

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

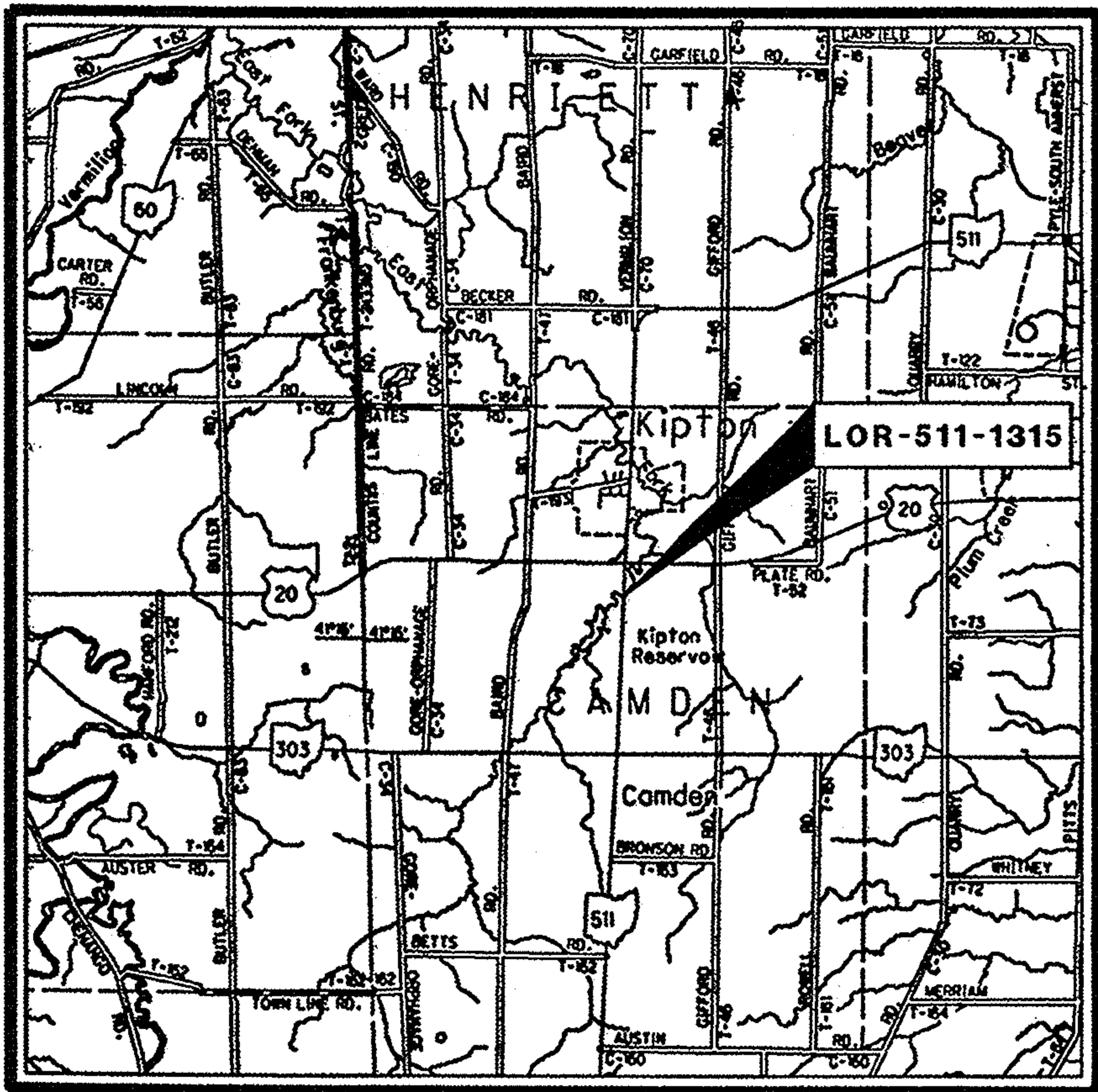
LOR-511-13.15

**CAMDEN TOWNSHIP
LORAIN COUNTY**

PROJECT DESCRIPTION

REPLACEMENT OF EXISTING STRUCTURE WITH A NEW
STRUCTURE, INCLUDING APPROACH AND GUARDRAIL WORK.
PROJECT LENGTH IS 0.025 MILES.

PROJECT EARTH DISTURBED AREA=0.20 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA=0.20 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA=N/A (NO NOI REQ'D)



LOCATION MAP

LATITUDE: N 41°15'20" LONGITUDE: W82°18'10"

SCALE IN MILES



INTERSTATE & DIVIDED HIGHWAY
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2009) 2220
DESIGN YEAR ADT (2029) 2750
DESIGN HOURLY VOLUME (2029) 305
DIRECTIONAL DISTRIBUTION 67%
TRUCKS (24 HOUR B&C) 5%
DESIGN SPEED 55 MPH
LEGAL SPEED 55 MPH

DESIGN FUNCTIONAL CLASSIFICATION -
RURAL MAJOR COLLECTOR

DESIGN EXCEPTIONS
NONE REQUIRED

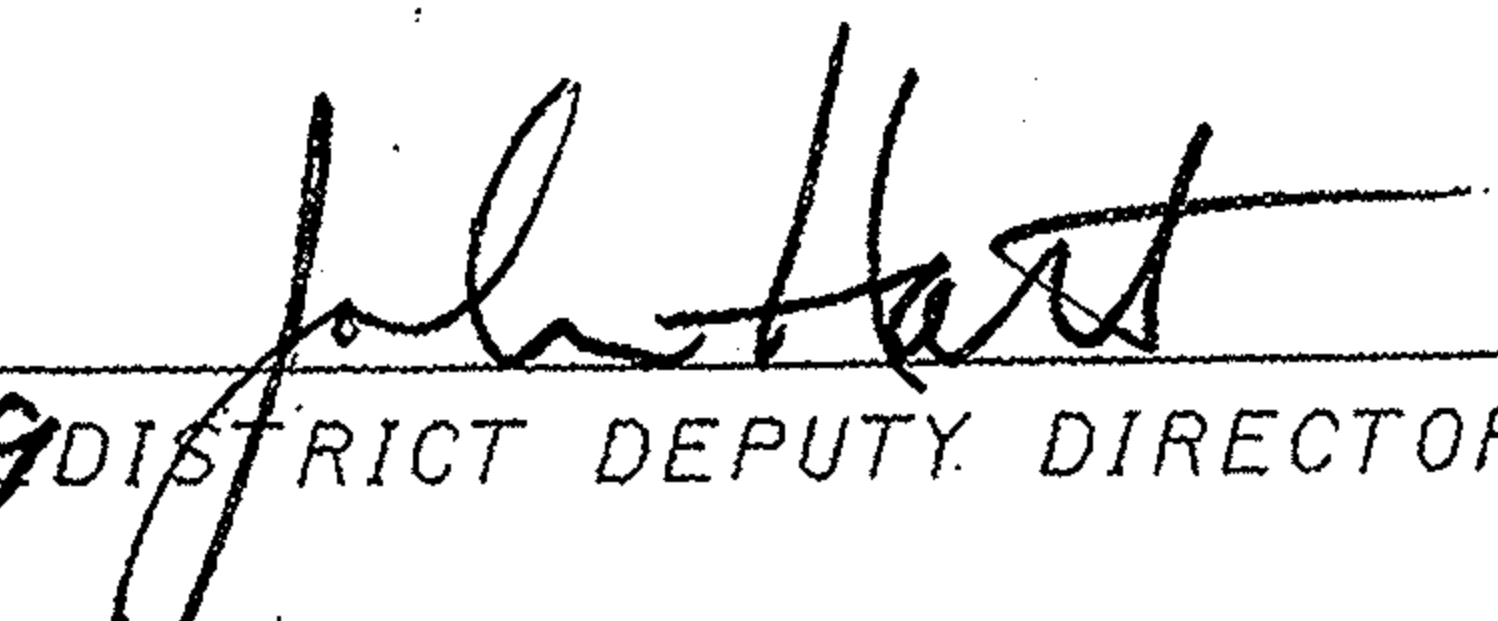
INDEX OF SHEETS:

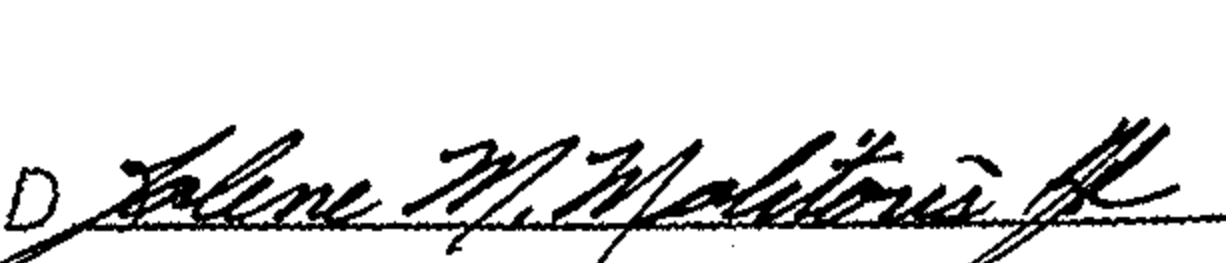
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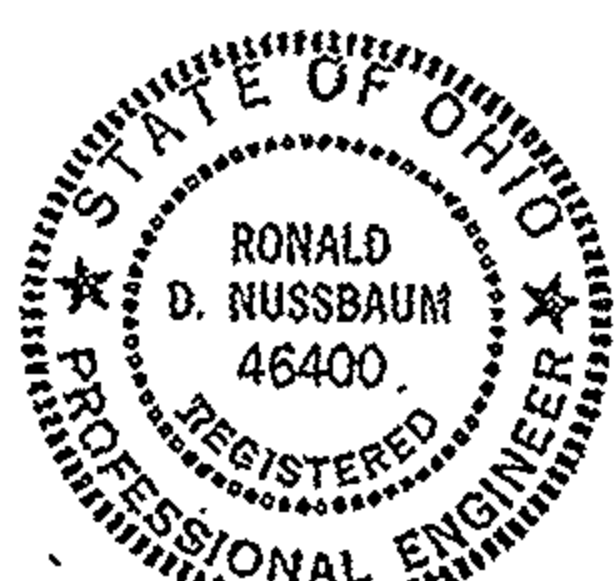
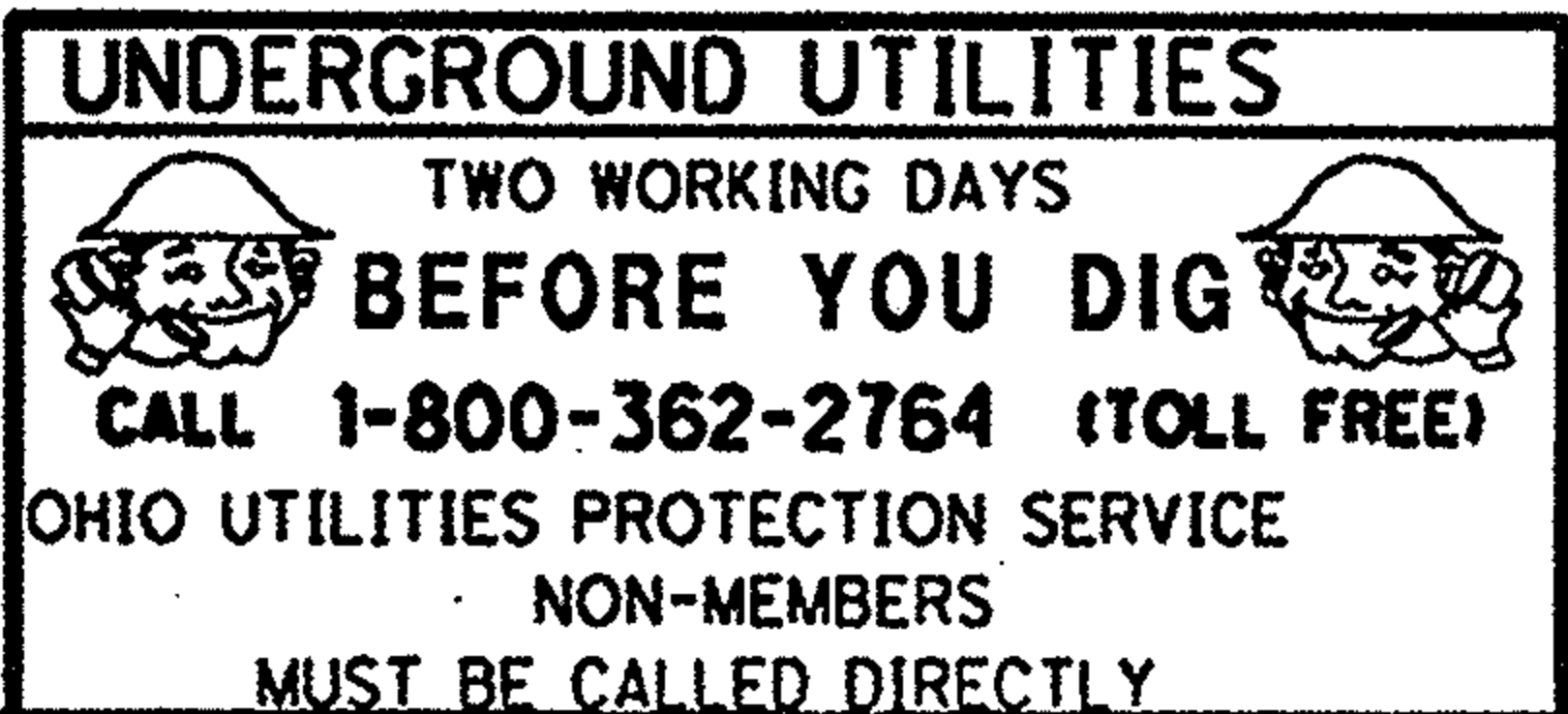
2008 SPECIFICATIONS

