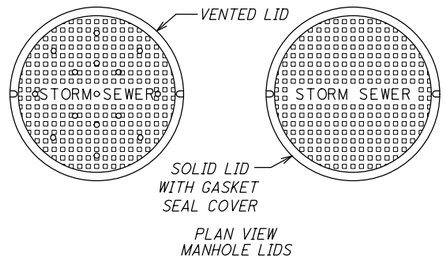
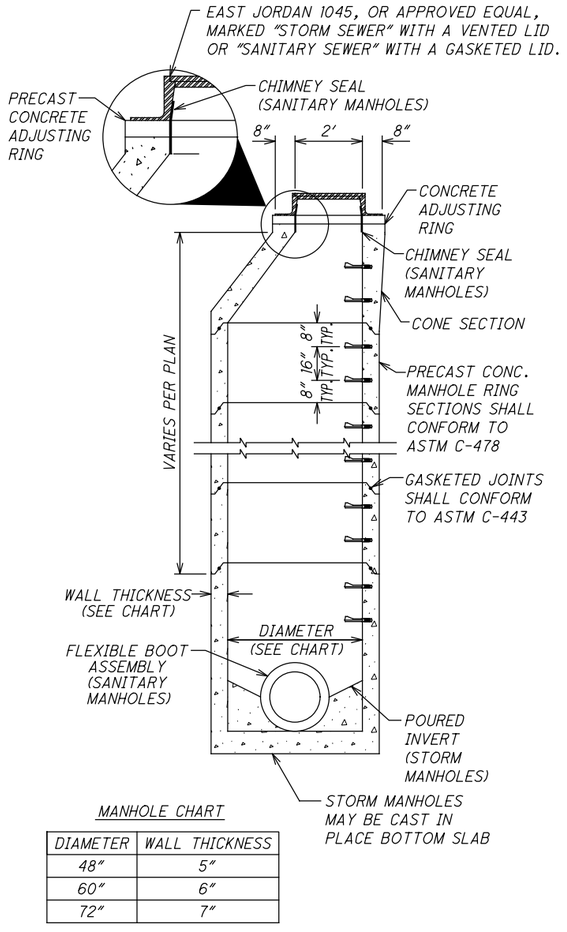
ITEM 611 - MANHOLE ADJUSTED TO GRADE, AS PER PLAN

ALL SANITARY MANHOLES SHALL BE PROVIDED WITH INTERNAL CHIMNEY SEALS, SPANNING FROM THE CONE SECTION TO THE CASTING, INCLUDING EXTENSIONS AS REQUIRED. ELASTOMERIC CHIMNEY SEALS AS MANUFACTURED BY SAUEREISEN (NO. F-88) HAVING AN ABRASION RESISTANCE OF 500 MG/1,000 CYCLES (ASTM D-4060), ELONGATION OF 120% (ASTM D-638), TENSILE STRENGTH OF 50 LB./IN2 (ASTM D638) AND HYDROSTATIC PRESSURE OF 75-FOOT WATER HEAD OR 35 PSI (ASTM C497) SHALL BE PERMITTED.



PLAN VIEW
MANHOLE LIDS



MANHOLE CHART

DIAMETER	WALL THICKNESS
48"	5"
60"	6"
72"	7"

MANHOLE WITH STANDARD CONE

SANITARY MANHOLES ADJUSTMENTS, PER CITY STANDARDS, REQUIRE THE INSTALLATION OF CHIMNEY SEALS. THE CITY'S SPECIFICATION IS AS FOLLOWS:

10.2.13 MANHOLE FRAMESAND COVERS SHALL BE SET ON TOP OF PRECAST CONCRETE ADJUSTING RINGS WITH A FULL LEVELING BED OF CEMENT MORTAR. WHERE A MANHOLE IS LOCATED WITHIN A PAVED AREA, THE MANHOLE FRAME AND COVER SHALL BE ADJUSTED SUCH THAT THE SURFACE OF COVER SHALL BE MADE ON-QUARTER (1/4) INCH BELOW THE PAVEMENT SURFACE AFTER THE PAVING OPERATION. ASPHALT SHALL BE REMOVED TO NO LESS THAN TWELVE (12) INCHES AROUND THE PERMITER OF THE CASTING. THE FRAME SHALL BE RESET IN CLASS C CONCRETE UP TO THE LIMITES OF THE INTERMEDIATE COURSE OF ASPHALT, BUT NO LESS THAN ONE AND ONE-HALF (1-1/2) INCHES FROM THE TOP OF THE CASTING, AND THE PAVEMENT SHALL BE RESTORED WITH ODOT ITEM 448, TYPE 1, MEDIUM TRAFFIC, PG64-22. MANHOLES SET IN UNPAVED AREAS SHALL BE CONSTRUCTED TO THE ELEVATIONS SHOWN ON THE PLANS AND AS APPROVED BY THE AUTHORIZED REPRESENTATIVE.

10.2.15 THE INSIDE SURFACE OF ALL ADJUSTING RINGS AND MANHOLE FRAMES AND COVERS SHALL BE SEALED AND MADE WATERTIGHT WITH MORTAR COMPOSED OF ONE (1) PART ASTM C150 TYPE 1A PORTLAND CEMENT TO TWO (2) PARTS SAND BY VOLUME. THE USE OF MASONRY CEMENT IS PROHIBITED.

10.3 CATCH BASINS AND CURB INLETS

10.3.4 IRON FRAMES AND GRATES FOR CATCH BASINS SHALL BE EAST JORDAN 511250, OR APPROVED EQUAL. IRON FRAMES AND GRATES FOR CURB INLETS SHALL BE EAST JORDAN 7035 WITH TYPE T4 BACKS FOR TYPE 2 & 6 CURBS AND TYPE T2 BACKS FOR TYPE 3 CURBS, OR APPROVED EQUAL. DIRECTIONAL GRATES SHALL BE PROVIDED WHERE INDICATED ON THE DRAWINGS. ALL CASTINGS SHALL BE SET ON TOP OF PRECAST ADJUSTING RINGS AND SET IN A LEVELING MORTAR BED. BRICKS AND BLOCK SHALL NOT BE USED IN PLACE OF PRECAST CONCRETE ADJUSTING RINGS. NEENAH FOUNDRY CASTINGS 3067 OR APPROVED EQUAL SHALL BE USED WHEN HOODS ARE NOT DESIRED BY OWNER AND APPROVED BY THE ENGINEER.

