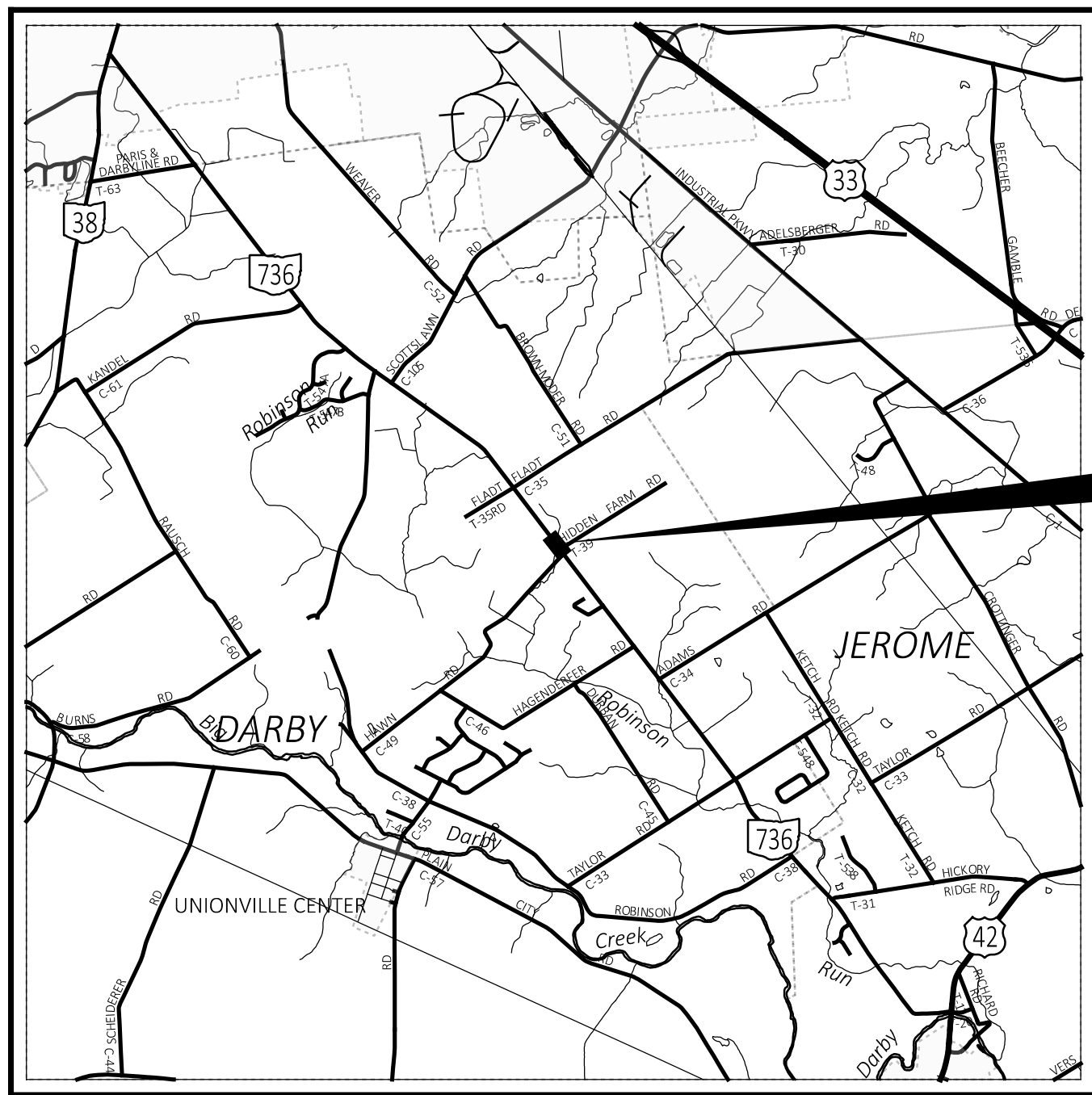


STATE OF OHIO DEPARTMENT OF TRANSPORTATION

UNI-736-4.06 PART 1

DARBY TOWNSHIP
UNION COUNTY

FOR PART 2, SEE UNI-736-(1.16)(1.99)



LOCATION MAP

LATITUDE: 40°10'04" LONGITUDE: 83°19'14"



