

LOCATION MAP

LATITUDE: 39°58'16" LONGITUDE: 82°03'23"

SCALE IN MILES  
0 1 2 3 4



PORTION TO BE IMPROVED  
INTERSTATE HIGHWAY  
STATE & FEDERAL ROUTES  
COUNTY & TOWNSHIP ROADS  
OTHER ROADS

#### DESIGN DESIGNATION

CURRENT ADT (2011)	4752
DESIGN YEAR ADT (2031)	5085
DESIGN HOURLY VOLUME (2031)	560
DIRECTIONAL DISTRIBUTION	50%
TRUCKS (24 HOUR B&C)	30.8%
DESIGN SPEED	45 MPH
LEGAL SPEED	40 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
URBAN COLLECTOR	

#### DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES	
CONTACT BOTH SERVICES	4752
CALL TWO WORKING DAYS	5085
BEFORE YOU DIG	560
CALL 1-800-362-2764 (TOLL FREE)	30.8%
OHIO UTILITIES PROTECTION SERVICE NON-MEMBERS MUST BE CALLED DIRECTLY	45 MPH
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988	40 MPH

PLAN PREPARED BY:



DOUG DAVIS  
COUNTY ENGINEER  
155 RUELL ROAD  
ZANESVILLE, OHIO 43701

## MUSKINGUM COUNTY ENGINEER'S OFFICE

# MUS-C.R.35-5.30

(Dillon Falls Road Bridge)

## FALLS TOWNSHIP MUSKINGUM COUNTY

#### PROJECT DESCRIPTION

IMPROVEMENT OF 0.10 MILES OF C.R. 35 (DILLON FALLS ROAD) BY REPLACING THE EXISTING ASPHALT CONCRETE DECK WITH A REINFORCED CONCRETE DECK AND MINIMAL APPROACH WORK.

PROJECT EARTH DISTURBED AREA: 0.01 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.01 ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: N/A

FEDERAL PROJECT NO.  
**E070 (324)**

PID NO.  
**82218**

RAILROAD INVOLVEMENT  
**NONE**

#### 2010 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS APPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 4.

WE THE COMMISSIONERS OF MUSKINGUM COUNTY, IN FORMAL SESSION, HEREBY APPROVE THESE PLANS.

Brian D. Miller  
MUSKINGUM COUNTY COMMISSIONER

4/25/11  
DATE

Jerry H. Lacy  
MUSKINGUM COUNTY COMMISSIONER

4/25/2011  
DATE

James W. Porter  
MUSKINGUM COUNTY COMMISSIONER

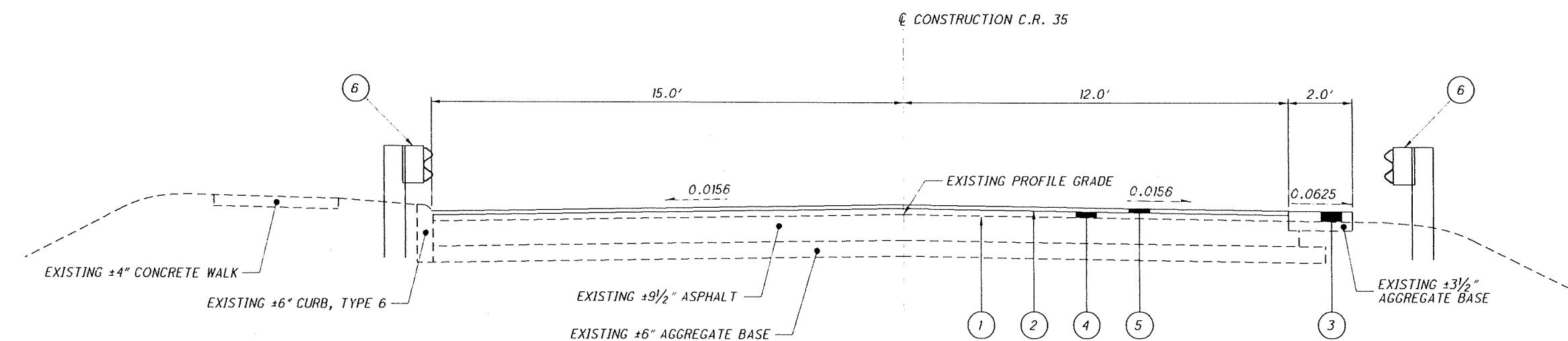
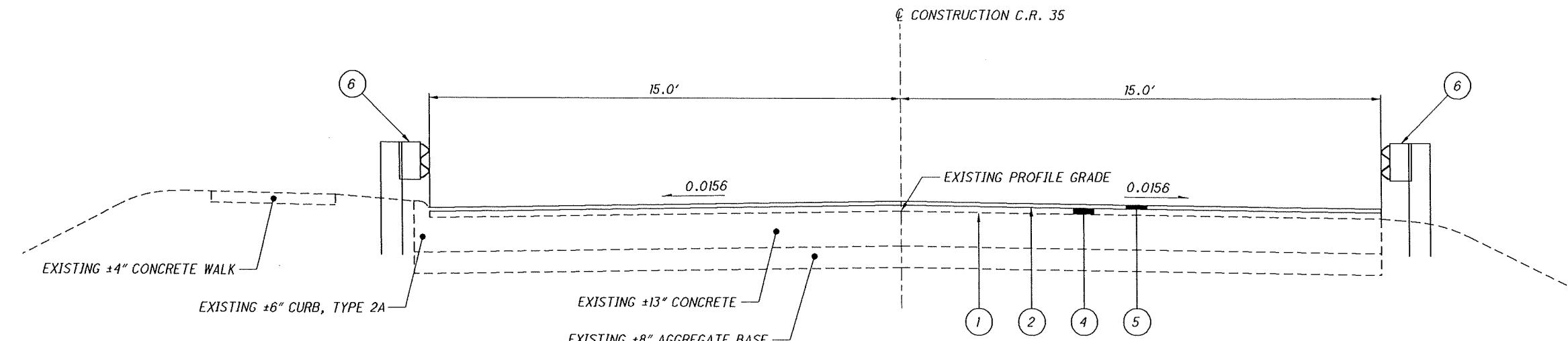
4/25/11  
DATE

APPROVED  
DATE 4-22-11  
MUSKINGUM COUNTY ENGINEER

**MUS-C.R.35-5.30**

1  
14

ENGINEERS SEAL:	STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS
	BP-3.1	10/19/07	DS-1-92	7/18/03	800 1/21/11 842 1/19/07
SIGNED:	DATE: 4-22-11	GR-1.1 7/16/04 GR-2.1 1/16/04 GR-3.4 10/16/09 GR-4.1 1/21/11 MT-101.60 4/17/09			
					SPECIAL PROVISIONS

LEGEND

- 1 ITEM 407 - TACK COAT
- 2 ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
- 3 ITEM 411 - 3½" STABILIZED CRUSHED AGGREGATE
- 4 ITEM 448 - 0" TO 2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
- 5 ITEM 448 - ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
- 6 ITEM 606 - RAISING TYPE 5 GUARDRAIL

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

DEMOLITION DEBRIS

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING THE STREAM. ANY MATERIAL THAT DOES FALL INTO THE STREAM SHALL BE REMOVED AS SOON AS POSSIBLE.

CONTRACTOR'S USE OF RIGHT-OF-WAY

THE CONTRACTOR SHALL NOT USE OR ENTER ANY AREA OUTSIDE OF THE RIGHT-OF-WAY LIMITS THAT ARE SHOWN ON THE PLANS.

FALLS TOWNSHIP PARK AVOIDANCE

VISITOR ACCESS MUST BE MAINTAINED AT ALL TIMES TO THE PARK DURING CONSTRUCTION ACTIVITIES.

TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED ALONG THE PROPOSED PROJECT LIMITS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES TO DENOTE THE FALLS TOWNSHIP PARK BOUNDARIES. THIS COST SHALL BE INCLUDED IN ITEM 623 - CONSTRUCTION LAYOUT STAKES, AS PER PLAN.

THE PARK MUST BE PROTECTED FROM ANCILLARY CONSTRUCTION ACTIVITIES SUCH AS STAGING OF CONSTRUCTION EQUIPMENT AT THE PARK, BORROW/WASTE.

A COPY OF THE PROJECT'S SCHEDULE SHALL BE PROVIDED TO THE FALLS TOWNSHIP TRUSTEES PRIOR TO CONSTRUCTION.

ITEM 842 - CORRECTING ELEVATION OF CONCRETE APPROACH SLABS WITH HIGH DENSITY POLYURETHANE

THIS WORK SHALL BE PERFORMED IN ORDER TO FILL VOIDS UNDER THE APPROACH SLAB LOCATED AT THE FORWARD ABUTMENT. MINIMAL LIFTING OF THE APPROACH SLAB SHALL BE DIRECTED BY THE ENGINEER.

