

ALLEN COUNTY, OHIO

OFFICE OF THE COUNTY ENGINEER

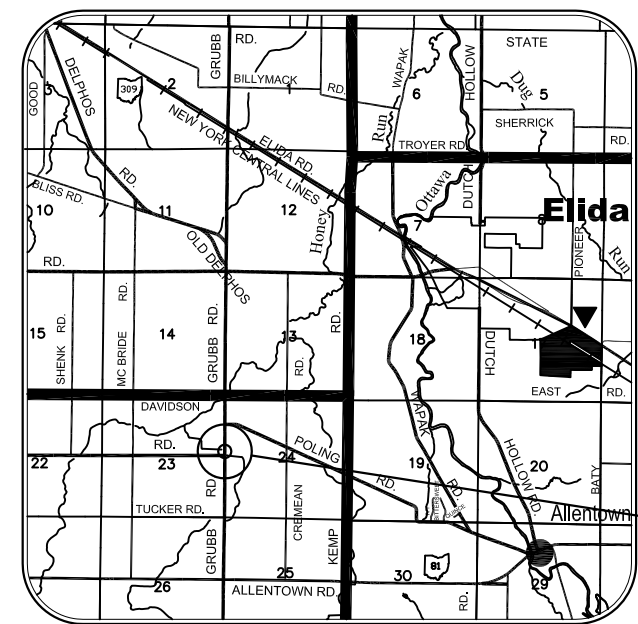
GRUBB ROAD BRIDGE NO. ALL-CR 77-5.50, PID 104252

OVER PETITIONED DITCH #1063 ROSS MILLER

AMANDA TOWNSHIP

CONVENTIONAL SIGNS

- County Line ————
- Township Line ————
- Section Line ———— SECTION 34
- Corporation Line ———— or ————
- Fence Line (existing) —X—X— (proposed) —X—X—
- Center Line 10+00 11+00 12+00 13+00 14+00
- Existing Communications Line ———— T ———— T ————
- Existing San. Sewer (to be abandoned) —X—X—
- Trees Stumps (to be removed)
- Utility Poles: Telephone Power Light
- Limited Access (only) ———— LA ————
- Right of Way (only) ———— R/W ————
- Limited Access & Right of Way ———— LA & RW ————
- Existing Right of Way ———— EX R/W ———— EX R/W ————
- Proposed Right-of-Way ———— PROP R/W ————
- Property Line ———— (in existing fence) —X—X—
- Railroad ———— or ————
- Existing Water Main (to be abandoned) —X—X—
- Guardrail (existing) (proposed)
- Signs (existing) (proposed)



VICINITY MAP



- PORTION TO BE IMPROVED
- STATE ROUTES ST. RT. 696
- OTHER ROADS
- DETOUR ROUTE

SCALES

- Plan
- Profile: Horizontal
- Profile: Vertical
- Cross Sections: Horizontal
- Cross Sections: Vertical

LINE DATA

INDEX OF SHEETS

<u>Length of Project</u>		Title Sheet	1
Begin Project	Station 9+25.00	Typical Section	2
End Project	Station 11+75.00	General Notes	3
		General Summary	4
		Plan & Profile	5
Net Length of Project	250 Linear Feet	Cross Sections	6-7
	= 0.047 Mile	Structure Over 20' Span	8-16

Supplemental Prints of Standard Construction Drawings							
DRAWING	DATE	DRAWING	DATE	DRAWING	DATE	DRAWING	DATE
BP-3.1	7/18/14	MGS-4.1	1/20/17	TC-61.30	1/20/17	PSBD-2-07	7/20/18
MGS-1.1	1/19/18	MGS-4.2	7/19/13	MT-101.60	7/20/18	TST-1-99	7/20/18
MGS-2.1	1/19/18	DM-1.1	7/21/17	MT-105.10	1/20/17		
MGS-3.1	1/19/18	DM-4.4	1/15/16	DS-1-92	7/18/03		

2016 SPECIFICATIONS

The standard specifications of The State of Ohio, Department of Transportation, Dated January 1, 2016 including changes and supplemental specifications listed in the proposal shall govern the construction of this project.
 We the Commissioners of Allen County, Ohio, in formal session, hereby approve these plans and certify that the necessary Right-of-Way is available.

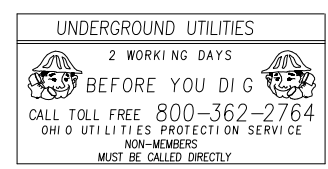
APPROVED: _____ BOARD OF ALLEN COUNTY COMMISSIONERS

DATE _____

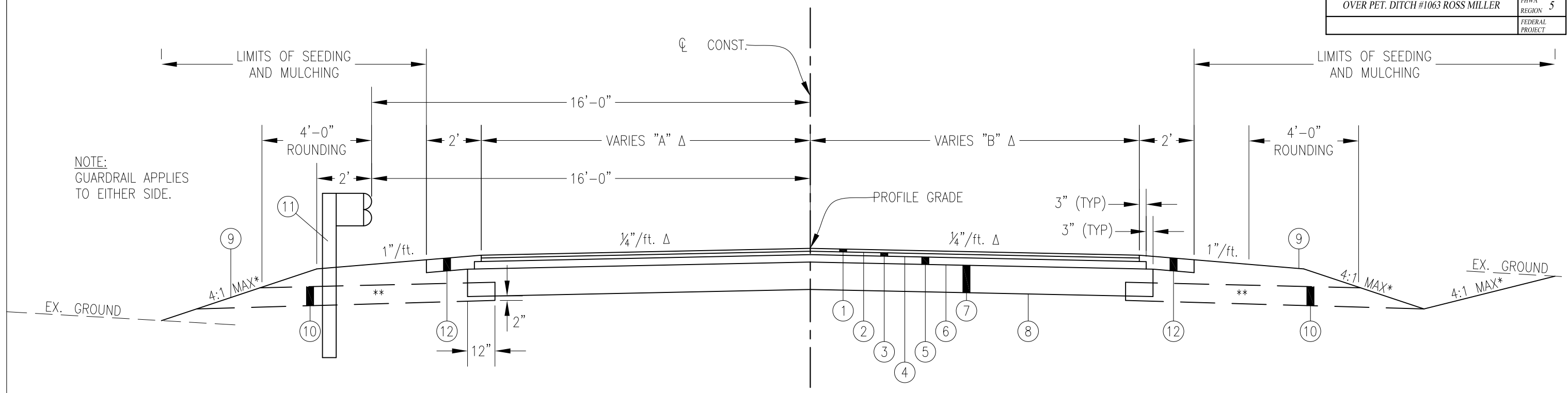
I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the roadway.

APPROVED: _____

DATE _____ ALLEN COUNTY ENGINEER



Plans Prepared By:
ALLEN COUNTY ENGINEER
 1501 N. Sugar St.
 Lima, Ohio 45801-3136



NOTE:
GUARDRAIL APPLIES
TO EITHER SIDE.

NORMAL SECTION "A"

LEGEND:

- ① ITEM 441 1 ¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
 - ② ITEM 407 TACK COAT FOR SURFACE COURSE (APPLIED AT 0.04 GAL PER SQ YD)
 - ③ ITEM 441 1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
 - ④ ITEM 407 TACK COAT FOR INTERMEDIATE COURSE (APPLIED AT 0.075 GAL PER SQ YD)
 - ⑤ ITEM 301 3 ¼" ASPHALT CONCRETE BASE, PG64-22
 - ⑥ ITEM 408 PRIME COAT (APPLIED AT 0.40 GAL PER SQ YD)
 - ⑦ ITEM 304 12" AGGREGATE BASE
 - ⑧ ITEM 204 SUBGRADE COMPACTION
 - ⑨ ITEM 659 SEEDING AND MULCHING (SEE GENERAL NOTES)
 - ⑩ ITEM 605 AGGREGATE DRAINS
 - ⑪ ITEM 606 GUARDRAIL, TYPE MSG WITH LONG POSTS
 - ⑫ ITEM 304 8" AGGREGATE BASE
- * UNLESS OTHERWISE SHOWN SHOWN ON CROSS SECTIONS
- ** 0.08 DESIRABLE, 0.04 MINIMUM
- Δ TRANSITION TO MATCH EXISTING

APPLIES FROM STA. 9+50 TO STA. 9+88.50 = 38.50 FT
 STA. 10+17.50 TO STA. 10+75 = 57.50 FT
 96.00 FT

ITEM 605 AGGREGATE DRAINS		
CL STATION	SIDE	LENGTH (FT)
9+50	RIGHT	19
9+75	LEFT	16
10+25	RIGHT	16
10+50	LEFT	17
10+75	RIGHT	17
TOTAL:		85

"A" STA. 9+50.00 TO STA. 9+95.00 = VARIES FROM 10' TO 16' Δ
 STA. 9+45.00 TO STA. 10+28.00 = BRIDGE
 STA. 10+28.00 TO STA. 10+75.00 = VARIES FROM 16' TO 10' Δ

"B" STA. 9+50.00 TO STA. 9+78.00 = VARIES FROM 11' TO 16' Δ
 STA. 9+28.00 TO STA. 10+11.00 = BRIDGE
 STA. 10+11.00 TO STA. 10+75.00 = VARIES FROM 16' TO 10' Δ

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.				1/1
TYPICAL SECTIONS				
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063				
DRAWN BY: R.J.M.	CHECKED BY:	DESIGNED BY: R.J.M.	DATE 3-18	

GENERAL NOTES

GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER		OHIO
		FHWA REGION 5
		FEDERAL PROJECT

UTILITY OWNERSHIP:

LISTED BELOW ARE ALL UTILITIES WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

CENTURYLINK ATTN: DAVE SPURGEON 122 SOUTH ELIZABETH STREET LIMA, OHIO 45801 (419) 226-6220 DAVID.L.SPURGEON@CENTURYLINK.COM	BUCKLAND TELEPHONE COMPANY ATTN: DAN LAMBERT 105 SOUTH MAIN STREET BUCKLAND, OHIO 45819 419-657-2221 DAN@OHIOLINK.NET
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MIDWEST ELECTRIC, INC.
ATTN: MIKE DIERINGER
06029 COUNTY ROAD 33A
ST. MARYS, OHIO 45885
(419) 394-4110
MDIERINGER@MIDWESTREC.COM

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

ROUNDING:

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN.

CONTINGENCY QUANTITIES:

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

CONTINGENCY QUANTITIES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

ITEM 611 4" CONDUIT, TYPE E	20 FT
ITEM 611 6" CONDUIT, TYPE E	20 FT
ITEM 611 8" CONDUIT, TYPE E	20 FT
ITEM 611 10" CONDUIT, TYPE E	20 FT
ITEM 601 DUMPED ROCK FILL, AS PER PLAN (ALL NO. 2 STONE)	10 CY

CONSTRUCTION LIMITS:

THE CONSTRUCTION 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 CONSTRUCTION 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.

CLEARING AND GRUBBING:

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

WOOD FROM TREES:

THE WOOD FROM ALL TREES REMOVED WITHIN THE RIGHT-OF-WAY SHALL BE THE PROPERTY OF THE LANDOWNER OF THE AREA FROM WHERE THE TREES WERE CUT. IF THE LANDOWNER DOES NOT WANT THE WOOD IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF ALL WOOD AND BRUSH FROM THE PROJECT.

ITEM 204 PROOF ROLLING:

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 PROOF ROLLING	2 HOUR
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ITEM 605 AGGREGATE DRAINS:

FOR LOCATIONS OF AGGREGATE DRAINS, SEE SHEET NO. 2.

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	1 M GAL
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ITEM 203 EMBANKMENT, AS PER PLAN:

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6-INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT.

PERMANENT PAVEMENT MARKINGS:

PERMANENT PAVEMENT MARKINGS SHALL BE INSTALLED BY ALLEN COUNTY. THE COUNTY ENGINEER SHALL BE NOTIFIED AT LEAST TWO WEEKS PRIOR TO JOB COMPLETION TO ALLOW FOR SCHEDULING OF THE PAVEMENT MARKING INSTALLATION. THE ROAD SHALL NOT BE OPENED TO TRAFFIC WITHOUT PERMANENT PAVEMENT MARKINGS IN PLACE.

