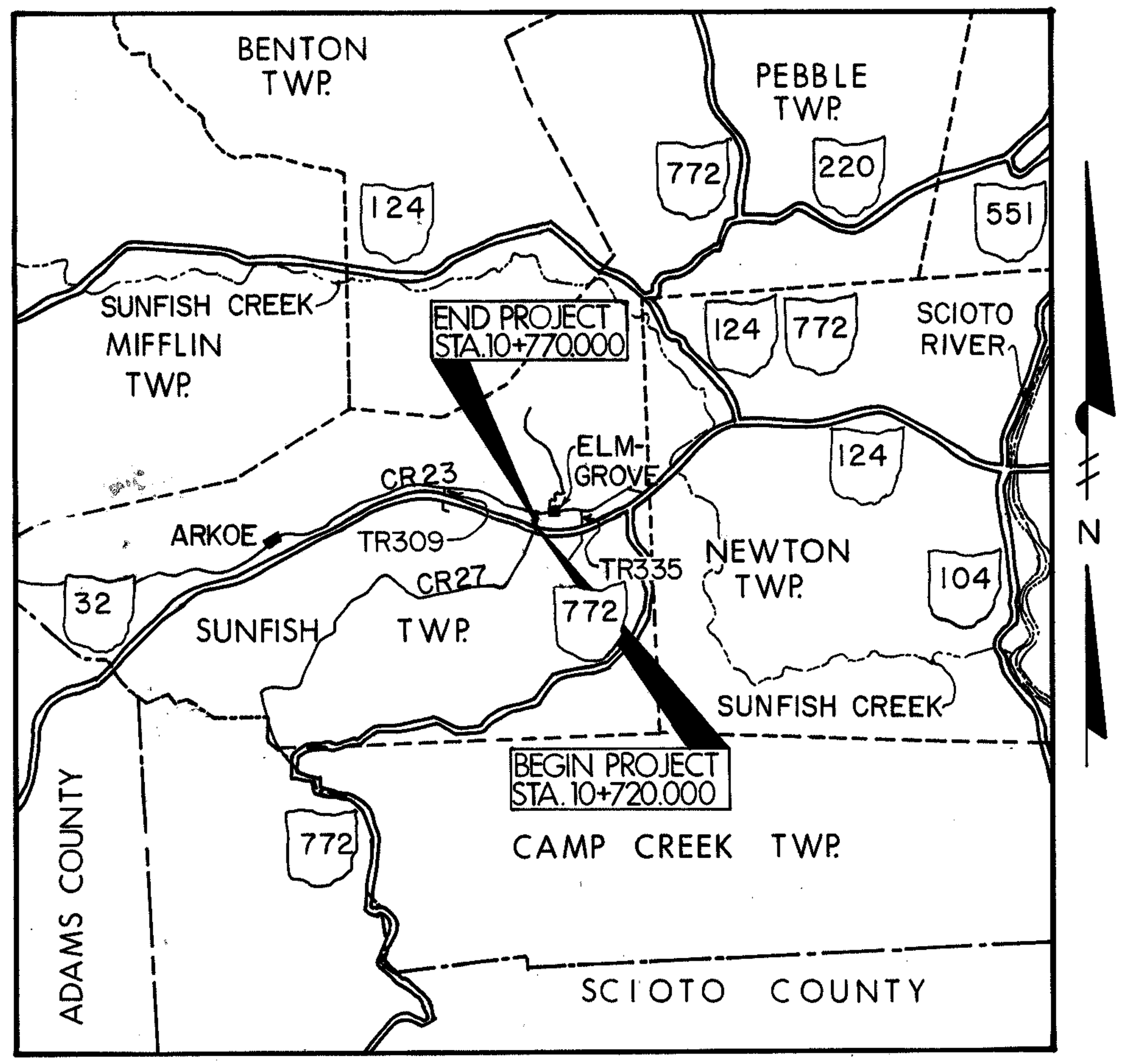
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
PIK-CR27-10.720
SUNFISH TOWNSHIP
PIKE COUNTY



LATITUDE - 39° 02' 38"
LONGITUDE - 83° 09' 52"

LOCATION MAP

0 1 5 10
SCALE IN KILOMETERS

PIK-CR 27-10.720
960158 03-13-96
24PGS DIST. 9

MICROFILMED AUG 18 1997

metric units

PROJECT DESCRIPTION

TO REPLACE THE EXISTING DEFICIENT STRUCTURE ON C.R. 27 OVER CHENOWETH FORK CREEK WITH A NEW STRUCTURE AND ALL NECESSARY APPROACH WORK. THE LENGTH OF THE PROJECT IS 50 METERS.

DESIGN DESIGNATION

OPENING YEAR ADT (1995)	=	280
DESIGN YEAR ADT (2015)	=	337
DESIGN HOURLY VOLUME	=	34
DIRECTIONAL DISTRIBUTION	=	50
TRUCKS (24 HOUR B & C)	=	8%
DESIGN SPEED	=	90 KPH
LEGAL SPEED	=	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION	=	LOCAL, RURAL

INDEX OF SHEETS

1995 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 ON SHEET 4.

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NUMBERS
HORIZONTAL ALIGNMENT	3-28-95	
SUPERELEVATION	3-28-95	
LANE WIDTH	3-28-95	

UNDERGROUND UTILITIES
Two Working Days
BEFORE YOU DIG
Call 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

CEWA
CLYDE E. WILLIAMS & ASSOCIATES
PROFESSIONAL ENGINEERS
130 E. WILSON BRIDGE ROAD STE. 025
WORTHINGTON, OHIO 43085

Abdul-Wadood A. Haider 3-24-95
ENGINEER DATE

STATE OF OHIO ABDUL-WADOOD A. HAIDER E-038025 REGISTERED PROFESSIONAL ENGINEER
SEAL

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS		
				RM-1.1M	6-30-95					
		GR-1.1M	11-30-94	DM-1.1M	6-30-95	MT-99.10M	1-30-95	802	3-23-95	
		GR-1.2	10-30-92	DM-4.3M	6-30-95					
BP-3.1M	10-28-94	GR-1.3M	11-30-94	DM-4.4M	6-30-95	MT-101.60M	4-25-94			
						MT-105.10M	4-25-94	820	6-14-95	
		GR-2.1M	11-30-94			MT-105.11M	4-25-94			
BP-4.1M	10-28-94	GR-2.2	10-30-92			DS-1-94M	12-15-94	931	7-17-95	
						DBR-2-73M	10-25-94			
		GR-3.4	5-6-91							
				TC-41.10M	3-31-94	AS-1-81M	10-25-94	942	6-14-95	
		GR-4.1M	11-30-94	TC-41.20M	7-1-94			944	3-23-95	
		GR-4.2M	4-21-95	TC-52.10M	7-29-94	PSBD-1-93M	12-19-94			
				TC-52.20M	7-29-94					

Charles N. Osborne 5-1-95

Raymond Fout Jr. 5-1-95

John G. Harbert 5-1-95
BOARD OF COUNTY COMMISSIONERS DATE

Denny Salisbury 5-1-95
COUNTY ENGINEER DATE

J. Watkins 6-13-95
DISTRICT DEPUTY DIRECTOR DATE

Richard L. Engel 8-29-95
ENGINEER, BUREAU OF BRIDGES AND STRUCTURAL DESIGN DATE

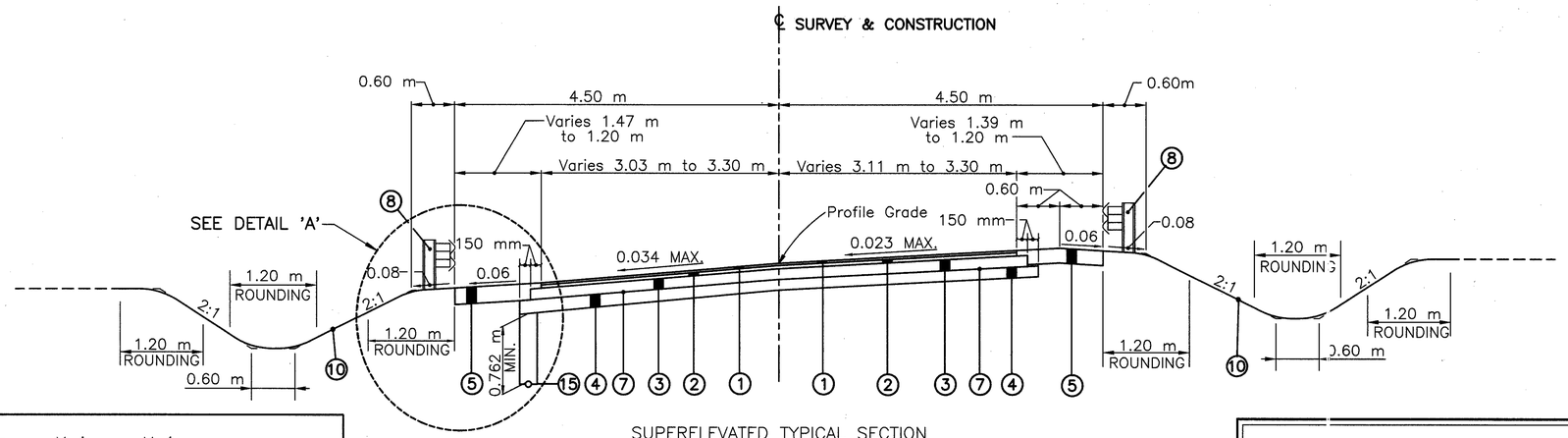
10-4-95
DIRECTOR, DEPARTMENT OF TRANSPORTATION DATE

FEDERAL PROJECT NO.	BRO-94B(20)
PID NO.	14048
CONSTRUCTION PROJECT NO.	
RAILROAD INVOLVEMENT	NONE
PROJECT DESIGNATION	SLD........PIK-CR27-10.720 SLM........PIK-CR27-6.66

1 / 24

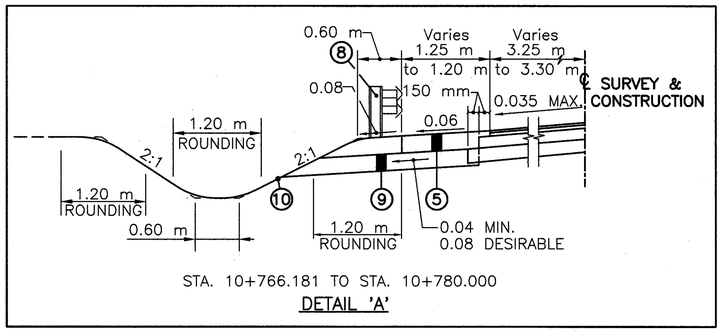
File Name: [02]04[94][16:02]C:\PLOT\ < 93268TT1 >

TYPICAL SECTIONS



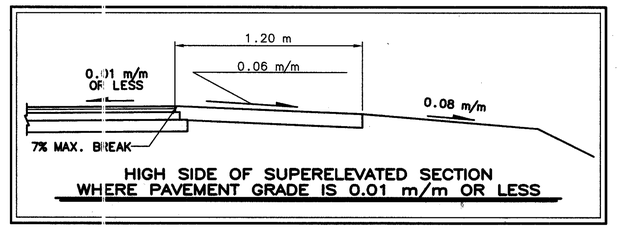
SUPERELEVATED TYPICAL SECTION

STA. 10+700.000 TO STA. 10+724.267	=	24.267	m
STA. 10+766.181 TO STA. 10+780.000	=	13.819	m
TOTAL	=	38.086	m

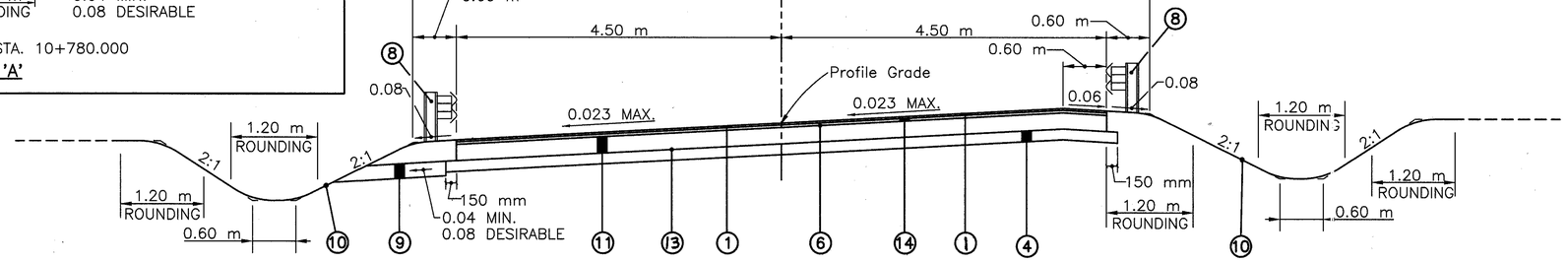


STA. 10+766.181 TO STA. 10+780.000

DETAIL 'A'



HIGH SIDE OF SUPERELEVATED SECTION WHERE PAVEMENT GRADE IS 0.01 m/m OR LESS



APPROACH SLAB TYPICAL SECTION

STA. 10+724.267 TO STA. 10+730.267	=	6.000	m
STA. 10+760.181 TO STA. 10+766.181	=	6.000	m
TOTAL	=	12.000	m

LEGEND

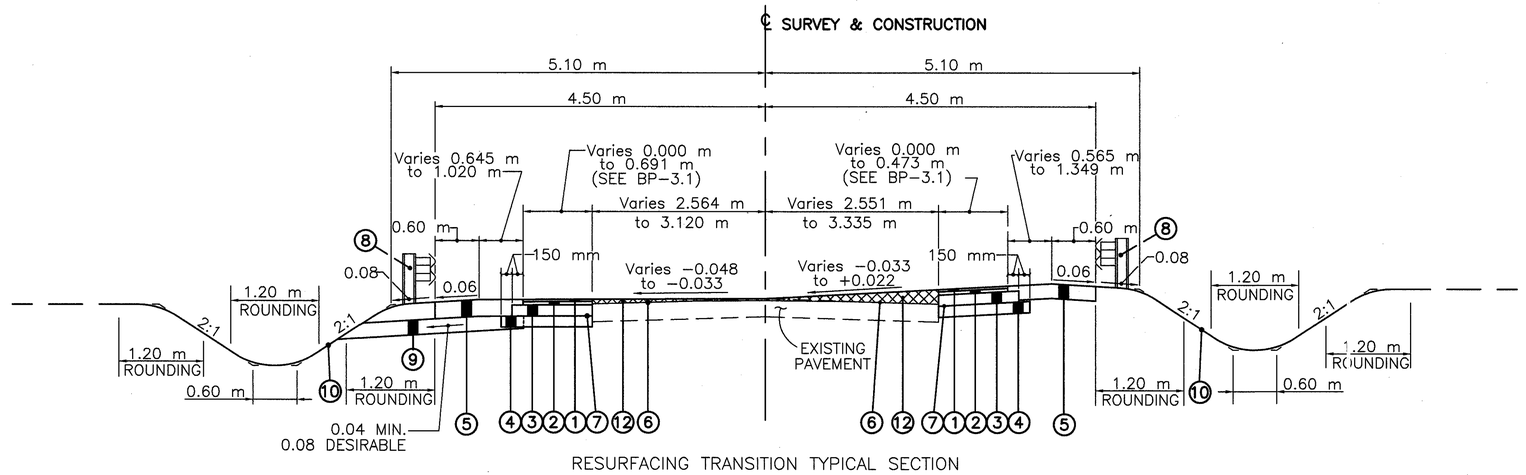
1. ITEM 404 32mm ASPHALT CONCRETE, AC-20
2. ITEM 402 45mm ASPHALT CONCRETE, AC-20
3. ITEM 301 100mm BITUMINOUS AGGREGATE BASE, AC-20
4. ITEM 304 150mm AGGREGATE BASE
5. ITEM 304 200mm AGGREGATE BASE
6. ITEM 407 TACK COAT
7. ITEM 408 BITUMINOUS PRIME COAT
8. ITEM 606 GUARDRAIL, TYPE 5
9. ITEM 605 AGGREGATE DRAIN
10. ITEM 659 SEEDING AND MULCHING
11. ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T = 330 mm), AS *PER PLAN*
12. ASPHALT CONCRETE RESURFACING CONSISTING OF:
    0 mm MIN.– 32 mm / 45 mm MAX. ITEM 404 ASPHALT CONCRETE AC-20 / ITEM 403 ASPHALT CONCRETE AC-20
13. *POLYETHYLENE FILM (SEE GENERAL NOTES)*
14. ITEM 402 (51 mm MAX – 45 mm MIN) ASPHALT CONCRETE, AC-20
15. ITEM 605 SHALLOW PIPE UNDERDRAINS

CALCULATED BBB
CHECKED AAH

TYPICAL SECTIONS

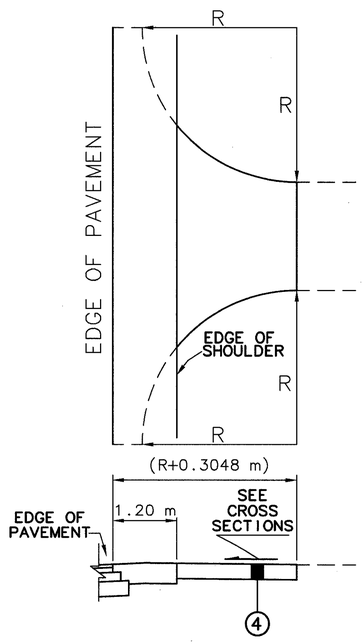
PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-6.66

TYPICAL SECTIONS

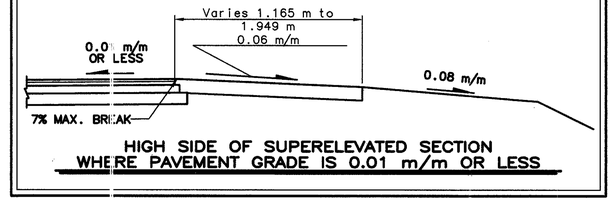


RESURFACING TRANSITION TYPICAL SECTION

STA.	10+690.000	TO STA.	10+700.000	= 10.000 m
STA.	10+780.000	TO STA.	10+810.000	= 30.000 m
			TOTAL	= 40.000 m



SECTION FOR FIELD DRIVE



HIGH SIDE OF SUPERELEVATED SECTION WHERE PAVEMENT GRADE IS 0.01 m/m OR LESS

FOR LEGEND SEE SHEET 2.

