Benchmark: Top of wingwall at Northwest corner of existing bridge. S.N. 057-0054. Station 197+35.38, 30.2 ft. Rt. Elev. 760.71.

Existing Structure: S.N. 057-0054 was originally constructed in 1917 as Main St., Section 57.24-1. The original structure was a 3-span reinforced concrete bridge with closed concrete abutments. This structure was reconstructed in 1954, as SBI 2, Section 62-ZB at station 12+45.70. The existing structure is a 3-span C.I.P. concrete deck bridge, 55'-0" back-to-back of abutments and 45'-6" out-to-out of deck. The pier caps, abutment caps, and the top of the wing walls were removed and reconstructed to accommodate the new wider reinforced concrete slab superstructure. The channel bottom and side slopes up and down stream of the bridge, as well as through the bridge, are paved with concrete. Immediately adjacent to S.N. 057-0054 is a pedestrian bridge constructed prior to 1954, 65'-0" back-to-back of abutments and 4'-0" out-to-out of deck. Its abutments are attached to the wingwalls on the east side of S.N. 057-0054. The bridge is a 2-span steel beam bridge with P.C.C. deck on closed abutments. The existing structures will be removed and replaced with a three-span C.I.P. concrete slab bridge utilizing stage construction to maintain one lane of traffic.

No Salvage.

Design Scour Elevations (ft.)			
N. Abut.	Pier 1	Pier 2	S. Abut.
755.6	747.2	747.2	755.6

WATERWAY INFORMATION

Drainage Area = 16.3 sq. mi.   Low Grade Elev. 759.72 @ Sta. 195+00

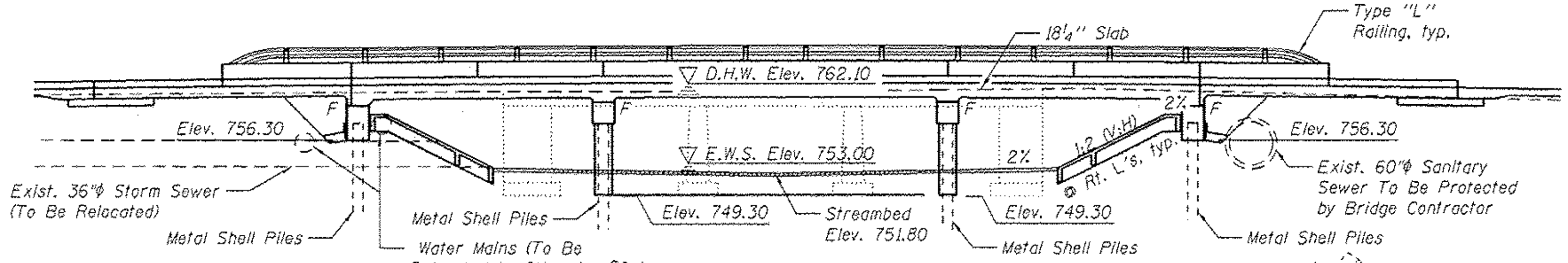
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	2,080	365	579	759.9	0.3	0.0	760.2	759.9
Design	50	3,235	365	599	762.1	0.3	0.1	762.4	762.2
Base	100	3,940	365	599	763.2	0.1	0.1	763.4	763.4
Overtopping (E)	10	2,080	365	-	759.9	0.3	-	760.2	-
Overtopping (P)	10	2,080	-	579	759.9	-	0.0	-	759.9

