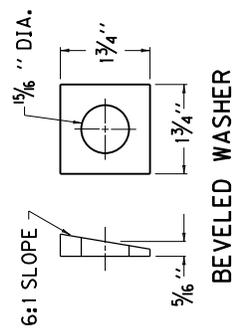
~ W8 X 21 STEEL GUARDRAIL POST ~

~ NOTES ~

- ① THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.



5/8" STEEL PLATE "A"



BEVELED WASHER

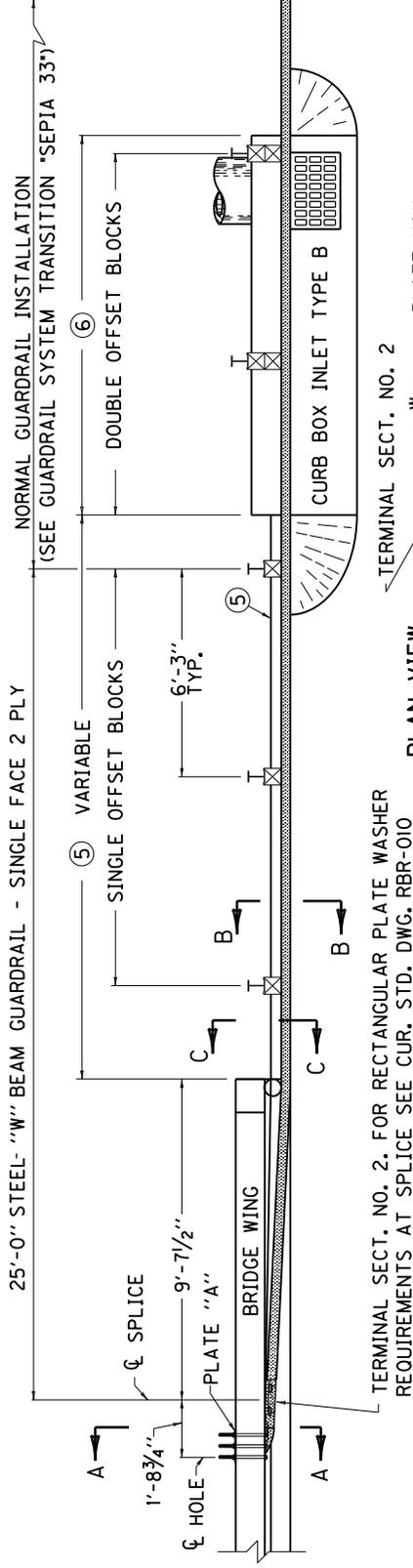
USE WITH CUR. STD. DWGS.  
 RBC-002, RBC-005, RBC-006

KENTUCKY  
 DEPARTMENT OF HIGHWAYS  
 GUARDRAIL CONNECTOR  
 TO BRIDGE END  
 TYPE A AND A-1  
 COMPONENTS

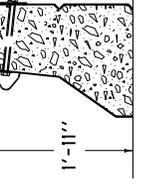
SUBMITTED: *[Signature]*  
 DIRECTOR DIVISION OF DESIGN  
 DATE: 12-20-18  
 013



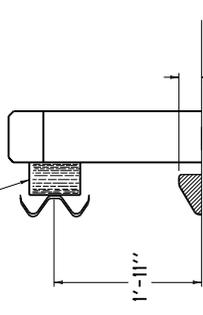
COUNTY OF	ITEM NO.	SHEET NO.



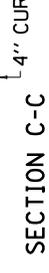
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION C-C

1. GENERAL
- a. SEE CUR. STD. DWGS. IN THE RBB, RBI, RBR, AND RPM-SERIES FOR OTHER RELATED GUARDRAIL DETAILS AND BRIDGE PLANS FOR BRIDGE WING DETAIL.
  - b. SEE CUR. STD. DWG. RDB-SERIES FOR CURB BOX INLET TYPE B.
  - c. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1 IS FOR USE ON THE EXIT END OF A DIVIDED HIGHWAY.

2. MATERIAL REQUIREMENTS
- ALL HARDWARE SHALL BE GALVANIZED. (AASHTO M-232)
  - 5/8" STEEL PLATE "A" (AASHTO M-270)
  - 7/8" HEX HEAD BOLTS OR STEEL THREADED RODS (LENGTH AS SHOWN)
  - 7/8" HEAVY HEX NUTS (7/8" THICK) (AASHTO M-291)
  - 7/8" FLAT WASHERS (3/16" THICK) (AASHTO M-293)
  - 7/8" BEVELED WASHERS (5/16" MEAN THICKNESS) (AASHTO M-293)
  - BOTH THE BOLT AND THREADED ROD SHALL HAVE A MINIMUM OF 50,000 LBS. TENSILE STRENGTH AT THE NARROWEST POINT.

3. CONSTRUCTION METHODS
- a. ELIMINATE EXTRA OFFSET BLOCKS WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.
  - b. HOLES TO BE FORMED THROUGH BRIDGE WING WITH 1" I.D. PLASTIC PIPE FOR 7/8" BOLTS. PLASTIC PIPE SHALL REMAIN IN PLACE.
4. METHOD OF MEASUREMENT AND BASIS OF PAYMENT
- a. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1 SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH INCLUDES TERMINAL SECT. NO. 2, RAIL ELEMENTS, SPACER TUBE, HARDWARE AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION. STEEL "W" BEAM GUARDRAIL (SINGLE FACE) AND ISLAND HEADER CURB ARE SEPARATE BID ITEMS WHICH ARE ALWAYS REQUIRED. CURB BOX INLET TYPE B IS A SEPARATE BID ITEM THAT WILL BE USED WHEN REQUIRED FOR BRIDGE END DRAINAGE.
  - b. BID ITEMS AND UNIT TO BID
    - GUARDRAIL CONNECTOR TO BRIDGE END TY A-1 EACH
    - GUARDRAIL-STEEL "W" BEAM-S FACE LF
    - ISLAND HEADER CURB TYPE 1 OR 2 LF
    - CURB BOX INLET TYPE B (AS REQUIRED) EACH
  - b. THE PLASTIC PIPE AND COST OF FORMING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR BRIDGE SUPERSTRUCTURE CONCRETE.

- 5. ISLAND HEADER CURB. TRANSITION FROM ISLAND CURB SHAPE TO SHAPE ON BRIDGE WING WITHIN 7'-3". LENGTH OF CURB VARIABLE (22'-3" WHEN L=5'-0") (17'-3" WHEN L=10'-0") (12'-3" WHEN L=15'-0") (7'-3" WHEN L=20'-0"). ON THE APPROACH END CONSTRUCT 25'-0" OF ISLAND HEADER CURB EVEN WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.

- 6. 6'-4" WHEN L=5'-0" ☆  
 11'-4" WHEN L=10'-0" ☆  
 16'-4" WHEN L=15'-0" ☆  
 21'-4" WHEN L=20'-0" ☆

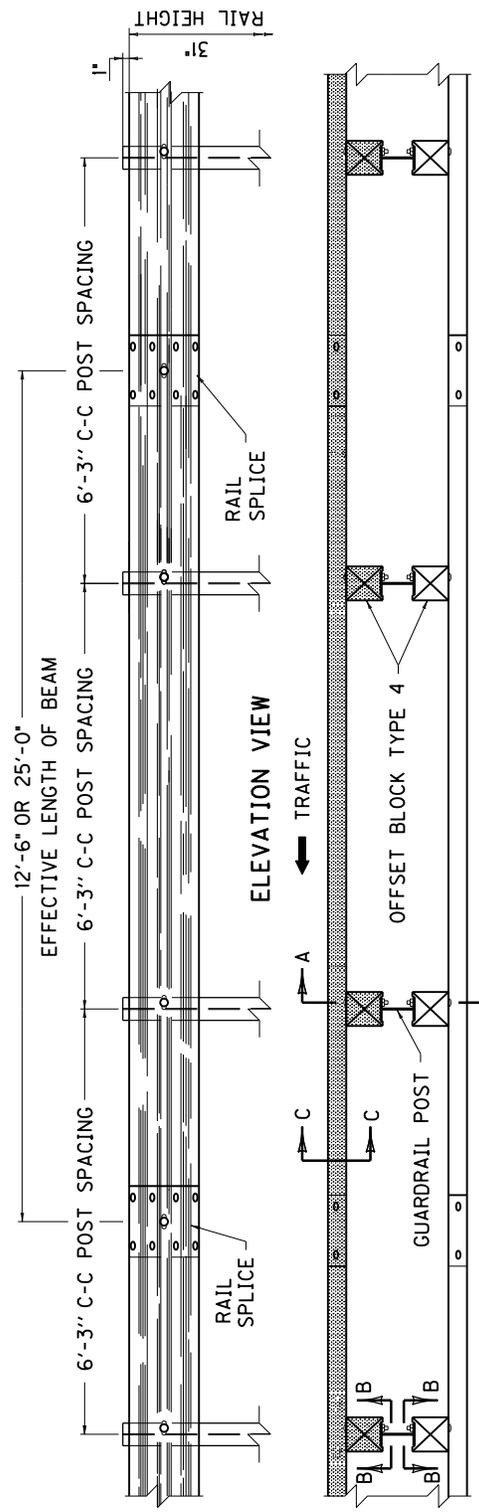
- 7. CURB BOX NOT REQUIRED UNLESS NEEDED FOR DRAINAGE.  
 ☆ 10'-0" LENGTH IS REQUIRED UNLESS OTHERWISE NOTED.  
 L EQUALS THROAT LENGTH OF BOX.

USE WITH CUR. STD. DWGS.  
 BHS-008, RBC-002, RBC-003,  
 RBR-010

DEPARTMENT OF HIGHWAYS  
 GUARDRAIL CONNECTOR  
 TO BRIDGE END  
 TYPE A-1

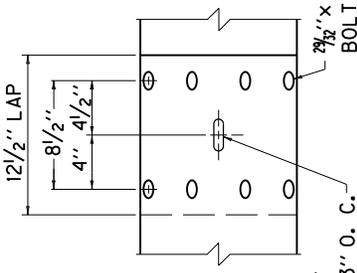
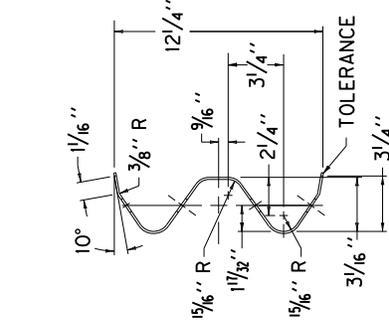
SUBMITTED: *Michael P. Seibel*  
 DIRECTOR DIVISION OF DESIGN  
 DATE: 4-04-10  
 016

COUNTY OF	ITEM NO.	SHEET NO.



**NOTES**

- BID ITEM AND UNIT TO BID  
 GUARDRAIL-STEEL W BEAM-S FACE LF  
 OR  
 GUARDRAIL-STEEL W BEAM-D FACE LF
- 1. DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE AND ACCEPTED MANUFACTURING PRACTICES.
- 2. THE RAIL ELEMENT SHALL COMPLY WITH AASHTO M-180 -CLASS A, TYPE II.
- 3. ALL LAPS SHALL BE PLACED IN THE DIRECTION OF TRAFFIC FLOW.
- 4. TOLERANCE + 1/4", -1/4"
- 5. 8-5/8" x 1/4" LONG BUTTON HEAD BOLTS AND HEX HEAD RECESS NUTS REQUIRED FOR EACH RAIL SPLICE.
- 6. LENGTH EQUALS POST AND BLOCK WIDTH PLUS 2" FOR BOLT OR 2/4" FOR THREADED ROD.
- 7. GALVANIZED STEEL 10d COMMON COATED NAIL (DRIVE NAIL AT THE TOP OR BOTTOM CENTER OF BLOCK AND POST AFTER BOLT IS INSTALLED).
- 8. 5/8" x 6 STEEL THREADED ROD AND TWO (2) HEX HEAD NUTS OR 5/8" x 6 BUTTON OR HEX HEAD BOLT AND HEX HEAD NUT.
- 9. 5/8" x 8" BUTTON HEAD BOLT, HEX HEAD RECESS NUT AND ONE 5/8" ROUND WASHER (TYP.). BOLT SHALL HAVE A MINIMUM THREAD LENGTH OF 2".
- 10. BOTH 12'-6" AND 25' LENGTHS OF "W" BEAM GUARDRAIL SECTIONS WILL BE PERMITTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



**SECTION B-B**

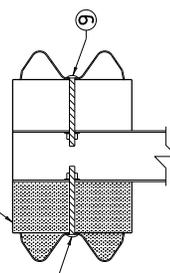
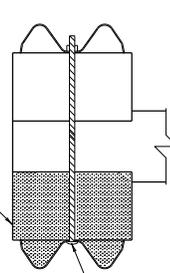
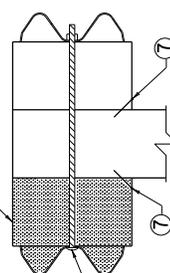
**SECTION A-A**