CALCULATED BBB
CHECKED AAH

TYPICAL SECTIONS

PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-6.66

GENERAL NOTES

ROUNDING

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

UTILITIES

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

NONE

THERE ARE NO KNOWN UNDERGROUND UTILITIES ON THIS PROJECT.

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.

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.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS	TOTAL
450 mm	3	0	3
750 mm	1	0	1

MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. 22 .

ITEM 604 REFERENCE MONUMENT 4 EACH

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 QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR PERMANENT SEEDED AREAS PER 659.09: (FOR CALCULATIONS SEE SHEET 5)

659 WATER 4 CU. METER

STREAM CHANNEL EXCAVATION

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

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

207	STRAW OR HAY BALES	200	EACH
207	FILTER FABRIC FENCE	60	METER

EROSION CONTROL

ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THIS ITEM AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ITEM 659. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITIONAL, THESE ITEMS SHALL MEET THE REQUIREMENT OF 108.04.

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 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 300 mm 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-1.1M, 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 ITEM.

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

603	300 mm CONDUIT, TYPE B	15	METER
603	200 mm CONDUIT, TYPE E	15	METER
603	200 mm CONDUIT, TYPE F	15	METER

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

IN SREAM WORK

The Contractor shall use the best management practices for erosion and sediment control. Instream work should be avoided between March 15 and June 15 in order to protect spawning warmwater fish.

* THE COUNTY SHALL BE RESPONSIBLE FOR FURNISHING, ERECTING, MAINTAINING AND REMOVING THE DETOUR SIGNING.

ITEM 611 REINFORCED CONC. APPROACH SLAB (T=330mm), As Per Plan

THE REINFORCING STEEL FOR THE APPROACH SLABS SHALL BE EPOXY COATED IN CONFORMANCE WITH 509.

TWO SEPERATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE & WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LENGTH & WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS.

MATERIALS, LABOR AND INSTALLATION SHALL BE INCLUDED FOR PAYMENT IN ITEM 611- REINFORCED CONCRETE APPROACH SLAB (T=330mm), AS PER PLAN.

ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.34 LITERS PER SQUARE METER OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

JOINT SEALERS

ALL REFERENCES TO 705.01 OR 705.02, APPEARING ON STANDARD DRAWINGS OR ON THE PLANS, SHALL BE CONSIDERED TO READ 705.04.

ITEM 614, MAINTAINING TRAFFIC

COUNTY ROAD 27 (LAUREL RIDGE ROAD) WILL NOT BE CLOSED TO THROUGH TRAFFIC UNTIL THE ENGINEER IS SATISFIED, THAT THE CONTRACTOR HAS SCHEDULED HIS WORK OPERATIONS TO PROVIDE A CONTINUOUS AND SUSTAINED EFFORT UNTIL THE CONSTRUCTION IS COMPLETE. THE CLOSURE PERIOD SHALL NOT EXCEED 120 CALENDAR DAYS. LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 SHALL BE ASSESSED FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT, AND FOR EACH CALENDAR DAY BEYOND THE COMPLETION DATE OF THE PROJECT.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 1200 mm X 750 mm "ROAD CLOSED" SIGNS, SIGN SUPPORTS, BARRICADES, GATES, AND LIGHTS, AS DETAILED IN STANDARD CONSTRUCTION DRAWING MT-101.60M AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROAD IS CLOSED TO TRAFFIC:

INTERSECTION OF COUNTY ROAD 27 WITH COUNTY ROAD 23
INTERSECTION OF COUNTY ROAD 27 WITH STATE ROUTE 32

EITHER PERMANENT OR TEMPORARY ROADWAY PAVEMENT MARKING MUST BE IN PLACE PRIOR TO OPENING THE ROADWAY TO TRAFFIC.

THE FOLLOWING QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY TO BE USED IN CONFORMANCE WITH MT-99.10M:

ITEM 614 TEMPORARY CENTER LINE, CLASS II 0.120 KILOMETERS

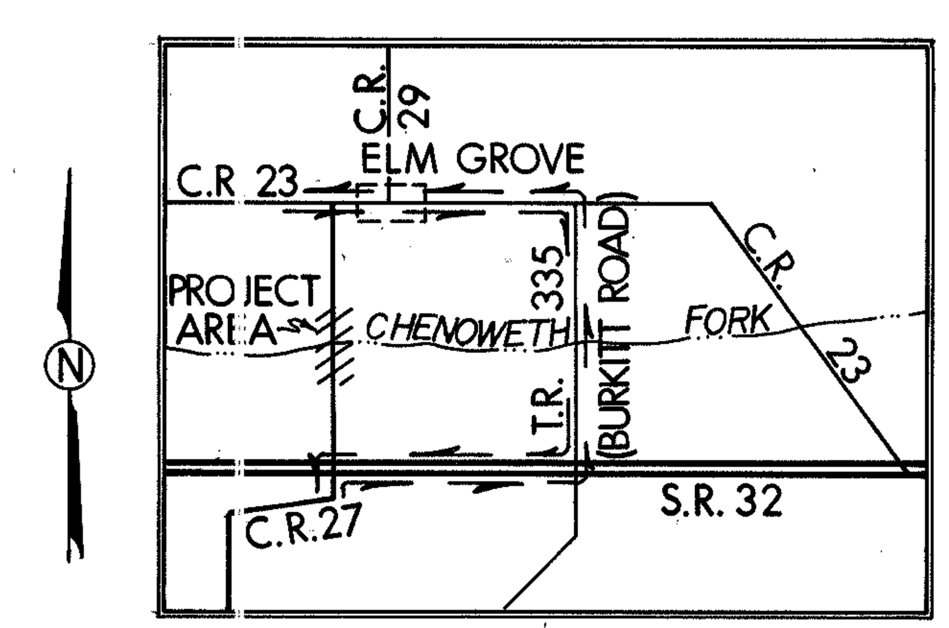
*

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

DUST CONTROL

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

616	WATER	40	CU. METER
616	CALCIUM CHLORIDE	1	METRIC TON



DETOUR MAP
NOT TO SCALE

CALCULATED BBB CHECKED AAH

GENERAL NOTES

PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-6.66

File Name: [09|29|94][14:00]C:\CADD\BRADYS\ < UNNAMED >

SUB-SUMMARIES

ROADWAY

REF. NO.	STATION FROM	STATION TO	SIDE		606 GUARD-RAIL TYPE 5		606 ANCHOR ASSEMBLY, TYPE T	606 ANCHOR ASSEMBLY, TYPE A	606 BRIDGE TERMINAL ASSEMBLY, TYPE 4
					m		EACH	EACH	EACH
R-1	10+715.987	10+727.807	RT.		*11.43		1		1
R-2	10+724.923	10+730.257	LT.		**3.81		1		1
R-3	10+760.192	10+797.675	RT.		30.48			1	1
R-4	10+762.642	10+801.431	LT.		30.48			1	1
TOTAL					76.20		2	2	4

* INCLUDES 11.304 m @ 8.105 m RADIUS
** INCLUDES 3.744 m @ 1.524 m RADIUS

PAVEMENT MARKING

STATION FROM	STATION TO	SIDE	642 EDGE LINE, TYPE 2 (WHITE)	642 CENTER-LINE, TYPE 2		802 BARRIER REFLEC-TOR, TYPE A (WHITE)	
			km	km		EACH	
10+690	10+810	LT. & RT.	0.24				
10+690	10+810	℄		0.12			
10+699.633	10+793.661	LT.				6	
10+715.987	10+790.199	RT.				5	
TOTAL			0.24	0.12		11	

DRAINAGE

REF. NO.	STATION FROM	STATION TO	SIDE	603 100 mm CONDUIT TYPE F, 707.17 NON-PER-FORATED, ☆		605 100 mm SHALLOW PIPE UNDER-DRAIN	605 AGGREGATE DRAIN	
				m		m	m	
D-1	10+700	10+729	LT.			29		
D-2	10+728		LT.				1.60	
D-3	10+729	10+732	LT.	5				
D-4	10+765		LT.				3.80	
TOTAL				5		29	5.40	

☆ ASTM D-3034 SDR 35, SS931 OR SS944

AREA CALCULATIONS (SQ. m)

ITEM NO.	STA. 10+690 TO STA. 10+724.267	STA. 10+724.267 TO STA. 10+730.267	STA. 10+760.181 TO STA. 10+766.181	STA. 10+766.181 TO STA. 10+810	TOTAL SQ. m
203	(6.330+6.600)/2 X 20 + (6.600 X 4.267) =157.462	9 X 6 = 54	9 X 6 = 54	(6.600X3.819) +(6.600+6.368)/2X 0 = 90.045	355.507
301	(0.741+0.300)/2X10 +(6.630+6.900)/2X20 +(6.900X4.267) =169.947			(6.900X3.819) +(6.900+6.668)/2X 0 +(1.464+0.300)/2X30 =120.651	290.598
304 †	(1.041+0.600)/2X10 +(6.930+7.200)/2X20 +(7.200X4.267) =180.227	9.3 X 6 = 55.8	9.3 X 6 = 55.8	(7.200X3.819) +(7.200+6.968)/2X 0 +(1.764+0.600)/2X30 =133.797	425.624
304 ≠	(2.785+2.670)/2X10 +(2.670+2.400)/2X20 +(2.400X4.267) = 88.216			(2.400X3.819) +(2.400+2.632)/2X 0 +(2.632+3.329)/2X30 =123.741	211.957
402	(0.000+0.441)/2X10 +(6.330+6.600)/2X20 +(6.600X4.267) =159.667			(6.600X3.819) +(6.600+6.368)/2X 0 +(1.164+0.000)/2X30 =107.505	267.172
404	(6.215+6.330)/2X10 +(6.330+6.600)/2X20 +(6.600X4.267) =220.187	9 X 6 = 54	9 X 6 = 54	(6.600X3.819) +(6.600+6.368)/2X 0 +(6.368+5.671)/2X30 =270.630	598.817
407	(2.880+3.335+2.708+3.181)/2 X10 = 60.520	9 X 6 = 54	9 X 6 = 54	(2.564+2.640+3.120+2.551)/2 X30 =163.125	331.645
408	(0.600+1.041)/2X10 +(6.930+7.200)/2X20 +(7.200X4.267) =180.227			(7.200X3.819) +(7.200+6.968)/2X 0 +(1.764+0.600)/2X30 =133.797	314.024
611		9 X 6 = 54	9 X 6 = 54		108
FIELD DRIVE					
DR-1	50 x 0.15 = 7.50				50 ≠
DR-2	33 x 0.15 = 4.95				33 ≠

† ROAD
≠ SHOULDER

≠ PLANIMETERED

PAVEMENT CALCULATIONS

ROADWAY

ITEM 203 SUBGRADE COMPACTION
355.507 = 355.507 SQ. m
USE = 356 SQ. m

ITEM 301 BITUMINOUS AGGREGATE BASE, AC-20
290.598 X 0.1 = 29.060 CU. m
USE = 29 CU. m

ITEM 304 AGGREGATE BASE
(425.624 X 0.15) + (211.957 X 0.2) = 106.235 CU. m
USE = 106 CU. m

ITEM 402 ASPHALT CONCRETE, AC-20
267.172X0.045 +108X(0.051+0.045)/2 = 17.207 CU. m
USE = 17 CU. m

ITEM 403 ASPHALT CONCRETE, AC-20
(1.880+1.869)/2X20 X(0+0.045)/2 = 0.844 CU. m
USE = 1 CU. m

ITEM 404 ASPHALT CONCRETE, AC-20
598.817X0.032 = 19.162 CU. m
USE = 19 CU. m

ITEM 407 TACK COAT
331.645 X 0.34 = 112.759 L
USE = 113 L

ITEM 408 PRIME COAT
314.02 X 1.80 = 565.123 L
USE = 565 L

ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T=330 mm)
108 = 108 SQ. m

ITEM 202 WEARING COURSE REMOVED
(6.215+5.889)/2 X 10 + (5.671+5.204)/2 X 30
-(1.880+1.869)/2 X 20 = 186.155 SQ. m
USE = 186 SQ. m

FIELD DRIVES

ITEM 304 AGGREGATE BASE
(50 + 33) X 0.15 = 12.45 CU. m
USE = 13 CU. m

EROSION CONTROL CALCULATIONS

ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER

E-1 {(5.2X17)+0.5X[(0.9X17)+(0.2X5.2)+(0.3X0.9)]}
X110/3X0.760 = 77.471 CU. m

E-2 [(3.6X15)+0.5X(2X3)]X√5/2X0.760 = 48.433 CU. m

TOTAL = 125.904 CU. m
USE = 126 CU. m

ITEM 659 SEEDING & MULCHING
423 = 423 SQ. m

ITEM 659 COMMERCIAL FERTILIZER
423 X 9.8/100 = 41.45 kg
USE = 42 kg

ITEM 659 WATER
423 X 489/100 X 2 X 1/1000 = 4.14 CU. m
USE = 4 CU. m

ITEM 659 REPAIR SEEDING & MULCHING
423 X 0.05 = 21.15 SQ. m
USE = 21 SQ. m

CALCULATED BBB CHECKED AAH

SUB-SUMMARIES

PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-6.66

GENERAL SUMMARY

SHEET NUMBER												ITEM	ITEM EXTENSIONS	GRAND TOTAL	UNIT	DESCRIPTION
			4	5		7										
																ROADWAY
			LUMP									201	11000	LUMP		CLEARING AND GRUBBING
				186								202	23500	186	SQ. m	WEARING COURSE REMOVED
						240						203	12000	240	CU. m	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
						25						203	20000	25	CU. m	EMBANKMENT
				356								203	50000	356	SQ. m	SUBGRADE COMPACTION
			4									604	40500	4	EACH	REFERENCE MONUMENT
				76.20								606	13000	76.20	m	GUARDRAIL, TYPE 5
				2								606	25000	2	EACH	ANCHOR ASSEMBLY, TYPE A
				2								606	26500	2	EACH	ANCHOR ASSEMBLY, TYPE T
				4								606	35140	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4
																EROSION CONTROL
			60									207	30000	60	m	FILTER FABRIC FENCE
			200									207	70000	200	EACH	STRAW OR HAY BALES
				126								601	32104	126	CU. m	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER
						423						659	10000	423	SQ. m	SEEDING AND MULCHING
				21								659	14000	21	SQ. m	REPAIR SEEDING AND MULCHING
				42								659	20000	42	kg	COMMERCIAL FERTILIZER
				4								659	35000	4	CU. m	WATER
																DRAINAGE
				5								603	00406	5	m	100 mm CONDUIT, TYPE F, 707.17 NON-PERFORATED, ASTM D-3034 SDR 35, SS931 OR SS944
			15									603	02500	15	m	200 mm CONDUIT, TYPE E
			15									603	02600	15	m	200 mm CONDUIT, TYPE F
			15									603	04400	15	m	300 mm CONDUIT, TYPE B
				29								605	05100	29	m	100 mm SHALLOW PIPE UNDERDRAIN
				5								605	31100	5	m	AGGREGATE DRAIN
																PAVEMENT
				29								301	10002	29	CU. m	BITUMINOUS AGGREGATE BASE, AC-20
				119								304	20000	119	CU. m	AGGREGATE BASE
				17								402	20000	17	CU. m	ASPHALT CONCRETE, AC-20
				1								403	20000	1	CU. m	ASPHALT CONCRETE, AC-20
				19								404	20000	19	CU. m	ASPHALT CONCRETE, AC-20
				113								407	10000	113	L	TACK COAT
				565								408	10000	565	L	BITUMINOUS PRIME COAT
				108								611	15001	108	SQ. m	REINFORCED CONCRETE APPROACH SLAB (T = 330 mm), AS PER PLAN
																TRAFFIC CONTROL
				0.24								642	00102	0.24	km	EDGE LINE, TYPE 2
				0.12								642	00302	0.12	km	CENTERLINE, TYPE 2
				11								802	00100	11	EACH	BARRIER REFLECTOR, TYPE A
																MAINTENANCE OF TRAFFIC
			0.12									614	21400	0.12	km	TEMPORARY CENTER LINE, CLASS II
			40									616	10000	40	CU. m	WATER
			1									616	20000	1	MTON	CALCIUM CHLORIDE
																FOR ESTIMATED QUANTITIES FOR STRUCTURE, OVER 6 m SPAN, SEE SHEET 14.
			LUMP									614	11000	LUMP		MAINTAINING TRAFFIC
												619	15000	LUMP		FIELD OFFICE, TYPE A
												SPECIAL	61925000	LUMP		COMPUTER EQUIPMENT FOR TYPE A OFFICE (SEE PROPOSAL NOTE)
												623	10000	LUMP		CONSTRUCTION LAYOUT STAKES
												624	10000	LUMP		MOBILIZATION