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

DESIGN DESIGNATION

CURRENT ADT (2024)	2,700
DESIGN YEAR ADT (2044)	3,300
DESIGN HOURLY VOLUME (2044)	400
DIRECTIONAL DISTRIBUTION	51%
TRUCKS (24 HOUR B&C)	7%
DESIGN SPEED	60 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION	05 MAJOR COLLECTOR (RURAL)
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE REQUIRED

ADA DESIGN WAIVERS

NONE REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764 (Non members must be called directly)

ENGINEER'S SEAL



INDEX OF SHEETS:

TITLE	P.1
TYPICAL SECTIONS	P.2
GENERAL NOTES	P.3 - P.4
MAINTENANCE OF TRAFFIC NOTES	P.5 - P.7
MAINTENANCE OF TRAFFIC PLAN	P.8 - P.9
GENERAL SUMMARY	P.10 - P.11
PAVEMENT CALCULATIONS	P.12
PLAN SUBSUMMARY	P.13 - P.16
ROADWAY PLAN & PROFILE	P.17
CROSS-SECTIONS	P.18 - P.27
STRUCTURES (20 FOOT SPAN AND UNDER)	
UNI-736-0406	P.29 - P.36
GEOTECHNICAL PROFILE	P.37 - P.41

STANDARD CONSTRUCTION DRAWINGS (PART 1 & 2)												SUPPLEMENTAL SPECIFICATIONS	
CB-2-3, 2-4	01/20/23	BP-3.1	01/19/24	TC-42.10	10/18/13	MT-96.11	07/21/23	AS-1-15	01/20/23	800	01/19/24		
CB-5	07/16/21	BP-3.2	01/18/19	TC-42.20	10/18/13	MT-96.20	07/21/23	AS-2-15	01/20/23	832	07/21/23		
DM-1.1	07/17/20	BP-4.1	07/19/13	TC-52.10	10/18/13	MT-96.26	01/18/19	CS-1-08	01/15/21	851	01/21/22		
DM-1.2	07/16/21	MGS-1.1	07/16/21	TC-52.20	01/15/21	MT-97.10	04/19/19	DS-1-92	07/15/22	878	01/21/22		
DM-4.2	07/20/12	MGS-2.1	01/19/18	TC-61.30	07/19/19	MT-97.12	01/20/17	GSD-1-19	01/19/24	940	04/17/15		
DM-4.3	01/15/16	MGS-2.3	01/20/23	TC-65.10	01/17/14	MT-101.60	04/21/23	PCB-91	07/17/20				
DM-4.4	01/15/16	MGS-3.3	07/16/21	TC-65.11	01/19/24	MT-101.70	04/21/23	SICD-1-21	01/19/24				
		MGS-4.1	01/20/17			MT-101.75	07/21/23	SICD-2-14	01/15/21				
		MGS-4.2	07/19/13	HL-50.21	07/15/22	MT-101.90	07/17/20	TST-2-21	07/21/23				
		MGS-5.3	07/15/16			MT-105.10	01/17/20						
		RM-1.1	01/20/23										

FEDERAL PROJECT NUMBER
E180(858)

RAILROAD INVOLVEMENT
NONE

PROJECT DESCRIPTION
REPLACEMENT OF EXISTING SINGLE SLAB BRIDGE WITH PRECAST CONCRETE BOX CULVERT OVER BLUMENSCHIEIN DITCH ON SR-736.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 0.84 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.10 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED)

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES 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 P.8.

Anthony C. Turowski
Anthony C. Turowski, P.E.
District 06 Deputy Director

Jack Marchbanks
Jack Marchbanks, PhD
Director, Department of Transportation

SPECIAL PROVISIONS

WATERWAY PERMIT CONDITIONS
04/30/2024

UNI-736-4.06 PART 1

PID #107000 UNI-736-4.06 PART 1

DESIGN AGENCY	
DESIGNER	AMH
REVIEWER	DR 01/08/24
PROJECT ID	107000
SHEET TOTAL	P.1 41

MODEL: 107000_G1001 PAPER SIZE: 34x22 (in.) DATE: 5/2/2024 TIME: 3:01:57 PM USER: ahhollow1
 p:\ohio\dot-pw-bentley.com\ohio\dot-pw-02\Documents\01 Active Projects\District 06\Union\107000\400-Engineering\Roadway\Sheets\107000_G1001.dgn