AN ESTIMATED QUANTITY OF 800 POUNDS HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 409 - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, AS PER PLAN1) DESCRIPTION:

THIS WORK SHALL CONSIST OF CUTTING AND SEALING TRANSVERSE JOINTS IN THE NEW ASPHALT CONCRETE OVERLAY ON APPROACH SLABS. ASPHALT CONCRETE JOINTS SHALL BE CONSTRUCTED DIRECTLY OVER, AND IN LINE WITH, THE EXISTING UNDERLYING TRANSVERSE JOINT BETWEEN THE EXISTING ASPHALT PAVEMENT AND THE EXISTING APPROACH SLAB.

2) MATERIALS:

THE JOINT SEALANT SHALL MEET THE REQUIREMENTS OF ITEM 705.04, JOINT SEALANTS, HOT-POURED, FOR CONCRETE AND ASPHALT PAVEMENTS. ACCEPTABLE ALTERNATE MATERIALS ARE:

A SILICONE SEALANT MEETING FEDERAL SPECIFICATIONS TT-S-001543A CLASS A (ONE-PART SILICONE SEALANTS) AND TT-S-00230C CLASS A (ONE-COMPONENT SEALANTS), SUCH AS THOSE MANUFACTURED BY GENERAL ELECTRIC, SILICONE PRODUCTS DIVISION, 4015 EXECUTIVE PARK DRIVE, CINCINNATI, OHIO 45242 (513-243-1953) OR DOW CORNING, 400 TECHNE CENTER, SUITE 103, MILFORD, OHIO 45150 (513-831-3586); OR SOF-SEAL, A COLD-APPLIED, LOW-MODULUS, TWO-COMPONENT POLYMERIC COMPOUND HORIZONTAL SEALANT AS MANUFACTURED BY W.R.MEADOWS, INC., P.O.BOX 543, ELGIN, ILLINOIS 60121 (800-342-5976).

3) CONSTRUCTION DETAILS:

A) GENERAL: THE CONTRACTOR SHALL CONDUCT HIS OPERATION SO THAT THE CUTTING, CLEANING AND SEALING OF TRANSVERSE JOINTS IS A CONTINUOUS OPERATION THAT WILL BE PERFORMED AS SOON AS PRACTICAL AFTER THE PAVING, BUT NO LATER THAN FOUR (4) DAYS AFTER PLACEMENT OF THE ASPHALT CONCRETE SURFACE COURSE. TRAFFIC SHALL NOT BE ALLOWED TO KNEAD TOGETHER OR DAMAGE JOINT CUT PRIOR TO SEALING.

B) CUTTING OF TRANSVERSE JOINTS: THE CONTRACTOR SHALL SAW OR ROUT TRANSVERSE JOINTS TO THE DIMENSIONS SHOWN IN THE DETAILS ON THIS SHEET. THE CUT JOINTS SHALL LIE DIRECTLY ABOVE EACH EXISTING JOINT.

THE BLADE OR BLADES SHALL BE OF SUCH SIZE THAT THE FULL WIDTH AND DEPTH OF THE CUT CAN BE MADE WITH ONE PASS. DRY OR WET CUTTING WILL BE ALLOWED. JOINTS SHALL EXTEND THE FULL WIDTH OF THE ASPHALT PAVEMENT.

C) CLEANING JOINTS: DRY SAWED JOINTS SHALL BE THOROUGHLY CLEANED WITH A SUFFICIENT AMOUNT OF COMPRESSED AIR TO REMOVE ANY DIRT, DUST, OR DELETERIOUS MATTER. WET SAWED JOINTS SHALL BE WASHED CLEAN OF ALL CUTTINGS BY FLUSHING WITH A JET OF WATER AND WITH OTHER TOOLS AS NECESSARY. AFTER FLUSHING, THE JOINT SHALL BE BLOWN OUT WITH COMPRESSED AIR. WHEN THE SURFACES ARE THOROUGHLY CLEAN AND DRY, AND JUST PRIOR TO PLACING THE JOINT SEALER, COMPRESSED AIR HAVING A PRESSURE OF AT LEAST 90 P.S.I. SHALL BE USED TO BLOW OUT THE JOINT AND REMOVE ALL TRACES OF DUST.

IN THE EVENT FRESHLY CUT JOINTS BECOME CONTAMINATED BEFORE THEY ARE SEALED, THEY SHALL BE RECLEANED OF ALL FOREIGN MATERIAL BY HIGH PRESSURE WATER JET.

D) SEALING JOINTS: THE JOINT SHALL BE THOROUGHLY DRY WHEN THE SEALANT IS PLACED. AFTER CLEANING AND DRYING, A BOND-BREAKER MATERIAL SHALL BE APPLIED TO THE BOTTOM OF THE GROOVE.

HOT-POURED JOINT SEALANT MATERIAL SHALL BE HEATED IN A KETTLE OR MELTER CONSTRUCTED AS A DOUBLE BOILER, WITH THE SPACE BETWEEN THE INNER AND OUTER SHELLS FILLED WITH OIL OR OTHER HEAT TRANSFER MEDIUM. POSITIVE TEMPERATURE CONTROL AND MECHANICAL AGITATION SHALL BE PROVIDED. HEATING MUST BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. JOINT SEALER MATERIAL SHALL NEVER BE KEPT HEATED AT THE POURING TEMPERATURE FOR MORE THAN FOUR (4) HOURS AND SHALL NEVER BE REHEATED. SEALER LEFT IN THE APPLICATOR AT THE END OF A DAY'S WORK SHALL NOT BE USED.

HOT-POURED SEALANT SHALL BE APPLIED IMMEDIATELY THROUGH A NOZZLE, WHICH MUST PROJECT INTO THE SAWED JOINT, FILLING FROM THE BOTTOM UP. THE SEALANT SHALL COMPLETELY FILL THE JOINT IN SUCH A MANNER THAT, AFTER COOLING, THE LEVEL OF THE SEALANT WILL NOT BE HIGHER THAN  $\frac{1}{8}$ " BELOW THE PAVEMENT SURFACE. ANY DEPRESSION IN THE COOLED SEAL GREATER THAN  $\frac{3}{16}$ " SHALL BE BROUGHT UP TO THE SPECIFIED LIMIT BY FURTHER ADDITION OF HOT-POURED SEALANT. CARE SHALL BE TAKEN IN THE SEALING OF THE JOINTS SO THAT THE FINAL APPEARANCE WILL PRESENT A NEAT FINE LINE.

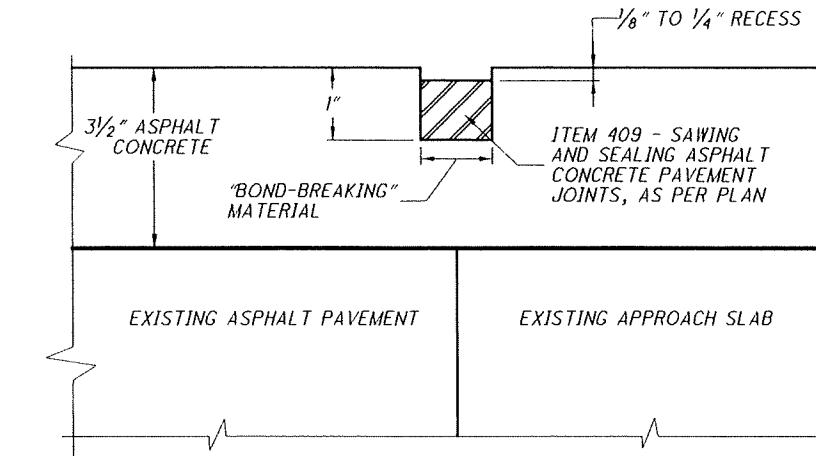
THE COLD APPLIED SEALANT MATERIALS (POLYURETHANE, SILICONE, AND POLYMERIC COMPOUNDS) SHALL BE INSTALLED AS PER MANUFACTURERS' RECOMMENDATIONS, EXCEPT AS MODIFIED BY THIS DRAWING. THE SEALANT SHALL BE INSTALLED WHEN THE AMBIENT TEMPERATURE IS 40 DEGREES F OR HIGHER. TRAFFIC SHALL NOT BE ALLOWED ON THE JOINT FOR ONE HOUR AFTER APPLICATION OF THE SEALANT.

4) METHOD OF MEASUREMENT:

THE QUANTITY TO BE PAID FOR UNDER THIS ITEM WILL BE THE NUMBER OF LINEAR FEET OF JOINTS SAWED AND SEALED AS PER THE ABOVE REQUIREMENTS.

5) BASIS OF PAYMENT:

THE UNIT PRICE PER LINEAR FOOT FOR ITEM 409 - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, AS PER PLAN SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK, INCLUDING THE FURNISHING AND PLACING OF THE JOINT SEALER MATERIAL.



## ITEM 614 - MAINTAINING TRAFFIC

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48"X30" ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES, GATES AND LIGHTS AS SHOWN ON SCD MT-101.60 AT THE LOCATIONS SHOWN DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS SHOWN ON THE PLANS.