CALCULATED BBB
CHECKED AAH

GENERAL SUMMARY

PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-6.66

T.B.M. #1
R.R. SPIKE IN 600 mm WALNUT STA. 10+810,12.5 m LT. ELEV. = 183.179
T.B.M. #2
NORTH END OF NORTHEAST WINGWALL STA. 10+757.5,4.0 m RT. ELEV. = 183.211

PHYLLIS E. MCNELLY, FKA PHYLLIS MCALLISTER & LAND CONTRACT HOLDERS JEFFREY W. BURKITT & VANESSA L. BURKITT

HAGER RISNER & JO AN RISNER

FIELD (PASTURE)

BRO-94B(20) BEGIN PROJECT STA. 10+720.000

BRO-94B(20) END PROJECT STA. 10+770.000

BEGIN WORK STA. 10+690.000

END WORK STA. 10+810.000

BEGIN TAPER +690.000

BEGIN FULL DEPTH PAVEMENT +700.000

END APPROACH SLAB STA. 10+730.267

BEGIN APPROACH SLAB STA. 10+760.181

END FULL DEPTH PAVEMENT +780.000

END TAPER +810.000

P.C. STA. 10+765.764

P.T. STA. 10+814.692

CONSTRUCTION LIMITS

EX. R/W

R/W

10+700 ℄ SURVEY & CONSTRUCTION

C.R. 27 N 07° 25' 02" E

CULTIVATED FIELD

EX. DITCH

GRASS

600mm WALNUT

600 mm MAPLE

600 mm WALNUT (SAVE)

GRAVEL DRIVE

FIELD DRIVE

CHENOWETH FORK

GRAVEL DRIVE

CULTIVATED FIELD

FIELD (PASTURE)

930 mm CMP (TO REMAIN) TYPE 'T' ANCHOR ASSEMBLY

300 mm OAK

600 mm OAK

ROCK CHANNEL PROTECTION TYPE "B", 760 mm THICK WITH FILTER (TYP.)

* FOR BALLOON QUANTITIES SEE SHEET 5.

** FOR DRIVEWAY DETAIL SEE SHEET 3.

PI STA=10+683.562
Δ=06°18'12"
T=38.464 m
R=698.550 m
L=76.850 m
C=76.811 m
E=1.058 m

PI STA=10+790.311
Δ=12°02'22"
T=24.555 m
R=232.850 m
L=48.929 m
C=48.839 m
E=1.291 m

2.9 m±2.8 m±
175 mm AGGREGATE BASE
200 mm ASPHALT CONCRETE
TYPICAL ADJOINING PAVEMENT

N 04° 37' 20" W

TYPE 'A' ANCHOR ASSEMBLY

LEGEND
RESURFACING
WEARING COURSE REMOVED

REFERENCE POINTS	
P.K. IN POST 17.421m; ℄ CONST. 53.132m; W. SIDE 150 mm TREE 25.062m; N.W. SIDE 600 mm MAPLE	RR SPK. 600 mm WALNUT HUB SET 10.425m; 24.186m; ℄ CONST. REBAR SET 4.299m
P.I. STA. 10+683.554	P.I. STA. 10+790.319

PROPOSED PROFILE GRADE

EXISTING PROFILE GRADE

WIDENING AND RESURFACING

80.00m VERTICAL CURVE
P.V.I. STA=10+740.000 ELEV. = 182.986

BRIDGE LIMITS = 29.914m

P.V.C. BUTT END JOINT AS PER BP-3.1M

P.V.T. BUTT END JOINT AS PER BP-3.1M

HW100=182.600
HW10=181.450

1.200% 0.1625% 0.5%

+700, LT. EL. = 181.202
+729, LT. EL. = 181.057
100 mm U.D.

EL. 180.300
EX. 930 mm C.M.P.
EX. GROUND
EL. 180.470
ROCK CHANNEL PROTECTION, TYPE B WITH FILTER

EMBANKMENT	= 25 SQ. M.
EXCAVATION	= 240 CU. M.
SEEDING & MULCHING	= 423 CU. M.

EXISTING STRUCTURE
TYPE: SINGLE SPAN PONY TRUSS WITH STONE ABUTMENTS
SPAN: 22.250 m f/f ABUTMENTS
ROADWAY: 4.176 m f/f GUARDRAIL
SKEW: 23° LEFT FORWARD
ALIGNMENT: TANGENT
WEARING SURFACE: BITUMINOUS
DATE BUILT: 1950, REHAB. 1984
STRUCTURE FILE NO. 6630936

PROPOSED STRUCTURE
TYPE: THREE SPAN, PRESTRESSED CONCRETE BOX BEAMS WITH CAPPED PILE SUBSTRUCTURES
SPANS: 8.800 m, 11.000 m, 8.800 m c/c BEARINGS
ROADWAY: 9.144 m f/f GUARDRAIL
SKEW: 15° LEFT FORWARD
ALIGNMENT: TANGENT
DESIGN LOADING: MS-18 AND THE ALTERNATE MILITARY LOADING
WEARING SURFACE: 64 mm(MIN.) ASPHALT
APPROACH SLABS: AS-1-81 (6.0 m LONG)
CROWN: 0.023 SUPERELEVATION
LAT. 39° 02' 38" LONG. 83° 09' 52"

HORIZONTAL SCALE IN METERS 0 5 10

CALCULATED B.B.B. CHECKED A.A.H.

PLAN AND PROFILE – C.R. 27
STA. 10+680.000 TO STA. 10+820.000

PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-6.66

7
24

PAVEMENT ELEVATIONS

PIK-CR27-10.720

℄ STA.	LT.EP. ELEV.	RATE OF SUPER	DIST. LT.	℄ ELEV.	DIST. RT.	RATE OF SUPER	RT.EP. ELEV.
10+690.000	182.302*	−0.033	2.880	182.396*	3.335	−0.014	182.348*
+700.000	182.403	−0.034	3.030	182.506*	3.300	−0.006	182.487
+710.000	182.520	−0.032	3.180	182.620	3.300	+0.009	182.649
+720.000	182.630	−0.027	3.300	182.720	3.300	+0.017	182.775
P.T. +721.948	182.655	−0.025	3.300	182.738	3.300	+0.023	182.814
+730.000	182.732	−0.023	3.300	182.808	3.300	+0.023	182.884
+740.000	182.806	−0.023	3.300	182.882	3.300	+0.023	182.958
+750.000	182.869	−0.023	3.300	182.945	3.300	+0.023	183.021
+760.000	182.917	−0.023	3.300	182.993	3.300	+0.023	183.069
P.C. +765.764	182.939	−0.023	3.300	183.015	3.300	+0.023	183.091
+770.000	182.937	−0.028	3.300	183.029	3.300	+0.023	183.105
+780.000	182.938	−0.035	3.255	183.051*	3.113	+0.022	183.118
+790.000	182.940	−0.042	3.210	183.074*	2.926	+0.014	183.115
+800.000	182.945	−0.048	3.165	183.096*	2.738	−0.002	183.091
+810.000	183.080*	−0.046	3.120	183.225*	2.551	−0.033	183.140*

* EXISTING ELEVATION

CALCULATED B.B.B.
CHECKED A.A.H.

PAVEMENT ELEVATIONS

PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-6.66

8
24

SEEDING END WIDTH	SEEDING SQ. M.
4.4	70
	(16)
2.6	45
6.3	
0	
	99

16 14 12 10 8 6 4 2 ℄ 2 4 6 8 10 12 14 16

EX. R/W

R/W

6:1

2:1

2:1

182.30

182.720
STA 10+720
182.876

EX. 930 mm CMP

15.000 m
℄ DRIVE

150 mm
ITEM 304

1.1%

12.431 m RI

150 mm
ITEM 304

2.4%

DEDUCT FOR DRIVES

GRAVEL FIELD DRIVE LEFT, SKEWED 40°

182.659
STA 10+713.200
182.655

ADD FOR DRIVES

GRAVEL FIELD DRIVE RIGHT

EX. 930 mm CMP

182.506
STA 10+700
182.506

EX. 930 mm CMP

2:1

2:1

182.00

BEGIN WORK
STA 10+690.000

AHEAD
BEHIND STA. 10+690

STA 10+680

182.286

EX. 930 mm CMP

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
4.4	0.1		
		5	0
		74	2
AHEAD 3	0.1		
STA. 10+700 BEHIND 1.4	0		
AHEAD 1.4	0.1		
STA. 10+690 BEHIND 0	0		
		14	1
SHEET TOTAL		93	3

CALCULATED B.B.B.
CHECKED A.A.H.

CROSS SECTION SHEET
STA. 10+680.000 TO STA. 10+720.000

PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-06.66

9
24

SEEDING END WIDTH	SEEDING SQ. M.
5.7	28
4.3	
0	
0	
8.9	
	2
8.9	
	67
4.4	
	97

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
3.4	0.6	20	3
3.7	0.5		
0	0		
0	0		
5.8	0		
5.8	0	2	0
4.8	0.2	51	1
		73	4

CALCULATED B.B.B.

CHECKED A.A.H.

CROSS SECTION SHEET

STA. 10+730.000 TO STA. 10+765.764

PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-6.66

10
24

16 14 12 10 8 6 4 2 ℄ 2 4 6 8 10 12 14 16

184 182 180

EX. R/W R/W EX. R/W R/W

2:1 2:1 2:1 2:1

182.16

183.015
STA 10+765.764
183.196

182.10

AHEAD BACK STA. 10+760.181

182.993
STA 10+760.181
183.261

BEGIN APPROACH SLAB STA. 10+760.181

END APPROACH SLAB STA. 10+730.267

AHEAD BACK STA. 10+730.267

EX. R/W R/W EX. R/W R/W

2:1 2:1

181.80

182.808
STA 10+730
183.206

EX. 930 mm CMP

STA. 10+720 STA. 10+720

SHEET TOTAL SHEET TOTAL

SEEDING END WIDTH	SEEDING SQ. M.	AREA CUT	AREA FILL	VOLUME CUT	VOLUME FILL
0		AHEAD 0	0		
4.7		BACK STA.10+810 1.5	0	0	0
	47			15	0
4.7		1.5	0		
	101			21	8
		AHEAD 0.6	0.8		
		BACK STA. 10+780 2.0	0.8		
5.4				38	10
	79				
5.7		STA. 10+765.764 3.4	0.6		
	227	SHEET TOTAL		74	18

16 14 12 10 8 6 4 2 ℄ 2 4 6 8 10 12 14 16

EX. R/W

184

182

STA 10+820
183.367

184

182

STA 10+814.692
183.286

AHEAD
BACK STA.10+810

END WORK
STA 10+810

R/W

2:1

182.60

STA 10+800
183.096

EX. R/W

182.30

183.051
STA 10+780
183.051

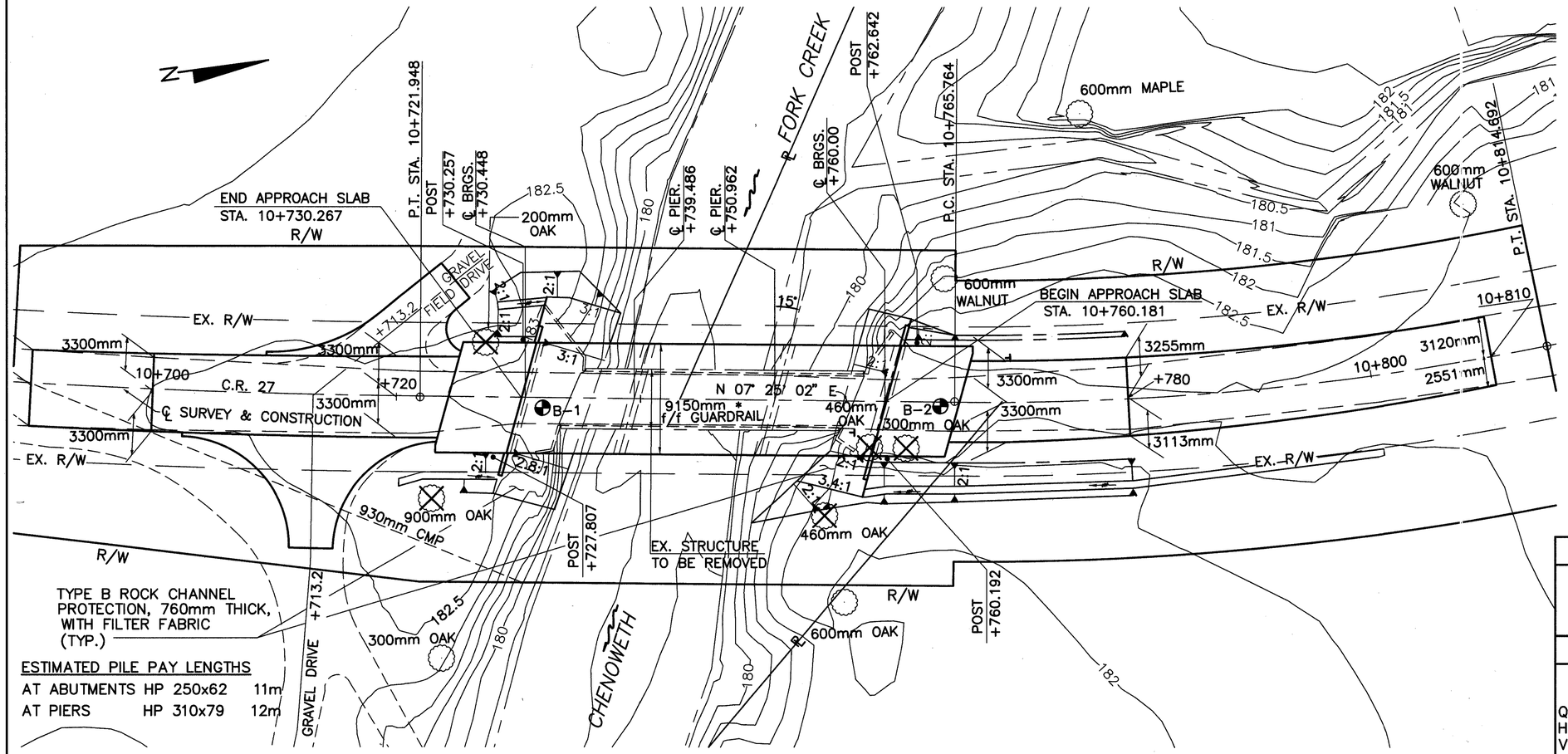
STA. 10+765.764

CALCULATED B.B.B.
CHECKED A.A.H.

CROSS SECTION SHEET
STA. 10+780.000 TO STA. 10+820.000

PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-06.66

11
24



ESTIMATED PILE PAY LENGTHS

AT ABUTMENTS	HP 250x62	11m
AT PIERS	HP 310x79	12m

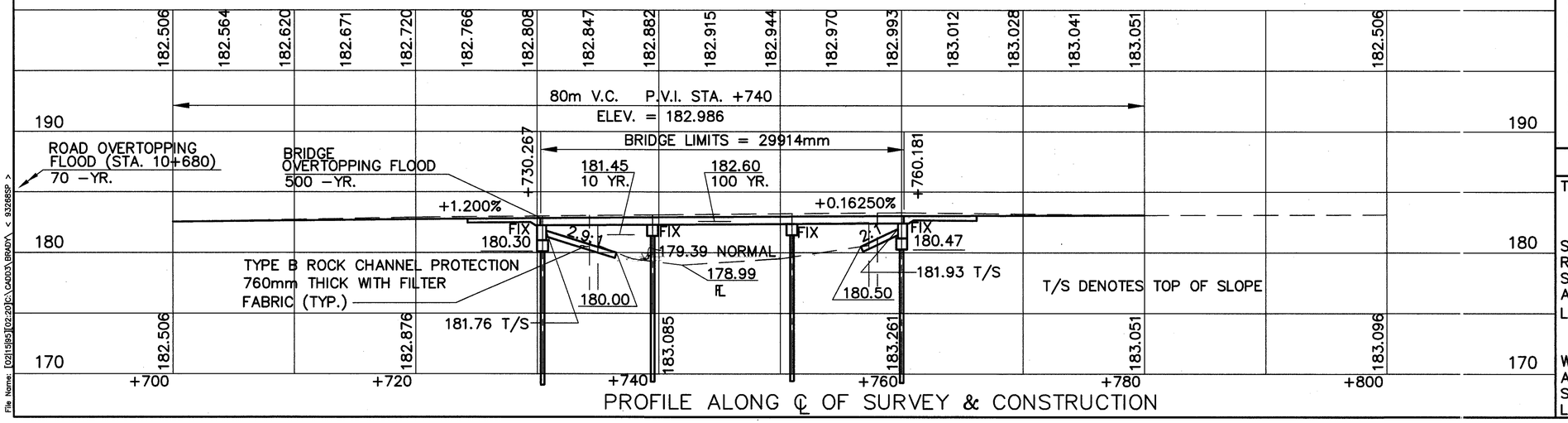
TBM 1: NORTH END OF NORTHEAST WINGWALL.
ELEV. 183.211

● BORING LOCATION
*PLUS FIT-UP

PLAN

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

THE STRUCTURE CLEARS THE 10 YEAR DESIGN HIGH WATER BY 749mm.