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 IMPROVEMENT WILL REQUIRE THE
CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS
WILL BE PROVIDED AS INDICATED IN THIS PLAN

APPROVED 
DATE 3/16/09 DISTRICT DEPUTY DIRECTOR

APPROVED 
DATE 3-15-10 DIRECTOR, DEPARTMENT OF
TRANSPORTATION



SIGNED: 
DATE: 2-26-09

STANDARD DRAWINGS		STANDARD DRAWINGS		STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-3.1	10-19-07	RM-1.1	7-18-08	AS-1-81	7-19-02	800	4-16-10	WATERWAY PERMIT	
				DS-1-92	7-18-03	832	5-5-09	NWP #3	2-20-09
GR-1.1	7-16-04	DM-1.1	4-21-06	PSBD-1-93	4-20-07				
GR-2.1	1-16-04	DM-4.3	7-19-02	TST-1-99	4-18-08				
GR-3.6	1-16-04	DM-4.4	7-19-02						
GR-4.2	1-19-07								
GR-5.3	1-16-04								
				MT-97.10	9-5-06			PLANS PREPARED BY:  DISTRICT 3 PRODUCTION DEPT.	
				MT-97.11	9-5-06				
				MT-101.60	9-5-06				
				MT-105.10	1-16-09				

FEDERAL PROJECT NO.

E080931

PID NO.

16579

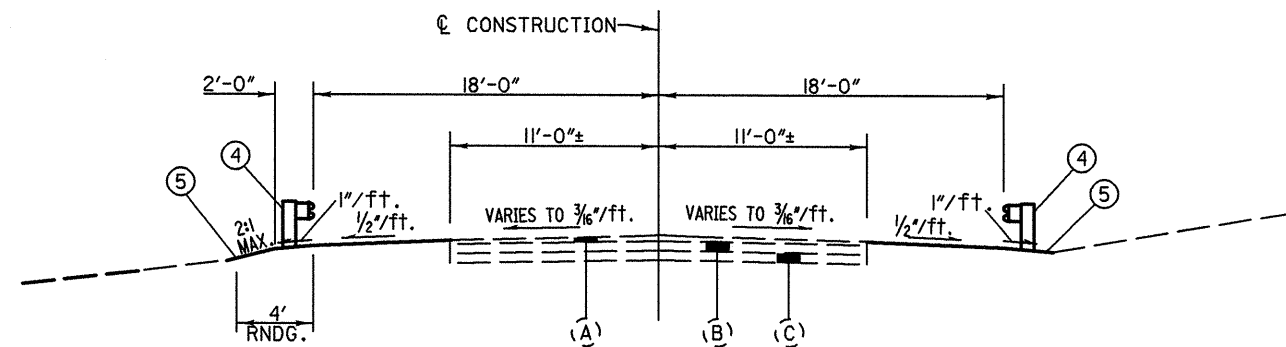
CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

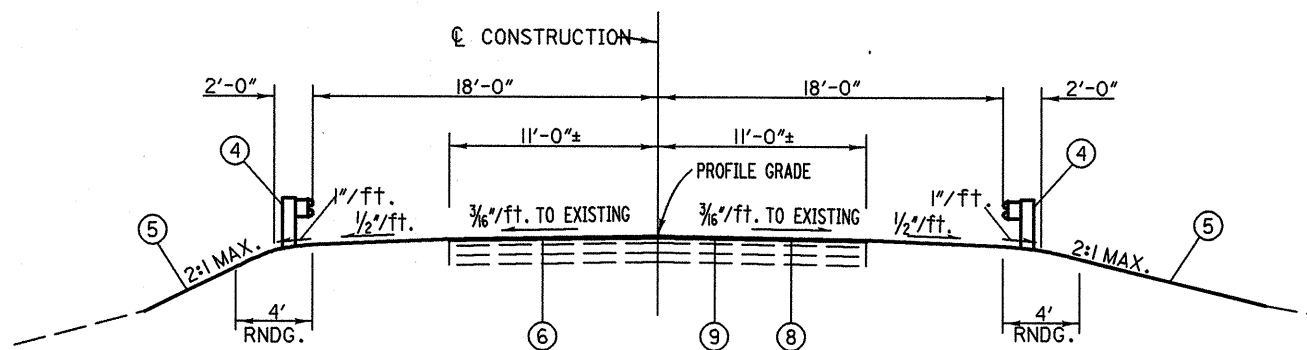
NONE

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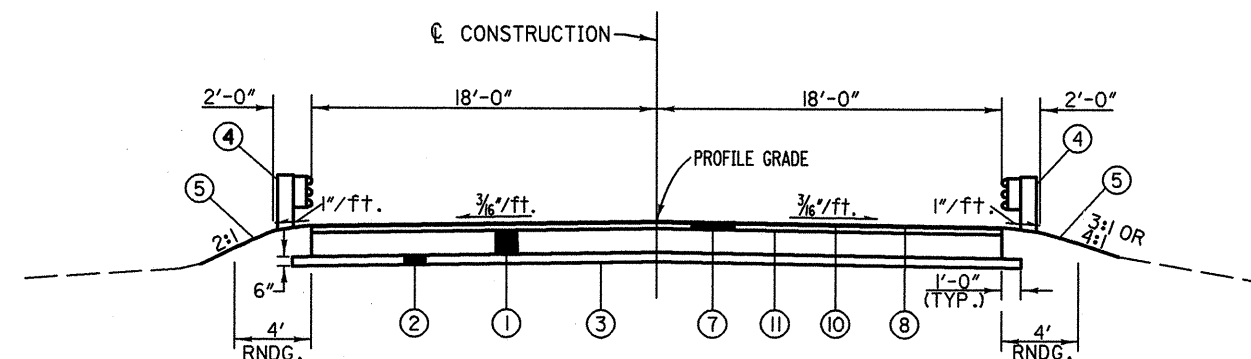
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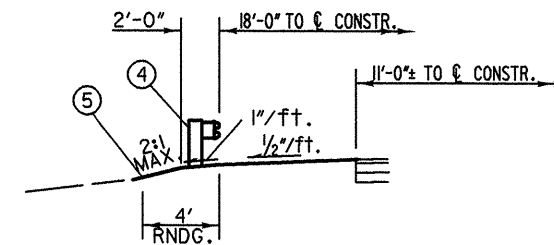
EXISTING SECTION



RESURFACING SECTION
 STA. 694+00 TO STA. 694+29.67 = 29.67 Lin.Ft.
 STA. 695+61.83 TO STA. 696+00 = 38.17 Lin.Ft.
 TOTAL = 67.84 Lin.Ft.



APPROACH SLAB SECTION
 STA. 694+29.67 TO STA. 694+54.67 = 25.0 Lin.Ft.
 STA. 695+36.83 TO STA. 695+61.83 = 25.0 Lin.Ft.
 TOTAL = 50.0 Lin.Ft.



GRADED SHOULDERS

STA. 693+00.00 TO STA. 694+00.00 LT.= 100.00 Lin.Ft.
 STA. 696+00.00 TO STA. 696+24.00 LT.= 24.00 Lin.Ft.
 STA. 693+00.00 TO STA. 694+00.00 RT.= 100.00 Lin.Ft.
 STA. 696+00.00 TO STA. 696+24.00 RT.= 24.00 Lin.Ft.

EXISTING LEGEND
 (A) 4"± ASPHALT CONCRETE
 (B) 6"± AGGREGATE BASE COURSE
 (C) 6"± SUBBASE

PROPOSED LEGEND
 (1) ITEM 526 REINFORCED CONCRETE APPROACH SLAB (T=15")
 (2) ITEM 304 AGGREGATE BASE
 (3) ITEM 204 SUBGRADE COMPACTION
 (4) ITEM 606 GUARDRAIL, TYPE 5
 (5) ITEM 659 SEEDING AND MULCHING (SEE GENERAL NOTE)
 (6) ITEM 202 WEARING COURSE REMOVED
 (7) ITEM 442 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A(448), AS PER PLAN
 (8) ITEM 442 1 1/4" ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A(448), AS PER PLAN
 (9) ITEM 407 TACK COAT (SEE GENERAL NOTE)
 (10) ITEM 407 TACK COAT FOR INTERMEDIATE COURSE (SEE GENERAL NOTE)
 (11) ITEM 407 TACK COAT, 702.13

BRIDGE LIMITS
 STA.694+54.67 TO STA 695+36.83 = 82.16'

SPECIAL CONDITIONS- PROJECT DETOUR LIMITATIONS

THE ROADWAY SHALL NOT BE CLOSED TO TRAFFIC FOR REMOVAL OR MODIFICATION OF THE EXISTING STRUCTURE UNTIL ALL NEW PRECAST STRUCTURE MATERIALS (EG: PRESTRESSED BEAMS, BOXES, CONDUITS, ETC.) NECESSARY TO PLACE THE ROADWAY BACK INTO SERVICE HAVE BEEN TESTED, APPROVED AND ARE READY FOR DELIVERY TO THE PROJECT SITE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 OF THE CMS.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON NGVD29 DATUM.

UTILITIES

EXTREME CAUTION SHALL BE EXERCISED IN AREAS WITH UTILITIES. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ALL DAMAGE INFLICTED ON UTILITIES IN THE EXECUTION OF THIS CONTRACT.

THE FOLLOWING IS A LIST OF UTILITIES WHICH MAY BE INVOLVED. THE OHIO DEPT. OF TRANSPORTATION DOES NOT GUARANTEE THE COMPLETENESS OF THIS LIST.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

UTILITY LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE LOCATIONS

ELECTRIC:	LORAIN- MEDINA RURAL ELECTRIC BRAD WARNEMENT P.O. BOX 158 WELLINGTON , OH 44090 800-222-5673	WATER:	RURAL LORAIN COUNTY WATER AUTHORITY 42401 STATE ROUTE 303 P.O. BOX 567 LAGRANGE, OH 44050 440-355-6060
GAS:	COLUMBIA GAS OF OHIO DAN SUREN 7080 FRY ROAD MIDDLEBURG HEIGHTS, OHIO 44130 (440) 891-2428	CABLE TV:	SOUTHSHORE CABLE CHRIS REEL 993 COMMERCE DRIVE GRAFTON, OH 44044 (440) 343-4290 CELL
		TELEPHONE:	VERIZON DEB HARGROVE 83 TOWNSEND AVE. NORWALK, OH 44857 (419) 744-3617

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201 CLEARING AND GRUBBING. ALL PROVISIONS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE FOLLOWED AND ALL COSTS INCURRED SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 201 CLEARING AND GRUBBING.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

WORK WITHIN EXISTING RIGHT OF WAY

ALL WORK SHALL BE PERFORMED WITHIN THE EXISTING RIGHT OF WAY AT ALL LOCATIONS ON THIS PROJECT.

ITEM 202 ANCHOR ASSEMBLY REMOVED, TYPE A:

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING TYPE A ANCHOR ASSEMBLY INCLUDING ALL POSTS, HARDWARE, RAIL ELEMENTS, AND CONCRETE ANCHORS. ALL ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF.

THE EXISTING CONCRETE ANCHOR AND CONCRETE AT POSTS SHALL BE REMOVED ENTIRELY. ALL HOLES REMAINING AFTER REMOVAL SHALL BE FILLED WITH GRANULAR MATERIAL OR EXCESS MATERIAL RESULTING FROM GUARDRAIL CONSTRUCTION. ALL FILL MATERIAL SHALL BE THOROUGHLY COMPACTED AND LEVELED, AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202 ANCHOR ASSEMBLY REMOVED, TYPE A.

ITEM 407 TACK COAT
ITEM 407 TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AVERAGE APPLICATION RATES OF 0.08 AND 0.03 GALLONS PER SQUARE YARD, RESPECTIVELY, OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

WORK ZONE PAVEMENT MARKINGS

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 614- WORK ZONE CENTER LINE, CLASS II 0.04 MI.