ALL WORK AND TRAFFIC DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

### DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE COUNTY EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. THE CONTRACTOR SHALL THEN PROVIDE AND INSTALL ALL DEVICES NECESSARY TO DEFINE THE ROUTE OF THE DETOUR AND SHALL MAINTAIN THE SAME THROUGHOUT THE DETOUR LIMITATION DATES. ALL TRAFFIC CONTROL DEVICES REQUIRED, SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

### DETOUR SIGNAGE

THE CONTRACTOR SHALL ERECT AND MAINTAIN DETOUR SIGNAGE AND ADVANCED NOTICE SIGNS. UPON COMPLETION OF THE DETOUR, DETOUR SIGNS SHALL BECOME PROPERTY OF THE COUNTY AND SHALL BE PICKED UP FROM THE PROJECT SITE BY COUNTY FORCES.

THIS WORK SHALL BE PAID UNDER THE LUMP SUM PAY ITEM 614 - DETOUR SIGNING, AS PER PLAN

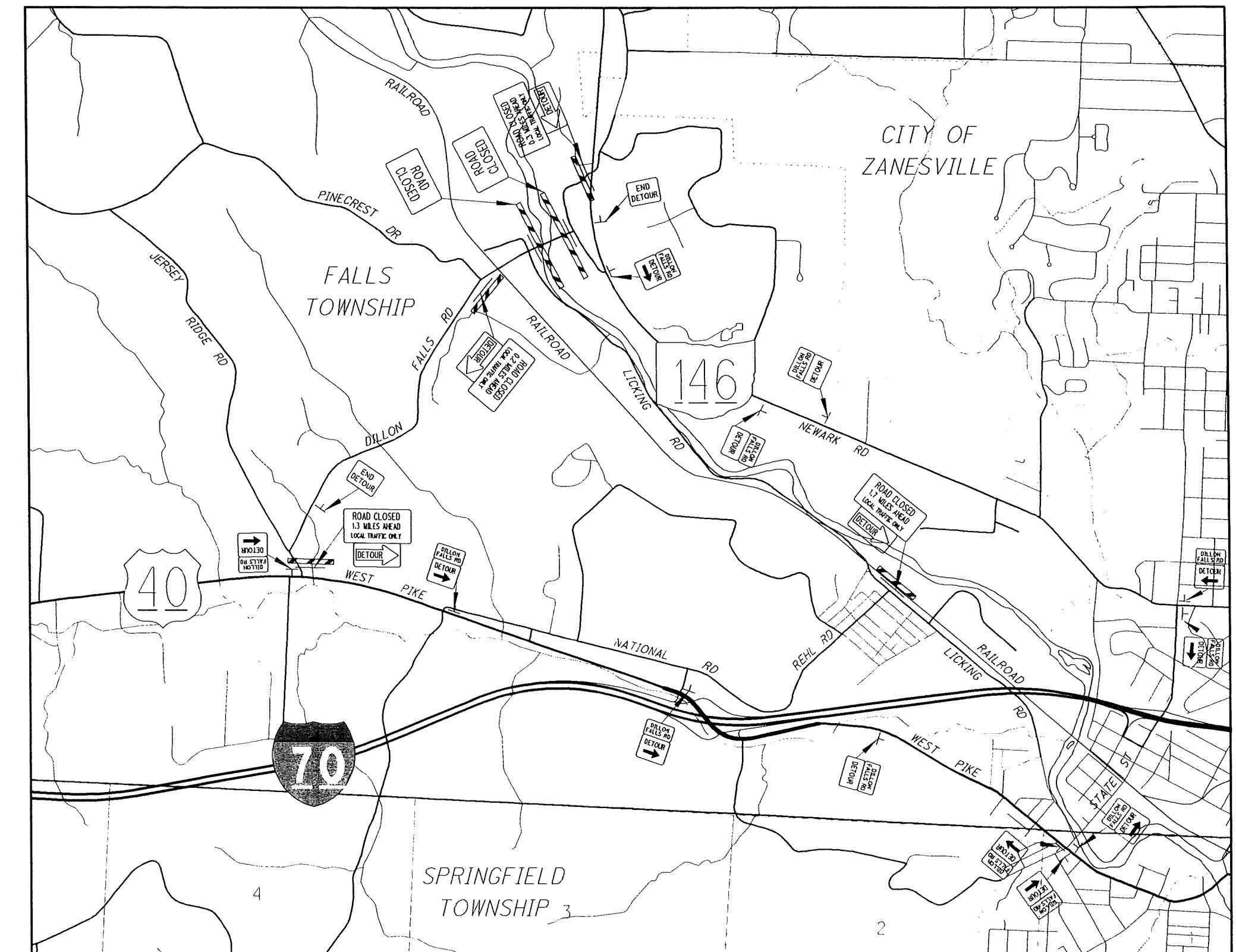
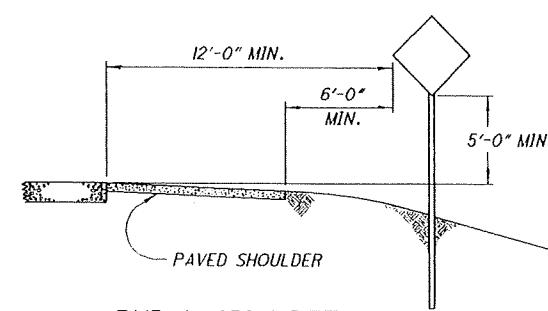
### DETOUR LIMITATION

THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE FORTY-FIVE (45) CONSECUTIVE DAYS. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK WITHIN THE DETOUR LIMITATION TIME. THE FAILURE OF THE CONTRACTOR TO MEET THE DETOUR LIMITATION DATES WILL CAUSE SEPARATE LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 TO BE ASSESSED. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF 108.07 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

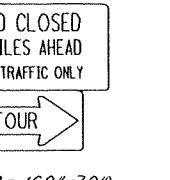
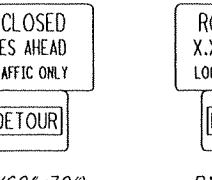
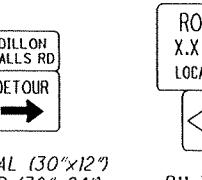
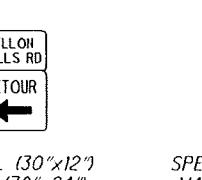
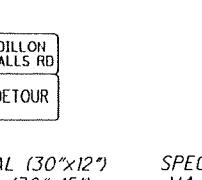
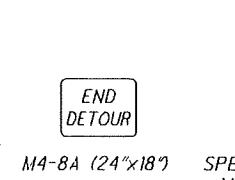
### DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER 2 M. GAL.



### SIGN KEY



### LEGEND

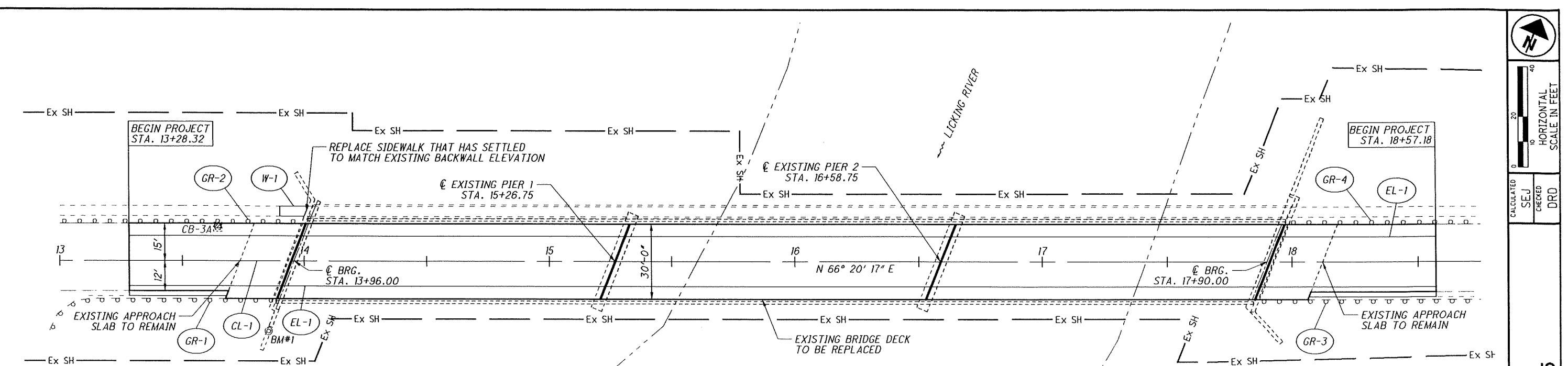
GATES AND BARRICADES AS SHOWN ON SCD MT-101.60

TYPE III BARRICADE

TYPICAL POST MOUNTED SIGN (SEE RURAL SIGN DETAIL)



