

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 01 07 SHEETS
F.A.P. 545	114T-1	CARROLL	118	26	
FED. ROAD DIST. NO. R	ILLINOIS	FED. AID PROJECT			

Contract # 64C31

DESIGN SPECIFICATIONS

AASHTO 2002 SPECIFICATIONS

LOADING HS20-44

ALLOW 50#/SQ. FT. FOR FUTURE WEARING SURFACE.

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ PSI
 $f_y = 60,000$ PSI (REINFORCEMENT)

PRECAST UNITS

$f'_c = 5,000$ PSI
 $f_y = 60,000$ PSI (REINFORCEMENT)

TOTAL BILL OF MATERIALS

ITEM	UNIT	QUANTITY
CONCRETE BOX CULVERTS	CU. YD.	24.5
PRECAST CONCRETE BOX CULVERT 10' x 5'	FOOT	170
REINFORCEMENT BARS	POUND	1,637
NAME PLATES	EACH	1
REMOVAL OF EXISTING STRUCTURE NO. 1	EACH	1
STONE RIPRAP, CLASS A4	SQ. YD.	140
FILTER FABRIC	SQ. YD.	140
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU. YD.	105
BREAKER-RUN CRUSHED STONE	TON	171

GENERAL NOTES

- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706 GR 60 (IL MODIFIED), SEE SPECIAL PROVISION.
- EXPOSED EDGES SHALL HAVE A $\frac{3}{4}$ " CHAMFER.
- CULVERT FLOWS MUST BE MAINTAINED THROUGHOUT THE PROJECT. NORMAL FLOW SHALL BE ALLOWED TO PASS AT THE RATE IT ENTERS THE JOBSITE. HIGH FLOWS SHALL BE ALLOWED TO PASS WITHOUT CAUSING DAMAGE TO UPSTREAM PROPERTIES.
- THE CONTRACTOR SHALL CLEAN OUT CULVERT STREAM FLOW TO THE RIGHT OF WAY LINES. THE COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR "PRECAST CONCRETE BOX CULVERT 10'x5'".
- STRUCTURE EXCAVATION AND GRADING AROUND ENDS OF CULVERT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR "PRECAST CONCRETE BOX CULVERT 10' x 5'".
- PLACEMENT AND COMPACTION OF THE BACKFILL FOR CULVERT SHALL CONFORM TO SECTION 502.10 OF THE STANDARD SPECIFICATIONS. EXCEPT THAT THE MATERIAL SHALL CONFORM TO SECTION 1004.05 OF THE STANDARD SPECIFICATIONS FOR COARSE AGGREGATE FOR TRENCH BACKFILL, AND SHALL BE COMPACTED TO MINIMUM OF 95% OF THE STANDARD LABORATORY DENSITY. THE ENTIRE EXCAVATION, WITHIN 2 FEET OUTSIDE OF EACH SHOULDER, SHALL BE BACKFILLED WITH TRENCH BACKFILL MATERIAL TO THE BOTTOM OF THE PROPOSED SUBGRADE. THIS TRENCH BACKFILL MATERIAL WILL NOT BE MEASURED FOR PAYMENT, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE CLASS OF CONCRETE INVOLVED OR OTHER UNIT PRICE ITEM OF THE WORK FOR WHICH IT IS REQUIRED.
- PRECAST SUBSTITUTION IS NOT ALLOWED FOR CULVERT APRONS AND WINGWALLS.
- PRECAST CONCRETE BOX CULVERT SLAB & WALL THICKNESS TAKEN FROM AASHTO MATERIAL SPECIFICATIONS. IF FABRICATOR CHOOSES TO ALTER DIMENSIONS, IT MUST BE APPROVED BY THE ENGINEER, AND THE CALCULATIONS SHALL BE PREPARED AND SEALED BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER.
- THE NEW NUMBER FOR THIS STRUCTURE WILL BE 008-1090.
- THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M273 (DESIGN FILL HEIGHT = 2'-0")

BENCH MARK: BM 401
STA. 246+53.81, 33.23' LT., EL. 895.318
BENCH-TIE IN POWER POLE NORTH OF IL 72 EAST OF CULVERT.

