

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 776	(116BR-118-1)	HAMILTON	140	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
25 SHEETS

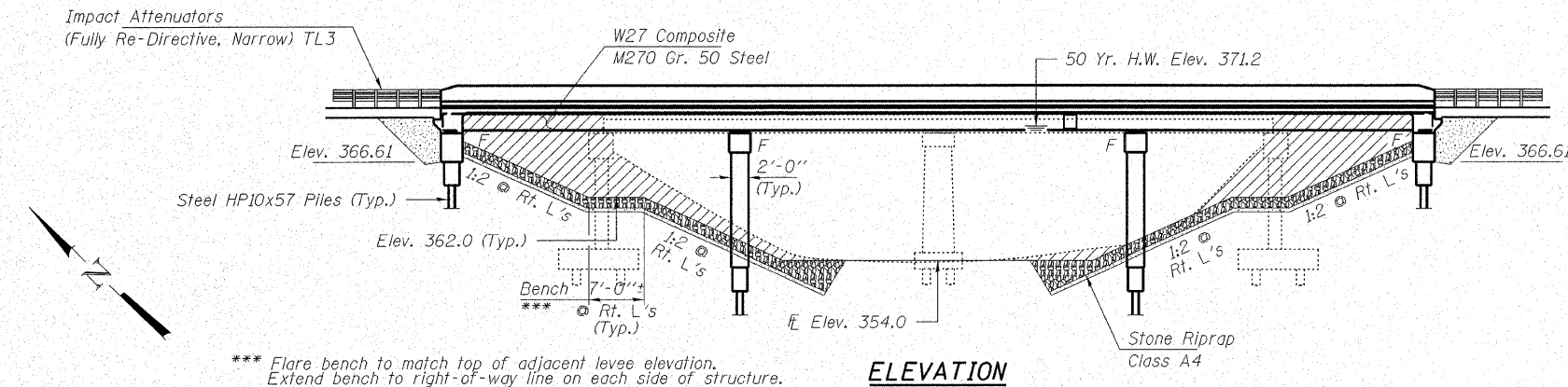
GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 7/8" φ, holes 15/16" φ, unless otherwise noted. Calculated weight of Structural Steel = 71,930 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 (IL Modified). See Special Provisions. Reinforcement bars designated (E) shall be epoxy coated. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. 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 Interstate Green, Munsell No. 7.5G 4/8. See Special Provisions for "Cleaning and Painting New Metal Structures". Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. The contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles. Two 3/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure. Slipforming of the parapets is not allowed.

Benchmark: Chiseled square on top of wingwall on NE corner of Bridge 033-0020, 17.6' Lt., Elev. 370.60.

Existing Structure: SN 033-0020 was originally built in 1928. The superstructure was replaced and the substructure widened in 1976. The structure consists of 2 spans of PPC deck beams on closed abutments and solid shaft piers, supported on timber piles. The bridge is 86'-6 1/2" bk.-bk. abuts. and 33'-0" o.-o. deck. Existing structure is to be removed and replaced. One lane of traffic will be maintained utilizing stage construction.

No salvage.

