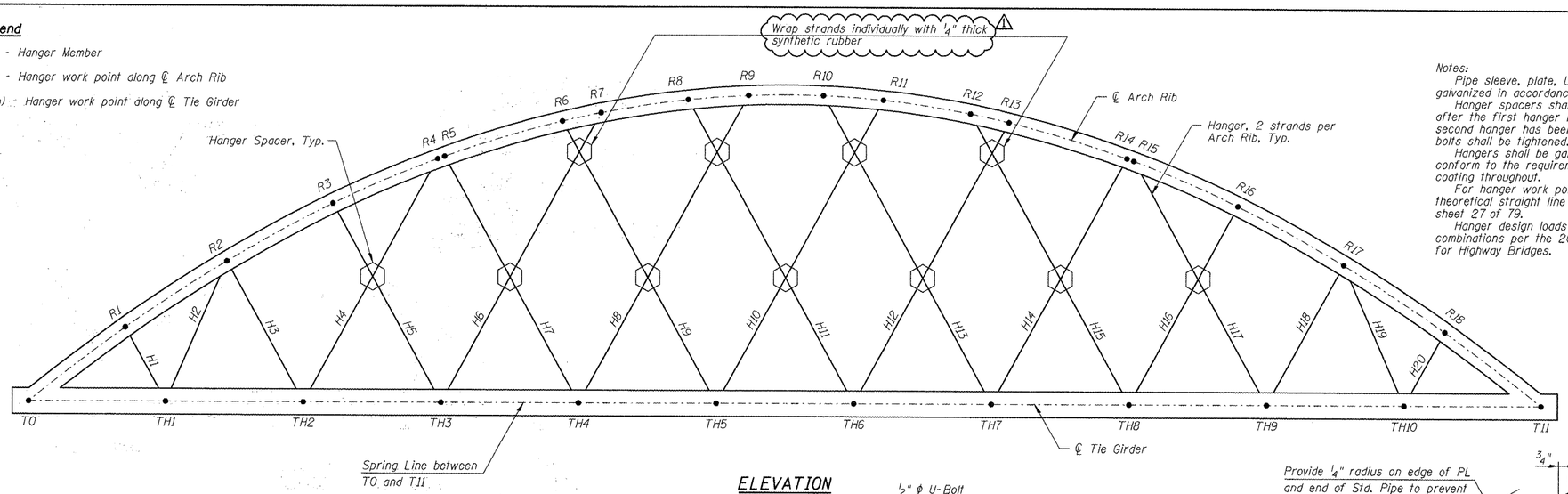
Legend

H(n) - Hanger Member

R(n) - Hanger work point along ℄ Arch Rib

TH(n) - Hanger work point along ℄ Tie Girder



ELEVATION

Notes:

Pipe sleeve, plate, U-bolts, nuts and washers shall be galvanized in accordance with ASTM A153.

Hanger spacers shall be installed, but not tightened, after the first hanger has been fully tensioned. After the second hanger has been fully tightened, the hanger spacer bolts shall be tightened.

Hangers shall be galvanized structural strand and shall conform to the requirements of ASTM A586 with Class C coating throughout.

For hanger work points and hanger length based on the theoretical straight line dimensions from ℄ pin to ℄ pin, see sheet 27 of 79.

Hanger design loads are based on the Service Load combinations per the 2002 AASHTO Standard Specifications for Highway Bridges.

Hanger H(n)	Struct. Strand Dia. (In)	No. Strands Required Per Rib	Gross Metallic Area (Sq. In.)	Loads (Kips)						
				Service					Factored	
				DL-A	DL-B	FWS	Max.	Min.	Max.	Min.
H1	2.5	2	3.75	79	8	23	144	104	214	136
H2	2.5	2	3.75	21	2	8	70	16	116	14
H3	2.5	2	3.75	117	12	35	220	158	330	206
H4	2.5	2	3.75	80	7	23	185	82	297	89
H5	2.5	2	3.75	124	13	39	242	168	368	217
H6	2.5	2	3.75	110	11	33	246	123	393	138
H7	2.5	2	3.75	121	12	38	244	155	375	193
H8	2.5	2	3.75	114	12	36	252	132	402	150
H9	2.5	2	3.75	108	12	36	235	134	367	160
H10	2.5	2	3.75	106	12	36	238	126	377	146
H11	2.5	2	3.75	111	12	36	244	131	385	153
H12	2.5	2	3.75	109	12	36	234	134	367	160
H13	2.5	2	3.75	115	12	36	255	132	403	152
H14	2.5	2	3.75	115	12	38	239	149	367	185
H15	2.5	2	3.75	117	11	34	254	129	402	148
H16	2.5	2	3.75	124	13	39	243	167	368	216
H17	2.5	2	3.75	86	7	24	193	88	307	100
H18	2.5	2	3.75	112	12	35	216	149	323	194
H19	2.5	2	3.75	31	3	9	81	28	130	31
H20	2.5	2	3.75	83	8	22	149	107	219	139

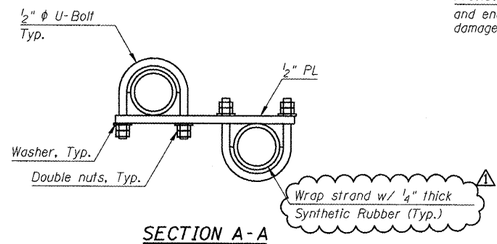
Notes:

Loads shown in table are per hanger (2 strands per hanger).