MUS-C.R.35-5.30



## NOTES

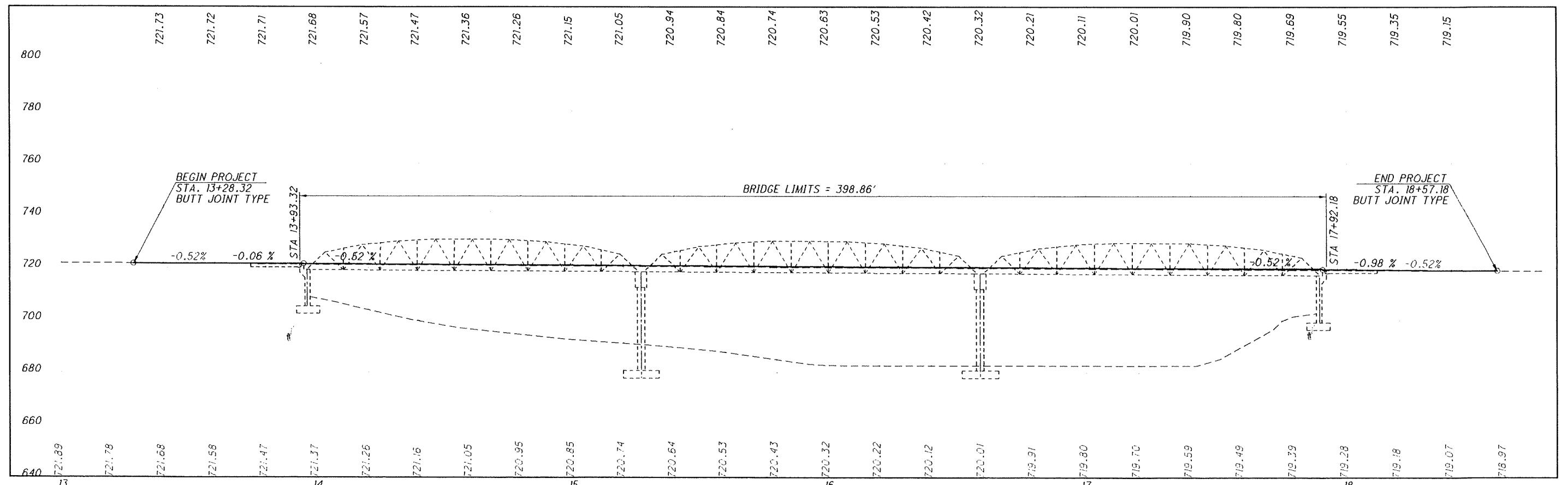
FOR QUANTITIES, SEE SHEET 7.

*BENCHMARKS / MONUMENTS*

BM#1 - ALUMINUM DISK IN TOP OF WINGWALL  
STA. 13+84.00, 28.00' RT. ELEV. = 718.0

BM#2 - TOP EAST FLANGE BOLT OF FIRE HYDRANT  
STA. 21+00.00, 145.00' RT. ELEV. = 719.89

CENTERLINE REFERENCES C.R. 35			
STATION	OFFSET (FT.)	ELEVATION	DESCRIPTION
13+93.32	NONE	721.39	TOP OF BACKWALL
17+92.18	NONE	719.33	TOP OF BACKWALL



PLAN AND PROFILE  
STA. 13+00 TO STA. 18+75

MUS-C.R.35-5.30

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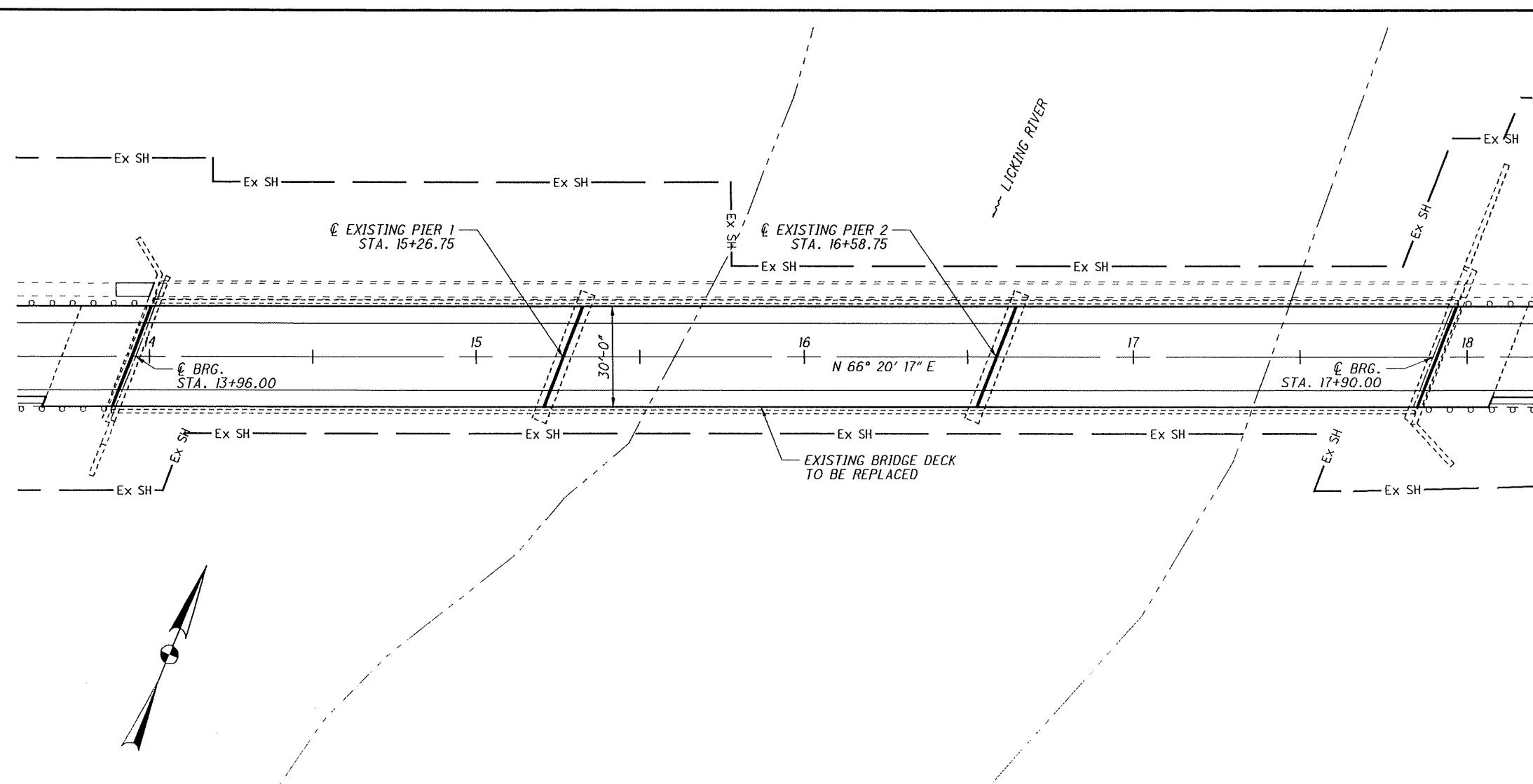
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## ESTIMATED QUANTITIES

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CHECKED

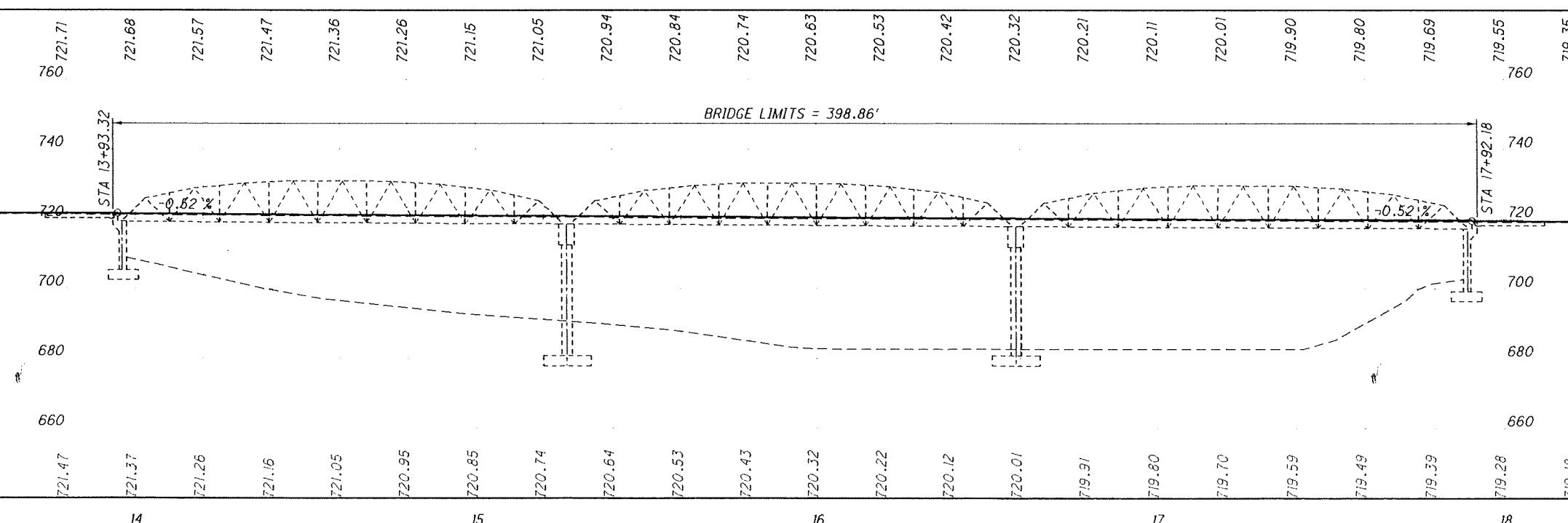
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PLAN

FOR BENCHMARK / MONUMENT INFORMATION  
SEE ROADWAY PLAN SHEET 6.



