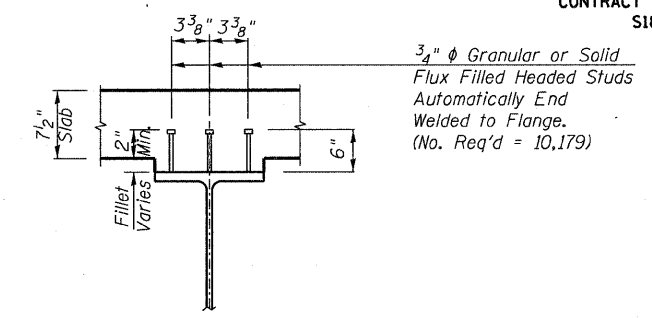


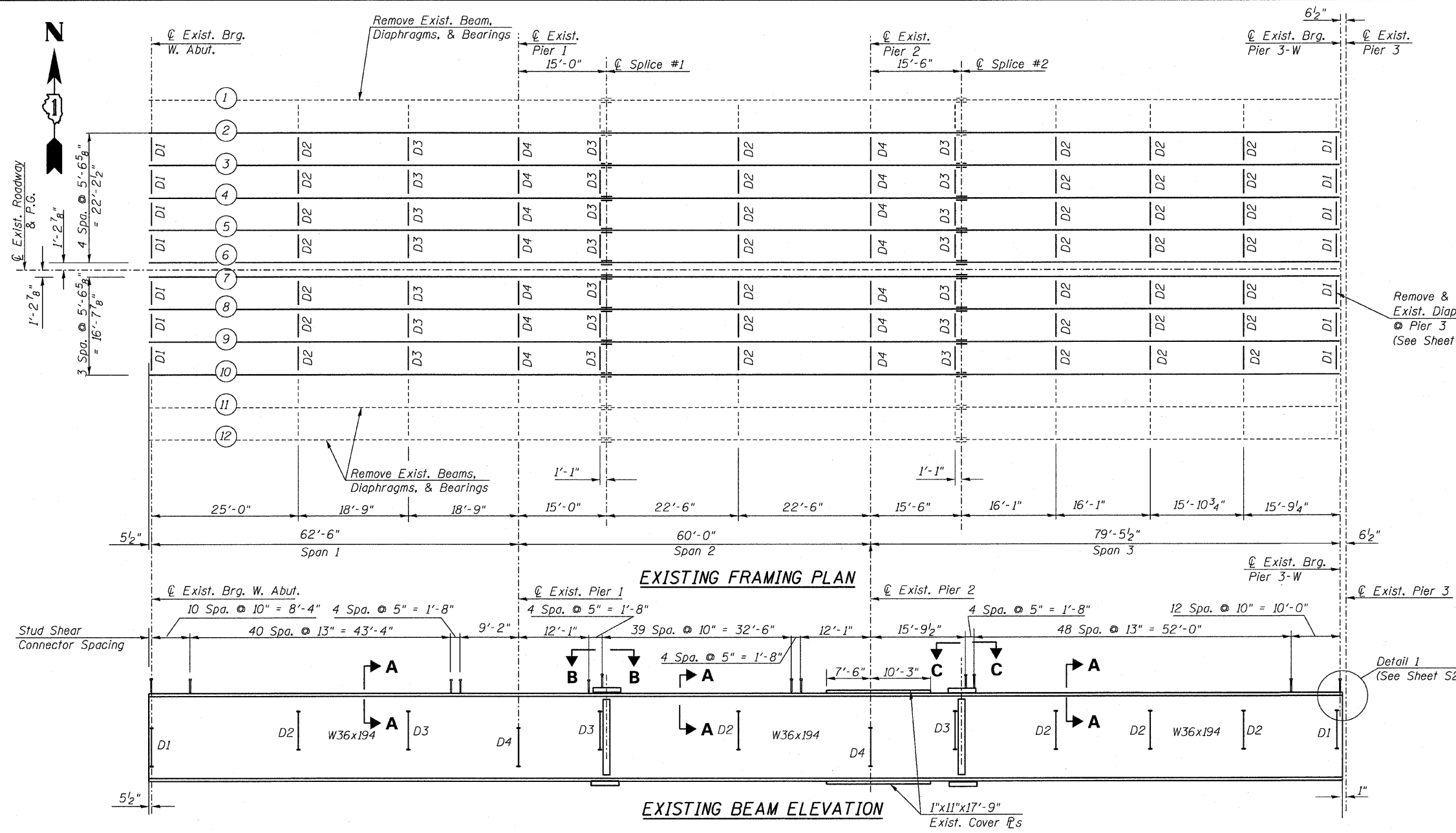
CONTRACT NO. 62196
S18 of S30



EXISTING BEAM & DIAPHRAGM TABLE

Span	Beam	Diaphragm D1	Diaphragms D2 thru D4
1-3	W36x194	W12x40	W16x36
4-7	W36x170	W12x40	W16x36

- Notes:
- Work this sheet with Sheets S18-S20.
 - All dimensions and other info for the existing steel beams and diaphragms were taken from existing bridge plans (not as-builts).
 - The Contractor shall verify all dimensions in the field.
 - The Contractor shall submit for approval by the Engineer plans for jacking existing superstructure prior to commencing any work at the bearings. This submittal shall be prepared and sealed by a licensed Structural Engineer in Illinois.
 - Jacking and removing existing bearings shall be done after the existing deck removal is completed and before the new deck is poured.
 - The new structural steel and bearings shall be in place and the jacks shall be lowered before the new concrete deck is poured.



INTERIOR BEAM MOMENT TABLE

Property	Unit	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3	0.4 Sp. 4	Pier 4	0.5 Sp. 5	Pier 5	0.5 Sp. 6	Pier 6	0.6 Sp. 7
Is	(in ⁴)	12,100	12,100	12,100	19,835	12,100	10,500	17,105	10,500	17,105	10,500	10,500	10,500
Ic (n)	(in ⁴)	25,890	---	25,890	---	25,890	23,245	---	23,245	---	23,245	---	23,245
Ic (3n)	(in ⁴)	18,860	---	18,860	---	18,860	16,955	---	16,955	---	16,955	---	16,955
Ss	(in ³)	663.2	663.2	663.2	1,030.7	663.2	580.8	902.4	580.8	902.4	580.8	580.8	580.8
Sc (n)	(in ³)	892.9	---	892.9	---	892.9	788.4	---	788.4	---	788.4	---	788.4
Sc (3n)	(in ³)	801.1	---	801.1	---	801.1	709.7	---	709.7	---	709.7	---	709.7
Z	(in ³)	---	767.0	---	1,179.5	---	---	1,024.8	---	1,024.8	---	668.0	---
DL	(k/ft)	0.756	1.197	0.756	1.283	0.756	0.729	1.245	0.729	1.245	0.729	1.170	0.729
M DL	(k)	258.9	365.0	-20.0	739.5	384.7	239.7	813.3	220.5	608.1	80.5	460.6	237.7
s DL	(k/ft)	0.441	---	0.441	---	0.441	0.441	---	0.441	---	0.441	---	0.441
Ms DL	(k)	156.2	---	11.3	---	234.9	157.9	---	153.9	---	66.6	---	153.0
M LL	(k)	367.9	209.7	241.5	297.2	478.9	423.6	321.0	428.7	297.1	325.0	216.2	376.9
M (Imp)	(k)	98.3	56.1	65.2	76.4	117.3	108.0	79.0	102.0	73.7	84.2	56.6	99.9
5/3*[M LL + M(Imp)]	(k)	777.0	443.0	511.2	622.7	993.7	886.0	666.7	884.5	618.0	682.0	454.7	794.7
Ma	(k)	1,549.7	1,050.4	653.2	1,770.8	2,097.2	1,668.7	1,924.0	1,636.6	1,593.9	1,077.8	1,189.8	1,541.0
Mu	(k)	3,136.6	2,109.3	3,136.6	3,243.6	3,136.6	2,800.7	2,818.3	2,800.7	2,818.3	2,800.7	1,837.0	2,800.7
fs DL non-comp	(ksi)	4.68	6.60	-0.36	8.61	6.96	4.95	10.82	4.56	8.09	1.66	9.52	4.91
fs DL (comp)	(ksi)	2.34	---	0.17	---	3.52	2.67	---	2.60	---	1.13	---	2.59
fs 5/3*(LL + Imp)	(ksi)	10.44	8.02	6.87	7.25	13.35	13.49	8.87	13.46	8.22	10.38	9.39	12.10
fs (Overload)	(ksi)	17.47	14.62	6.68	15.86	23.83	21.11	19.68	20.62	16.30	13.17	18.91	19.59
fs (Total)	(ksi)	---	---	---	---	---	---	---	---	---	---	---	---
VR	(k)	46.9	---	30.9	---	46.8	47.7	---	37.0	---	34.8	---	46.5

INTERIOR BEAM REACTION TABLE

Reaction	W. Abut.	Pier 1	Pier 2	Pier 3-W	Pier 3-E	Pier 4	Pier 5	Pier 6	E. Abut.
R DL (K)	31.6	73.2	99.8	38.7	30.8	106.7	90.6	82.5	30.2
R LL (K)	34.4	38.0	40.5	35.5	35.0	42.9	41.2	38.6	34.5
Imp. (K)	9.2	10.2	10.4	8.7	8.9	10.6	10.2	10.1	9.1
R (Total) (K)	75.2	121.5	150.7	82.9	74.7	160.1	142.0	131.3	73.9

MINIMUM JACK CAPACITY TABLE

Reaction	W. Abut.	Pier 1	Pier 2	Pier 3-W	Pier 3-E	Pier 4	Pier 5	Pier 6	E. Abut.
R DL (Steel) (K)	5.8	13.8	---	7.4	5.2	19.0	---	14.1	5.0
Min. Jack (K)	8.8	20.7	---	11.1	7.8	28.5	---	21.1	7.5

REVISIONS

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FRAMING PLAN
31 ST. STREET OVER M.J. & C.W.I.R.R.
F.A.U. ROUTE 1463 SECTION 159-1010.1B
COOK COUNTY
STATION 217+09.66
STR. NO. 016-0871
SCALE: VERT. HORIZ.
DATE: JANUARY 2008
DRAWN BY: JHR
CHECKED BY: CLS