ITEM 614 MAINTAINING TRAFFIC:

THE EXISTING BRIDGE SHALL BE CLOSED TO TRAFFIC FOR THE DURATION OF THE PROJECT. THE PROJECT DURATION SHALL BE A PERIOD NOT TO EXCEED 90 CONSECUTIVE CALENDAR DAYS. LIQUIDATED DAMAGES SHALL BE ASSESSED, IN ACCORDANCE WITH 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR EACH CALENDAR DAY THAT THE PROJECT EXCEEDS THE SPECIFIED PROJECT DURATION. ACCESS MUST BE MAINTAINED TO ALL ADJACENT PROPERTIES AND ALL DRIVEWAYS THROUGHOUT THE PROJECT.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" "ROAD CLOSED" SIGNS, SIGN SUPPORTS, BARRICADES, GATES AND LIGHTS, AS DETAILED IN THE STANDARD CONSTRUCTION DRAWING MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROAD IS CLOSED TO TRAFFIC:

1. NEAR BEGIN WORK - APPROXIMATELY 75 FT SOUTH OF THE EXISTING BRIDGE.
2. NEAR END WORK - APPROXIMATELY 125 FT NORTH OF THE EXITING BRIDGE.

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 LOCATIONS AS FOLLOWS:

1. MOVABLE TYPE JUST NORTH OF THE ALLENTOWN ROAD INTERSECTION.
2. MOVABLE TYPE JUST NORTH OF THE TUCKER ROAD INTERSECTION.
3. MOVABLE TYPE JUST SOUTH OF THE DAVIDSON ROAD INTERSECTION.
4. MOVABLE TYPE JUST SOUTH OF THE PIQUAD ROAD INTERSECTION.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENTS FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

SEEDING AND MULCHING:

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

ITEM 659 TOPSOIL	99 CU YD
ITEM 659 REPAIR SEEDING AND MULCHING	50 SQ YD
ITEM 659 COMMERCIAL FERTILIZER	0.08 TON
ITEM 659 LIME	0.18 ACRES
ITEM 659 WATER	2.4 M GAL

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 SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CONSTRUCTION NOISE:

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9:00 PM AND 7:00 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

ITEM 606 GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN:

ALL GUARDRAIL POSTS SHALL BE CONSTRUCTED OF STEEL AND MEET THE REQUIREMENTS OF STANDARD ROADWAY CONSTRUCTION DRAWING MGS-1.1 AND MGS-2.1. NO POSTS SHALL BE CONSTRUCTED OF WOOD.

ITEM 606 ANCHOR ASSEMBLY, MGS TYPE T, AS PER PLAN:

ALL GUARDRAIL POSTS SHALL BE CONSTRUCTED OF STEEL AND MEET THE REQUIREMENTS OF STANDARD ROADWAY CONSTRUCTION DRAWING MGS-4.2. NO POSTS SHALL BE CONSTRUCTED OF WOOD.

ITEM 606 BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN:

ALL GUARDRAIL POSTS SHALL BE CONSTRUCTED OF STEEL AND MEET THE REQUIREMENTS OF STANDARD ROADWAY CONSTRUCTION DRAWING MGS-3.1. NO POSTS SHALL BE CONSTRUCTED OF WOOD.

REVIEW OF DRAINAGE FACILITIES:

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE COUNTY, REPRESENTATIVES OF THE COUNTY AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM THE FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE COUNTY.

ALL NEW CONDUITS, INLETS, CATCH BASINS AND MANHOLES CONSTRUCTED AS A PART OF THIS PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE COUNTY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

MAINTENANCE OF STORM SEWER FLOW:

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN AT ALL TIMES, STORM SEWER FLOW THROUGH EXISTING FACILITIES TO REMAIN IN PLACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING DRAINAGE CONDUIT OR STORM SEWERS WHICH MAY OCCUR DURING CONSTRUCTION DUE TO CONTRACTOR NEGLIGENCE AND SHALL REPLACE THEM AT NO ADDITIONAL COST TO THE COUNTY.

IN-STREAM WORK:

IN-STREAM WORK (PLACEMENT OR REMOVAL OF TEMPORARY AND/OR PERMANENT FILL MATERIALS BELOW ORDINARY HIGH WATER MARK) WILL BE LIMITED TO WHERE PRACTICABLE AND ONLY CLEAN, NON-ERODIBLE MATERIAL WILL BE USED FOR TEMPORARY CONSTRUCTION ACCESS FILLS. TEMPORARY FILLS WILL BE CONSTRUCTED SO AS TO ALLOW FOR FISH PASSAGE AND WILL NOT BACKUP WATER. TEMPORARILY PLACED MATERIAL WILL BE REMOVED AND THE STREAM BOTTOM RESTORED TO NEAR PRE-CONSTRUCTION CONDITIONS WHEN WORK IS COMPLETED.

ELEVATION DATUM:

ALL ELEVATIONS ARE ORTHOMETRIC HEIGHTS USING THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND THE GOEID03 GEOID. HORIZONTAL POSITIONS ARE BASED ON THE NORTH ZONE OF THE OHIO STATE PLANE COORDINATE SYSTEM, A LAMBERT CONFORMAL CONIC MAP PROJECTION, THE NORTH AMERICAN DATUM OF 1983 ADJUSTED TO THE NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NAD 83 (NSRS 2007)), AND THE GRS80 ELLIPSOID.

REMOVAL OF TEMPORARY EROSION CONTROL ITEMS:

ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED BEFORE THE PROJECT IS ACCEPTED. REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH THE APPROPRIATE CONSTRUCTION AND MATERIAL SPECIFICATIONS SPECIFICATIONS.

EROSION CONTROL:

SINCE THE DISTURBED AREA IS LESS THAN 1 ACRE, AN ENVIRONMENTAL PROTECTION AGENCY NOTICE OF INTENT IS NOT REQUIRED. THE CONDITIONS OF THE ALLEN COUNTY ENGINEER'S OFFICE STORMWATER POLLUTION PREVENT PLAN SHALL BE MET DURING ALL STAGES OF CONSTRUCTION. THE LOCATION AND TIMING OF ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE FIELD ADJUSTED TO PREVENT SIGNIFICANT IMPACTS ON RECEIVING WATERS. IMPLEMENTATION OF EROSION CONTROL ITEMS SHALL CONTINUE THROUGHOUT THE DURATION OF THE PROJECT OR UNTIL SUCH TIME THAT THE UPSLOPE DISTURBED AREAS ARE STABILIZED.

INSTALLATION OF SEDIMENT BASINS/DAMS, PERIMETER FILTER FABRIC FENCE AND DITCH CHECKS SHALL BE AS PER SUPPLEMENTAL SPECIFICATION 832.

ALL REASONABLE ATTEMPTS SHALL BE MADE TO MINIMIZE THE TOTAL AREA OF DISTURBED LAND.

AREAS TO REMAIN DORMANT FOR MORE THAN 14 DAYS SHOULD BE IMMEDIATELY STABILIZED WITH CONSTRUCTION SEEDING AND MULCHING, EROSION CONTROL MATTING OR OTHER APPROPRIATE EROSION CONTROL MEASURES.

PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO IDENTIFY APPROPRIATE LOCATIONS FOR EROSION CONTROL ITEMS.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 832 EROSION CONTROL	5000 EACH
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ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.				1 / 1
GENERAL NOTES				
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER				
DRAWN BY: R.J.M.	CHECKED BY:	DESIGNED BY: R.J.M.	DATE 11-18	

ESTIMATED QUANTITIES				
ITEM	TOTAL	UNIT	DESCRIPTION	SEE SHEET NUMBER
ROADWAY				
201	LUMP		CLEARING AND GRUBBING	
202	228	SY	PAVEMENT REMOVED, ASPHALT	
202	50	FT	PIPE REMOVED	
202	54	FT	GUARDRAIL REMOVED	
203	15	CY	EXCAVATION	
203	113	CY	EMBANKMENT, AS PER PLAN	3
204	280	SY	SUBGRADE COMPACTION	
204	2	HOUR	PROOF ROLLING	
606	162.5	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN	3
606	2	EACH	ANCHOR ASSEMBLY, MGS TYPE A	
606	2	EACH	ANCHOR ASSEMBLY, MGS TYPE T, AS PER PLAN	3
606	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN	3
EROSION CONTROL				
601	77	CY	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
659	99	CY	TOPSOIL	
659	892	SY	SEEDING AND MULCHING	
659	50	SY	REPAIR SEEDING AND MULCHING	
659	0.08	TON	COMMERCIAL FERTILIZER	
659	0.18	ACRE	LIME	
659	2.4	MGAL	WATER	
832	5000	EACH	EROSION CONTROL	
DRAINAGE				
601	10	CY	DUMPED ROCK FILL, AS PER PLAN (ALL NO. 2 STONE)	3
605	85	FT	AGGREGATE DRAINS	
611	20	FT	4" CONDUIT, TYPE E	
611	20	FT	6" CONDUIT, TYPE E	
611	20	FT	8" CONDUIT, TYPE E	
611	20	FT	10" CONDUIT, TYPE E	
611	60	FT	12" CONDUIT, TYPE C	
PAVEMENT				
301	25	CY	ASPHALT CONCRETE BASE, PG64-22	
304	103	CY	AGGREGATE BASE	
407	32	GAL	TACK COAT	
408	112	GAL	PRIME COAT	
441	21	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
STRUCTURE 20 FOOT SPAN AND OVER (CTY-RTE-SECT OR SFN)				
FOR QUANTITIES OF BRIDGE NO. ALL-CR 77-5.50, SEE SHEET 8.				
MAINTENANCE OF TRAFFIC				
616	1	MGAL	WATER	
INCIDENTALS				
614	LUMP		MAINTAINING TRAFFIC	
623	LUMP		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
624	LUMP		MOBILIZATION	

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.				1/1
GENERAL SUMMARY				
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER				
DRAWN BY: R.J.M.	CHECKED BY:	DESIGNED BY: R.J.M.	DATE 10-18	

NorthEast ¼, Section 23, T3S, R5E, Amanda Township

Charles E. & Connie Plikerd
Parcel # 35-2300-01-004.001

NorthWest ¼, Section 24, T3S, R5E, Amanda Township

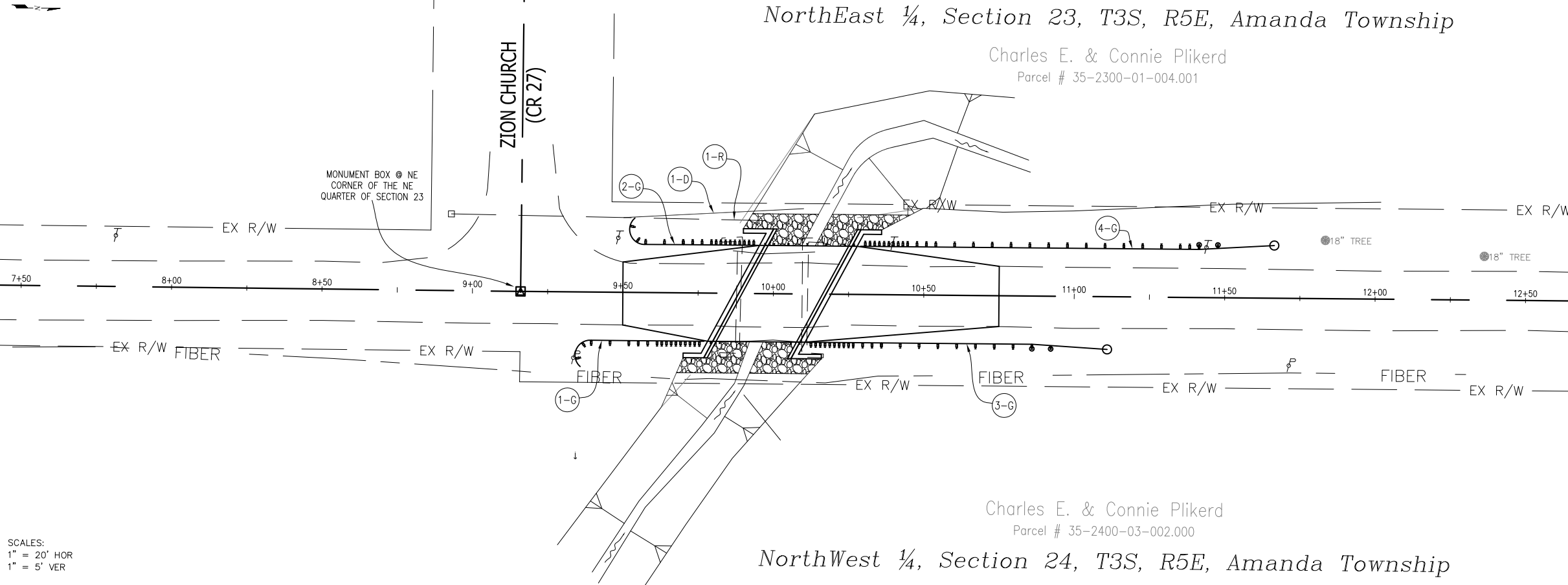
Charles E. & Connie Plikerd
Parcel # 35-2400-03-002.000