I:\ProjectData\07000_UNI-736-(1.16)(1.99)\Part 2\Design\Roadway\Sheets\95776_GCOO.dgn GENERAL SUMMARY - SHEET | 5/3/2024 7:33:14 AM Jhipp

SHEET NUM.										PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	MJR	CHECKED	JPH
9	11	24	25	31	32					02/STR/13	03/STR/10										
										LS	LS	201	11000	LS		ROADWAY					
		246		1,746						246	1,746	202	23000	1,992	SY	CLEARING AND GRUBBING					
		723		521						723	521	202	38001	1,244	FT	PAVEMENT REMOVED					9
		4		4						4	4	202	42000	8	EACH	GUARDRAIL REMOVED, AS PER PLAN					
		4								4		202	47000	4	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A					
			202	13	442					202	455	203	10000	657	CY	BRIDGE TERMINAL ASSEMBLY REMOVED					
			108		388					108	388	203	20000	496	CY	EXCAVATION					
		462		2,409						462	2,409	204	10000	2,871	SY	EMBANKMENT					
		2.25								2.25		209	72000	2.25	STA	SUBGRADE COMPACTION					
		431.25		300						431.25	300	606	15050	731.25	FT	PREPARING SUBGRADE FOR SHOULDER PAVING					
		1								1		606	25550	1	EACH	GUARDRAIL, TYPE MGS					
		3		4						3	4	606	26151	7	EACH	ANCHOR ASSEMBLY, MGS TYPE A					10
		4		4						4	4	606	34600	8	EACH	ANCHOR ASSEMBLY, MGS TYPE E, AS PER PLAN (MASH 2016)					
										LS	LS	878	25000	LS		MGS BRIDGE TERMINAL ASSEMBLY, TYPE TST-2					
				8							8	601	21050	8	SY	INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS					
			122		287					122	287	659	00300	409	CY	EROSION CONTROL					
			1,054		2,608					1,054	2,608	659	00530	3,662	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT					
			53		106					53	106	659	14000	159	SY	TOPSOIL					
			53		106					53	106	659	15000	159	SY	SEEDING AND MULCHING, CLASS 3B					
			0.14		0.29					0.14	0.29	659	20000	0.43	TON	REPAIR SEEDING AND MULCHING					
			0.22		0.44					0.22	0.44	659	31000	0.66	ACRE	INTER-SEEDING					
			5.7		11.5					5.7	11.5	659	35000	17.2	MGAL	COMMERCIAL FERTILIZER					
											LS	832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN					
											LS	832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS					
											LS	832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE					
										10,000	20,000	832	30000	30,000	EACH	EROSION CONTROL					
289										89	200	670	00500	289	SY	SLOPE EROSION PROTECTION					
				1,752							1,752	605	14000	1,752	FT	DRAINAGE					
		80								80		605	31100	80	FT	6" BASE PIPE UNDERDRAINS					
				70							70	611	00510	70	FT	AGGREGATE DRAINS					
				4							4	611	99710	4	EACH	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS					
		402		78						402	78	254	01000	480	SY	PRECAST REINFORCED CONCRETE OUTLET					
	425	371		1,008						371	1,433	254	01000	1,804	SY	PAVEMENT					
		58		465						58	465	301	56000	523	CY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5" DEPTH					
		90		417						90	417	304	20000	507	CY	PAVEMENT PLANING, ASPHALT CONCRETE, VARIABLE DEPTH					
	40	164		586						164	626	407	20000	790	GAL	ASPHALT CONCRETE BASE, PG64-22, (449)					
		46								46		407	20000	46	GAL	AGGREGATE BASE					
		87		254						87	254	441	70000	341	CY	NON-TRACKING TACK COAT					
				4							4	441	70500		CY	NON-TRACKING TACK COAT, 702.13					
	10	10								10	10	617	10100	20	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22					
																	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)				
																	COMPACTED AGGREGATE				
																	TRAFFIC CONTROL				
			2	12						2	12	621	00100	14	EACH	RPM					
			2	12						2	12	621	54000	14	EACH	RAISED PAVEMENT MARKER REMOVED					
		13		10						13	10	626	00110	23	EACH	BARRIER REFLECTOR, TYPE 2, TYPE 2, BIDIRECTIONAL					
	0.2										0.2	642	00100	0.2	MILE	EDGE LINE, 4", TYPE 1					
		0.18		0.38						0.18	0.38	642	00104	0.56	MILE	EDGE LINE, 6", TYPE 1					
		0.09		0.19						0.09	0.19	642	00300	0.28	MILE	CENTER LINE, TYPE 1					