**SECTION C-C**

**RAIL SPLICE (5)**

**SECTION A-A**

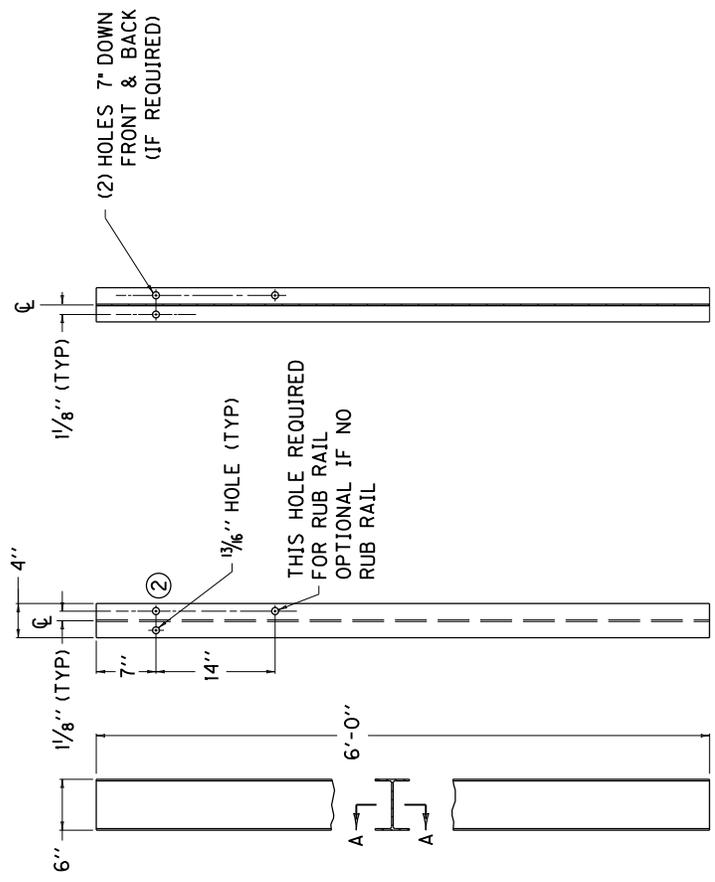
**SECTION A-A**



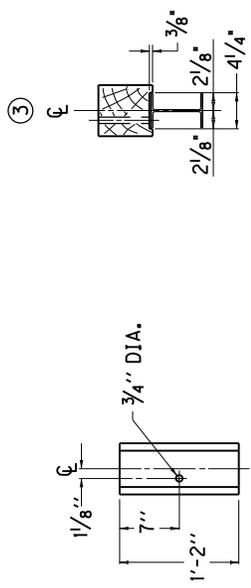
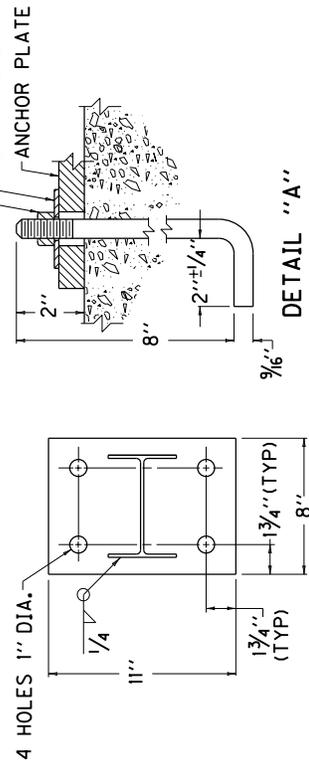
KENTUCKY DEPARTMENT OF HIGHWAYS	
STEEL BEAM GUARDRAIL ( "W" BEAM )	
SUBMITTED: <i>William S. Peltier</i> DIRECTOR DIVISION OF DESIGN	DATE: 11-17-17

COUNTY OF	ITEM NO.	SHEET NO.

- ~ NOTES ~
- ① W6 X 8.5 IS AN ACCEPTABLE ALTERNATE.
  - ② THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.
  - ③ TIMBER OR COMPOSITE BLOCKOUTS MAY BE USED WITH STEEL POST.



~ W6 X 9.0 STEEL POST ① ~



OFFSET BLOCK TYPE 4  
 6" X 8" (Nominal Size)  
 (TIMBER OR APPROVED COMPOSITE)  
 (FOR USE WITH STEEL POST ONLY)

KENTUCKY DEPARTMENT OF HIGHWAYS	STEEL GUARDRAIL POSTS
	SUBMITTED: <i>William P. Sells</i> DIRECTOR DIVISION OF DESIGN DATE: 3-06-18

# SPECIAL NOTES

## **SPECIAL NOTE FOR 3/8" EPOXY-URETHANE WATERPROOFING OVERLAY FOR BRIDGE DECKS**

### **I. DESCRIPTION**

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.

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.

### **II. MATERIALS**

#### **A. Pre-Treatment**

##### **1. Hairline Cracks**

- a) 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.
- b) 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.

##### **2. Partial Depth Patching (if necessary)**

- a) Class "M" Concrete. Use either "M1" or "M2". See Section 601.

##### **3. Overlay**

- a) 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.
- b) 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.

**4. Material Requirements of Epoxy Overlay**

- a) 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 III 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 <sup>±</sup> 5
Water Absorption, percent by wt. max.	0.5%
Shore D hardness, 25°C (77°F)	70 <sup>±</sup> 5
Gel Time, minutes	48-52 (100gms)
Adhesion to Concrete	100% failure in concrete
Percent Solids	100

- b) 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 III 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 <sup>±</sup> 10
Water Absorption, percent by wt. max.	0.5%
Shore D hardness, 25°C (77°F)	70 <sup>±</sup> 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

- c) 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 x 10 <sup>9</sup>	7 x 10 <sup>7</sup>
20°C	6 x 10 <sup>8</sup>	7 x 10 <sup>7</sup>
50°C	4 x 10 <sup>7</sup>	2 x 10 <sup>7</sup>
60°C	1 x 10 <sup>7</sup>	5 x 10 <sup>6</sup>
70°C	6 x 10 <sup>6</sup>	1 x

- d) 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.
- e) e. 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.

**5. Material Provider**

The bridge deck restoration system shall be provided by the following Manufacturer or an approved equivalent.:

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

**6. Aggregate**

- a) 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.
- b) Aggregate for all layers shall have a minimum Mohs scale hardness of 6.5.
- c) 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

d) Thermoplastic. Conform to Section 837.

III. **METHOD OF TESTING**

A. **Tests shall be conducted in accordance with the following methods:**

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  $23 \pm 2^\circ\text{C}$ .
2. **Tensile Strength and Elongation:** ASTM D638, Tensile Properties of Plastics, Specimen Type I or Type II. Samples shall be cured at  $23 \pm 2^\circ\text{C}$  ( $73.4 \pm 3.6^\circ\text{F}$ ) and  $50 \pm 5\%$  relative humidity. Speed of testing shall be at 0.5 in./min.
3. **Water Absorption:** ASTM D570, Water Absorption of Plastics. Sample specimens shall be prepared according to section 4.1 and allowed to cure at  $23 \pm 2^\circ\text{C}$  ( $73.4 \pm 3.6^\circ\text{F}$ ) and  $50 \pm 5\%$  relative humidity. Tests are then to be carried out as per section 6.1.
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  $23 \pm 2^\circ\text{C}$  ( $73.4 \pm 3.6^\circ\text{F}$ ).
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  $25^\circ\text{C}$  ( $77^\circ\text{F}$ ), 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  $25 \pm 2^\circ\text{C}$  ( $77 \pm 3.6^\circ\text{F}$ ) and  $50 \pm 5\%$  relative humidity.

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.
7. **Adhesion to Concrete:** ACI-503-R; Pull Out Test.
8. **Flexural Yield Strength:** ASTM D-790.
9. **DMA:** ASTM D-4065-95

#### IV. **CONSTRUCTION PRACTICE**

##### **A. Surface Preparation**

1. Perform partial depth patching in accordance with the requirements of Section 606.03.06. All patching materials shall be in accordance with the requirements of Section 601 and be free of Magnesium Phosphate.
2. Patching shall be scheduled so that the bridge can be open to traffic during all non-working hours.
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. 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.
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.
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.
7. The overlay application equipment is allowed to drive on the deck surface during application provided precautions have been taken to ensure 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.

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.
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.
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.

**B. Application of Overlay System**

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.
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.

- 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. Hand mixing of material is not permitted.
- 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.
- 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.
- 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

- 8. No vehicle shall be allowed on the overlay during the curing period.
- 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.

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

V. **STORAGE AND HANDLING**

- A. **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.
- B. **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.
- C. **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.
- D. **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.
- E. **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.

VI. **SAMPLING AND ACCEPTANCES**

- A. 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:
1. **Independent Lab Performance.** A nationally recognized independent lab must verify that the material:
    - a) 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.
    - b) Has the capability to de-activate the existing chloride ions present in the concrete specimen so that the corrosion of steel rebar embedded in the concrete stop corroding.
    - c) When tested as per Tables 1, 2 and 3, fully comply with the test results specified for cured system.
  2. **Infrared Spectrograph:** In addition to the initial certification process each Manufacturer shall furnish the state an infrared spectrum of each component of system for its permanent record and for individual installation verification.
  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.
- B. Certification for Compliance:** At the pre-construction conference, the Contractor shall notify the state project Engineer of the source of material.
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.
  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.
  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.

**C. Performance Acceptance**

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.
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.

**VII. MEASUREMENT**

- A. Epoxy-Urethane Waterproofing Overlay.** The Department will measure the square feet of overlay application.
- B. 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.
- C. Partial Depth Patching.** The Department will measure the concrete necessary for partial depth patches in cubic yards.
- D. Thermoplastic Pavement Markings.** See Section 714.

**VIII. PAYMENT**

- A. Epoxy-Urethane Waterproofing Overlay.** The Department will pay for the measured quantities at the Contract unit bid price for "Epoxy-Urethane Waterproofing". -Urethane Waterproofing Overlay. The Department will measure the square feet of overlay application.

- B. 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.
- C. Partial Depth Patching.** The payment at the contract unit price, if necessary, 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 “Partial Depth Patching.”
- D. 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 Current 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:

- Furnish all labor, materials, tools, and equipment
- Remove existing concrete and expansion devices and/or bridge ends
- Install armored edges and new concrete as specified and in accordance with the attached detail drawings
- Install new joint seals (where required)
- Maintain and control traffic
- 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  $\frac{3}{4}$ " 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. Pre-Compressed Horizontal Expansion Joint System.** It shall have a cellular or micro-cell, polyurethane foam impregnated with hydrophobic acrylic emulsion, or a hydrophobic polymer. The polyurethane foam external facing shall be factory coated and cured with highway-grade, fuel resistant silicone or a highway-grade elastomeric coating at a width greater than the maximum joint expansion.

III. **EQUIPMENT**

- A. **Hammers.** See Section 606.02.10 B.
- B. **Sawing Equipment.** See Section 606.02.10 C.
- C. **Hydraulic Impact Equipment.** See Section 606.02.10 D.

IV. **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. 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. This work is incidental to the Contract unit price for "Expansion Joint Replacement" or "Armored Edge for Concrete".

- 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).

All new structural steel shall be cleaned and painted in accordance with requirements of Section 607.03.23 except that surfaces to come in contact with concrete are not to be painted.

Blast clean all areas of existing concrete and structural steel to come in contact with new concrete until free of all laitance and deleterious substances immediately prior to the placement of the Class "M" Concrete. The surface areas of existing concrete to come in contact with the new Class "M" Concrete are to be coated with an epoxy bond coat immediately prior to placing new concrete in accordance with Section 511. The interfaces of the new and old concrete shall be as nearly vertical and horizontal as possible.

- C. Additional Steel Reinforcement.** Furnish for 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. Pre-Compressed Horizontal Expansion Joint System.** System shall be supplied in pre-compressed sticks for easy installation. System shall be installed in accordance with Manufacturer's recommendations concerning approved adhesives, welds between sticks and appurtenances, and adhesion to concrete deck or armored edges. Joint seal is to be installed  $\frac{3}{4}$ " recessed from the surface.
- F. 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.

V. **MEASUREMENT**

- A. Expansion Joint Replacement – 1", 1½", 2" and 2½".** The Department will measure the quantity in linear feet from gutterline to gutterline along the centerline of the joint.
- B. Longitudinal Joint Replacement –1".** The Department will measure the quantity in linear feet from abutment to abutment along the centerline of the joint.
- C. Armored Edge for Concrete.** The Department will measure the quantity in linear feet from gutterline to gutterline along the face of the bridge end.

VI. **PAYMENT**

- A. Expansion Joint Replacement – 1", 1½", 2" and 2½".** 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, precompressed joint seal, and all incidental items necessary to complete the work as specified by this Note and as shown on the attached detail drawings.

- B. Longitudinal Joint Replacement – 1”.** 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, precompressed joint seal, and all incidental items necessary to complete the work as specified by this Note and as shown on the attached detail drawings.
- C. 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 as specified by this Note and as shown on the attached detail drawings.

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

**SPECIAL NOTE FOR BRIDGE CLEANING AND PREVENTIVE MAINTENANCE:  
BEARING CLEANING AND LUBRICATION**

**I. DESCRIPTION**

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's Current 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:

- Furnish all labor, materials, tools, and equipment
- Provide safe access to the bridge in accordance with Section 107.01.01
- Remove stratified and pack rust from bearings
- Pressure wash bearings
- Coat all surfaces of bearings with lubricant
- Maintain and control traffic
- Any other work specified as part of this Contract

**II. MATERIALS**

**A. Bearing Lubricant.** Conform to Manufacturer's Technical Guidance. One of the following lubricants shall be used:

*"Never Seez – Mariner's Choice"* produced by Bostick, Inc.

*"Mobile Centaur Moly NLGI Grades 1 or 2"* produced by Mobil Oil

*"Premalub #1 WG"* produced by Certified Labs

**III. CONSTRUCTION**

**A. Removal of Stratified and Pack Rust.** Stratified and pack rust shall be removed from all bearing devices. See attached detailed drawings for each bridge showing location and quantity of the bearing devices. Hand tools including wire brushes, scrapers or impact devices (hand hammers or power chisels) are to be used for removing stratified and pack rust. All surfaces to have stratified and pack rust removed shall be cleaned to an SSPC SP-2 level. All debris collected shall be disposed of in a suitable off-site disposal facility.

- B. Pressure Washing.** Specified bridge components shall be pressure washed. All equipment for pressure washing shall be operated at a minimum pressure of up to 4,000 psi with 0-degree spinner tips and/or fan tips as determined by the Engineer at the working location with a minimum flow rate of 3.5 gal/minute provided that these pressures do not damage any components of the structure. Pressure and flow rates shall be reduced to a level satisfactory to the Engineer should any damage occur due to power washing procedures. Pressure washing shall be operated at a distance of approximately six inches from and perpendicular to the surface. All pressure washing wands shall be equipped with a gauge to accurately determine the amount of pressure used. Pressure washing of any bridge element will proceed from top of wash area to bottom of wash area. Wash water will not be released to a bridge element previously washed.
- C. Residual Lead Paint.** Residual lead paint may still be on the bridge. The Contractor is advised to take all necessary protective measures including worker safety and environmental regulations when performing surface preparation. The Department will not consider any claims based on residual lead paint.
- D. Bearing Lubrication.** Bearing devices shall be lubricated after all stratified rust and pack rust is removed and power washing is complete, bearing devices shall have lubricant applied to all surfaces of the bearing including bearing plates and points of movement. Allow bearing devices to dry before lubricant is applied. Lubricant must be applied to a clean and dry surface.

