

BENCH MARKS:

BM. 1:
DuPage County Benchmark WA18001 Elev. 748.26
Disk set in top of concrete headwall
0.50 miles Northwest along PATH from Powis Road.

BM. 2:
RR Spike N. side of Army Trail Road, Elev. 764.98
across from Prairie Path Trail Lot at 31W714.

No existing Structure.

NOTES FOR PREFABRICATED PEDESTRIAN TRUSS SUPERSTRUCTURE

The work shall consist of design, fabrication, storage, delivery and erection of a welded steel pedestrian truss superstructure. Also included in this work shall be the furnishing and installation of Galvanized Floor Deck for concrete, all bearings, anchors and/or retainers, railings, fencing and miscellaneous items as indicated on the plans.

MATERIALS:

Unpainted weathering steel.

Bridges which are not painted shall be fabricated from high strength, low alloy, atmospheric corrosion resistant ASTM A847 coldformed welded square and rectangular tubing and/or ASTM A588, ASTM A 606 plate structural steel shapes (Fy = 50,000 psi). The minimum corrosion index of atmospheric corrosion resistant steel, as determined in accordance with ASTM G101, shall be 5.8.

BOLTS:

Field splices shall be fully bolted with ASTM A325 Type 3 high strength bolts in accordance with the "Specifications for Structural Joints Using ASTM A325 or A490 Bolts".

WELDING:

Welding and weld procedure qualification tests shall conform to the provisions of ANSI/AWS D1.1 "Structural Welding Code", 1996 Edition. For exposed, bare unpainted applications of corrosion resistant steels (i.e. ASTM A588 and A847) the filler metal shall be in accordance with AWS D1.1, Section 3.7.3.

FINISHES:

All exposed surfaces of Weathering Steel Bridges shall be sandblasted in accordance with the Steel Structures Painting Council (SSPC) Surface Preparation Specifications No. 6 "Commercial Blast Cleaning". The ends (5'-0") of the Truss shall be painted according to the Special Provision, "Surface Preparation and Painting Requirements for Weathering Steel".

CONCRETE FLOORS:

Concrete Floors shall be completely formed by the bridge manufacturer with a minimum of 22 gauge galvanized floor deck. The floor deck shall be manufactured by a member of the Steel Deck Institute or have their deck properties certified by the Steel Deck Institute. The pouring and finishing of 3,500 psi lightweight concrete (no additives allowed) and the furnishing of the reinforcement shall be the responsibility of the contractor. The Contractor shall apply a Membrane Curing Compound, Type 1 in accordance with Article 1022.01 of the Standard Specifications. The cost shall be considered as included in the Unit Bid Price for the "Concrete Superstructure".

Concrete Deck design shall be performed by the Bridge Manufacturer.

DESIGN SPECIFICATIONS

AASHTO 1997 "Guide Specifications for Design of Pedestrian Bridges".
AASHTO 2002, 17TH Edition.
Standard Specifications for Road and Bridge Construction, adopted January 1, 2007 by the Illinois Department of Transportation.
Supplemental Specifications and Recurring Special Provisions, adopted January 1, 2009 by the Illinois Department of Transportation.

LIVE LOAD DEFLECTION

Limited to span length/400

DESIGN LOADINGS

Live Load = 85psf (or H20 AASHTO Truck)
Wind Load = 35psf on the full vertical projected area of the bridges, as if enclosed.

DESIGN STRESSES

FIELD UNITS

f_c = 3,500 psi
f_y = 60,000 psi (Reinforcement)
f_s = 27,000 psi (AASHTO M270 Grade 50W)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient = 0.039g
Site Coefficient (S) = 1.0

GENERAL NOTES:

Reinforcement Bars shall conform to the requirements of ASTM A706, Grade 60. See Special Provisions.

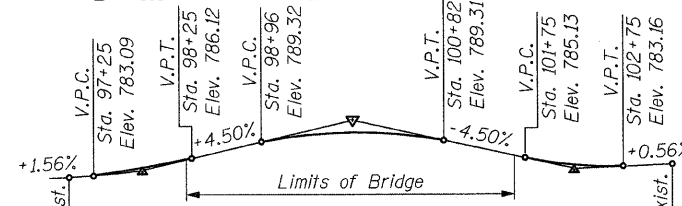
The Contractor shall drive Test Piles to 110 percent of the Nominal Required Bearing specified in Production Locations at Substructures specified or approved by the Engineer before ordering the remainder of Piles.