GENERAL SUMMARY

UNI-736-(1.16)(1.99)
PART 2

I:\ProjectData\07000_UNI-736-(U6)(L99).Part 2\Design\Roadway\Sheets\95776P2_SS001.dgn SUBSUMMARY AND CACLS - SHEET 15/3/2024 7:13:20 AM jnipp

COMMENTS	LOCATION		DESIGN					QUANTITIES											
	BEGIN STA	END STA	SECTION	LENGTH	AVG. WIDTH			TOTAL PAVEMENT AREA	202E23000	203E10000	204E10000	254E01000	254E01000	301E56000	304E20000	407E20000	441E70000		441E70500
					LEFT SHOULDER	LANES	RIGHT SHOULDER										ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449)	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)	
FT	FT	FT	FT	FT	FT	FT	SY	SY	CY	SY	SY	SY	CY	CY	GAL	CY	CY	CY	
SR-736																			
LANES WIDEN 10'-12'	97+98.56	100+91.18	2	293	4	22	4	977	196		348		717	67	58	112		82	
	100+91.18	102+00.00	2	109	4	24	4	388	73		130		291	25	22	44		33	
BEGIN FULL DEPTH	102+00.00	104+18.52	3	219	4	24	4	779	682		812			180	141	204		65	
APPROACH SLAB	104+18.52	104+38.63	4	20		41		91			98				17				
APPROACH SLAB	105+15.76	105+35.70	4	20		41		91			98				17				
LANES REDUCE 12'-10'	105+35.70	107+00.00	3	164	4	22	4	547	511		571			127	100	144		46	
	107+00.00	107+91.30	3	91	4	20	4	283	284		297			66	52	75		24	
	107+91.30	108+16.30	5	25	4	20	4	78				78				7	4		
DRIVEWAY																			
	107+28.82		5					55		13	55				10				4
TOTALS CARRIED TO GENERAL SUMMARY									1746	13	2409	78	1008	465	417	586	254	4	

PAVEMENT SUBSUMMARY

REF	BEGIN STA.	END STA.	SIDE	202E38001	202E42001	606E15050	606E25550	606E26151	606E34600	626E00110
				GUARDRAIL REMOVED, AS PER PLAN	ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN	GUARDRAIL, TYPE MGS	ANCHOR ASSEMBLY, TYPE A	ANCHOR ASSEMBLY, MGS TYPE E, AS PER PLAN (MASH2016)	MGS BRIDGE TERMINAL ASSEMBLY, TYPE TST-2	BARRIER REFLECTOR, TYPE 2, BI-DIRECTIONAL
				FT	EACH	FT		EACH	EACH	EACH
R-1	102+69.61	104+23.44	RT	154.0	1					
R-2	102+87.53	104+39.54	LT	153.0	1					
R-3	105+22.14	106+71.12	RT	149.0	1					
R-4	105+35.06	106+00.00	LT	65.0	1					
G-1	102+53.56	104+31.20	RT			100.0		1	1	
G-2	103+33.68	104+47.39	LT			37.5		1	1	
G-3	105+07.31	106+21.72	RT			37.5		1	1	
G-4	105+22.74	107+24.50	LT			125.0		1	1	
	102+56.56	106+21.72	RT							5
	103+33.68	107+24.50	LT							5
				521.0	4	300.0		4	4	10

