EDERAL PROJE E033(742)

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CONSTRUCTION

INVOLVEMEN

RAILROAD

STATE OF OHIO, DEPARTMENT OF TRANSPORTATION

ERI/LOR-2-30.46/0.00

### TOWNSHIPS OF VERMILION, BROWNHELM CITY OF VERMILION

# **ERIE AND LORAIN COUNTIES**

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#### PROJECT DESCRIPTION

RESURFACING WITH SAFETY UPGRADING. REPLACEMENT OF GUARDRAIL. AND SOME STRUCTURE WORK.

#### SWPPP INFORMATION

PROJECT EARTH DISTURBED AREA - 9.00 ESTIMATED CONTRACTOR EARTH DISTURBED AREA-0.25 NOTICE OF INTENT EARTH DISTURBED AREA-9.25 use 10.0

#### LIMITED ACCESS

4,12A,12B,12C THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE REVISED CODE OF OHIO.

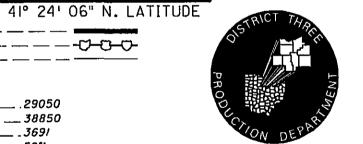
#### 2002 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED .

rodor) DIRECTOR, DEPARTMENT OF TRANSPORTATION



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Brownhelm



#### DESIGN DESIGNATION CURRENT ADT (2004)\_\_ \_\_ \_\_ \_\_ \_\_ \_\_ \_\_ \_\_ \_\_ .29050 DESIGN YEAR ADT (2016)\_\_\_ \_\_ \_\_ \_\_ 38850 DESIGN HOURLY VOLUME (2014)\_\_\_\_\_\_\_3691 DIRECTIONAL DISTRIBUTION \_\_\_ \_\_ \_\_ 59% LEGAL SPEED\_\_\_ \_\_ \_\_ \_\_ \_\_ 65 MPH DESIGN FUNCTIONAL CLASSIFICATION - RURAL PRINCIPAL ARTERIAL DESIGN EXCEPTIONS: NONE ENGINEER'S SEAL FOR

PORTION TO BE IMPROVED \_\_\_ \_\_ \_\_ \_\_

OTHER ROADS \_\_\_ \_\_ \_\_

Vermilion

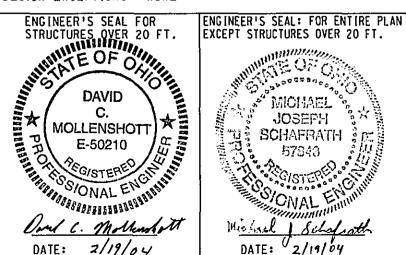
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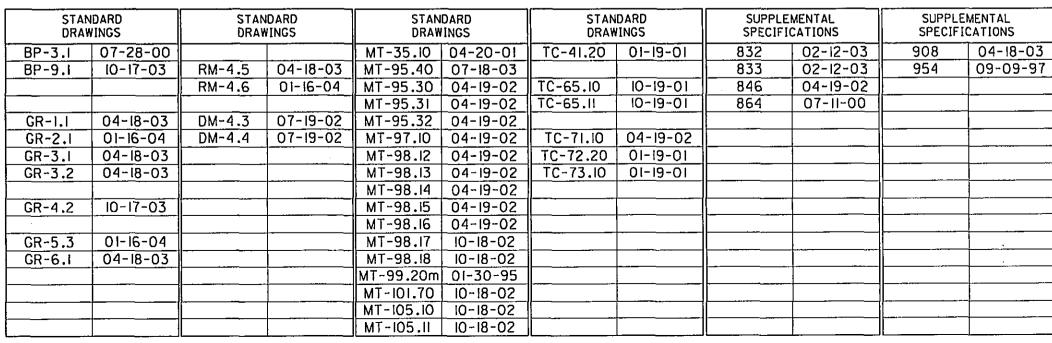
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Henrietta





BRIDGE NUMBER LOR-2-0030 SFN 4707761

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION				
864	10100	1091	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				
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BRIDGE NUMBER LOR-2-0097L SFN 4707818

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION			
864	10100	1330	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)			
i							

BRIDGE NUMBER LOR-2-0097R SFN 4707796

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
864	10100	1332	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

BRIDGE NUMBER LOR-2-0107 SFN 4707834

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION			
864	10100	1152	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)			

BRIDGE NUMBER LOR-2-0151 SFN 4707850

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION		
864	10100	1043	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		