THIS ITEM MAY BE NON-PERFORMED IF THE 642 PAVEMENT MARKINGS ARE IN PLACE PRIOR TO OPENING THE ROAD TO TRAFFIC.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERINGS WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

1) THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF TWO 25'-0" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SSS265M	ET-2000 (1997) PLAN, ELEVATION AND SECTIONS	6/20/97	3/6/98
SSI42	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SSI41	ET2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SSI58	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND SECTION	5/22/00	7/31/00

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF FOUR 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18", OR 12" X 18" IF APPLIED TO A RECTANGULAR ET-2000 1/2 PLUS 1/2 EXTRUDER HEAD.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

DUST CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED FOR DUST CONTROL AS DIRECTED BY THE ENGINEER:

ITEM 616- WATER	1	M-GAL.
ITEM 616- CALCIUM CHLORIDE	1	TON

ITEM 659 SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR ITEM 659 SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH OF THE PERMANENT SEEDED AREAS AS PER ITEM 659.

ITEM 659 - WATER	2	M-GAL.
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EROSION CONTROL

ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THIS ITEM. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE BRIDGE SCHEDULED FOR DEMOLITION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER AT THE PRECONSTRUCTION MEETING. THE CONTRACTOR SHALL COMPLETE THE FORM AND RETURN IT TO THE DISTRICT CONSTRUCTION ENGINEER. THE COMPLETION OF THIS FORM MAY BE PERFORMED AT THE PRECONSTRUCTION MEETING. THE DISTRICT CONSTRUCTION ENGINEER SHALL SUBMIT IT TO THE OEPA DISTRICT OFFICE AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGE. THE DISTRICT CONSTRUCTION ENGINEER SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE CONTRACTOR. THE CONTRACTOR SHALL NOT COMMENCE DEMOLITION OF THE STRUCTURE UNTIL THE ABOVE REQUIREMENTS ARE MET.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE:

- THE CONTRACTOR'S NAME AND ADDRESS
- THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL
- A DESCRIPTION OF THE PLANNED DEMOLITION AND THE METHOD(S) TO BE USED

A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 3 OFFICE 906 N. CLARK STREET ASHLAND, OHIO 44805

BASIS FOR PAYMENT

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE BID ITEM 202 STRUCTURE REMOVED, OVER 20 FT. SPAN

ENVIRONMENTAL COMMITMENTS:

THE PROJECT WAS CLASSIFIED AS A CATEGORICAL EXCLUSION ON MAY 23, 1997. THE PROJECT WAS CLEARED UNDER THE JUNE 16, 1994 PROGRAMMATIC CATEGORICAL EXCLUSION AGREEMENT, THE MARCH 6, 1995 MEMORANDUM OF AGREEMENT (STREAM CROSSINGS AND WETLANDS) AND THE JULY 28, 1993 PROGRAMMATIC AGREEMENT (BRIDGES). THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) AND THE U.S. FISH WILDLIFE SERVICE (USFWS) WERE NOTIFIED AS PER THE MARCH 16, 1995 MEMORANDUM OF AGREEMENT ON FEBRUARY 24, 1997. SINCE THE PROJECT WAS CLEARED UNDER THE ABOVE AGREEMENTS, THE FOLLOWING ENVIRONMENTAL COMMITMENTS ARE APPLICABLE AND WILL BE COMPLIED WITH:

1. BANK STABILIZATION WILL BE LIMITED TO WITHIN 148 FEET UPSTREAM AND DOWNSTREAM OF THE EXISTING STRUCTURE. BANK STABILIZATION WILL BE LIMITED TO REGRADING OF THE BANKS FROM THE TOE-OF-SLOPE (IN-STREAM) TO THE TOP OF BANK AND WILL INCLUDE PLACEMENT OF ROCK CHANNEL PROTECTION WHERE REQUIRED. THIS WILL EXCLUDE WORK SUCH AS WIDENING, DEEPENING OR RELOCATION. THIS STABILIZATION WILL BE KEPT TO A MINIMUM.
2. INSTREAM WORK WILL BE LIMITED WHERE PRACTICABLE AND ONLY CLEAN NON-ERODIBLE MATERIAL WILL BE USED FOR FORDS AND COFFERDAMS. THIS TEMPORARILY PLACED MATERIAL WILL BE REMOVED AND THE STREAM BOTTOM RESTORED TO NEAR NATURAL CONDITIONS WHEN THE WORK IS COMPLETED.
3. WRITTEN PERMISSION WILL BE OBTAINED FROM THE CHIEF OF ODNR'S DIVISION OF WILDLIFE FOR ANY NECESSARY IN-STREAM BLASTING.
4. THE SPECIFICATIONS SET FORTH IN THE MOST CURRENT VERSION OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LOCATION AND DESIGN MANUAL AND STANDARD DRAWINGS WILL BE USED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION.
5. IF THIS PROJECT IS LOCATED WITHIN FLOOD PLAINS, IT WILL COMPLY WITH NECESSARY FLOOD PLAIN CRITERIA. THOSE PROJECTS IN FEMA DESIGNATED FLOOD PLAINS WILL BE COORDINATED WITH THE APPROPRIATE AUTHORITIES.
6. RIGHT-OF-WAY WILL NOT BE REQUIRED AND NO BUILDINGS WILL BE REMOVED

NOTE: NO WETLANDS WERE FOUND WITHIN THE PROJECT AREA

STREAM CHANNEL EXCAVATION

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEAN OUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

DEMOLITION DEBRIS

THE CONTRACTOR SHALL TAKE ALL 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.

INSTREAM WORK

INSTREAM WORK WILL BE LIMITED WHERE PRACTICABLE AND ONLY CLEAN NON-ERODIBLE MATERIAL WILL BE USED FOR FORDS AND COFFERDAMS. THIS TEMPORARILY PLACED MATERIAL WILL BE REMOVED AND THE STREAM BOTTOM RESTORED TO NEAR NATURAL CONDITIONS WHEN THE WORK IS COMPLETED.

TREE REMOVAL RESTRICTIONS

THIS PROJECT IS WITHIN THE KNOWN SUMMER BREEDING RANGE OF THE FEDERAL ENDNGERED INDIANA BAT. UNAVOIDABLE CUTTING OF TREES DEFINED AS POTENTIAL HABITAT FOR THE INDIANA BAT (I.E. LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES, OR CAVITIES) WILL BE PERFORMED ONLY BEFORE APRIL 15 OR AFTER SEPTEMBER 15 WHEN THE SPECIES WOULD NOT BE USING SUCH HABITAT. THE ABOVE DETERMINATION OF NO IMPACTS ON FEDERALLY LISTED SPECIES IS IN ACCORDANCE WITH THE LETTER AGREEMENT ON ENDANGERED SPECIES COORDINATION SIGNED BY USFWS ON FEBRUARY 4, 1998.

BRIDGE REMOVAL RESTRICTIONS

PRIOR TO BRIDGE REMOVAL OR MAINTENANCE, FROM APRIL 15th TO SEPTEMBER 15th, THE UNDERSIDE OF THE BRIDGE WILL BE INSPECTED FOR THE PRESENCE OF BATS. IF ANY ARE FOIND, U.S. FISH & WILDLIFE SERVICES WILL BE CONTACTED PRIOR T BRIDGE REMOVAL.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE (RIGHT OF WAY) (CONSTRUCTION) LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT. EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

PAYMENT FOR ALL LABOR AND MATERIALS WILL BE PERFORMED BY EITHER CHANGE ORDER OR FORCE ACCOUNT.

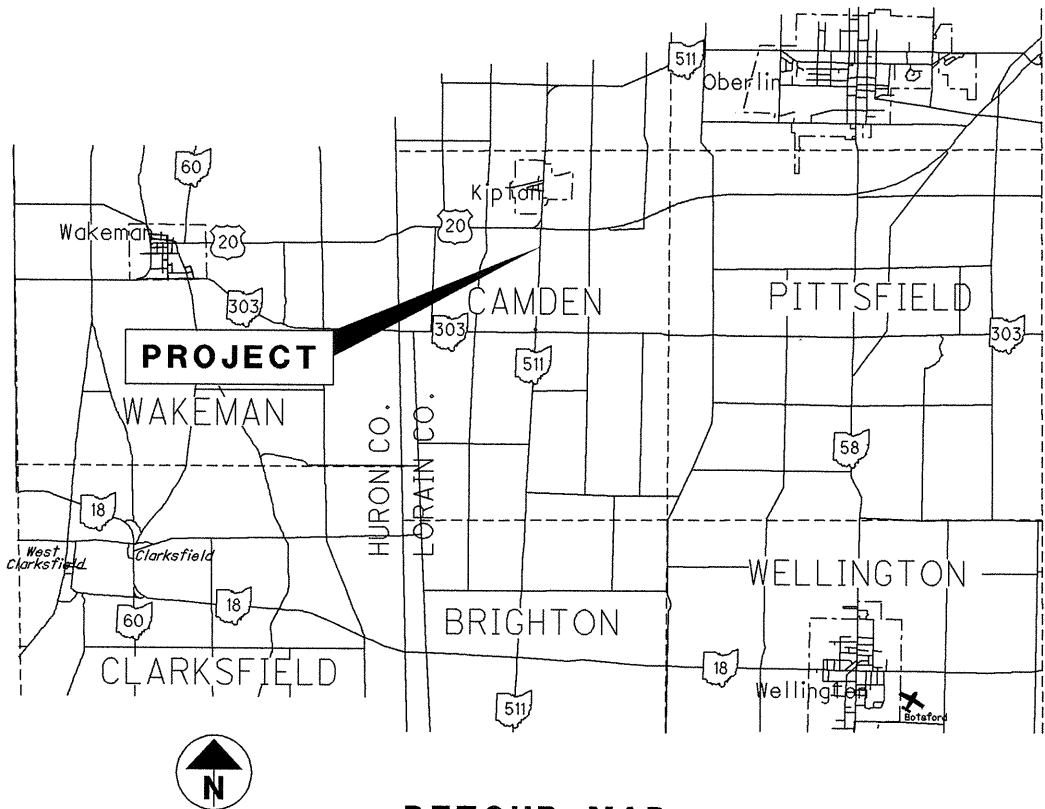
BRIDGE LOCATION MARKER SIGN

THE BRIDGE LOCATION MARKER SIGN INDICATES THE COUNTY, THE ROUTE, AND THE STRAIGHT LINE MILEAGE OF THE STRUCTURE. THE CONTRACTOR SHALL REMOVE THE EXISTING BRIDGE LOCATION MARKER SIGNS AND HARDWARE FOR STORAGE. WHEN APPROPRIATE THE CONTRACTOR SHALL REUSE AND REERECT THE SIGNS IN KIND AS DIRECTED BY THE ENGINEER. ANY QUESTIONS ON THE LOCATION PLEASE CONTACT THE DISTRICT BRIDGE ENGINEER.

ALL COSTS TO PROVIDE A COMPLETE INSTALLATION, INCLUDING THE REMOVAL, STORAGE AND ANY ADDITIONAL HARDWARE, SHALL BE INCLUDED IN ITEM 630, EACH, "SIGNING, MISC.: REMOVE AND REERECT BRIDGE LOCATION MARKER."

SURVEY DISC ON STRUCTURE

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST ONE (1) WEEK IN ADVANCE OF POURING THE CONCRETE FOR COMPLETION OF THE ABUTMENT. THE ENGINEER WILL PROVIDE THE CONTRACTOR ONE (1) SURVEY DISC FOR EACH STRUCTURE (OBTAINED FROM THE DISTRICT SURVEYOR) WHICH THE CONTRACTOR SHALL PLACE IN THE SURFACE OF THE FRESH CONCRETE. THE LOCATION OF THE DISC SHALL BE ON THE ABUTMENT, AND ON A FLAT, HORIZONTAL SURFACE BEYOND THE EDGE OF DECK AND GUARDRAIL OR PARAPET. THE BENCHMARK SHALL BE ACCESSIBLE TO A SURVEYOR'S ROD WITHOUT ANY OBSTRUCTIONS. COST OF THIS WORK IS CONSIDERED INCIDENTAL TO THE CONCRETE BID ITEM.



DETOUR MAP

ITEM 614 MAINTAINING TRAFFIC

DETOUR LIMITATION AND INTERIM COMPLETION DATE:

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 90 CONSECUTIVE CALENDAR DAYS, THROUGH TRAFFIC WILL BE DETOURED. THE OFFICAL SIGNED DETOUR ROUTE WILL BE DETERMINED BY THE STATE OF OHIO AT A LATER DATE.

THE CONTRACTOR SHALL NOTIFY THE O.D.O.T. DISTRICT THREE ROADWAY SERVICES MANAGER, IN WRITING, A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE OF THE DATE THE DETOUR IS NEEDED. THE STATE OF OHIO WILL INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE THE DETOUR SIGNING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES AT THE APPROXIMATE WORK LIMITS OF THE PROJECT, AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60M.