EXISTING STRUCTURE:
SINGLE 10'-0" x 6'-0" x 36'-0" CONCRETE BOX CULVERT.

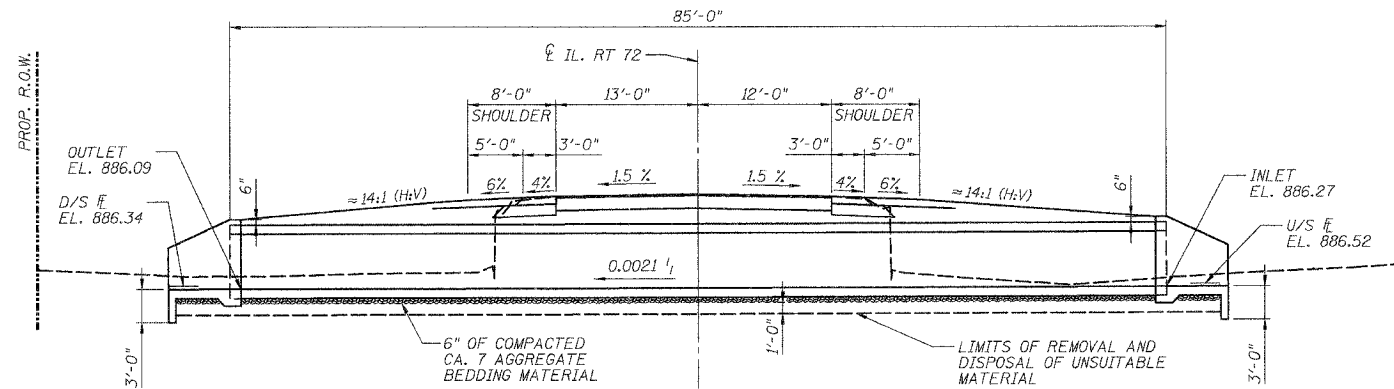
NO SALVAGE.

PROPOSED IMPROVEMENTS:
EXISTING STRUCTURE TO BE REMOVED AND REPLACED WITH A DOUBLE 10'-0" x 5'-0" PRECAST CONCRETE BOX CULVERT WITH CAST IN PLACE END SECTIONS.

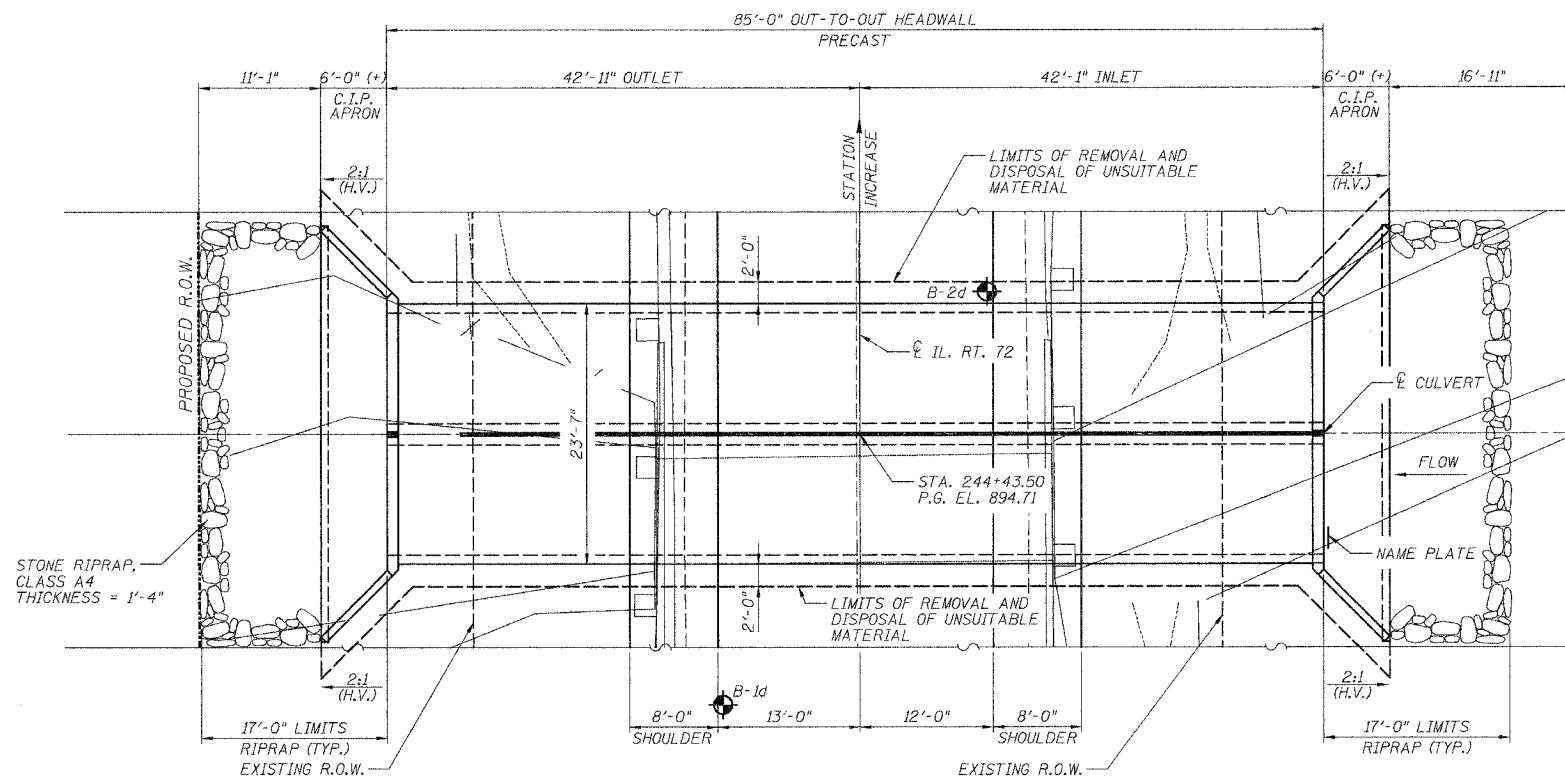
STATION 244+43.50
BUILT 200. BY
STATE OF ILLINOIS
IL. 72 SECT. 114T-1
LOADING HS20
STR. NO. 008-1090