## STRUCTURE GENERAL NOTES

## REFERENCES SHALL BE MADE TO STANDARD DRAWING:

BP-	3.1	DATED	7/28/00
MT-	35.10	DATED	4/20/01
MT-	95.30	DATED	4/19/02
MT-	95.31	DATED	4/19/02
MT-	95.32	DATED	4/19/02
MT-	97.10	DATED	4/19/02
MT-	105.10	DATED	10/18/02
MT-	105.11	DATED	10/18/02

### AND TO SUPPLEMENTAL SPECIFICATIONS:

846	DATED	4/19/02		
864	DATED	7/11/00		
954	DATED	9/9/97		

#### **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 OBSERVATION AND MEASUREMENTS.

CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02. THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGE ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OHIO.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED ON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

### DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY
BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY
AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

## PLACING ASPHALT CONCRETE FEATHERING ON APPROACHES TO BRIDGES:

SPECIAL CARE SHALL BE TAKEN, WHEN PLACING THE ASPHALT CONCRETE
FEATHERING TO EFFECT A SMOOTH TRANSITION FROM THE EXISTING APPROACH

PAVEMENT TO THE BRIDGE DECK OR APPROACH SLAB. THE CONTRACTOR'S ATTENTION IS CALLED TO SECTION 401.19 OF THE CMS AND TO STANDARD DRAWING BP-3.1 FOR REQUIRED TOLERANCES.

### STRUCTURE PROTECTION:

THE EXPANSION JOINT SEAL AT THE ENDS OF THE BRIDGES AND THE VANDAL PROTECTIVE FENCE SHALL BE PROTECTED FROM ALL SEALERS. NO SEALERS SHALL BE ALLOWED TO COME INTO CONTACT WITH THE EXPANSION JOINT SEAL. IF ANY SEALER COMES INTO CONTACT WITH THE EXPANSION JOINT SEAL THE CONTRACTOR SHALL REPLACE THE EXPANSION JOINT TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE STATE.

### STRUCTURE GENERAL NOTES

### ITEM SPECIAL - PATCHING CONCRETE BRIDGE DECK

#### A. DESCRIPTION

THIS ITEM SHALL CONSIST OF FURNISHING THE NECESSARY LABOR. MATERIALS AND EQUIPMENT TO REPAIR THE EXISTING CONCRETE ON THE BRIDGE DECK AND APPROACH SLABS INCLUDING THE REMOVAL OF LOOSE AND UNSOUND CONCRETE, BITUMINOUS PATCHES, CONCRETE PATCHES, SURFACE PREPARATION, SAW CUTTING, AND THE STRENGTH TESTING OF ALL THE PATCHES AS DIRECTED BY THE ENGINEER.

#### B. REMOVAL OF UNSOUND CONCRETE

THE ENGINEER SHALL VISUALLY INSPECT THE EXISTING CONCRETE ON THE BRIDGE DECK AND APPROACH SLABS AND OUTLINE THE AREAS TO BE REMOVED.

THE PERIMETER OF THE REMOVAL AREAS SHALL BE SAWED TO A DEPTH OF FINCH TO PRODUCE A VERTICAL OR SLIGHTLY UNDERCUT FACE. AT EACH CORNER OF THE PATCH THE SAW CUTS SHALL COME TOGETHER WITHOUT ANY OVERCUTTING WITH THE SAW. THE CORNERS SHALL BE CHIPPED DOWN TO THE SAW MARKS. ADDITIONAL SAW CUTS MAY BE REQUIRED TO FACILITATE REMOVAL WITHOUT ANY OVERCUTTING. COOLING WATER FROM WET SAWING AND DUST FROM SAWING SHALL BE IMMEDIATELY REMOVED FROM THE EXPOSED PATCH HOLES BEFORE ANY DRYING CAN OCCUR.

UNSOUND CONCRETE INCLUDING ALL PATCHES OTHER THAN SOUND PORTLAND CEMENT CONCRETE, AND ALL OBVIOUSLY LOOSE AND DISINTEGRATED CONCRETE SHALL BE REMOVED. THE UNSOUND CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NORMAL 35 POUND CLASS AND SHALL BE OPERATED AT AN ANGLE LESS THAN 45 DEGREES MEASURED FROM THE SURFACE OF THE DECK. CONCRETE SHALL BE REMOVED IN A MANNER THAT PREVENTS CUTTING. ELONGATING OR DAMAGING REINFORCING STEEL. WHERE THE BOND BETWEEN THE CONCRETE AND A REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM 3 /4 INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICABLE. REINFORCEMENT WHICH HAS BECOME LOOSE SHALL BE ADEQUATELY SUPPORTED AND TIED BACK INTO PLACE. ALL REMOVED ASPHALT AND CONCRETE SHALL BE DISPOSED OF PROPERLY OUTSIDE THE RIGHT OF WAY.