GUARDRAIL SUBSUMMARY

REFERENCE	LOCATION			DESIGN		QUANTITIES				BENDS AND BRANCHES FOR INFORMATION ONLY		
	BEGIN STA.	END STA.	SIDE	UNDERDRAIN OUTLET STA.	UNDERDRAIN OUTLET INVERT	601	605	611	611	6"X6" TEE	6"X6" 90°	END CAP
						TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	6" BASE PIPE UNDERDRAINS	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET	EACH	EACH	EACH
						SY	FT	FT	EACH	EACH	EACH	EACH
UD-1	97+98.56	104+18.52	LT	104+18.52	959.6	2	620	18	1		1	1
UD-2	97+98.56	104+18.52	RT	104+18.52	958.2	2	620	13	1		1	1
UD-3	105+35.70	107+91.30	LT	106+91.25	957.6	2	256	18	1	1		2
UD-4	105+35.70	107+91.30	RT	106+91.25	957.5	2	256	21	1	1		2
TOTALS CARRIED TO GENERAL SUMMARY						8	1752	70	4			

UNDERDRAIN SUBSUMMARY

LOCATION				ITEM 621 - RPM		ITEM 642 - TRAFFIC PAINT	
BEGINS STA.	END STA.	LENGTH	LENGTH	621E00100	621E54000	642E00104	642E00300
				RPM	RAISED PAVEMENT MARKER REMOVED	EDGE LINE, 6", TYPE 1	CENTER LINE, TYPE 1
		MI	FT	EACH	EACH	MILE	MILE
97+98.56	108+16.30	0.19	1018	12	12	0.38	0.19
TOTALS CARRIED TO GENERAL SUMMARY				12	12	0.38	0.19

TRAFFIC CONTROL SUBSUMMARY

CALCULATED MJR CHECKED JPH
SUBSUMMARY & CALCULATIONS UNI-736-0199
UNI-736-(1.16)(1.99) PART 2
 31/99

I:\Project+Data\07000_UNI-736-(1.16)(L.99).Part 2\Design\Structures\UNI736_16L\Sheets\95776_S000.dgn ESTIMATED QUANTITIES 5/2/2024 12:14:44 PM jhnp

ESTIMATED QUANTITIES									
ITEM	EXTENSION	TOTAL (02/STR/13)	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11301	242	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, SUPERSTRUCTURE			242		2/23
202	11301	16	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, SUBSTRUCTURE	16				2/23
202	22900	134	SY	APPROACH SLAB REMOVED				134	
202	23500	648	SY	WEARING COURSE REMOVED				648	
202	38500	212	FT	BRIDGE RAILING REMOVED				212	
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING					
503	21300	LS	LS	UNCLASSIFIED EXCAVATION					
509	26000	65,415	LB	GALVANIZED STEEL REINFORCEMENT	1,141		64,274		
510	10001	118	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	118				2/23
511	31613	312	CY	CLASS QC2 CONCRETE WITH QC/OA, SUPERSTRUCTURE, AS PER PLAN			312		2/23
511	43510	8	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	8				
512	10050	100	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	49		51		
516	13200	139	SF	1/2" PREFORMED EXPANSION JOINT FILLER	139				
516	13600	121	SF	1" PREFORMED EXPANSION JOINT FILLER	121				
516	14014	106	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL	106				
516	31011	87	FT	2" DEEP JOINT SEALER, AS PER PLAN				87	2/23
516	42600	80	FT	ELASTOMERIC BEARING PAD, MISC.: (2" X 9")		80			14/22
517	70100	224	FT	RAILING (THREE STEEL TUBE BRIDGE RAILING)				224	
518	21200	37	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC				37	
518	22300	264	FT	SPECIAL - STEEL DRIP STRIP				264	
518	40000	129	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				129	
518	40010	30	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS				30	
526	15001	178	SY	REINFORCED CONCRETE APPROACH SLABS (T = 13"), AS PER PLAN				178	
526	90020	39	SY	TYPE B INSTALLATION				39	
601	32200	75	CY	ROCK CHANNEL PROTECTION, TYP C WITH FILTER				75	
611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET				2	
625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM				1	

DESIGN AGENCY
OHIO DEPARTMENT OF
TRANSPORTATION DISTRICT 6

REVIEWED DATE
JPH 1/27/2024
STRUCTURE FILE NUMBER
8003092

DRAWN MUR
MUR REVISOR
CHECKED AMH

ESTIMATED QUANTITIES
BRIDGE NO. UNI-736-0116
OVER ROBINSON RUN

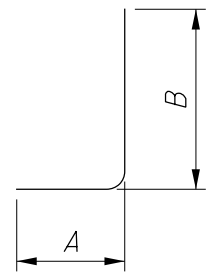
UNI-736-(1.16)(1.99)
PART 2
PID No. 107000