IV. **MEASUREMENT**

- A. Bridge Cleaning and Preventive Maintenance.** The Department will measure the quantity as Lump Sum.

V. **PAYMENT**

- A. Bridge Cleaning and Preventive Maintenance.** Payment at the Contract lump sum price includes all labor, all materials and all incidental items necessary to complete bearing lubrication work in accordance with this Note, the Plans and the Standard Specifications.

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

## **SPECIAL NOTE FOR BRIDGE BARRIER RETROFIT**

### **I. DESCRIPTION.**

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2019 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 aluminum handrail and deliver to the Baily Bridge Lot in Frankfort, KY; (3) Remove a portion of the existing concrete wing barrier as shown in the attached detail drawings and clean reinforcement to be reused in the proposed final wing barrier; (4) Remove any existing spalled/delaminated concrete from portion of the barrier to remain in place; (5) Repair and replace damaged and corroded reinforcing bars; (6) Drill and epoxy grout reinforcement into the existing barrier; (7) Prepare surface for concrete placement by blast cleaning; (8) Pour new concrete barrier using Class "M" Concrete according to the Standard Specifications; (9) Apply masonry coating to areas of new concrete as shown on the attached detail drawings; and (10) Any other work specified as part of this contract according to the attached detail drawings.

### **II. MATERIALS.**

- A. Class "M" Concrete.** Use either "M1" or "M2". See Section 601.
- B. Steel Reinforcement.** Use Grade 60. See Section 602.
- C. Masonry Coating.** See Section 601.03.18 B.

III. **CONSTRUCTION.**

- A. Concrete Removal and Preparation.** The Contractor, as directed by the Engineer, shall locate and remove all loose, spalled, deteriorated and delaminated concrete. Sounding shall be used to locate delaminated areas. Care shall be exercised not to damage areas of sound concrete or reinforcing steel during concrete removal operations. Concrete removal shall be in accordance with a sequence approved by the Engineer.

Concrete removal shall be accomplished by chipping with hand picks, chisels or light duty pneumatic or electric chipping hammers (not to exceed 15 lbs.). If sound concrete is encountered before existing reinforcing steel is exposed, the surface shall be prepared and repaired without further removal of the concrete. When corroded reinforcing steel is exposed, concrete removal shall continue until there is a minimum  $\frac{3}{4}$  inch clearance around the exposed, corroded reinforcing bar. Care shall be taken to not damage bond to adjacent non-exposed reinforcing steel during concrete removal processes.

The perimeter of all areas where concrete is removed shall be tapered at an approximately 45° angle, except that the outer edges of all chipped areas shall be saw cut to minimum depth of  $\frac{3}{4}$  inch to prevent featheredging unless otherwise approved by the Engineer.

After all deteriorated concrete has been removed, the repair surface to receive concrete patching shall be prepared by abrasive blast cleaning. Abrasive blast cleaning shall remove all fractured surface concrete and all traces of any unsound material or contaminants such as oil, grease, dirt, slurry, or any materials which could interfere with the bond of freshly placed concrete.

The Contractor shall dispose of all removed material off State Right Of Way in an approved site. The Department will not measure concrete removal, Concrete Class "M", and steel reinforcement and will consider all work necessary as incidental to the bid item "BRIDGE BARRIER RETROFIT".

- B. Prepare existing surface.** Prepare the existing surface by blast cleaning in accordance with 606.03.04.
- C. Construct new barrier wall.** Drill and epoxy grout reinforcement into existing concrete according to Section 511. Form and pour new barrier wall in accordance with the detailed drawings.
- D. Apply finish.** Apply masonry coating to new concrete surfaces according to attached detail drawings and Sections 601.03.18 B.

- IV. **MEASUREMENT. See Section 606 and the following:**
- A. **Bridge Barrier Retrofit.** The Department will measure the quantity in linear feet from bridge end to bridge end. The wing lengths will be included in the measurement.
- V. **PAYMENT.**
- A. **Bridge Barrier Retrofit.** The Department will make payment at the contract unit price per linear foot under the bid item #23032EN "BRIDGE BARRIER RETROFIT" for full compensation for removal and delivery of aluminum railing, repair of spalled concrete, preparation of concrete surfaces, furnishing and installing the concrete and reinforcement, 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 these notes and the attached detail drawings.

## **SPECIAL NOTE FOR BRIDGE RESTORATION AND WATERPROOFING WITH CONCRETE OVERLAYS**

### **I. DESCRIPTION.**

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2019 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:

- Furnish all labor, materials, tools, and equipment;
- Remove the existing overlay;
- Complete full-depth and partial depth repairs as directed by the Engineer;
- Repair/replace damaged and corroded reinforcing bars;
- Place new concrete overlay and epoxy-sand slurry in accordance with Section 606 or the attached detail drawings;
- Place masonry coating in accordance with Section 601 or the attached detail drawings;
- Complete asphalt approach pavement;
- Maintain and control traffic; and
- Any other work specified as part of this contract.

All construction will be in accordance with Section 606 unless otherwise specified.

### **II. MATERIALS.**

- A. Latex Concrete.** See Section 606.03.17.
- B. Class "M" Concrete.** Use either "M1" or "M2". See Section 601.
- C. Bituminous Asphalt.** Use CL2 ASPH SURF 0.38D PG64-22.
- D. Epoxy-Sand Slurry.** See Section 606.03.10.

III. **CONSTRUCTION.**

- A. **Machine preparation of existing slab.** Remove concrete from existing slab to a depth of at least ¼" below the existing surface, and remove all patches completely, in accordance with the requirements of Section 606.03.03.
- B. **Remove Existing Overlay.** In addition to Section 606.03.03, totally remove the existing concrete overlay by milling.
- C. **Partial Depth Slab Repair and Latex Overlay.** Remove areas determined to be unsound by the Engineer via hand held jackhammers weighing less than 45lbs in accordance with Section 606.02.10 D. Repair/Replace all damaged or severely corroded reinforcing bars prior to partial depth repair operation. The Department will not measure material removal and will consider this work incidental to the bid item "PARTIAL DEPTH PATCHING". Mix and place Latex Modified Concrete Overlay in accordance with Sections 606.03.08 and 606.03.17.
- D. **Full Depth Patching.** Construct full depth patching in accordance with Section 606.03.05. Temporary support of the beams may be required during full depth patching. Submit the proposed method of support to the Engineer for approval before beginning work.
- E. **Surface Texturing.** Texture the concrete surface of the overlay in accordance with Section 609.03.10.

IV. **MEASUREMENT.** See Section 606 and the following:

- A. **Latex Modified Concrete for Overlay.** The Department will measure the quantity in cubic yards using the theoretical volume as follows for each bridge:
  - 1. WKP (L&R) OVER KY 369 (184.25' x 30.25' x (2"/12"))/27 CF/CY = 34.4 CU YD
  - 2. WKP (L&R) OVER KY 2713 (116'x 38' x (1.5"/12")) /27 CF/CY = 20.4 CU YD
  - 3. WKP (L&R) OVER LEWIS CRK (120' x 38.0' x (2"/12"))/27 CF/CY = 28.2 CU YD
- B. **Latex Modified Concrete for Partial Depth Patching and variable thickness of Overlay.** The Department will measure the quantity in cubic yards by deducting the theoretical volume of bridge deck overlay (LMC) from the total volume (as indicated by the batch quantity tickets) of concrete required to obtain the finished grade shown on the Plans or established by the Engineer.
- C. **Concrete, Class M for Full-Depth Patching.** The Department will measure the quantity in cubic yards.

- D. **Machine Prep of Slab.** The Department will measure the machine preparation of the existing bridge deck in square yards, which shall include all labor, equipment, and material needed to complete this work.
  - E. **Remove Existing Overlay.** The Department will measure the removal of the existing overlay in square yards, which shall include all labor, equipment, and material needed to complete this work.
  - F. **Epoxy-Sand Slurry.** The Department will measure the quantity in square yards for the areas shown on the attached detail drawings.
  - G. **Steel Reinforcement.** Will not be measured for payment, but will be considered incidental to "CONCRETE OVERLAY-LATEX".
- V. **PAYMENT.** See Section 606 and the following:
- A. **Latex Modified Concrete for Overlay.** The Department will make payment for the Latex Modified Concrete under bid item #08534 "CONCRETE OVERLAY – LATEX" for the theoretical quantity per cubic yard.
  - B. **Latex Modified Concrete for Partial Depth Patching and variable thickness of Overlay.** The Department will make payment for the Partial Depth Patching under bid item #24094EC "PARTIAL DEPTH PATCHING". Payment will be for the quantity per cubic yard complete in place.
  - C. **Concrete, Class M for Full-Depth Patching.** The Department will make payment for Full-Depth Patching under bid item #08526 "CONC CLASS M FULL DEPTH PATCH". Payment will be for the quantity per cubic yard complete in place.
  - D. **Machine Prep of Slab.** The Department will make payment for the machine prep of existing slab under bid item #08551 "MACHINE PREP OF SLAB". Payment will be for the square yards completed.
  - E. **Remove Existing Overlay.** The Department will make payment for the removal of the existing overlay under the bid item #08510 "REM EPOXY BIT FOREIGN OVERLAY". Payment will be for the square yard completed.
  - F. **Epoxy-Sand Slurry.** The Department will make payment for the placement of Epoxy Sand Slurry under bid item #08504 "EPOXY SAND SLURRY". Payment will be for the square yards completed.

The Department will consider payment as full compensation for all work required by these notes and the attached detail drawings.

**SPECIAL NOTE FOR REPLACING COMPRESSION SEAL  
IN EXISTING EXPANSION JOINT**

**I. DESCRIPTION.**

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2019 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:

- Furnish all labor, materials, tools, and equipment;
- Remove existing compression seal;
- Install new compression seal;
- Maintain and control traffic; and
- Any other work specified as part of this contract.

**II. MATERIALS.**

- A. Neoprene Joint Sealers (Compression Seals).** See Section 807.
- B. Silicone Rubber Sealant.** See Section 807.

**III. CONSTRUCTION.**

- A. Remove Existing Materials.** Remove the existing compression seal as shown on the attached sketches. Remove debris and/or expansion joint filler as directed by the Engineer. Dispose of all removed material entirely away from the job site. This work is incidental to the contract unit price for "Expansion Joint Seal Replacement".
- B. Blast Clean Armored Edges.** Blast clean all areas of existing armored edges until free of all laitance and deleterious substances immediately prior to the placement of the Compression Seal.
- C. Preformed Neoprene Joint Seal.** Place the preformed joint seal in one continuous, unbroken length. Place neoprene compression seals as recommended by the manufacturer and in accordance with Section 609.03.04 (D).
- D. Silicone Rubber Sealant.** Place the silicone sealant as recommended by the manufacturer and in accordance with Section 609.03.04 (C).
- E. Shop Plans.** Shop plans will not be required. The Contractor is responsible for obtaining field measurements and supplying properly sized materials to complete the work.

IV. **MEASUREMENT**

**A. Expansion Joint Seal Replacement** - The Department will measure the quantity in linear feet from gutterline to gutterline along the centerline of the joint.

V. **PAYMENT.**

**A. Expansion Joint Seal Replacement** - The Department will make payment at the contract unit price per linear feet under the bid item #23386EC "JOINT SEAL REPLACEMENT" for full compensation for removing specified existing materials, furnishing and installing the neoprene compression joint seal, and all incidental items necessary to complete the work within the specified pay limits as specified by this note and as shown on the attached detail drawings.

The Department will consider payment as full compensation for all work required by these notes and the attached detail drawings.

### **Special Note for Bridge Demolition, Renovation and Asbestos Abatement**

If the project includes any bridge demolition or renovation, the successful bidder is required to notify Kentucky Division for Air Quality (KDAQ) via filing of form (DEP 7036) a minimum of 10 days prior to commencement of any bridge demolition or renovation work.

Any available information regarding possible asbestos containing materials (ACM) on or within bridges to be affected by the project has been included in the bid documents. These are to be included with the Contractor's notification filed with the KDAQ. If not included in the bid documents, the Department will provide that information to the successful bidder for inclusion in the KDAQ notice as soon as possible. If there are no documents stating otherwise, the bidders should assume there are no asbestos containing materials that will in any way affect the work.

**TRAFFIC CONTROL PLAN  
OHIO COUNTY  
WK – 9001  
FE02 092 9001 B00072L  
FE02 092 9001 B00072R  
FE02 092 9001 B00130L  
FE02 092 9001 B00130R  
FE02 092 9001 B00133L  
FE02 092 9001 B00133R  
FE02 092 9001 B00134L  
FE02 092 9001 B00134R**

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<p><b>THIS PROJECT IS A FULLY CONTROLLED ACCESS HIGHWAY</b></p>
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**TRAFFIC CONTROL GENERAL**

Except as provided herein, “Maintain and Control Traffic” shall be in accordance with the 2019 Standard Specifications and the 2012 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 55 miles per hour and establish double fines for work zone speeding violations. The extent of these areas within the project limits will be restricted to the proximity of actual work areas as determined by the Engineer. Notify the Engineer a minimum of 12 hours prior to using the double fine signs. At the beginning of the work zone, the “WARNING FINE DOUBLED IN WORK ZONE” signs will be dual mounted. At the end of the work zone, the “END DOUBLE FINE” signs will be dual mounted as well. Remove or cover the signs when the highway work zone does not have workers present for more than a two-hour period of time. Payment for the signs will be at the unit bid price for Temporary Signs. Any relocation or covering of the signs will be incidental to “Maintain and Control Traffic”, lump sum.

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

## **MAINTENANCE OF TRAFFIC OVERVIEW**

Traffic will be reduced to one lane at each structure and bridge rehabilitation activities completed half width. Traffic will be shifted partially onto shoulders in some phases in order to complete work to the center of the bridge. Lane width reductions will be employed on some structures only as necessary.