THE 90 CONSECUTIVE CALENDAR DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 90 DAYS THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES, AS PER SECTION 108.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES AS PER 614.02 (d).

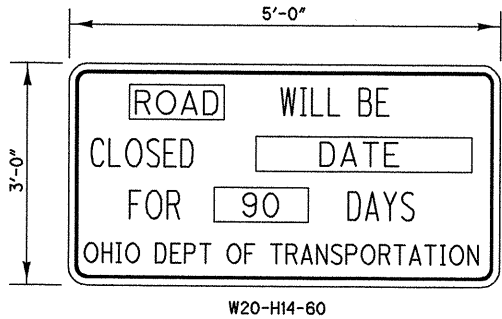
TEMPORARY MAINTENANCE OF LOCAL DETOUR ROUTE

A LOCAL DETOUR ROUTE, OTHER THAN THE OFFICIAL SIGNED ODOT DETOUR ROUTE, WILL BE SELECTED BY AGREEMENT BETWEEN ODOT AND LOCAL GOVERNMENTAL AGENCIES PRIOR TO THE HIGHWAY CLOSURE. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DIRECTED BY THE ENGINEER, THE DESIGNATED LOCAL DETOUR ROUTE IS TO BE REVIEWED AND REPAIRED PRIOR TO THE ASPHALT CONTRACTOR OR SUBCONTRACTOR LEAVING THE PROJECT, PAYMENT FOR THE WORK NECESSARY TO REPAIR THISE LOCAL ROADS WILL BE PERFORMED BY EITHER CHANGE ORDER OR FORCE ACCOUNT.

NOTICE OF CLOSURE SIGNS

THESE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE LOCATED IN THE FIELD SO AS NOT TO INTERFERE WITH ANY PERMANENT SIGNS. ON THIS PROJECT THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS INCLUDING SUPPORTS.



GENERAL NOTES

LOR-511-13.15

ITEM 442. ASPHALT CONCRETE SURFACE COURSE. 9.5MM. TYPE A (448). AS PER PLAN

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS: MIX DESIGN: FOR Ndes
USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS MINIMUM TOTAL PG BINDER CONTENT
IS 6.0 PERCENT. USE A PG64-22 BINDER. MAXIMUM RECLAIMED ASPHALT CONCRETE
PAVEMENT IS 20 PERCENT. QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY
CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN
CMS 442.05.

ITEM 442. ASPHALT CONCRETE INTERMEDIATE COURSE. 19MM. TYPE A (448). AS PER PLAN

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS: MIX DESIGN: FOR Ndes
USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS USE A PG64-22 BINDER.
MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 30 PERCENT. DO NOT
APPLY TABLE 442.02-1 EXCEPT SAND EQUIVALENT OF 45 APPLIES. APPLY 703.05
FOR COARSE AND FINE AGGREGATE EXCEPT GRADATION FOR FINE AGGREGATE
DOES NOT APPLY. QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL
TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

GENERAL NOTES

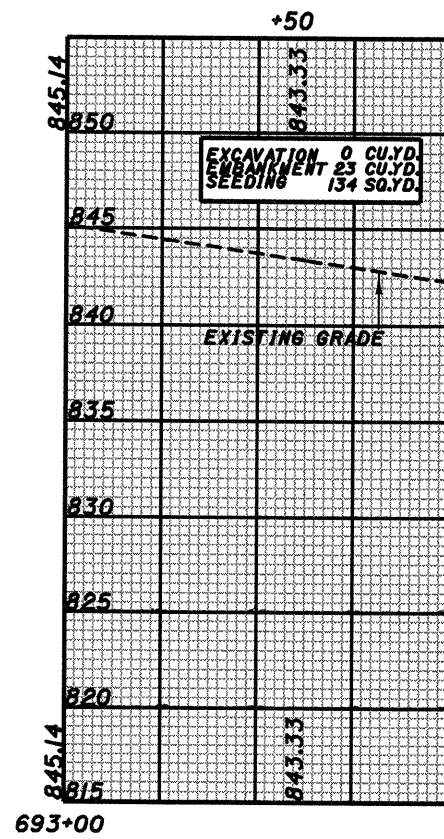
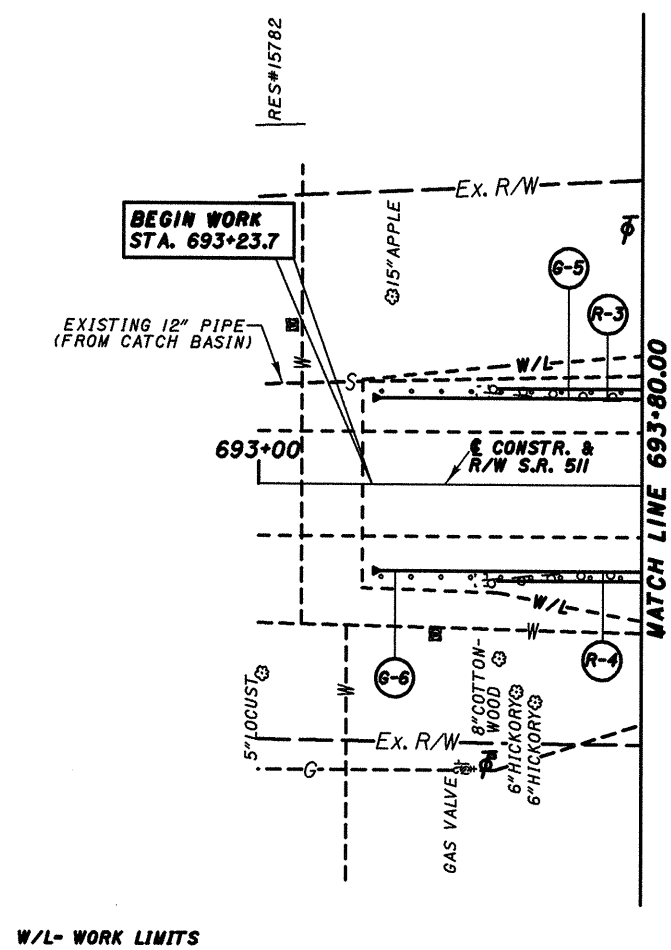
LOR-511-13.15

DESIGN FILES 79B Structure.dgn
WORKSTATION: gschlett **DATE:** 3/2009

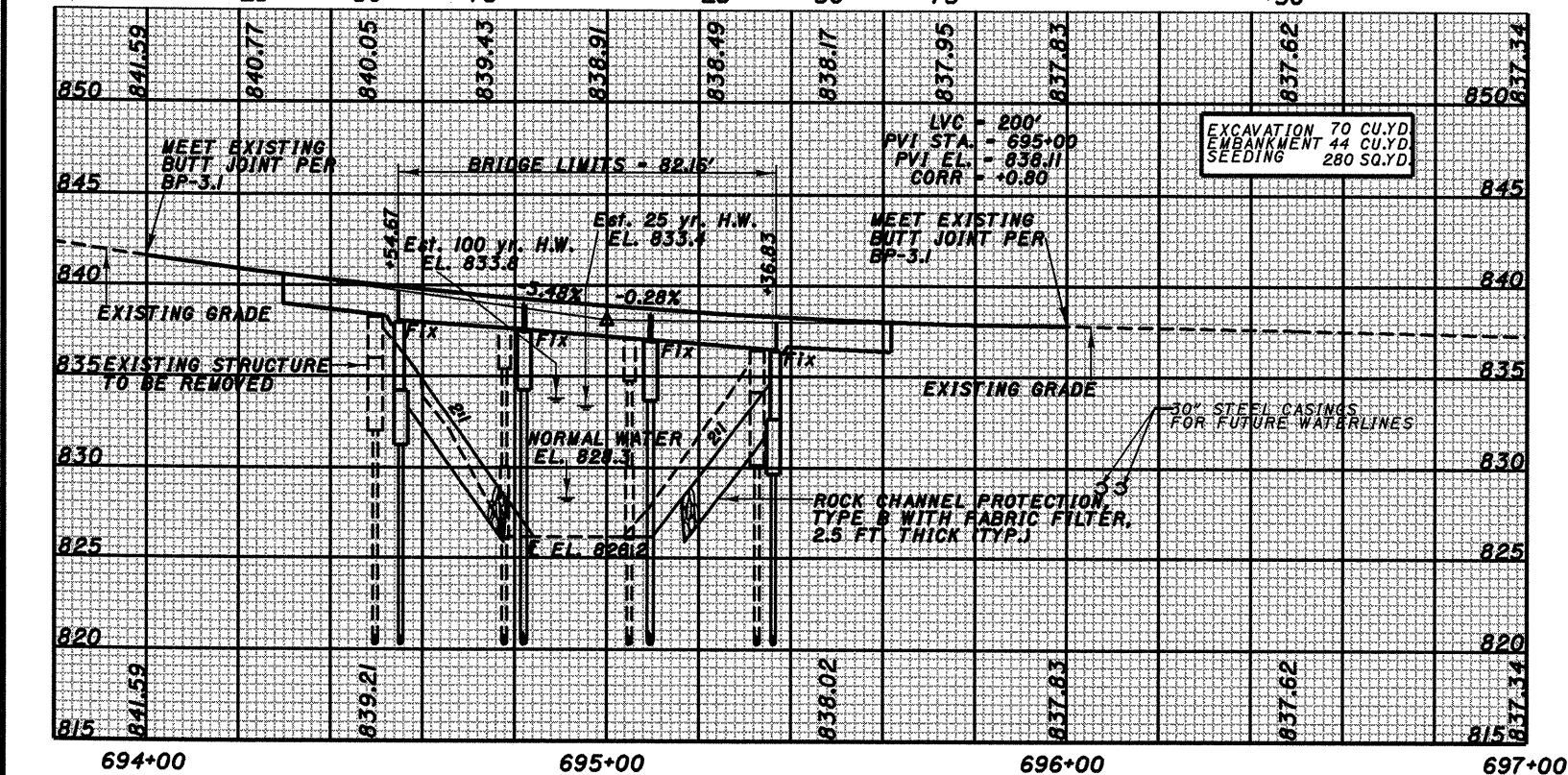
CARRIED TO GENERAL NOTE SHEET 3

GENERAL SUMMARY AND CALCULATIONS

LOR-511-13.15



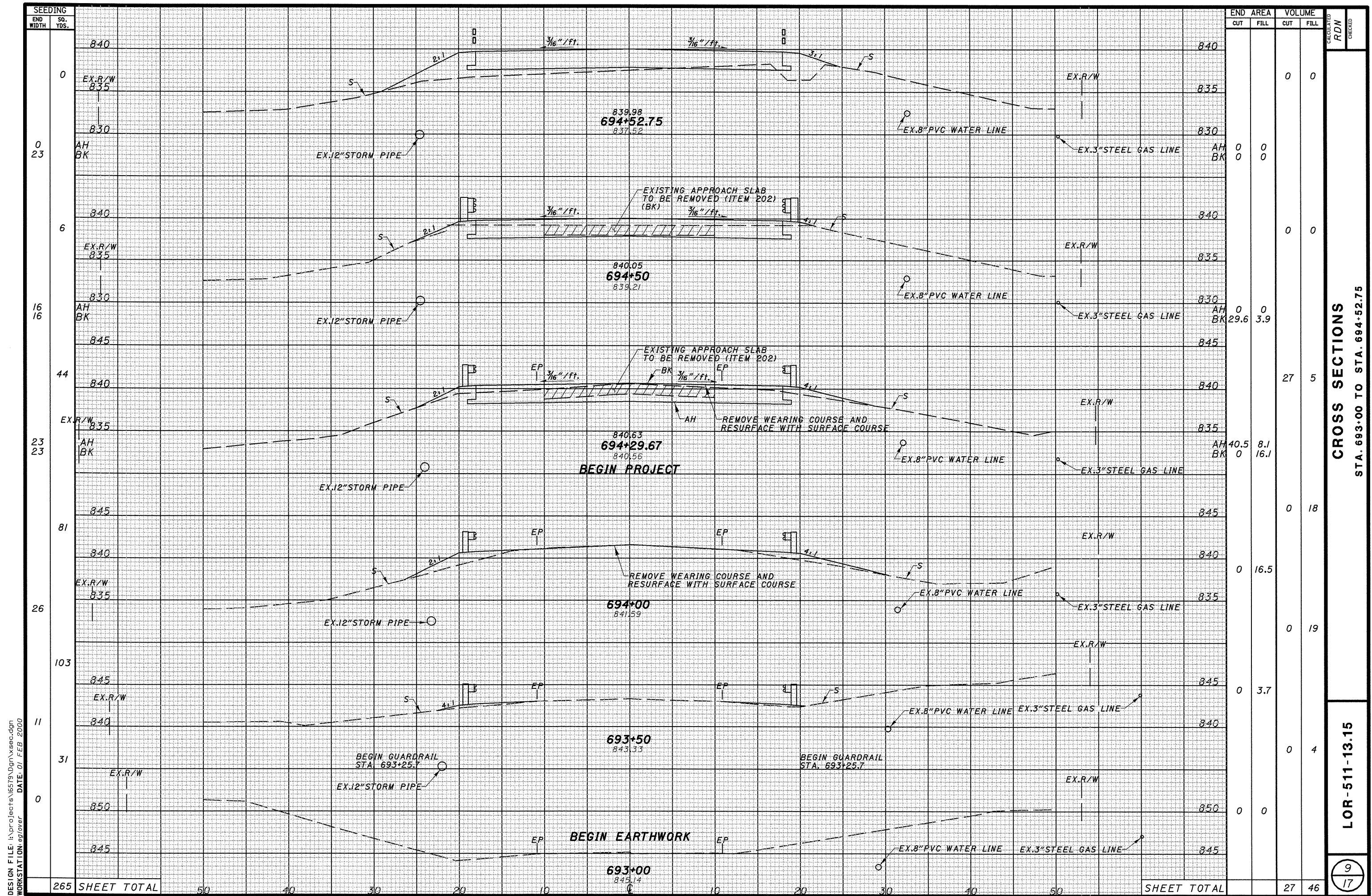
ITEM NO.	STATION	SIDE			202 LIN.FT.	202 EACH	606 LIN.FT.	606 EACH	614	
			FROM	TO						
G-5			693+27.00	693+80.00						
G-6			693+27.00	693+80.00			4.35	1		
R-3			693+45.38	693+80.00			4.35	1		
R-4			693+45.38	693+80.00	7.20	1				
					7.20					
		TOTALS			14.40	2	8.70	2		2

