

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RE-BUILT 2009 BY
VILLAGE OF DEERFIELD
SEC. 08-00081-00-BR
STATION 19+50.71
STR. NO. 049-6152 LOADING HS20

WATERWAY INFORMATION

Drainage Area = 3767 Ac.		Low Grade Elev. 658.91 @ Sta. 19+75.78			
Flood	Freq. Yr.	Opening C.F.S.	Sq. Ft. Nat. H.W.E.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.
	10	140	159.41		654.22 654.22
Design	30	232	191.30		655.23 655.23
Base	100	542	219.88		657.22 657.22
Overtopping					
Max. Calc.	500	916	226.98		658.82 658.82

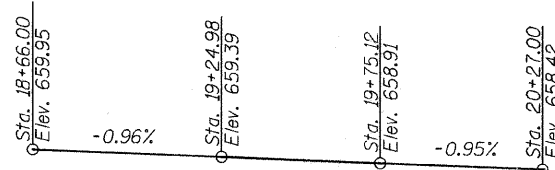
Benchmark:
BM #1 - Top of hydrant at Sta. 16+88.71, 32 ft. Lt.
Elev. 660.17

BM #2 - Top of hydrant at Sta. 21.26.71, 20 ft. Lt.
Elev. 660.54

Existing Structure: S/N. 049-6152 was originally built in 1968 by the Village of Deerfield. It consists of a single span 21" deep precast prestressed concrete deck beam superstructure. The superstructure is supported on closed concrete abutments founded on spread footings. The structure length measures 50'-1 3/4" from back-to-back of abutments and the roadway width measures 26'-0" from face-to-face of curb. The existing superstructure will be removed and replaced. The roadway will be closed during construction. Traffic will utilize a detour.

Salvage: Remove portions of the existing fence at each quadrant of the bridge to facilitate removal and replacement operations. The fence shall be reinstalled by the Contractor after all work is completed.

PROFILE GRADE LINE - HAZEL AVENUE



NAME PLATE

See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	L Sum	1		1
Concrete Removal	Cu. Yd.		4.8	4.8
Concrete Superstructure	Cu. Yd.	35.1		35.1
Bridge Deck Grooving	Sq. Yd.	115		115
Protective Coat	Sq. Yd.	232		232
* Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,565		1,565
* Reinforcement Bars, Epoxy Coated	Pound	4,360	670	5,030
Name Plates	Each	1		1
Concrete Sealer	Sq. Ft.		212	212
* Structural Repair of Concrete (Depth less than or equal to 5")	Sq. Ft.		71.0	71.0
Concrete Bridge Rail, Sidewalk Mounted	Foot	93		93
* Concrete Wearing Surface, 5"	Sq. Yd.	127		127
* Asbestos Bearing Pad Removal	Each	11		11

* See Special Provisions

GENERAL NOTES

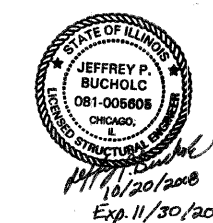
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
- Reinforcement bars designated (E) shall be epoxy coated.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- The existing superstructure has a ±4.3" bituminous concrete overlay that will be removed. Cost included with Removal of Existing Superstructure.
- Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.
- Contractor shall install two Village of Deerfield emblems provided by the Village at the locations shown. Cost included with Name Plates.

