

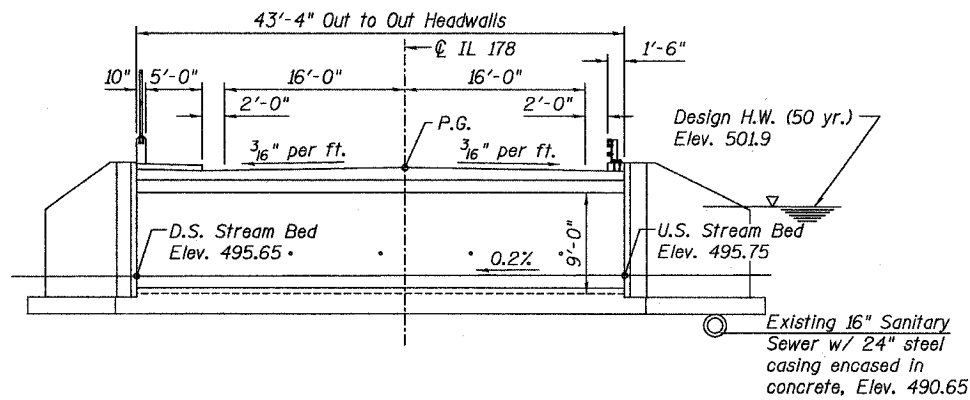
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
F.A.S. 1279	(P-10)BR	LaSALLE	34	10	OF 10 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract #66661		

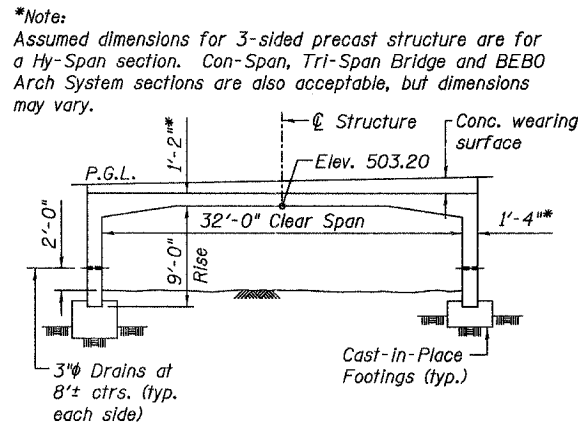
BENCHMARK: Chisled "□" on South Wing Wall (Elev.=504.10)

EXISTING STRUCTURE: S.N. 050-0085 originally constructed in 1932 & reconstructed in 1971. Single span RC slab bridge, 22'-0" Back-to-Back of vertical abutments, 34'-0" Out to Out deck. Structure is to be removed and replaced w/ 43'-4" x 32'-0" precast concrete structure. Stage construction is to be used to maintain one lane of traffic.

No salvage



**ELEVATION**  
(Dimensions @ Rt. L's to C Roadway)  
(Looking North @ C Structure)



**SECTION THRU STRUCTURE**  
(at Rt. L's to Structure)

**INDEX OF SHEETS**

- GENERAL PLAN
- STAGE CONSTRUCTION DETAILS
- TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
- SUPERSTRUCTURE DETAILS
- PEDESTRIAN RAILING
- STEEL BRIDGE RAIL CURB MOUNTED
- FOOTING DETAILS
- WINGWALL DETAILS
- BAR SPLICER ASSEMBLY DETAILS
- BORING LOGS

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

All Cast-In-Place Construction Joints shall be bonded.

Excavation behind existing abutment walls shall be done before removing the existing superstructure. The Contractor shall sawcut the existing abutments at the stage removal line before stage I removal.

The optional use of precast footings will not be allowed.

The optional use of precast wingwalls will not be allowed.

The footing design is based on the following maximum service reactions applied at the top of the footing: 18.0 kips/ft. (vertical), 6.3 kips/ft. (horizontal). The Contractor shall verify that the selected structure meets these design parameters. If the design parameters are exceeded, a complete footing design with calculations, details, and the required seals shall be submitted for review and approval.