## **TIMES OF PROHIBITED LANE CLOSURES AND DIVERSIONS**

There will be no times of restricted lane closures for bridge rehabilitation work on the following structures: FE02 092 9001 B00072L; FE02 092 9001 B00072R; FE02 092 9001 B00130L; FE02 092 9001 B00130R; FE02 092 9001 B00133L; FE02 092 9001 B00133R; FE02 092 9001 B00134L; FE02 092 9001 B00134R. The contractor will be allowed 30 Calendar days on each individual structure, upon erection of the initial lane closure, to complete work on each individual structure and restore all lanes and ramps to the original traffic scheme.

See separate traffic control plan for FE02 092 9001 B00132L and FE02 092 9001 B00132R for details for times of prohibited work and closures for work on those structures and limits to the duration work and closures.

### **Project Phasing:**

Phase I and Phase II activities will be described for one individual structure herein, and will be considered applicable to all structures in both the Eastbound and Westbound directions. The contractor may elect to work on more than one structure at a time given the work is completed on each structure within the time allowed.

#### **PHASE IA – Shoulder Strengthening and Rumble Strip Removal (Applies to B00130L&R, B00133L&R, B00134L&R)**

Close the inside lane to traffic and mill and inlay asphalt base on shoulders to the dimensions detailed in order to provide a stable driving course and to remove the existing shoulder rumble strips.

#### **Phase I – Bridge Restoration (Outside Lanes)**

Close the outside lane to traffic in advance of the work area and in advance of the proposed lane shifts. For B00072L&R, close the outside lane approximately ½ mile in advance of the outside diamond off ramps in order to calm and acclimate traffic to construction in advance of the interchange. Partially shift traffic onto inside shoulders as detailed in the lane taper details and MOT Typical Sections and install temporary barrier wall. Complete all items of bridge restoration work detailed for the outside half of the structure. Mill and inlay the outside shoulders in the limits detailed in preparation for Phase II traffic.

## **PHASE II – Bridge Restoration (Inside Lanes)**

Relocate temporary barrier and crash cushions. Close the inside lane to traffic in advance of the work area and in advance of the proposed lane shifts. For B00072L&R, close the inside lane approximately ½ mile in advance of the outside diamond off ramps in order to calm and acclimate traffic to construction in advance of the interchange. Partially shift traffic onto outside shoulders as detailed in the lane taper details and MOT Typical Sections. Complete all items of bridge restoration work detailed for the inside half of the structure.

## **PHASE III – Final Pavement Markings and Final Cleanup**

Using alternating lane closures, complete final cleanup, permanent striping, rumble strips, and all remaining items of work.

## **MINIMUM LANE AND MINIMUM LANE WIDTH REQUIREMENTS**

Maintain a minimum 12' lane width for work on B00072L&R. Maintain 11' lane width on for work on B00130L&R, and B00134L&R. Maintain 9' lane width for work on B00133L&R. Traffic may be reduced to one lane per direction in accordance with phasing requirements and lane closure requirements.

## **LANE CLOSURES**

Contrary to Section 112.04.17, Lane closures, whether long term or short term, will not be measured for payment and will be incidental to the bid item "Maintain and Control Traffic".

Remove lane closures and restore traffic to two lanes on the mainline for any period of time more than 3 days that no work will be performed requiring a lane closure.

A lane closure will be required for each structure. Do not extend lane closure lengths to connect or include more than one work location.

## **SIGNS**

Additional traffic control signs in addition to normal lane closure signing detailed on the Standard Drawings may be required by the Engineer. Additional signs needed for lane closures may include, but are not limited to, dual mounted LEFT/RIGHT LANE CLOSED 1 MILE, LEFT/RIGHT LANE CLOSED 2 MILE, LEFT/RIGHT LANE CLOSED 3 MILE, SLOWED/STOPPED TRAFFIC AHEAD, KEEP LEFT/RIGHT, STOP, STOP AHEAD, INTERSECTION 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 "Roadwork Ahead" signs on entrance ramps, extra double fine signs, keep left/keep right and speed limit signs. These are to be paid for only once regardless of how many times they are moved or relocated.

### **FLASHING ARROWS**

Flashing arrows will be paid for once, regardless of how many times they are moved or relocated. The Department **WILL NOT** take possession of the flashing arrows upon completion of the work.

### **PORTABLE CHANGEABLE MESSAGE SIGNS**

Provide portable changeable message signs (PCMS) 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 PCMS. Place PCMS one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens relocate or provide additional PCMS 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 PCMS will be in operation at all times. In the event of damage or mechanical/electrical failure, the contractor will repair or replace the PCMS immediately. PCMS 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.

### **TEMPORARY PAVEMENT MARKINGS**

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 or covering and uncovering the lenses, but will be incidental to "Maintain and Control Traffic," lump sum.

Use temporary striping tape for all temporary pavement markings in accordance with section 112 of the Specifications. Use black temporary tape for obscuring existing pavement markings when in conflict with proposed traffic schemes. Use two widths of 6" temporary striping for temporary gore striping.

1. Temporary striping will be 6" in width.
2. Edge lines will be required for temporary striping during the lane closures.
3. Existing, temporary, or permanent striping will be in place before a lane is opened to traffic.

Should the Contractor change the existing striping pattern, the Contractor is to restripe the roadway back to its original configuration 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.

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" – Shoulder Strengthening – 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.

## **TRAFFIC COORDINATOR**

Designate an employee to be traffic coordinator. The designated Traffic Coordinator must meet the requirements of section 112.03.12 of the Standard Specifications. 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.

## **WIDE LOADS**

Wide load detours will not be established on this project.

Wide loads will be prohibited for restoration work requiring half width construction with a temporary concrete barrier. One mile in advance of prior interchange of the work location (Caneyville Exit 94 WB and Beaver Dam Exit 75 EB), place signs instructing Wide Loads Use US 62. Signs shall be dual mounted and 4' x 8'. Also, place Wide Load Exit Here sign immediately prior to the interchange requiring exit (Caneyville Exit 94 WB and Beaver Dam Exit 75 EB). When applicable, place "Wide Loads Prohibited WN-9001 (EB or WB as applicable)" signs in advance of interchanges (US 231 approaches, I-165 approaches, and KY 79 approaches) on each side road approach to the applicable interchange. Additional portable changeable message signs quantities have been established to supplement post mounted signs to be used at the direction of the engineer.

The contractor will be required to provide a minimum of 10 days written notice to the Engineer prior to erection of a lane closure that will restrict passage of wide loads.

## **ROAD CLOSURES**

No road closures or ramp closures will be allowed on this project.

## **TEMPORARY BARRIER WALL**

Payment of the contract unit price per linear foot for "Concrete Barrier Wall Type 9T" shall be full compensation for furnishing, installing, maintaining, adjusting alignment as needed, removing the barrier when no longer needed, and all incidentals necessary to complete the work.

Provide one side mounted barrier delineator per each section of barrier.

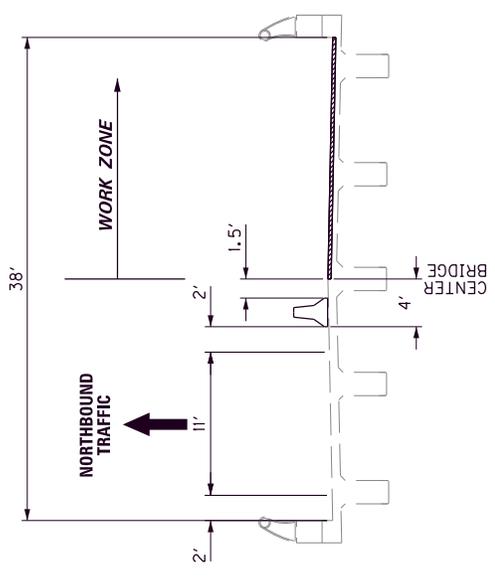
## **CRASH CUSHIONS**

Provide barrier end treatments that comply with MASH-16.

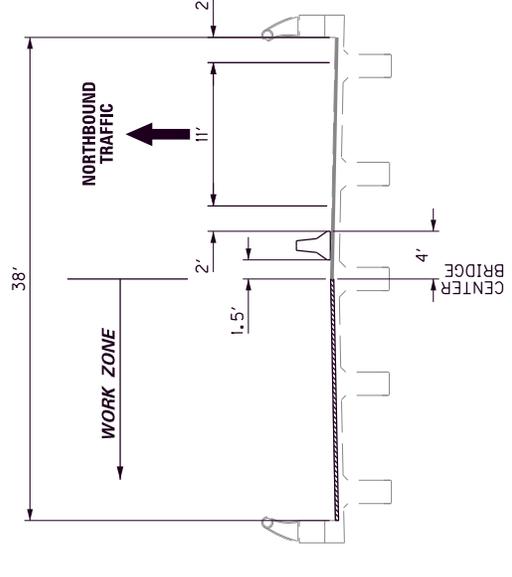
# M.O.T. TYPICAL SECTIONS

KY 9001 (WESTERN KY PARKWAY) OVER LEWIS CREEK & KY 2713  
MP 69.73 (092B00134LR) & MP 85.76 (092B00130LR)

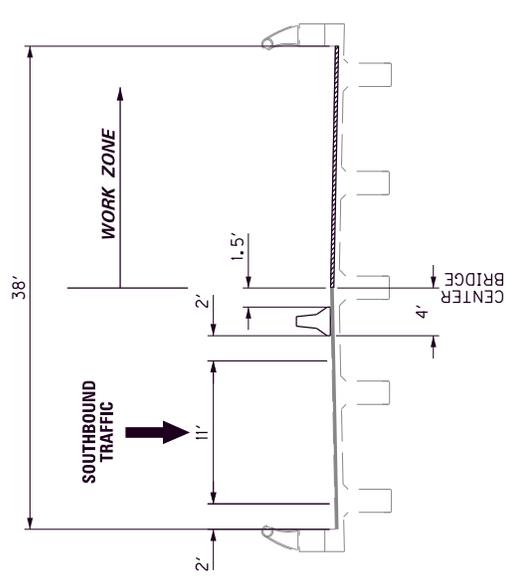
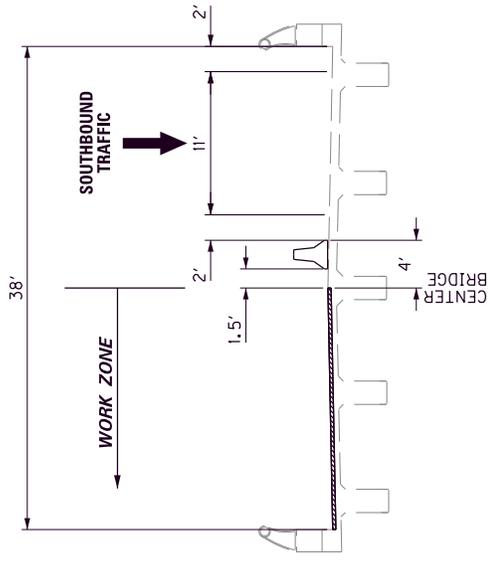
County	Item No.	Sheet
OHIO	-	



**PHASE 1**



**PHASE 2**



**LEGEND**

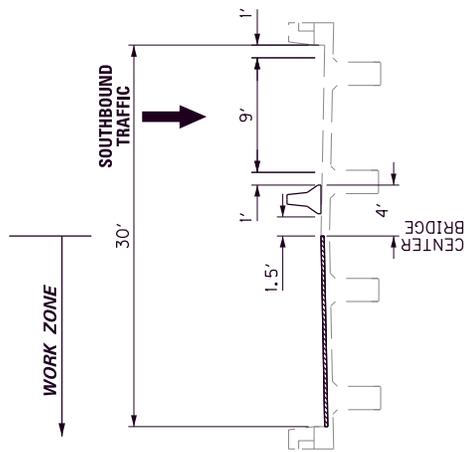
-  CONSTRUCTED IN PREVIOUS PHASE
-  MILL AND INLAY

WESTERN KY PARKWAY  
MAINTENANCE OF TRAFFIC  
TYPICAL SECTIONS

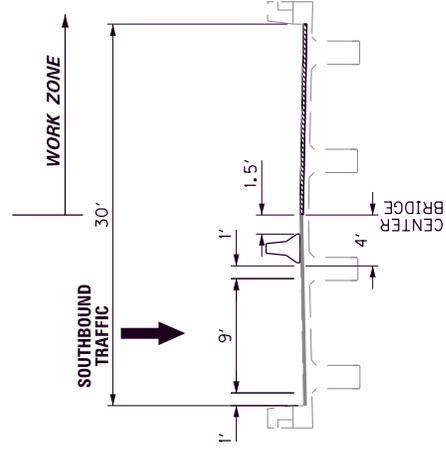
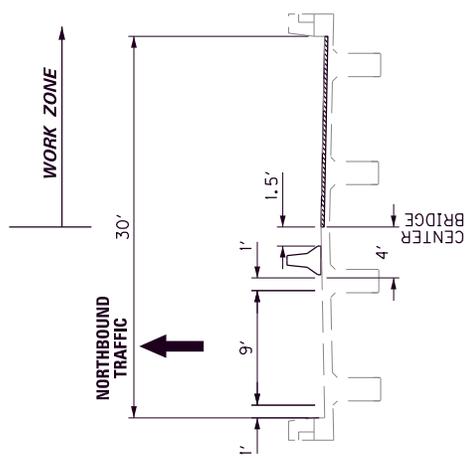
# M.O.T. TYPICAL SECTIONS