10.3.6 ALL MORTAR SHALL BE COMPOSED OF ONE (1) PART ASTM C150 TYPE 1A PORTLAND CEMENT TO TWO (2) PARTS SAND BY VOLUME. THE USE OF MASONRY CEMENT IS PROHIBITED.

10.5 BRICK AND SOLID CONCRETE BLOCK

10.5.3 BRICKS AND BLOCK SHALL NOT BE USED IN PLACE OF PRECAST CONCRETE ADJUSTING RINGS.

10.6 MORTAR

10.6.1 MORTAR SHALL BE COMPOSED OF ONE (1) PART ASTM C150 TYPE 1A PORTLAND CEMENT AND TWO (2) PARTS SAND BY VOLUME.

10.10 RECONSTRUCTION AND ADJUSTMENT TO GRADE

10.10.1 WHEN A RECONSTRUCTION IS SPECIFIED, THE WORK SHALL CONSIST OF THE CAREFUL REMOVAL AND CLEANING OF EXISTING CASTINGS; THE REMOVAL OF EXISTING WALLS DOWN TO THE SPRINGLINE OR BELOW AS NECESSARY FOR MANHOLES; CATCH BASINS AND CURB INLETS; AND RECONSTRUCTION OF THE UNITS TO THE NEW GRADES, CONFORMING AS NEARLY AS PRACTICABLE TO THE EXISTING DIMENSIONS AND TYPE OF CONSTRUCTION, USING THE SALVAGED CASTINGS. FOR PRECAST CONSTRUCTION, THIS MAY INVOLVE CHANGING THE TOP FROM A CONE TO A FLAT SLAB OR USING SHORTER SIDE WALL SECTIONS. IF THE NEW PRECAST O-RING SECTIONS DO NOT FIT THE EXISTING O-RING MANHOLE SECTIONS, THE CONTRACTOR SHALL USE A CONCRETE SAW TO SAW OFF THE TONGUE AND GROOVE, USE "RAM-NEK" GASKET MATERIAL BETWEEN THE TWO (2) SECTIONS TO BE JOINED, AND ENCASE THE ENTIRE CONNECTION IN CLASS F CONCRETE AS DIRECTED BY THE AUTHORIZED REPRESENTATIVE.

10.10.2 WHEN ADJUSTMENT TO GRADE IS SPECIFIED, THE WORK SHALL BE ACCOMPLISHED BY THE FOLLOWING METHOD: CAREFULLY REMOVE AND CLEAN THE EXISTING FRAME; ADJUST THE HEIGHT OF SUPPORTING WALLS OR CONCRETE ADJUSTING RINGS AS NECESSARY; AND RESET THE EXISTING FRAME IN A BED OF MORTAR OR CONCRETE. FOR MANHOLES, MANHOLE STEPS SHALL BE INSTALLED.

10.10.3 THE USE OF CAST IRON, METAL OR OTHER TYPES OF ADJUSTING RINGS ON TOP OF THE EXISTING CASTING WILL NOT BE PERMITTED.

10.10.4 PAVEMENT REPLACEMETN AROUND MANHOLES, CURB INLETS AND CATCH BASINS ADJUSTED TO GRADE AND/OR RECONSTRUCTED SHALL INCLUDE AN EIGHT (8) INCH CONCRETE BASE AND ONE AND ONE-HALF (1-1/2) INCHES OF ODOT ITEM 448 TYPE 1, MEDIUM TRAFFIC, PG64-22 ASPHALT CONCRETE SURFACE, AS DEFINED IN ARTICLE 12. PAVEMENT REPLACEMENT SHALL BE ONE (1) FOOT AROUND THE PERIMETER OF THE CASTING. PAYMENT FOR SUCH PAVEMENT REPLACEMENT SHALL BE INCLUDED IN THE COST OF THE ADJUSTMENT OR RECONSTRUCTION OF THE STRUCTURE.

ITEM 253, PAVEMENT REPAIR

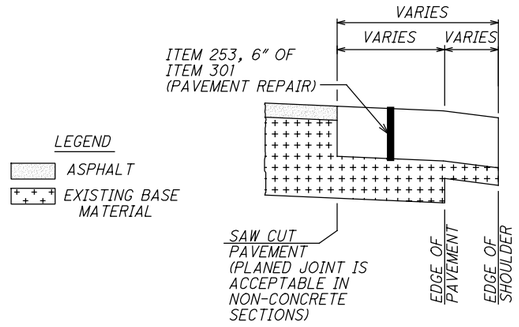
PAVEMENT SHALL BE PLANED BEFORE PAVEMENT REPAIRS ARE PERFORMED.

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED FOR 6" PAVEMENT REPAIR ON S.R. 108 AS DIRECTED BY THE ENGINEER BASED ON THE FOLLOWING PERCENTAGES.

01/STR/PV	20%	5223 CU. YARDS
04/S<2/PV	10%	217 CU. YARDS

ITEM 253, PAVEMENT REPAIR 5440 CU. YARDS

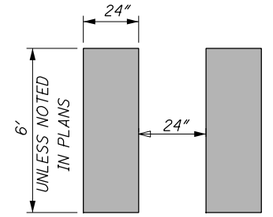
ESTIMATED QUANTITIES CARRIED TO THE GENERAL SUMMARY



NOTE: THE ENGINEER SHALL FIELD VERIFY ALL LOCATIONS PRIOR TO THE BEGINNING OF WORK. ANY ADJUSTMENTS NECESSARY SHALL BE AS DIRECTED BY THE ENGINEER.

ITEM 642, CROSSWALK LINE, AS PER PLAN

24" WHITE LONGITUDINAL LINES SHALL BE PLACED PARALLEL TO TRAFFIC FLOW AS SHOWN IN FOLLOWING DETAIL. THE MARKING DESIGN SHOULD AVOID THE WHEEL PATHS.