10 Yr. Velocity thru Exist. Bridge= 5.72 fps   10 Yr. Velocity thru Prop. Bridge= 3.55 fps

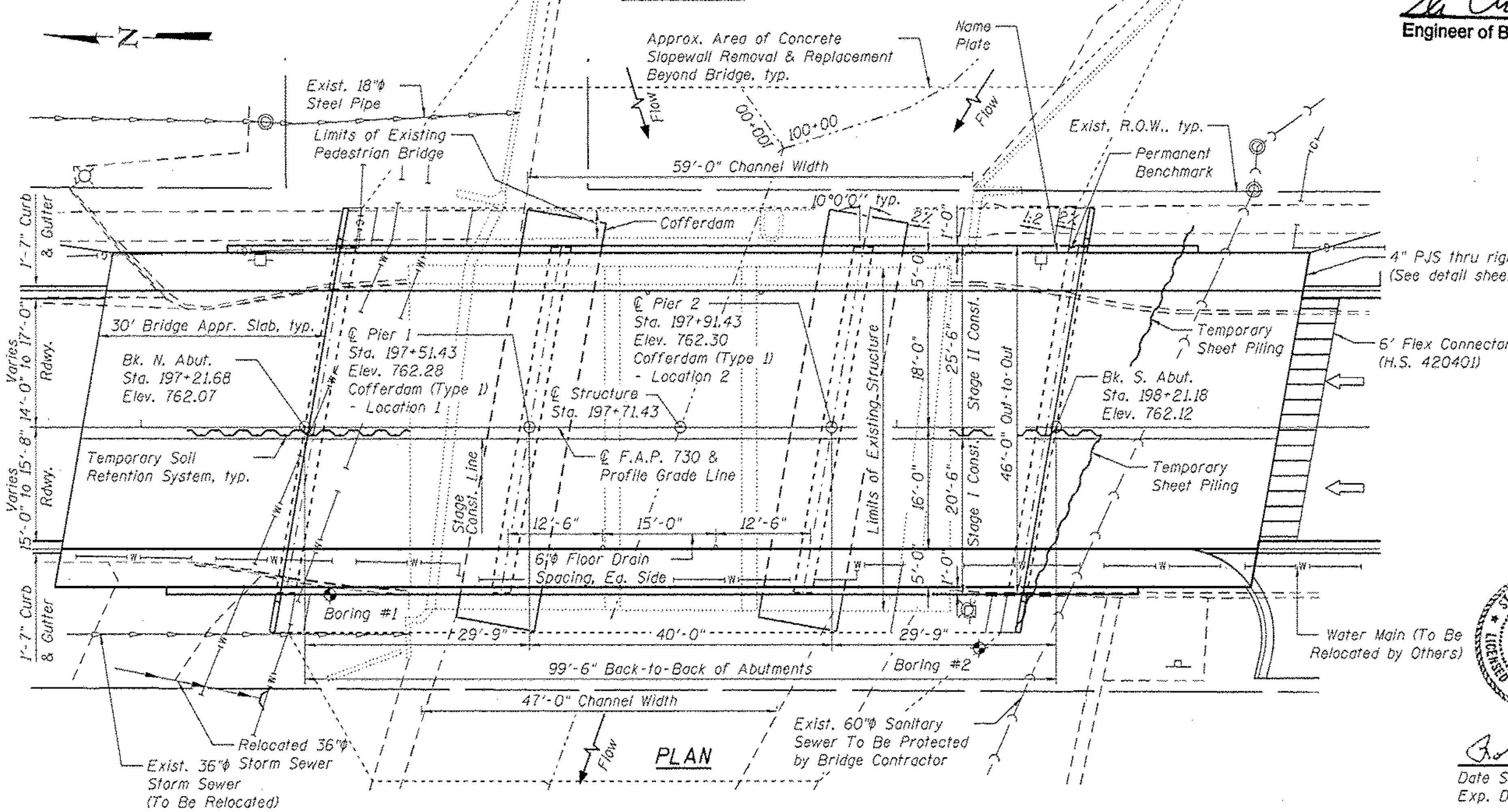
INDEX OF SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	-	-	1
Structure Excavation	Cu. Yd.	-	344	344
Cofferdam (Type 1) (Location - 1)	Each	-	1	1
Cofferdam (Type 1) (Location - 2)	Each	-	1	1
Floor Drains	Each	4	-	4
Concrete Structures	Cu. Yd.	-	149.3	149.3
Concrete Superstructure	Cu. Yd.	446.6	-	446.6
Bridge Deck Grooving	Sq. Yd.	564	-	564
Protective Coat	Sq. Yd.	872	14	886
Reinforcement Bars, Epoxy Coated	Pound	116,660	19,850	136,510
Aluminum Railing, Type L	Foot	253	-	253
Bar Splicers	Each	431	134	565
Furnishing Metal Shell Piles 14"x0.250"	Foot	-	1,014	1,014
Driving Piles	Foot	-	1,014	1,014
Test Pile Metal Shells	Each	-	4	4
Pile Shoes	Each	-	32	32
Name Plates	Each	1	-	1
Geocomposite Wall Drain	Sq. Yd.	-	53	53
Sanitary Sewer Television Inspection, Videotaping and Recording	Foot	-	-	430
Granular Backfill for Structures	Cu. Yd.	-	113	113
Concrete Structures (Special)	Cu. Yd.	-	59.9	59.9
Temporary Sheet Piling	Sq. Ft.	-	890	890
Diamond Grinding (Bridge Section)	Sq. Yd.	570	-	570
Pipe Underdrains for Structures 4"	Foot	-	134	134
Temporary Soil Retention System	Sq. Ft.	-	320	320
Slope Wall 4"	Sq. Yd.	-	971	971

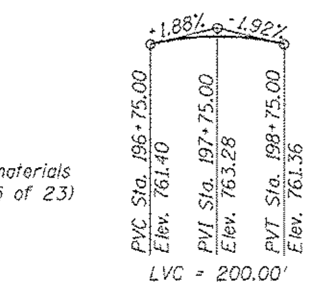


ELEVATION



PLAN

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



PROFILE GRADE

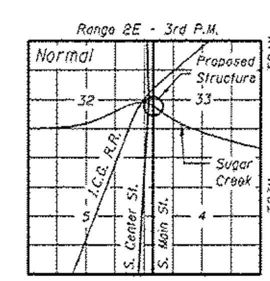
(along ℄ Roadway)

Notes:
Up to ¼ inch will be ground off the bridge slab and bridge approach slab.

The Profile Grade shows final elevations after grinding.

STATE OF ILLINOIS
ROBERT A. LEE
081-005246
CHICAGO, IL
LICENSED STRUCTURAL ENGINEER

Date Signed: 9-30-2014
Exp. Date: 11-30-2014



LOCATION SKETCH

STATION 197+71.43
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P RT. 730 SEC. 62-ZBR
LOADING HL-93
STRUCTURE NO. 057-0256

NAME PLATE

See Std. 515001

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

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

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.121
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.198
Soil Site Class = D

GENERAL PLAN AND ELEVATION
US BUS 51 NB OVER SUGAR CREEK
F.A.P. RTE. 730 - SEC. 62-ZBR
MCLEAN COUNTY
STATION 197+71.43
STRUCTURE NO. 057-0256

USER NAME = FEI		DESIGNED - VPT	REVISED
		CHECKED - JAF	REVISED
PLOT SCALE = 20.0.0023 '/' / in.		DRAWN - JAF	REVISED
PLOT DATE = 9/30/2014	2:06:15 PM	CHECKED - VPT	REVISED

FUHRMANN ENGINEERING INC.
2652 South 11th Street
Springfield, Illinois 62703
(217) 529-5577

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
730	62-ZBR	MCLEAN	65	28
		CONTRACT NO. 70540		

ILLINOIS FED. AID PROJECT