

BENCH MARK: CRA 18

South bolt on fire hydrant at Sta. 173+03.39, 92.89' Lt., Elev. 703.55

EXISTING STRUCTURE:

The structure was built as a single span reinforced concrete slab bridge on closed abutments. 14'-2 5/8" back to back abutments, 48'-8" out to out. Built in 1940 as F.A. Project 377, Section 39A. Structure to be removed and replaced.

Stage construction shall be utilized to maintain one lane of traffic during construction.

Salvage: none

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DESIGN SCOUR ELEVATION TABLE

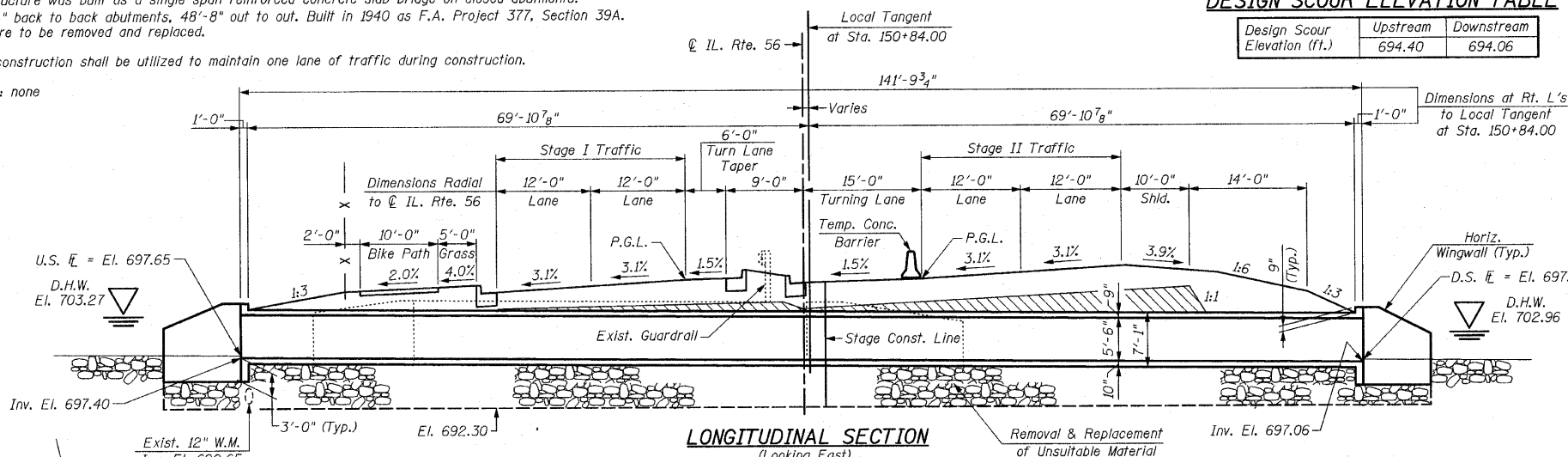
Design Scour Elevation (ft.)	Upstream	Downstream
	694.40	694.06

GENERAL NOTES:

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60, see Special Provisions. Layout of Slope Protection System may be varied in the field to suit ground conditions as directed by the Engineer.

The material used to replace the unsuitable material removed below the bottom of the proposed cast-in-place reinforced concrete box culvert and wingwalls shall be paid for as "Rockfill".

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before State I Removal to ensure the remaining portion will not be prematurely damaged. The limits and quantities of removal and replacement shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for varies subsurface conditions encountered in the field.