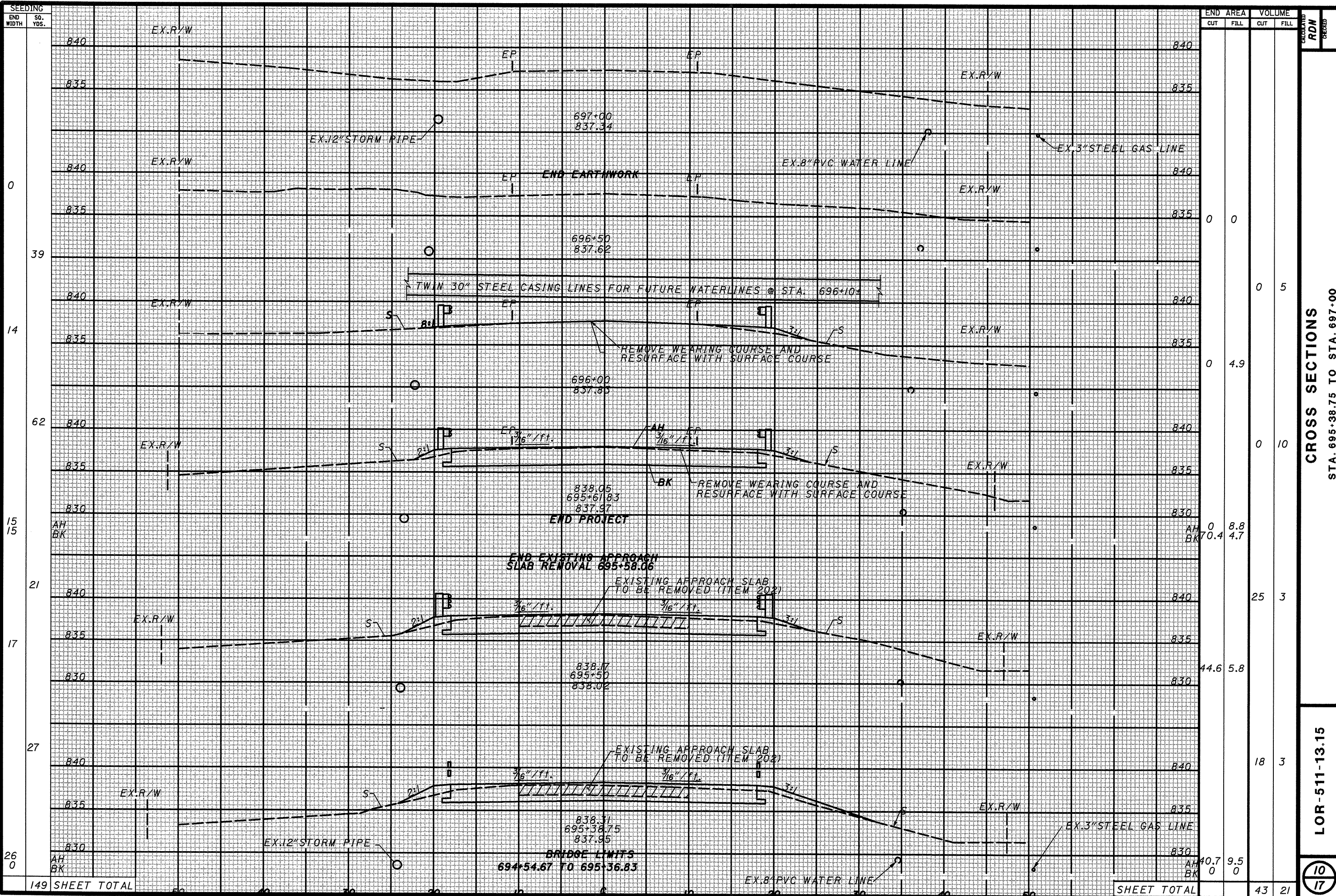
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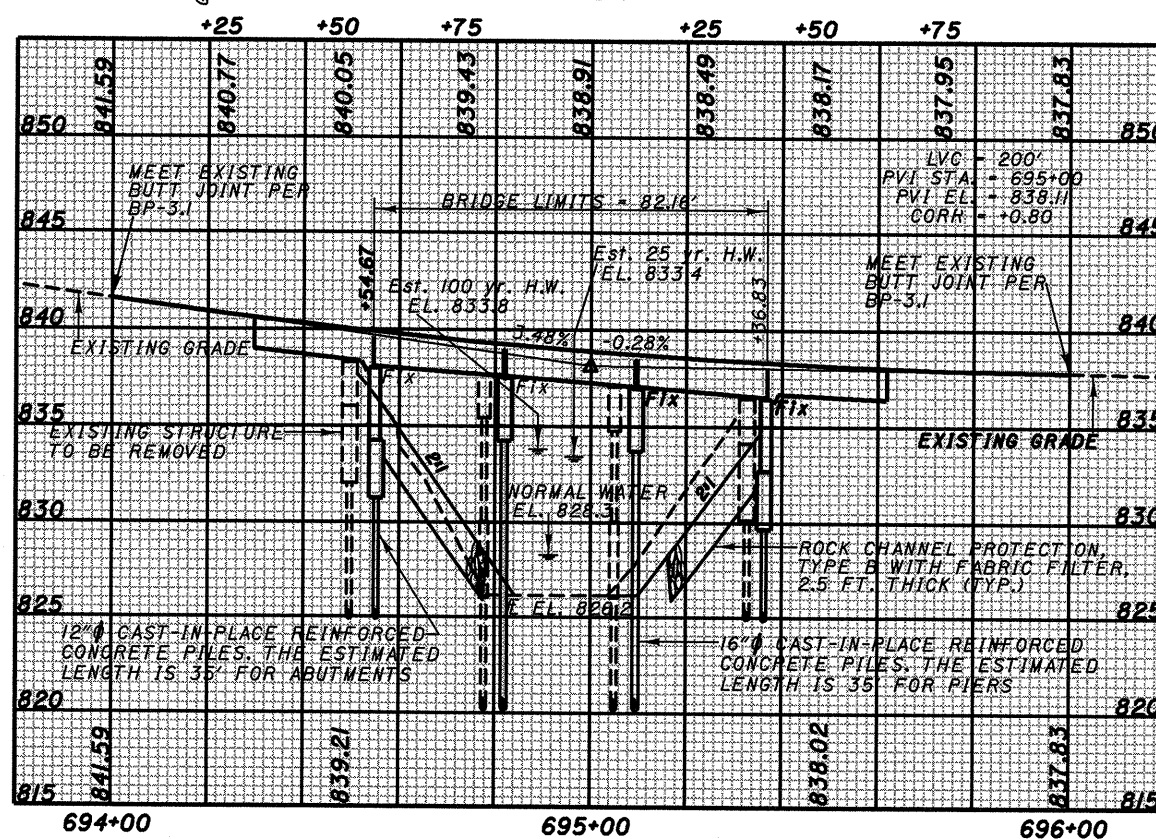
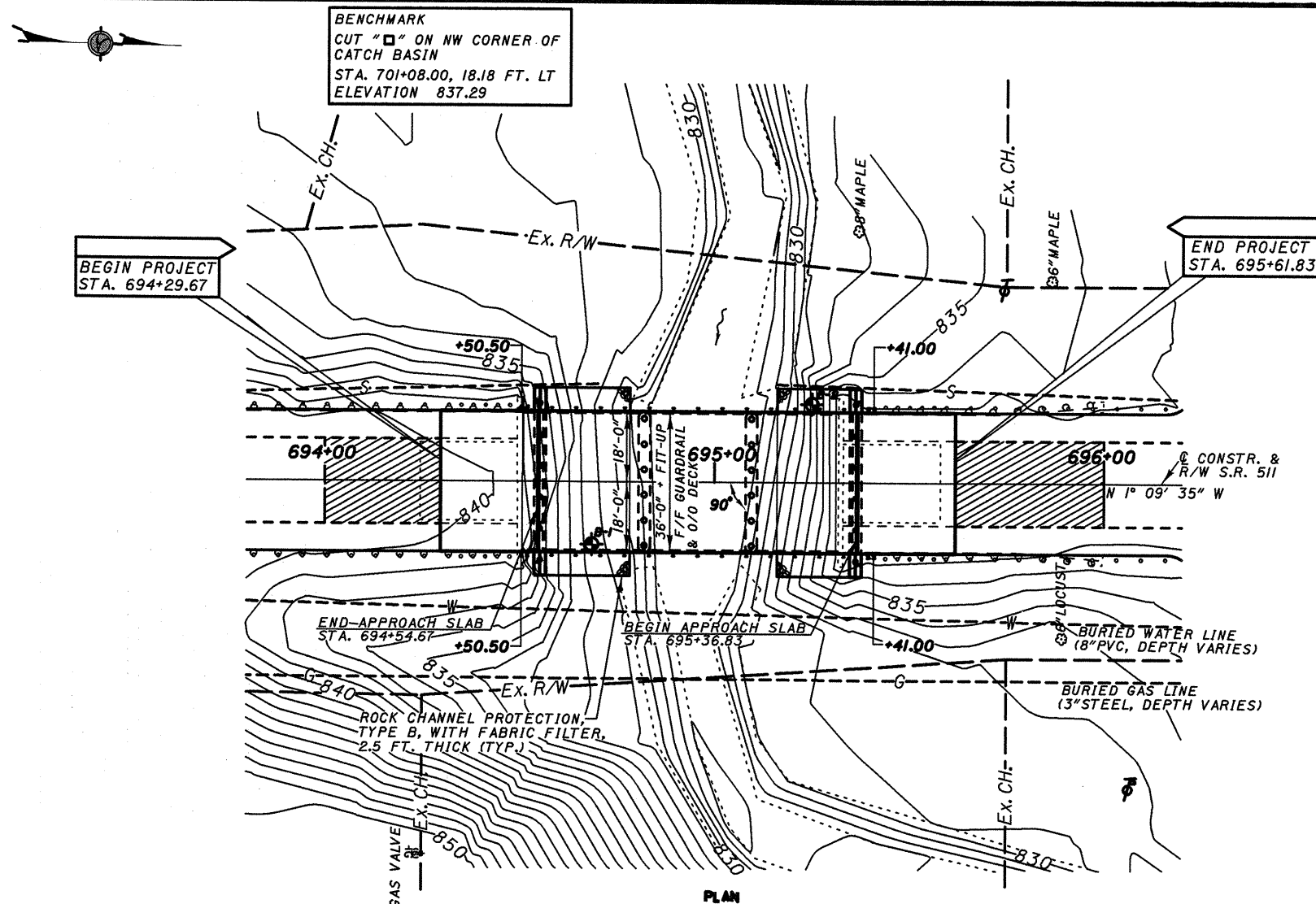
STA. 693+80.00 TO STA. 697+00.00

LOR-511-13.15

$$\frac{8}{17}$$







FOUNDATION INVESTIGATION LEGEND

✱ -INDICATES BORING LOCATION

EARTHWORK LIMITS SHOWN ARE APPROXIMATE.
ACTUAL SLOPES SHALL CONFORM TO PLAN
CROSS-SECTIONS

▨ DENOTES WEARING COURSE REMOVED AND
RESURFACING (LENGTH MAY BE ADJUSTED
TO MEET FIELD CONDITIONS)

FLOOD HAZARD EVALUATION

No buildings, residences or business establishments
lie in the base flood plain and no flood hazard
exists. Existing bridge to be removed. Road to be
closed during construction. Traffic to be detoured.

