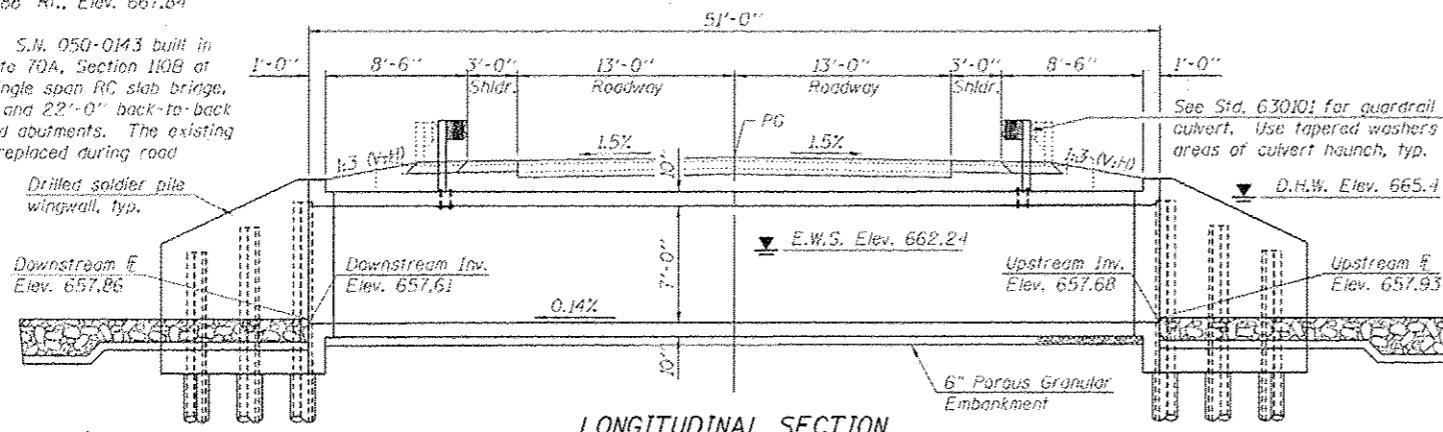


Benchmark: Chiseled "a" on SW headwall of S.N. 050-0143:  
Sta. 314+17.13, 20.88' Rt., Elev. 667.84

Existing Structure: S.N. 050-0143 built in 1933 as S.B.I. Route 70A, Section 110B at Sta. 314+05. A single span RC slab bridge, 43'-0" out-to-out and 22'-0" back-to-back abutments on closed abutments. The existing structure shall be replaced during road closure.