**KY 9001 (WESTERN KY PARKWAY) OVER KY 369 (ROCHESTER RD)  
MP 72.42 (092B00133L/R)**

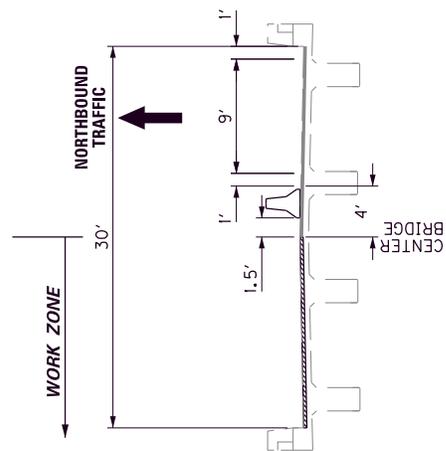
County	Item No.	Sheet
OHIO	-	



**PHASE 1**



**PHASE 2**



**LEGEND**

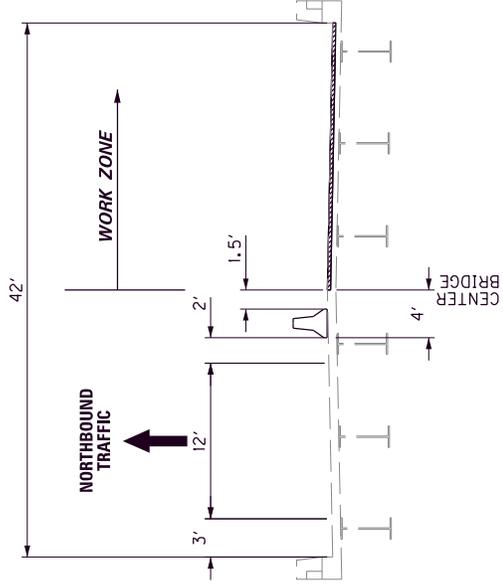
- CONSTRUCTED IN PREVIOUS PHASE
- MILL AND INLAY

WESTERN KY PARKWAY  
MAINTENANCE OF TRAFFIC  
TYPICAL SECTIONS

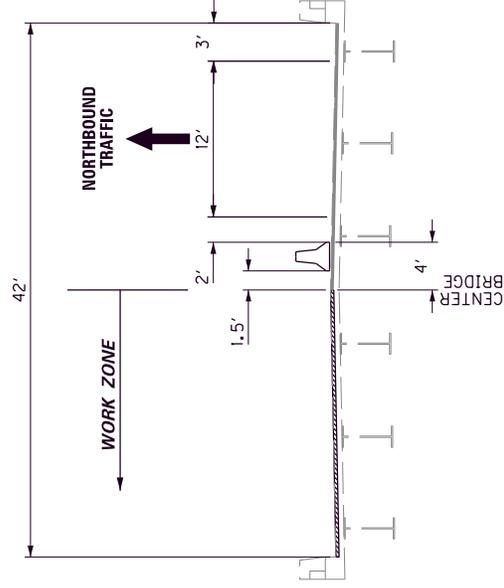
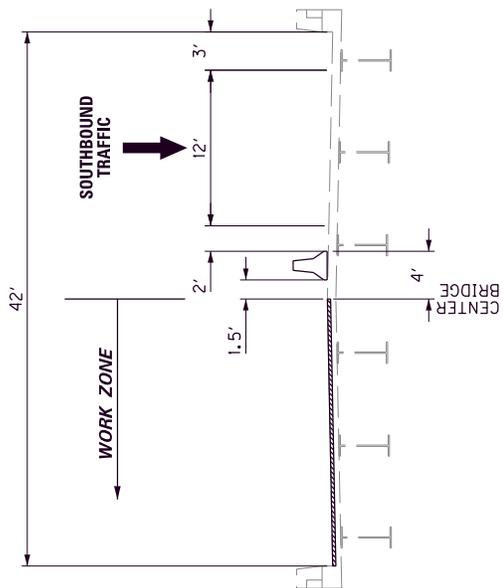
# M.O.T. TYPICAL SECTIONS

KY 9001 (WESTERN KY PARKWAY) OVER WN-9007 (WILLIAM NATCHER PARKWAY)  
MP 76.74 (092B00072L/R)

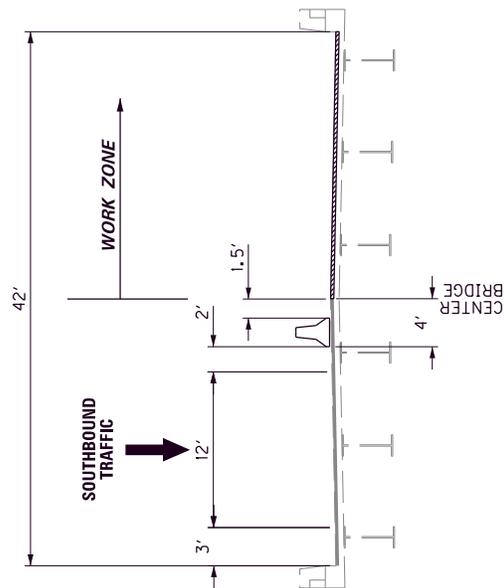
County	Item No.	Sheet
OHIO	-	



PHASE 1



PHASE 2



**LEGEND**

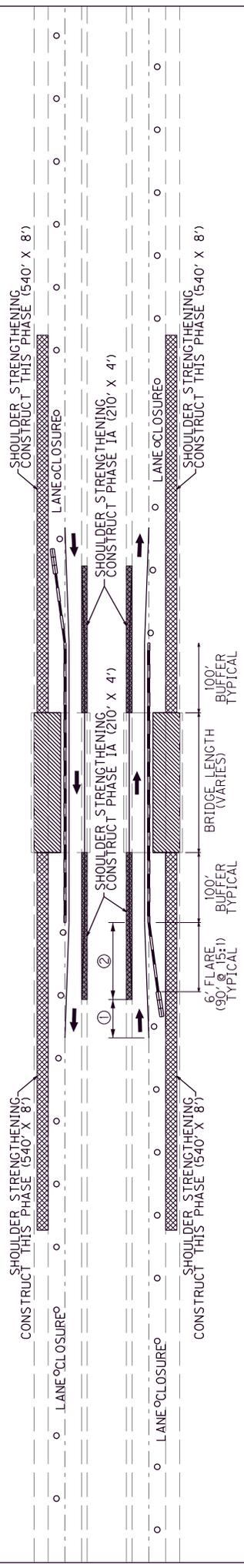
- CONSTRUCTED IN PREVIOUS PHASE
- MILL AND INLAY

WESTERN KY PARKWAY  
MAINTENANCE OF TRAFFIC  
TYPICAL SECTIONS

# M.O.T. TYPICAL SECTIONS

## KY 9001 (WESTERN KY PARKWAY) OVER LEWIS CREEK & KY 2713 MP 69.73 (092B00134L/R) & MP 85.76 (092B00130L/R) PHASE 1

County	Item No.	Sheet
OHIO	-	

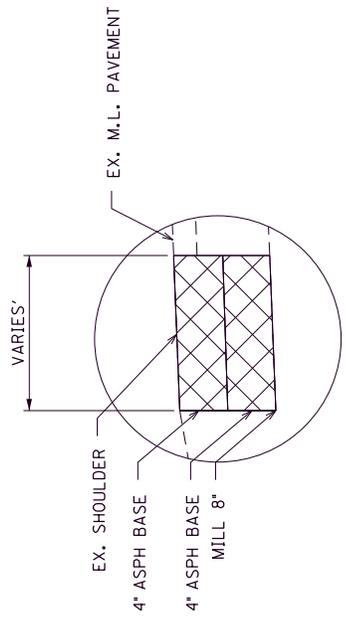


**NOTE:** ALL LANE SHIFTS BASED ON 55:1 TAPER RATE  
REDUCE LANE WIDTHS IN ADVANCE OF LANE SHIFT BASED ON 55:1 TAPER RATE. REDUCE DRUM SPACING TO 20' IN TAPERS AND LANE SHIFT AREAS.

① LANE REDUCTION TAPER 1' - 55' @ 55:1 (TYPICAL)  
② LANE SHIFT TAPER 2' - 110' @ 55:1 (TYPICAL)

### LEGEND

- CONSTRUCTED IN PREVIOUS PHASE
- ▨ BRIDGE DECK RESTORATION
- ▩ PAVEMENT SHOULDER STRENGTHENING
- ▬ CONC MEDIAN BARRIER WALL TYPE 9T
- ▭ CRASH CUSHION TY VI CLASS BT TL3
- TRAFFIC DRUMS
- ➔ TRAFFIC LANE DIRECTION



### SHOULDER STRENGTHENING PAVEMENT

- 8" MILLING AND TEXTURING
- 8" ASPH BASE
- 4" - CLASS 4 ASPH BASE 1.0D PG76-22
- 4" - CLASS 4 ASPH BASE 1.0D PG76-22

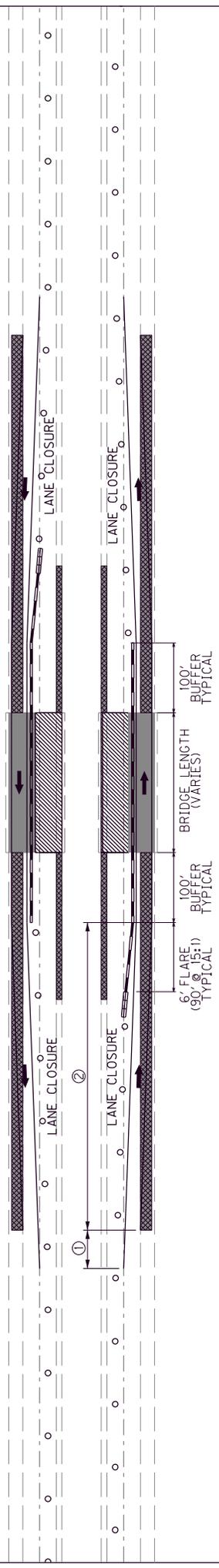
### SHOULDER STRENGTHENING DETAIL

WESTERN KY PARKWAY  
MAINTENANCE OF TRAFFIC  
TYPICAL SECTIONS

# M.O.T. TYPICAL SECTIONS

KY 9001 (WESTERN KY PARKWAY) OVER LEWIS CREEK & KY 2713  
MP 69.73 (092B00134L/R) & MP 85.76 (092B00130L/R)  
PHASE 2

County	Item No.	Sheet
OHIO	-	

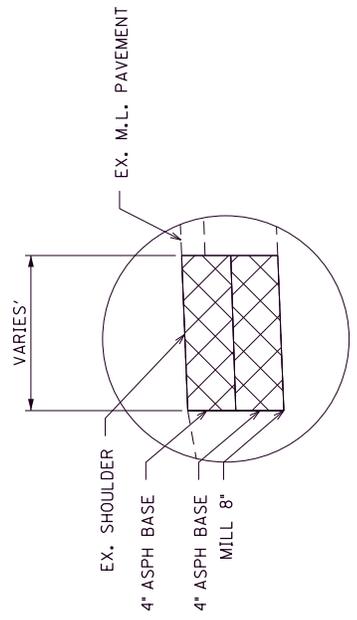


NOTE: ALL LANE SHIFTS BASED ON 55:1 TAPER RATE  
REDUCE LANE WIDTHS IN ADVANCE OF LANE  
SHIFT BASED ON 55:1 TAPER RATE. REDUCE  
DRUM SPACING TO 20' IN TAPERS AND LANE  
SHIFT AREAS.

① LANE REDUCTION TAPER 1' - 55' @ 55:1 (TYPICAL)  
② LANE SHIFT TAPER 8' - 440' @ 55:1 (TYPICAL)

### LEGEND

- CONSTRUCTED IN PREVIOUS PHASE
- BRIDGE DECK RESTORATION
- PAVEMENT SHOULDER STRENGTHENING
- CONC MEDIAN BARRIER WALL TYPE 9T
- CRASH CUSHION TY VI CLASS BT TL3
- TRAFFIC DRUMS
- TRAFFIC LANE DIRECTION



### SHOULDER STRENGTHENING PAVEMENT

- 8" MILLING AND TEXTURING
- 4" - CLASS 4 ASPH BASE 1.0D PG76-22
- 8" ASPH BASE
- 4" - CLASS 4 ASPH BASE 1.0D PG76-22

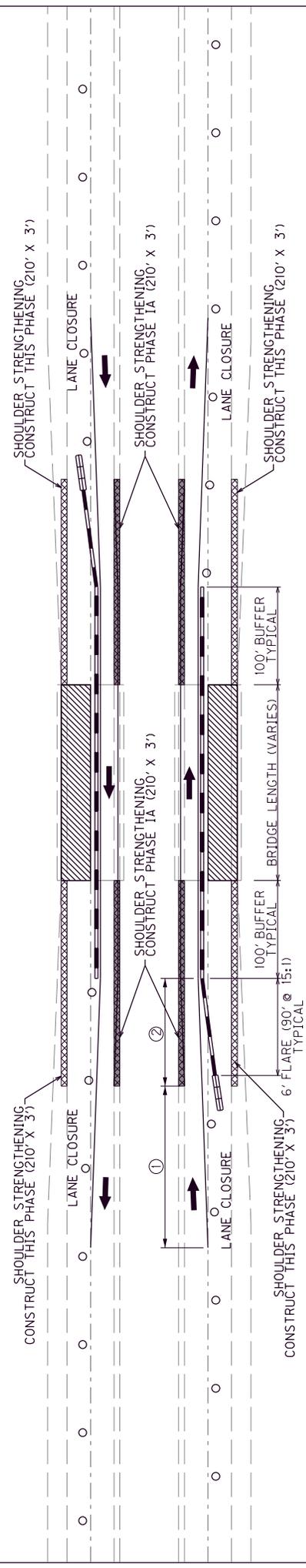
### SHOULDER STRENGTHENING DETAIL

WESTERN KY PARKWAY  
MAINTENANCE OF TRAFFIC  
TYPICAL SECTIONS

# M.O.T. TYPICAL SECTIONS

## KY 9001 (WESTERN KY PARKWAY) OVER KY 369 (ROCHESTER RD) MP 72.42 (092B00133L/R) PHASE 1

County	Item No.	Sheet
OHIO	-	

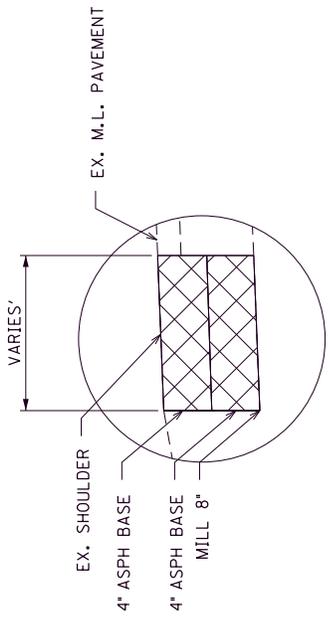


**NOTE:** ALL LANE SHIFTS BASED ON 55:1 TAPER RATE. REDUCE LANE WIDTHS IN ADVANCE OF LANE SHIFT BASED ON 55:1 TAPER RATE. REDUCE DRUM SPACING TO 20' IN TAPERS AND LANE SHIFT AREAS.