PROFILE ALONG C CONSTRUCTION C.R. 35

EXISTING STRUCTURE	
TYPE: THREE SPAN STEEL TRUSSES WITH CORRUGATED STEEL DECK ON WALL TYPE ABUTMENTS	
SPANS: 130'-0" ±, 130'-0" ±, 130'-0" ±, C/C BEARINGS	
ROADWAY: 30'-0" ± F/F RAIL WITH 4'-0" ± CLEAR SIDEWALK ON NORTH SIDE OF BRIDGE	
LOADING: HS20-44 AND THE ALTERNATE MILITARY LOADING	
SKEW: 22° LF	
WEARING SURFACE: ASPHALT CONCRETE	
APPROACH SLABS: 20'-0" LONG (AS-1-81)	
ALIGNMENT: TANGENT	
STRUCTURAL FILE NUMBER: 6040071	
DATE BUILT: 1998	
DISPOSITION: DECK TO BE REPLACED	

PROPOSED STRUCTURE	
TYPE: THREE SPAN STEEL TRUSSES WITH CORRUGATED STEEL DECK ON WALL TYPE ABUTMENTS	
SPANS: 130'-0" ±, 130'-0" ±, 130'-0" ±, C/C BEARINGS	
ROADWAY: 30'-0" ± F/F RAIL WITH 4'-0" ± CLEAR SIDEWALK ON NORTH SIDE OF BRIDGE	
LOADING: HS20-44 AND THE ALTERNATE MILITARY LOADING	
SKEW: 22° LF	
WEARING SURFACE: 1" MONOLITHIC CONCRETE	
APPROACH SLABS: EXISTING 20'-0" LONG (AS-1-81)	
ALIGNMENT: TANGENT	
CROWN: 0.0156	
COORDINATES: LATITUDE 39°58'16" N LONGITUDE 82°03'23" W	

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

DS-1-92 REVISED 07-18-03

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS20-44 AND THE ALTERNATE MILITARY LOADING.  
FUTURE WEARING SURFACE: 60 PSF.

DESIGN DATA:

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD

2½" CONCRETE COVER  
IPANEX CONCRETE WATERPROOFING  
STEEL DRIP STRIP

MONOLITHIC WEARING SURFACE:

ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK

UTILITY LINES

THE UTILITY SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE  
AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY  
ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL  
BE HELD TO A MINIMUM.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING  
STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND  
FROM FIELD MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING  
STRUCTURE AND PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND  
APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02  
AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED  
ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE  
COUNTY WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND  
DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

EXISTING BRIDGE PLANS ARE ON FILE AT THE MUSKINGUM COUNTY ENGINEER'S OFFICE  
AND ARE AVAILABLE FOR REFERENCE.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR  
THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE  
FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND  
WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE  
DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD  
OF 1 KIPS FOR A TOTAL MACHINE LOAD OF 8 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDERS TO THE FACE OF THE  
SAFETY HANDRAIL OF 65".

ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

THE CONTRACTOR SHALL REMOVE ALL ASPHALT IN AND ABOVE THE CORRUGATED METAL DECKING BY  
METHODS THAT MINIMIZE THE AMOUNT OF DEBRIS OFF THE BRIDGE. DECKING SHALL BE LEFT CLEAN  
AND ALL MATERIAL SHALL BE REMOVED FROM THE CORRUGATIONS.

SEE SHEET **3/7** FOR ADDITIONAL NOTES AND DETAILS.

THIS COST SHALL BE INCLUDED IN ITEM 202-WEARING COURSE REMOVED, AS PER PLAN.

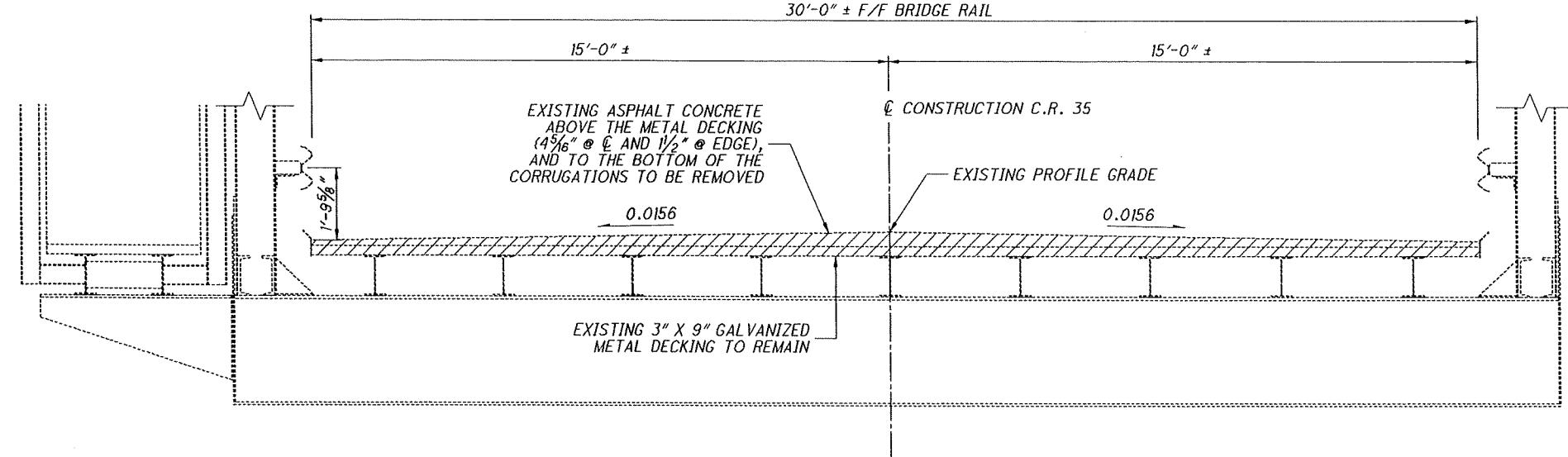
ITEM 511 - CLASS S CONCRETE, BRIDGE DECK, AS PER PLAN

THE CONTRACTOR SHALL ENSURE THAT IPANEX WATERPROOFING IS ADDED TO THE CONCRETE  
MIXTURE AS REQUIRED BY THE ENGINEER. STANDARD CLASS S CONCRETE SHALL BE USED  
WITH THE ADDITION OF IPANEX WATERPROOFING AT A RATE OF 13.8 OZ PER 100 LB OF CEMENT  
OR CEMENTATION MATERIAL.

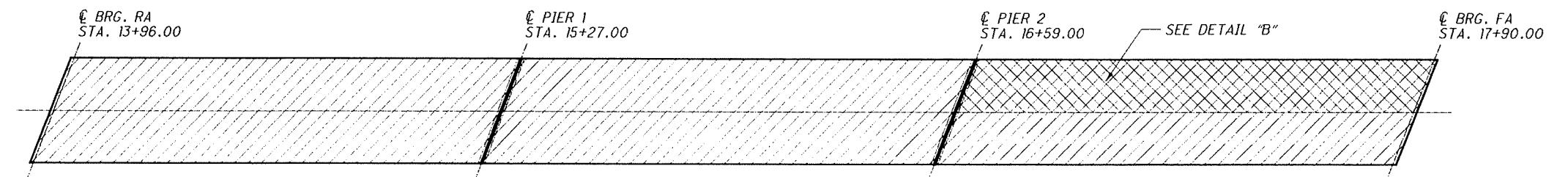
THIS COST SHALL BE INCLUDED IN ITEM 511-CLASS S CONCRETE, BRIDGE DECK, AS PER PLAN.