Concrete Sealer shall be applied to designated areas of the Abutments and Piers.

Reinforcement Bars designated (E) shall be Epoxy Coated.

Cost for Safety Fence (Vinyl Coated) included in the contract unit price for Pedestrian Truss Superstructure.

V.P.I. Sta. 97+75 Elev. 783.87 L.V.C. = 100' E = 0.37'
V.P.I. Sta. 99+89 Elev. 793.50 L.V.C. = 186' E = 2.09'
V.P.I. Sta. 102+25 Elev. 782.88 L.V.C. = 100' E = 0.63'

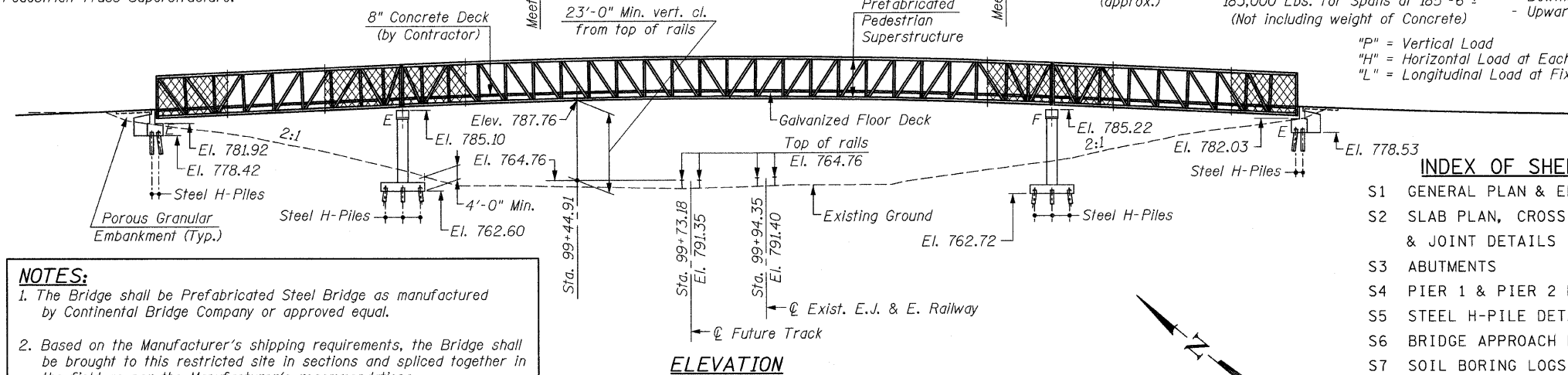


BRIDGE REACTIONS (FOR INFORMATION ONLY)

	● EACH ABUTMENT			● EACH PIER		
	P (LBS.)	H (LBS.)	L (LBS.)	P (LBS.)	H (LBS.)	L (LBS.)
Dead Load (approx.)	+70,350	-	-	+257,900	-	-
Uniform Live Load	+39,900	-	-	+138,500	-	-
Vehicle Load	+40,000	-	-	+40,000	-	-
Wind Uplift 20 p.s.f.	-16,312	-	-	-57,000	-	-
Thermal	+15,730	+16,000	-	+58,950	+55,500	-
	-	-	+10,560	-	-	+38,700

Bridge Lifting Weight = 81,000 Lbs. for Spans at 70'-0"±
183,000 Lbs. for Spans at 185'-6"± + Downward Load
(approx.) (Not including weight of Concrete) - Upward Load