GRUBB ROAD BRIDGE
ALL-CR 77-5.50
AMANDA TOWNSHIP

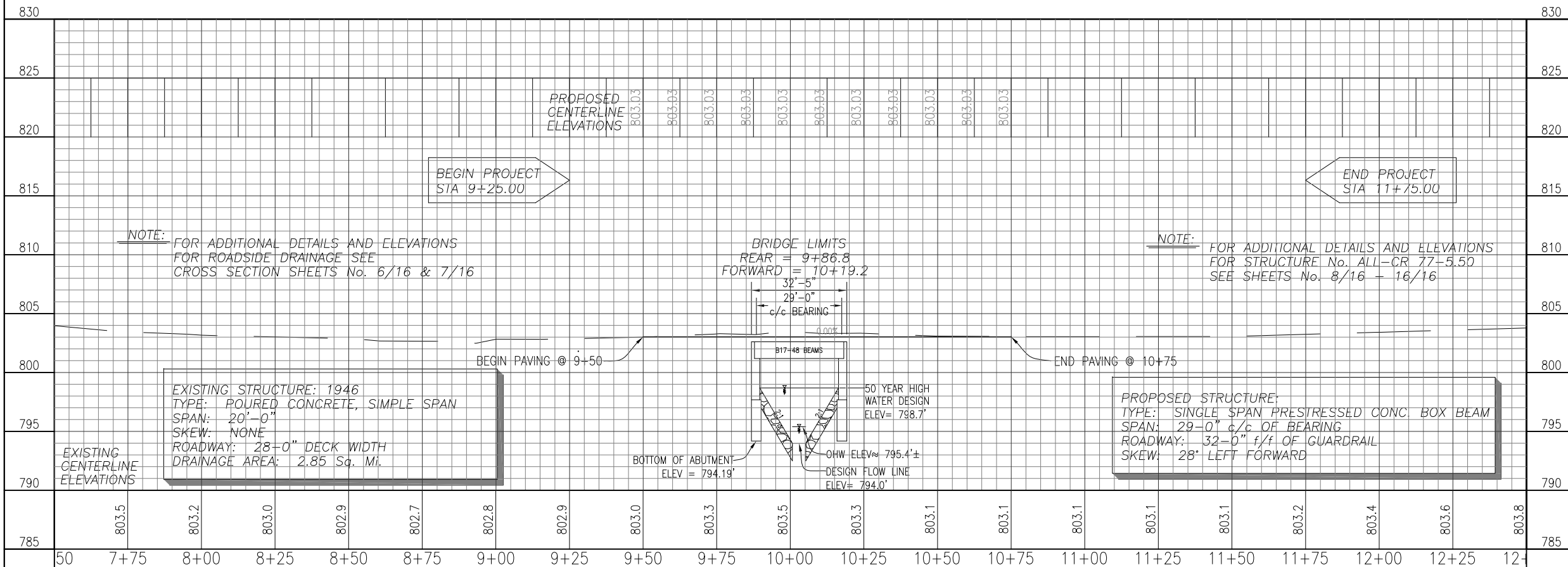
OHIO
FHWA REGION 5

5
16

DRAWN BY: R.J.M. CHECKED BY: R.J.M. DESIGNED BY: R.J.M. DATE: 5-18 FEDERAL PROJECT



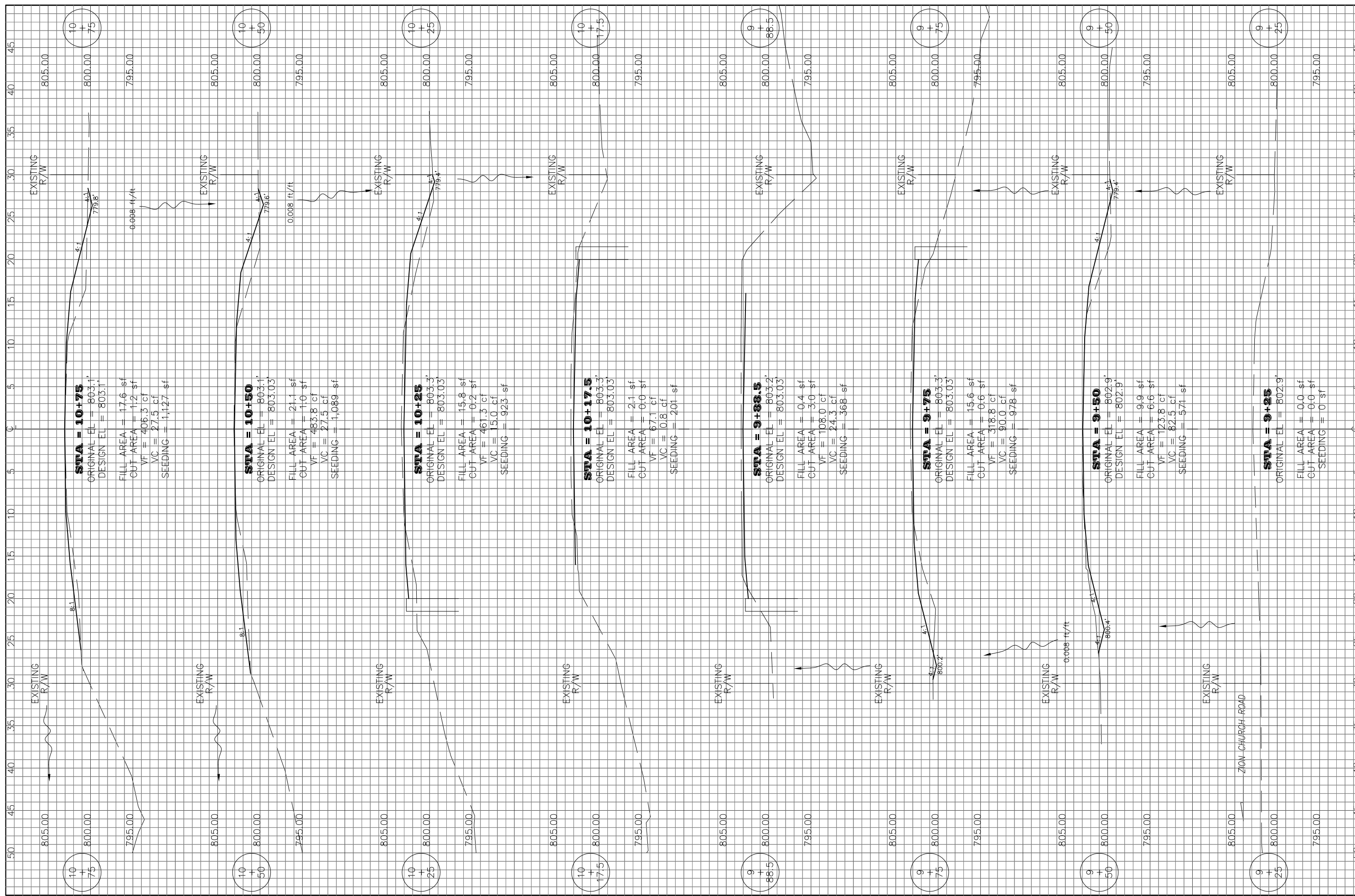
SCALES:
1" = 20' HOR
1" = 5' VER



ESTIMATED QUANTITIES

606	MGS BRIDGE TERMINAL ASSEMBLY, TYPE I, AS PER PLAN	EACH		1	1	1	1	4
606	ANCHOR ASSEMBLY, MGS TYPE T (S' RADIUS)	EACH		1	1			2
606	ANCHOR ASSEMBLY, MGS TYPE A	EACH				1	1	2
606	GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN	LIN FT		12.5	12.5	50	87.5	162.5
611	12" CONDUIT TYPE C	LIN FT	60					60
202	PIPE REMOVED	LIN FT				50		50

REF. NO.	STATION TO STATION	SIDE					TOTALS
		LEFT	RIGHT	LEFT	RIGHT	LEFT	
1-D	9+50 ~ 10+10						
1-G	9+34 ~ 9+77						
2-G	9+52 ~ 9+95						
3-G	10+11 ~ 11+11						
4-G	10+29 ~ 11+66						
1-D	9+50 ~ 10+00						
							TOTALS

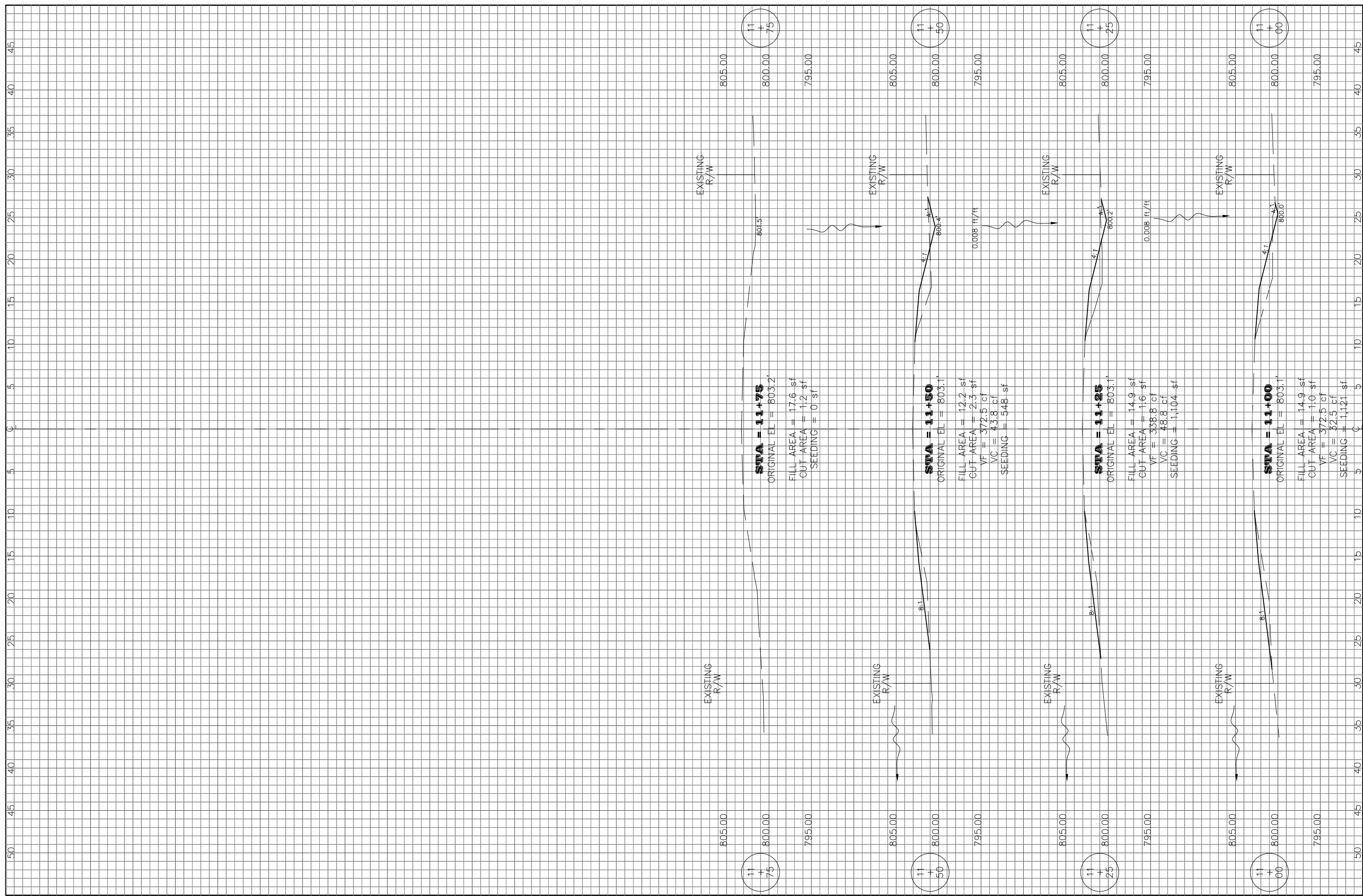


SHEET TOTALS

FILL VOLUME = 1,969 cubic feet = 73 cubic yards
 CUT VOLUME = 268 cubic feet = 10 cubic yards
 SEEDING AREA = 5,257 square feet = 584 square yards

GRUBB ROAD BRIDGE
 No. ALL-CR 77-5.50
 OVER ROSS MILLER DITCH #1063

OHIO
 FHWA REGION 5
 FEDERAL PROJECT



GRUBB ROAD BRIDGE No.ALL-CR 77-5.50 ~ CROSS SECTIONS ~ STA. 11+00 TO STA. 11+25

SHEET TOTALS

FILL VOLUME = 1,084 cubic feet = 40 cubic yards
 CUT VOLUME = 125 cubic feet = 5 cubic yards
 SEEDING AREA = 2,773 square feet = 308 square yards