ITEM	ITEM EXT.	TOTAL	UNIT	ESTIMATED QUANTITIES			ABUTS.	SUPER	GEN'L	SPEC & AS PER PLAN SHEET NO.
				DESCRIPTION						
202	23501	1320	SQ YD	WEARING COURSE REMOVED, AS PER PLAN				1320		2
509	10000	36289	LB	EPOXY COATED REINFORCING STEEL				36289		
511	34435	290	CU YD	CLASS S CONCRETE, BRIDGE DECK, AS PER PLAN				290		2
512	10100	92	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				92		
513	20001	2349	EACH	WELDED STUD SHEAR CONNECTOR, AS PER PLAN				2349		2
SPECIAL	51631301	130	FT	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM, AS PER PLAN				130		7
517	75501	790	FT	BRIDGE RAILING REBUILT, AS PER PLAN				790		2
SPECIAL	51822301	790	FT	STEEL DRIP STRIP, AS PER PLAN				790		2

MUS-C.R.35-5.30	GENERAL NOTES AND ESTIMATED QUANTITIES		
PID No. 82218	BRIDGE NO. MUS-035-0530 OVER LICKING RIVER		
2 / 7	DESIGNED DRD	DRAWN SEJ	REVIEWED DATE
	CHECKED	REVISED	STRUCTURE FILE NUMBER 6040071
9	MUSINGUM COUNTY COUNTY ENGINEER ISS RER ROAD ZANEVILLE, OH 43701 MCEO ENGINEER'S OFFICE		
14			



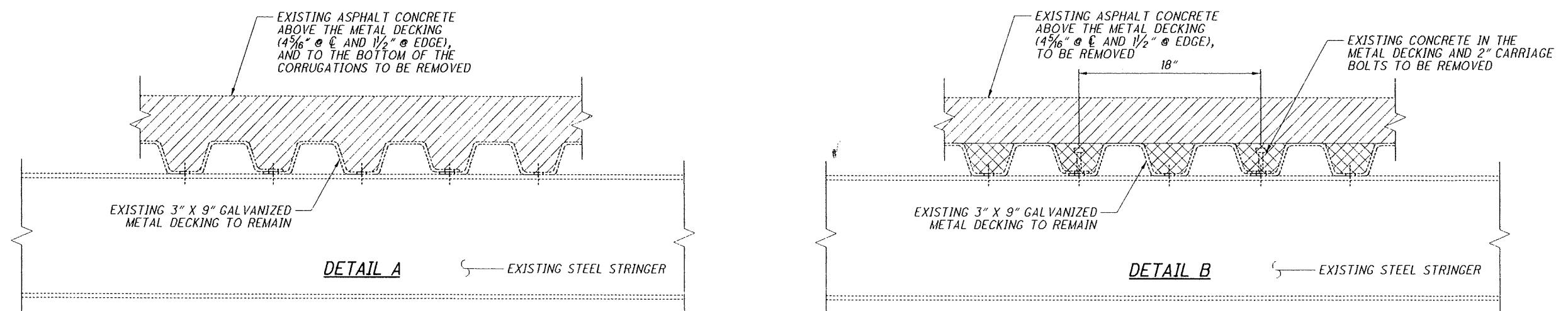
EXISTING TRANSVERSE SECTION

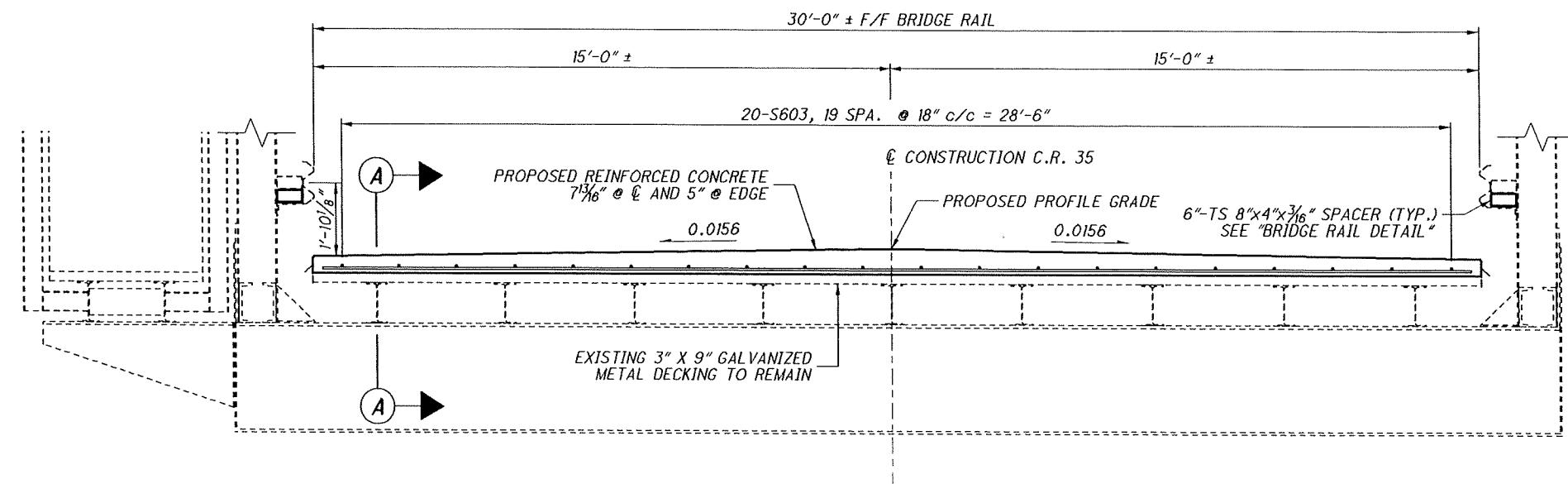


EXISTING DECK REMOVAL

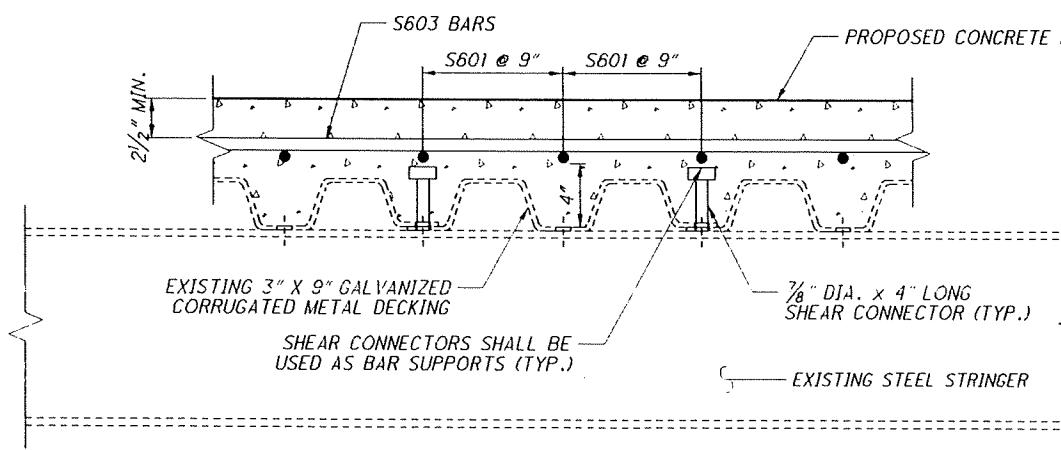
- AREA TO BE REMOVED PER ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN, SEE 'DETAIL A'

- AREA TO BE REMOVED PER ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN, SEE 'DETAIL B'

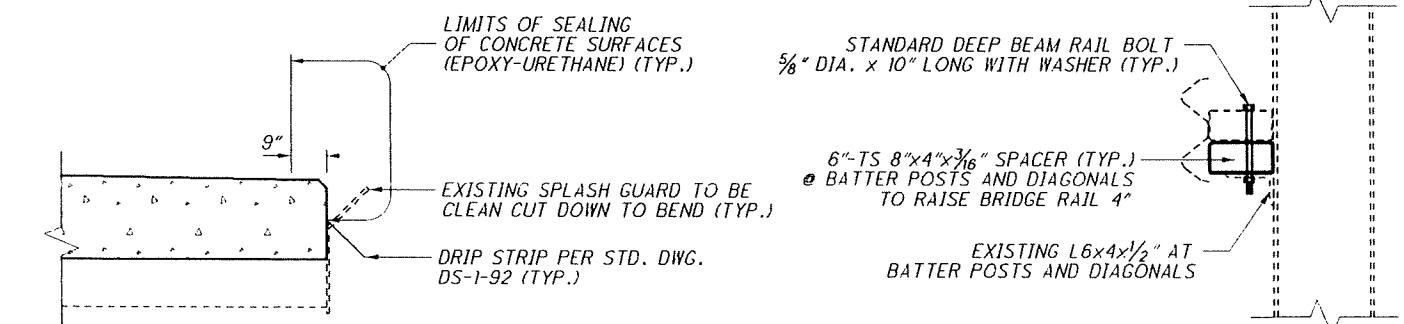




PROPOSED TRANSVERSE SECTION

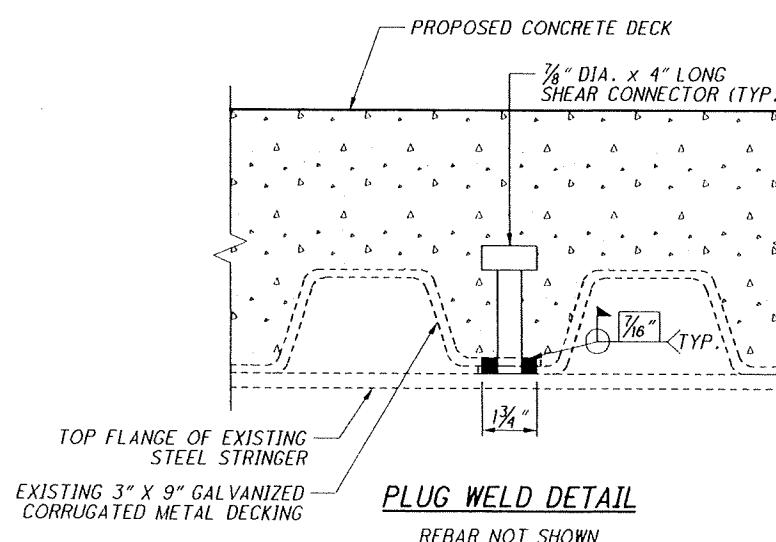


SECTION A-A



DECK EDGE DETAIL

REBAR NOT SHOWN



PLUG WELD PROCEDURE:

1. ALL SHEAR CONNECTOR LOCATIONS MUST BE DRILLED DOWN TO THE TOP FLANGE OF EXISTING STEEL STRINGER WITH 1 1/4" DIA. HOLE SAW BIT.
2. HOLES MUST BE CLEANED AND FREE OF ALL DEBRIS (CONTRACTOR MUST SUBMIT METHOD WITH BID).
3. SHEAR CONNECTORS MUST BE WELDED IN CENTER OF HOLES.
4. HOLES MUST BE CLEANED AND FREE OF ALL DEBRIS.
5. PLUG WELD DECKING TO TOP FLANGE AND AROUND SHEAR CONNECTOR. (DECK MUST BE LOADED)

PLUG WELD NOTES:

1. PERFORM ALL WELDING ACCORDING TO AASHTO/AWA BRIDGE WELDING CODE, AS AMENDED BY SUPPLEMENT 1011.
2. PAYMENT FOR PREPAIRING, DRILLING, INSTALLING SHEAR CONNECTORS, AND WELDING SHALL BE PAID UNDER ITEM 513 - WELDED STUD SHEAR CONNECTOR, AS PER PLAN.

DECK ELEVATION TABLE

LOCATION	DESCRIPTION	SPAN 1					SPAN 2				SPAN 3					
		CL BRG.	0.25 L	0.50 L	0.75 L	CL BRG.	CL BRG.	0.25 L	0.50 L	0.75 L	CL BRG.	CL BRG.	0.25 L	0.50 L	0.75 L	CL BRG.
LEFT EDGE OF DECK	STATION	14+02.06	14+34.56	14+67.06	14+99.56	15+32.06	15+34.06	15+66.56	15+99.06	16+31.56	16+64.06	16+66.06	16+98.56	17+31.06	17+63.56	17+96.06
	FINAL DECK ELEVATION	721.41	721.24	721.07	720.90	720.73	720.72	720.55	720.38	720.21	720.04	720.03	719.86	719.69	719.52	719.35
CENTERLINE & PROFILE GRADE	STATION	13+96.00	14+28.50	14+61.00	14+93.50	15+26.00	15+28.00	15+60.50	15+93.00	16+25.50	16+58.00	16+60.00	16+92.50	17+25.00	17+57.50	17+90.00
	FINAL DECK ELEVATION	721.68	721.51	721.34	721.17	721.00	720.99	720.82	720.65	720.48	720.31	720.30	720.13	719.96	719.79	719.62
RIGHT EDGE OF DECK	STATION	13+89.94	14+22.44	14+54.94	14+87.44	15+19.94	15+21.94	15+54.44	15+86.94	16+19.44	16+51.94	16+53.94	16+86.44	17+18.94	17+51.44	17+83.94
	FINAL DECK ELEVATION	721.48	721.31	721.14	720.97	720.80	720.79	720.62	720.45	720.28	720.11	720.10	719.93	719.76	719.59	719.42

S602 SERIES - 15 SPA. @ 9" = 11'-3"

4 SETS OF 20 S603 - 19 SPA. @ 18" = 28'-6"

S601 - 158 SPA. @ 9" = 118'-6"

S602 SERIES - 15 SPA. @ 9" = 11'-3"

CONSTRUCTION

## DECK PLAN

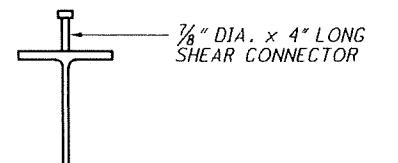
TYPICAL ALL THREE SPANS

## NOTES

1. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENTS THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. MAINTAIN A 3" CLEARANCE TO THE EDGE OF DECK FOR ALL TRANSVERSE REINFORCING STEEL.
4. MINIMUM LAP SPLICES:  
#6 BAR = 4'-4"
5. SEE SHEET 4 / 7 FOR TRANSVERSE SECTION.
6. WELDED STUD SHEAR CONNECTORS SHALL CONFORM TO AASHTO M-169 AND ITEM 513.

€ BRGS. = 130'-0"

SHEAR CONNECTOR - 86 SPA. @ 1'-6" = 129'-0"

EXISTING  
STEEL  
STRINGER  
(TYP.)

## BEAM ELEVATION

TYPICAL NINE BEAM LINES EACH SPAN  
DECK NOT SHOWN  
(VERTICAL SCALE EXAGGERATED)

## SHEAR CONNECTOR DETAIL

TYPICAL NINE BEAM LINES EACH SPAN  
DECK NOT SHOWN

ITEM SPECIAL - POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM,  
AS PER PLAN

THIS ITEM WILL BE USED TO SEAL THE EXPANSION/CONTRACTION JOINTS AS PER THESE DETAILS AND THE MANUFACTURER'S REQUIREMENTS USING A POLYMER-MODIFIED ASPHALT SYSTEM. THE PRIME CONTRACTOR WILL OBTAIN SERVICES OF ONE OF THE FOLLOWING APPROVED APPLICATORS WHO WILL FURNISH AND INSTALL THE NEW BRIDGE EXPANSION JOINT SYSTEM AFTER ALL PAVING ON THE AFFECTED BRIDGE(S) HAS BEEN COMPLETED.

PRODUCT NAME	SUPPLIER	ADDRESS	PHONE NO.
THORMA-JOINT	DYNAMIC SURFACE APPLICATIONS, LTD	373 VILLAGE RD. PENNSDALE, PA 17756	(570) 546-6041
MATRIX 502	CRAFCO INC.	420 N. ROOSEVELT AVE. CHANDLER, AZ 85226	(800) 528-8242
EXPANDEX JOINT SYSTEM	WATSON-BOWMAN ACME	95 PINEVIEW DR. AMHERST, NY 14228	(716) 691-7566
APJ ASPHALTIC PLUG EXPANSION JOINT	WYOMING EQUIPMENT SALES	281 SIXTH STREET P.O. BOX 287 WEST WYOMING, PA 18644	(570) 693-2810

MATERIALS:

BRIDGING PLATE:

STAINLESS STEEL  $\frac{1}{4}$ " THICK PLATE, 14" WIDE

BINDER:

TYPE: POLYMER MODIFIED ASPHALT  
SOFTENING POINT: 180 DEGREES F. MIN.  
FLOW: 3 mm. MAX. AT 140 DEGREES F.  
PENETRATION: 9 mm. MAX. AT 77 DEGREES F.  
1 mm. MIN. AT 0 DEGREES F.  
ASTM D 3407  
DUCTILITY: 40 cm. MIN. ASTM D 113  
RESILIENCE: 60% MIN. AT 77 DEGREES F.  
TENSILE ADHESION: 700% MIN.  
SPECIFIC GRAVITY: 1.10 \* 0.05  
POURING TEMP: 350 - 390 DEGREES F.

AGGREGATE:

TYPE: CRUSHED, DOUBLE WASHED, AND DRIED GRANITE OR BASALT  
GRADATION: THE GRADATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT.

NOTE: PRIOR TO PLACEMENT OF ANY PORTION OF THE JOINT SYSTEM, THE PROJECT ENGINEER MUST HAVE CERTIFIED TEST DATA MEETING ALL THE MINIMUM REQUIREMENTS OF ALL THE MATERIALS OF THE JOINT SYSTEM.

INSTALLATION PROCEDURES:

SAWING AND SURFACE PREPARATION:

AFTER ALL PAVING OPERATIONS ARE COMPLETE, THE OVERLAY IS TO BE TRANSVERSELY SAW CUT FULL DEPTH NO LESS THAN TWO INCHES DEEP (20" CENTERED OVER JOINT OPENING, UNLESS OTHERWISE NOTED). REMOVE ALL MATERIAL, INCLUDING WATER-PROOFING MATERIAL, BETWEEN SAW CUTS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE, STEEL, AND CUT SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARDED AIR STREAM TEMPERATURE OF 3000 DEGREES F. AT VELOCITY OF 3,000 FEET PER SECOND WITH 15 PSIG CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION. ALSO, 6 INCHES OF THE ROAD SURFACE ON EITHER SIDE OF THE JOINT WILL BE DRIED SO THAT A SUITABLE SURFACE FOR BITUMEN ADHESION IS OBTAINED.

