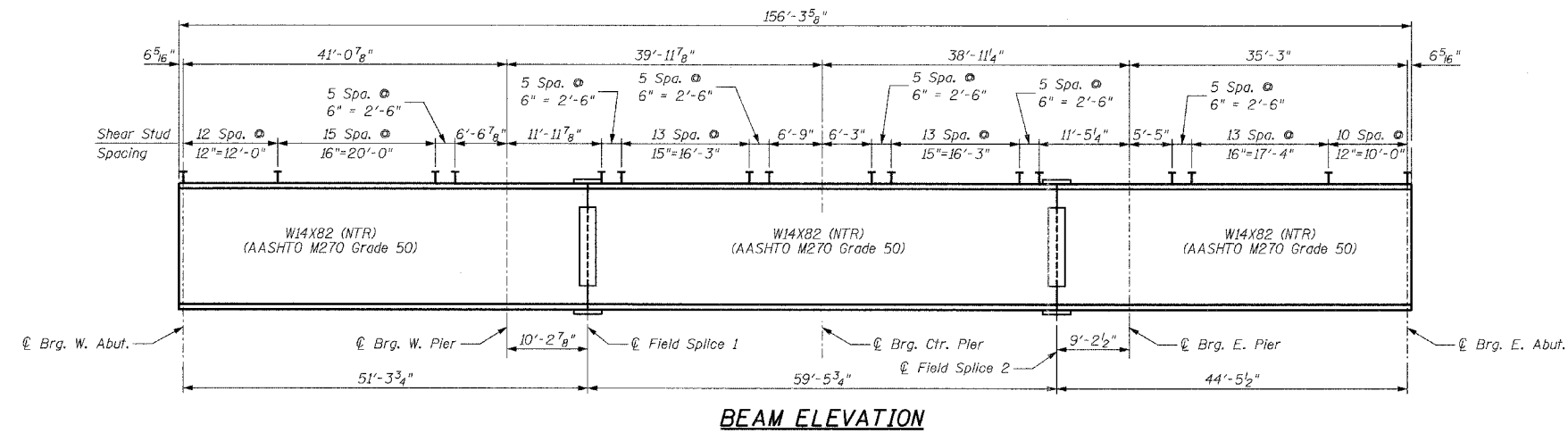
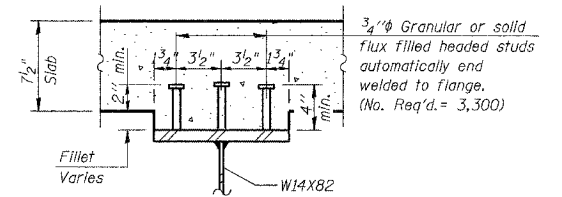
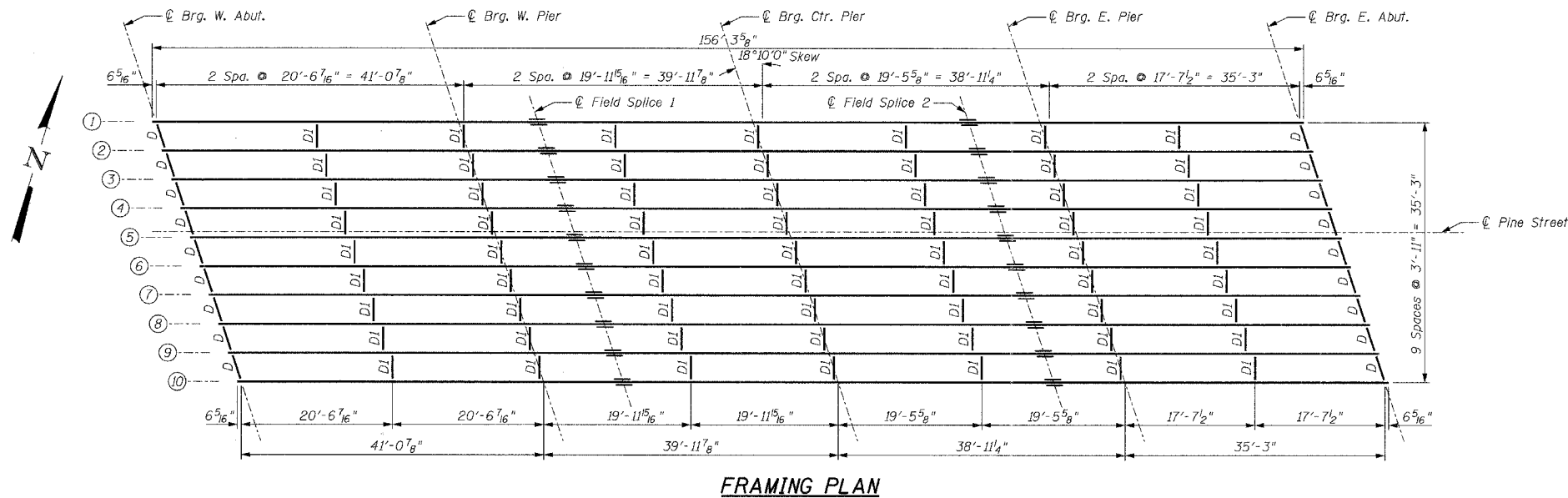