GRUBB ROAD BRIDGE
 No. ALL-CR 77-5.50
 OVER ROSS MILLER DITCH #1063

OHIO
FHWA
REGION 5
FEDERAL PROJECT

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTRUCTURE	ABUTMENTS	GENERAL	SEE SHEET
202	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN			LUMP	
407	14	GAL	TACK COAT	14			
441	11	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	11			
503	LUMP		COFFERDAMS AND EXCAVATION BRACING			LUMP	
503	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN		LUMP		1/9, 3/9
505	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION		LUMP		
507	640	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		640		
507	480	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		480		
509	7415	LB	EPOXY COATED REINFORCING STEEL		7415		
511	47	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTER, AS PER PLAN		47		1/9
512	96	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		96		
SPECIAL	148	SY	WATERPROOFING, MISC.: POLYCARB MARK 156 BOX BEAM WATERPROOFING SYSTEM (OR APPROVED EQUAL)	148			6/9, 7/9
515	8	EA	PRESTRESSED CONCRETE NON-COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, B17-48, AS PER PLAN	8			6/9
516	114	SF	1" PREFORMED EXPANSION JOINT FILLER		114		
516	80	FT	2" DEEP JOINT SEALER, AS PER PLAN	80			8/9
SPECIAL	74	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS, AS PER PLAN	74			8/9
516	16	EA	1/8" PREFORMED BEARING PAD, AS PER PLAN			16	1/9
516	32	EA	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (2"x7"x11"), AS PER PLAN		32		7/9
517	69	FT	RAILING (TWIN STEEL TUBE)	69			
518	LUMP		POROUS BACKFILL WITH FILTER FABRIC		LUMP		
613	58	CY	LOW STRENGTH MORTAR BACKFILL		58		1/9, 3/9
SPECIAL	69	FT	STEEL DRIP STRIP	69			6/9
518	94	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		94		
518	44	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE		44		
523	1	EACH	DYNAMIC LOAD TESTING		1		

ABBREVIATIONS:
Ø - DIAMETER
ABUT. - ABUTMENT
B/T - BETWEEN
BRG. - BEARING
CL - CENTERLINE
C/C - CENTER TO CENTER
CIP - CAST IN PLACE
CLR. - CLEARANCE
CONST. - CONSTRUCTION
C.P.P. - CORRUGATED PLASTIC PIPE
DIA. - DIAMETER
DWG. - DRAWING
E.F. - EACH FACE
ELEV. - ELEVATION
SPS. - SPACES
FL - FLOW LINE
F/F - FACE TO FACE
F.F. - FAR FACE
FT. - FEET
FWD. - FORWARD
L - LENGTH
LF - LEFT FORWARD
MAX. - MAXIMUM
MIN. - MINIMUM
N.F. - NEAR FACE
PEJF - PREFORMED EXPANSION JOINT FILLER
PERF. - PERFORATED
PVC - POINT OF VERTICAL CURVE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY
R/W - RIGHT OF WAY
REQ. - REQUIRED
S - SECOND
STA. - STATION
STD. - STANDARD
t_e - EXTERNAL THICKNESS
t_i - INTERNAL THICKNESS
TYP. - TYPICAL
W - WIDTH
W/ - WITH
EXP. - EXPANSION

REFER TO THE FOLLOWING STANDARD DRAWINGS:

DS-1-92	REVISED 7-18-2003
PSBD-2-07	REVISED 1-21-2011
TST-1-99	REVISED 1-17-2014

DESIGN DATA:

DESIGN LOADING: HL-93
FUTURE WEARING SURFACE (FWS)
OF 0.060 KIPS/FT²

CONCRETE CLASS QC1: COMPRESSIVE STRENGTH 4.0 K.S.I.
(SUBSTRUCTURE)

REINFORCING STEEL: MIN. YIELD STRENGTH 60 K.S.I.

CONCRETE FOR PRESTRESSED CONCRETE BEAMS: COMPRESSIVE STRENGTH (FINAL):
7.0 K.S.I.
COMPRESSIVE STRENGTH (RELEASE):
5.0 K.S.I.

PRESTRESSING STRAND: AREA = 0.167 IN²
ULTIMATE STRENGTH = 270 K.S.I.
INITIAL STRESS = 202.5 K.S.I.
(LOW RELAXATION STRANDS)

REMOVAL OF EXISTING STRUCTURE:

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER. REFER TO SECTION 202.03 OF THE ODOT CMS FOR STRUCTURE REMOVAL LIMITS.

REMOVAL OVER WATER:

REASONABLE CARE SHALL BE USED BY THE CONTRACTOR TO PREVENT REMOVED MATERIALS FROM FALLING INTO THE WATER. ANY DROPPED MATERIALS SHALL BE IMMEDIATELY RECOVERED AND DISPOSED OF AWAY FROM THE SITE, EXCEPT FOR APPROVED MASONRY MATERIAL, WHICH MAY BE USED AS BANK PROTECTION AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR UNDER ITEM 202 STRUCTURE REMOVED, OVER 20 FOOT SPAN. REFER TO SECTION 104.04 OF THE ODOT CMS FOR ADDITIONAL REQUIREMENTS.

UTILITY LINES:

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITIES. 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.

BEARING PAD SHIMS:

PLACE 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 7" BY 11", UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. FURNISH TWO SHIMS PER BEAM. THE COUNTY WILL MEASURE THIS ITEM BY THE TOTAL NUMBER SUPPLIED. THE COUNTY WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 1/8" PREFORMED BEARING PADS. ANY UNUSED SHIMS WILL BECOME THE PROPERTY OF THE COUNTY.

DECK PROTECTION METHOD:

ASPHALT CONCRETE OVERLAY, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), WATERPROOFING, AND STAINLESS STEEL DRIP STRIP.

ITEM 511 CLASS QC1 CONCRETE, ABUTMENT, AS PER PLAN:

ALL EXPOSED SURFACES AT THE REAR AND FORWARD ABUTMENTS SHALL HAVE A RUBBED FINISH AS PER SECTION 511.15 B OF THE ODOT CMS.

ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH SECTION OF 503 OF THE ODOT CMS EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE ITEM 613 LOW STRENGTH MORTAR BACKFILL (SEE SHEET 3/9 FOR DETAILS).

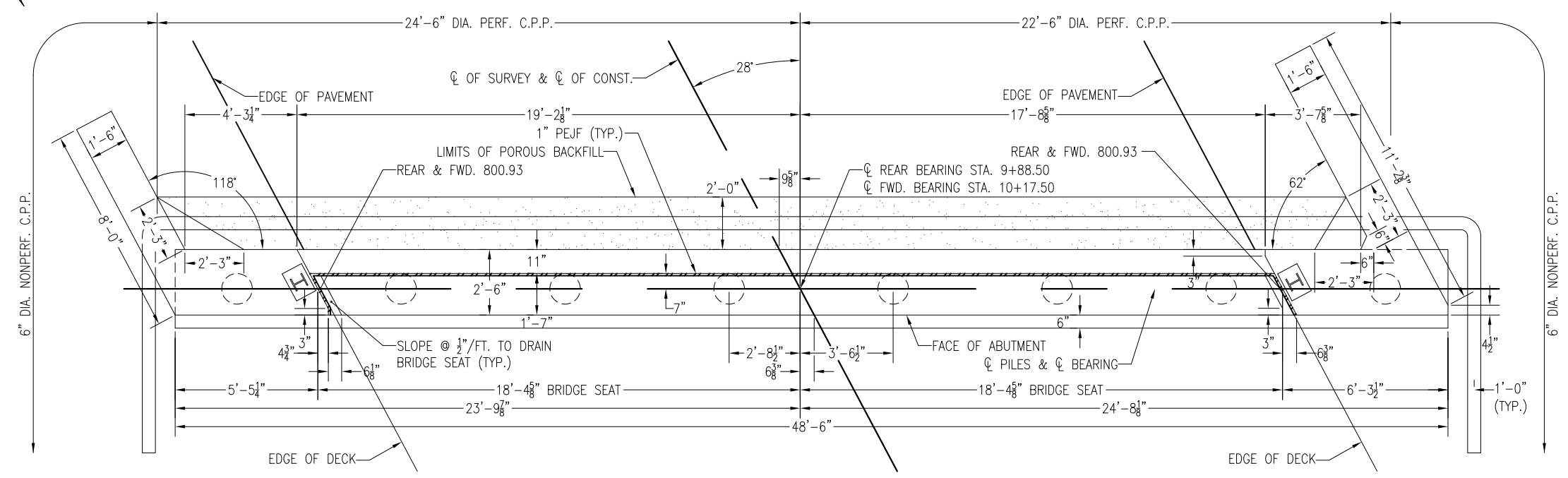
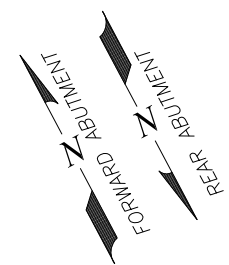
PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 245 KIPS PER PILE FOR THE REAR AND FORWARD ABUTMENTS.

ABUTMENT PILES:

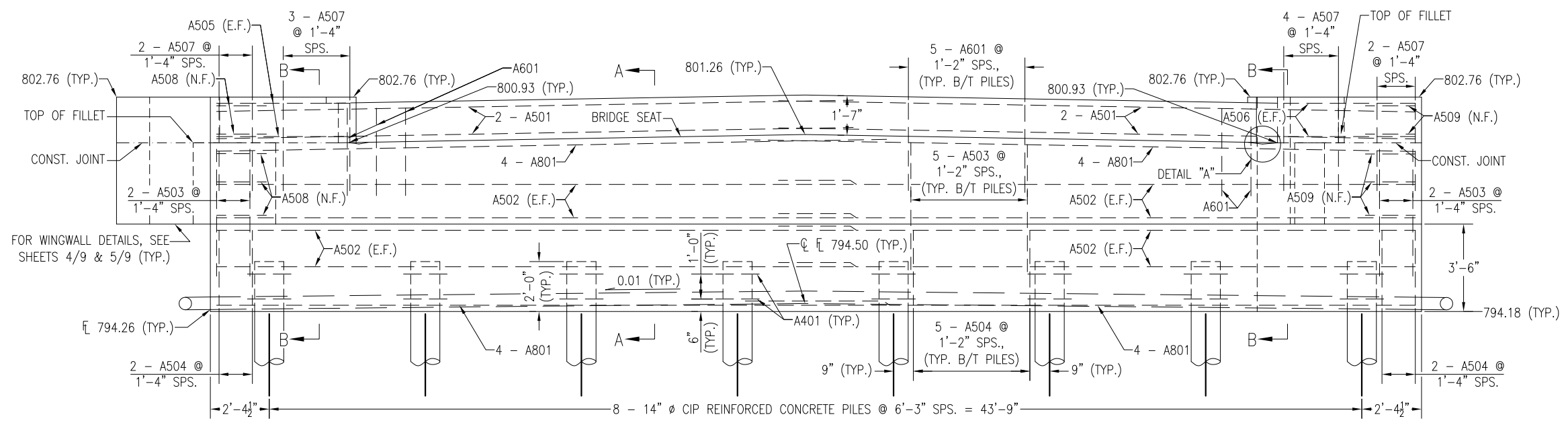
14 INCH DIAMETER PILES: 40 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.				1/9
STRUCTURE NOTES				
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER				
DRAWN BY: R.J.M.	CHECKED BY:	DESIGNED BY: R.J.M.	DATE 3-18	



