

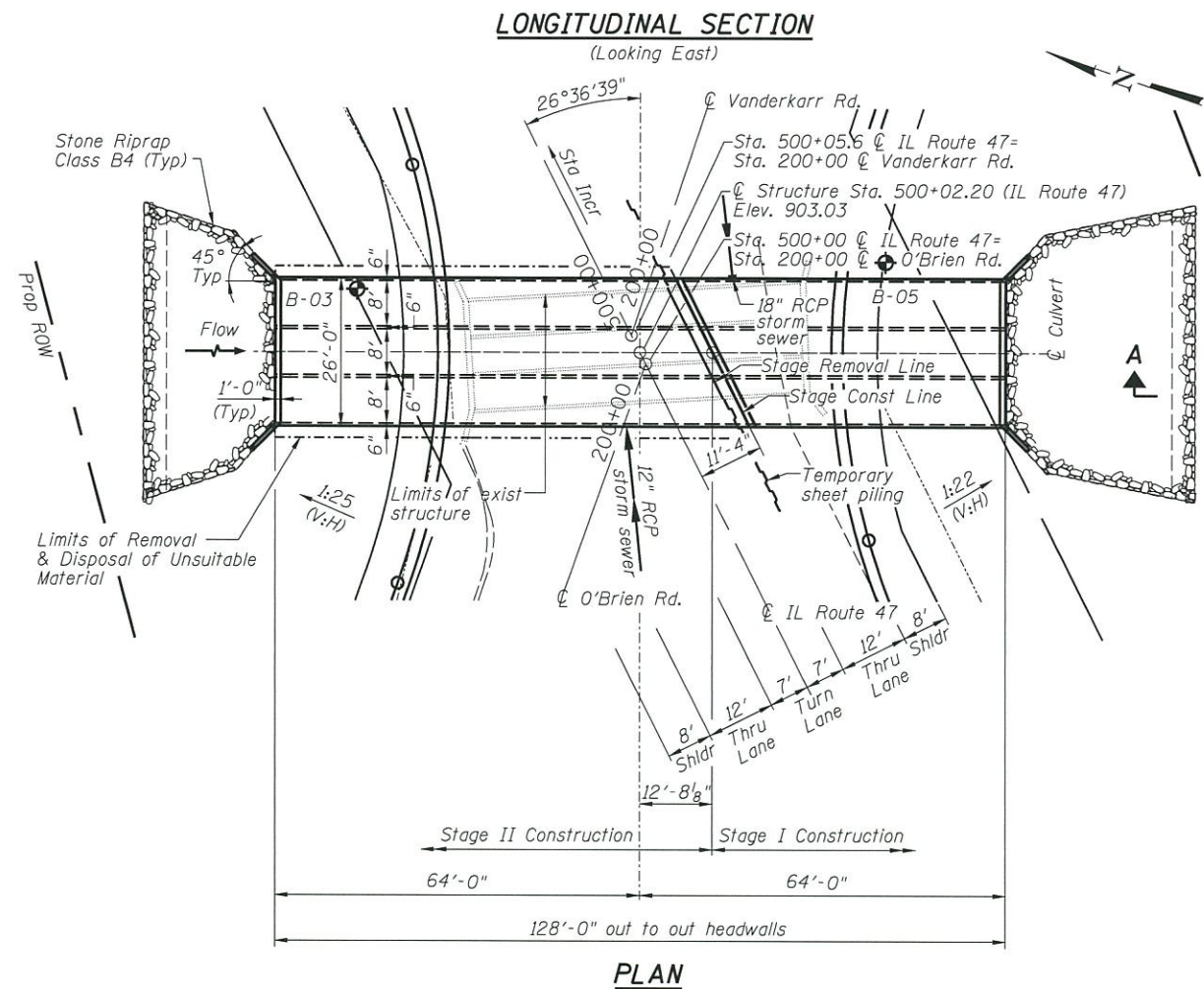
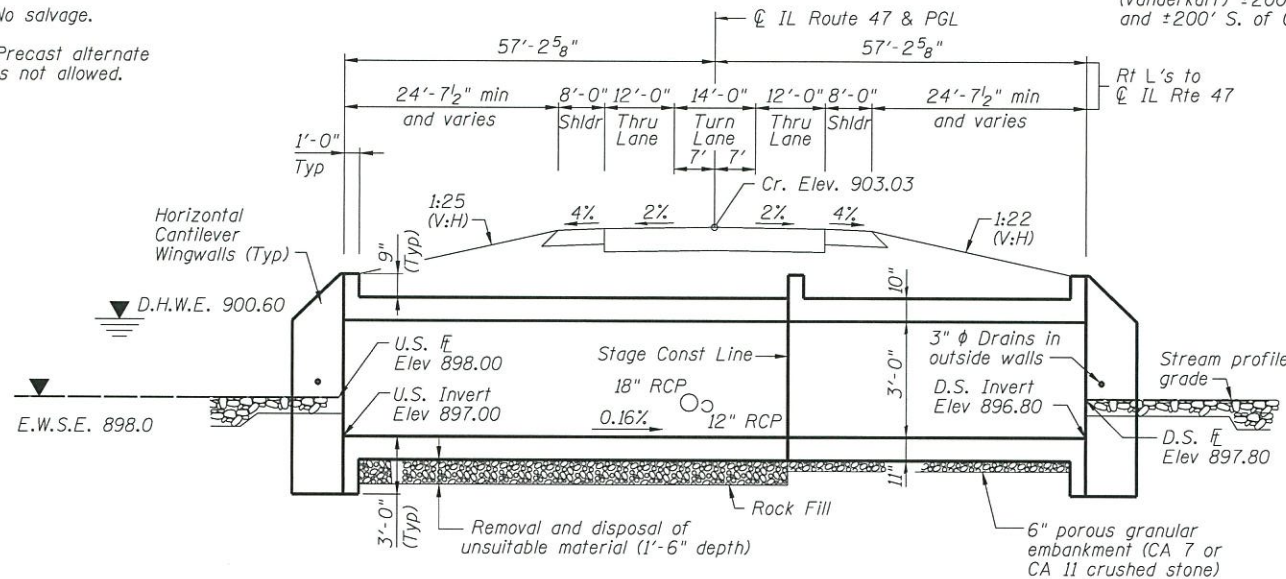
Existing Structure (056-0238):
Originally built in 1932 as SBI 47, Section 104
a 60' long 3 cell 6'x2' CIP concrete box culvert
and wing walls on a 23°21' skew.