ITEM 632, DETECTOR LOOP, AS PER PLAN

ALL NEW LOOP INSTALLATION SHALL BE INSTALLED IN THE PAVEMENT COURSE BELOW THE SURFACE COURSE. THE LISTED ITEM SHALL BE USED AS DIRECTED BY THE ENGINEER, MAY VARY IN LENGTH AND DETAIL. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER, AS WELL AS THE DISTRICT 2 TRAFFIC MAINTENANCE ENGINEER, DYLAN FOUKES, AT 419-373-4303, 10 DAYS PRIOR TO INSTALLATION. ODOT SHALL DETERMINE BY WAY OF FIELD INSPECTION, THE LOCATION AND FINAL QUANTITY OF DETECTOR LOOPS THAT HAVE BEEN DAMAGED AND NEED REPLACEMENT. ODOT SHALL FIELD LOCATE WITH THE CONTRACTOR THE PROPOSED DETECTOR LOOP PLACEMENTS, THE NECESSARY PULL BOXES AND LOOP LEAD-IN CABLES.

ALL LOOPS SHALL CONFORM TO SCD TC-82.10.

PAYMENT FOR THIS ITEM INCLUDES THE SPLICE CONNECTION IN THE PULL BOX

DETECTOR LOOP, AS PER PLAN 5 EACH (04/S<2/PV)

QUANTITY CARRIED TO THE GENERAL SUMMARY

ITEM 209, PREPARING SUBGRADE FOR SHOULDER PAVING

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR ITEM 209, PREPARING SUBGRADE FOR CONSTRUCTION OF THE SAFETY EDGE:

HEN-108 (SLM 6.35 - 15.59)
18.48 MILES
-2.38 MILES (GUARDRAIL, DRIVE & CURB AREAS)
16.10 MILES

A QUANTITY OF 16.10 MILES HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR PREPARING SUBGRADE FOR SHOULDERS.

SAFETY EDGE
ITEM 442 - ASPH. CONC. SURFACE, 12.5MM, TYPE A (446), APP
ITEM 442 - ASPH. CONC. INTERMEDIATE CONC., 19MM, TYPE A (448)

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR CONSTRUCTION OF THE SAFETY EDGE:

OTTAWA - S.R. 163 (27.16 - 31.07)

ITEM 442 - ASPH. CONC. SURFACE, 12.5MM, TYPE A (446), APP	40	CU. YD.
ITEM 442 - ASPH. CONC. INTERMEDIATE CONC., 19MM, TYPE A (448)	98	CU. YD.

CALCULATED TLM CHECKED JMF

GENERAL NOTES

HEN-108-6.35

SHEET NUM.													PART.					ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7	8	9	10	14	15	16	17	18	19	20	21	37	01/STR/ PV	02/STR/ BR	03/STR/ BR	04/SK2/ PV	05/SK2/ PV						
																						ROADWAY	
			1,408	1,519									2,927					202	23000	2,927	SY	PAVEMENT REMOVED	
									1,923								1,923	202	30000	1,923	SF	WALK REMOVED	
									12								12	202	32000	12	FT	CURB REMOVED	
									42								42	202	32500	42	FT	CURB AND GUTTER REMOVED	
									98					98				202	35100	98	FT	PIPE REMOVED, 24" AND UNDER	
							1,562.5						1,562.5					202	38000	1,562.5	FT	GUARDRAIL REMOVED	
							28						28					202	42001	28	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN	7
							4						4					202	42050	4	EACH	ANCHOR ASSEMBLY REMOVED, TYPE B	
							16						16					202	47001	16	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED, AS PER PLAN	7
				145					4				145				4	203	10000	149	CY	EXCAVATION	
							300						300					203	20000	300	CY	EMBANKMENT	
				1,519									1,519					204	10000	1,519	SY	SUBGRADE COMPACTION	
							38						38					209	15000	38	STA	RESHAPING UNDER GUARDRAIL	
				16.5	0.93								16.5			0.93		209	60500	17.43	MILE	LINEAR GRADING	
	16.1												16.1					209	72050	16.1	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING	
												228	228					503	21100	228	CY	UNCLASSIFIED EXCAVATION	
							100						100					601	20010	100	CY	CRUSHED AGGREGATE SLOPE PROTECTION	
							750						750					606	15050	750	FT	GUARDRAIL, TYPE MGS	
							987.5						987.5					606	15101	987.5	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN	7
							25						25					606	26150	25	EACH	ANCHOR ASSEMBLY, MGS TYPE E, MASH 2016	7
							3						3					606	26550	3	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
							8						8					606	35002	8	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
							4						4					606	35140	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
									712								712	608	10000	712	SF	4" CONCRETE WALK	
									1,479								1,479	608	52001	1,479	SF	CURB RAMP, AS PER PLAN	19
									32								32	608	53020	32	SF	DETECTABLE WARNING	
									4								4	609	12000	4	FT	COMBINATION CURB AND GUTTER, TYPE 2	
2													1			1		623	39500	2	EACH	MONUMENT BOX ADJUSTED TO GRADE	
11													11					623	39600	11	EACH	MONUMENT BOX RECONSTRUCTED TO GRADE	
																						EROSION CONTROL	
							987.5		4.1				987.5				4.1	659	10000	991.6	SY	SEEDING AND MULCHING	
							0.13		0.04				0.13				0.04	659	20000	0.17	TON	COMMERCIAL FERTILIZER	
							6		0.04				6				0.04	659	35000	6.04	MGAL	WATER	
													10,000					832	30000	10,000	EACH	EROSION CONTROL	
																						DRAINAGE	
									34					34				611	01500	34	FT	6" CONDUIT, TYPE F	
									72					72				611	04600	72	FT	12" CONDUIT, TYPE C	
								8								8		611	99150	8	EACH	INLET ADJUSTED TO GRADE	
								17					3			14		611	99655	17	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	8
												228	228					613	41200	228	CY	LOW STRENGTH MORTAR BACKFILL	
																						PAVEMENT	
	5,440												5,223				217	253	02000	5,440	CY	PAVEMENT REPAIR	
			1,408										1,408					254	01000	1,408	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1 1/2"	
				155,174	13,042	2,742							156,748			14,210		254	01000	170,958	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3 1/4"	
			235	380									615					301	46000	615	CY	ASPHALT CONCRETE BASE, PG64-22	
				254									254					304	20000	254	CY	AGGREGATE BASE	
			77	21,962	1,840	383							22,259			2,003		407	20000	24,262	GAL	NON-TRACKING TACK COAT	
			59										59					441	50000	59	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
	40			6,543	552	115							6,649			601		442	10001	7,250	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN	7
	98			7,618	633	134							7,793			690		442	20200	8,483	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)	
			15	1,828	108								1,843			108		617	10100	1,951	CY	COMPACTED AGGREGATE	
				16.69									16.69					618	41000	16.69	MILE	EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)	
				8.12									8.12					618	43000	8.12	MILE	CENTER LINE, RUMBLE STRIPE (ASPHALT CONCRETE)	