**LOADING HS20**

Allow 50#/Sq. Ft. for future wearing surface.

**DESIGN SPECIFICATIONS**  
2002 AASHTO

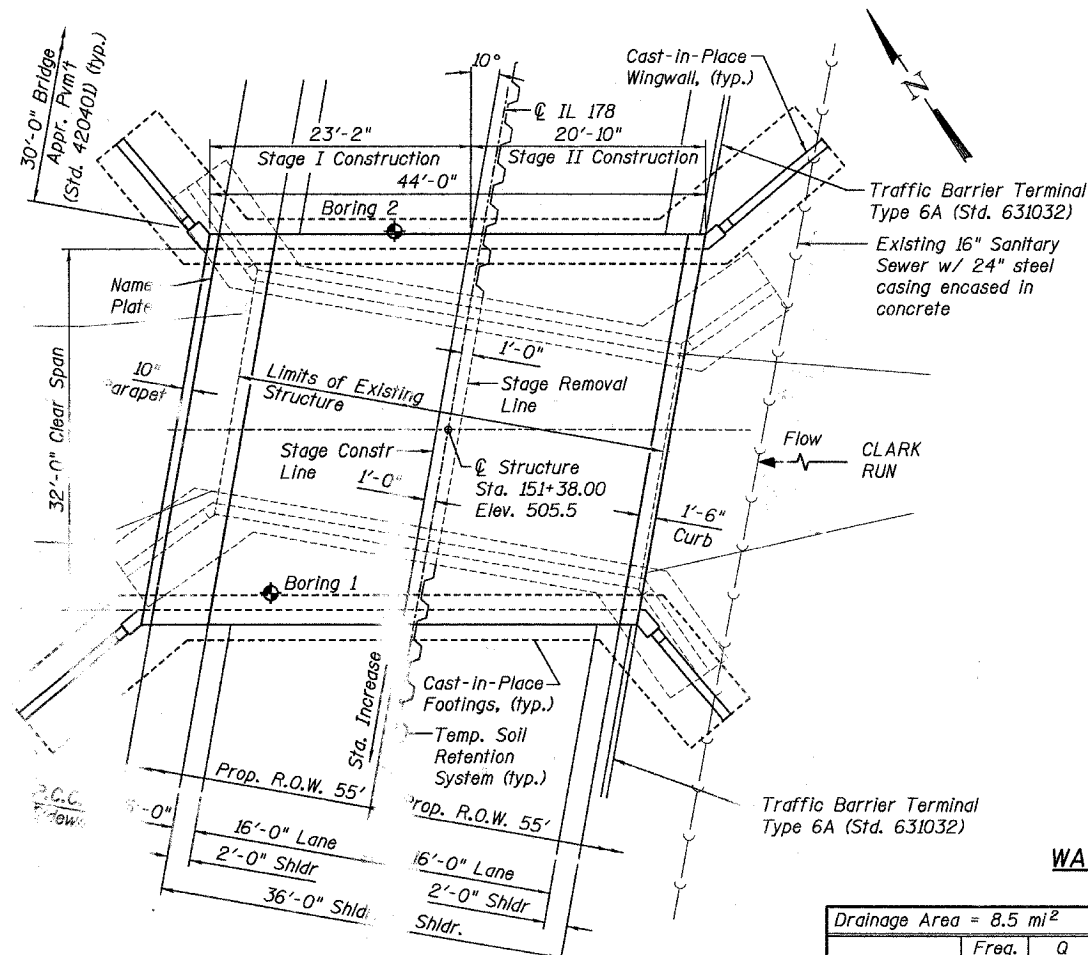
**DESIGN STRESSES**

**FIELD UNITS**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)

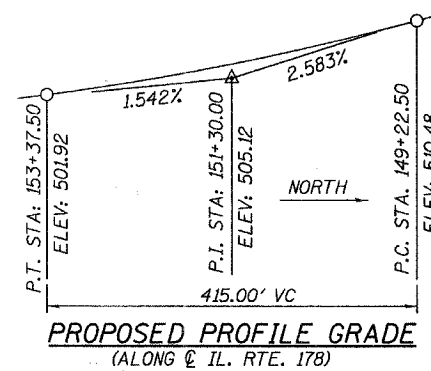
**PRECAST UNITS**  
 $f'_c = 5,000$  psi  
 $f_y = 60,000$  psi (reinforcement)  
 $f_y = 65,000$  psi (welded wire fabric)