PROFILE ALONG ℄ OF SURVEY & CONSTRUCTION

℄ CURVE DATA
P.I. STA. 10+683.562
Δ = 06° 18' 12"
T = 38.464m
R = 698.550m
L = 76.850m
C = 76.811m
E = 1.058m

℄ CURVE DATA
P.I. STA. 10+790.319
Δ = 12° 02' 22"
T = 24.555m
R = 232.850m
L = 48.928m
C = 48.839m
E = 1.291m

TRAFFIC

	1995	2015
ADT	280	337
ADTT	22	27

HYDRAULIC DATA

DRAINAGE AREA = 64.20km²

Q10 = 89.48m³/sec Q100 = 164.52m³/sec
HW10=EL. 181.45M HW100=EL. 182.60M
V10 = 2.20m/sec V100 = 2.27m/sec

EXISTING STRUCTURE

TYPE : SINGLE SPAN PONY TRUSS WITH STONE ABUTMENTS.
SPAN : 22250mm f/f ABUTMENTS
ROADWAY: 4176mm f/f GUARDRAIL
SKEW : 23° LEFT FORWARD
ALIGNMENT : TANGENT
WEARING SURFACE : BITUMINOUS
DATE BUILT : 1950, REHAB. 1984
STRUCTURE FILE NO. 6630936

PROPOSED STRUCTURE

TYPE : THREE SPAN, PRESTRESSED CONCRETE BOX BEAMS WITH CAPPED PILE SUBSTRUCTURES.
SPAN : 8800-11000-8800mm c/c BRGS.
ROADWAY : 9150mm f/f GUARDRAIL
SKEW : 15° LEFT FORWARD
ALIGNMENT : TANGENT
LOADING: MS18 AND THE ALTERNATE MILITARY LOADING
WEARING SURFACE: 65mm(MIN.) ASPHALT
APPROACH SLAB: AS-1-81M(6100mm LONG)
SUPERELEV. : 0.023
LAT. 39° 02' 38" LONG. 83° 09' 52"

CLYDE E. WILLIAMS & ASSOCIATES, INC.
130 E. WILSON BRIDGE ROAD
WORTHINGTON, OHIO 43085

DESIGNED HM CHECKED JDH
DRAWN MS REVISED
REVIEWED AAH 8-29-94 DATE
STRUCTURE FILE NUMBER 6632602

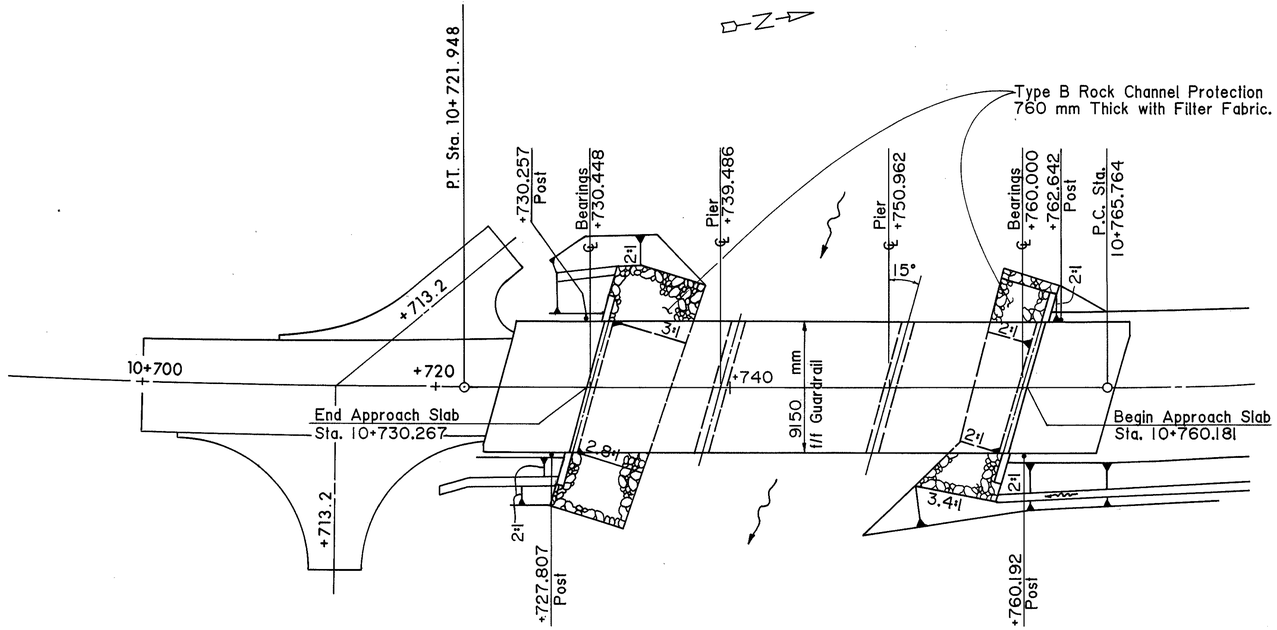
PIKE COUNTY
STA.10+730.267
TO STA.10+760.181

SITE-PLAN
BRIDGE NO. PIK-CR27-10730
OVER CHENOWETH FORK CREEK

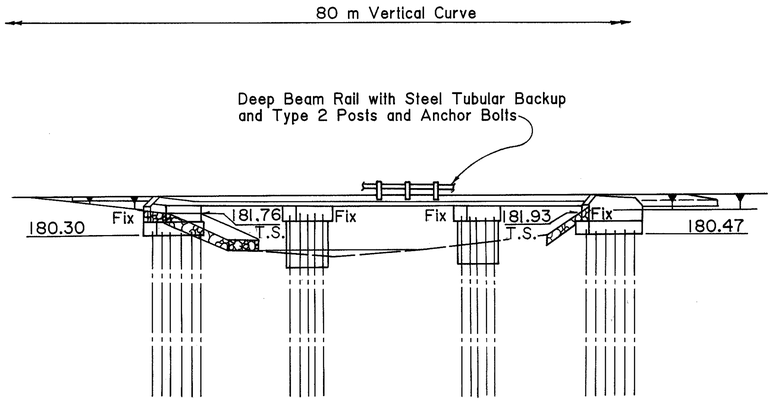
PROJECT DESIGNATION
PIK-CR27-10.720

1/10
12/24

File Name: I:\2015\95\T02\20\C\CADD\SHEETS\9526SP.dgn



GENERAL PLAN



ELEVATION

DESIGNED	DRAWN	REVIEWED	DATE
HM	LO'C	AAH	12-14-94
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDH		6630936	

CLYDE E. WILLIAMS & ASSOCIATES, INC.
130 E. WILSON BRIDGE ROAD
WORTHINGTON, OHIO 43085

GENERAL PLAN AND ELEVATION
BRIDGE NO. PIK-CR27-10730
OVER CHENOWETH FORK CREEK

PROJECT DESIGNATION
PIK-CR27-10.720

2 / 10

13 / 24

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

DBR-2-73M	(10-25-94)
AS-1-81M	(10-25-94)
PSBD-1-93M	(12-19-94)
DS-1-94M	(12-15-94)

AND TO SUPPLEMENTAL SPECIFICATIONS:

820
944

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION FOR STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, AND INCLUDING THE 1993 AND 1994 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

DESIGN LOADING MS-18 AND THE ALTERNATE MILITARY LOADING
CONCRETE CLASS "S" - UNIT STRESS 10.3 MPa (SUPERSTRUCTURE)
CONCRETE CLASS "C" - UNIT STRESS 9.2 MPa (SUBSTRUCTURE)
REINFORCING STEEL - ASTM A615M, A616M, OR A617M

GRADE 400, MINIMUM YIELD STRENGTH 400 MPa

MILD REINFORCING STEEL FOR THE CONCRETE PRESTRESSED BEAMS
GRADE 400, MINIMUM YIELD STRENGTH 400 MPa

CONCRETE FOR PRESTRESSED BEAMS
COMPRESSIVE STRENGTH - 38 MPa
UNIT STRESS - 15.2 MPa COMPRESSION
3.1 MPa TENSION

PRESTRESSING STRAND ASTM A416M

f'S = 1860 MPa
INITIAL STRESS = 0.75 f'S (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD: MEMBRANE WATERPROOFING, ASPHALT CONCRETE WEARING SURFACE, STEEL DRIP STRIP AND SEALING OF CONCRETE SURFACES.

SEALING OF CONCRETE SURFACES A CONCRETE SEALER SHALL BE APPLIED TO THE CONCRETE SURFACES AS DESIGNATED ON THE PLANS IN ACCORDANCE WITH THE PROPOSAL NOTE.

REMOVAL OF EXISTING STRUCTURE WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 203 GRANULAR MATERIAL PLACED IN LIFTS NOT TO EXCEED A THICKNESS OF 150 mm.

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL mm WITH A MINIMUM RESISTANCE OF 20 BLOWS PER 25 mm OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

THE DESIGN LOAD IS 236 KN PER PILE FOR THE ABUTMENT PILES AND 352 KN PER PILE FOR THE PIER PILES.

ITEM SPECIAL - PILE ENCASEMENT

ALL PILES FOR THE CAPPED PILE PIERS SHALL BE ENCASED IN CLASS S CONCRETE (499.03) AND SHALL BE IN ACCORDANCE WITH 511, EXCEPT AS MODIFIED AND SUPPLEMENTED HEREIN. THE REQUIRED SLUMP IS 150 mm, PLUS OR MINUS 12 mm. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.50. IF CONCRETE IS PLACED UNDER WATER, THE REQUIREMENTS OF ADDING 10 PERCENT MORE CEMENT TO THE CONCRETE SHALL BE WAIVED. THE CONCRETE SHALL BE PLACED WITHIN A FORM THAT CONSISTS OF POLYETHYLENE PIPE (707.16 OR SS 944), OR PVC PIPE (SS 942). THE ENCASEMENT SHALL EXTEND FROM 1 METER BELOW THE FINISHED GROUND SURFACE UP TO THE CONCRETE PIER CAP AND SHALL BE POSITIONED SO THAT AT LEAST 75 mm OF CONCRETE COVER IS PROVIDED AROUND THE EXTERIOR OF THE PILE.

metric units

CALCULATED BY H.M., DATE 10-12-94 — ESTIMATED QUANTITIES — CHECKED BY J.H., DATE 10-27-94

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIERS	GEN'L
202	11002	LUMP	LUMP	STRUCTURE REMOVED, OVER 6 METER SPAN				LUMP
403	20000	12	CU METER	ASPHALT CONCRETE, AC-20	12			
404	20000	9	CU METER	ASPHALT CONCRETE, AC-20	9			
503	21101	68	CU METER	UNCLASSIFIED EXCAVATION, AS PER PLAN		68		
505	11100	LUMP	LUMP	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP
507	11100	132	METER	STEEL PILES HP250x62		132		
507	13300	120	METER	STEEL PILES HP310x79			120	
SPECIAL	507 71200	32	METER	PILE ENCASEMENT			32	
509	15830	4438	KILOGRAM	EPOXY COATED REINFORCING STEEL, GRADE 400	261	2235	1942	
511	34000	3	CU METER	CLASS S CONCRETE, SUPERSTRUCTURE	3			
511	42500	16	CU METER	CLASS C CONCRETE, PIER CAP			16	
511	43500	42	CU METER	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING		42		
SPECIAL	512 67030	285	SQ METER	MEMBRANE WATERPROOFING (SHEET TYPE 3)*	285			
SPECIAL	512 67510	125	SQ METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) *	79	30	16	
515	50300	20	EACH	PRESTRESSED CONCRETE BOX BEAM (4.87-9.15 Meter Length)(B430x915, 9.110M) *	20			
515	50500	10	EACH	PRESTRESSED CONCRETE BOX BEAM (9.15-12.20 Meter), (B430x915, 11.310M) *	10			
516	13600	8	SQ METER	25 MM PREFORMED EXPANSION JOINT FILLER		8		
SPECIAL	516 31300	19	METER	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM (81 MM THICK)		19		
516	43100	120	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) 150x250x26 MM *		40	80	
517	72300	64.77	METER	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS AND ANCHOR BOLTS)*	64.77			
518	21200	17	CU METER	POROUS BACKFILL WITH FILTER FABRIC		17		
SPECIAL	518 22300	30	METER	STEEL DRIP STRIP	30			
518	40001	27	METER	150 MM PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN		27		
518	40011	18	METER	150 MM NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN		18		

* SEE PROPOSAL NOTE

THE LENGTH OF PILE ENCASEMENT SHALL BE MEASURED IN METERS ALONG THE LENGTH OF THE PILE. THIS ITEM INCLUDES ALL WORK AND MATERIALS NECESSARY TO FURNISH THE REQUIRED ENCASEMENT. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER METER OF PILE ENCASEMENT APPROVED IN PLACE.

IN LIEU OF ENCASING THE PILE IN CONCRETE, AT THE OPTION OF THE CONTRACTOR, THE PILE MAY BE GALVANIZED AS PER 711.02 THE GALVANIZING SHALL BE CONTINUOUS FROM A MINIMUM OF 1 METER BELOW THE FINISH GROUND SURFACE UP TO THE CONCRETE PIER CAP. THE GALVANIZED COATING THICKNESS SHALL BE A MINIMUM OF 10 MICROMETERS. ALL GOUGES, SCRAPES, SCRATCHES, OR OTHER SURFACE IMPERFECTIONS CAUSED BY THE HANDLING OR THE DRIVING OF THE PILE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR THE GALVANIZING WILL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM SPECIAL, PILE ENCASEMENT. PAYMENT WILL ONLY BE MADE FOR THE GALVANIZED LENGTH OF PIPE AS REQUIRED BY THE PLAN AND/OR APPROVED BY THE ENGINEER. ALL GALVANIZING PROVIDED BEYOND THE PROJECT REQUIREMENTS IS AT THE CONTRACTOR'S EXPENSE.

ELASTOMERIC BEARINGS SHALL COMPLY WITH 516 AND ARTICLES 18.2.5 THROUGH 18.2.8 OF SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION, OF THE AASHTO STANDARD SPECIFICATIONS 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 PRICE BID FOR THE BEARINGS.

EMBANKMENT CONSTRUCTION: THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE AFTER WHICH EXCAVATION MAY BE MADE FOR THE ABUTMENTS AND PILES DRIVEN.

ITEM 518, 150 mm PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN:

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 150 mm DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE SP.

ITEM 518, 150 mm NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN:

CORRUGATED PIPE USED IN ABUTMENT DRAINAGE SHALL BE 150 mm DIAMETER, PLASTIC CORRUGATED AS PER SUPPLEMENTAL SPECIFICATION 944, AASHTO M294, TYPE S. THIS ITEM SHALL INCLUDE ALL ELBOWS, TEES AND END CAPS REQUIRED TO COMPLETE THE ABUTMENT DRAINAGE SYSTEM.

METRIC PROJECT: ALL DIMENSIONS ARE IN MILLIMETERS.