CALCULATED TLM
CHECKED JMF

GENERAL SUMMARY

HEN-108-6.35

ROUTE	STATION TO STATION		SIDE	LENGTH L	AVERAGE ROADWAY WIDTH W	AVERAGE LEFT SHOULDER WIDTH W1	AVERAGE RIGHT SHOULDER WIDTH W2	SURFACE AREA A A=Lx(W1+W2+W3)	202 PAVEMENT REMOVED	203 EXCAVATION	204 SUBGRADE COMPACTION	254 3 1/4" PAVEMENT PLANING, ASPHALT CONCRETE A / 9	209 LINEAR GRADING (MINUS DRIVE & GUARDRAIL AREAS)	301 9" ASPHALT CONCRETE BASE, PG64-22	304 6" AGGREGATE BASE	407 NON-TRACKING TACK COAT (0.055 GAL/SQ YD) (A / 9) x 0.055	407 NON-TRACKING TACK COAT (0.085 GAL/SQ YD) (A / 9) x 0.085	442 1 1/2" ASPHALT CONC. SURFACE COURSE, 12.5MM. TYPE A (446). APP (A x 1.5") / 27	442 1 3/4" ASPHALT CONC. INTERMEDIATE COURSE. 19MM. TYPE A (448) (A x 1.75") / 27	617 COMPACTED AGGREGATE ((3.25" x 2') / 27) x 2	618 RUMBLE STRIPES. EDGE LINE (ASPHALT CONCRETE)	618 RUMBLE STRIPES. CENTER LINE (ASPHALT CONCRETE)	872 VOID REDUCING ASPHALT MEMBRANE (VRAM)	
				FT	FT	FT	FT	SQ FT	SQ YD	CU YD	SQ YD	SQ YD	MILE	CU YD	CU YD	GALLON	GALLON	CU YD	CU YD	CU YD	MILE	MILE	FEET	
S.R. 108	333+95	335+81	LT/RT	186	22.25	4.25	5.25	5905.5				656	0.08			37	56	28	32	7	0.07	0.04	186	
S.R. 108	335+81	437+19.8	LT/RT	10138.8	24	3.5	3.5	314302.8				34923	3.75			1921	2969	1456	1698	407	3.74	1.82	10139	
HEN-108-0826 (FOR WORK, SEE SHEETS 36-38)																								
S.R. 108	438+29.1	443+97	LT/RT	567.9	24	3.5	3.5	17604.9				1956	0.22			108	167	82	95	23	0.22	0.11	568	
S.R. 108	443+97	444+10	LT	13	12	3.5		201.5				22	0.01			2	2	1	1	1	0.01	0.01	13	
S.R. 108	444+10	445+19	LT	109	24	3.5		2997.5				333	0.05			19	29	14	16	4	0.02	0.02	109	
S.R. 108	443+97	444+88	RT	91	15.5		3.5	1729				192	0.04			11	17	9	9	4	0.02		91	
S.R. 108	444+88	445+19	RT	31	15.5		3.5	589				65	0.02			4	6	3	3	1	0.01		31	
S.R. 108	445+19	447+31	LT/RT	212	24	13	3.5	8586				954	0.09			53	82	40	46	9	0.08	0.04	212	
S.R. 108	447+31	447+42	LT/RT	11	24	8.5	3.5	396				44	0.01			3	4	2	2	1	0.00	0.00	11	
S.R. 108	447+42	461+50	LT/RT	1408	24	3.5	3.5	43648				4850	0.52			267	413	203	236	56	0.52	0.25	1408	
S.R. 108	461+50	462+13.8	LT/RT	63.8	24	3.5	3.5	1977.8	220	24	220			55	37	13	19	10	11	3	0.02	0.01	64	
HEN-108-0875 (FOR WORK, SEE SHEETS 39-52)																								
S.R. 108	463+17.3	463+75	LT/RT	57.7	24	3.5	3.5	1788.7	199	22	199			50	33	11	17	9	10	2	0.02	0.01	58	
S.R. 108	463+75	478+50	LT/RT	1475	24	3.5	3.5	45725				5081	0.52			280	432	212	247	59	0.53	0.25	1475	
S.R. 108	478+50	479+07.3	LT/RT	57.28	24	3.5	3.5	1775.68	197	22	197			49	33	11	17	9	10	2	0.02	0.01	57	
HEN-108-0906 (FOR WORK, SEE SHEETS 53-61)																								
S.R. 108	479+07.3	479+50	LT/RT	42.72	24	3.5	3.5	1324.32	147	16	147		0.01	37	25	9	13	7	7	2	0.02	0.01	43	
S.R. 108	479+50	540+50	LT/RT	6100	24	3.5	3.5	189100				21011	2.19			1156	1786	876	1021	245	2.25	1.10	6100	
S.R. 108	540+50	541+41	LT/RT	90.58	24	3.5	3.5	2807.98	312	34	312			78	52	18	27	13	15	4	0.03	0.02	91	
HEN-108-1025 (FOR WORK, SEE SHEETS 62-74)																								
S.R. 108	542+44.2	543+15	LT/RT	70.82	24	3.5	3.5	2195.42	244	27	244			61	41	14	21	11	12	3	0.03	0.01	71	
S.R. 108	543+15	576+98.7	LT/RT	3383.71	24	3.5	3.5	104895.01				11655	0.98			642	991	486	567	136	1.01	0.37	3384	
S.R. 108	576+98.7	577+18.2	LT/RT	19.5	24	3.5	3.5	604.5	67		67		0.01	17	11	4	6	3	3	1	0.01	0.00	20	
S.R. 108	577+18.2	624+51.0	LT/RT	4732.75	24	3.5	3.5	146715.25				16302	1.76			897	1386	680	792	190	1.79	0.90	4733	
S.R. 108	624+51.0	624+70.0	LT/RT	19	24	3.5	3.5	589	65		65		0.01	16	11	4	6	3	3	1	0.01	0.00	19	
S.R. 108	624+70.0	646+59.7	LT/RT	2189.73	24	3.5	3.5	67881.63				7542	0.79			415	642	315	367	88	0.83	0.41	2190	
S.R. 108	646+59.7	646+79.3	LT/RT	19.6	24	3.5	3.5	607.6	68		68		0.01	17	11	4	6	3	3	1	0.01	0.00	20	
S.R. 108	646+79.3	790+33.0	LT/RT	14353.7	24	3.5	3.5	444965.01				49441	5.40			2720	4203	2061	2403	576	5.44	2.72	14354	
S.R. 108	790+33	790+74	LT/RT	41	24	4.75	3.5	1322.25				147	0.02			9	13	7	7	2		0.01	41	
(01/STR/PV FUNDING) TOTALS CARRIED TO GENERAL SUMMARY									1519	145	1519	155174	16.49	380	254	21962		6543	7616	1828	16.69	8.12	45488	