#### C. SURFACE PREPARATION

CLEANING SHALL CLOSELY PRECEDE APPLICATION OF THE PATCHING MATERIAL. THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING (SILICA SAND SHALL NOT BE USED) FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL.

CONTAMINATION OF THE AREA TO BE PATCHED BY CONSTRUCTION EQUIPMENT OR FROM ANY OTHER SOURCE SHALL BE PREVENTED BY PLACEMENT OF A CLEAN 4 MIL POLYETHYLENE SHEET (OR ANY OTHER COVERING AS APPROVED BY THE ENGINEER) ON THE SURFACE OF THE DECK FOLLOWING THE AIR BLAST CLEANING.

WHERE REINFORCING STEEL IS EXPOSED, THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORTS FOR THE CONCRETE MIXER SO THAT REINFORCING STEEL AND ITS BOND WITH THE CONCRETE WILL NOT BE DAMAGED BY THE WEIGHT AND MOVEMENT OF THE MIXER, OR SHALL PROVIDE MEANS TO CONVEY CONCRETE FROM THE MIXER TO THE PATCH LOCATIONS.

#### D. MATERIALS, PLACING, AND CURING

THE BRIDGE DECK OR OVERLAY SHALL BE PATCHED WITH CLASS FS CONCRETE WHICH SHALL MEET THE REQUIREMENTS OF CMS 499.05 EXCEPT THAT A NON CALCIUM CHLORIDE ACCELERATING ADMIXTURE AND LIMESTONE FOR COARSE AGGREGATE SHALL BE USED.

#### E. PLACING

THE PATCHING MATERIAL SHALL BE PLACED, CONSOLIDATED AND FINISHED TO THE EXISTING GRADE AND ELEVATION. PATCHES GREATER THAN 50 SQUARE FEET IN AREA SHALL HAVE TEMPORARY BULKHEADS INSTALLED TO FACILITATE PLACEMENT AND FINISHING. THE TEMPORARY BULKHEADS SHALL GO AS DEEP AS THE PATCH AND BE PULLED PRIOR TO THE CONCRETE SETTING, PATCHES EXCEEDING 50 SQUARE FEET SHALL BE STRUCK OFF WITH A SCREED. SMALLER PATCHES THAT ARE UNDER IO FEET IN LENGTH SHALL BE SCREED LONGITUDINALLY, FOR PATCHES OVER 10 FEET IN LENGTH, THE SCREED SHALL BE PLACED PERPENDICULAR TO THE BRIDGE CENTERLINE.

(PATCHING CONCRETE BRIDGE DECK CONTINUED ON NEXT PAGE)

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## STRUCTURE GENERAL NOTES

#### (PATCHING CONCRETE BRIDGE DECK CONTINUED)

THE CONTRACTOR SHALL TEST THE SURFACE OF THE PLASTIC CONCRETE FOR TRUENESS AND FOR BEING FLUSH WITH THE EDGES OF THE ADJACENT SURFACES BY USE OF A 10 FOOT STRAIGHTEDGE. FOR PATCHES 10 FEET OR LESS IN LENGTH, THE STRAIGHTEDGE SHALL BE DONE BY PLACING THE STRAIGHTEDGE PARALLEL TO THE BRIDGE CENTERLINE WITH ENDS RESTING ON THE EXISTING WEARING SURFACE AND DRAWING THE STRAIGHTEDGE ACROSS THE PATCH. ANY HIGH OR LOW AREAS EXCEEDING 1/8 INCH IN 10 FEET SHALL BE CORRECTED, IF ANY CORRECTIONS ARE MADE, THE SURFACE SHALL BE RECHECKED.

#### F. FINISHING

AFTER THE PATCHES HAVE BEEN CONSOLIDATED AND FINISHED, THEY SHALL BE TEXTURED IN ACCORDANCE TO SECTION 451.09 OF THE CMS.

G. INSPECTION, SOUNDING, AND REPAIR OF CONCRETE PATCHES

AFTER CURING AND BEFORE FINAL ACCEPTANCE, ALL PATCHED AREAS SHALL BE INSPECTED AND SOUNDED. ALL DELAMINATED AREAS SHALL BE REMOVED AND REPATCHED ACCORDING TO THIS NOTE.