No salvage.

Precast alternate
is not allowed.

Traffic Control:
Two lane of traffic on IL 47 and O'Brien shall be
maintained utilizing Stage Construction, with Vanderkarr
Rd closed and traffic detour through Wilke Rd to IL 47.

Benchmark:
"□" in center of concrete slab W.
side of parking area in SW quad
of intersection of IL 47 & O'Brien
(Vanderkarr) ±200' west of IL 47
and ±200' S. of O'Brien. Elev. 901.58



DESIGN SPECIFICATIONS
2014 AASHTO LRFD Bridge Design
Specifications, 7th Edition with 2015 and 2016 Interims

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

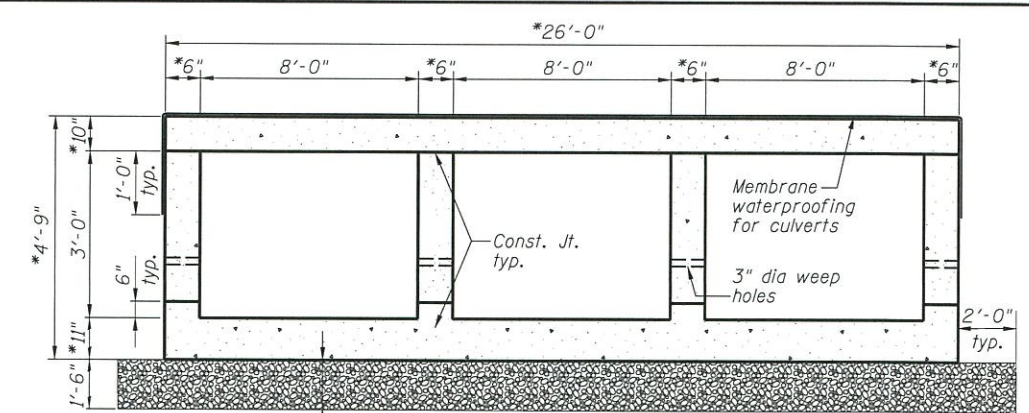
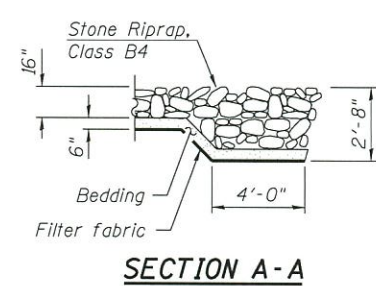
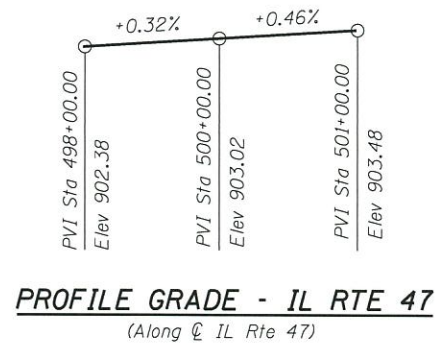
DESIGN STRESSES
FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