CALCULATED TLM
CHECKED JMF

PAVEMENT CALCULATIONS

HEN-108-6.35

FULL DEPTH REMOVAL AND REPLACEMENT

MATCH LINE - STA. 481+50

482 497 498 539 540

PI Sta. 497+62.64
C.R. J
S.L.M. 9.41

15′ 15′

MONUMENT TO BE REPLACED

℄ SURVEY S.R. 108

3.5′ 24′± 3.5′

MGS TYPE E

MATCH LINE - STA. 540+50

C.R. J
S.L.M. 9.41

MATCH LINE - STA. 540+50

SUSPEND TYP. SECT. "D"
BEGIN TYP. SECT. "E"

DELINEATOR TO BE REMOVED

GR-18

MGS TYPE E

STA. 541+40.58
SUSPEND TYP. SECT. "E"
BEGIN TYP. SECT. "F"

GUARDRAIL POST
STA. 541+56.49

STA. 541+65.58
SUSPEND TYP. SECT. "F"

FOR WORK, SEE SHEET NO.S 64-76
STR. HEN-108-1025
BRIDGE LIMITS = 53.60′

BRIDGE RAIL,TST
SEE BRIDGE SHEETS FOR DETAILS.

GUARDRAIL POST
STA. 542+11.80

STA. 542+19.18
RESUME TYP. SECT. "F"

PI Sta. 542+21.56

STA. 542+44.18
SUSPEND TYP. SECT. "F"
RESUME TYP. SECT. "E"

DELINEATOR TO BE REMOVED

GR-20

STA. 543+15
SUSPEND TYP. SECT. "E"
RESUME TYP. SECT. "D"

MGS BTA, TYPE 1

MGS BTA, TYPE 1

541 542 543 544 549

℄ SURVEY S.R. 108

3.5′ 24′± 3.5′

MATCH LINE - STA. 549+50

GR-19

DELINEATOR TO BE REMOVED

GUARDRAIL POST
STA. 541+72.96

BRIDGE RAIL, TST
SEE BRIDGE SHEETS FOR DETAILS.

GUARDRAIL POST
STA. 542+28.27

GR-21

MGS TYPE E

DELINEATOR TO BE REMOVED

MATCH LINE - STA. 549+50

PI Sta. 550+48.75
C.R. K
S.L.M. 10.41

15′

MONUMENT TO BE REPLACED

550 551

15′

C.R. K
S.L.M. 10.41

STA. 575+81
SUSPEND TYP. SECT. "D"
RESUME TYP. SECT. "A"

576

℄ SURVEY S.R. 108

24′±

3.5′

MGS TYPE E

GR-23

DELINEATOR TO BE REMOVED

112.9′

GR-22

DELINEATOR TO BE REMOVED

MGS TYPE E

3.5′

PI Sta. 576+98.50
STA. 576+98.71
SUSPEND TYP. SECT. "A"
RESUME TYP. SECT. "E"

STA. 577+18.21
SUSPEND TYP. SECT. "E"
RESUME TYP. SECT. "A"

109.3′

SEE SHEET 37 FOR DETAILS & TYPICAL OF FULL DEPTH REPLACMENT

MGS TYPE E

DELINEATOR TO BE REMOVED

STA. 577+91
END TYP. SECT. "A"
RESUME TYP. SECT. "D"