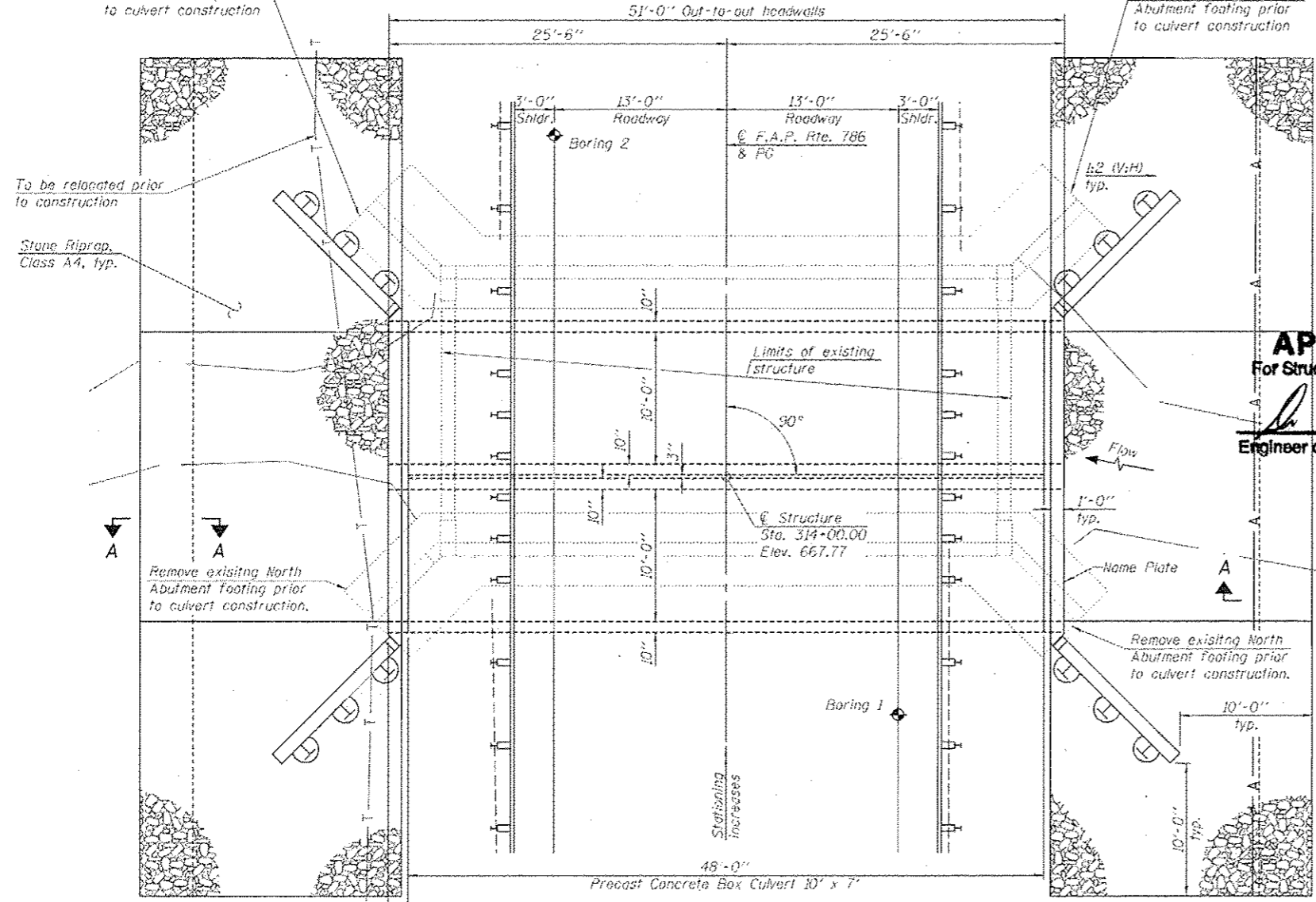
No Salvage



LONGITUDINAL SECTION

Remove existing South Abutment Footing prior to culvert construction

Remove existing South Abutment Footing prior to culvert construction



PLAN

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream 654.68	Downstream 654.61
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STATION 314+00.00  
BUILT 201 BY  
STATE OF ILLINOIS  
F.A.P. RTE. 786 SEC. 110BR-2  
LOADING HL-93  
STRUCTURE NO. 050-2055

NAME PLATE  
See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Stone Riprap, Class A4	Sq. yd.	267
Filter Fabric	Sq. yd.	267
Removal of Existing Structures No. 1	Each	1
Name Plates	Each	1
Box Culvert End Sections, Culvert No. 1	Each	2
Precast Concrete Box Culvert 10' x 7'	Foot	96.0
Membrane Waterproofing for Culverts	Sq. yd.	141.9

CULVERT CONSTRUCTION SEQUENCE

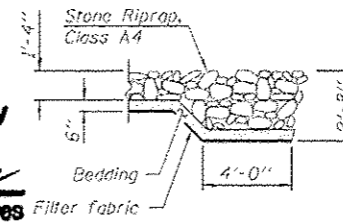
1. Remove existing structure.
2. Build cutoff wall.
3. Prepare bed.
4. Place precast box culvert sections.
5. Form and place concrete for portion of end sections to be cast onto precast box sections.
6. Drill soldier piles (May be completed prior to box placement).
7. Install timber lagging.
8. Place and compact backfill behind wall to top of timber lagging.
9. Place geocomposite wall drain.
10. Install shear stud connectors.
11. Place rebar and form wall face.
12. Cast concrete wingwall.
13. Remove temp. soldier pile and remaining timber outside wall limits.
14. Place remainder of backfill to proposed ground surface elevations on both sides of wall. (Backfill front of wall as much as possible before backfilling is completed.)

WATERWAY INFORMATION

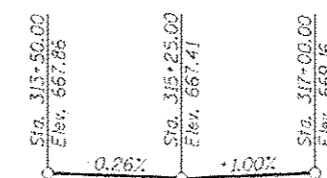
Drainage Area = 4.54 sq. mi.		Existing Low Grade Elev. 667.50 @ Sta. 314+39.88			
		Proposed Low Grade Elev. 667.62 @ Sta. 314+14.50			
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. Head - Ft.	Headwater El.
Design	10	418	136	140	665.2
Base	100	702	137	140	665.5
Overlapping	-	-	-	-	-
Max. Calc.	500	894	137	140	665.7

Existing 10-year velocity = 3.1 ft./sec.  
Proposed 10-year velocity = 3.0 ft./sec.

**APPROVED**  
For Structural Adequacy Only  
*Dr. Carl Ruyter*  
Engineer of Bridges & Structures

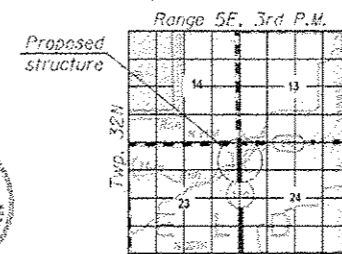


SECTION A-A



PROFILE GRADE

(Along E. F.A.P. Rte. 786)



LOCATION SKETCH

INDEX OF SHEETS

- 1 - General Plan & Elevation
- 2-4 - Box Culvert End Section Details
- 5 - Bar Splicer Assembly Details and Waterproofing Limits
- 6 - Soil Boring Logs

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition  
ASTM C1577

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 36,000$  psi (AASHTO M270, Grade 36)

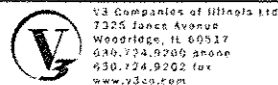
PRECAST UNITS

$f'_c = 5,000$  psi  
 $f_y = 65,000$  psi (Welded wire fabric)

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

GENERAL PLAN & ELEVATION  
IL. RTE. 170 OVER HOG RUN  
F.A.P. RTE. 786 - SEC. (110) BR-2  
LASALLE COUNTY  
STATION 314+00.00  
STRUCTURE NO. 050-2055



DESIGNED - CJB	REVISION
CHECKED - CCF	REVISION
DRAWN - CCF	REVISION
CHECKED - CJB	REVISION

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



SHEET NO. 1 OF 6 SHEETS

F.A.P. RTE. 786	SECTION (110) BR-2	COUNTY LASALLE	TOTAL SHEETS 69	SHEET NO. 28
			CONTRACT NO. 66B19	