DL-A is the cable force due to steel and wet concrete.

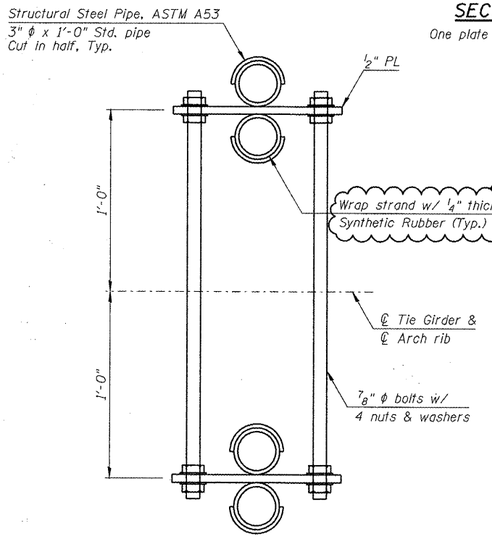
DL-B is the cable force due to superimposed Dead loads (Barriers).

FWS is the cable force due to Future Wearing Surface.

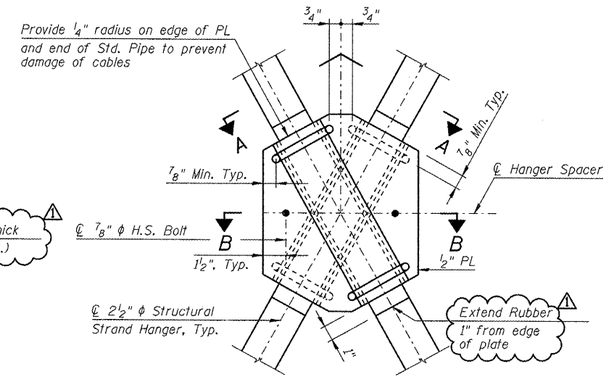


SECTION A-A

One plate shown for clarity



SECTION B-B



HANGER SPACER DETAIL

HANGERS (STRUCTURAL STRAND)

1. Hangers shall be hot dipped galvanized structural strand per ASTM A586, Class C coating throughout. Structural strand shall be of helical wire construction.
2. Hanger lengths shall be determined by the contractor and shall be within a tolerance of 0-inches long to 1/4-inches short.
3. The contractor shall place a permanent paint stripe on the top surface of the strand at the time of measurement which shall be referenced to eliminate any change in length of the strand due to twisting. The hanger shall be installed without twist.
4. Hangers shall be pre-stretched by the manufacturer such that the minimum value of the modulus of elasticity (E) of each strand is 23,000 ksi. Pre-stretching shall be accomplished by tensioning each strand, three times in succession. The strands shall be tensioned to 50% of their minimum breaking force for a duration of 5 minutes; this tension shall be relaxed to 5% of the minimum breaking force in between the second and third tensioning.
5. Hanger end fittings shall conform to ASTM A 148, Grade 105.
6. Hanger end fittings shall be zinc coated in accordance with ASTM A 153, Class C coating.
7. Radiographic examination of the pilot casting for the end fittings shall be performed in accordance with ASTM E 186. 100% of the pilot casting shall be examined. The severity of discontinuities shall be equal to or better than severity level 3 to be acceptable. In addition to the pilot castings, one test shall be performed per heat.
8. Magnetic particle inspection shall be performed on the end fittings in accordance with ASTM E 709. The acceptance criteria shall be that specified in ASTM E 125, severity degree 3. One test shall be performed per heat.

CMT CRAWFORD, MURPHY & TILLY, INC. CONSULTING ENGINEERS License No. 184-000613

HNTB

DESIGNED - PA, JDJ, BPD, CJW	REVISED - ADDENDUM 1	4-25-11	
DRAWN - GLD	REVISED -		
CHECKED - RJK	REVISED -		
DATE - 02/04/2011	REVISED -		

CITY OF ROCKFORD
MORGAN STREET BRIDGE

HANGER SCHEDULE
STRUCTURE NO. 101-6108

SCALE: | SHEET NO. 51 OF 79 SHEETS | STA. 47+00.74 TO STA. 52+63.50

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5077	99-00493-00-BR	WINNEBAGO	253	177
		CONTRACT NO. 85529		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT BRM-5099(65)		

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