MONUMENT TO BE REPLACED

571 578

MGS TYPE E

DELINEATOR TO BE REMOVED

MATCH LINE - STA. 578+50

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED TLM
CHECKED JMF

PLAN SHEET
STA. 481+50 TO STA. 578+50

HEN-108-6.35

30
80

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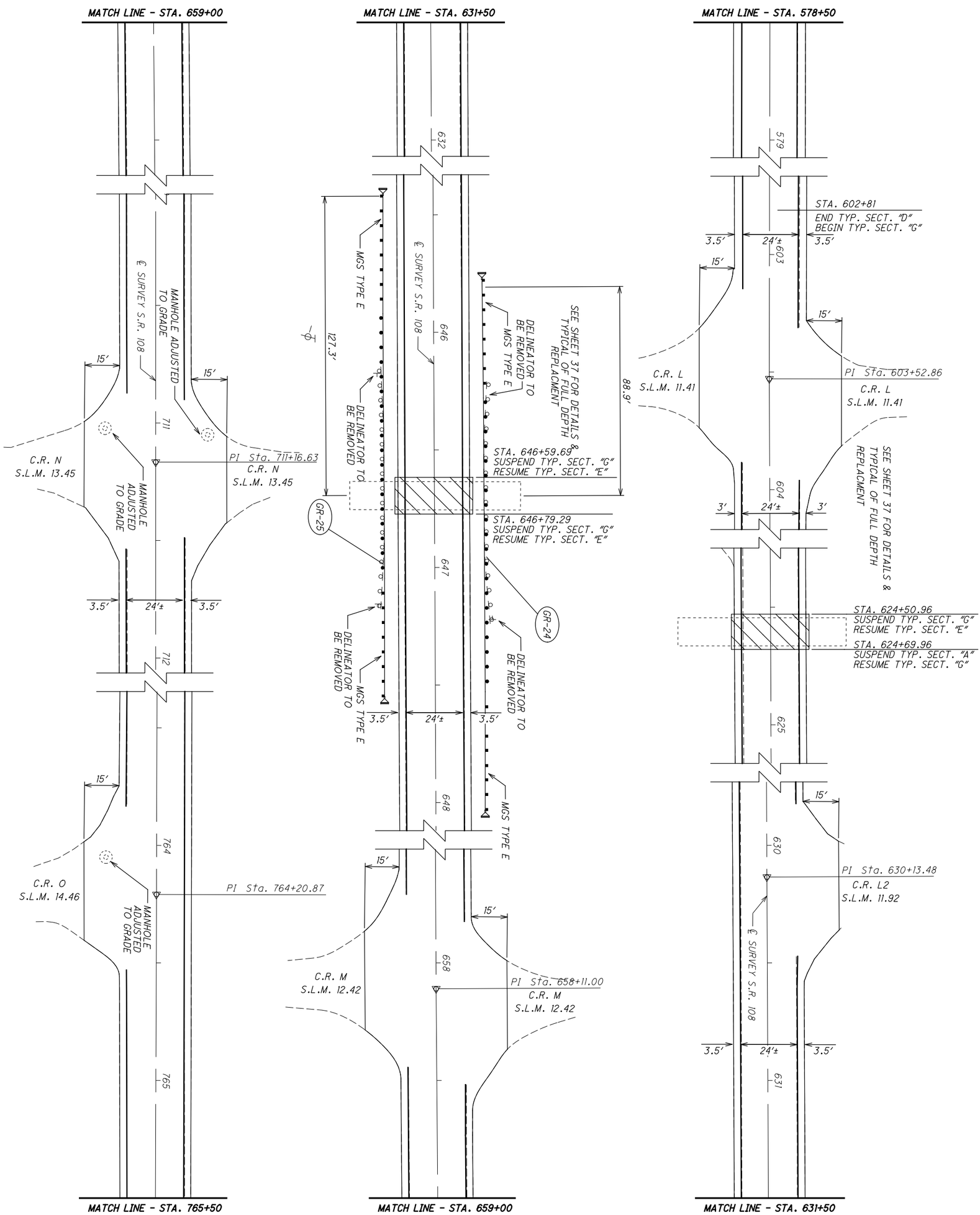


31 / 80	HEN-108-6.35	PLAN SHEET STA. 578+50 TO STA. 765+50	CALCULATED TLM CHECKED JMF	0 10 20 40 HORIZONTAL SCALE IN FEET

ESTIMATED QUANTITIES (02/STR/BR)								
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	CULVERT	HEADWALLS	GEN.	SEE SHEET
202	11000	LS		STRUCTURE REMOVED			LUMP	
202	22900	134	SY	APPROACH SLAB REMOVED			134	
203	10000	79	CY	EXCAVATION			79	
203	20000	261	CY	EMBANKMENT			261	
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING			LUMP	
503	21300	LS		UNCLASSIFIED EXCAVATION			LUMP	
509	10000	5921	LB	EPOXY COATED REINFORCING STEEL		5921		
511	46210	87	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING		87		
512	10050	95	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)		95		
512	33000	421	SY	TYPE 2 WATERPROOFING		421		
516	13600	53	SF	1" PREFORMED EXPANSION JOINT FILLER		53		
518	21230	LS		POROUS BACKFILL WITH GEOTEXTILE FABRIC		LUMP		
601	32104	106	CY	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC			106	
611	96471	96	FT	18' X 7' CONDUIT, TYPE A, 706.05, AS PER PLAN, DESIGN COVER 3 FT	96			
659	00300	109	CY	TOPSOIL			109	
659	10000	981	SY	SEEDING AND MULCHING			981	
659	20000	0.13	TON	COMMERCIAL FERTILIZER			0.13	
659	35000	1	MGAL	WATER			1	

GENERAL NOTES

DESIGN SPECIFICATION:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS," 5TH EDITION ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, INCLUDING THE 2010 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING:

HL-93

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4,000 PSI
(FOOTING, WINGWALL AND FORESLOPE WALLL)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60,000 PSI
(ALL REINFORCING STEEL SHALL BE EPOXY COATED)

FOUNDATION BEARING RESISTANCE:

HEADWALL FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 1.6 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 1.7 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 2 KIPS PER SQUARE FOOT.

PREFORMED EXPANSION JOINT FILLER

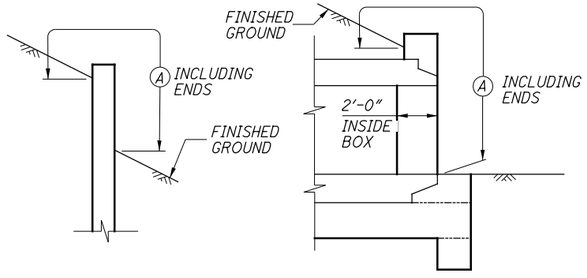
PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

POROUS BACKFILL WITH GEOTEXTILE FABRIC:

1'-6" THICK SHALL EXTEND UP TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS. PLACE TWO CUBIC FEET OF BAGGED NO. 3 AGGREGATE AT EACH WEEPHOLE. THE DEPARTMENT WILL INCLUDE BAGGED AGGREGATE WITH POROUS BACKFILL FOR PAYMENT.

SEALING OF CONCRETE SURFACES (NON-EPOXY)

ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH NON-EPOXY SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE NON-EPOXY SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.