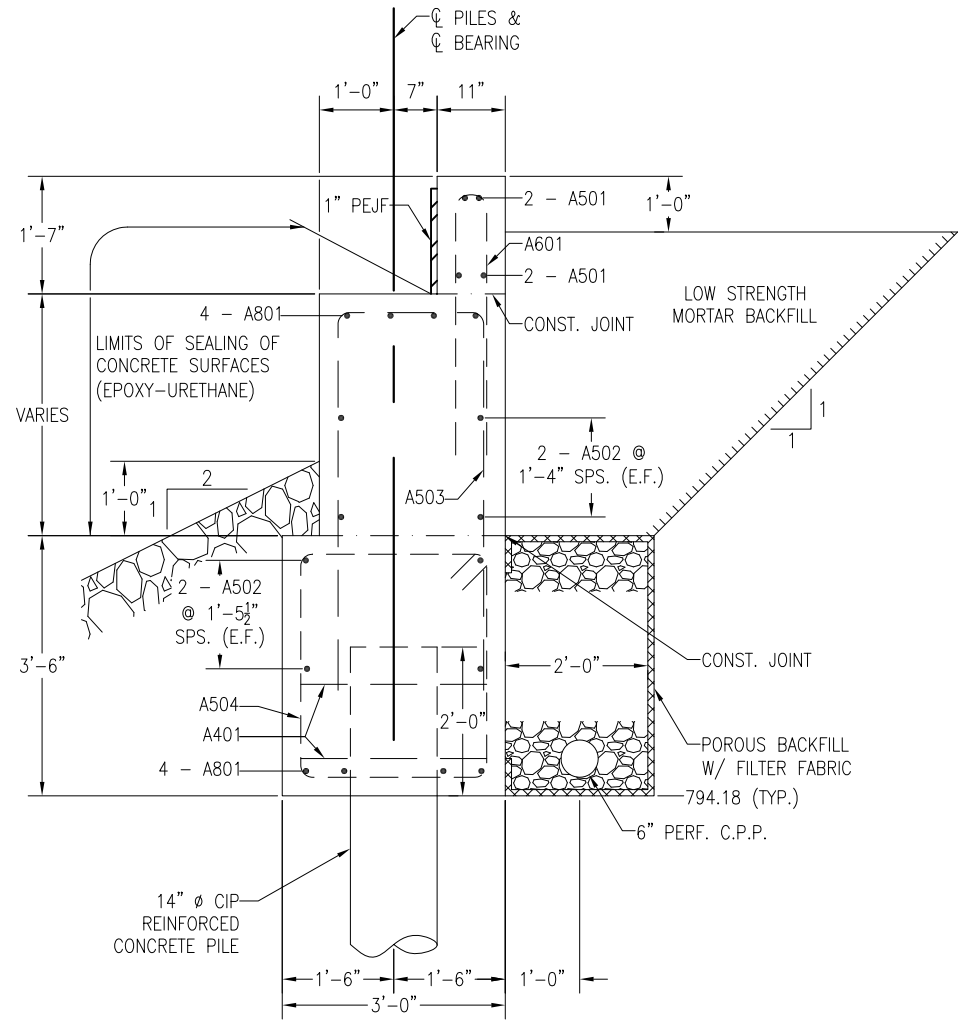
PLAN - REAR & FORWARD ABUTMENT

NOTES:
 1. FOR SECTIONS "A-A" AND "B-B" AND DETAIL "A", SEE SHEET 3/9.
 2. FOR ALL OTHER NOTES, SEE SHEET 3/9.

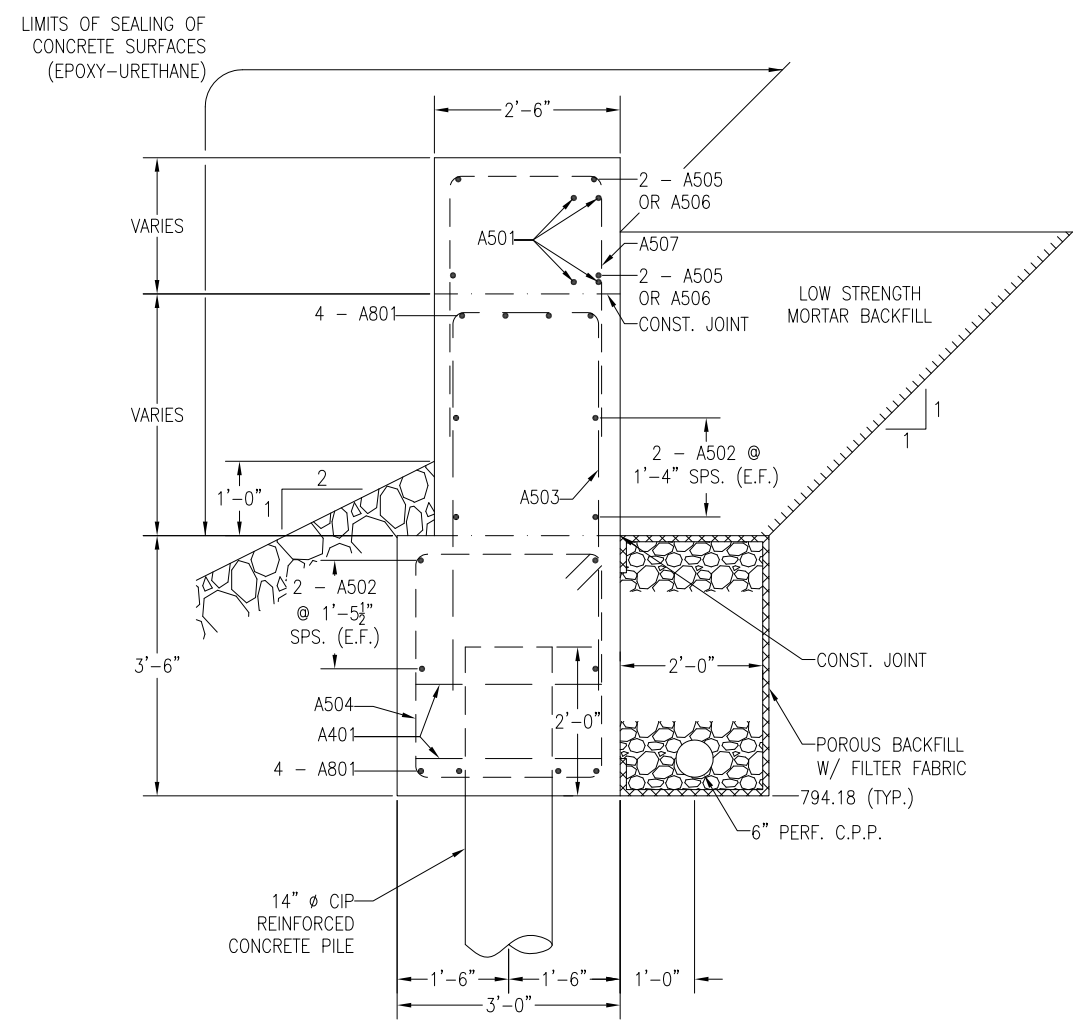


ELEVATION - REAR & FORWARD ABUTMENT

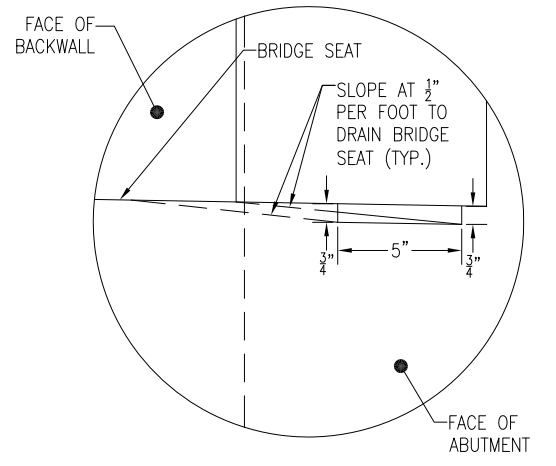
ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.		2/9
ABUTMENT DETAILS		
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER		
DRAWN BY: R.J.M.	CHECKED BY:	DESIGNED BY: R.J.M.
		DATE 3-18



SECTION "A-A"



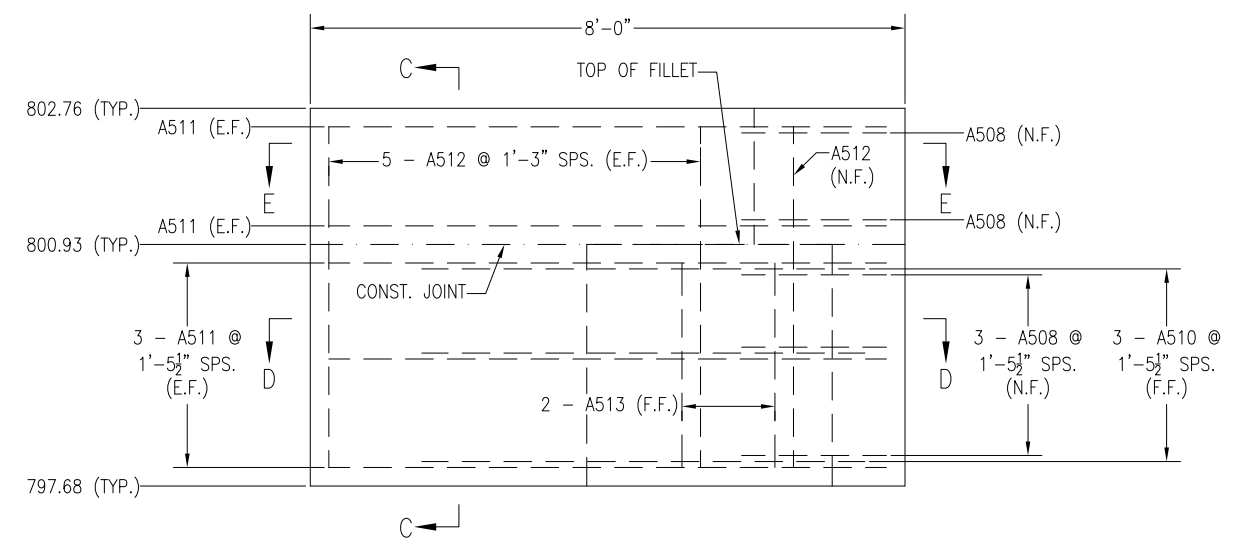
SECTION "B-B"



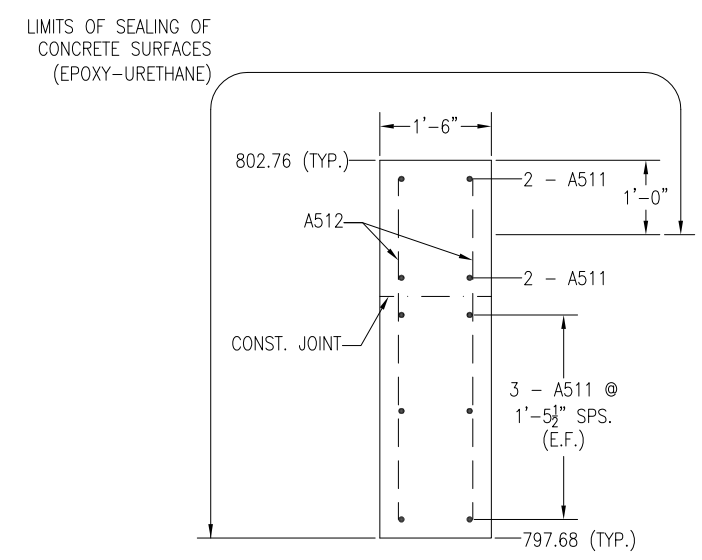
DETAIL "A"

- NOTES:**
1. **BRIDGE SEAT REINFORCING ANCHORS:** ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.
 2. **ABUTMENT CONCRETE:** DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED BOX BEAMS HAVE BEEN ERECTED.
 3. SEE SHEET 2/9 FOR LOCATIONS OF SECTIONS "A-A" AND "B-B" AND DETAIL "A".
 4. MINIMUM CLEARANCE BETWEEN REINFORCING STEEL AND FACE OF CONCRETE SHALL BE THREE (3) INCHES.
 5. MINIMUM LAP LENGTHS:
#5 BARS = 3'-0"
#8 BARS = 5'-9"
 6. ALL EXPOSED EDGES OF THE ABUTMENT AND WINGWALLS SHALL HAVE A THREE-QUARTER (3/4) INCH CHAMFER.