NAME PLATE

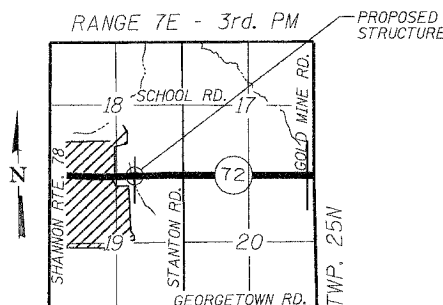
NOTE: SEE STANDARD DRAWING 515001 FOR NAME PLATE DETAILS.



LONGITUDINAL SECTION



PLAN



LOCATION SKETCH

DESIGNED - ASP	200
CHECKED - WSP	EXAMINED
DRAWN - BGC	PASSED
CHECKED - ASP	ENGINEER OF BRIDGES AND STRUCTURES

WATERWAY INFORMATION									
DRAINAGE AREA (SQ. MI.) = 1.33			LOW GRADE ELEV. (FEET) EXIST = 894.59 @ STA. 243.62 PROPOSED = 894.59 @ STA. 243.62						
FLOOD	FREQ. YR.	DISCHARGE C.F.S.	WATERWAY OPENING (SQ. FT)		NATURAL H.W.E.	HEAD (FT.)		HEADWATER ELEVATION	
			EXISTING	PROPOSED		EXISTING	PROPOSED	EXISTING	PROPOSED
TEN-YEAR	10	509	44.4	87.2	890.87	3.08	0.68	893.95	891.55
DESIGN	50	1046	53.8	100.0	891.80	3.77	2.70	895.57	894.50
BASE	100	1381	59.0	100.0	892.32	3.63	2.99	895.95	895.31
EX OVT	13	581	46.0	90.4	891.02	3.57		894.59	
PR OVT	61	1100	54.6	100.0	891.88		2.71		894.59
MAX CALC.	500	2513	60.0	100.0	893.27	3.41	3.28	896.68	896.55

GENERAL PLAN & ELEVATION

F.A.P. 545 (IL. RTE. 72)
SECTION 114T-1
CARROLL COUNTY
STATION 244+43.50
STRUCTURE NO. 008-1090