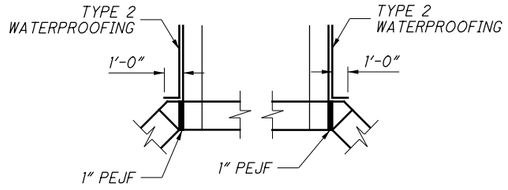
WINGWALL

FORESLOPE WALL AND PRECAST BOX (CULVERT OUTLET BEVEL SHOWN)

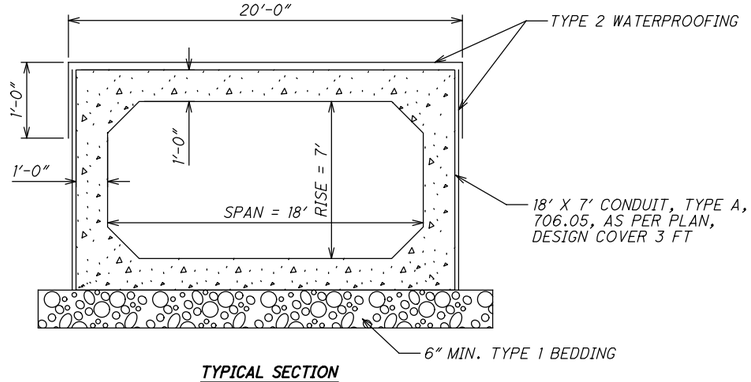
LIMITS OF ITEM 512-SEALING CONCRETE SURFACES, NON-EPOXY - SEAL ENTIRE CONCRETE SURFACE AREA

WATERPROOFING

TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.



PLAN VIEW



TYPICAL SECTION

ITEM 611 - 18' X 7' CONDUIT TYPE A, 706.05, AS PER PLAN, DESIGN COVER 3 FT

ALL REQUIREMENTS OF 706.05 SHALL BE MET EXCEPT AS DETAILED IN SUPPLEMENTAL SPECIFICATION 940.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION

DESIGNED ADB | DRAWN ADB | REVIEWED XXX | DATE MM/DD/YY
CHECKED DJG | REVISED XXX | STRUCTURE FILE NUMBER 35022318

ESTIMATED QUANTITIES AND GENERAL NOTES
BRIDGE NO. HEN-108-0906
OVER UNNAMED TRIBUTARY OF SCHOOL CREEK

HEN-108-6.35
PID No. 94319

2 / 9

56
80

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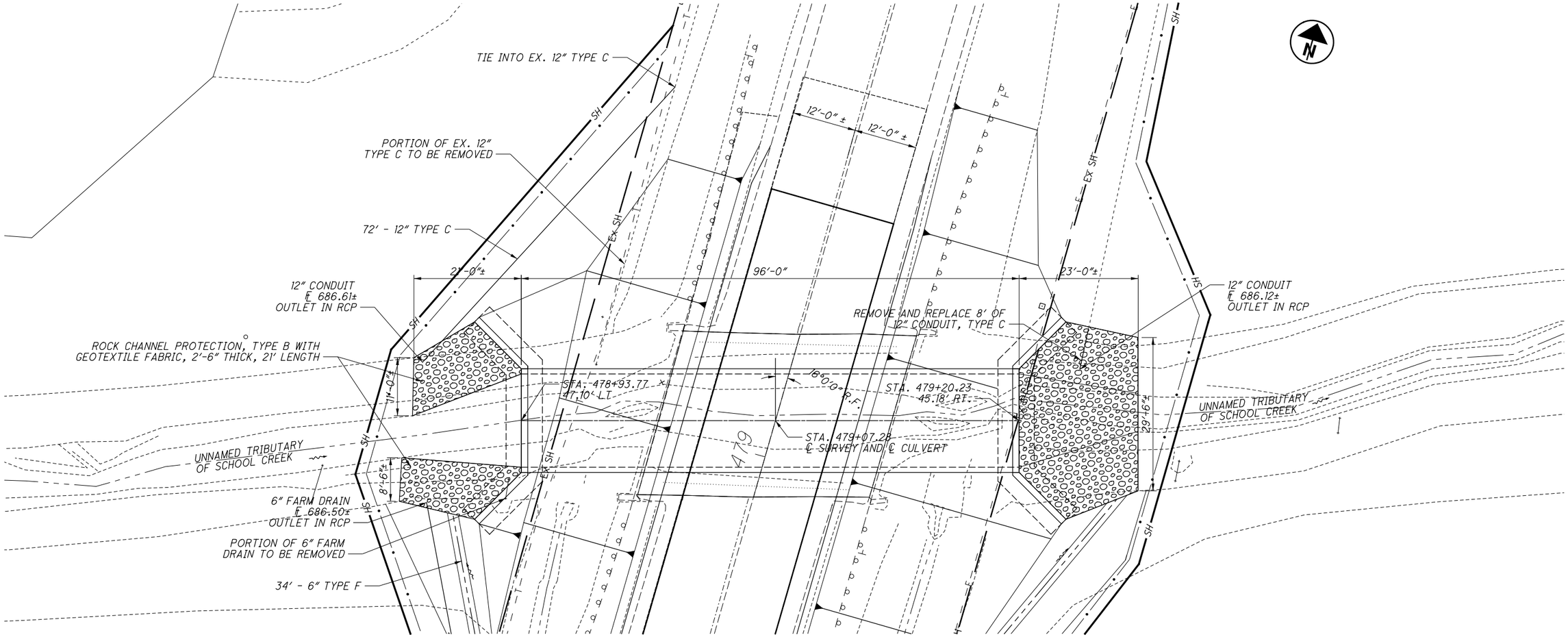
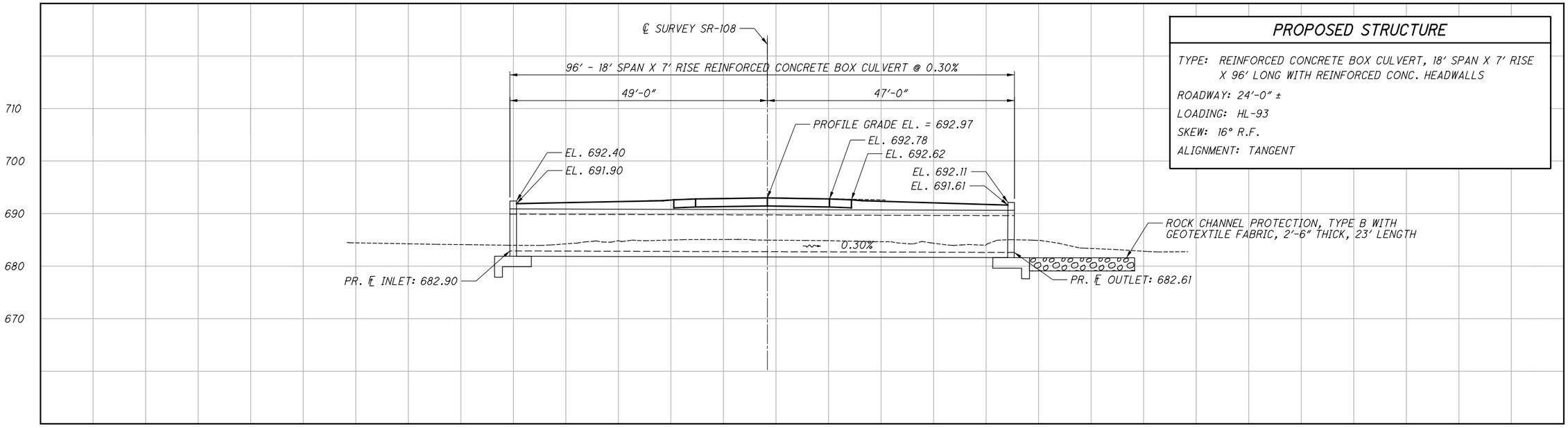