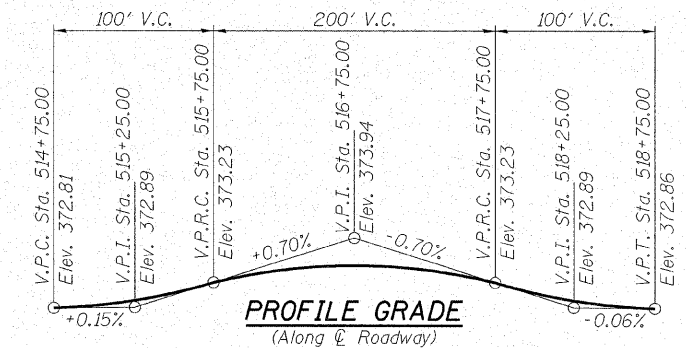


*** Flare bench to match top of adjacent levee elevation. Extend bench to right-of-way line on each side of structure.

ELEVATION

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

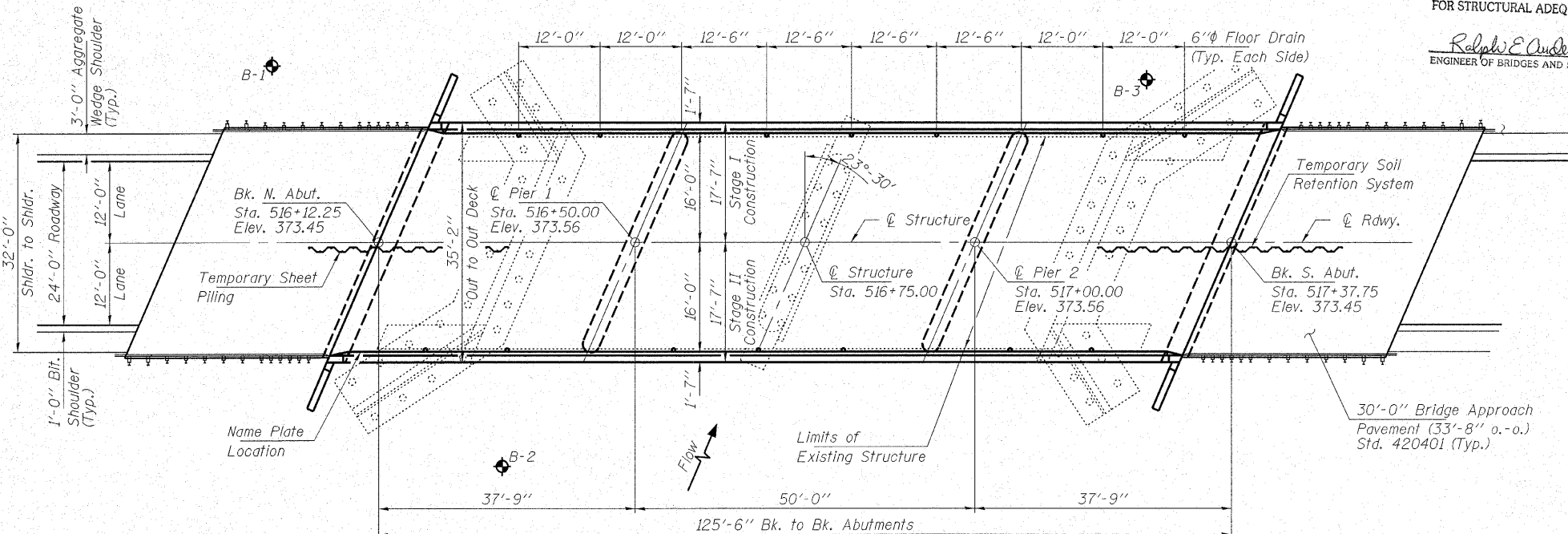
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



PROFILE GRADE
(Along Centerline of Roadway)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		85	85
Stone Riprap, Class A4	Sq. Yd.		920	920
Filter Fabric	Sq. Yd.		920	920
Removal of Existing Structures No. 1	Each		1	1
Structure Excavation	Cu. Yd.		236	236
Floor Drains	Each	14		14
Concrete Structures	Cu. Yd.		127.4	127.4
Concrete Superstructure	Cu. Yd.	155.7		155.7
Bridge Deck Grooving	Sq. Yd.	446		446
Concrete Encasement	Cu. Yd.		8.0	8.0
Protective Coat	Sq. Yd.	566		566
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	2,556	192	2,748
Reinforcement Bars, Epoxy Coated	Pound	34,510	13,120	47,630
Bar Splicers	Each	432	88	520
Furnishing Steel Piles HP10x57	Foot		1,540	1,540
Driving Piles	Foot		1,540	1,540
Test Pile Steel HP10x57	Each		2	2
Temporary Sheet Piling	Sq. Ft.		540	540
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		54	54
Pipe Underdrains for Structures 4"	Foot		144	144
Temporary Soil Retention System	Sq. Ft.		224	224
Underwater Structure Excavation Protection Location 1	Each		1	1
Underwater Structure Excavation Protection Location 2	Each		1	1
Anchor Bolts, 1" φ	Each		48	48
Mechanical Splice	Each		96	96
Asbestos Bearing Pad Removal	Each		44	44