CLYDE E. WILLIAMS & ASSOCIATES, INC.
130 E. WILSON BRIDGE ROAD
WORTHINGTON, OHIO 43085

DESIGNED HM | DRAWN SC | CHECKED JDH | REVISED

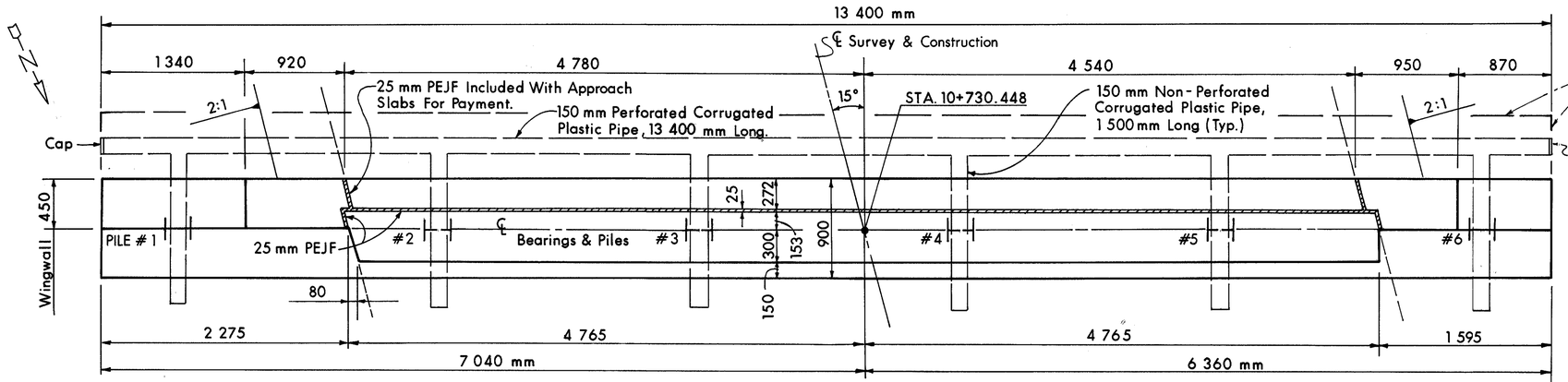
REVIEWED AAH 12/14/94 | DATE | STRUCTURE FILE NUMBER 6630936

PROJECT DESIGNATION PIK-CR27-10.720

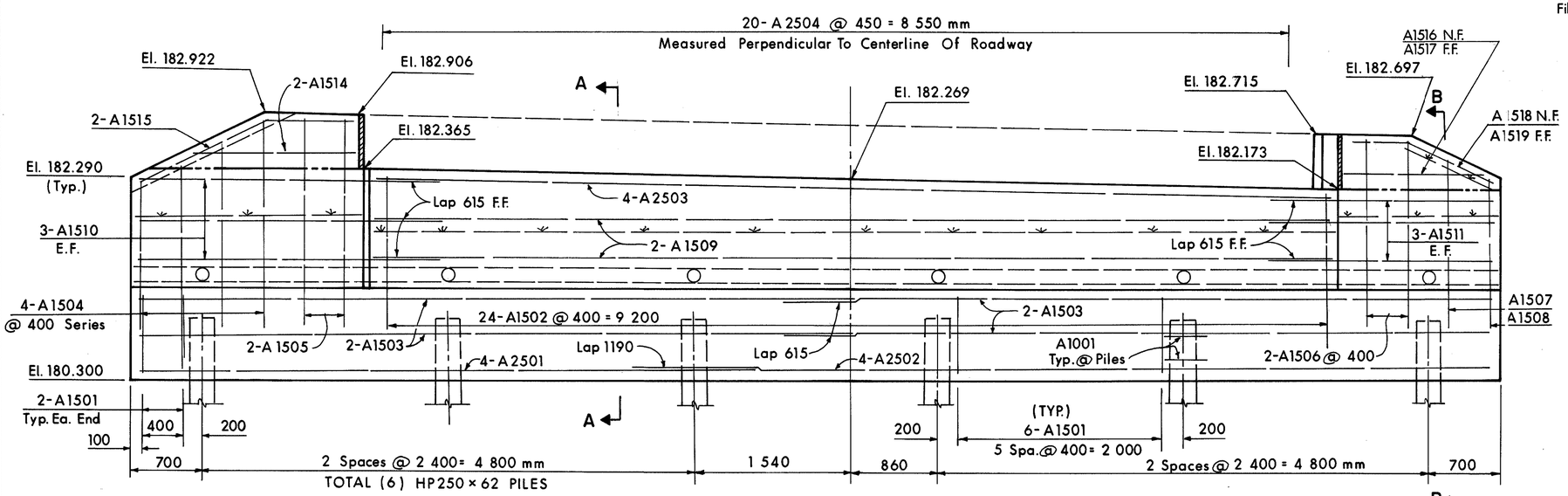
GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. PIK-CR27-10730
OVER CHENOWETH FORK CREEK

3/10

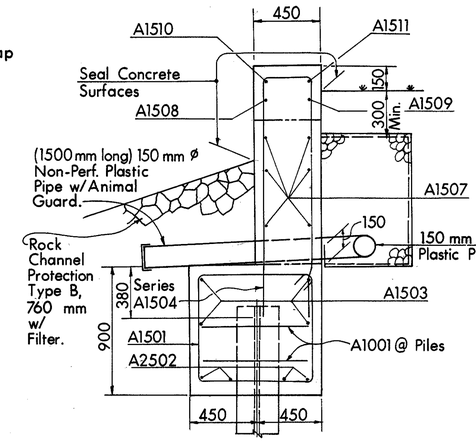
14/24



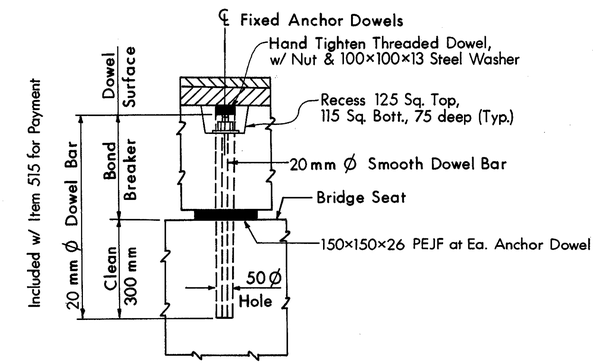
PLAN



ELEVATION



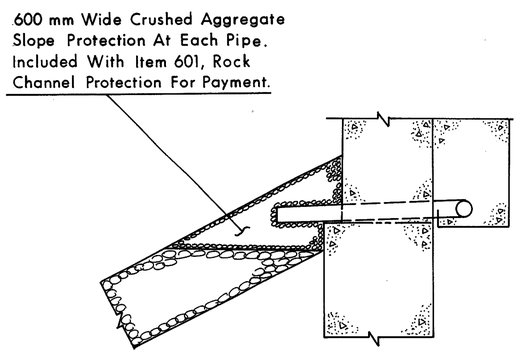
SECTION B-B



DETAIL 'A'

FIXED ANCHOR DOWEL

PROCEDURE: Place PEJF Grout Retainer. Drill And Clean Dowel Hole. Then Place Non-Shrinking Grout or Mortar, and Dowel.

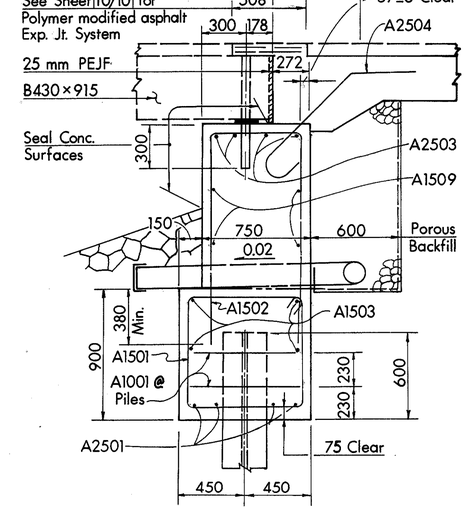


DETAIL 'B'

POROUS BACKFILL WITH FILTER FABRIC, 600 mm THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 300 mm BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. GEOTEXTILE FABRIC SHALL CONFORM WITH 712.09, TYPE A. THE BOTTOM OF THE POROUS BACKFILL SHALL BE SLOPED LATERALLY TO DRAIN. GEOTEXTILE FABRIC IS INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

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

ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT SHALL NOT BE PLACED UNTIL THE PRE-STRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.



SECTION A-A

LEGEND

N.F. DENOTES 'NEAR FACE'
F.F. DENOTES 'FAR FACE'
E.F. DENOTES 'EACH FACE'

CLYDE E. WILLIAMS & ASSOCIATES, INC.
130 E. WILSON BRIDGE ROAD
WORTHINGTON, OHIO 43085

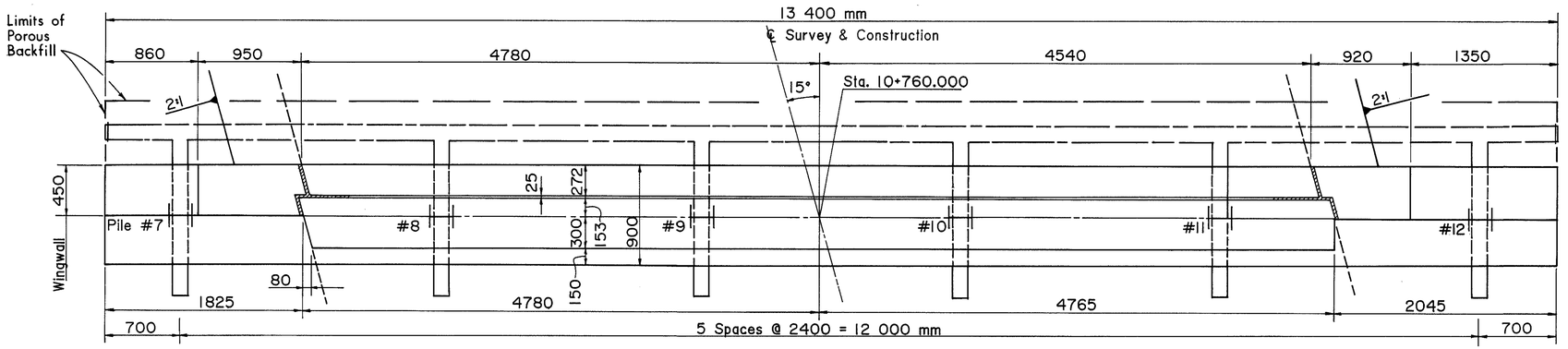
DESIGNED HM | DRAWN LO'C | CHECKED JDH | REVIEWED AAH | DATE 12-14-94 | REVISED | STRUCTURE FILE NUMBER 6630936

REAR ABUTMENT DETAILS
BRIDGE NO. PIK-CR27-10730
OVER CHENOWETH FORK CREEK

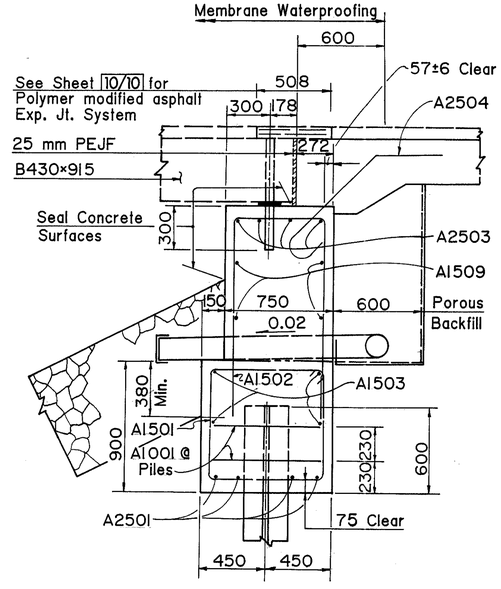
PROJECT DESIGNATION
PIK-CR27-10.720

4 / 10

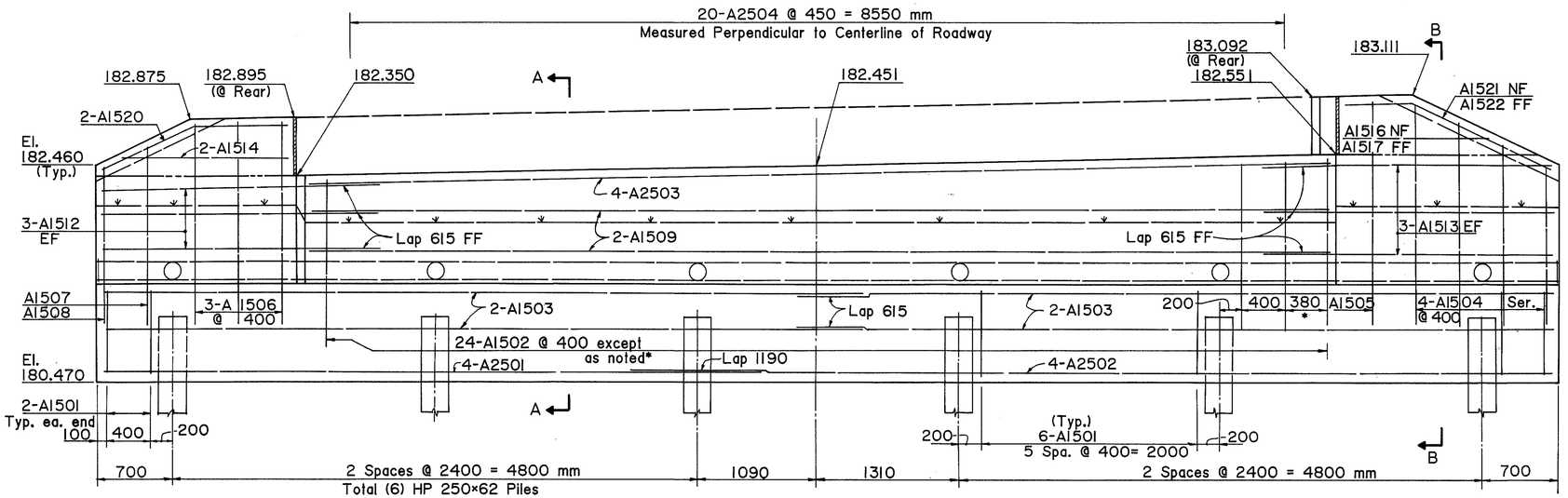
15 / 24



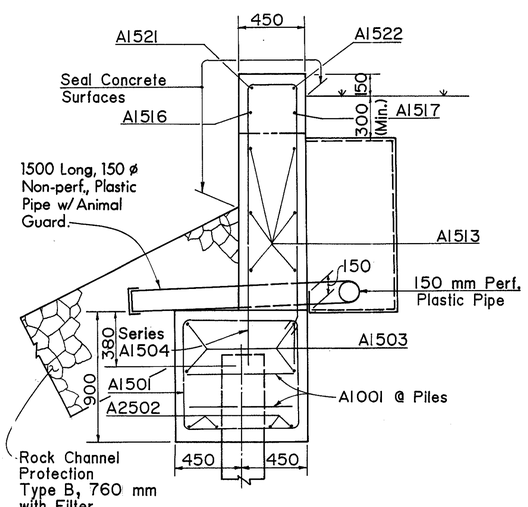
PLAN



SECTION A-A



ELEVATION



SECTION B-B

FOR NOTES SEE SHEET 4/10

LEGEND

NF DENOTES "NEAR FACE"
FF DENOTES "FAR FACE"
EF DENOTES "EACH FACE"

CLYDE E. WILLIAMS & ASSOCIATES, INC.
130 E. WILSON BRIDGE ROAD
WORTHINGTON, OHIO 43085

DESIGNED	DRAWN	REVIEWED	DATE
HM	LO'C	AAH	12-14-94
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDH		6630936	

FORWARD ABUTMENT DETAILS
BRIDGE NO. PIK-CR27-10.730
OVER CHENOWETH FORK CREEK

PROJECT DESIGNATION
PIK-CR27-10.720

5 / 10

16
24

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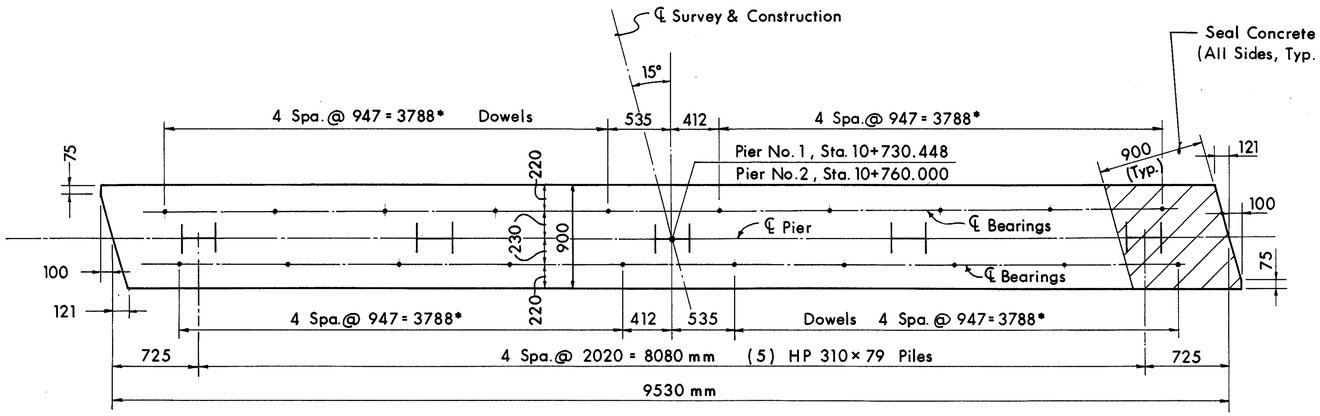
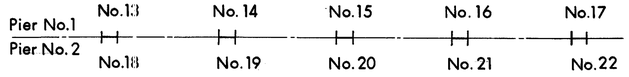
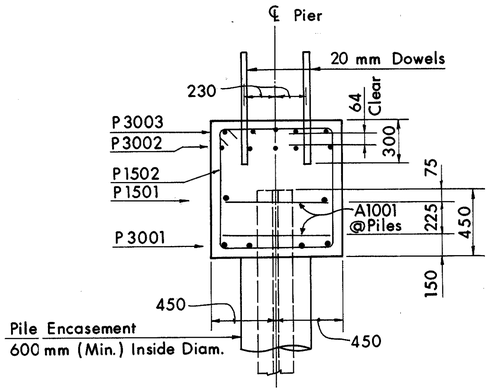