PROPOSED STRUCTURE

TYPE: REINFORCED CONCRETE BOX CULVERT, 18' SPAN X 7' RISE X 96' LONG WITH REINFORCED CONC. HEADWALLS

ROADWAY: 24'-0" ±

LOADING: HL-93

SKEW: 16° R.F.

ALIGNMENT: TANGENT

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION

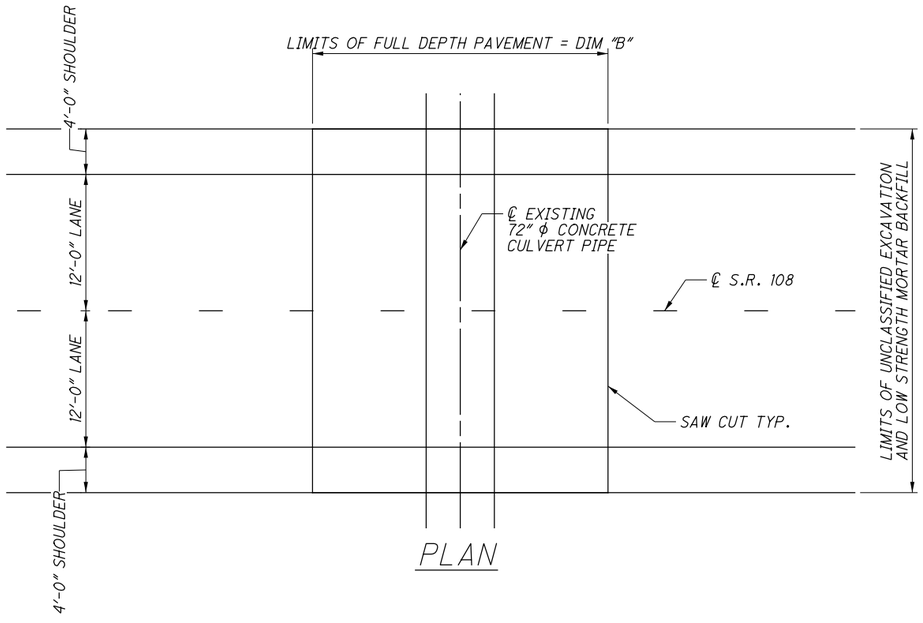
DESIGNED	DRAWN	REVIEWED	DATE
ADB	ADB	XXX	MM/DD/YY
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJG	XXX	35022318	

GENERAL PLAN
BRIDGE NO. HEN-108-0906
OVER UNNAMED TRIBUTARY OF SCHOOL CREEK

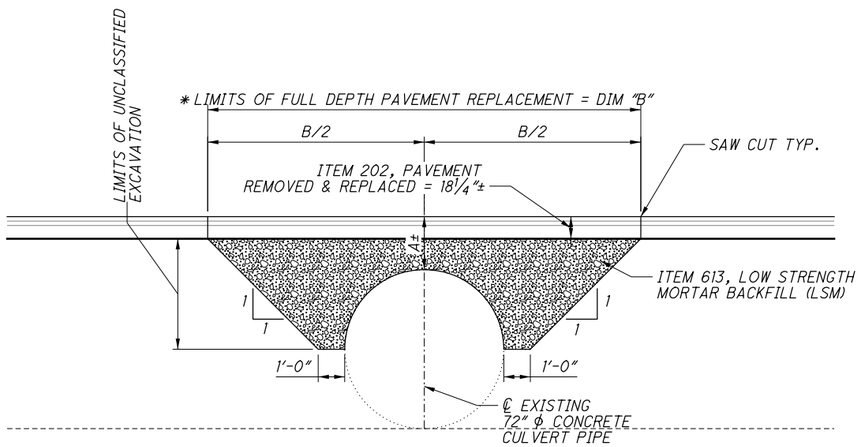
HEN-108-6.35
PID No. 94319

3 / 9

57
80



PLAN



ELEVATION

PLAN SHEET NUMBER	CULVERT LOCATION (MP)	DIM "A" (FT)	DIM "B" (FT)	LSM QTY. (CU. YD.)	UNCLASSIFIED EXCAVATION QTY. (CU. YD.)
30	10.91	2.7	19.5	76	76
31	11.81	2.5	19	74	74
31	12.23	2.8	19.6	78	78

NOTES:

PAYMENT FOR SAW CUT SHALL BE INCIDENTAL TO ITEM 202, PAVEMENT REMOVED.

ALL CONCRETE PAVEMENT REPAIRS ENCOUNTERED DURING THE EXCAVATION SHALL BE REMOVED AS NEEDED TO COMPLETE THE WORK. ALL COSTS ASSOCIATED WITH THE REMOVAL OF CONCRETE PAVEMENT REPAIRS SHALL BE INCLUDED WITH UNCLASSIFIED EXCAVATION.

* FOR FULL DEPTH PAVEMENT REPLACEMENT DETAILS, SEE TYPICAL SECTION "E" (SHEET 4 OF 80).

CALCULATED GLH
CHECKED DJG

CROSSOVER DETAIL

HEN-108-6.35