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.				3/9
ABUTMENT DETAILS				
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER				
DRAWN BY: R.J.M.	CHECKED BY:	DESIGNED BY: R.J.M.	DATE 5-18	

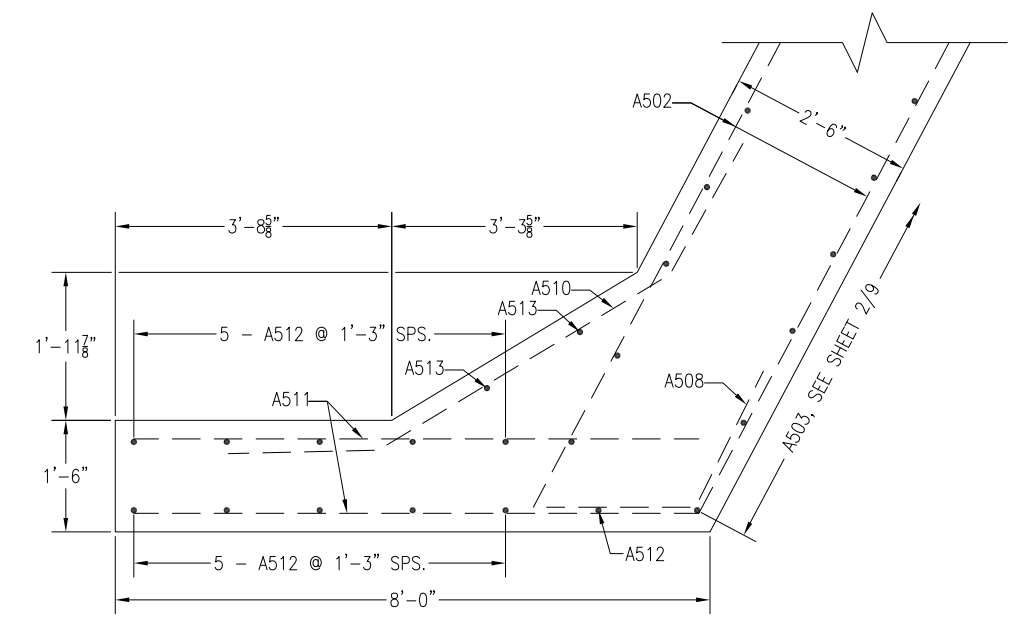


WINGWALL ELEVATION
EAST END, REAR ABUTMENT &
WEST END, FORWARD ABUTMENT

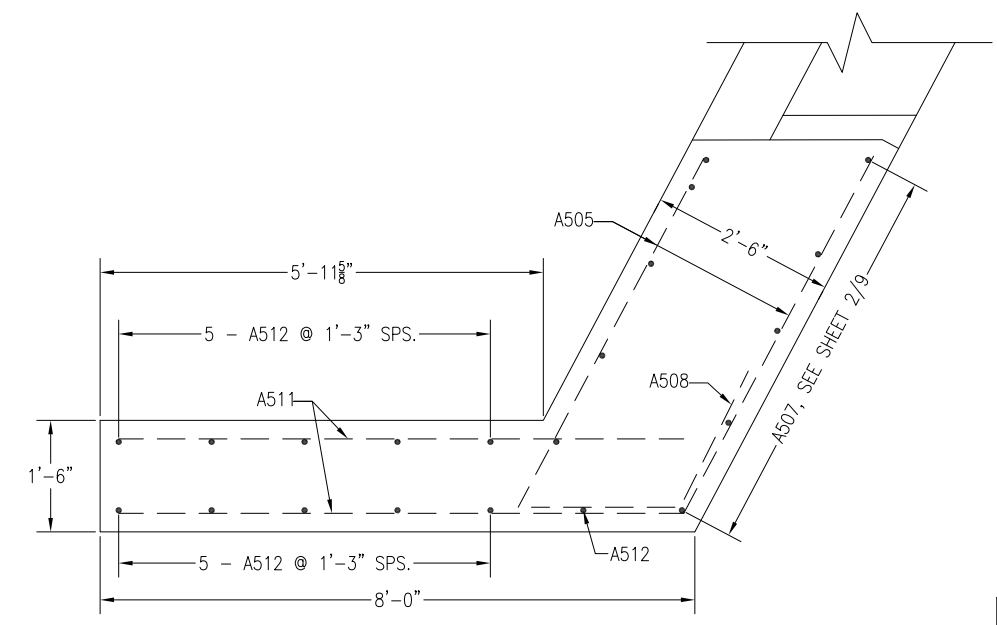


SECTION "C-C"

NOTES:
1. FOR NOTES, SEE SHEET 3/9.

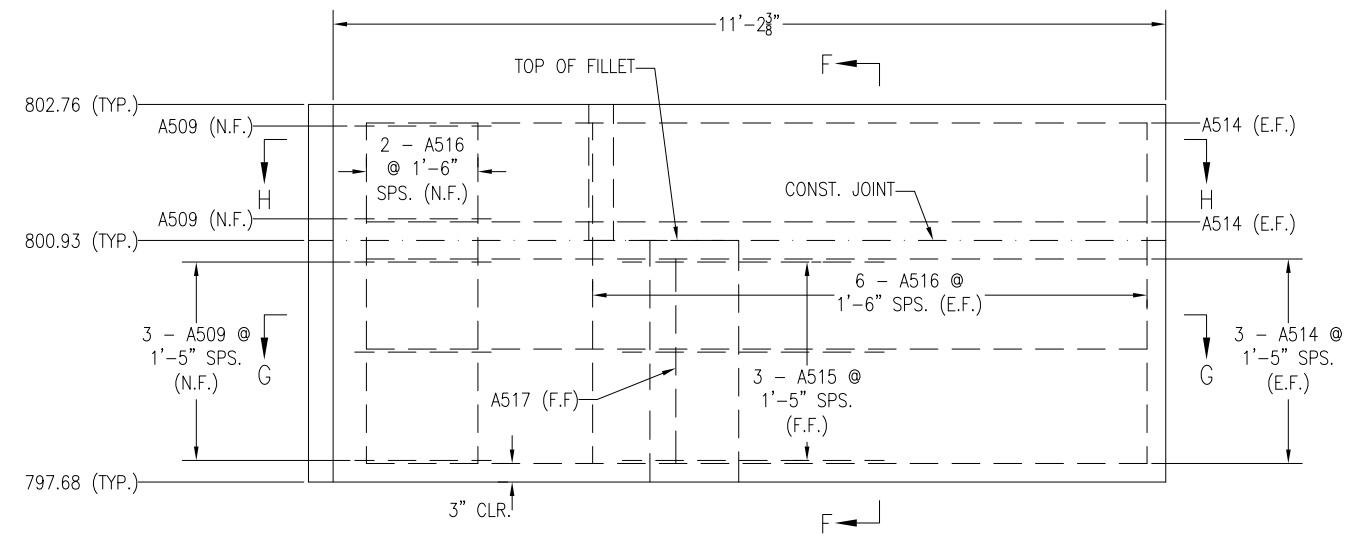


SECTION "D-D"



SECTION "E-E"

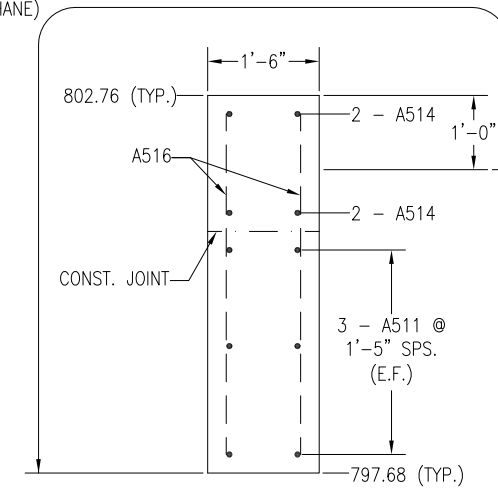
ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.				4/9
WINGWALL DETAILS				
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER				
DRAWN BY: R.J.M.	CHECKED BY:	DESIGNED BY: R.J.M.	DATE 5-18	



WINGWALL ELEVATION

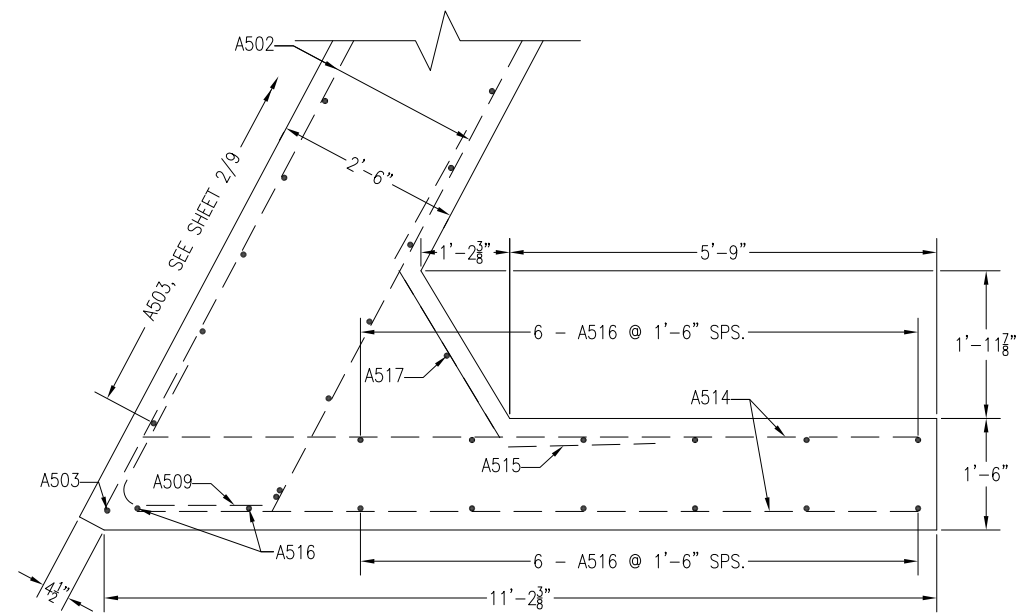
WEST END, REAR ABUTMENT &
EAST END, FORWARD ABUTMENT

LIMITS OF SEALING OF
CONCRETE SURFACES
(EPOXY-URETHANE)

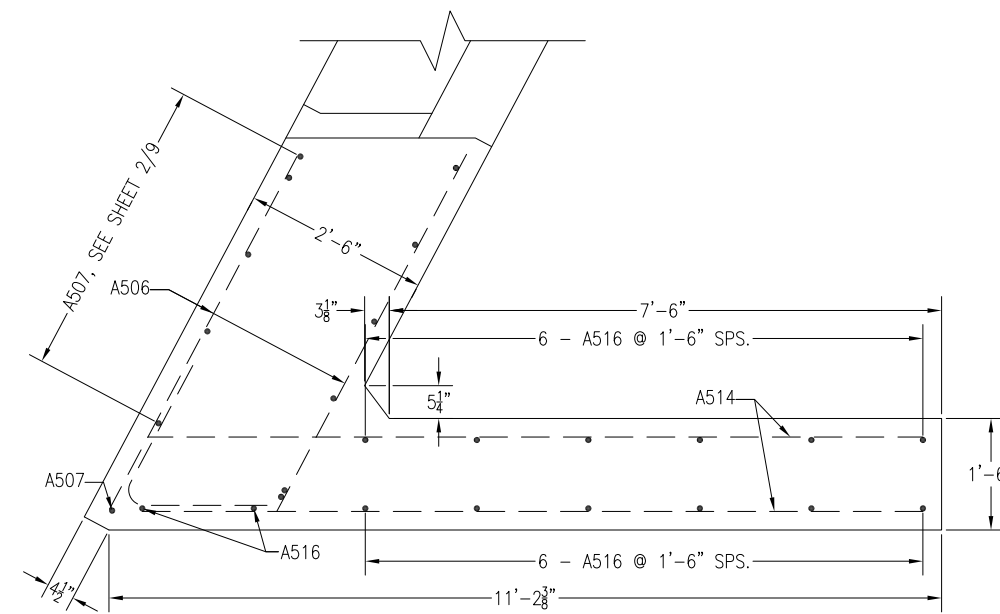


SECTION "F-F"

NOTES:
1. FOR NOTES, SEE SHEET 3/9.

