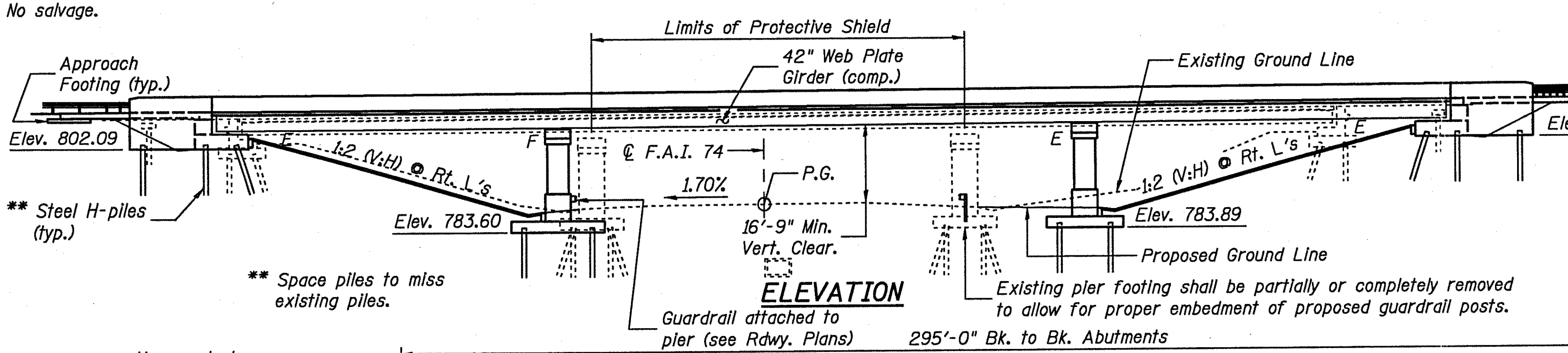
B.M. 4848-4: Chiseled square on NE wing of SN 057-0005, Elev. 812.26.

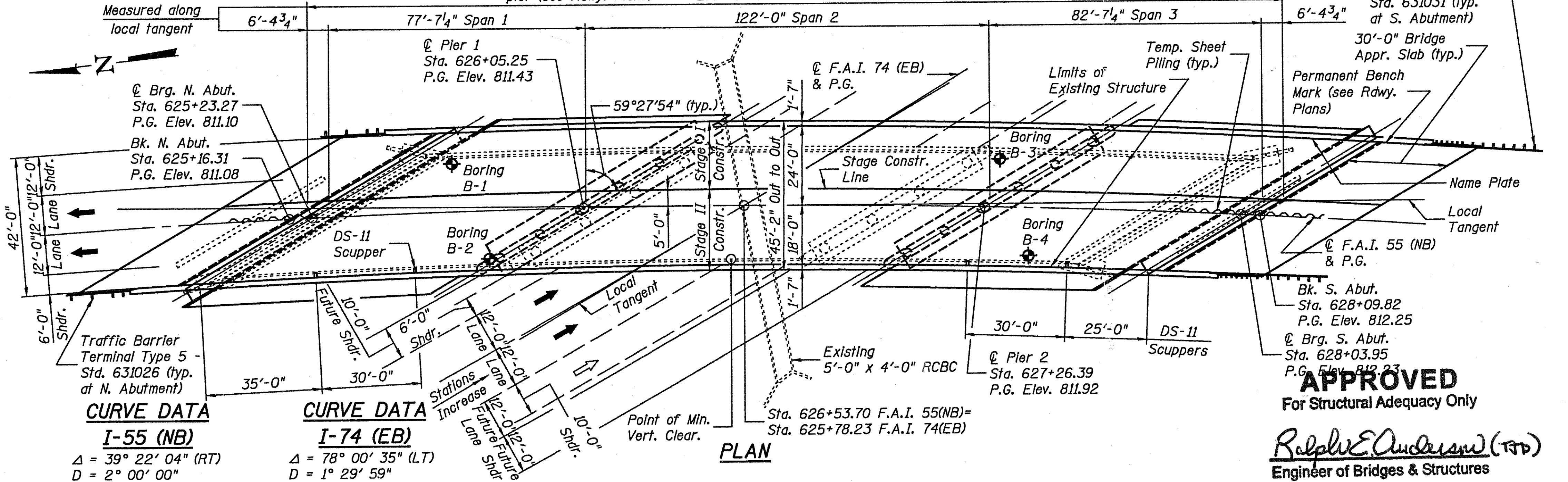
EXISTING STRUCTURE: S.N. 057-0005, originally constructed in 1964 as FAI 55 Sec. 57-7HB-1 at Station 626+53.53, using steel beams with 7" concrete deck, 3 simple spans, 258'-6$^3_8$" back-back abutments, 35'-8" out-out width, stub abutments on concrete piles, multi-column piers with footings on timber piles. In 1991 the bridge was rehabilitated as FAI-55, Sec. 57-7HBR-1. The bridge deck was replaced and the substructure was repaired.