PROP. CURVE 2
(IL. RTE. 56)
P.I. = Sta. 152+72.86
Δ = 29°-07'-26" (Lt.)
D = 1°-43'-14"
R = 3,330.00'
T = 865.04'
L = 1,692.66'
E = 110.52'
e = 3.14%
T.P. = 72.61'
S.E. RUN = 114'
P.C. Sta. = 144+07.82
P.T. Sta. = 161+00.48

INDEX OF SHEETS

S1	GENERAL PLAN & ELEVATION
S2	STAGE CONSTRUCTION DETAILS
S3	REINFORCEMENT DETAILS-I
S4	REINFORCEMENT DETAILS-II
S5	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
S6	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
S7	SOIL BORING LOGS

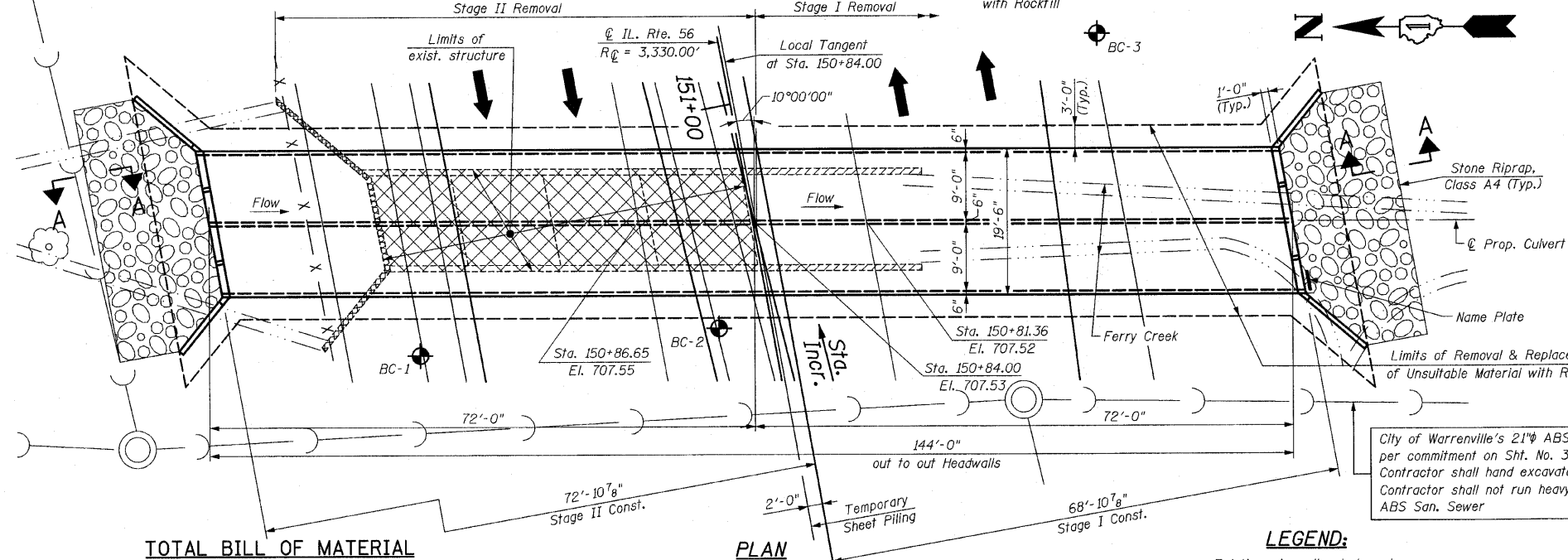
SECTION A-A

WATERWAY INFORMATION

Flood		Freq. Yr.	Q C.F.S.	Waterway Opening Existing	Waterway Opening Proposed	Natural H.W.E.	Created Head Existing	Created Head Proposed	Headwater Elevation Existing	Headwater Elevation Proposed
Design		10	160	49.3	81.9	702.19	0.15	0.00	702.34	702.19
Base		50	235	58.6	95.8	702.96	0.25	0.07	703.21	703.03
Overtopping		100	265	63.0	99.0	703.33	0.28	0.10	703.61	703.43
Max. Calc.		>500	-	-	-	-	-	-	-	-
Max. Calc.		500	350	77.4	99.0	704.53	0.33	0.24	704.86	704.77