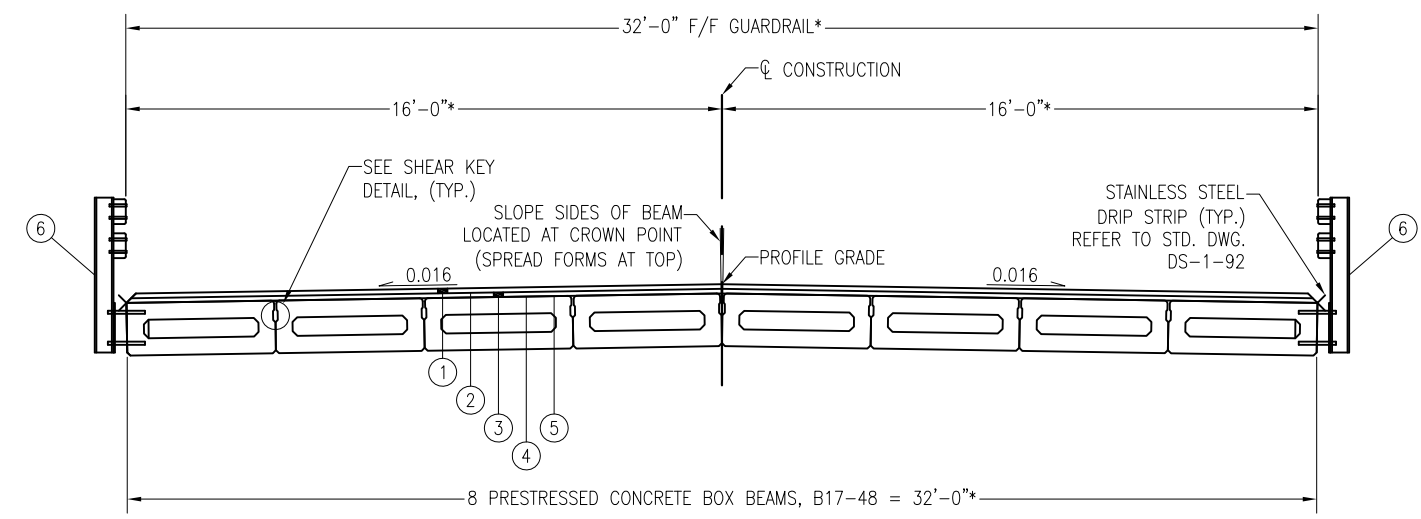


SECTION "G-G"



SECTION "H-H"

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.				5/9
WINGWALL DETAILS				
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER				
DRAWN BY: R.J.M.	CHECKED BY:	DESIGNED BY: R.J.M.	DATE 5-18	



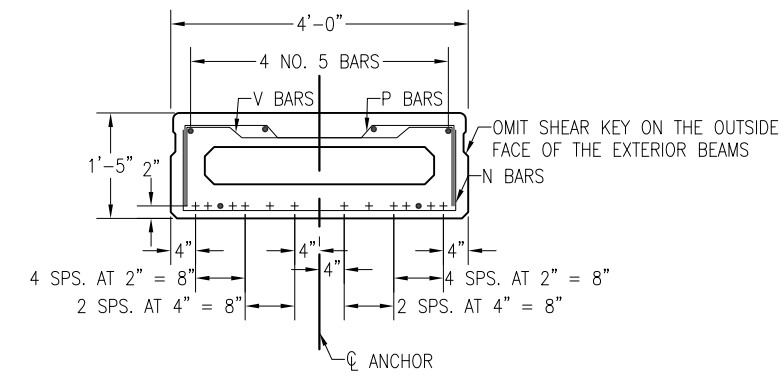
TRANSVERSE CROSS SECTION

* - PLUS FIT-UP

LEGEND:

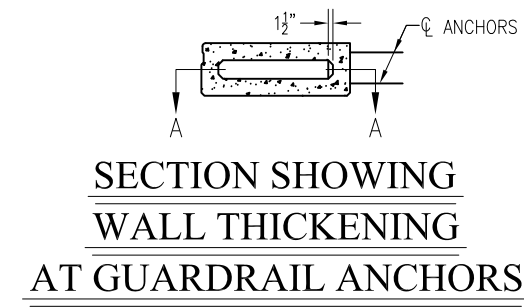
- ① ITEM 441 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- ② ITEM 407 TACK COAT FOR INTERMEDIATE COURSE (APPLIED AT 0.04 GAL PER SQ YD)
- ③ ITEM 441 VARIABLE THICKNESS ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- ④ ITEM 407 TACK COAT, APPLIED AT 0.075 GAL PER SQ YD
- ⑤ ITEM 512 POLYCARB MARK 156 BOX BEAM WATERPROOFING SYSTEM (OR APPROVED EQUAL)
- ⑥ ITEM 517 RAILING (TWIN STEEL TUBE)

NOTE:
PLACE THE VARIABLE THICKNESS SURFACE COURSE IN TWO OPERATIONS. THE FIRST PORTION OF THE COURSE SHALL BE 1 1/2" UNIFORM THICKNESS. FEATHER THE SECOND PORTION OF THE COURSE TO PLACE THE SURFACE PARALLEL TO AND 1 1/2" BELOW THE FINAL PAVEMENT SURFACE ELEVATION.

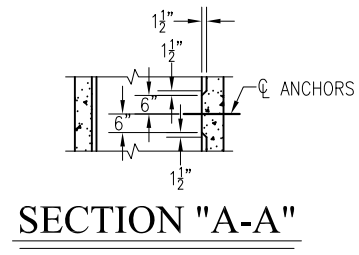


STRAND PATTERN DETAILS - B17-48

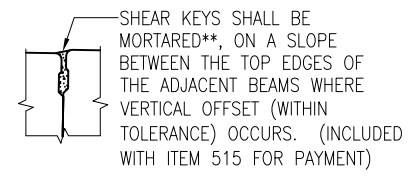
- 12 STRANDS
- + INDICATES STRAND LOCATION
- NO. 5 FULL LENGTH REINFORCING BAR (2 BARS AT BOTTOM, 4 BARS AT TOP)
- N BARS AT 10 1/2" SPS. AT MIDSPAN, 4 BARS AT 6" SPS. AT EACH END OF BEAM
- P BARS AT 10 1/2" SPS. AT MIDSPAN, 2 BARS AT 12" SPS. AT EACH END OF BEAM
- V BARS AT 10 1/2" SPS. AT MIDSPAN, 2 BARS AT 12" SPS. AT EACH END OF BEAM
- SEE STD. DWG. PSBD-2-07 FOR NO. 4 U-BARS REQUIRED IN SKEWED END AND NO. 4 BARS AT FACE.



SECTION SHOWING WALL THICKENING AT GUARDRAIL ANCHORS



SECTION "A-A"



SHEAR KEYS SHALL BE MORTARED**, ON A SLOPE BETWEEN THE TOP EDGES OF THE ADJACENT BEAMS WHERE VERTICAL OFFSET (WITHIN TOLERANCE) OCCURS. (INCLUDED WITH ITEM 515 FOR PAYMENT)

** USE HIGH EARLY STRENGTH KEYWAY GROUT AS SPECIFIED IN PROPOSAL NOTE 527 INSTEAD IF BRIDGE IS TO BE OPENED TO TRAFFIC WITHIN 7 DAYS AFTER GROUTING. SEE STD. DWG. PSBD-2-07, SHEET 1/4, MORTAR FOR GROUT/MORTAR REQUIREMENTS.

SHEAR KEY DETAIL

THE BEAM SUPPLIER SHALL SEAL BOTH SIDES OF EACH INTERIOR BEAM WITH ITEM 512 EPOXY-URETHANE CONCRETE SEALER FROM THE BOTTOM OF THE SHEAR KEY TO A POINT ON THE BOTTOM OF THE BEAM 0'-6" FROM THE SIDE OF THE BEAM AS SHOWN.

THE INTERIOR SIDE OF EACH EXTERIOR BEAM SHALL ALSO BE SEALED THIS WAY.

CONCRETE SEALER USED ON BEAMS SHALL BE THE SAME COLOR AS SEALER USED ON THE ABUTMENTS (FEDERAL COLOR STANDARD NO. 17778-LIGHT NEUTRAL).

ALL COSTS ASSOCIATED WITH THE EQUIPMENT, LABOR AND MATERIALS NECESSARY FOR COMPLETING THIS WORK SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR ITEM 515 - PRESTRESSED CONCRETE NON-COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, B17-48, AS PER PLAN.

**SEALING OF INTERIOR BEAMS (BOTH SIDES)
SEALING OF EXTERIOR BEAMS (INTERIOR SIDE)**

THE BEAM SUPPLIER SHALL SEAL THE EXTERIOR SIDE OF EACH EXTERIOR BEAM WITH ITEM 512 EPOXY-URETHANE CONCRETE SEALER FROM THE TOP OF THE BEAM TO A POINT ON THE BOTTOM OF THE BEAM 0'-6" FROM THE SIDE OF THE BEAM AS SHOWN.

CONCRETE SEALER USED ON BEAMS SHALL BE THE SAME COLOR AS SEALER USED ON THE ABUTMENTS (FEDERAL COLOR STANDARD NO. 17778-LIGHT NEUTRAL).

ALL COSTS ASSOCIATED WITH THE EQUIPMENT, LABOR AND MATERIALS NECESSARY FOR COMPLETING THIS WORK SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR ITEM 515 - PRESTRESSED CONCRETE NON-COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, B17-48, AS PER PLAN.

SEALING OF EXTERIOR BEAMS (EXTERIOR SIDE)

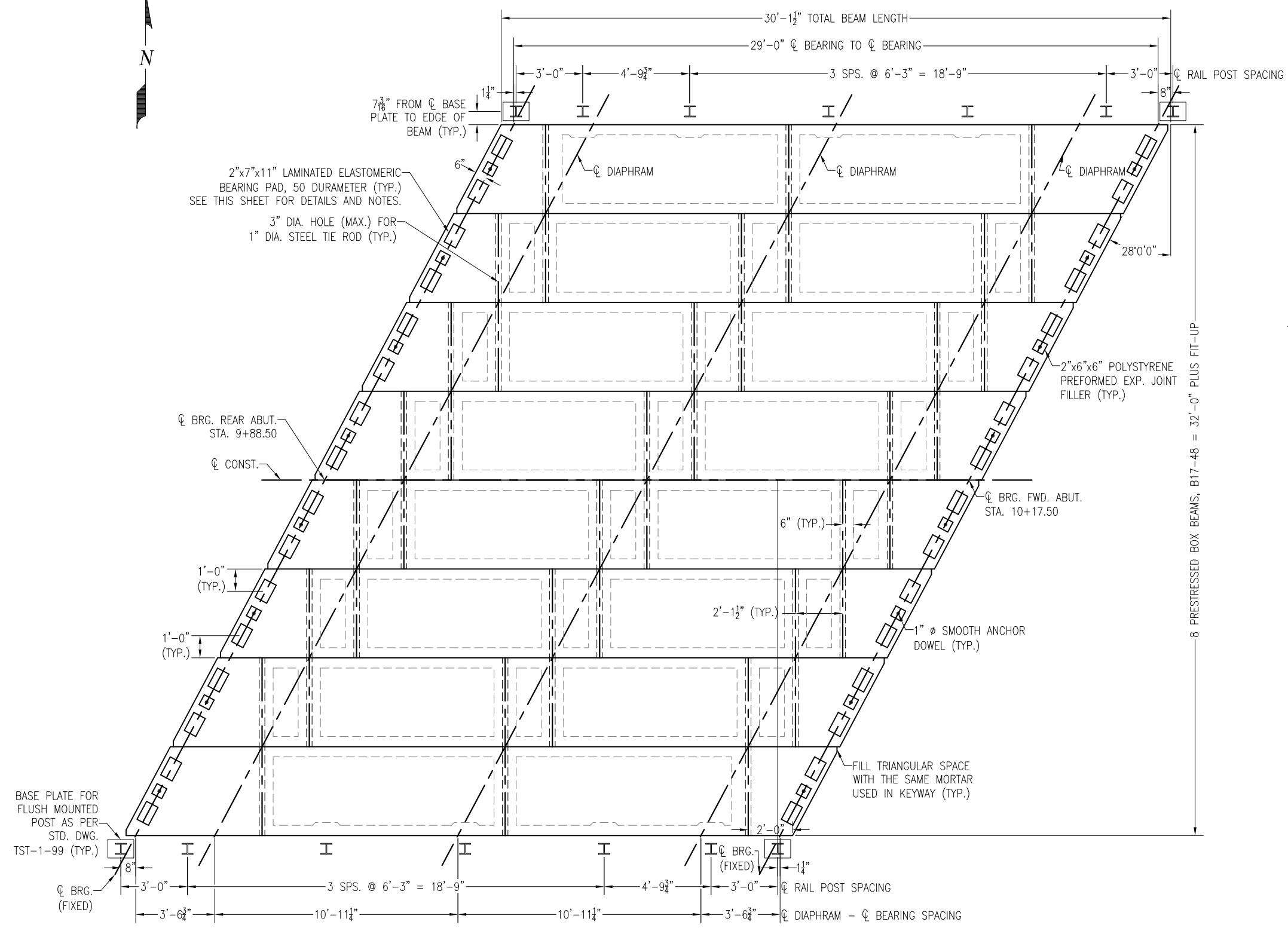
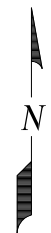
CAMBER:

1. ESTIMATED CAMBER AT THE TIME OF RELEASE IS 0.37 INCHES.
2. ESTIMATED CAMBER AT THE TIME OF ERECTION IS 0.66 INCHES.
3. LONG TERM CAMBER IS 0.92 INCHES.
4. CALCULATED DEFLECTION DUE TO DEAD LOAD APPLIED AFTER THE BEAMS ARE SET (WEIGHT OF SURFACE COURSE, RAILINGS, ETC.) IS 0.04 INCH.