Existing structure shall be removed and replaced using staged construction to maintain one lane of traffic. No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



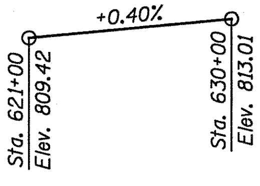
PLAN

CURVE DATA
I-55 (NB)

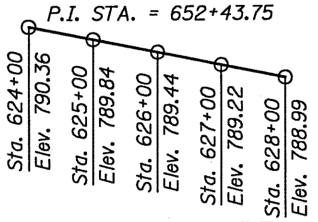
Δ = 39° 22' 04" (RT)
D = 2° 00' 00"
R = 2,864.78'
T = 1,024.83'
L = 1,968.38'
E = 177.79'
S.E. = 3.10%
P.C. STA. = 608+95.37
P.T. STA. = 628+63.75
P.I. STA. = 619+20.20

CURVE DATA
I-74 (EB)

Δ = 78° 00' 35" (LT)
D = 1° 29' 59"
R = 3,820.35'
T = 3,094.20'
L = 5,201.51'
E = 1,095.86'
S.E. = 1.70%
P.C. STA. = 621+49.55
P.T. STA. = 673+51.06
P.I. STA. = 652+43.75

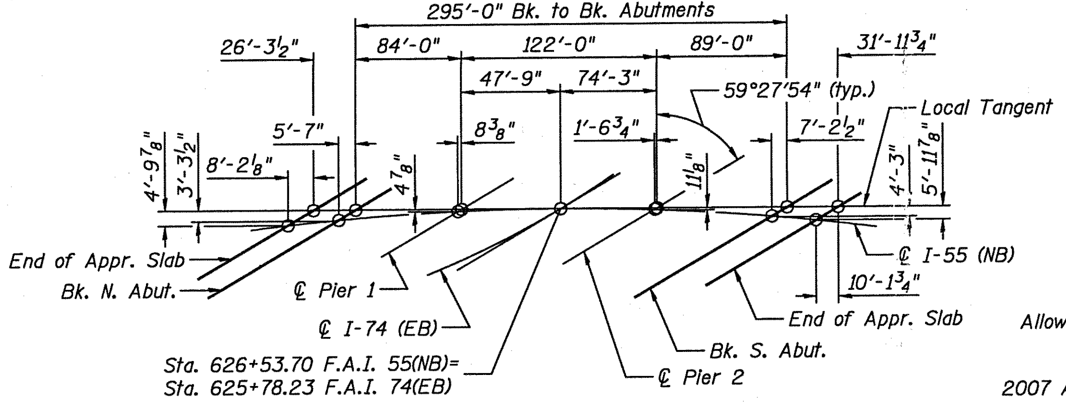


PROFILE GRADE
F.A.I. 55 (NB)



PROFILE GRADE
F.A.I. 74 (EB)

The profile grade shows the final elevations after grinding. Up to $^1_4$" will be ground off the bridge deck and approach slab.



OFFSET SKETCH

INDEX OF SHEETS

APPROVED
For Structural Adequacy Only

Ralph E. Anderson (TDD)
Engineer of Bridges & Structures

STATION 626+53.70
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RTE. 55 SEC. (57-7HB-1)BR
LOADING HL-93
STR. NO. 057-0250

NAME PLATE

See Std. 515001

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 & 2009 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.13g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.21g
Soil Site Class = D

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $^7_8$ in. ϕ, holes $^{15}_{16}$ in. ϕ, unless otherwise noted.