PLAN

WATERWAY INFORMATION

Drainage Area = 58 Sq. Mi.		Exist. Low Grade Elev. = 370.9 Ft. @ Sta. 526+75		Prop. Low Grade Elev. = 370.9 Ft. @ Sta. 526+75						
Flood Frequency	Q cfs		Opening Sq. Ft.		Head-Ft.		Headwater El.			
	Exist.	Prop.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.	
10 Yr	SN 033-0050	3971	3971	876	896	369.8	0.2	0.1	370.0	369.9
	SN 033-0051	466	511	381	409	366.4	0.1	0.1	366.5	366.5
	SN 033-0052	527	482	387	414	366.4	0.1	0.1	366.5	366.5
	Total	4964	4964	1644	1719					
Design 50 Yr	SN 033-0050	4635	4635	901	925	371.2	0.3	0.2	371.5	371.4
	SN 033-0051	1242	1267	684	709	371.0	0.1	0.1	371.1	371.1
	SN 033-0052	1253	1228	684	718	371.0	0.1	0.1	371.1	371.1
	Total	7130	7130	2269	2352					
Base 100 Yr	SN 033-0050	5245	5298	901	925	371.9	0.6	0.6	372.5	372.5
	SN 033-0051	1386	1388	684	709	371.7	0.1	0.0	371.8	371.7
	SN 033-0052	1399	1344	684	718	371.7	0.1	0.0	371.8	371.7
	Total	8030	8030	2269	2352					
Overtopping 50 Yr	SN 033-0050	4635	4635	901	925	371.2	0.3	0.2	371.5	371.4
	SN 033-0051	1242	1267	684	709	371.0	0.1	0.1	371.1	371.1
	SN 033-0052	1253	1228	684	718	371.0	0.1	0.1	371.1	371.1
	Total	7130	7130	2269	2352					
Max Calc 500 Yr	SN 033-0050	4903	4988	901	925	372.1	0.5	0.5	372.6	372.6
	SN 033-0051	2594	2605	684	709	372.4	0.2	0.2	372.6	372.6
	SN 033-0052	2619	2523	684	718	372.4	0.2	0.2	372.6	372.6
	Total	10116	10116	2269	2352					

LOADING HS20-44

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

DESIGN SPECIFICATIONS
2002 AASHTO & all applicable interims.

DESIGN STRESSES

FIELD UNITS

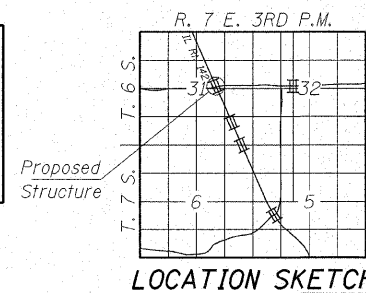
f_c = 3,500 psi
f_y = 60,000 psi (reinforcement)
f_y = 50,000 psi (structural steel) (M270 Grade 50)

SEISMIC DATA

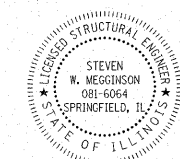
Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.10
Site Coefficient (S) = 2.0

STATION 516+75
BUILT 200_ BY
STATE OF ILLINOIS
FAP RTE 776
SEC (116BR-118-1)
LOADING HS20
STRUCTURE NO. 033-0050

NAME PLATE
See Std. 515001



LOCATION SKETCH



Expires 11-30-08

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-41-0021-1 DATE: 10/25/07
DESIGNED: P.L. CHECKED: S.W.M. DRAWN: D.T.M.

GENERAL PLAN & ELEVATION

IL ROUTE 142 OVER CONTRARY CREEK
F.A.P. ROUTE 776 - SECTION (116BR-118-1)
HAMILTON COUNTY
STRUCTURE NO. 033-0050 / STATION 516+75