ALL CRACKS IN BONDED PATCHES SHALL BE SEALED WITH AN APPROVED HIGH MOLECULAR WEIGHT METHACRYLATE SEALER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND THE HMWM SUPPLEMENTAL SPECIFICATIONS.

ALL REPLACEMENT OF REJECTED AREAS AND SEALING OF CRACKS IN NEW BONDED PATCHES WILL BE THE REPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM.

#### H. METHOD OF MEASUREMENT

THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE YARDS OF THE EXPOSED SURFACE OF ALL PATCHES, IRRESPECTIVE OF THE DEPTH OF THE PATCH, COMPLETE, IN PLACE AND ACCEPTED.

#### I. BASIS OF PAYMENT

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SOUARE YARD	PATCHING CONCRETE BRIDGE DECK

### ITEM SPECIAL - TREATING CONCRETE BRIDGE DECKS WITH GRAVITY-FED RESIN:

THIS ITEM SHALL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS AND EQUIPMENT NEEDED FOR SURFACE PREPARATION, MIXING AND PLACING THE SEAL ONTO THE CONSTRUCTION JOINT FORMED ALONG NEW PATCHES. THE JOINT SEAL SHALL BE AS PER PROPOSAL NOTE "TREATING CONCRETE BRIDGE DECKS WITH GRAVITY-FED RESIN".

THE SEAL SHALL BE APPLIED 2 INCHES ON EACH SIDE OF THE JOINT.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE YARD FOR ITEM SPECIAL-TREATING CONCRETE BRIDGE DECKS WITH GRAVITY-FED RESIN WHICH SHALL INCLUDE ALL LABOR. EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK. 0