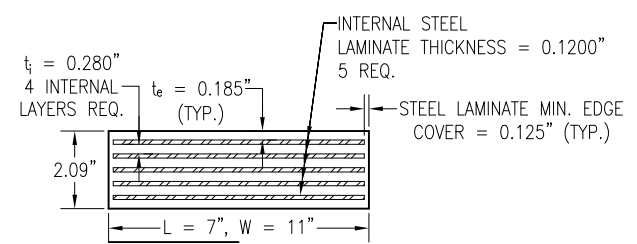
BEAM NOTES:

1. FASCIA BEAMS: TO AVOID INTERFERENCE WITH THE ANCHORS FOR THE BRIDGE RAILING POSTS, THE LONGITUDINAL REINFORCING BARS NEAR THE FASCIA SHALL BE SHIFTED AS NECESSARY. FABRICATOR'S SHOP DRAWINGS SHALL SHOW COMPLETE DETAILS OF THE BEAM REINFORCEMENT.
2. FOR ADDITIONAL DETAILS, SEE SHEET 7/9 AND STD. DWG. PSBD-2-07.
3. THE TOPS OF THE BEAMS SHALL HAVE A SMOOTH TO LIGHT BROOM FINISH SUITABLE FOR WATERPROOFING.

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.		6/9
SUPERSTRUCTURE DETAILS		
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER		
DRAWN BY: R.J.M.	CHECKED BY: R.J.M.	DATE 5-18



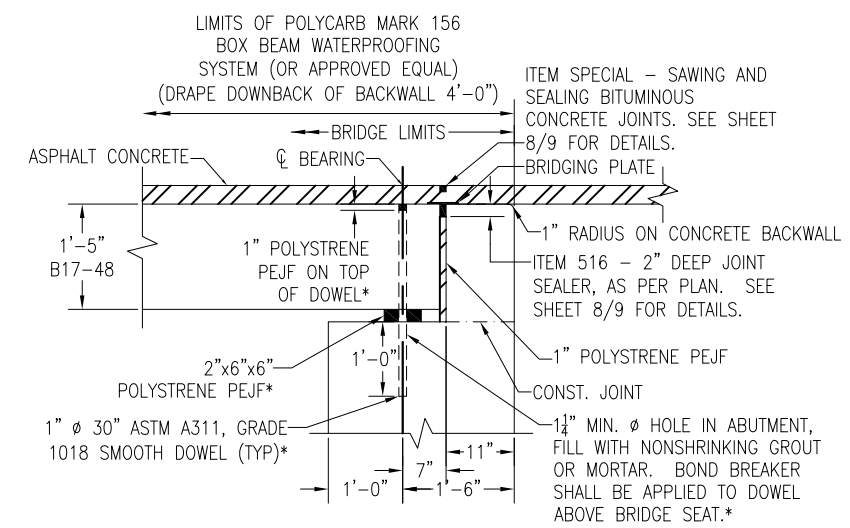
PLAN



LAMINATED ELASTOMERIC FIXED BEARINGS
REAR AND FORWARD ABUTMENTS

50 DUROMETER
DEAD LOAD REACTION = 28.7 K
LIVE LOAD REACTION = 20.6 K
MAXIMUM DESIGN LOAD = 49.3 K

ELASTOMERIC BEARINGS: BEARINGS WERE DESIGNED BASED ON KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD DRAWING BBP-003-01, PAD TYPE B2. THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.



BEARING AT ABUTMENT

* - INCLUDED WITH ITEM 515 FOR PAYMENT
(SECTION IS PERPENDICULAR TO CL ABUTMENT)

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.				7/9
SUPERSTRUCTURE DETAILS				
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER				
DRAWN BY: R.J.M.	CHECKED BY:	DESIGNED BY: R.J.M.	DATE 5-18	

ITEM SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS

DESCRIPTION:
THIS WORK SHALL CONSIST OF CUTTING AND SEALING TRANSVERSE JOINTS IN THE NEW BITUMINOUS CONCRETE OVERLAY OF BOX BEAM BRIDGES. BITUMINOUS CONCRETE JOINTS SHALL BE CONSTRUCTED DIRECTLY OVER, AND IN LINE WITH, THE EXISTING UNDERLYING TRANSVERSE ABUTMENT JOINT OF THE BOX BEAMS.

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-PART COMPONENT POLYMERIC COMPOUND HORIZONTAL SEALANT AS MANUFACTURED BY W.R. MEADOWS, INC., P.O. BOX 543, ELGIN, ILLINOIS 60121 (800-342-5976).

BRIDGING PLATE: 18 GAUGE ALUMINUM, 8" WIDE.

CONSTRUCTION DETAILS:
A) GENERAL: THE CONTRACTOR SHALL CONDUCT HIS OPERATION SO THAT THE CUTTING, CLEANING AND SEALING OF THE TRANSVERSE JOINTS IS A CONTINUOUS OPERATION THAT WILL BE PERFORMED AS SOON AS PRACTICAL AFTER 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 BOX BEAM ABUTMENT 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 BRIDGE.

C) CLEANING JOINTS: DRY SAWED JOINTS SHALL BE THOROUGHLY CLEANED WITH A SUFFICIENT AMOUNT OF COMPRESSED AIR TO REMOVE AND 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.

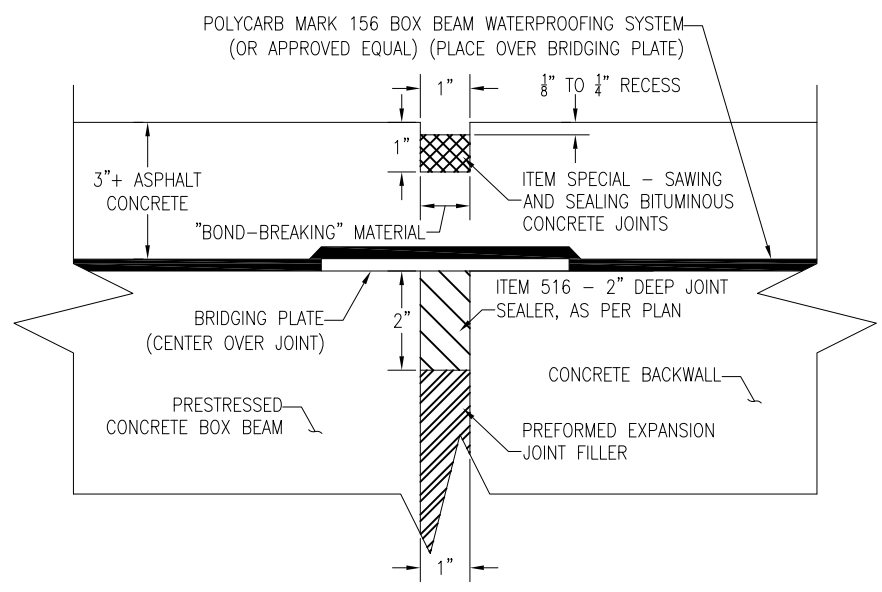
HOT-POURED JOINT SEALANT MATERIAL SHALL BE HEATED IN A KETTLE OR MELTER CONSTRUCTED AS A DOUBLE BOILER, WITH THE SPACE BETWEEN THE INNER AND OUTER SHELLS FILLED WITH OIL OR OTHER HEAT TRANSFER MEDIUM. POSITIVE TEMPERATURE CONTROL AND MECHANICAL AGITATION SHALL BE PROVIDED. HEATING MUST BE IN STRICT ACCORDANCE 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 1/8" BELOW THE PAVEMENT SURFACE. ANY DEPRESSION IN THE COOLED SEAL GREATER THAN 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 MANUFACTURER'S RECOMMENDATIONS, EXCEPT AS MODIFIED BY THIS DRAWING. THE SEALANT SHALL BE INSTALLED WHEN THE AMBIENT TEMPERATURE IS 40 DEGREES FAHRENHEIT OR HIGHER. TRAFFIC SHALL NOT BE ALLOWED ON THE JOINT FOR ONE HOUR AFTER APPLICATION OF THE SEALANT.

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.

BASIS OF PAYMENT:
THE UNIT PRICE PER LINEAR FOOT FOR ITEM SPECIAL - "SAWING AND SEALING BITUMINOUS CONCRETE JOINTS" SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THIS WORK, INCLUDING THE FURNISHING AND PLACING OF THE JOINT SEALER MATERIAL.



SEALING OF JOINTS AT ABUTMENTS

ITEM 516 - 2" DEEP JOINTS SEALER, AS PER PLAN

ITEM 516 - 2" DEEP JOINT SEALER, AS PER PLAN:
THIS ITEM SHALL MEET THE MATERIAL (SECTION 2) AND SEALING (SECTION 3D) SPECIFICATIONS OF ITEM SPECIAL - SAWING AND SEALING OF BITUMINOUS CONCRETE JOINTS.

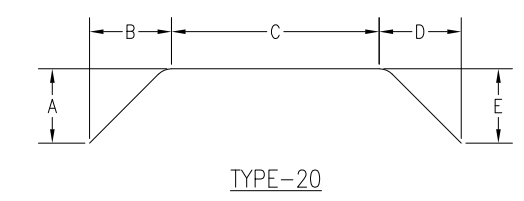
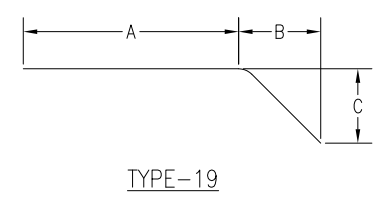
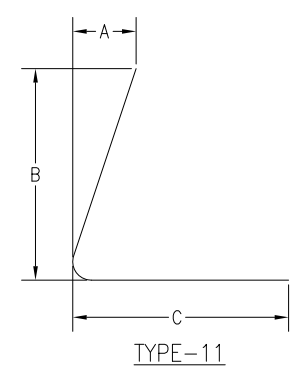
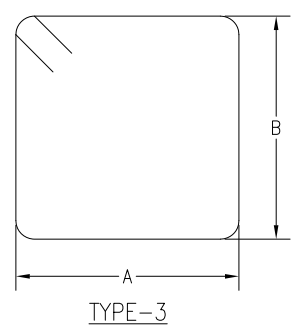
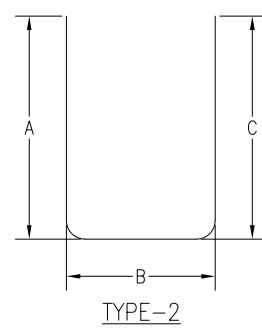
ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.				8/9
WINGWALL DETAILS				
GRUBB ROAD BRIDGE No. ALL-CR 77-5.50 OVER PET. DITCH #1063 ROSS MILLER				
DRAWN BY: R.J.M.	CHECKED BY: R.J.M.	DESIGNED BY: R.J.M.	DATE 5-18	

REINFORCING STEEL LIST

MARK	TOTAL NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
					A	B	C	D	E	INC.
A401	32	9'-0"	192	3	1'-9"	2'-6"				
A501	24	25'-6"	426	ST						
A502	32	25'-6"	851	ST						
A503	78	11'-11"	969	2	5'-1"	2'-0"	5'-1"			
A504	78	11'-6"	936	3	2'-6"	3'-0"				
A505	8	5'-6"	46	ST						
A506	8	5'-3"	44	ST						
A507	22	8'-9"	201	2	3'-6"	2'-0"	3'-6"			
A508	10	4'-0"	42	19	2'-0"	11"	1'-10"			
A509	10	4'-0"	42	11	1'-0"	1'-11"	2'-0"			
A510	6	8'-7"	54	20	1'-0"	1'-9"	4'-7"	1'-9"	1'-0"	
A511	20	7'-6"	156	ST						
A512	22	4'-7"	105	ST						
A513	4	2'-9"	11	ST						
A514	20	10'-6"	219	ST						
A515	6	6'-11"	42	20	1'-9"	1'-0"	2'-11"	1'-0"	1'-9"	
A516	28	4'-7"	134	ST						
A517	2	2'-9"	6	ST						
A601	60	7'-2"	646	2	3'-6"	5"	3'-6"			
A801	32	26'-10"	2,293							
TOTAL REAR & FORWARD ABUTMENT=			7415	LBS						

- NOTES:
- ALL DIMENSIONS ARE OUT TO OUT.
 - ALL REINFORCING STEEL SHALL BE EPOXY COATED.
 - REFER TO CMS SECTION 509.05 FOR STANDARD BEND DIMENSIONS.
 - AN "ST" IN THE "TYPE" COLUMN INDICATES STRAIGHT BARS.

REINFORCING BAR SPLICE:
REINFORCING BAR SPLICE LENGTHS SHALL CONFORM TO THE MINIMUM LENGTHS SPECIFIED BY 509.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.



ALLEN COUNTY ENGINEER
BRION E. RHODES, P.E., P.S.

REINFORCING STEEL LIST

GRUBB ROAD BRIDGE
No. ALL-CR 77-5.50
OVER PET. DITCH #1063 ROSS MILLER

DRAWN BY: R.J.M.	CHECKED BY:	DESIGNED BY: R.J.M.	DATE 5-18
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