① LANE REDUCTION TAPER 3' - 165' @ 55:1 (TYPICAL)  
 ② LANE SHIFT TAPER 2' - 110' @ 55:1 (TYPICAL)

### LEGEND

- CONSTRUCTED IN PREVIOUS PHASE
- BRIDGE DECK RESTORATION
- PAVEMENT SHOULDER STRENGTHENING
- CONC MEDIAN BARRIER WALL TYPE 9T
- CRASH CUSHION TY VI CLASS BT TL3
- TRAFFIC DRUMS
- TRAFFIC LANE DIRECTION



### SHOULDER STRENGTHENING PAVEMENT

- 8" MILLING AND TEXTURING
- 8" ASPH BASE
- 4" - CLASS 4 ASPH BASE 1.0D PG76-22
- 4" - CLASS 4 ASPH BASE 1.0D PG76-22

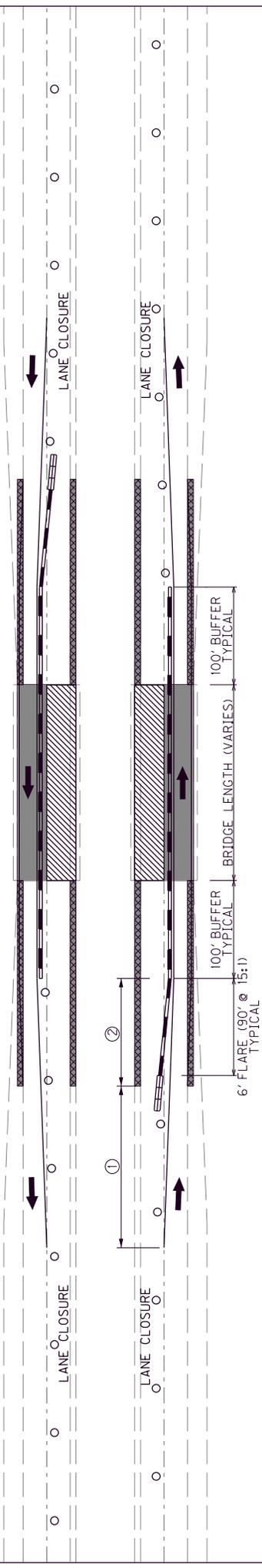
WESTERN KY PARKWAY  
MAINTENANCE OF TRAFFIC  
TYPICAL SECTIONS

### SHOULDER STRENGTHENING DETAIL

County	Item No.	Sheet
OHIO	-	

# M.O.T. TYPICAL SECTIONS

**KY 9001 (WESTERN KY PARKWAY) OVER KY 369 (ROCHESTER RD)  
MP 72.42 (092B00133L/R)  
PHASE 2**

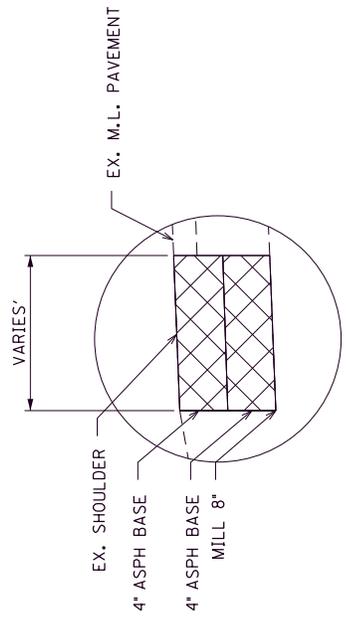


**NOTE:** ALL LANE SHIFTS BASED ON 55:1 TAPER RATE  
REDUCE LANE WIDTHS IN ADVANCE OF LANE  
SHIFT BASED ON 55:1 TAPER RATE. REDUCE  
DRUM SPACING TO 20' IN TAPERS AND LANE  
SHIFT AREAS.

① LANE REDUCTION TAPER 3' - 165' @ 55:1 (TYPICAL)  
② LANE SHIFT TAPER 2' - 110' @ 55:1 (TYPICAL)

### LEGEND

- CONSTRUCTED IN PREVIOUS PHASE
- BRIDGE DECK RESTORATION
- PAVEMENT SHOULDER STRENGTHENING
- CONC MEDIAN BARRIER WALL TYPE 9T
- CRASH CUSHION TY VI CLASS BT TL3
- TRAFFIC DRUMS
- TRAFFIC LANE DIRECTION



### SHOULDER STRENGTHENING PAVEMENT

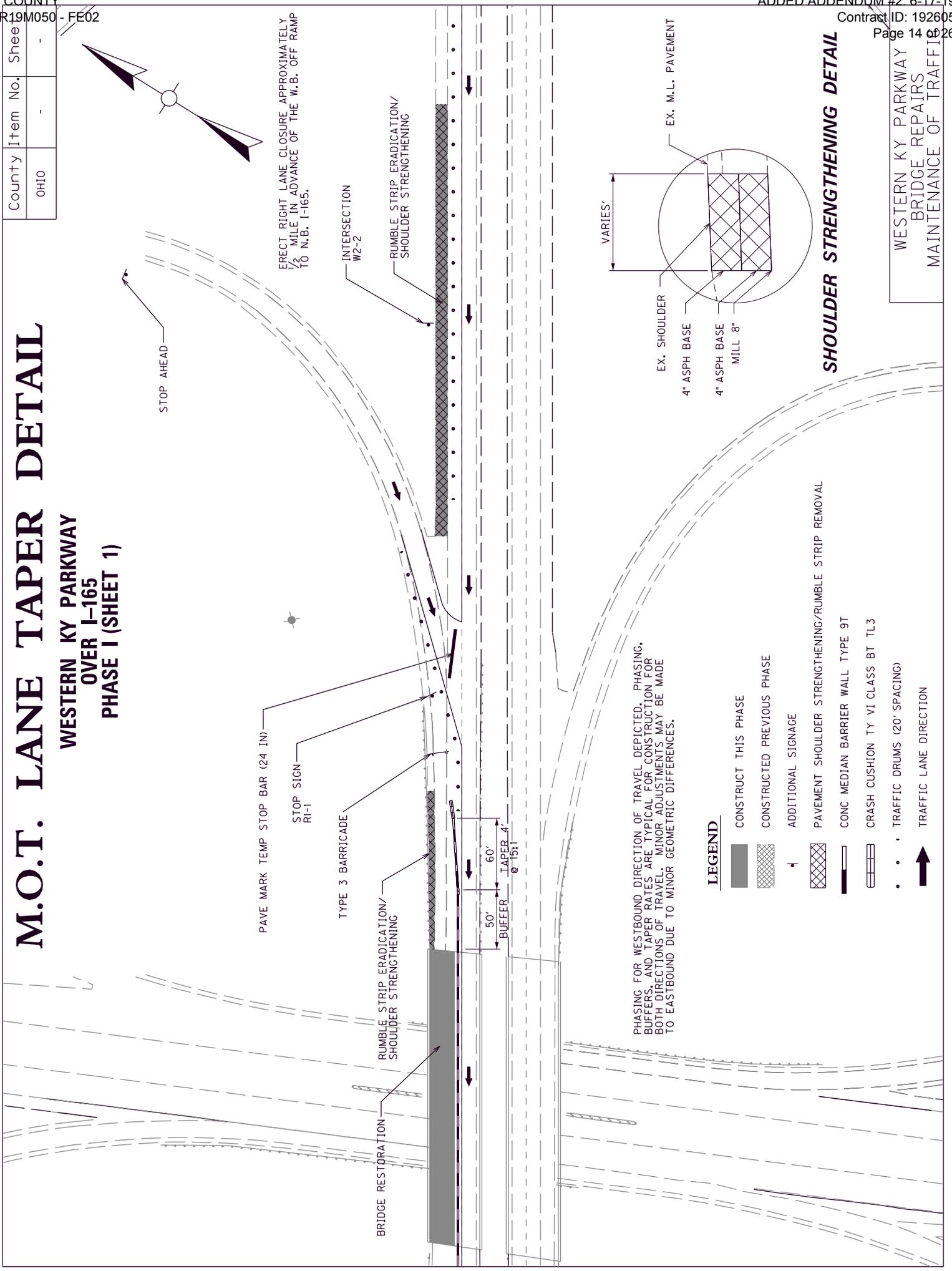
- 8" MILLING AND TEXTURING
- 8" ASPH BASE
- 4" - CLASS 4 ASPH BASE 1.0D PG76-22
- 4" - CLASS 4 ASPH BASE 1.0D PG76-22

### SHOULDER STRENGTHENING DETAIL

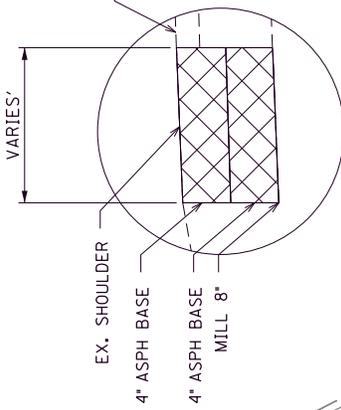
WESTERN KY PARKWAY  
MAINTENANCE OF TRAFFIC  
TYPICAL SECTIONS

# M.O.T. LANE TAPER DETAIL

## WESTERN KY PARKWAY OVER I-165 PHASE I (SHEET 1)



ERECT RIGHT LANE CLOSURE APPROXIMATELY 1/2 MILE IN ADVANCE OF THE W.B. OFF RAMP TO N.B. I-165.



PHASING FOR WESTBOUND DIRECTION OF TRAVEL DEPICTED. PHASING, BUFFERS, AND TAPER RATES ARE TYPICAL FOR CONSTRUCTION FOR BOTH DIRECTIONS OF TRAVEL. MINOR ADJUSTMENTS MAY BE MADE TO EASTBOUND DUE TO MINOR GEOMETRIC DIFFERENCES.

**LEGEND**

- CONSTRUCT THIS PHASE
- CONSTRUCTED PREVIOUS PHASE
- ADDITIONAL SIGNAGE
- PAVEMENT SHOULDER STRENGTHENING/RUMBLE STRIP REMOVAL
- CONC MEDIAN BARRIER WALL TYPE 9T
- CRASH CUSHION TY VI CLASS BT TL3
- TRAFFIC DRUMS (20' SPACING)
- TRAFFIC LANE DIRECTION

**SHOULDER STRENGTHENING DETAIL**

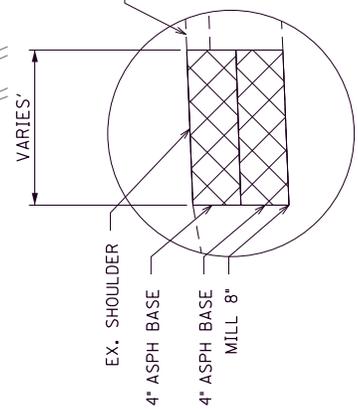
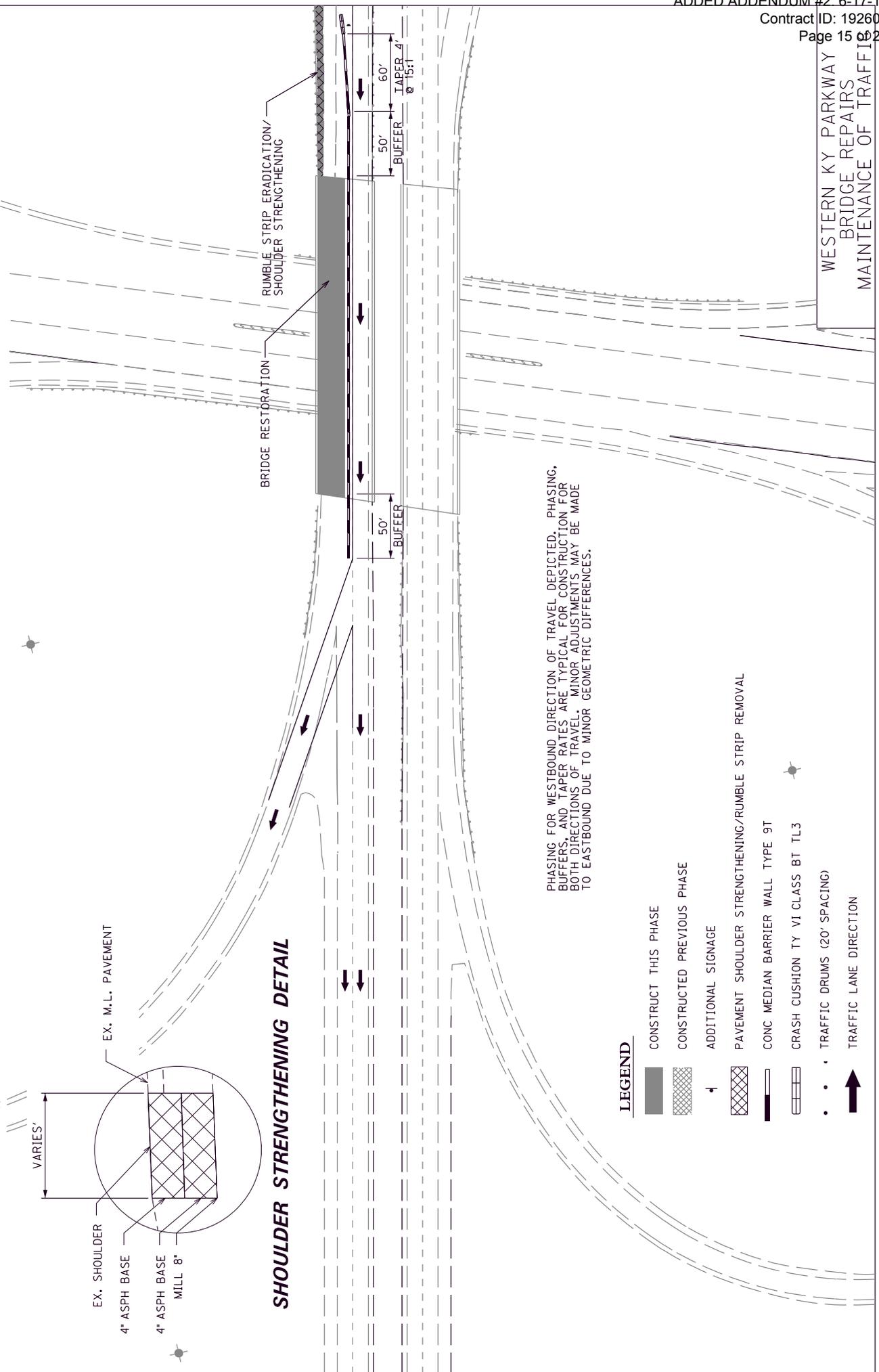
WESTERN KY PARKWAY  
BRIDGE REPAIRS  
MAINTENANCE OF TRAFFIC

County	Item No.	Sheet
OHIO	-	-

County	Item No.	Sheet
OHIO	-	-

# M.O.T. LANE TAPER DETAIL

## WESTERN KY PARKWAY OVER I-165 PHASE I (SHEET 2)



**SHOULDER STRENGTHENING DETAIL**

PHASING FOR WESTBOUND DIRECTION OF TRAVEL DEPICTED. PHASING, BUFFERS, AND TAPER RATES ARE TYPICAL FOR CONSTRUCTION FOR BOTH DIRECTIONS OF TRAVEL. MINOR ADJUSTMENTS MAY BE MADE TO EASTBOUND DUE TO MINOR GEOMETRIC DIFFERENCES.