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1	---	1
Structure Excavation	Cu. Yd.	---	180	180
Rock Excavation for Structures	Cu. Yd.	---	26.4	26.4
Concrete Structures	Cu. Yd.	---	74.7	74.7
Concrete Superstructure	Cu. Yd.	11.2	---	11.2
Bridge Deck Grooving	Sq. Yd.	133	---	133
Protective Coat	Sq. Yd.	181	---	181
Concrete Wearing Surface	Cu. Yd.	58.2	---	58.2
Reinforcement Bars	Pound	---	3600	3600
Reinforcement Bars, Epoxy Coated	Pound	6070	700	6770
Pedestrian Railing	Foot	35	---	35
Steel Bridge Rail	Foot	35	---	35
Name Plates	Each	1	---	1
Bar Splicers	Each	124	16	140
Temporary Soil Retention System	Sq. Ft.	---	388	388
Three-Sided Precast Concrete Structures, 32' x 9'	Foot	44.0	---	44.0



**PLAN**



**PROPOSED PROFILE GRADE**  
(ALONG C IL. RTE. 178)

**WATERWAY INFORMATION**

Exist. Low Grade Elev. 501.5 ft. @ Sta. 153+80

Drainage Area = 8.5 mi<sup>2</sup> Prop. Low Grade Elev. 501.5 ft. @ Sta. 153+80

Freq. Yr.	Q ft <sup>3</sup> /s	Opening ft <sup>2</sup>		Nat. H.W.E.		Head - ft		Headwater El.	
		Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
10	664	98	156	500.9	0.6	0.0	501.5	500.9	
Overtop	50	664	98	500.9	0.6		501.5		
Overtop	75	800		166	501.4		0.1	501.5	
Design	50	998	118	172	501.9	2.5	0.2	504.4	502.1
Base	100	1134	122	174	502.1	2.7	0.4	504.8	502.5
Max. Calc.	500	1451	136	178	503.0	2.8	0.5	505.8	503.5

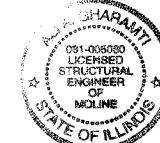
10 Year Velocity through Existing Bridge = 8.1 fps  
10 Year Velocity through Proposed Bridge = 4.3 fps

STATION 151+38.00  
BUILT 20 BY  
STATE OF ILLINOIS  
F.A.S. RTE. 1279  
SECTION (P-10)BR  
LOADING HS20  
STR. NO. 050-0238

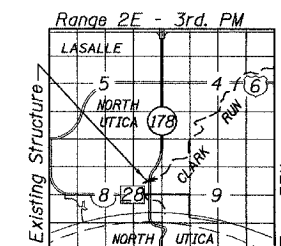
**NAME PLATE**  
See Std. 515001

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

Relish E. Anderson (TJD)  
ENGINEER OF BRIDGES AND STRUCTURES



Signature: [Signature]  
Date: 9/25/06  
Exp. Date: 11/30/06



**LOCATION SKETCH**

**GENERAL PLAN**  
F.A.S. 1279 - ILLINOIS RTE. 178  
OVER CLARK RUN  
SECTION (P-10)BR  
LaSALLE COUNTY  
STATION 151+38.00  
STRUCTURE NO. 050-0238

DESIGNED	DAF
CHECKED	AAG
DRAWN	JAF
CHECKED	BG

**McCLURE ENGINEERING ASSOCIATES, INC.**  
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DESIGN FIRM LICENSE: ILLINOIS #184-000816  
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