All structural steel shall be AASHTO M 270 Grade 50, unless noted otherwise.

Calculated weight of Structural Steel = 319740 lbs.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions. Reinforcement bars designated (E) shall be epoxy coated.

Slipforming of the parapets is not allowed.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of $^1_8$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Concrete Sealer shall be applied to the designated areas of the Abutments (exposed surfaces of beam seats, backwall and front/sides of cap) and Piers (all exposed surfaces).

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

The Organic Zinc Rich Primer / Epoxy / Urethane paint system shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that the exterior surfaces and bottom of the bottom flange of the fascia beams, masked off connection surfaces, and field installed fasteners, all of which shall be touched up and finish coated in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No. 2.5YR 3/4. See Special Provision for "Cleaning and Painting New Metal Structures".

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu Yd	--	296	296
Removal Of Existing Structures	Each	1	--	1
Protective Shield	Sq Yd	344	--	344
Structure Excavation	Cu Yd	--	1581	1581
Concrete Structures	Cu Yd	--	666.6	666.6
Concrete Superstructure	Cu Yd	577.4	--	577.4
Bridge Deck Grooving	Sq Yd	1534	--	1534
Concrete Encasement	Cu Yd	--	14.7	14.7
Protective Coat	Sq Yd	1926	--	1926
Stud Shear Connectors	Each	5625	--	5625
Reinforcement Bars, Epoxy Coated	Pound	144790	61820	206610
Bar Splicers	Each	1306	242	1548
Slope Wall 4 Inch	Sq Yd	--	919	919
Furnishing Steel Piles HP12x53	Foot	--	2640	2640
Driving Piles	Foot	--	2640	2640
Test Pile Steel HP12x53	Each	--	4	4
Pile Shoes	Each	--	23	23
Temporary Sheet Piling	Sq Ft	--	1151	1151
Name Plates	Each	1	--	1
Preformed Joint Strip Seal	Foot	184	--	184
Elastomeric Bearing Assembly, Type I	Each	--	12	12
Elastomeric Bearing Assembly, Type II	Each	--	6	6
Anchor Bolts, 1"	Each	--	24	24
Anchor Bolts, 1$^1_2$"	Each	--	24	24
Concrete Sealer	Sq Ft	--	6575	6575
Geocomposite Wall Drain	Sq Yd	--	145	145
Pipe Underdrains For Structures 4"	Foot	--	215	215
Braced Excavation	Cu Yd	--	114	114
Drainage Scuppers, DS-11	Each	4	--	4
Diamond Grinding (Bridge Section)	Sq Yd	1457	--	1457
Furn. And Erecting Struct. Steel Bridge No. 1	L Sum	1	--	1
Mechanical Splicers	Each	--	120	120

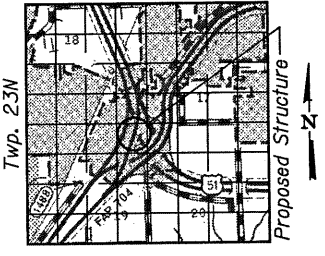
GENERAL NOTES (Cont'd)

The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.

Braced Excavation shall be provided for Pier 1 adjacent to the I-74 (EB) shoulder, see Special Provisions.

Protective Shield shall be provided for the full width of the bridge deck, over the roadway below from edge of shoulder to edge of shoulder.

Range 2E - 3rd PM



LOCATION SKETCH

GENERAL PLAN & ELEVATION
I-55 (NB) OVER I-74 (EB)
F.A.I. RTE. 55 SECTION (57-7HB-1)BR
MCLEAN COUNTY
STATION 626+53.70
STRUCTURE NO. 057-0250

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	DCD	DRAWN:	P. Ray
CHECKED:	CMV	CHECKED:	CMV/DCD

DAVID C. DEPP
081-005117

Signed: David Depp
Date: 8-31-2010
Lic. Expires: 11-30-2010

SHEET 1 OF 27	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	(57-7HB-1)BR	MCLEAN	153	51
	STA. 626+53.70		CONTRACT NO. 70520		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PRINT DATE: 08/25/2010 15:05:49 SAVE DATE: 8/25/2010 USER: DCD FILE: J:\JDQ\10169 IL-D5 I-55NB McLean\I-55NB-I74EB\0570250-70520-001-gplan.dgn