HYDRAULICS INFORMATION

DRAINAGE AREA = 11.7 SQ. MI.

Est. Q25 = 1410 cfs, V25 = 4.50 fps

Est. Q100 = 1890 cfs, V100 = 5.55 fps

Structure clears Est. 25 yr H.W. by
2.8' and Est. 100 yr H.W. by 2.4'

The embankment is not overtopped

EXISTING STRUCTURE

TYPE: Prestressed concrete box beam superstructure
on capped pile substructure

SPAN: 27'-11 $\frac{3}{4}$ ", 27', 27'-11 $\frac{3}{4}$ "

ROADWAY: 36'-0" F/F guardrail

LOADING: CF 130 (57)

SKEW: None

WEARING SURFACE: Bituminous

APPROACH SLABS: 25'-0" long

ALIGNMENT: Tangent

YEAR BUILT: 1962

STRUCTURE FILE NO: 4707389

PROPOSED STRUCTURE

TYPE: Noncomposite prestressed concrete box beam
superstructure on capped pile substructure

SPAN: 3 @ 26'-0" C/C bearings

ROADWAY: 36'-0" F/F guardrail & 0/0 deck

LOADING: HS20-44 and the alternate military loading

SKEW: None

WEARING SURFACE: Asphalt concrete (2 $\frac{1}{2}$ " minimum)

APPROACH SLABS: AS-1-81 (25'-0" long)

ALIGNMENT: Tangent

LATITUDE: N 41° 15' 20"

LONGITUDE: W 82° 18' 10"

CROWN RATE: $\frac{3}{16}$ " per ft.

DESIGN AVERAGE DAILY TRAFFIC: 2750 (2029)

DESIGN AVERAGE DAILY TRUCK TRAFFIC: 140 (2029)

SITE PLAN

BRIDGE NO. 10R-511.15
LOR-511-13.15

LOR-511-13.15

1/7

11
17

DESIGN AGENCY

DATE

REVIEWED

DRAWN

DESIGNED

CHECKED

APPROVED

DATE

REVIEWED

DRAWN

DESIGNED

CHECKED

APPROVED

DATE

REVIEWED

DRAWN

DESIGNED

CHECKED

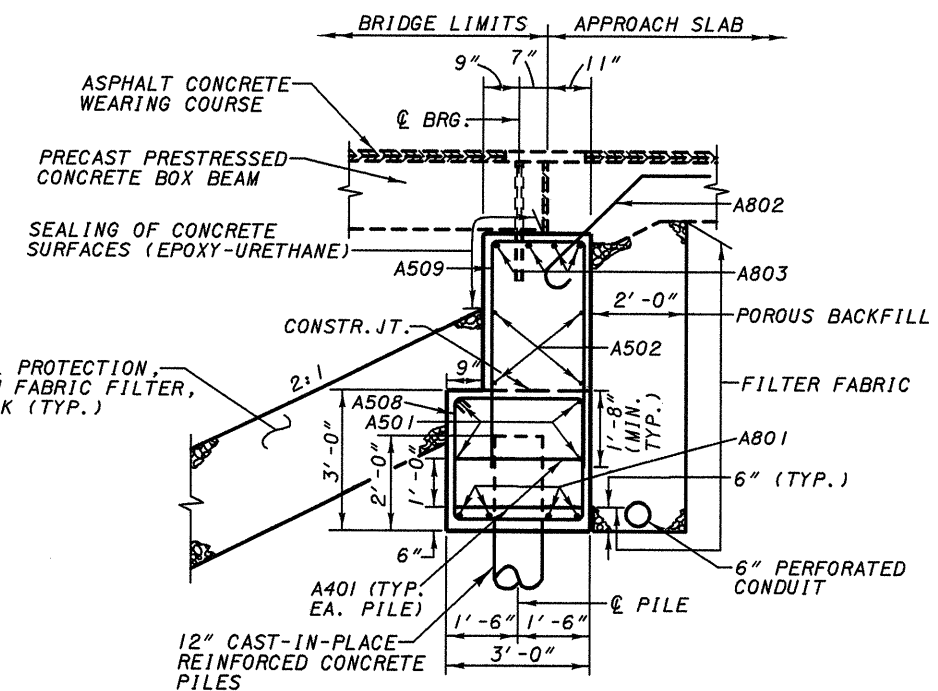
APPROVED

DATE

REVIEWED

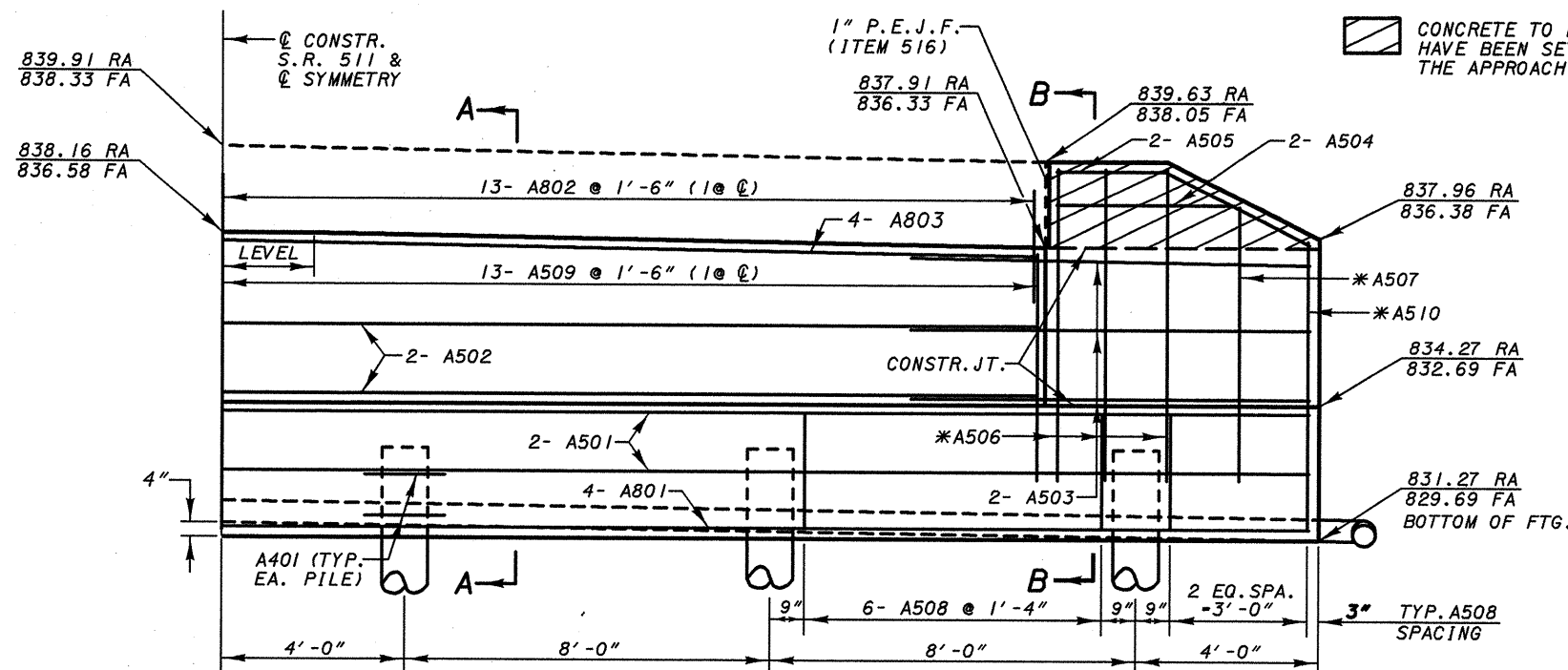
DISTRICT THREE

STRUCTURE FILE NUMBER
4707389



SECTION B-B

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)



SECTION B-B

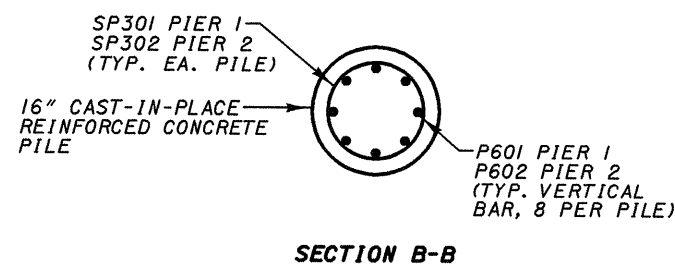
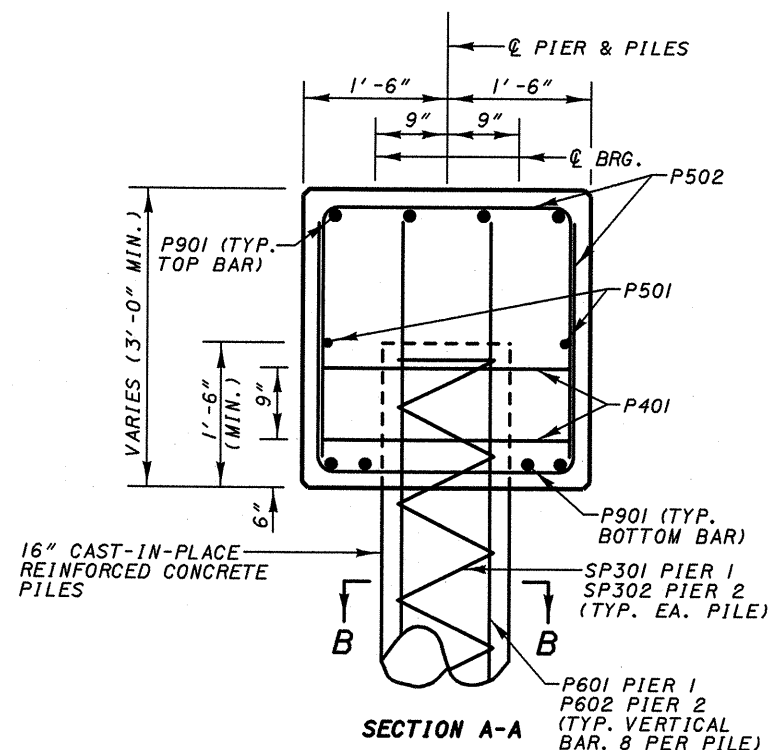
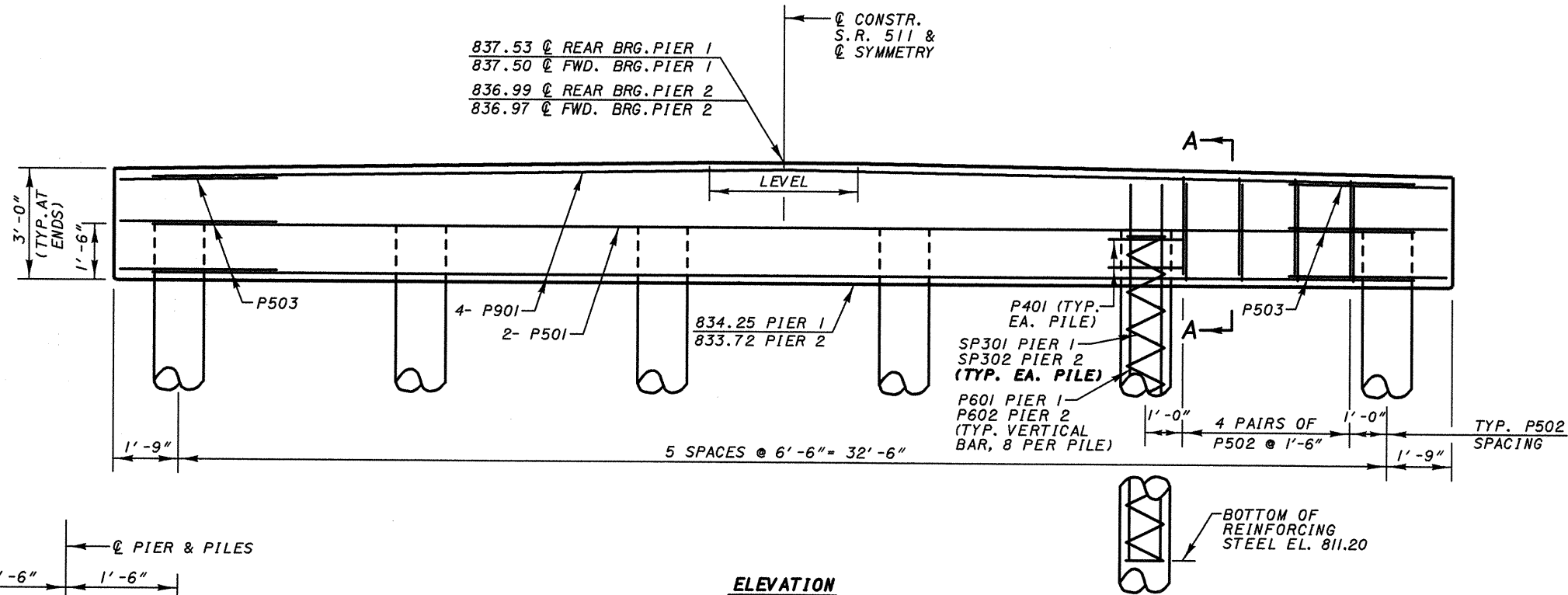
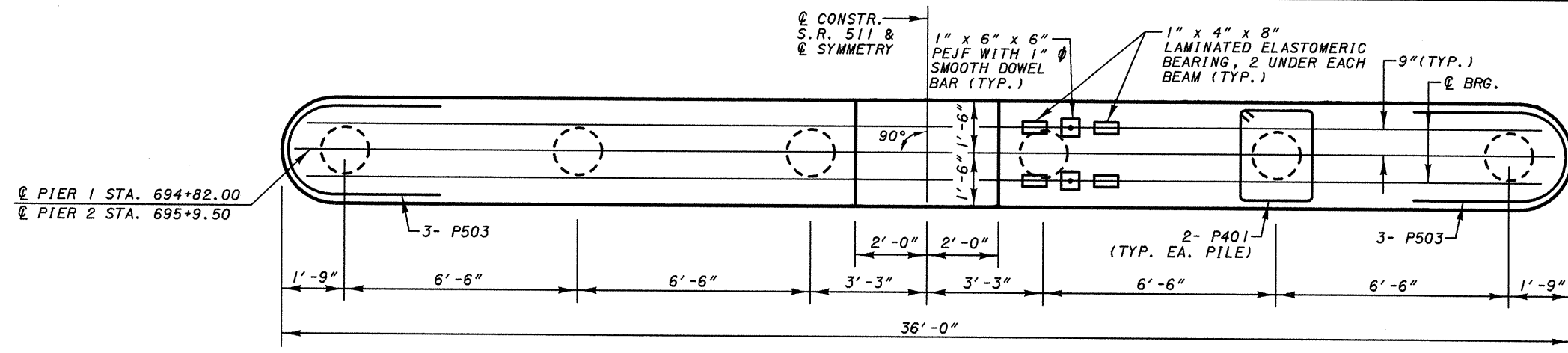
6" NON-PERFORATED CONDUIT