**LEGEND**

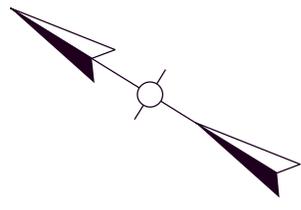
- CONSTRUCT THIS PHASE
- CONSTRUCTED PREVIOUS PHASE
- ADDITIONAL SIGNAGE
- PAVEMENT SHOULDER STRENGTHENING/RUMBLE STRIP REMOVAL
- CONC MEDIAN BARRIER WALL TYPE 9T
- CRASH CUSHION TY VI CLASS BT TL3
- TRAFFIC DRUMS (20' SPACING)
- TRAFFIC LANE DIRECTION

WESTERN KY PARKWAY  
BRIDGE REPAIRS  
MAINTENANCE OF TRAFFIC

# M.O.T. LANE TAPER DETAIL

## WESTERN KY PARKWAY OVER I-165 PHASE II (SHEET 1)

County	Item No.	Sheet
OHIO	-	-



STOP AHEAD

ERECT LEFT LANE CLOSURE APPROXIMATELY  
1/2 MILE IN ADVANCE OF THE W.B. OFF RAMP  
TO N.B. I-165.

INTERSECTION  
W2-2

PAVE MARK TEMP STOP BAR (24 IN)

STOP SIGN  
RI-1

40'  
TAPER @ 15:1

50'  
BUFFER

12' LANE TAPER @ 55:1

TYPE 3  
BARRICADE

BRIDGE RESTORATION

PHASING FOR WESTBOUND DIRECTION OF TRAVEL DEPICTED. PHASING,  
BUFFERS, AND TAPER RATES ARE TYPICAL FOR CONSTRUCTION FOR  
BOTH DIRECTIONS OF TRAVEL. MINOR ADJUSTMENTS MAY BE MADE  
TO EASTBOUND DUE TO MINOR GEOMETRIC DIFFERENCES.

**LEGEND**

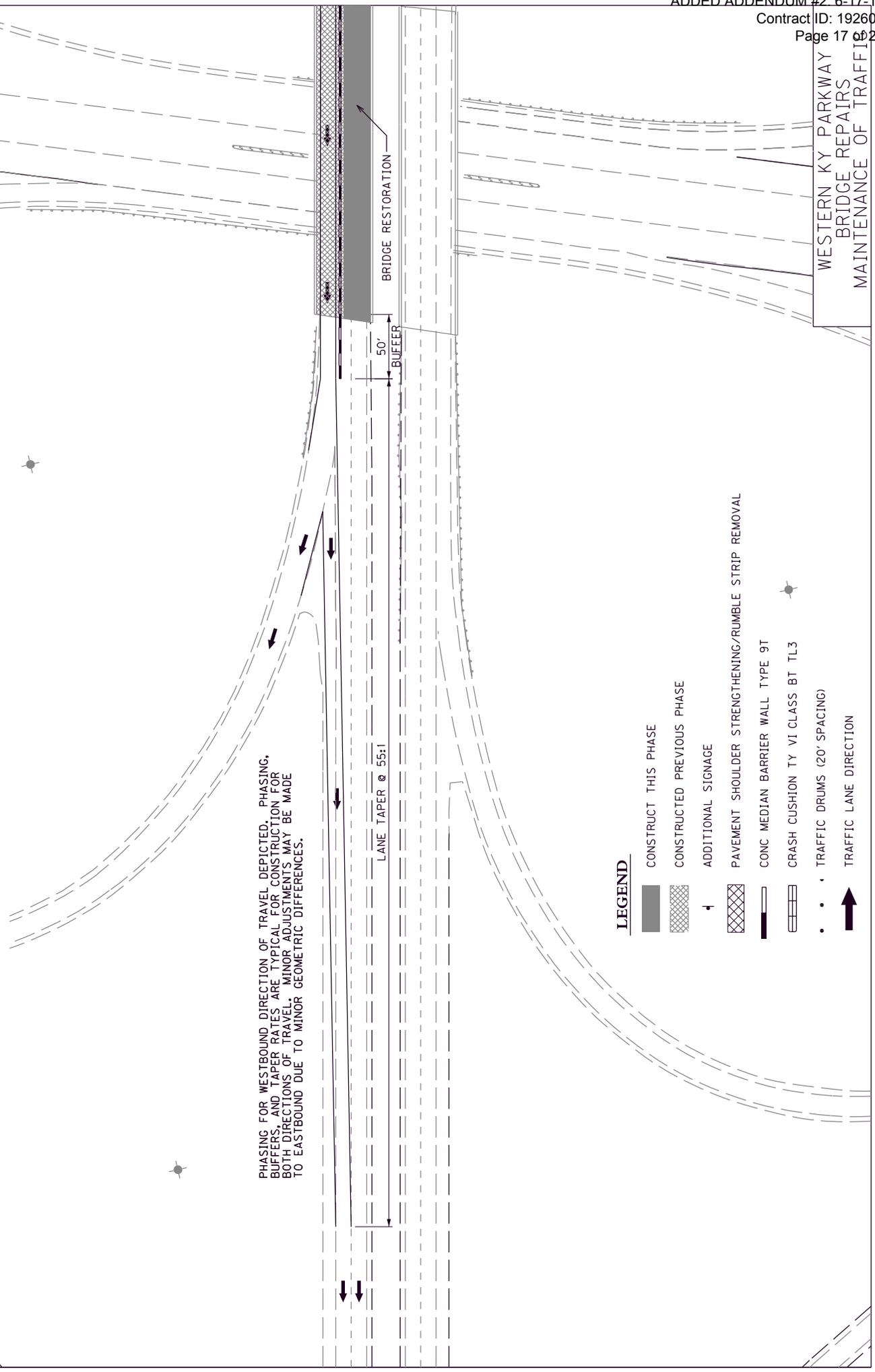
-  CONSTRUCT THIS PHASE
-  CONSTRUCTED PREVIOUS PHASE
-  ADDITIONAL SIGNAGE
-  PAVEMENT SHOULDER STRENGTHENING/RUMBLE STRIP REMOVAL
-  CONC MEDIAN BARRIER WALL TYPE 9T
-  CRASH CUSHION TY VI CLASS BT TL3
-  TRAFFIC DRUMS (20' SPACING)
-  TRAFFIC LANE DIRECTION

WESTERN KY PARKWAY  
BRIDGE REPAIRS  
MAINTENANCE OF TRAFFIC

# M.O.T. LANE TAPER DETAIL

## WESTERN KY PARKWAY OVER I-165 PHASE II (SHEET 2)

County	Item No.	Sheet
OHIO	-	-

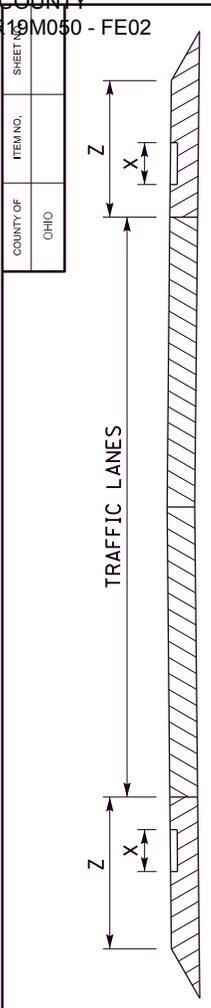


PHASING FOR WESTBOUND DIRECTION OF TRAVEL DEPICTED. PHASING, BUFFERS, AND TAPER RATES ARE TYPICAL FOR CONSTRUCTION FOR BOTH DIRECTIONS OF TRAVEL; MINOR ADJUSTMENTS MAY BE MADE TO EASTBOUND DUE TO MINOR GEOMETRIC DIFFERENCES.

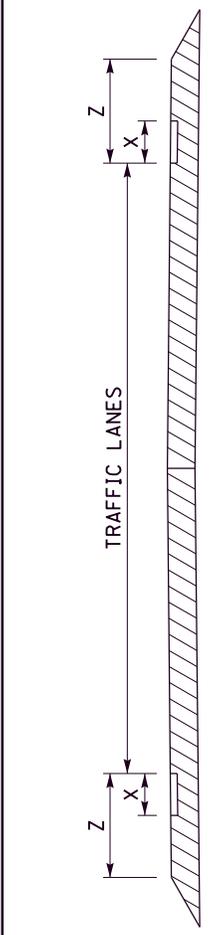
**LEGEND**

- CONSTRUCT THIS PHASE
- CONSTRUCTED PREVIOUS PHASE
- ADDITIONAL SIGNAGE
- PAVEMENT SHOULDER STRENGTHENING/RUMBLE STRIP REMOVAL
- CONC MEDIAN BARRIER WALL TYPE 9T
- CRASH CUSHION TY VI CLASS BT TL3
- TRAFFIC DRUMS (20' SPACING)
- TRAFFIC LANE DIRECTION

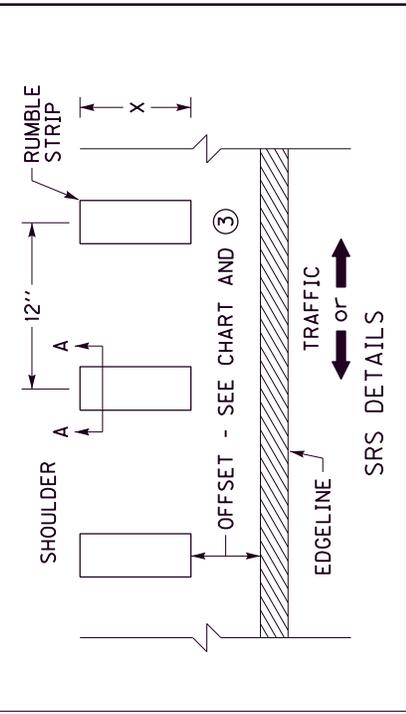
WESTERN KY PARKWAY  
 BRIDGE REPAIRS  
 MAINTENANCE OF TRAFFIC



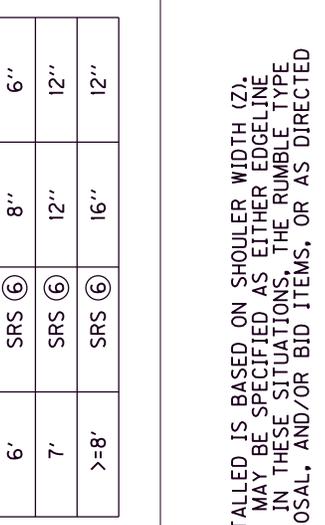
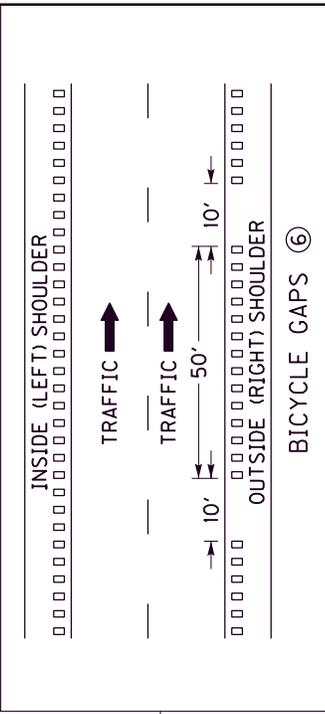
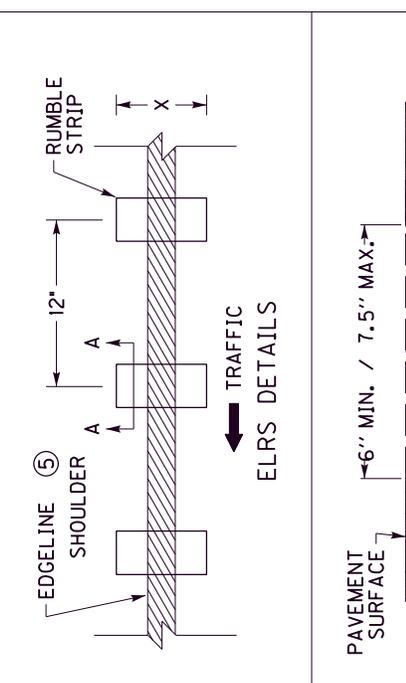
PAVEMENT CROSS-SECTION  
(WHEN ELRS ARE SPECIFIED)



PAVEMENT CROSS-SECTION  
(WHEN SRS ARE SPECIFIED)



SHOULDER WIDTH (Z) ②	RUMBLE TYPE ①	RUMBLE LENGTH (X) ③	OFFSET ③
>1'	ELRS	8"	N/A
2'	ELRS or SRS	8"	ELRS-N/A SRS-6"
3'	ELRS or SRS	8"	ELRS-N/A SRS-6"
4'	ELRS or SRS	8"	ELRS-N/A SRS-6"
5'	SRS ⑥	8"	6"
6'	SRS ⑥	8"	6"
7'	SRS ⑥	12"	12"
>8'	SRS ⑥	16"	12"



~ NOTES ~

① FOR MULTI-LANE ROADWAYS, THE RUMBLE TYPE TO BE INSTALLED IS BASED ON SHOULDER WIDTH (Z), FOR SHOULDER WIDTHS OF 2', 3', AND 4' THE RUMBLE TYPE MAY BE SPECIFIED AS EITHER EDGELINE RUMBLE STRIPS (ELRS) OR SHOULDER RUMBLE STRIPS (SRS). IN THESE SITUATIONS, THE RUMBLE TYPE TO BE INSTALLED WILL BE SPECIFIED IN THE PLANS, PROPOSAL, AND/OR BID ITEMS, OR AS DIRECTED BY THE ENGINEER.