PLAN

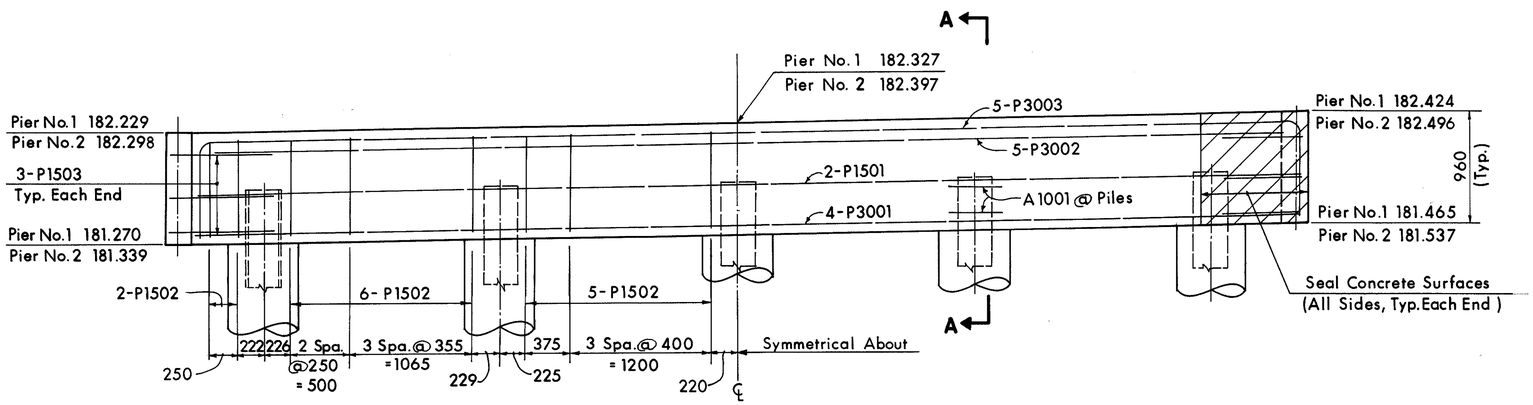
* Plus Fit-Up



PILE NUMBERING



SECTION A-A



ELEVATION

BRIDGE SEAT REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF THE BEARING ANCHOR RODS OR THE PRE-SETTING OF BEARING ANCHORS.

CLYDE E. WILLIAMS & ASSOCIATES, INC.
130 E. WILSON BRIDGE ROAD
WORTHINGTON, OHIO 43085

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PIER DETAILS
BRIDGE NO. PIK-CR27-10.730
OVER CHENOWETH FORK CREEK

PROJECT DESIGNATION
PIK-CR27-10.720

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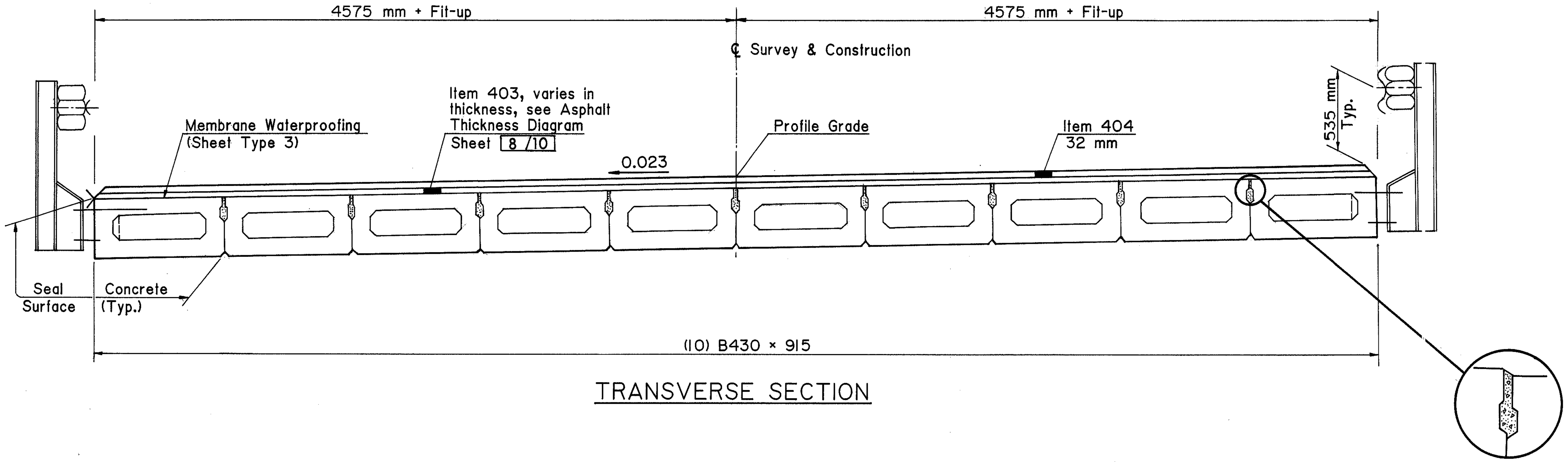
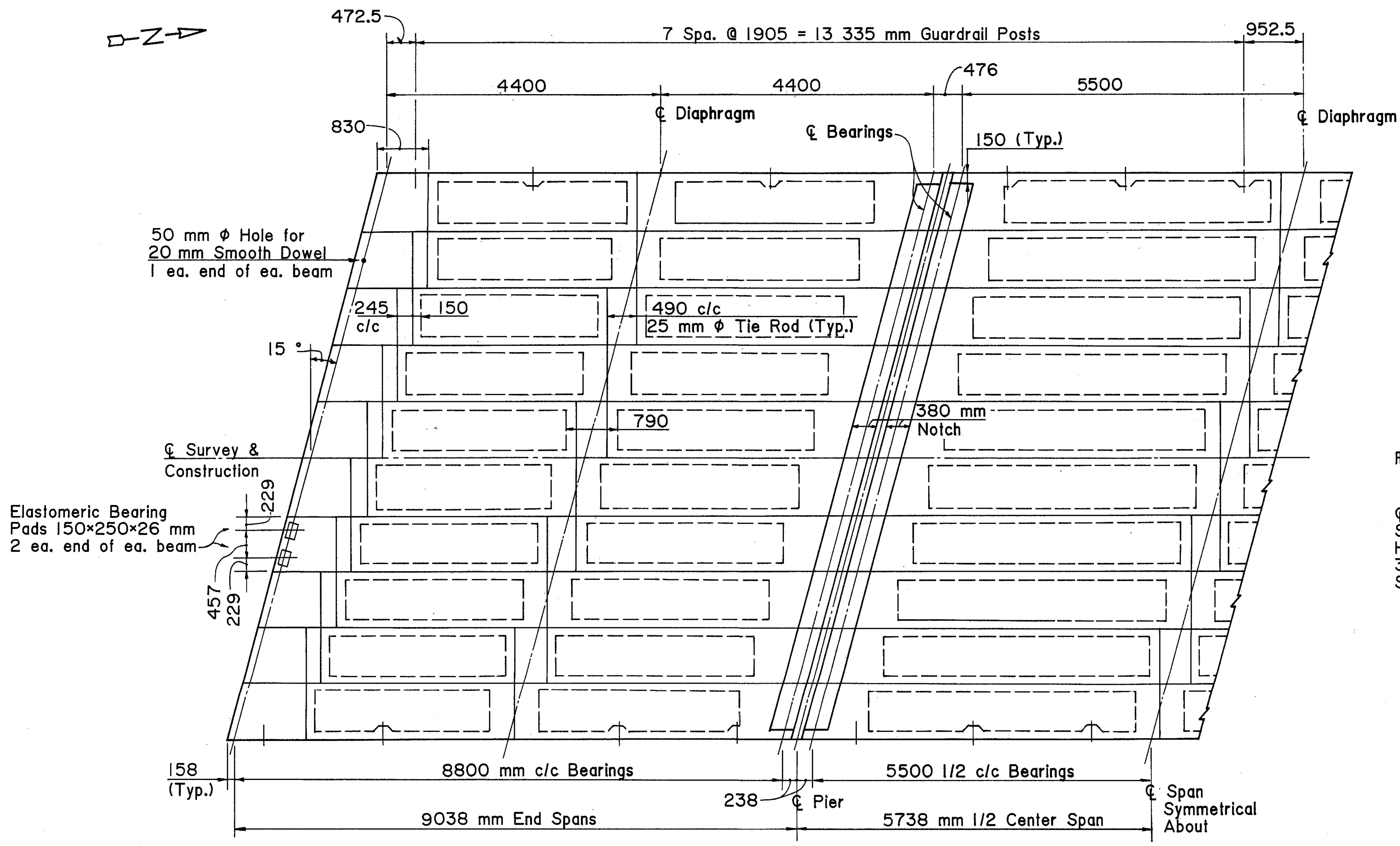
17
24

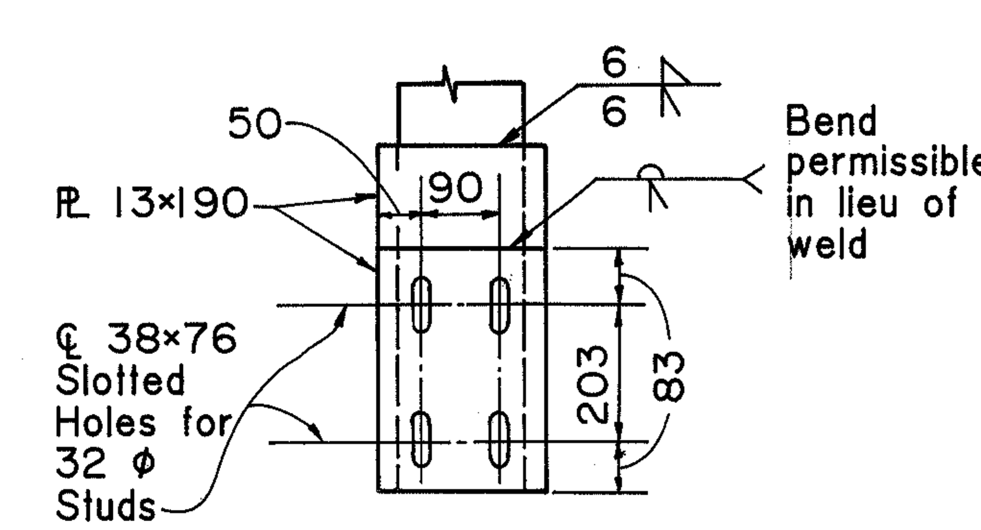


TRANSVERSE SECTION

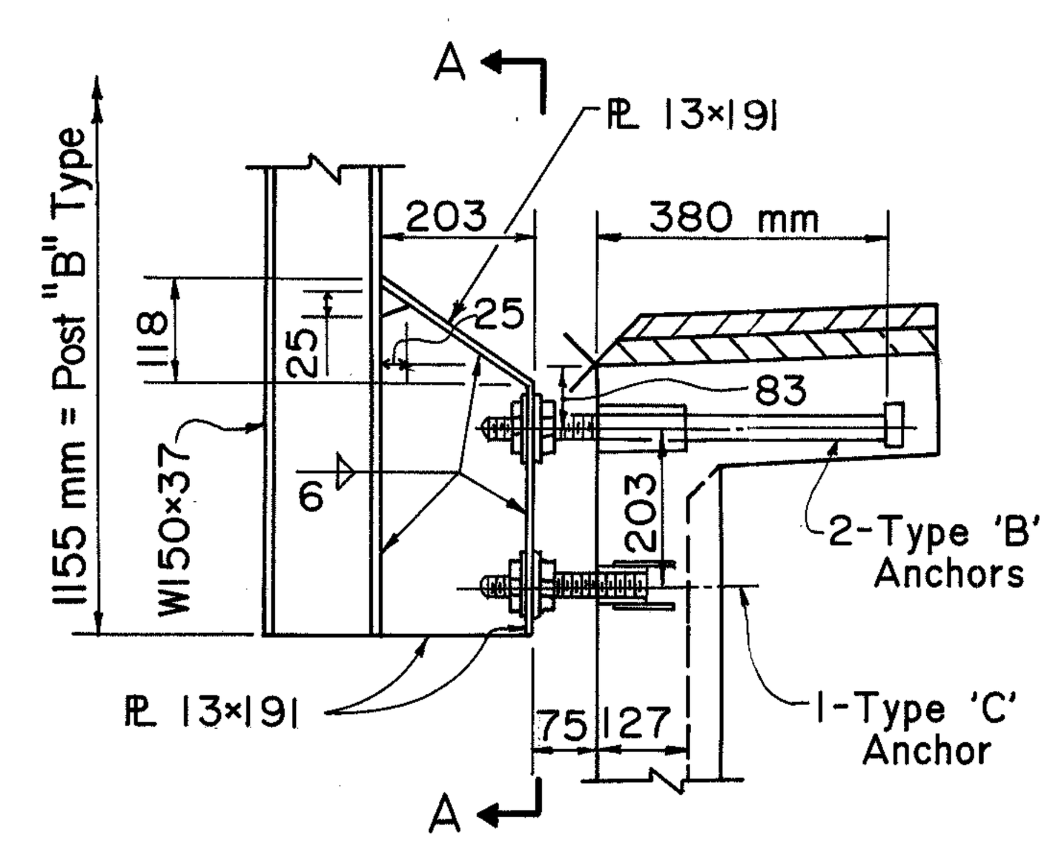
Shear keys shall be mortared on a finished plane between the top edges of the adjacent beams where vertical offset (within tolerance) occurs.



PLAN



VIEW A-A
SLOTTED HOLE DETAIL
FOR PLATE ON RAIL POST



GUARDRAIL DETAIL
Type 2 Post for details not shown see Std. Dwg. DBR-2-73M.

CLYDE E. WILLIAMS & ASSOCIATES, INC.
130 E. WILSON BRIDGE ROAD
WORTHINGTON, OHIO 43085

DESIGNED	DRAWN	REVIEWED	DATE
HM	LO'C	AAH	12-14-94
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDH		6630936	

SUPERSTRUCTURE DETAILS
BRIDGE NO. PIK-CR27-10730
OVER CHENOWETH FORK CREEK

PROJECT DESIGNATION
PIK-CR27-10.720

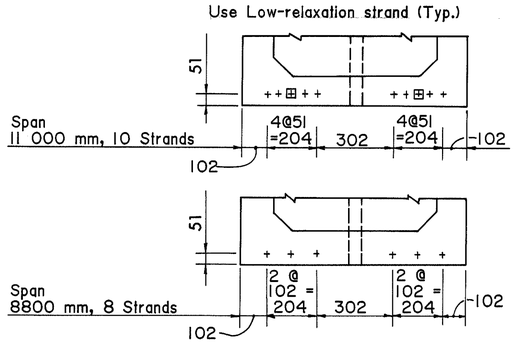
CAMBER - 11 000 mm SPAN

Calculated camber at time of paving, including allowance for camber growth due to creep is 35 mm.

Calculated deflection due to weight of surface course and railing is 2 mm.

Camber of 2 mm at center of span is required for the vertical curve.

Net final camber of beams is 31 mm. This is 31 mm in excess of the amount required to place the top of the beam parallel to profile grade. The excess amount shall be compensated for by thickening the 403 leveling course from 33 mm at the center of the span to 64 mm at the piers.



B430×915

⊞ Debond Strands 460 mm each end.

CAMBER - 8800 mm SPAN

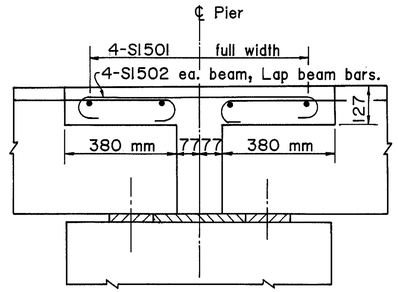
Calculated camber at time of paving, including allowance for camber growth due to creep is 22 mm.

Calculated deflection due to weight of surface course and railing is 0 mm.

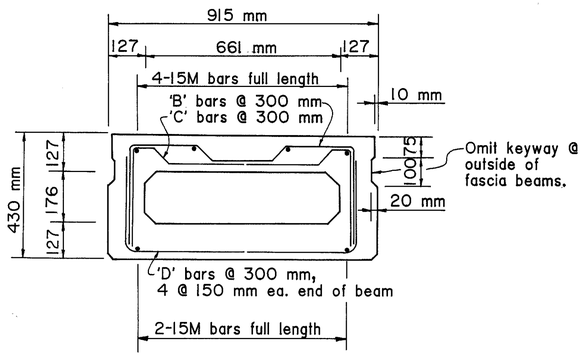
Camber of 1 mm at center of span is required for the vertical curve.

