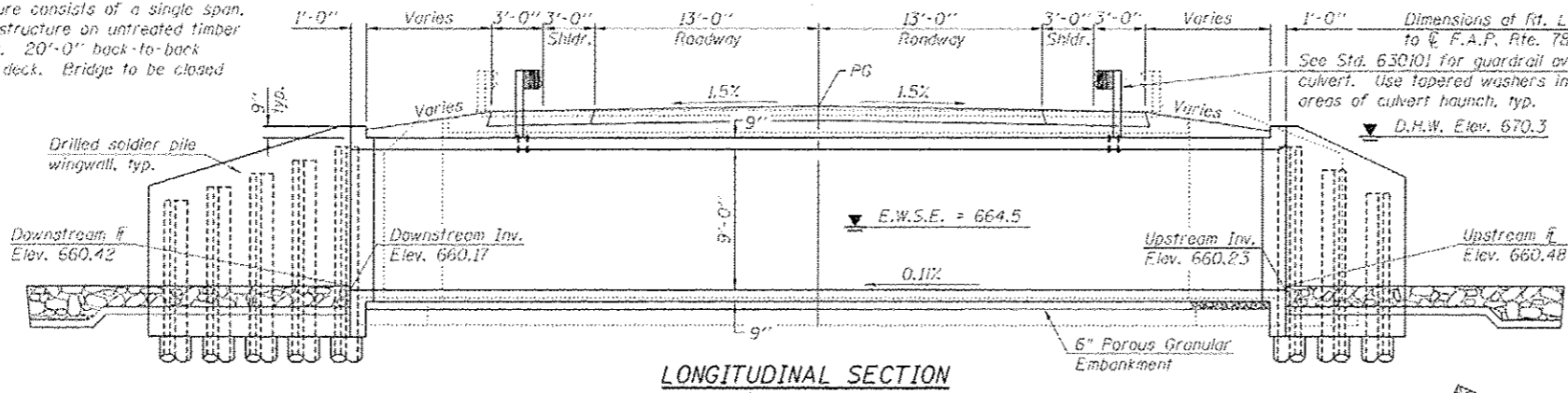
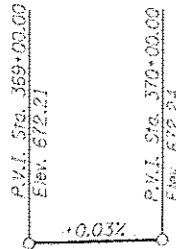


Benchmark: Chiseled "a" on southeast corner of headwall.
Sta. 369+17.89, 21.38' L.L., Elev. 672.43

Existing Structure: S.N. 050-0156 built in 1933 as S.R.I. Route 70A, Section 110-B. Existing structure consists of a single span, reinforced concrete deck superstructure on untreated timber pile supported closed abutments. 20'-0" back-to-back abutments. 43'-0" out-to-out deck. Bridge to be closed during construction.

No Salvage.



WATERWAY INFORMATION

Drainage Area = 3.1 sq. mi. Existing Low Grade Elev. 671.90 @ Sta. 369+25.63
Proposed Low Grade Elev. 672.03 @ Sta. 368+95.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater E.L.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	10	293	128	158	669.5	0.1	0.0	669.5	669.5
Base	50	433	156	162	670.3	0.3	0.2	670.5	670.5
Base	100	488	156	162	670.4	0.3	0.3	670.7	670.6
Overtopping									
Max. Calc.	500	619	156	162	670.5	0.6	0.5	671.1	671.0

Existing 10-year velocity = 2.3 ft./sec., Proposed 10-year velocity = 1.9 ft./sec.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Stone Riprap, Class A4	Sq. yd.	321
Filter Fabric	Sq. yd.	321
Removal of Existing Structures No. 2	Each	1
Name Plates	Each	1
Box Culvert End Sections, Culvert No. 2	Each	2
Precast Concrete Box Culvert 9' x 9'	Foot	114.0
Membrane Waterproofing for Culverts	Sq. yd.	152.2

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.)

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)
 $f_y = 35,000$ psi (AASHTO M270, Grade 36)

PRECAST UNITS

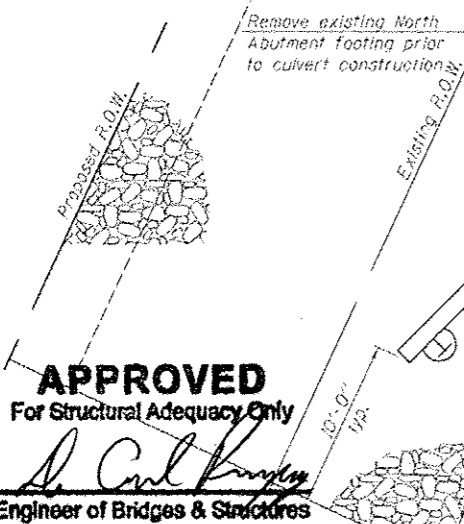
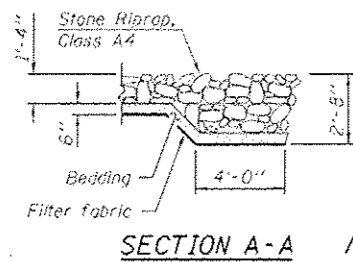
$f'_c = 5,000$ psi
 $f_y = 65,000$ psi (Welded wire fabric)

LOADING HL-93

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

GENERAL PLAN & ELEVATION
IL. RTE. 170 OVER
UNNAMED CREEK
F.A.P. RTE. 786 - SEC. (110) BR-3
LASALLE COUNTY
STATION 369+48.02
STRUCTURE NO. 050-2056

PROFILE GRADE
(Along F.A.P. Rte. 786)



DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	657.23	657.17

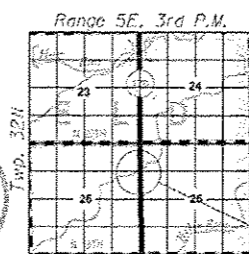
INDEX OF SHEETS

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

NAME PLATE

See Std. 515001

STATION 369+48.02
BUILT 201 BY
STATE OF ILLINOIS
F.A.P. RTE. 786 SEC. 110BR-3
LOADING HL-93
STRUCTURE NO. 050-2056



LOCATION SKETCH

APPROVED
For Structural Adequacy Only
S. Carl Krueger
Engineer of Bridges & Structures

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DESIGNED -	REVISOR
CJB	
CHECKED -	REVISOR
CCF	
DRAWN -	REVISOR
CCF	
CHECKED -	REVISOR
CJB	

SHEET NO. 1 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
786	(110) BR-3	LASALLE	69	34
				CONTRACT NO. 66B19

ILLINOIS F&E AID PROJECT