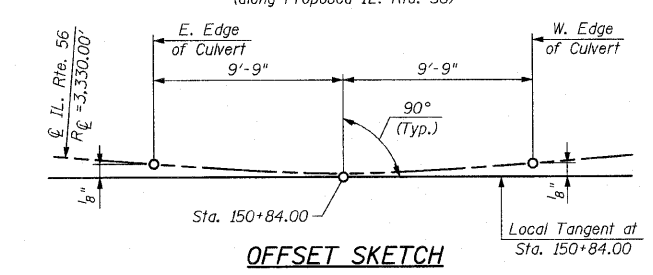
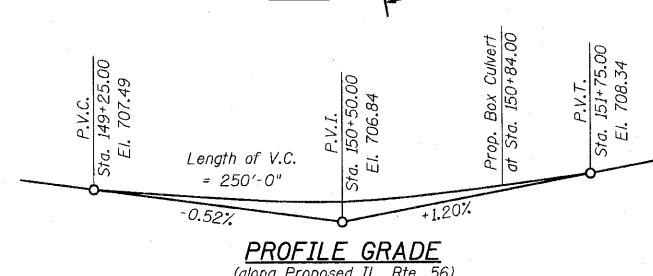
Drainage Area = 4.27 Sq. Mi. Low Grade Elev. 706.68 @ Sta. 149+50 Max. Recorded H.W.E. = 703.4

Comments: 1. NOTE: All elevations are in Highway Datum.
2. Datum Correlation: FIS Elevations = Highway Elevations + 0.36'.
3. All elevations from cross section 2.09, 10 feet upstream of the upstream face of the proposed structure.



TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Stone Riprap, Class A4	Sq Yd	100
Filter Fabric	Sq Yd	117
Removal of Existing Structures No. 1	Each	1
Removal and Disposal of Unsuitable Material for Structures	Cu Yd	662
Reinforcement Bars	Pound	53,440
Concrete Box Culverts	Cu Yd	222.1
Temporary Sheet Piling	Sq Ft	700
Rockfill	Cu Yd	662
Bar Splicers	Each	98
Name Plates	Each	1



LEGEND:

- Existing wingwalls at downstream end to be removed (Stage I Removal)
- Existing Bridge & wingwalls at upstream end to be removed (Stage II Removal)
- Porous Granular Embankment Subgrade between top of culvert and subgrade, see Roadway Plans
- Indicates Boring Locations

DESIGN SPECIFICATIONS

AASHTO 2002 Standard Specifications for Highway Bridges, 17th Edition

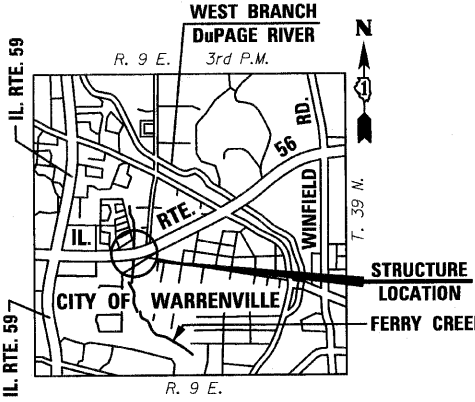
LOADING HS 20-44

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

DESIGN STRESSES

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

CR & A
CHRISTIAN-ROGE & ASSOCIATES, INC.
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211 WEST WACKER DRIVE
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PHONE: (312)372-2023 FAX: (312)372-5274



STATION 150+84
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. ROUTE 365
SECTION (58859) WRS-3
LOADING HS-20
STRUCTURE NO. 022-2025

NAME PLATE
See Std. 515001



Bhadesh N. Shah
BHADRESH N. SHAH 08/11/2010
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS LIC. No. 081-004476
EXPIRES: 11-30-10

GENERAL PLAN & ELEVATION
IL. ROUTE 56 OVER
FERRY CREEK
F.A.P. RTE. 365
SECTION (58859) WRS-3
DuPAGE COUNTY
STA. 150+84.00
STRUCTURE NO. 022-2025

DESIGNED -
CHECKED -
DRAWN -
CHECKED -

SHEET NO. S1	F.A. RTE. 365	SECTION (58859) WRS-3	COUNTY DuPAGE	TOTAL SHEETS 466	SHEET NO. 200
S7 SHEETS					CONTRACT NO. 62420
ILLINOIS FED. AID PROJECT					