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-00094-03-BR	COOK	69	29
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		
Sheet SA-10 of SA-23		CONTRACT 83850		



TOP OF BEAM ELEVATIONS

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Beam 1	657.48	658.64	657.71	658.93	657.88	658.40	657.23
Beam 2	657.59	658.73	657.78	658.98	658.08	658.43	657.23
Beam 3	657.70	658.81	657.86	659.04	658.28	658.45	657.24
Beam 4	657.81	658.89	657.93	659.09	658.48	658.48	657.24
Beam 5	657.89	658.95	657.98	659.12	658.66	658.49	657.22
Beam 6	657.88	658.91	657.93	659.05	658.73	658.39	657.10
Beam 7	657.86	658.86	657.88	658.98	658.81	658.29	656.98
Beam 8	657.84	658.82	657.83	658.91	658.89	658.20	656.86
Beam 9	657.83	658.77	657.78	658.84	658.96	658.10	656.74
Beam 10	657.87	658.79	657.79	658.83	659.10	658.06	656.67



SHEAR CONNECTOR DETAIL

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing and Erecting Structural Steel	L. Sum	1.0
Stud Shear Connectors	Each	3,300

NOTES:
Contractor to verify existing dimensions in the field and make necessary approved adjustments prior to ordering materials.
All splice plate material shall meet notch toughness requirements.

CG Clorba Group, Inc.
CONSULTING ENGINEERS
597 NORTH CUMBERLAND AVENUE - CHICAGO, ILLINOIS 60658 - (773) 725-6000

VILLAGE OF WINNETKA, ILLINOIS
FRAMING PLAN AND BEAM ELEVATION
PINE STREET OVER THE UNION PACIFIC R.R.
R.R. MILE POST 16.89 KENOSHA SUBDIVISION
COOK COUNTY STA. 101+09.96
STRUCTURE NO. 016-8259

SCALE: NONE
DATE: JUNE 2006
FILE: 3278
DRAWN BY: RCD
DESIGN BY: BWS
CHECKED BY: SCD

REVISIONS	
NAME	DATE

	Interior Girder Moment Table						
	0.4 Span #1	Pier #1	0.5 Span #2	Pier #2	0.5 Span #3	Pier #3	0.6 Span #4
I_s (in ⁴)	881	881	881	881	881	881	881
I_c (in ⁴)	3,569	-	3,569	-	3,569	-	3,569
I_c (3n) (in ⁴)	2,353	-	2,353	-	2,353	-	2,353
S_s (in ³)	123	123	123	123	123	123	123
Sc (n) (in ³)	235	-	235	-	235	-	234
Sc (3n) (in ³)	199	-	199	-	299	-	201
Z (in ²)	-	139	-	139	-	139	-
D.L. (k/ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
M D.L. (k)	62.2	82.5	26.1	53.3	29.1	66.7	43.4
s D.L (k/ft)	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Ms D.L (k)	99.7	90.4	55.7	66.4	57.3	73.4	70.7
M L.L (k)	171.9	81.4	138.2	74.7	133.2	71.7	133.1
M (Imp) (k)	51.6	24.4	41.5	22.4	40.0	21.5	39.9
5/3 (M L.L + M I) (k)	372.5	176.3	299.5	161.8	288.7	155.3	288.3
Ma (k)	694.6	454.0	495.7	365.9	487.6	384.0	523.1
Mu (k)	892.5	579.2	892.5	579.2	892.5	579.2	892.5
f_s DL non-comp (ksi)	6.1	8.1	2.5	5.2	2.8	6.5	4.2
f_s DL (comp) (ksi)	5.9	8.8	3.3	6.5	3.4	7.2	4.2
f_s 5/3 (M L.L + M I) (ksi)	19.1	17.2	15.4	15.3	14.8	15.2	14.8
f_s (Overload)	31.1	34.1	21.2	27.0	21.1	28.9	23.2
f_s (Total)	40.4	44.3	27.6	35.2	27.4	37.5	30.2
VR (k)	28.1	-	28.1	-	27.7	-	27.5

Interior Girder Reaction Table					
	W Abut	Pier 1	Pier 2	Pier 3	E Abut
R DL (kip)	19.2	51.8	43.2	46.8	16.1
R LL (kip)	23.0	32.2	31.0	30.9	21.5
Imp (kips)	5.7	5.5	5.5	5.6	5.4
R (Total)	48.0	89.6	79.7	83.4	43.0

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
 I_c (n) and Sc (n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 I_c (3n) and Sc (3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads (see AASHTO 10.38).
VR is the maximum Live Load + Impact shear range in span.
 Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.
 M_a (Applied Moment) = $1.3MLL + MsL + 5_3(ML + MI)$.
 M_u is the Full Plastic Moment Capacity for Compact, Braced section.
 f_s (Overload) is the sum of the stresses due to $MLL + MsL + 5_3(ML + MI)$.
 f_s (Total) (Non-compact section) is the sum of the stresses due to $1.3MLL + MsL + 5_3(ML + MI)$.