Net final camber of beams is 21 mm. This is in excess of the amount required to place the top of the beam parallel to profile grade. An increased asphalt thickness of 21 mm at the abutment and 31 mm at the pier is required to satisfy beam alignment and minimum thickness requirement. This adjustment shall be achieved by thickening the 403 leveling course from 33 mm at the center of the spans to 54 mm at the abutments and 64 mm at the piers to match the center span.

See Standard Drawing PSBD-1-93, Sheet 4 of 4 for additional details.



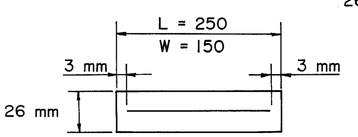
BEAM @ PIERS

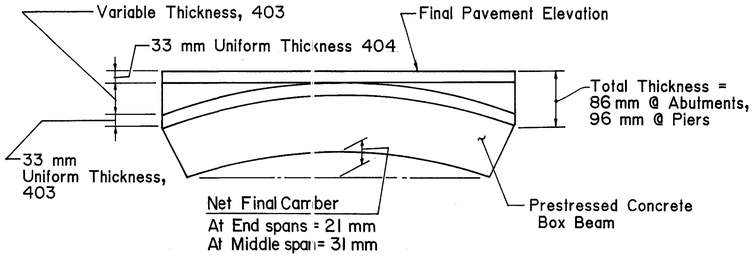


B430×915

ELASTOMERIC BEARINGS	
Beams B430×915	
Spans 1 & 3	Span 2
DL = 10.9k LL = 12.2 23.1k/pad	DL = 13.7k LL = 13.0 26.7k/pad
Pads 150 × 250 × 26 mm	
50 DUROMETER	

2 ELASTOMERIC LAYERS @ 12 mm = 24 mm
1 STEEL LAMINATE @ 2 mm = 2 mm
26 mm

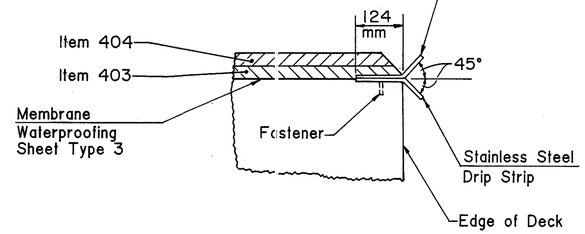




ASPHALT THICKNESS DIAGRAM

Asphalt concrete surface course shall consist of a variable thickness of 403 and 33 mm thickness of 404. The 403 shall be placed in two operations: the first course shall be 33 mm uniform thickness, the second course shall be feathered to place the surface parallel to, and 32 mm below, final pavement surface elevation.

Additional Drip Strip 300 mm long
Centered @ all Guardrail Posts &
Additional Drip Strip 1829 mm long,
Centered over Piers.



DRIP STRIP

STAINLESS STEEL DRIP STRIP: Prior to applying waterproofing, a bent drip strip shall be installed along the left edge of the deck. An additional 300 mm long drip strip shall be installed centered on each post.

The strip shall be fastened at 450 mm c/c maximum with 32 mm × 4 mm × 6 mm flat head drive pin and washer (length × shank diameter × head diameter) or 3.4 mm galvanized screws and expansion anchors, subject to approval of the Engineer. The strip shall be placed the full length of the deck, ending at the abutments. The strip shall be 200 mm × 0.75 mm. Where splices are required the individual pieces shall be butted together. Stainless steel shall be ASTM A167, Type 304, mill finish.

The final pay quantity shall be the actual overall length of the drip strip. Additional strips at posts and at piers shall not be measured for payment.

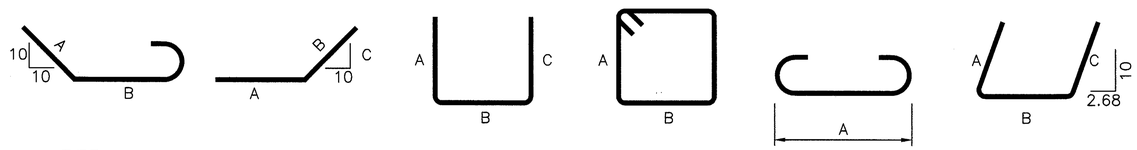
Payment shall be at the contract price bid for Item Special, Meters, Steel Drip Strip, which shall include all materials, labor, tools, and incidentals necessary to complete the item.

CLYDE E. WILLIAMS & ASSOCIATES, INC.
1301 E. WILSON BRIDGE ROAD
WORTHINGTON, OHIO 43085

DESIGNED HM | DRAWN LO'C | CHECKED JDH | REVISED | REVIEWED AAH | DATE 12-14-94 | STRUCTURE FILE NUMBER 6630936

SUPERSTRUCTURE DETAILS
BRIDGE NO. PIK-CR27-10730
OVER CHENOWETH FORK CREEK

PROJECT DESIGNATION
PIK-CR27-10.720



ABUTMENTS

MARK	NO.	LENGTH MM	WEIGHT KG	TYPE	A	B	C	INCREMENT
A2501	8	6050	190	ST				
A2502	8	8450	265	ST				
A2503	8	9440	296	ST				
A2504	40	1610	253	1	460	870		
A1501	68	3350	358	4	775	800		
A1502	48	3605	272	3	1515	650	1515	
A1503	16	6955	175	ST				
A1504	2 SER.	4365 TO	47	3	2045 TO	350	2045 TO	*390
	OF 4	3195*			1460		1460	
A1505	3	4375	21	3	2050	350	2050	
A1506	5	3975	31	3	1850	350	1850	
A1507	2	3585	11	3	1655	350	1655	
A1508	2	3195	10	3	1460	350	1460	
A1509	8	9440	119	ST				
A1510	6	2970	28	ST				
A1511	6	2210	21	ST				
A1512	6	2520	24	ST				
A1513	6	2660	25	ST				
A1514	4	1540	10	ST				
A1515	2	2280	7	2	1440	840	5	
A1516	1	1340	2	ST				
A1517	1	1530	2	ST				
A1518	1	1520	2	2	920	600	4.6	
A1519	1	1710	3	2	920	790	4.6	
A1520	2	1780	6	2	920	860	4.5	
A1521	1	2010	3	2	1410	600	5.2	
A1522	1	2200	3	2	1410	790	5.2	
A1001	24	2720	51	4	755	530		
		TOTAL	2235					

PIERS

MARK	NO.	LENGTH mm	WEIGHT kg	TYPE	A mm	B mm	C mm	D mm
P3001	8	9390	413	ST				
P3002	10	9170	504	ST				
P3003	10	10930	601	3	840	930	840	
P1501	4	9390	59	ST				
P1502	52	3485	285	4	860	800		
P1503	12	1980	37	7	615	828	615	
P1001	20	2720	43	4	755	530		
		TOTAL	1942					

SUPERSTRUCTURE

MARK	NO.	LENGTH mm	WEIGHT kg	TYPE	A mm	B mm	C mm	D mm
S1501	8	9040	114	ST				
S1502	80	1170	147	5	814			
		TOTAL	261					

NOTE: ALL REINFORCING STEEL TO BE EPOXY COATED.

CLYDE E. WILLIAMS & ASSOCIATES, INC.
130 E. WILSON BRIDGE ROAD
WORTHINGTON, OHIO 43085

DESIGNED HM | DRAWN SC | CHECKED JDH | REVIEWED AAH 12/14/94 | DATE | REVISED | STRUCTURE FILE NUMBER 6630936

REINFORCING STEEL
BRIDGE NO. PIK-CR27-10730
OVER CHENOWETH FORK CREEK

PROJECT DESIGNATION
PIK-CR27-10.720

GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

metric units

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.

PAVETECH INTERNATIONAL, INC.	LINEAR DYNAMICS, INC.	BRIDGESAVER, INC.	EXPANDEX
P.O. BOX 498969	RD #2 BOX 311	1575 HARMON AVE.	95 PINEVIEW DR.
12066 MONTGOMERY RD.	MUNCY, PA 17756	P.O. BOX 30248	AMHERST, NY 14228
CINCINNATI, OH 45249	TEL: (717) 546-6041	COLUMBUS, OH 43223	TEL: (716) 691-7566
TEL: 1-800-258-0162		TEL: 1-800-448-3636	

MATERIALS:

BRIDGING PLATE:
MILD STEEL 3 mm OR 6 mm THICK PLATE, 200 mm WIDE OR 18 GAUGE (APPROX. 1.3 mm) ALUMINUM, 204 mm WIDE.

BINDER:

TYPE:	POLYMER MODIFIED ASPHALT
SOFTENING POINT:	82.2 °C MIN.
FLOW:	3 MM. MAX. AT 60 °C
PENETRATION:	9 MM. MAX. AT 25 °C 1 MM. MAX AT −17.8 °C ASTM D 3407
DUCTILITY:	40 CM. MIN. ASTM D 113
RESILIENCE:	40% MIN. AT 25 °C
TENSILE ADHESION:	700% MIN.
SPECIFIC GRAVITY:	1.10 ± 0.05
POURING TEMP:	176.7 °C – 198.9 °C

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

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 51 MILLIMETERS DEEP (508 mm 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 1649 DEGREES C. AT A VELOCITY OF 914 METERS PER SECOND WITH 103.4 kPa GAGE 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, 152 mm 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)

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 3 mm OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 3 mm AND 30 mm 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 300 mm 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 mm THICK ON THE BOTTOM OF THE JOINT CAVITY, WITH POOLS OF GREATER THICKNESS WHERE SURFACE IRREGULARITIES EXIST. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 177 AND 199 DEGREES C. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 210 DEGREES C. NOR ALLOWED TO EXCEED 199 DEGREES C. 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 135 TO 163 DEGREES C., 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 NOT LESS THAN 13 MILLIMETERS NOR EXCEEDING 64 MILLIMETERS. THE THICKNESS OF EACH LAYER CAN BE VARRIED, WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MINIMUM 51 mm). 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 13 mm AND ONE 25 mm. 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:

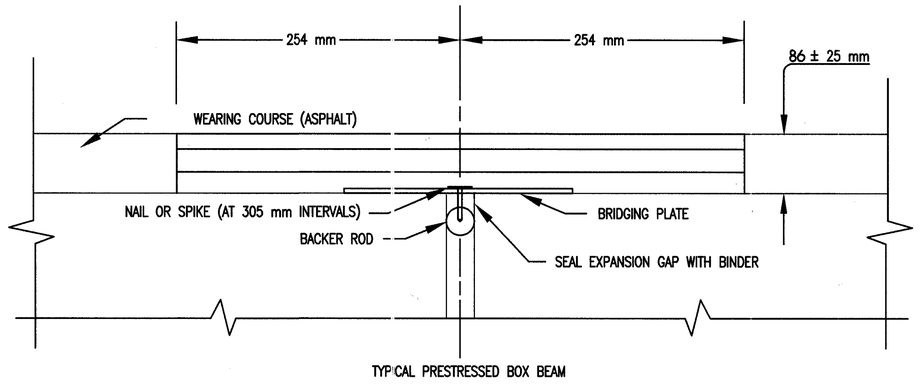
IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF 51 MILLIMETERS OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER 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. TESTING LABORATORY.

PAYMENT:

PAYMENT FOR ALL THE ABOVE WILL BE AT THE UNIT PRICE BID PER LINEAR METER OF SEALED JOINT IN PLACE FOR ITEM SPECIAL [redacted], POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM (81 MILLIMETERS THICK). THIS WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.



CLYDE E. WILLIAMS & ASSOCIATES, INC.
130 E. WILSON BRIDGE ROAD
WORTHINGTON, OHIO 43085

DESIGNED	DRAWN	REVIEWED	DATE
HM	SC	AAH	12/14/94
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDH		6630936	

POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM
BRIDGE NO. PIK-CR27-10730
OVER CHENOWETH FORK CREEK

PROJECT DESIGNATION
PIK-CR27-10.720

10 / 10

21
24

File Name: [04103195][07:50] < C:\CADD\93-288\PIK-CR27.697\93288PMA >

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

PIK-CR27-10.720

PIKE COUNTY
SUNFISH TOWNSHIP

V.M.S. 2848

RIGHT OF WAY

metric units

PROJECT DESCRIPTION

TO REPLACE THE EXISTING DEFICIENT STRUCTURE ON C.R. 27 OVER CHENOWETH FORK CREEK WITH A NEW STRUCTURE AND ALL NECESSARY APPROACH WORK. THE LENGTH OF THE PROJECT IS 50 METERS.

ACQUIRING AGENCY: PIKE COUNTY

1995 SPECIFICATIONS

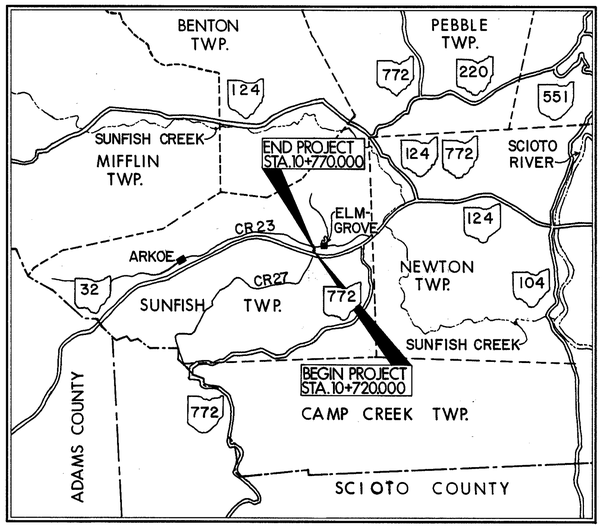
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

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.

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE OR
FENCE LINE(EXISTING) OR PROPOSED
CENTER LINE 50+00 51+00
TREES STUMPS TO BE REMOVED
UTILITY POLES TELEPHONE POWER LIGHT
LIMITED ACCESS (ONLY) LA
RIGHT OF WAY (ONLY) RW
LIMITED ACCESS & RIGHT OF WAY EX. LA-R/W
EXISTING RIGHT OF WAY EX. R/W
PROPERTY LINE PL (IN EXISTING FENCE) PL
RAILROAD OR
GUARD RAIL (EXISTING) (PROPOSED)
CONSTRUCTION LIMITS CONSTRUCTION LIMITS

INDEX OF SHEETS



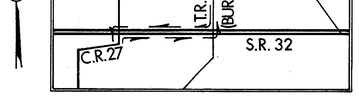
LOCATION MAP

0 1 5 10
SCALE IN KILOMETERS

LATITUDE - 39° 02' 38"
LONGITUDE - 83° 09' 52"

PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES
OTHER ROADS
RIGHT-OF-WAY PLANS

0 2 4 8 12 16
SCALE IN METERS



DETOUR MAP
NOT TO SCALE

UNDERGROUND UTILITIES
Two Working Days
BEFORE YOU DIG
Call 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

CLYDE E. WILLIAMS & ASSOCIATES
PROFESSIONAL ENGINEERS
130 E. WILSON BRIDGE ROAD STE. 025
WORTHINGTON, OHIO 43085

Abdul-Wadood A. Haider 3-24-95
ENGINEER DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____

_____ _____
DIVISION ADMINISTRATOR DATE

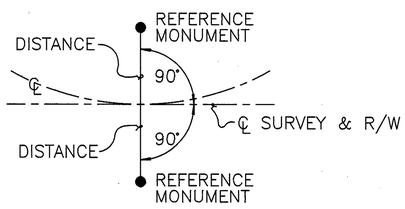
APPROVED Denny Salsbury
DATE 5-25-95 PIKE COUNTY ENGINEER

APPROVED _____
DATE _____ ASSISTANT DEPUTY DIRECTOR, OFFICE OF REAL ESTATE ADMINISTRATION

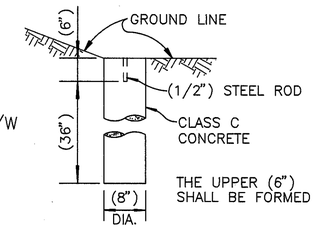
APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. BRO-94B(20)
PID NO. 14048
STATE JOB NO. 09323(0)
RAILROAD INVOLVEMENT NONE
PROJECT DESIGNATION
SLD.....PIK-CR27-10.720
SLM.....PIK-CR27-6.66