SCOPE OF WORK

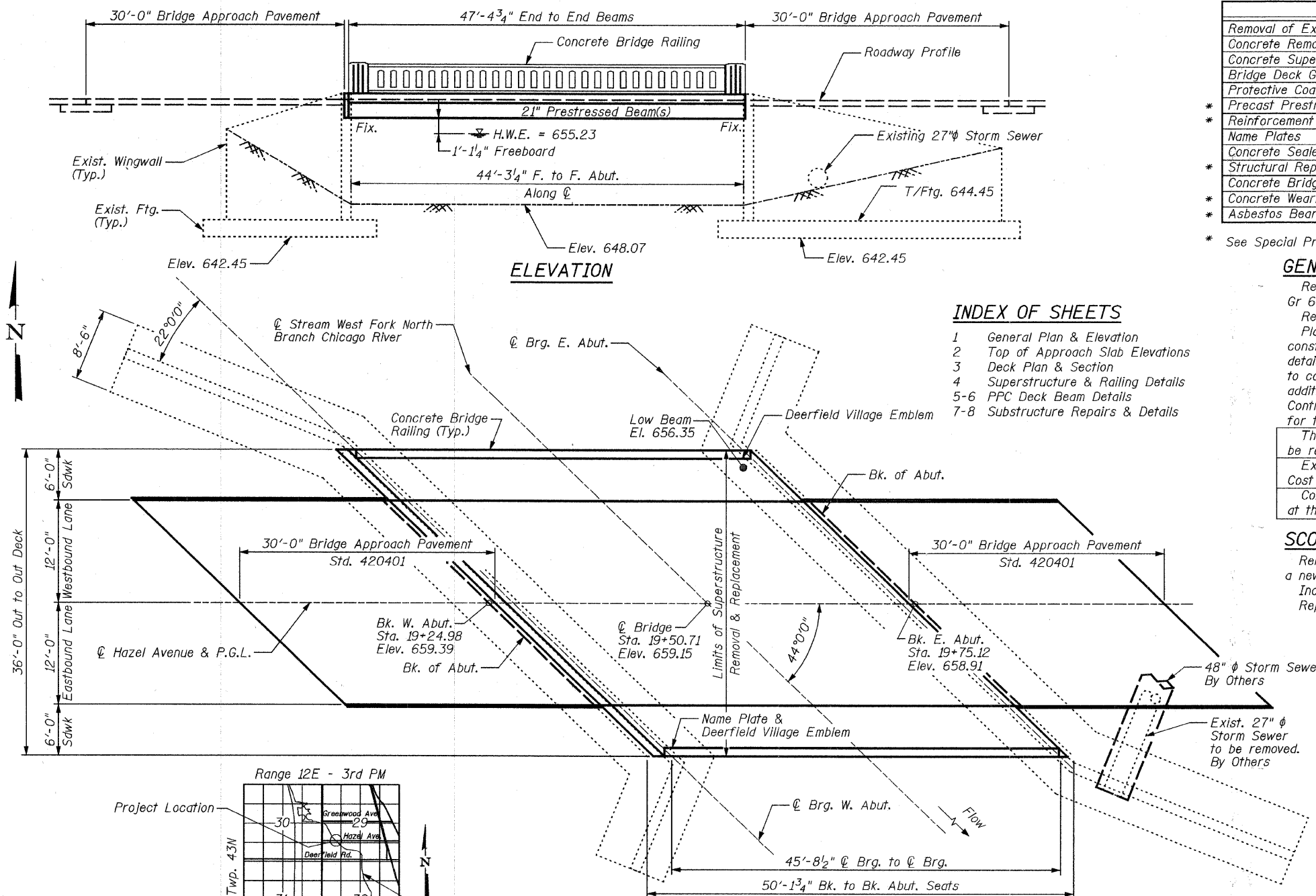
- Remove the existing superstructure and replace with new 21" PPC deck beams and a new 5" R.C. wearing surface.
- Incorporate new sidewalks and decorative bridge railings.
- Repair deteriorated concrete with Structural Repair of Concrete at each abutment.

DESIGN STRESSES

- FIELD UNITS
- f'c = 3,500 psi
 - fy = 60,000 psi (Reinforcement)
 - fy = 50,000 psi (M270 Grade 50)
- PRECAST PRESTRESSED UNITS
- f'c = 6,000 psi
 - f'ci = 5,000 psi
 - f's = 270,000 psi (1/2" φ low lax strands)
 - f'si = 201,960 psi (1/2" φ low lax strands)
- FIELD UNITS (EXISTING)
- f'c = 1,400 psi (Super)
 - f'c = 1,000 psi (Sub)
 - vc = 75 psi (Ftg)
 - fs = 20,000 psi (Reinforcement)



GENERAL PLAN & ELEVATION
STRUCTURE NO. 049-6152



INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 Top of Approach Slab Elevations
- 3 Deck Plan & Section
- 4 Superstructure & Railing Details
- 5-6 PPC Deck Beam Details
- 7-8 Substructure Repairs & Details

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coeff. (A) = 0.040g
Site Coefficient (S) = 1.0

SUPERSTRUCTURE LOADING HS 25

SUBSTRUCTURE LOADING HS 20

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



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DESIGNED	SCHSELBIAN
CHECKED	JBUCHOLC
DRAWN	SCHSELBIAN
CHECKED	JBUCHOLC

LOCATION SKETCH

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification

SHEET NO. 1	F.A.U. RTE. 1263	SECTION 08-00081-00-BR	COUNTY LAKE	TOTAL SHEETS 26	SHEET NO. 19
8 SHEETS	FED. ROAD DIST. NO. ILLINOIS		FED. AID PROJECT CONTRACT NO. 63085		