2:1

FILTER FABRIC

$\frac{1}{6}" / \text{ft.}$
(MIN.)

$$\frac{13}{17}$$



NOTES:

REINFORCING STEEL: SEE SHEET 16

ALL P.E.J.F. ON THIS SHEET TO BE INCLUDED WITH ITEM 515 FOR PAYMENT

BRIDGE SEAT REINFORCING: REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES

NOTATION:

P.E.J.F. - PREFORMED EXPANSION JOINT FILLER

DESIGN AGENCY
 DISTRICT THREE

DATE
 REVIEWED
 STRUCTURE FILE NUMBER
 4707389

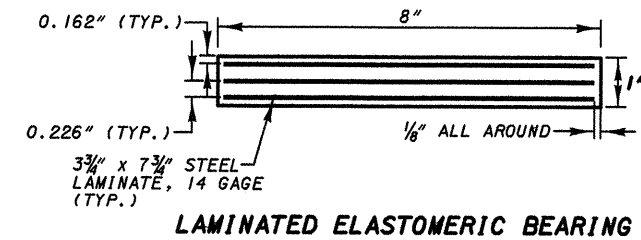
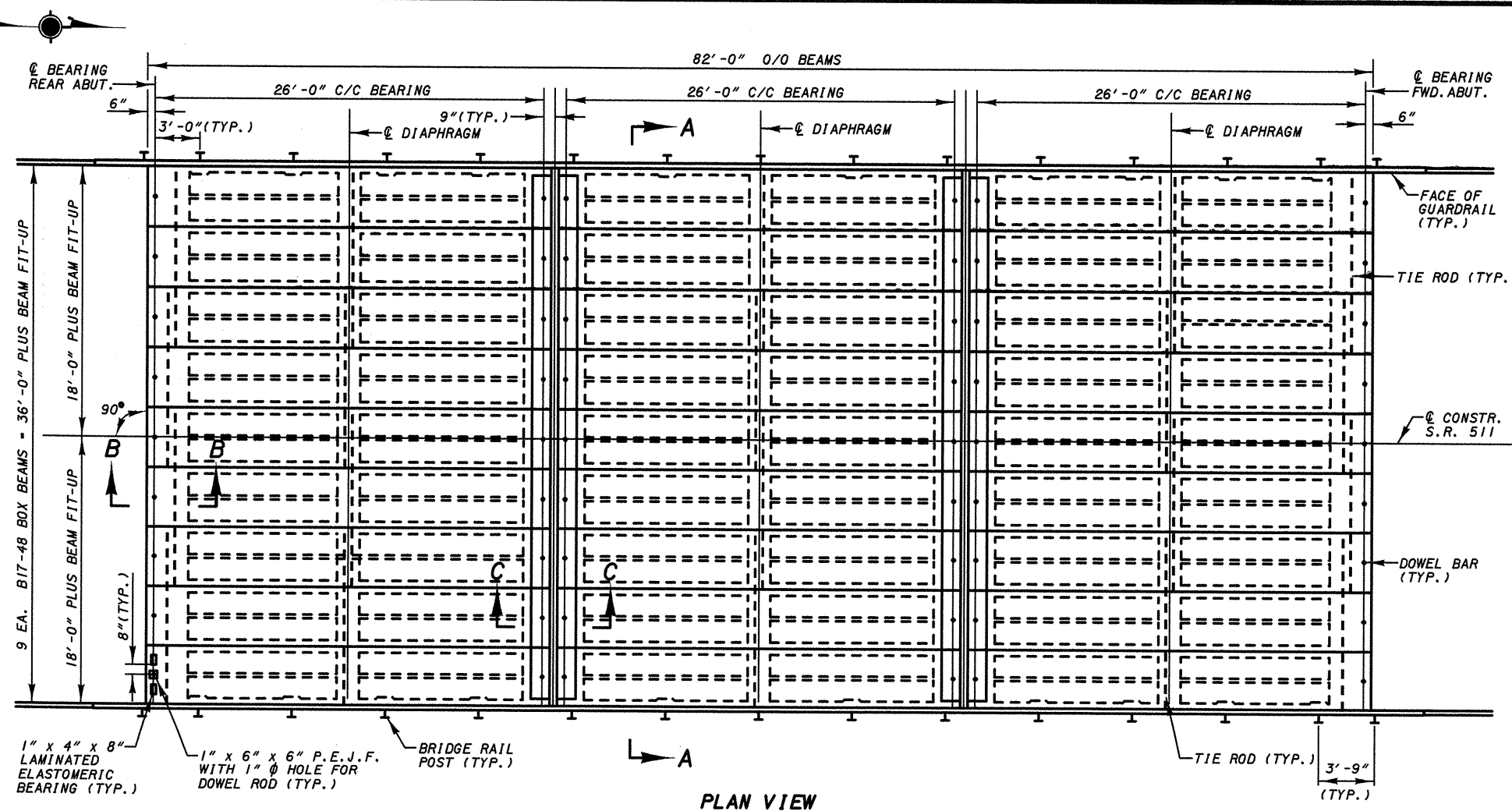
DESIGNED
 RDN
 CHECKED

PIER DETAILS
 BRIDGE NO. LOR-511-1315
 OVER EAST FORK OF VERMILION RIVER

LOR-511-13.15

4/7

14
 17



BEARING DESIGN LOADS
 DEAD LOAD: 6.8 k
 LIVE LOAD: 7.3 k
 MAXIMUM DESIGN LOAD: 14.1 k

BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) 1"x 4" x 8" (50 DUROMETER)

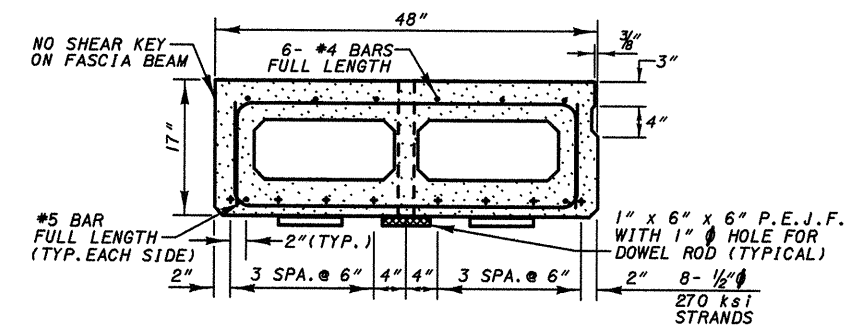
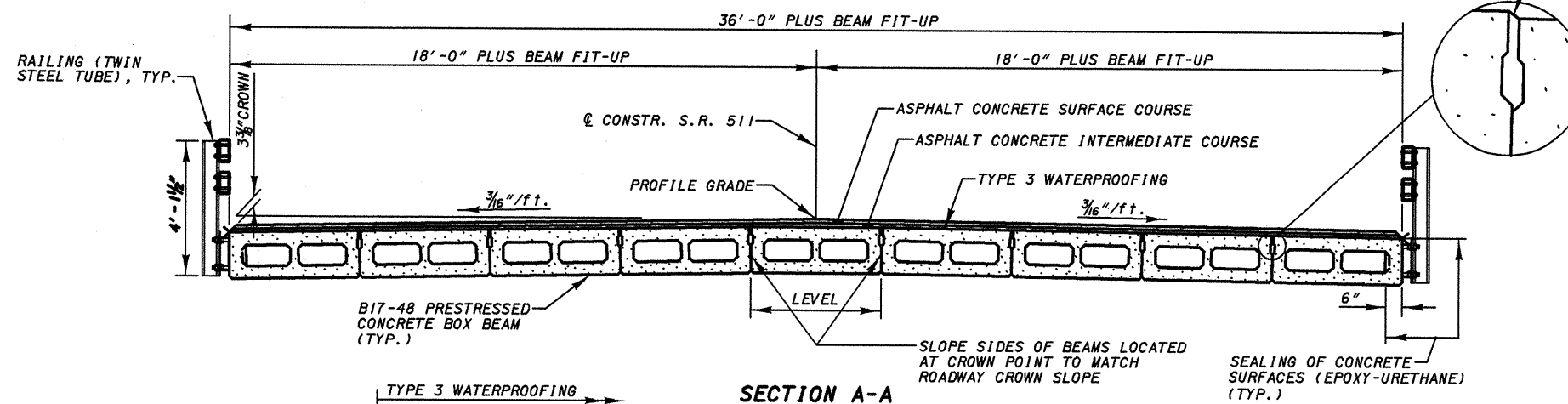
ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND ARTICLES 18.2.5 THROUGH 18.2.8 OF SECTION 18, BEARING DEVICES, DIVISION 11, CONSTRUCTION, OF THE AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES. BEARINGS SHALL BE GRADE 3, 50 DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS CORRESPONDING TO DESIGN METHOD A. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.

BEARING PAD SHIMS: 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 4"x 8", SHALL BE PLACED UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. THE AMOUNT SUPPLIED IS SUFFICIENT FOR 2 SHIMS PER BEAM. PAYMENT WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 516-1/8" PREFORMED BEARING PAD, 711.21.