3/22

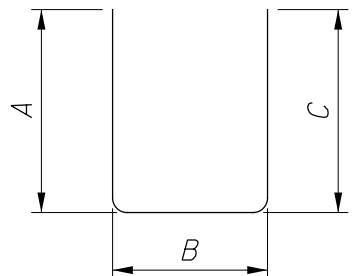
45
99

I:\Project+Data\07000_UNI-736-(1.16)(1.99).Part 2\Design\Structures\UNI736-16L\Sheets\95776_SL001.dgn REINFORCING STEEL SCHEDULE 5/2/2024 12:44:50 PM jhapp

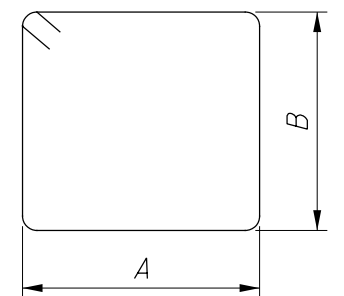
MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL				A	B	C	D	E	R
ABUTMENTS										
A501	4	16'-8"	70	3	2'-8"	5'-4"				
A502	16	2'-0"	33	STR						
A503	4	11'-2"	47	3	2'-8"	2'-7"				
A504*	12	7'-5"	93	1	2'-8"	4'-11"				
A505	8	3'-2"	26	STR						
A506*	6	2'-10"	18	STR						
A507	8	3'-0"	25	STR						
A508	2	13'-8"	29	3	2'-11"	3'-7"				
A509*	2	7'-8"	16	1	2'-11"	4'-11"				
A510*	2	7'-5"	15	1	2'-11"	4'-8"				
A511*	6	6'-11"	43	1	2'-6"	4'-7"				
A801*	96	2'-10"	726	16	2'-0"					
SUBTOTAL			1141							
DIAPHRAGM										
D501	176	10'-6"	1,927	3	2'-10"	2'-1"				
D502	176	7'-9"	1,423	2	3'-3"	1'-6"	3'-3"			
D503	8	13'-4"	111	3	2'-10"	3'-6"				
D801	40	22'-11"	2,448	STR						
D802	56	5'-2"	773	18	3'-0"	1'-0"	1'-0"			
SUBTOTAL			6,681							
DECK										
S401	170	3'-6"	397	2	1'-6"	1'-2"	1'-6"			
S501	210	21'-4"	4,672	STR						
S502	144	19'-8"	2,854	STR						
S503	72	14'-4"	1,016	STR						
S601	202	21'-5"	6,498	STR						
S801	168	34'-11"	15,662	16	34'-0"					
S802	84	43'-4"	9,743	STR						
S803	6	37'-3"	597	STR						
S901	144	32'-8"	15,994	STR						
SUBTOTAL			57,593							
ABUTMENTS			1,141							
PIERS			N/A							
DIAPHRAGM			6,681							
DECK			57,593							
GRAND TOTAL			65,415							



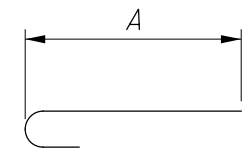
TYPE-1



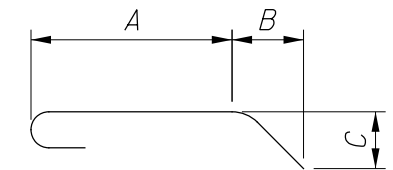
TYPE-2



TYPE-3



TYPE-16



TYPE-18

REINFORCING STEEL LIST
BRIDGE NO. UNI-736-0116
OVER ROBINSON RUN

UNI-736-(1.16)(1.99)
PART 2
PID No. 107000

DESIGN AGENCY
OHIO DEPARTMENT OF
TRANSPORTATION DISTRICT 6

REVIEWED DATE
JPH 1/27/2024
STRUCTURE FILE NUMBER
8003092

DRAWN MJR
MJR REVISOR
AMH

DESIGNED MJR
MJR CHECKED
AMH

19/22

61
99