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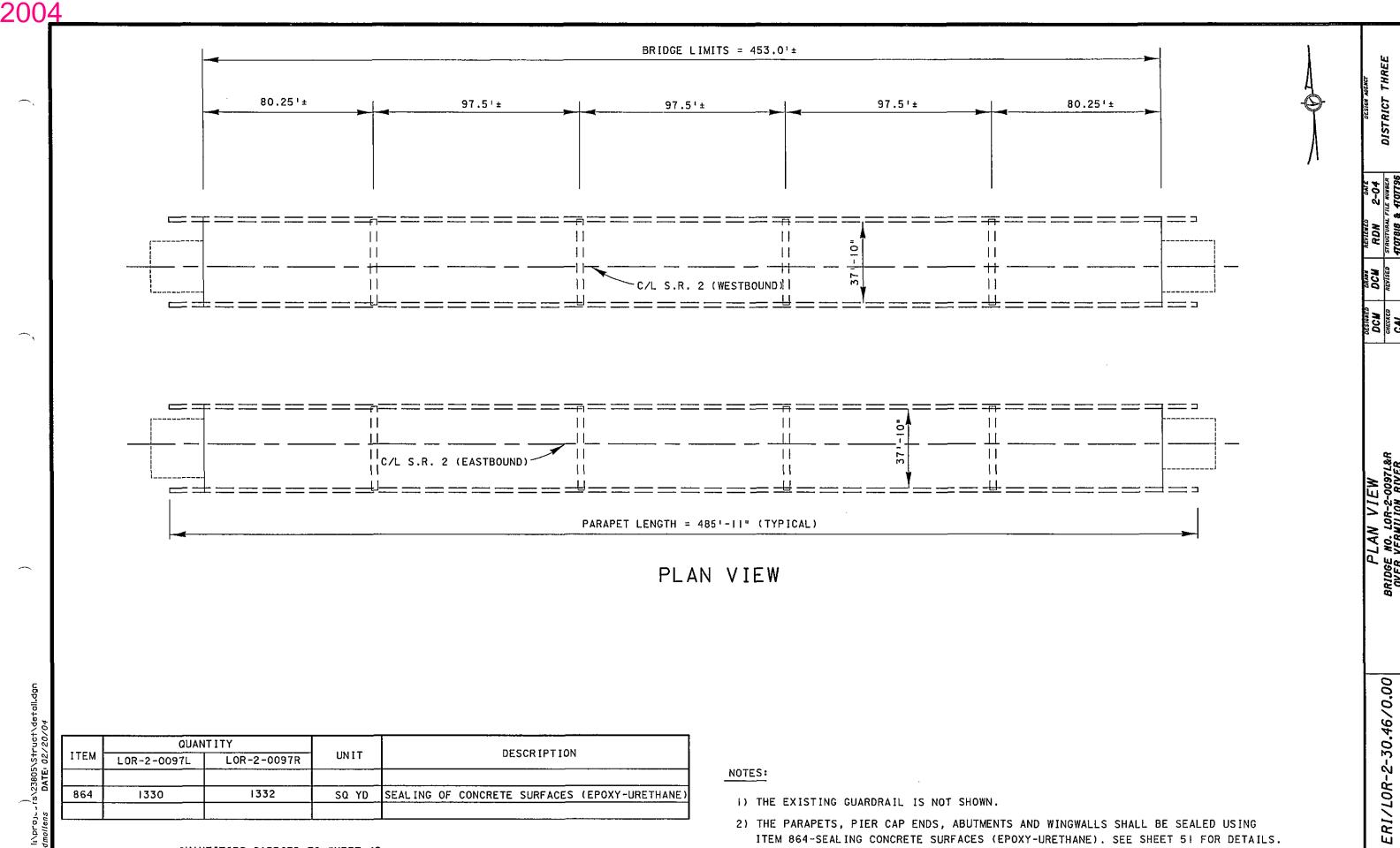
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STRUCTURE FILE NUMBER	BRIDGE NO.	LOCATION	SKEW	BRIDGE LIMITS	DECK WIDTH	SPAN LENGTH	VERTICAL CLEARANCE	PROPOSED WORK
4707761	LOR-2-0030	UNDER WEST RIVER ROAD	4°27'30" LF	286.09'±	33'- 0" T/T	4@ 54.5',77.75',87.92',61.5	14'-9"±	SEAL PARAPETS, ABUTMENTS, WINGWALLS AND PIERS
4707818	LOR-2-0097L	OVER VERMILION RIVER	NONE	453'±	37'-10" T/T	5@ 78',97.5',97.5',97.5',78		SEAL PARAPETS, ABUTMENTS, WINGWALLS AND PIER CAP ENDS
4707796	LOR-2-0097R	OVER VERMILION RIVER	NONE	453'±	VARIES	5@ 78',97.5',97.5',97.5',78		SEAL PARAPETS, ABUTMENTS, WINGWALLS AND PIER CAP ENDS
4707834	LOR-2-0107	UNDER VERMILION ROAD	3°38'56" LF	247.95'±	41'-10" T/T	4@ 54',67.6',67.8',54'		SEAL PARAPETS, ABUTMENTS, WINGWALLS AND PIERS
4707850	LOR-2-0151	UNDER VERMILION INTERCH. ROAD	NONE	234'±	41'-10" T/T	48 47.21,67.51,67.51,47.21	151-5"±	SEAL PARAPETS, ABUTMENTS, WINGWALLS AND PIERS
4707877	LOR-2-0223	UNDER SUNNYSIDE ROAD	NONE	235.16'±	33'-10" T/T	4@ 47.3',68',68',47.3'	4'-  "±	SEAL PARAPETS, ABUTMENTS, WINGWALLS AND PIERS
4700015	LOR-2-0249	OVER BROWNHELM DITCH				14' X 7' BOX		NO STRUCTURE WORK
4707893	LOR-2-0262	UNDER CLAUS ROAD	6°50'50" RF	235.86'±	33'-10" T/T	4@ 47.7',68',68',47.7'	14'-10"±	SEAL PARAPETS, ABUTMENTS, WINGWALLS AND PIERS
4707923	LOR-2-0333L	OVER BAUMHART ROAD	NONE	158.5'±	37'-10" T/T	4@ 33.5',43.5',43.5',33.5'		SEAL PARAPETS, ABUTMENTS AND PIERS
4707915	LOR-2-0333R	OVER BAUMHART ROAD	NONE	158.5'±	37'-10" T/T	40 33.5',43.5',43.5',33.5'		PATCH DECK, SEAL PARAPETS, ABUTMENTS AND PIERS



QUANTITIES CARRIED TO SHEET 42

2) THE PARAPETS, PIER CAP ENDS, ABUTMENTS AND WINGWALLS SHALL BE SEALED USING ITEM 864-SEALING CONCRETE SURFACES (EPOXY-URETHANE). SEE SHEET 51 FOR DETAILS.

ABUTMENTS AND WINGWALLS AS PER DETAILS ABOVE.

ERI/LOR-2-30.46/0.00

QUANTITIES CARRIED TO SHEET 50

1332

1330

864

SQ. YD. SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)