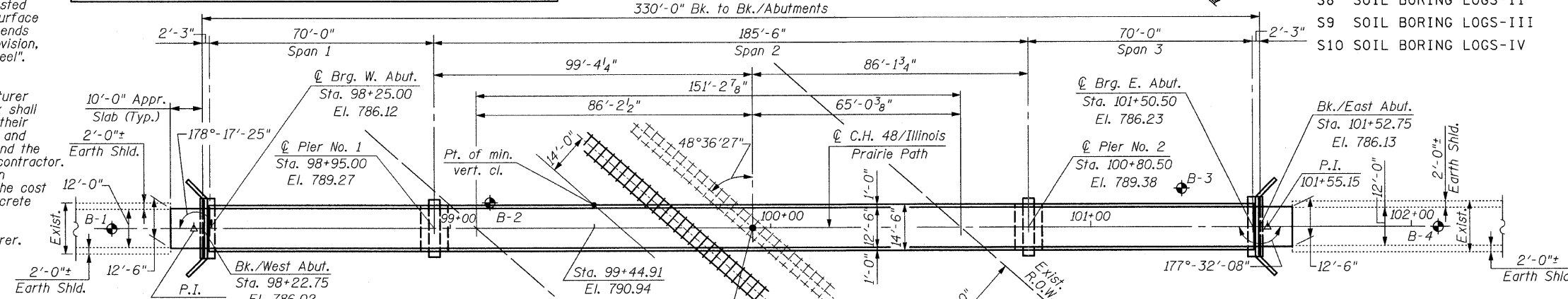
"P" = Vertical Load
"H" = Horizontal Load at Each Footing
"L" = Longitudinal Load at Fixed Bearing



NOTES:
1. The Bridge shall be Prefabricated Steel Bridge as manufactured by Continental Bridge Company or approved equal.
2. Based on the Manufacturer's shipping requirements, the Bridge shall be brought to this restricted site in sections and spliced together in the field as per the Manufacturer's recommendations.

INDEX OF SHEETS

- S1 GENERAL PLAN & ELEVATION
- S2 SLAB PLAN, CROSS SECTION & JOINT DETAILS
- S3 ABUTMENTS
- S4 PIER 1 & PIER 2 DETAILS
- S5 STEEL H-PILE DETAILS
- S6 BRIDGE APPROACH PAVEMENT
- S7 SOIL BORING LOGS-I
- S8 SOIL BORING LOGS-II
- S9 SOIL BORING LOGS-III
- S10 SOIL BORING LOGS-IV



TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structure Excavation	Cu. Yd.	196
Concrete Structures	Cu. Yd.	96.0
Concrete Superstructure	Cu. Yd.	98.5
Reinforcement Bars, Epoxy Coated	Pound	31,250
Concrete Sealer	Sq. Ft.	1,410
Pedestrian Truss Superstructure	Sq. Ft.	4,736
Porous Granular Embankment, Special	Cu. Yd.	48
Name Plates	Each	1
Preformed Joint Strip Seal	Foot	25
Furnishing Steel Piles HP 10x42	Foot	2,696
Driving Piles	Foot	2,696
Test Pile Steel HP 10x42	Each	4
Bridge Approach Pavement	Sq. Yd.	27.8
Geocomposite Wall Drain	Sq. Yd.	30
Pipe Underdrain For Structures, 4"	Foot	46

*See Special Provisions

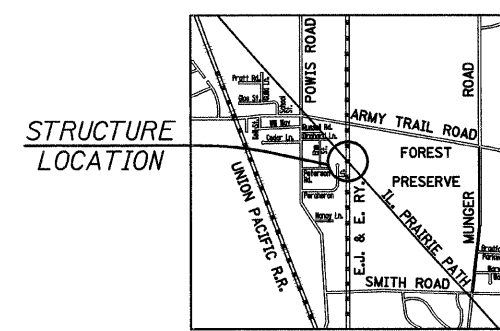
ILLINOIS PRAIRIE PATH
BUILT 200 BY
DuPAGE COUNTY
SEC. 98-00313-00-BR
STATION 99+94.35
LOADING H20
STRUCTURE NO. 022-3119

NAME PLATE
See Std. 515001-02

CERTIFICATION STATEMENT

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans and complies with the requirements of the Contract and the current "AASHTO Guide Specifications for Design of Pedestrian Bridges"

Indicates Boring Locations



Bhadresh N. Shah
06/01/2009
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS LIC. No. 081-004476
EXPIRES: 11-30-10