HIGHWAY CLASSIFICATION

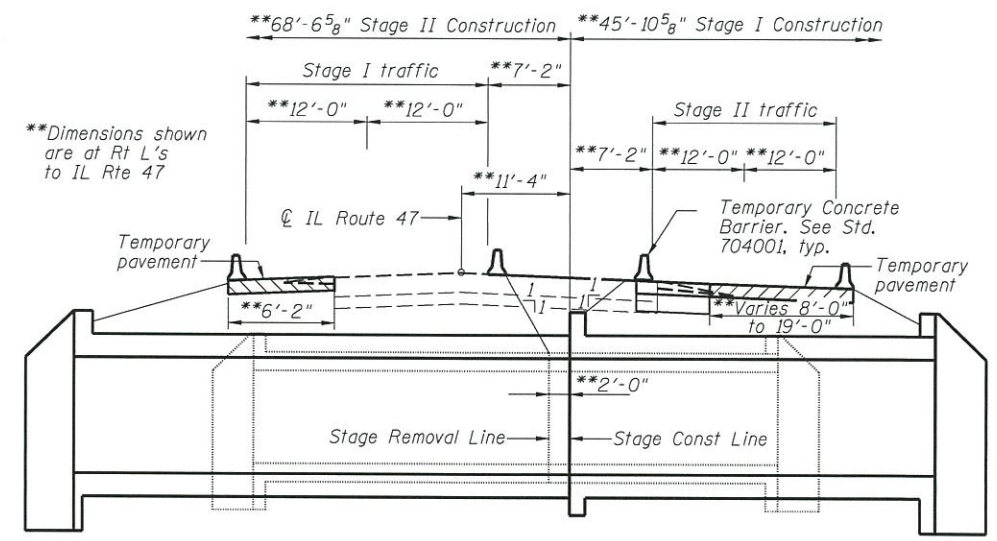
F.A.P. Rte. 326 IL Route 47
Functional Class: Other Principal Arterial
ADT: 3863 (2015); 6431 (2032)
DHV: 580 (2032)
ADTT: 7%
Design Speed: 60 m.p.h.
Posted Speed: 55 m.p.h.
2-Way Traffic
Directional Distributions: 50:50

APPROVED
OCT 25 2017
AS A BASIS FOR
PREPARATION OF DETAILED PLANS



Removal and disposal of unsuitable material (Stage II only)

*Slab thickness may be refined in final design.



WATERWAY INFORMATION

Drainage Area = 1.4 sq. mi.
Exist Overtopping Elev. = 902.52 at Sta. 199+76 (O'Brien)
Prop Overtopping Elev. = 902.81 at Sta. 199+50 (O'Brien)

Flood	Freq. Yr.	Opening Sq. Ft.		Nat. Head - Ft.	Head - Ft.		Headwater El.		
		Exist.	Prop.		Exist.	Prop.	Exist.	Prop.	
Design	10	153	36	48	900.20	0.53	0.00	900.73	900.06
Base	50	225	36	48	900.60	0.90	0.33	901.50	900.93
Overtop exist	100	254	36	48	900.70	1.15	0.56	901.85	901.26
Overtop prop	330	303	36	48	900.86	1.66		902.52	
Overtop prop	>500	371		48	901.06		1.75	902.81	
Max Calc	>500	371		48	901.06		1.75	902.81	

10 Year Velocity through Existing Structure = 4 ft/s
10 Year Velocity through Proposed Structure = 3 ft/s



GENERAL PLAN AND ELEVATION
IL RTE. 47 AT O'BRIEN / VANDERKARR RD.
OVER UNNAMED DITCH
F.A.P. RTE. 326 SEC. 104-N
McHENRY COUNTY
STATION 500+02.20
S.N. 056-0300

FILE NAME = H:\P\J\DOT\6588 PTB 181 006\Work D-der *N\CADD\Structural\0162C34-shr-us&l.dgn