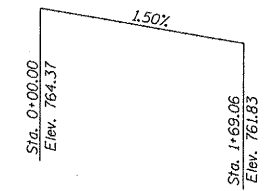


EXISTING STRUCTURE: No Existing Structure  
 BENCHMARK ELEV. = 759.26 Chiseled square in top center of west headwall of 24" x 18" concrete box culvert at approx. Sta. 379+93, 30' LT.



**Profile Grade**  
 Along  $\phi$  TR 547 Roadway

STATION 0+76.31  
 BUILT 2011 BY  
 STATE OF ILLINOIS  
 F.A.P. RT. 71 SEC. 121R  
 LOADING HS 20  
 STRUCTURE NO. 057-2048

**NAME PLATE**  
 See Std. 515001

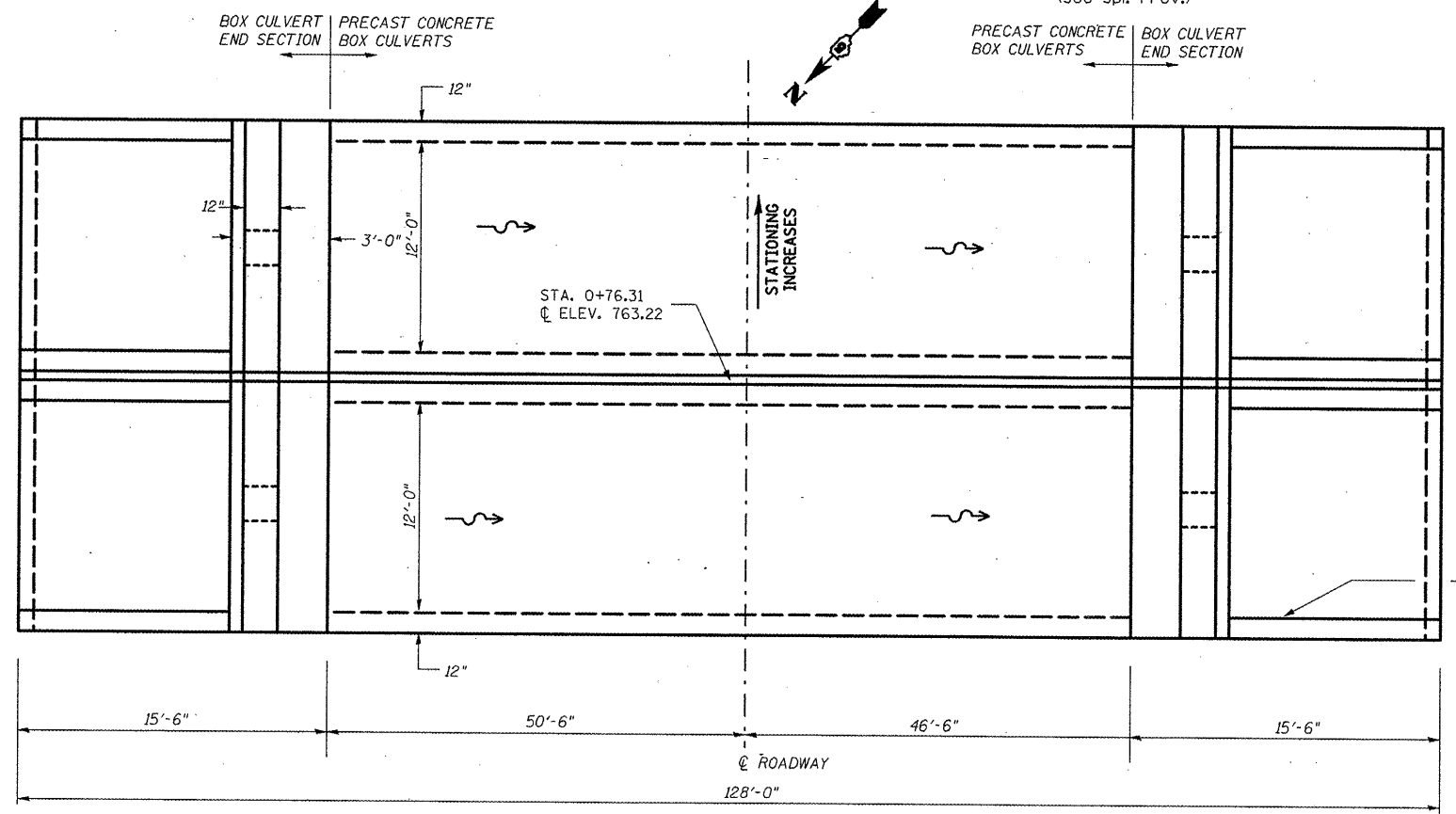
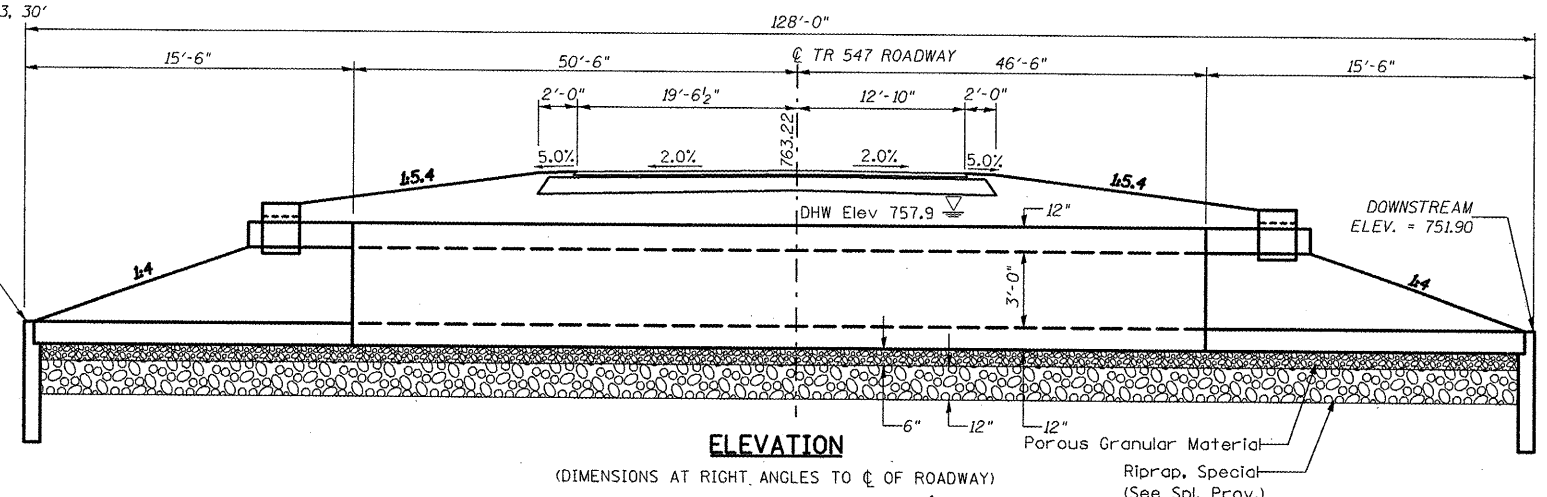
**DESIGN SPECIFICATIONS**  
 2002 AASHTO