② WHEN ELRS ARE SPECIFIED, SHOULDER WIDTH (Z) IS FROM LANE SIDE EDGE OF RUMBLE STRIP TO OUTSIDE EDGE OF TRaversable PAVEMENT. WHEN SRS ARE SPECIFIED, SHOULDER WIDTH (Z) IS FROM CENTER OF EDGELINE STRIPE TO OUTSIDE EDGE OF TRaversable PAVEMENT.

③ RUMBLE LENGTH (X) AND/OR OFFSET DISTANCE MAY BE MODIFIED AS THE ENGINEER DIRECTS, IF THE SHOULDER WIDTH (Z) IS EQUAL TO OR LESS THAN THE COMBINED WIDTH OF THE PROPOSED RUMBLE LENGTH (X) AND OFFSET DISTANCE.

4. DISTANCES SHOWN ARE APPROXIMATE. MAINTAIN RUMBLE STRIP DIMENSIONS AND SPACING AS MUCH AS POSSIBLE.

⑤ WHEN ELRS ARE SPECIFIED, THE EDGELINE MARKING SHALL BE PLACED IN THE CENTER OF THE RUMBLE STRIP.

⑥ SHOULDER RUMBLE STRIPS (SRS) ALONG OUTSIDE (RIGHT) SHOULDERS THAT ARE 5' OR WIDER SHOULD INCLUDE BICYCLE GAPS AS DETAILED. BICYCLE GAPS ARE NOT REQUIRED ON INSIDE (LEFT) SHOULDERS. BICYCLE GAPS SHALL NOT BE USED ON INTERSTATES AND PARKWAYS.

7. RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS, OR WHEN THE SHOULDER WIDTH IS LESS THAN 1 FT.

USE WITH SEPIA 005

KENTUCKY  
DEPARTMENT OF HIGHWAYS

RUMBLE STRIP DETAILS  
MULTI-LANE ROADWAYS  
AND RAMP

SUBMITTED: *R. Allen* 11-20-19

INSIDE (LEFT) SHOULDER  
TRAFFIC →

OUTSIDE (RIGHT) SHOULDER  
← TRAFFIC

BICYCLE GAPS ⑥

TRAFFIC →

TRAFFIC →

10' 50' 10'

DRAWING NOT TO SCALE

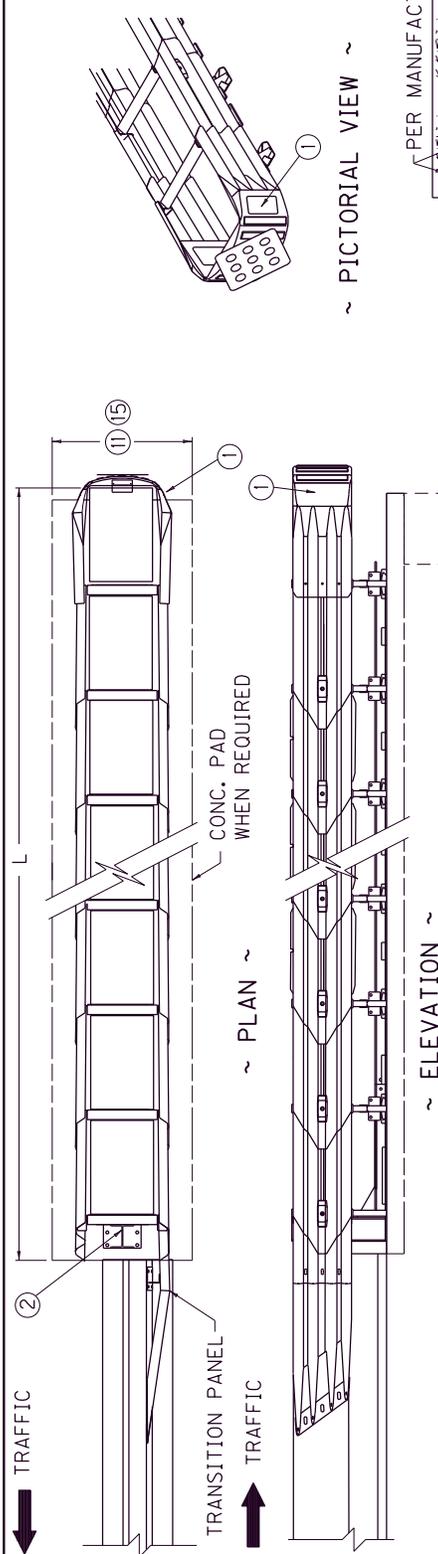
USE WITH SEPIA 005

KENTUCKY  
DEPARTMENT OF HIGHWAYS

RUMBLE STRIP DETAILS  
MULTI-LANE ROADWAYS  
AND RAMP

SUBMITTED: *R. Allen* 11-20-19

COUNTY OF OHIO	ITEM NO.	SHEET NO.
-------------------	----------	-----------



~ PICTORIAL VIEW ~



~ CONCRETE PAD SECTION ~  
(PER MANUFACTURER SPECIFICATIONS)  
REFER TO NOTES ⑪ ⑮

Additional Concrete Pad Construction may be Required Per Manufacturer Specifications

~ NOTES ~

- ① NOSE ASSEMBLY (OBJECT MARKER TYPE 1 AS NECESSARY)
- ② CONSTRUCTION ZONE BACKUP
3. CRASH CUSHION TYPE VI, CLASS B, ☆, △
- ☆ EITHER TEST LEVEL 2 (TL2) OR TEST LEVEL 3 (TL3), AS REQUIRED.
- △ SEE "CONNECTION DETAILS OF CRASH CUSHION TYPE VI TO DOUBLE FACE GUARDRAIL".
4. CRASH CUSHION TYPE VI-BT IS DEPICTED ATTACHED TO A CONCRETE BARRIER (TEMPORARY).
5. WHEN CRASH CUSHION TYPE VI-BT IS ATTACHED TO STEEL "W" BEAM GUARDRAIL (DOUBLE FACE), ALL APPLICABLE DETAILS SHOWN ON CUR. SEPIA 018, "CONNECTION DETAIL OF CRASH CUSHION TYPE VI TO DOUBLE FACE GUARDRAIL" SHALL BE REQUIRED.
6. WHEN CRASH CUSHION TYPE VI-BT IS ATTACHED TO STEEL "W" BEAM GUARDRAIL (DOUBLE FACE), THE TRANSITION PANEL SHALL BE ELIMINATED.
7. IN A TWO-WAY TRAFFIC SITUATION FOR A 6" OR 9" TOP WIDTH WALL THE UNIT SHALL BE OFFSET FROM THE CENTERLINE OF THE WALL AS SHOWN IN THE PLAN VIEW. FOR A 12" TOP WIDTH WALL, THE UNIT SHALL BE CENTERED ON THE END OF THE BARRIER.
8. FOR ONE-WAY APPROACH TRAFFIC THE UNIT SHALL BE CENTERED ON THE END OF THE BARRIER.
9. THE COMPLETE INSTALLATION SHALL MEET ALL APPLICABLE REQUIREMENTS OF ENERGY ABSORPTIONS INC. OR TRINITY INDUSTRIES INC.
10. ANCHORAGE DEVICES TO SECURE THE CRASH CUSHION TO THE EXISTING SURFACE SHALL BE SHOWN ON APPROVED SHOP DRAWINGS.
11. THE CONCRETE PAD, PAD EXCAVATION AND STEEL REINFORCEMENT, INSTALLED IN PLACE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CRASH CUSHION TYPE VI. DIMENSION AND REINFORCEMENT SPECIFICATIONS FOR CONCRETE PADS ARE TO BE PROVIDED BY THE MANUFACTURER. THE PAD WILL NOT BE REQUIRED WHEN UNIT IS CONSTRUCTED ON RIGID PAVEMENT.
12. THE PAD WILL NOT BE REQUIRED WHEN THE UNIT IS CONSTRUCTED ON EXISTING PAVEMENT OR BRIDGES AND THE COST OF ANCHORING SHALL BE INCLUDED IN THE UNIT PRICE OF THE CRASH CUSHION.
13. USE WITH CUR. SEPIA 018 WHEN CONNECTING TO DOUBLE FACE GUARDRAIL.
14. PERMISSIBLE ALTERNATES FOR CRASH CUSHION TYPE VI-BT ARE PATENTED ITEMS: ENERGY ABSORPTION SYSTEMS, INC. OF CHICAGO, IL., TRINITY INDUSTRIES, INC. OF DALLAS, TX.
15. CRASH CUSHIONS ARE TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS, INCLUDING THE CONCRETE PAD. THE MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP DRAWINGS TO THE CONTRACTOR WITH EACH INSTALLATION.
16. NCHRP-350-COMPLIANT CRASH CUSHIONS WILL BE ACCEPTED IN INSTANCES WHERE MASH-COMPLIANT DEVICES ARE NOT YET AVAILABLE.

CLASS	SPEED (MPH)	ATTENUATOR		
		MODEL	PRODUCT NAME	LENGTH
B	45 & LESS	TL2	SHORTTRACC	14'-0"
	OVER 45	TL3	3-BAY QUADGUARD MIO	12'-0"
TRACC			21'-0"	
			5-BAY QUADGUARD MIO	18'-0"

A TYPE VI-CLASS C CAN BE USED AT THE CONTRACTOR'S DISCRETION.

USE WITH CUR. SEPIA 018  
& SEPIA 020

**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**

CRASH CUSHION  
TYPE VI-BT

1-02-11  
DATE

09

ACTING DIRECTOR DIVISION OF HIGHWAY DESIGN

**Special Note for Fixed Completion Date and**

**Liquidated Damages**

**WK-9001  
OHIO COUNTY**

Contrary to Section 108.09, Liquidated Damages of \$5,000 per calendar day will be assessed for each day work remains incomplete beyond the Specified Project Completion Date. This project has a Fixed Project Completion Date of August 30<sup>th</sup> 2020.

**FE02 092 9001 B00072L  
FE02 092 9001 B00072R  
FE02 092 9001 B00130L  
FE02 092 9001 B00130R  
FE02 092 9001 B00133L  
FE02 092 9001 B00133R  
FE02 092 9001 B00134L  
FE02 092 9001 B00134R**

Additionally, the contractor will be required to complete the bridge restoration activities on each individual structure and restoration of traffic to its original mainline WK-9001 configuration within 30 Calendar Days from the time that the date the initial lane closure is erected for each structure. The contractor may choose the starting date for this work on each structure.

Calendar Days will be tracked and charged from the time the initial lane closure is erected for each structure until such time that the contractor completes all items of work associated with the bridge restoration activities, approach paving, rumble strip installation, striping and safety appurtenances, and restores mainline traffic to its original configuration at each individual structure.

Liquidated Damages in the amount of \$5,000 per day will be assessed for each day or portion of a day that work remains incomplete on any individual structure in excess of 30 Calendar Days from the time of erection of the initial lane closure to begin work on the individual structure.

All penalties or Liquidated Damages will be assessed cumulatively, and charged concurrently when applicable.

Also contrary to Section 108, liquidated damages will be charged during the months of December through March.

**Asphalt Pavement Ride Quality  
WK-9001  
OHIO COUNTY**

Pavement Rideability Requirements will not apply on this project.

**SPECIAL NOTE FOR  
ASPHALT MILLING AND TEXTURING  
WK - 9001  
OHIO COUNTY**

The Contractor will take possession of the millings. Do not allow traffic to drive on the milled surface on mainline WK – 9001.

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

**Significant Project- Project Traffic Coordinator (PTC)**

Be advised this project is a significant project pursuant to section 112.03.12.

**SPECIAL NOTE FOR NON-TRACKING TACK COAT**

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

2. MATERIALS, EQUIPMENT, AND PERSONNEL.

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

2.1.1 Provide a tack conforming to the following material requirements:

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

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

2.2. Equipment. Provide a distributor truck capable of heating, circulating, and spraying the tack between 170 °F and 180 °F. Do not exceed 180 °F. Circulate the material while heating. As required by the manufacturer, ensure the spray bar is equipped with #1 or #2 ¼” V-slot Etnyre nozzles. Other nozzles are not acceptable. Arrange the nozzles in the following patterns from left to right:

Nozzle number(s)	Activity	Orientation
1	On	Vertical
2	Off	-
3	On	Horizontal
4 & 5	Off	-
6	On	Horizontal
Continue 2 off and 1 on pattern through rest of spray bar system.		

Ensure the bar can be raised to between 14 and 18” from the roadway.

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

3. CONSTRUCTION.

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

3.2 Non-tracking Tack Application. Ensure the roadway temperature is a minimum of 40 °F and rising during the application of the tack. This material is not suitable for use in colder temperatures. Prior to applying the tack, demonstrate competence in applying the tack according to this note to the satisfaction of the Engineer. Heat the tack in the distributor to between 170 – 180 °F. After initial heating to between 170 – 180 °F, the material may be sprayed between 165 °F and 180 °F. Do not apply outside this temperature range. Apply material at a rate of 0.50 pounds (0.06 gallons) per square yard. Ensure full coverage of the material on the pavement surface. Full coverage of this material is critical. If full coverage is not achieved, material application rate may be increased to ensure full coverage. Do not heat material more than twice in one day.

3.3 Non-tracking Tack Certification. Furnish the tacks certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a sample of non-tracking tack be taken from the distributor at a rate of one sample per 15,000 tons of mix. Take two 1 gallon samples of the heated material and forward the sample to the Division of Materials for testing within 7 days. Ensure the product temperature is between 170 and 180 °F at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of non-tracking tack in tons. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of non-tracking tack, the cleaning of the pavement surface, or furnishing and placing the adhesive. The Department will consider all such items incidental to the non-tracking tack.

5. PAYMENT. The Department will pay for the non-tracking tack at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

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

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

April 30, 2018