BOND BREAKER:

SPREAD BINDER OVER SURFACE AREA WHERE THE METAL BRIDGING PLATE WILL BE PLACED. CENTER THE BRIDGING PLATE OVER THE EXISTING JOINT AND BED INTO THE HOT BINDER. BUTT JOINT THE BRIDGING PLATES TO ACCOMMODATE THE ENTIRE JOINT LENGTH. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SETUP BEFORE NEXT OPERATION.

BINDER COAT:

SEAL ALL PREPARED, EXPOSED SURFACES OF THE JOINT WITH BINDER. POUR THE HOT BINDER OVER THE FLOOR AREA OF THE JOINT AND SPREAD TO COAT ALL EXPOSED SURFACES. THE BINDER WILL BE A MINIMUM OF  $\frac{1}{6}$ " THICK ON THE BOTTOM OF THE JOINT CAVITY, WITH POOLS OF GREATER THICKNESS WHERE SURFACE IRREGULARITIES EXIST. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 350 AND 390 DEGREES F. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 410 DEGREES F. NOR ALLOWED TO EXCEED 390 DEGREES F. FOR MORE THAN 1 HOUR. A DOUBLE JACKETED OIL METER WILL BE USED TO HEAT THE BINDER. THE MELTER WILL BE EQUIPPED WITH A CONTINUOUS AGITATION SYSTEM, TEMPERATURE CONTROLS, AND A CALIBRATED THERMOMETER. ALSO A SYSTEM FOR ACCURATELY MEASURING THE WEIGHTS OF THE BINDER AND THE AGGREGATE WILL BE REQUIRED.

BUILD-UP OF JOINT LAYERS:

AGGREGATE PREPARATION:

HEAT THE AGGREGATE TO A TEMPERATURE OF 275 TO 325 DEGREES F., WITH A SUITABLE ROTATING DRUM WITH ATTACHED HEAT SOURCE OR A HOT COMPRESSED AIR LANCE, TO REMOVE DUST AND MOISTURE.

AGGREGATE PROPORTION AND LAYER THICKNESS:

MIX THE AGGREGATE WITH THE BINDER SUCH THAT THE MINIMUM AGGREGATE CONTENT BY WEIGHT WILL BE 68%. THE HEATED AGGREGATE AND BINDER WILL BE COMBINED IN LAYERS, UNLESS PATENTED INSTALLATION REQUIRES DIFFERENTLY, NOT LESS THAN  $\frac{3}{4}$  OF AN INCH NOR EXCEEDING  $2\frac{1}{2}$ " INCHES. THE THICKNESS OF EACH LAYER CAN BE VARIED WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MIN. 2 INCHES). THE OBJECTIVE IS TO COAT EACH STONE AND FILL THE VOIDS WHILE AVOIDING AN EXCESS OF BINDER. THIS WILL ACHIEVE THE MAXIMUM CONTENT OF STONE CONSISTENT WITH ALL STONES BEING COATED WITH BINDER. RAKE THE MIXTURE TO MIX AND LEVEL.

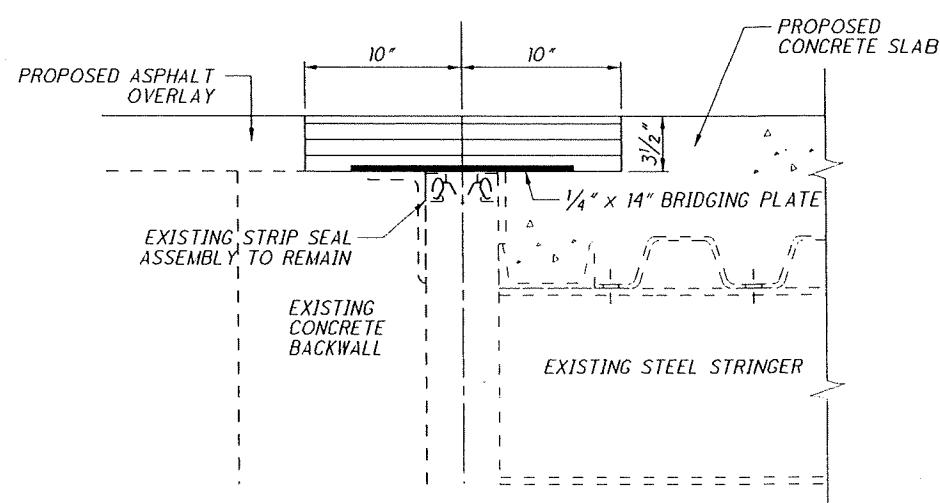
THE TOP LAYER THICKNESS WILL VARY BETWEEN  $\frac{1}{2}$  INCH AND ONE (1) INCH. IN PREPARING THE TOP LAYER, THE RATION OF AGGREGATE TO BINDER WILL BE APPROXIMATELY 6:1 BY WEIGHT. OVERFILL THE TOP LAYER AND COMPACT TO THE LEVEL OF THE ADJACENT SURFACES USING A ROLLER OR VIBRATORY PLATE COMPACTOR. IMMEDIATELY AFTER COMPLETION OF THE COMPACTION, POUR SUFFICIENT BINDER OVER THE JOINT TO FILL THE SURFACE VOIDS AND COAT THE SURFACE STONE. DUST THE FINISHED JOINT WITH A FINE, DRY AGGREGATE TO PREVENT TACKINESS.

TESTING:

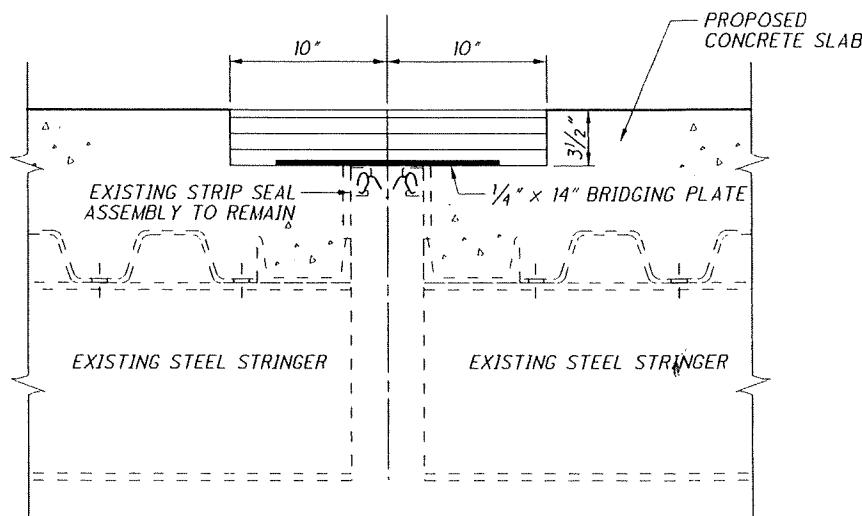
CERTIFICATION WILL BE SUPPLIED FOR EACH PROJECT SHOWING BINDER COMPLIANCE WITH REQUIRED PROPERTIES. A ONE QUART SAMPLE OF BINDER WILL BE RETRIEVED FROM EACH BRIDGE FOR FURTHER TESTING BY THE O.D.O.T. OFFICE OF MATERIALS MANAGEMENT.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT:

THE DEPARTMENT WILL MEASURE THE JOINT BY THE NUMBER OF FEET AND WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS: ITEM SPECIAL, FEET, POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM, AS PER PLAN.



TYPICAL EXPANSION JOINT AT ABUTMENT



TYPICAL EXPANSION JOINT AT PIER

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS					
	REAR	FWD	TOTAL				A	B	C	D	E	INC
SUPERSTRUCTURE												
S601			477	29'-6"	21136	STR						
S602			6 SERIES OF 16	1'-2" TO 29'-0"	2175	STR						1'-10 1/4"
S603			240	36'-0"	12978	STR						
SUPERSTRUCTURE TOTAL			36289									

### NOTES

1. ALL REINFORCING STEEL IS TO BE EPOXY COATED.
2. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

DOUG DAVIS  
 COUNTY ENGINEER  
 155 REHL ROAD  
 ZANESVILLE, OHIO 43701  
**MCEO**  
 ENGINEER'S OFFICE

MUSKINGUM COUNTY  
 6040071  
 DATE  
 REVIEWED  
 STRUCTURE FILE NUMBER

**REINFORCING STEEL LIST**  
 BRIDGE NO. MUS-035-0530  
 OVER LICKING RIVER

MUS-C.R.35-5-30  
 PID No. 82218  
 7 / 7

14  
 14