DETAIL FOR SETTING MONUMENTS



TYPICAL REFERENCE



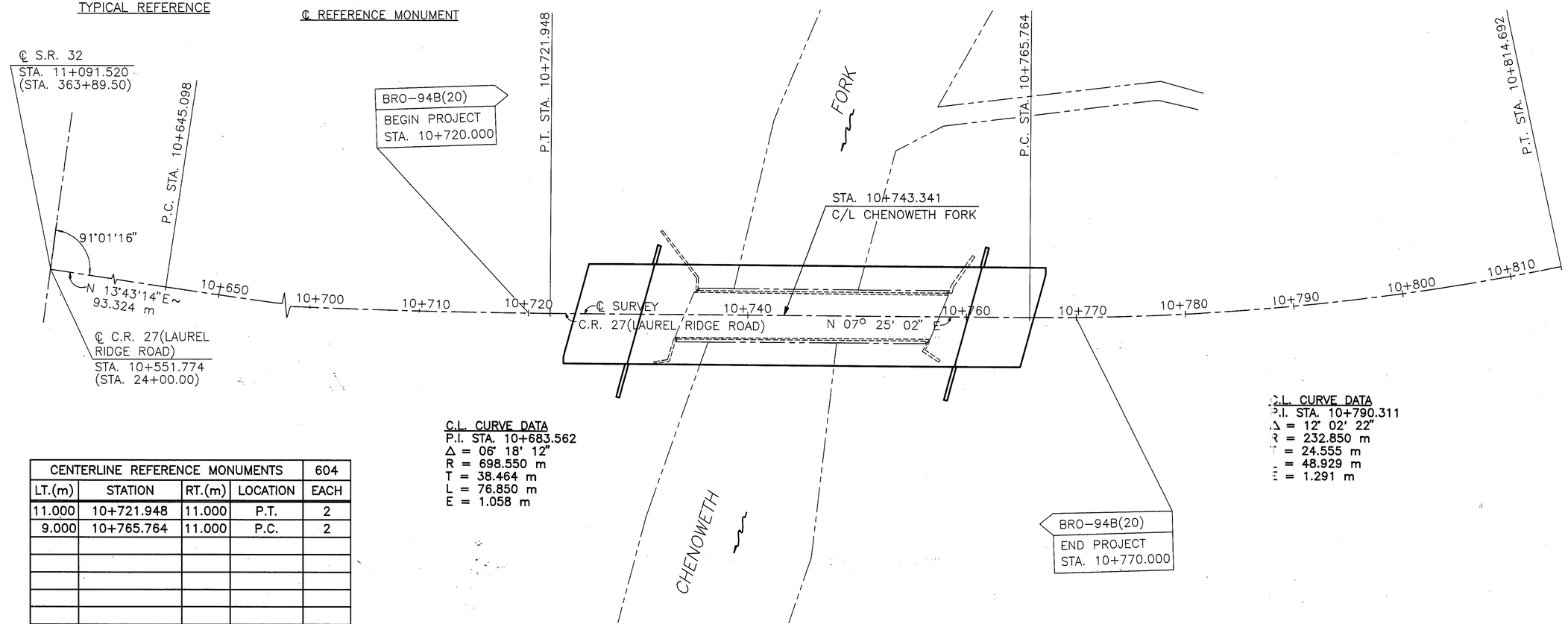
℄ REFERENCE MONUMENT

CENTERLINE SURVEY PLAT

PIK–CR27–10.720

PIKE COUNTY, OHIO

SUNFISH TOWNSHIP, V.M.S. 2848



C.L. CURVE DATA
P.I. STA. 10+683.562
Δ = 06° 18' 12"
R = 698.550 m
T = 38.464 m
L = 76.850 m
E = 1.058 m

C.L. CURVE DATA
P.I. STA. 10+790.311
Δ = 12° 02' 22"
R = 232.850 m
T = 24.555 m
L = 48.929 m
E = 1.291 m

CENTERLINE REFERENCE MONUMENTS				604
LT.(m)	STATION	RT.(m)	LOCATION	EACH
11.000	10+721.948	11.000	P.T.	2
9.000	10+765.764	11.000	P.C.	2
TOTAL				4

CENTERLINE MONUMENTS AND CENTERLINE REFERENCE MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING MC–1 (REV. 6–13–69) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A REGISTERED SURVEYOR AND ARE TO BE SET, AS SHOWN, BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF THE NEW LOCATIONS.

BASIS FOR BEARINGS:
BASIS OF BEARING CONTAINED IN DESCRIPTION FOR 41.21 ACRE TRACT DEEDED TO GLENNA MCALLISTER WALLACE AND PHYLLIS MCALLISTER AS RECORDED IN DEED BOOK 225, PAGE 214, ON FILE WITH THE PIKE COUNTY RECORDER, PIKE COUNTY COURTHOUSE, WAVERLY, OHIO.

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN 1993 BY CLYDE E. WILLIAMS & ASSOCIATES, INC.

Abdul Wadood A. Haider S-6350 DATE 5-19-95
REGISTERED SURVEYOR NO.

STATE OF OHIO — Abdul-Wadood A. Haider — S-006350 — REGISTERED SURVEYOR

RECEIVED_____, 19___
RECORDED_____, 19___
BOOK_____ PAGE_____
_____
COUNTY RECORDER

APPROVED: Denny Salisbury
DATE: 5-25-95 PIKE COUNTY ENGINEER

metric units

SCALE IN METERS 0 4 8

FEDERAL PROJECT NO. BRO–94B(20)

STATE JOB NO. 09323(0)

CENTERLINE SURVEY PLAT

PROJECT DESIGNATION
SLD....PIK–CR27–10.720
SLM....PIK–CR27–06.66

1 / 3

22 / 24

File Name: [10/7/94 11:28]C:\CADD\BRADYS\ < UNNAMED >

PROPERTY MAP

PIK-CR27-10.720

SUNFISH TOWNSHIP
PIKE COUNTY
V.M.S. 2848

metric units

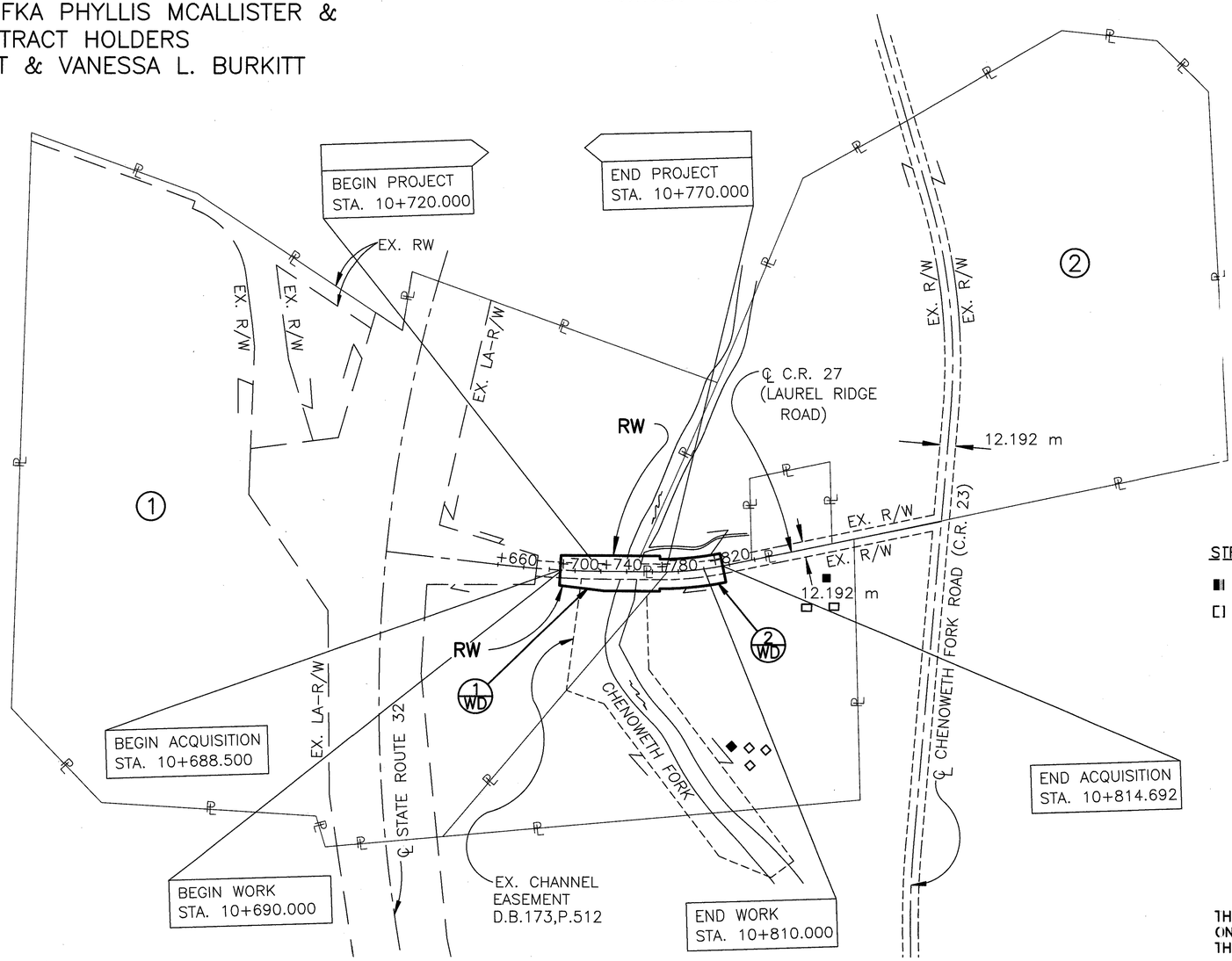
SCALE IN METERS 0 40 80

① HAGER RISNER & JO ANN RISNER

② PHYLLIS E. MCNELLY, FKA PHYLLIS MCALLISTER &
LAND CONTRACT HOLDERS
JEFFREY W. BURKITT & VANESSA L. BURKITT

UTILITY OWNERS

NONE ENCOUNTERED



STRUCTURE KEY

- RESIDENTIAL
- OUTBUILDING

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

REV.	DATE	DESCRIPTION	BY

DATE OF COMPLETION 3-24-95

FEDERAL PROJECT NO. BRO-94B(20)

STATE JOB NO. 09323(0)

PROPERTY MAP

PROJECT DESIGNATION
SLD...PIK-CR27-10.720
SLM...PIK-CR27-06.66

2 / 3

23 / 24

File Name: [02]0809+][14:1]C:\CADD\1\93-202\ < 93202PM1 >

PIKE COUNTY
SUNFISH TOWNSHIP
V.M.S. 2848

metric units

SCALE IN METERS 0 4 8

- ○ IRON PINS FOUND
- ● IRON PINS SET
- ● IRON PINS SET: WHERE INDICATED, IRON PINS HAVE BEEN SET AND ARE THREE-QUARTER (3/4) INCH REBARS, THIRTY-SIX INCHES LONG WITH A PLASTIC CAP ON TOP.

IRON PIN SET DETAIL (36")

CURVE #1
Δ = 03° 33' 36"
R = 698.550 m(2291.83')
T = 21.708 m(71.22')
L = 43.402 m(142.40')
LC = 43.395 m(142.37')
CB = N11°56'26"E

CURVE "A" DATA
Δ = 12° 02' 22"
R = 222.850 m(731.14')
T = 23.500 m(77.10')
L = 46.827 m(153.63')
LC = 46.741 m(153.35')
CB = N 01° 23' 51" E

BEGIN WORK STA. 10+690.000

℄ STATE ROUTE 32 (STA. 363+89.50)

10+688.500 11.500 m LT. (37.73')

BRO-94B(20) BEGIN PROJECT STA. 10+720.000

CURVE #1

P.C. STA. 10+645.098

N07°02'49"E – 32.886 m(107.89')

10+721.948 12.500 m LT. (41.01')

P.T. STA. 10+721.948

① HAGER RISNER & JO ANN RISNER

10+749.666 12.500 m LT. (41.01')

FORK

P.C. STA. 10+765.764

600 mm MAPLE

EX. DITCH

10+765.764 12.500 m LT. (41.01')

S82°34'58"E – 2.500 m(8.20')

CURVE "A"

P.T. STA. 10+814.692

10+814.692 10.000 m LT. (32.81')

600 mm WALNUT

N07°25'02"E – 27.718 m(90.94')

N07°25'02"E – 16.098 m(52.82')

R/W

1 WD

CONSTRUCTION LIMITS

EX. R\W

EX. FIELD DRIVE

+713.2

200 mm OAK

600 mm WALNUT (SAVE)

10+765.764 10.000 m LT. (32.81')

S58°57'01"E – 13.644 m(44.76')

10+770.700 0.052 m RT. (0.17')

2 WD

EX. R\W

91°01'16"

N13°43'14"E 93.324 m (306.18')

N79°50'22"W – 11.500 m(37.73')

6.096 m (20')

10+700 ℄ SURVEY & CONSTRUCTION

C.R. 27(LAUREL RIDGE ROAD)

N 07° 25' 02" E

90°

CURVE #2

N07°25'02"E – 22.249 m(73.00')

N07°25'02"E – 26.505 m(86.96')

10+800

RR SPIKE FD.

℄ C.R. 27 (LAUREL RIDGE ROAD)

STA. 10+551.774 (= STA. 24+00.00)

N79°50'22"W – 12.000 m(39.37')

EX. R\W

10+744.197

460 mm OAK

300 mm OAK

EX. R\W

1 WD

900 mm OAK CONSTRUCTION LIMITS

460 mm OAK

S42°38'04"E 19.567 m(64.20')

2 WD

N85°22'40"E – 23.000 m(75.46')

S13°49'00"W – 34.223 m(112.28')

CURVE "B"

END WORK STA. 10+810.000

END ACQUISITION STA. 10+814.692

10+814.692 13.000 m RT. (42.65')

BEGIN ACQUISITION STA. 10+688.500

10+688.500 12.000 m RT. (39.37')

930 mm CMP

S07°25'02"W – 36.189 m(118.73')

600 mm OAK

10+765.764 13.000 m RT. (42.65')

S82°34'58"E – 2.000 m(6.56')

② PHYLLIS E. MCNELLY, FKA PHYLLIS MCALLISTER & LAND CONTRACT HOLDERS JEFFREY W. BURKITT & VANESSA L. BURKITT

EX. CHANNEL EASEMENT D.B. 173, P. 512

300 mm OAK

10+721.948 15.000 m RT. (49.21')

CHENOWETH

EX. CHANNEL EASEMENT

10+765.764 15.000 m RT. (49.21')

S07°25'02"W – 7.627 m(25.02')

BRO-94B(20) END PROJECT STA. 10+770.000

GRAVEL DRIVE +13.2

300 mm BUCKEYE

10+758.137 15.000 m RT. (49.21')

CURVE #2
P.I. STA. = 10+683.562
Δ = 06° 18' 12"
R = 698.550 m(2291.83')
T = 38.464 m(126.19')
L = 76.850 m(252.13')
E = 1.058 m(3.47')
LC = 76.811 m(252.01')
CB = N10°34'08"E

CURVE "B" DATA
Δ = 12° 02' 22"
R = 245.850 m(806.60')
T = 25.925 m(85.06')
L = 51.660 m(169.49')
LC = 51.565 m(169.18')
CB = S 01° 23' 51" W

C.L. CURVE DATA
P.I. STA. = 10+790.311
Δ = 12° 02' 22"
R = 232.850 m
T = 24.555 m
L = 48.929 m
C = 48.839 m
E = 1.291 m

TOTAL NUMBER OF
2 OWNERSHIPS
0 TOTAL TAKES
0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 OWNERSHIPS WITH "P" ITEMS

SUMMARY OF ADDITIONAL RIGHT-OF-WAY

PID NO. 14048

PARCEL NO.	OWNER	SHEET NO.	OWNER'S RECORD BOOK	OWNER'S RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA(AC.)	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1WD	HAGER RISNER & JO ANN RISNER	3	214	793	23-034000	30.69	1.332 ha	0.180 ha	0.083 ha	0.097 ha	NO	6.644 ha	4.348 ha	COUNTY		51	156
							(3.29 AC.)	(0.445 AC.)	(0.206 AC.)	(0.239 AC.)		(16.417 AC.)	(10.744 AC.)				
2WD	PHYLLIS E. MCNELLY, FKA PHYLLIS	3	83	611	23-028200	41.21	0.595 ha	0.139 ha	0.070 ha	0.069 ha	NO	11.640 ha	4.374 ha	COUNTY	LAND CONTRACT VOLUME 41, PAGE 392.	50	744
	MCALLISTER & LAND CONTRACT						(1.47 AC.)	(0.343 AC.)	(0.174 AC.)	(0.169 AC.)		(28.762 AC.)	(10.809 AC.)				
	HOLDERS JEFFREY W. BURKITT &																
	VANESSA L. BURKITT																

NOTE: UNLESS SPECIFIED OTHERWISE, AREAS ARE STATED IN HECTARES WITH ENGLISH EQUIVALENTS IN (ACRES).
1 HECTARE = 2.471 ACRES

REV.	DATE	DESCRIPTION	BY
1	5-19-95	added I.P. Symbols @ R/W Corners	SBB
	3-18-98	ADDED INFO TO AB ACQUIRED COLUMN	

REV.	DATE	DESCRIPTION	BY
DATE COMPLETED 3-24-95			

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. BRO-94B(20)

STATE JOB NO. 09323(0)

PROJECT DESIGNATION SLD...PIK-CR27-10.720 SLM...PIK-CR27-06.66

RIGHT OF WAY PLAN STA.10+680.000 TO STA. 10+820.000

3 / 3

24 / 24

File Name: [05\12\94][13.32]C:\CADD\BRADYS\ < 9328BRW >