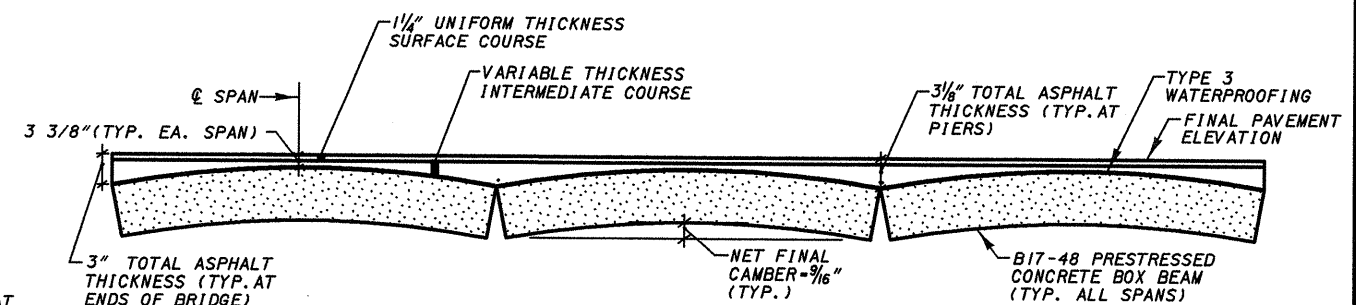
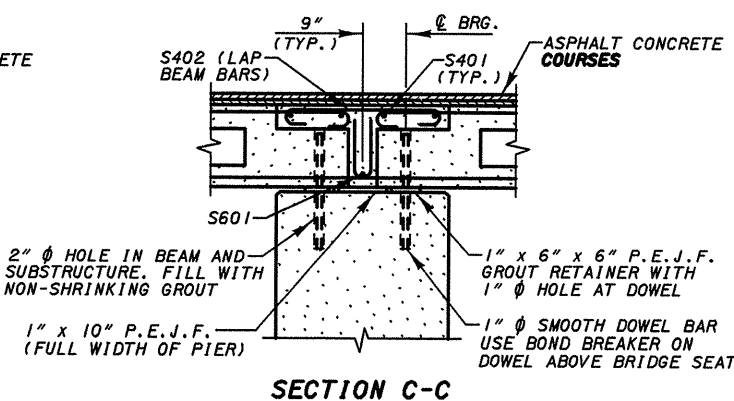
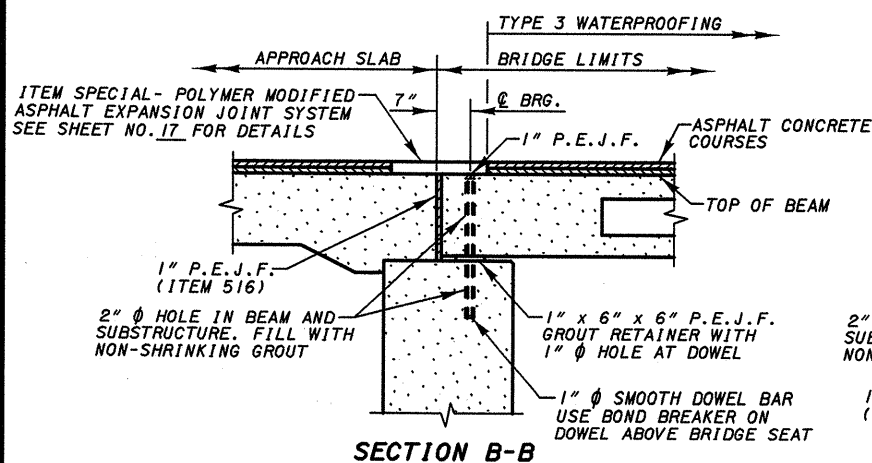
INSTALLATION PROCEDURE FOR FIXED ANCHOR DOWEL: PLACE P.E.J.F. GROUT RETAINER, DRILL AND CLEAN HOLES. THEN PLACE NON-SHRINKING GROUT, DOWEL AND 1" P.E.J.F. PLUG

ALL P.E.J.F. ON THIS SHEET TO BE INCLUDED WITH ITEM 515 FOR PAYMENT, UNLESS NOTED OTHERWISE

* SHEAR KEYS SHALL BE MORTARED ON A FINISHED PLANE BETWEEN THE TOP EDGES OF THE ADJACENT BEAMS WHERE VERTICAL OFFSET (WITHIN TOLERANCE) OCCURS



SEE STANDARD DRAWING PSBD-1-93M FOR DETAILS NOT SHOWN



SUPERSTRUCTURE NOTES

PRESTRESSED CONCRETE BOX BEAM DETAILS: SEE STANDARD DRAWING PSBD-1-93, SHEETS 1-3

STEEL DRIP STRIP: SEE STANDARD DRAWING DS-1-94

TWIN STEEL TUBE BRIDGE RAILING: SEE STANDARD DRAWING TST-1-99

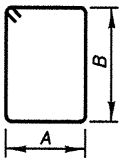
PRESTRESSING STEEL SHALL BE ASTM A416 GRADE 270, 1/2" Ø SEVEN WIRE, UNCOATED, LOW RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi AND INITIAL TENSION LOAD OF 30,982 LBS PER STRAND.

CALCULATED CAMBER FOR B17-48 BOX BEAMS AT TIME OF PAVING, INCLUDING ALLOWANCE FOR CAMBER GROWTH DUE TO CREEP, IS 5/8". CALCULATED DEFLECTION DUE TO THE WEIGHT OF SURFACE COURSE AND RAILINGS IS 1/16".

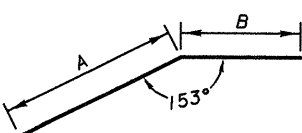
NET FINAL CAMBER OF BEAMS IS 3/8". THE VERTICAL CURVE ADJUSTMENT TO THE TOPPING THICKNESS AT EACH MIDSPAN IS 3/8" UPWARD. THE VERTICAL CURVE ADJUSTMENT TO THE TOPPING THICKNESS AT EACH ABUTMENT BEARING IS 0" AND AT EACH PIER BEARING 1/8" UPWARD. THE THICKNESS OF THE INTERMEDIATED ASPHALT COURSE SHALL VARY FROM 1 3/4" AT THE CENTERLINE OF EACH ABUTMENT BEAM BEARING TO 2 1/8" AT MIDSPAN. THE THICKNESS OF THE INTERMEDIATE ASPHALT COURSE SHALL VARY FROM 1 7/8" AT THE CENTERLINE OF EACH PIER BEAM BEARING TO 2 1/8" AT MIDSPAN BETWEEN PIERS. (SEE ASPHALT THICKNESS DIAGRAM ON SHEET NO.15)

ASPHALT CONCRETE SURFACE COURSE SHALL CONSIST OF A VARIABLE THICKNESS OF ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A(448), AS PER PLAN AND 1 1/4" THICKNESS OF ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A(448), AS PER PLAN. THE ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A(448), AS PER PLAN SHALL BE PLACED IN ONE OPERATION. THE COURSE SHALL BE FEATHERED TO PLACE THE SURFACE PARALLEL TO AND 1 1/4" BELOW FINAL PAVEMENT SURFACE ELEVATION.

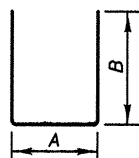
REINFORCING STEEL SCHEDULE									
MARK	NUMBER			LENGTH	TYPE	A	B	WEIGHT	
	REAR	FWD	TOTAL						
ABUTMENTS									
A401	12	12	24	9'-6"	1	2'-0"	2'-6"	152	
A501	8	8	16	25'-1"	S			419	
A502	4	4	8	35'-8"	S			298	
A503	12	12	24	8'-6"	S			213	
A504	4	4	8	3'-8"	S			31	
A505	4	4	8	5'-6"	2	3'-6"	2'-2"	46	
A506	6	6	12	14'-7"	3	1'-2"	6'-10"	183	
A507	2	2	4	12'-11"	3	1'-2"	6'-0"	54	
A508	36	36	72	11'-0"	1	2'-8"	2'-7"	826	
A509	25	25	50	12'-2"	3	1'-11"	5'-3"	634	
A510	2	2	4	11'-5"	3	1'-2"	5'-3"	48	
A801	8	8	16	26'-4"	S			1125	
A802	25	25	50	5'-2"	4	3'-0"	1'-5"	690	
A803	4	4	8	35'-8"	S			762	
						SUBTOTAL		5481	
PIERS									
SP301	6		6	24'-4"	5	1'-0"	1'-0"	*	
SP302		6	6	23'-10"	5	1'-0"	1'-0"	*	
P401	12	12	24	9'-6"	1	2'-0"	2'-6"	152	
P501	2	2	4	34'-0"	S			142	
P502	40	40	80	7'-9"	3	2'-8"	2'-8"	647	
P503	6	6	12	9'-11"	6	2'-6"	3'-0"	124	
P601	48		48	25'-10"	S			*	
P602		48	48	25'-4"	S			*	
P901	8	8	16	34'-0"	S			1850	
						SUBTOTAL		2915	
SUPERSTRUCTURE									
S401			8	34'-8"	S			185	
S402			108	3'-8"	7	2'-8"		265	
S601			2	35'-8"	S			107	
						SUBTOTAL		557	
						TOTAL		12641	



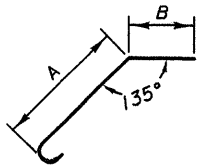
TYPE 1



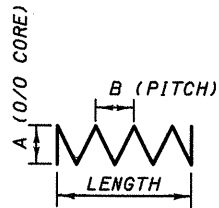
TYPE 2



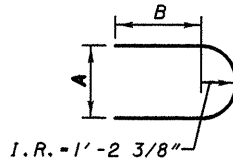
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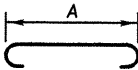
TYPE 4



TYPE 5



TYPE 6



TYPE 7

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST LETTER IDENTIFIES THE BAR LOCATION. THE NEXT DIGIT(S) INDICATE THE BAR SIZE NUMBER AND THE REMAINING DIGITS INDICATE THE SEQUENCE NUMBER

EXAMPLE: A501
A) A- LOCATION OF THE BAR IN THE STRUCTURE
5) 5- BAR SIZE NUMBER
01- SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS NOTED OTHERWISE. ALL REINFORCING STEEL TO BE EPOXY COATED
* INCLUDED FOR PAYMENT WITH ITEM 507 - 16" CAST IN-PLACE REINFORCED CONCRETE PILES.

GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

ITEM SPECIAL - POLYMER-MODIFIED ASPHALT EXPANSION JOINT SYSTEM

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 THE 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:

MILD STEEL 1/8" OR 1/4" THICK PLATE, 8" WIDE OR 18 GAUGE ALUMINUM, 8" 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.

BACKER ROD:

THE BACKER SHALL BE A CLOSED CELL FOAM EXPANSION JOINT FILLER CAPABLE OF WITHSTANDING THE PLACEMENT TEMPERATURE OF THE POLYMER MODIFIED ASPHALT.

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 A 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.

SEALING OF EXPANSION JOINT: (PRE-STRESSED BOX OR CONCRETE SLAB)

THE EXPANSION JOINT GAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF 1/8" OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 1/8" AND 1-1/8" BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

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 ACCOMODATE THE ENTIRE JOINT LENGTH. SPIKE HOLES WILL BE DRILLED AT 1 FOOT INTERVALS ALONG THE LONGITUDINAL CENTERLINE OF THE PLATES. SECURE BRIDGING PLATE WITH NAILS OR SPIKES. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SETUP BEFORE NEXT OPERATION. WHEN ALUMINUM BRIDGING PLATES ARE USED, ONLY THE BINDER IS REQUIRED TO SECURE THE INDIVIDUAL PLATES.

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 1/32" 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 MELTER 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 3/4 OF AN INCH NOR EXCEEDING 2-1/2 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 1/2 INCH AND ONE (1) INCH. IN PREPARING THE TOP LAYER, THE RATIO 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.

MAINTENANCE OF TRAFFIC:

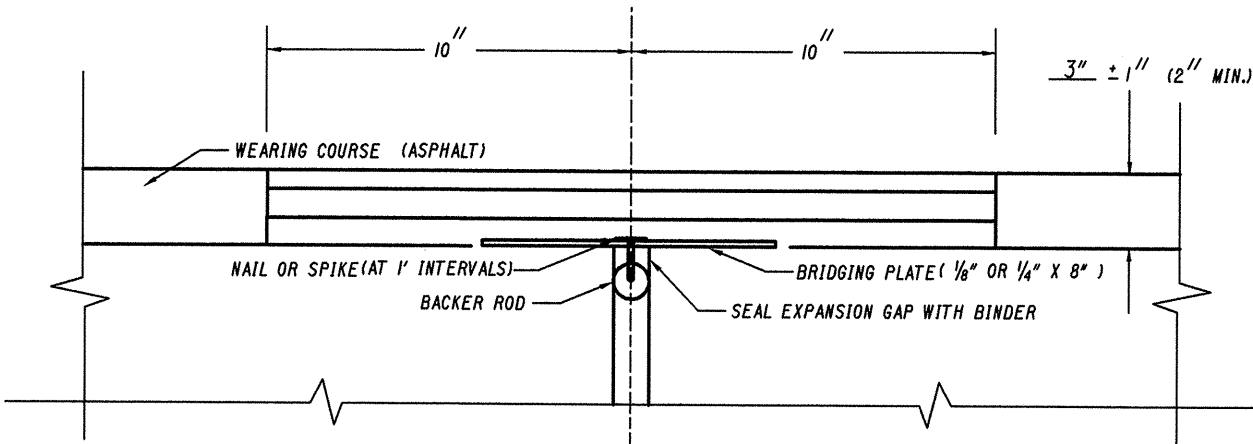
IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF TWO (2) INCHES OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER OF THE JOINT INSTALLED. IN ALL CASES, OPERATIONS WILL BE SCHEDULED SO THAT ALL LANES CAN BE OPEN TO TRAFFIC DURING ALL NON-WORKING HOURS.

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 INCLUDING THE REMOVAL OF THE EXISTING POLYMER JOINT AT THE CONTRACT PRICE AS: ITEM SPECIAL, FEET, POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM.



TYPICAL PRESTRESSED BOX BEAM

LOR-511-13.15 SFN 4707389			
ITEM	DESCRIPTION	UNIT	QUANTITY
SPECIAL	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	FT	.

POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM
BRIDGE NO. LOR-511-13.15
OVER EAST FARK OF VERMILION RIVER

LOR-511-13.15