**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)  
 $f_y = 65,000$  psi (welded wire fabric)

**PRECAST UNITS**  
 $f'_c = 5,000$  psi  
 $f_y = 65,000$  psi (welded wire fabric)



**PLAN**

**WATERWAY INFORMATION TABLE**

Route: TR 547	Existing S.N.: SLD 6.68 LT - No Structure Exists
Section: 121R	Proposed S.N.: 057-2048
County: McLean	Waterway: Unnamed Tributary of Salt Creek
Date: 4/30/2009	By: GMS

Existing Low Grade Elev. = N/A @ Sta.		Proposed Low Grade Elev. = 761.38 @ Sta. 2+29		
Flood	Drainage Area = 0.5 mi. <sup>2</sup>	Opening Sq. Ft.	Head - Ft.	Headwater Elevation
Yr.	C.F.S.	Existing	Proposed	Existing
10	244	N/A	72	N/A
Design	50	414	72	N/A
Base	100	493	72	N/A
<b>Overtopping</b>				
Max. Calc.	500	688	72	N/A
				760.0

**Design Scour Elevation Table**

Design Scour Elevation (ft.)	Upstream	Downstream
	749.41	748.91

**General Notes**

See 'Double Cell Precast Box Culvert End Sections' for end section details.  
 Build tops of headwalls parallel to the grade lines.  
 All construction joints shall be bonded according to Article 503.09 of the Standard Specifications.  
 Reinforcement bars shall conform to the requirements of ASTM A706 Gr. (IL Modified). See Special Provisions.  
 The 6" Porous Granular Material required per Art. 540.06 of the Standard Specifications shall also extend beneath the Box Culvert End Sections and shall be considered included in the cost of Precast Concrete Box Culverts and Box Culvert End Sections.  
 When lapping sheets of welded wire fabric, the overlap measured between the outermost cross wires of each fabric sheet shall not be less than 8"  
 End Sections will be paid for at the contract unit price per each for BOX CULVERT END SECTIONS, as outlined in Section 540 of the Standard Specifications.  
 Class SI Concrete shall be used throughout.  
 Concrete, Rebar, and Welded Wire Fabric quantities and lengths calculated for the cast-in-place End Sections may vary based on the precast box culverts supplied.  
 Drain holes shall be provided in accordance with Article 503.11 of the Standard Specifications.  
 The box culvert end section shall be built in the field and a precast option is not allowed except the cut-off wall may be precast. If the contractor elects to use a precast cut-off wall, shop drawings and a proposed construction sequence shall be submitted to the Engineer for approval.

The ends of the precast box sections adjacent to the end section shall be formed without the male and female shapes specified in Article 8.1 of AASHTO M259. See Sections B-B, D-D, E-E, and F-F on Sheet 2.

The precast concrete box culvert sections shall conform to the requirements of AASHTO M259. The design reinforcement areas shall conform to those found in Table 1 of the AASHTO M259 specification for a 12'x4' box section with 8 feet of fill.

The joints between precast box sections shall be sealed, all voids filled with a mastic joint sealer. In addition, the joints shall be externally sealed on all four sides with a 13 inch wide external sealing band. The seal shall be centered over the joint, secured in place and protected during the backfilling process.

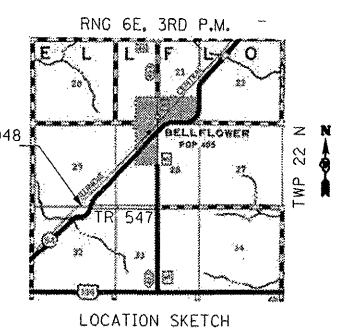
All dimensions are in FEET (') - INCHES (") unless otherwise noted.

Drawings not to scale.

MOUNT NAME PLATE

**TOTAL BILL OF MATERIAL**

Item	Unit	Total
Removal of Existing Structures No. 2	Each	1
Precast Concrete Box Culverts 12'x3'	Foot	194
Box Culvert End Sections, Culvert No.2	Each	2
Name Plates	Each	1



**GENERAL PLAN AND ELEVATION**  
**DOUBLE 12'x3' PRECAST BOX CULVERT**  
**F.A.P. ROUTE 71 - SECTION 121R**  
**MCLEAN COUNTY**  
**STATION 0+76.31 S.N. 057-2048**  
**CULVERT NO. 2**

FILE NAME = c:\pwwork\pwwork\CRAIGRE\d010141\070952-sh1-BoxCulverts.dgn	USER NAME = craigre	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION PROPOSED CULVERT NO. 2 - STR. NO. 057-2048	F.A.P. RTE. 71	SECTION 121R	COUNTY MCLEAN	TOTAL SHEETS 87	SHEET NO. 32	CONTRACT NO. 70592
PLOT SCALE = 44.0000' / IN.	PLOT DATE = 11/17/2009	CHECKED -	REVISED -	SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT				