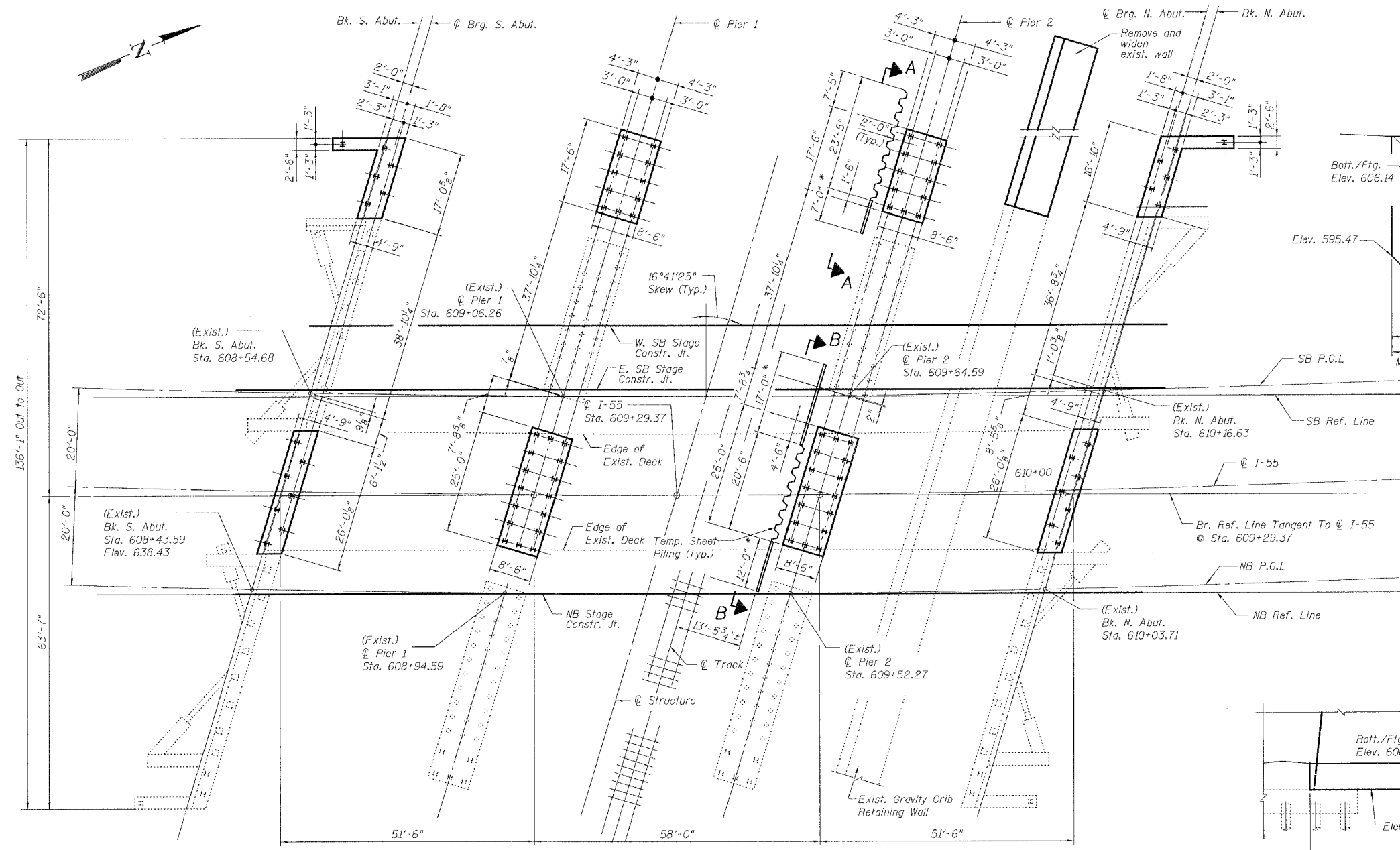


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

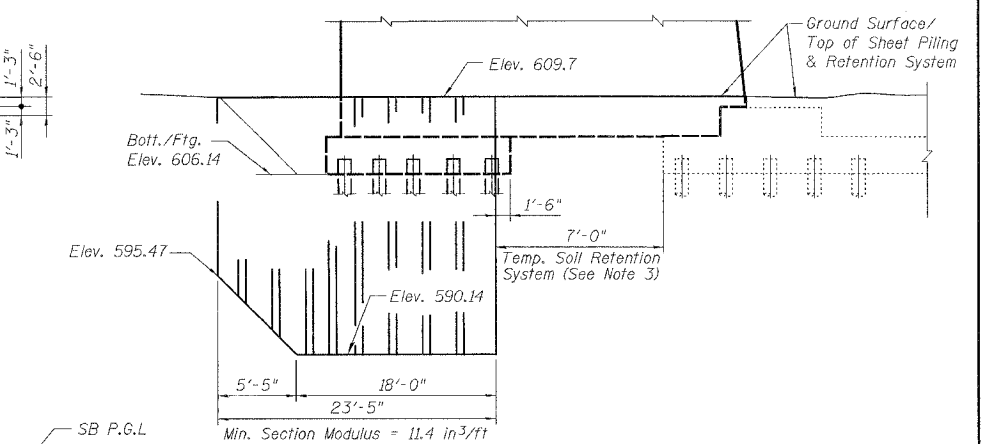
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAI-55	**	WILL	505	301
44 SHEETS				

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

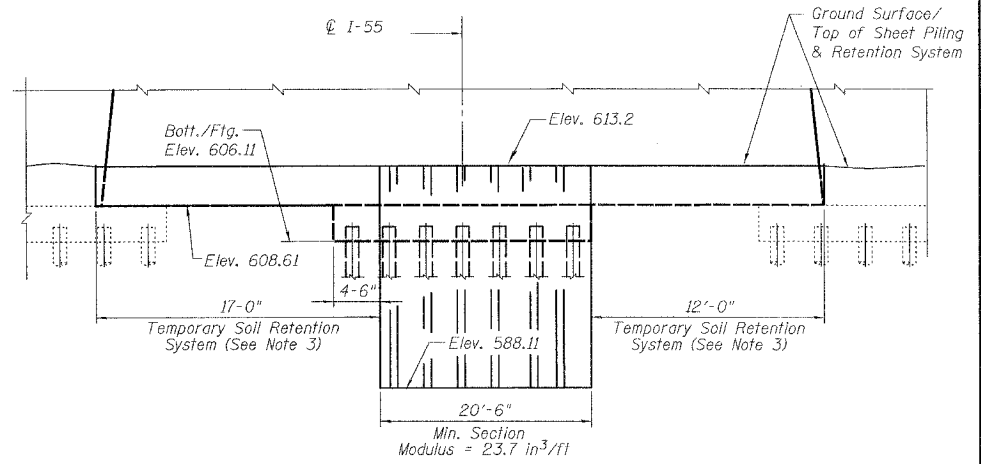


**SUBSTRUCTURE LAYOUT**

\* Temporary Soil Retention System, See Note 3 below.



**SECTION A-A**



**SECTION B-B**

Notes:

1. Hard driving may be encountered during the sheet piling installation. The contractor shall provide the appropriate driving equipment for the soil conditions indicated on the boring logs.
2. Contractor shall verify all utilities prior to driving any sheet piling.
3. A cantilevered sheet piling design does not appear feasible and additional members or other retention system may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Temporary Sheet Piling	Sq. Ft.	958
Temporary Soil Retention System	Sq. Ft.	171

DESIGNED	J.Zuo
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006



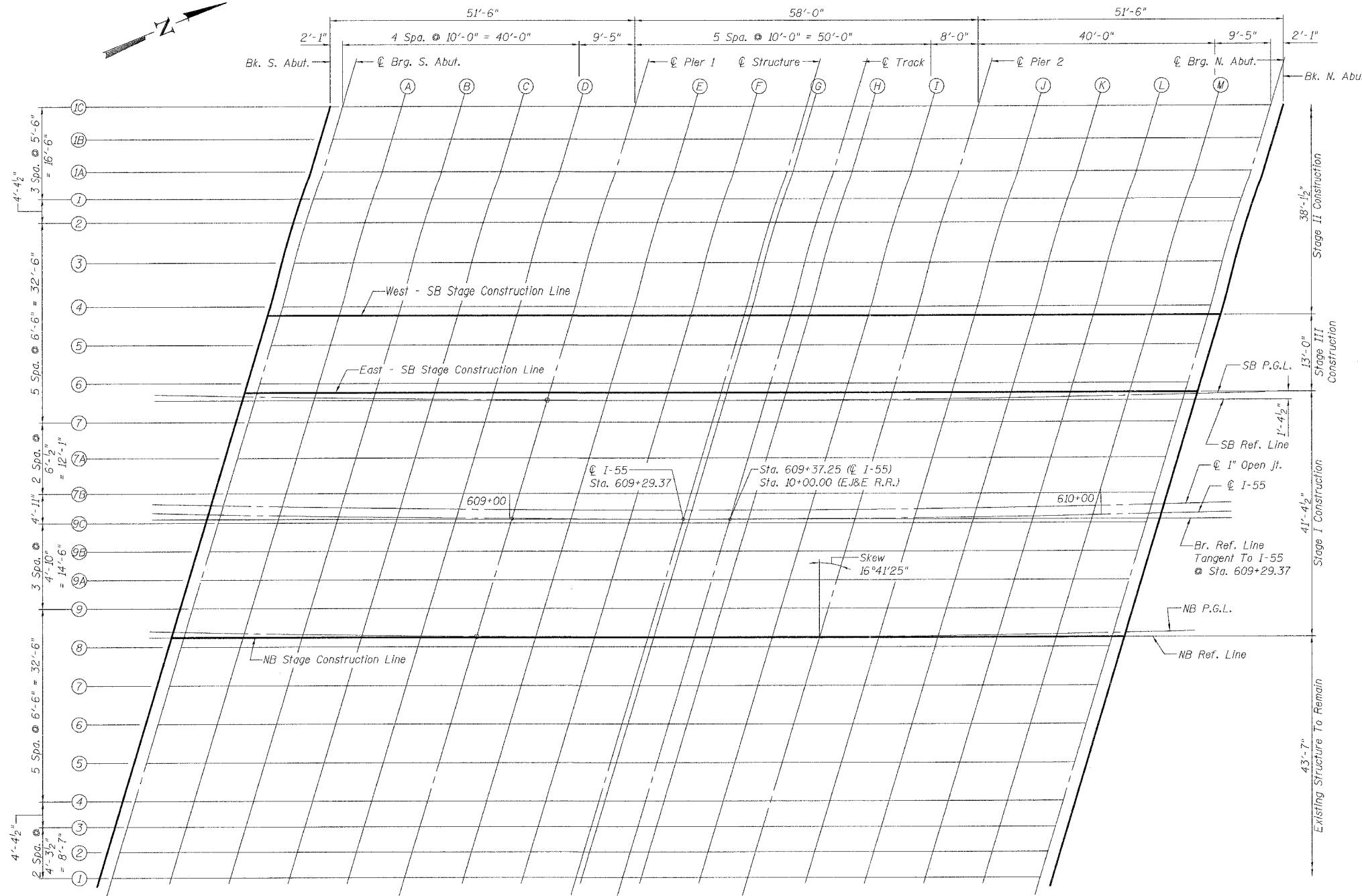
**SUBSTRUCTURE LAYOUT**  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STATION 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

6/30/2006 4:48:59 PM G:\1887\AI\Struct\I-Cadd\Pre-Final\I&E R.R\Final Bridge Contract\02208-60B86-000-004.dgn

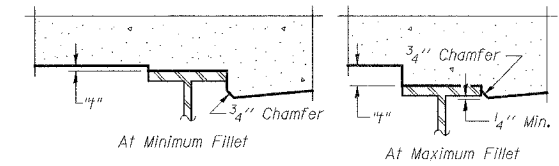
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	302
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

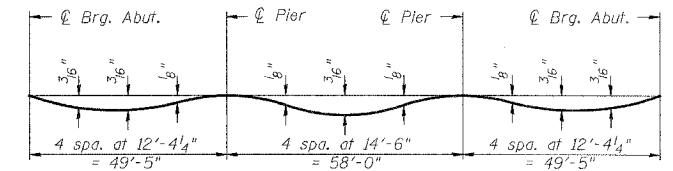


PLAN



To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "f" above top flange of beams.

**FILLET HEIGHTS**



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

**Notes:**

- The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections.
- Work this Sheet with Sheet Nos. 6, 7, & 8.

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

TOP OF SLAB ELEVATION LAYOUT  
I-55 OVER E.J.&E. R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	303
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

SHEET NO. 6  
44 SHEETS

**BEAM 1C (SB)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+68.672	-49.277	638.092	638.092
CL. S. Abut.	608+70.799	-49.309	638.103	638.103
A	608+80.983	-49.449	638.152	638.165
B	608+91.167	-49.562	638.198	638.217
C	609+01.353	-49.649	638.241	638.256
D	609+11.538	-49.709	638.279	638.286
CL. Pier 1	609+21.130	-49.741	638.312	638.312
E	609+31.316	-49.750	638.344	638.348
F	609+41.502	-49.731	638.372	638.383
G	609+51.688	-49.686	638.396	638.410
H	609+61.873	-49.614	638.416	638.426
I	609+72.058	-49.516	638.433	638.436
CL. Pier 2	609+80.206	-49.418	638.444	638.444
J	609+90.389	-49.271	638.454	638.460
K	610+00.572	-49.098	638.460	638.475
L	610+10.754	-48.899	638.463	638.481
M	610+20.935	-48.672	638.462	638.474
CL. N. Abut.	610+30.521	-48.435	638.457	638.457
Bk. N. Abut.	610+32.646	-48.379	638.456	638.456

**BEAM 1B (SB)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+67.085	-43.751	638.194	638.194
CL. S. Abut.	608+69.208	-43.784	638.205	638.205
A	608+79.377	-43.928	638.255	638.267
B	608+89.546	-44.046	638.301	638.320
C	608+99.716	-44.137	638.344	638.359
D	609+09.887	-44.201	638.383	638.390
CL. Pier 1	609+19.465	-44.237	638.417	638.417
E	609+29.636	-44.250	638.449	638.453
F	609+39.807	-44.236	638.477	638.489
G	609+49.978	-44.195	638.502	638.516
H	609+60.148	-44.128	638.523	638.533
I	609+70.319	-44.034	638.540	638.543
CL. Pier 2	609+78.454	-43.940	638.551	638.551
J	609+88.623	-43.798	638.562	638.569
K	609+98.791	-43.630	638.569	638.585
L	610+08.959	-43.435	638.572	638.591
M	610+19.125	-43.213	638.572	638.584
CL. N. Abut.	610+28.697	-42.980	638.568	638.568
Bk. N. Abut.	610+30.819	-42.925	638.567	638.567

**BEAM 1A (SB)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+65.501	-38.224	638.295	638.295
CL. S. Abut.	608+67.621	-38.259	638.306	638.306
A	608+77.775	-38.407	638.357	638.370
B	608+87.930	-38.529	638.404	638.423
C	608+98.085	-38.624	638.448	638.463
D	609+08.241	-38.692	638.487	638.493
CL. Pier 1	609+17.804	-38.733	638.521	638.521
E	609+27.961	-38.750	638.554	638.558
F	609+38.117	-38.740	638.583	638.594
G	609+48.273	-38.704	638.608	638.622
H	609+58.429	-38.641	638.630	638.640
I	609+68.584	-38.552	638.648	638.651
CL. Pier 2	609+76.708	-38.461	638.659	638.659
J	609+86.862	-38.324	638.671	638.677
K	609+97.016	-38.160	638.678	638.694
L	610+07.168	-37.970	638.682	638.700
M	610+17.320	-37.753	638.682	638.694
CL. N. Abut.	610+26.878	-37.524	638.679	638.679
Bk. N. Abut.	610+28.997	-37.470	638.678	638.678

**BEAM 1 (SB)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+63.923	-32.697	638.397	638.397
CL. S. Abut.	608+66.039	-32.732	638.408	638.408
A	608+76.178	-32.885	638.459	638.472
B	608+86.318	-33.011	638.507	638.525
C	608+96.459	-33.110	638.551	638.566
D	609+06.599	-33.183	638.591	638.597
CL. Pier 1	609+16.149	-33.227	638.626	638.626
E	609+26.290	-33.249	638.659	638.663
F	609+36.432	-33.244	638.688	638.699
G	609+46.573	-33.212	638.714	638.728
H	609+56.714	-33.153	638.736	638.746
I	609+66.855	-33.069	638.755	638.758
CL. Pier 2	609+74.967	-32.982	638.767	638.767
J	609+85.106	-32.849	638.779	638.785
K	609+95.245	-32.690	638.787	638.802
L	610+05.383	-32.504	638.792	638.809
M	610+15.520	-32.292	638.793	638.804
CL. N. Abut.	610+25.064	-32.068	638.790	638.790
Bk. N. Abut.	610+27.180	-32.015	638.789	638.789

**BEAM 2 (SB)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+62.670	-28.300	638.478	638.478
CL. S. Abut.	608+64.784	-28.336	638.489	638.489
A	608+74.912	-28.492	638.541	638.553
B	608+85.040	-28.621	638.589	638.606
C	608+95.168	-28.724	638.633	638.648
D	609+05.297	-28.800	638.674	638.680
CL. Pier 1	609+14.836	-28.848	638.709	638.709
E	609+24.965	-28.872	638.742	638.746
F	609+35.095	-28.871	638.772	638.783
G	609+45.224	-28.843	638.798	638.812
H	609+55.353	-28.788	638.821	638.831
I	609+65.482	-28.706	638.840	638.843
CL. Pier 2	609+73.585	-28.622	638.853	638.853
J	609+83.713	-28.493	638.865	638.871
K	609+93.840	-28.338	638.874	638.889
L	610+03.966	-28.156	638.879	638.896
M	610+14.092	-27.947	638.880	638.892
CL. N. Abut.	610+23.625	-27.727	638.878	638.878
Bk. N. Abut.	610+25.739	-27.675	638.877	638.877

**BEAM 3 (SB)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+60.815	-21.767	638.598	638.598
CL. S. Abut.	608+62.925	-21.804	638.609	638.609
A	608+73.035	-21.964	638.662	638.674
B	608+83.145	-22.098	638.710	638.728
C	608+93.256	-22.206	638.755	638.770
D	609+03.368	-22.288	638.796	638.802
CL. Pier 1	609+12.890	-22.340	638.832	638.832
E	609+23.002	-22.370	638.866	638.870
F	609+33.114	-22.373	638.897	638.907
G	609+43.226	-22.350	638.924	638.937
H	609+53.338	-22.301	638.947	638.957
I	609+63.450	-22.225	638.966	638.969
CL. Pier 2	609+71.539	-22.145	638.980	638.980
J	609+81.649	-22.021	638.993	638.999
K	609+91.759	-21.871	639.002	639.017
L	610+01.868	-21.695	639.008	639.026
M	610+11.976	-21.492	639.010	639.022
CL. N. Abut.	610+21.493	-21.276	639.009	639.009
Bk. N. Abut.	610+23.604	-21.225	639.008	639.008

**BEAM 4 (SB)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+58.996	-15.232	638.718	638.718
CL. S. Abut.	608+61.073	-15.270	638.729	638.729
A	608+71.165	-15.436	638.782	638.794
B	608+81.258	-15.575	638.831	638.849
C	608+91.351	-15.688	638.877	638.891
D	609+01.445	-15.774	638.919	638.925
CL. Pier 1	609+10.951	-15.831	638.955	638.955
E	609+21.045	-15.866	638.990	638.994
F	609+31.140	-15.875	639.021	639.032
G	609+41.235	-15.857	639.048	639.062
H	609+51.330	-15.812	639.072	639.082
I	609+61.424	-15.742	639.093	639.096
CL. Pier 2	609+69.499	-15.666	639.107	639.107
J	609+79.592	-15.548	639.120	639.127
K	609+89.685	-15.403	639.131	639.146
L	609+99.777	-15.232	639.137	639.155
M	610+09.868	-15.035	639.140	639.152
CL. N. Abut.	610+19.369	-14.824	639.140	639.140
Bk. N. Abut.	610+21.476	-14.775	639.139	639.139

**WEST - S.B. STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+58.540	-13.724	638.746	638.746
CL. S. Abut.	608+60.646	-13.762	638.757	638.757
A	608+70.734	-13.929	638.810	638.822
B	608+80.823	-14.069	638.859	638.877
C	608+90.912	-14.183	638.905	638.919
D	609+01.002	-14.271	638.947	638.953
CL. Pier 1	609+10.504	-14.329	638.983	638.983
E	609+20.595	-14.365	639.018	639.022
F	609+30.686	-14.375	639.050	639.060
G	609+40.776	-14.358	639.077	639.091
H	609+50.867	-14.315	639.101	639.111
I	609+60.957	-14.246	639.122	639.125
CL. Pier 2	609+69.029	-14.171	639.136	639.136
J	609+79.119	-14.054	639.150	639.156
K	609+89.207	-13.910	639.160	639.175
L	609+99.295	-13.741	639.167	639.185
M	610+09.382	-13.544	639.170	639.182
CL. N. Abut.	610+18.880	-13.335	639.170	639.170
Bk. N. Abut.	610+20.986	-13.286	639.169	639.169

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Note:  
1. Work this Sheet with Sheet No. 5.

Date: 6/30/2006

TOP OF SLAB ELEVATION I  
I-55 OVER E&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 7
FAI-55	**	WILL	505	304	44 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

BEAM 5 (SB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+57.123	-8.697	638.838	638.838
CL. S. Abut.	608+59.226	-8.736	638.849	638.849
A	608+69.301	-8.906	638.903	638.915
B	608+79.376	-9.050	638.952	638.970
C	608+89.453	-9.168	638.999	639.013
D	608+99.529	-9.259	639.041	639.047
CL. Pier 1	609+09.018	-9.321	639.078	639.078
E	609+19.096	-9.361	639.113	639.117
F	609+29.173	-9.375	639.145	639.156
G	609+39.251	-9.362	639.173	639.187
H	609+49.328	-9.323	639.198	639.208
I	609+59.405	-9.258	639.219	639.222
CL. Pier 2	609+67.466	-9.186	639.233	639.233
J	609+77.543	-9.074	639.248	639.254
K	609+87.618	-8.934	639.259	639.274
L	609+97.693	-8.769	639.266	639.284
M	610+07.767	-8.577	639.270	639.281
CL. N. Abut.	610+07.767	-8.577	639.270	639.281
Bk. N. Abut.	610+17.252	-8.372	639.270	639.270

BEAM 6 (SB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+55.287	-2.161	638.958	638.958
CL. S. Abut.	608+57.387	-2.201	638.969	638.969
A	608+67.444	-2.376	639.023	639.035
B	608+77.502	-2.525	639.073	639.091
C	608+87.560	-2.648	639.120	639.135
D	608+97.620	-2.744	639.163	639.169
CL. Pier 1	609+07.093	-2.810	639.201	639.201
E	609+17.153	-2.856	639.237	639.241
F	609+27.213	-2.874	639.269	639.280
G	609+37.273	-2.867	639.298	639.312
H	609+47.333	-2.833	639.323	639.333
I	609+57.393	-2.773	639.345	639.348
CL. Pier 2	609+65.441	-2.706	639.360	639.360
J	609+75.500	-2.598	639.375	639.382
K	609+85.558	-2.464	639.387	639.402
L	609+95.616	-2.304	639.395	639.413
M	610+05.673	-2.117	639.399	639.411
CL. N. Abut.	610+15.142	-1.918	639.400	639.400
Bk. N. Abut.	610+17.241	-1.870	639.400	639.400

EAST - S.B. STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+54.864	-0.652	638.985	638.985
CL. S. Abut.	608+56.963	-0.693	638.997	638.997
A	608+67.016	-0.869	639.051	639.063
B	608+77.070	-1.019	639.101	639.119
C	608+87.125	-1.143	639.148	639.163
D	608+97.180	-1.240	639.191	639.197
CL. Pier 1	609+06.649	-1.308	639.229	639.229
E	609+16.705	-1.354	639.265	639.269
F	609+26.761	-1.374	639.298	639.309
G	609+36.818	-1.368	639.327	639.340
H	609+46.874	-1.335	639.352	639.362
I	609+56.930	-1.276	639.374	639.377
CL. Pier 2	609+64.974	-1.210	639.389	639.389
J	609+75.029	-1.104	639.405	639.411
K	609+85.084	-0.971	639.416	639.431
L	609+95.138	-0.812	639.425	639.442
M	610+05.190	-0.627	639.429	639.441
CL. N. Abut.	610+14.656	-0.428	639.430	639.430
Bk. N. Abut.	610+16.755	-0.381	639.430	639.430

S.B. PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+54.687	0.000	638.997	638.997
CL. S. Abut.	608+56.768	0.000	639.010	639.010
A	608+66.770	0.000	639.067	639.079
B	608+76.778	0.000	639.120	639.138
C	608+86.799	0.000	639.169	639.184
D	608+96.818	0.000	639.215	639.221
CL. Pier 1	609+06.264	0.000	639.254	639.254
E	609+16.302	0.000	639.291	639.295
F	609+26.348	0.000	639.324	639.335
G	609+36.403	0.000	639.353	639.367
H	609+46.465	0.000	639.378	639.388
I	609+56.535	0.000	639.399	639.402
CL. Pier 2	609+64.597	0.000	639.413	639.413
J	609+74.682	0.000	639.426	639.433
K	609+84.776	0.000	639.436	639.451
L	609+94.878	0.000	639.441	639.458
M	610+04.988	0.000	639.442	639.453
CL. N. Abut.	610+14.516	0.000	639.439	639.439
Bk. N. Abut.	610+16.630	0.000	639.438	639.438

BEAM 7 (SB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+53.457	4.376	639.077	639.077
CL. S. Abut.	608+55.553	4.335	639.089	639.089
A	608+65.593	4.155	639.144	639.156
B	608+75.633	4.001	639.194	639.212
C	608+85.675	3.874	639.242	639.256
D	608+95.717	3.773	639.285	639.291
CL. Pier 1	609+05.174	3.701	639.323	639.323
E	609+15.216	3.651	639.360	639.364
F	609+25.259	3.627	639.393	639.404
G	609+35.302	3.630	639.423	639.436
H	609+45.345	3.658	639.449	639.459
I	609+55.388	3.713	639.471	639.474
CL. Pier 2	609+63.422	3.776	639.486	639.486
J	609+73.464	3.878	639.502	639.509
K	609+83.505	4.007	639.515	639.530
L	609+93.546	4.162	639.524	639.541
M	610+03.586	4.343	639.529	639.540
CL. N. Abut.	610+13.039	4.538	639.530	639.530
Bk. N. Abut.	610+15.135	4.584	639.530	639.530

BEAM 7A (SB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+51.761	10.453	639.188	639.188
CL. S. Abut.	608+53.854	10.411	639.200	639.200
A	608+63.878	10.227	639.255	639.268
B	608+73.903	10.068	639.307	639.324
C	608+83.928	9.936	639.355	639.369
D	608+93.954	9.830	639.399	639.405
CL. Pier 1	609+03.396	9.755	639.437	639.437
E	609+13.422	9.700	639.475	639.479
F	609+23.449	9.671	639.508	639.519
G	609+33.477	9.669	639.538	639.552
H	609+43.504	9.693	639.565	639.575
I	609+53.530	9.743	639.588	639.591
CL. Pier 2	609+61.552	9.802	639.604	639.604
J	609+71.578	9.899	639.621	639.627
K	609+81.604	10.023	639.634	639.649
L	609+91.628	10.173	639.643	639.661
M	610+01.652	10.349	639.649	639.661
CL. N. Abut.	610+11.091	10.539	639.651	639.651
Bk. N. Abut.	610+13.183	10.584	639.651	639.651

BEAM 7B (SB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+50.072	16.531	639.300	639.300
CL. S. Abut.	608+52.161	16.488	639.312	639.312
A	608+62.169	16.299	639.367	639.379
B	608+72.177	16.136	639.419	639.437
C	608+82.187	15.999	639.467	639.482
D	608+92.197	15.889	639.512	639.518
CL. Pier 1	609+01.623	15.809	639.551	639.551
E	609+11.634	15.749	639.589	639.593
F	609+21.645	15.716	639.623	639.634
G	609+31.657	15.709	639.654	639.668
H	609+41.668	15.728	639.681	639.691
I	609+51.679	15.773	639.705	639.708
CL. Pier 2	609+59.687	15.829	639.721	639.721
J	609+69.698	15.921	639.739	639.745
K	609+79.708	16.040	639.752	639.767
L	609+89.717	16.185	639.762	639.780
M	609+99.725	16.356	639.769	639.781
CL. N. Abut.	610+09.149	16.541	639.772	639.772
Bk. N. Abut.	610+11.238	16.585	639.772	639.772

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Note:

1. Work this Sheet with Sheet No. 5.

Date: 6/30/2006

TOP OF SLAB ELEVATION II  
I-55 OVER E&J R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	305
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		44 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

BEAM 9C (NB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+48.700	-18.523	638.095	638.095
CL. S. Abut.	608+50.787	-18.567	638.107	638.107
A	608+60.782	-18.759	638.163	638.175
B	608+70.777	-18.926	638.215	638.233
C	608+80.774	-19.066	638.264	638.279
D	608+90.771	-19.180	638.309	638.315
CL. Pier 1	609+00.185	-19.264	638.349	638.349
E	609+10.183	-19.327	638.387	638.391
F	609+20.181	-19.364	638.422	638.432
G	609+30.180	-19.375	638.453	638.466
H	609+40.178	-19.360	638.481	638.490
I	609+50.176	-19.318	638.505	638.508
CL. Pier 2	609+58.175	-19.266	638.522	638.522
J	609+68.172	-19.178	638.539	638.546
K	609+78.169	-19.063	638.554	638.569
L	609+88.166	-18.922	638.564	638.582
M	609+98.161	-18.755	638.571	638.583
CL. N. Abut.	610+07.573	-18.574	638.575	638.575
Bk. N. Abut.	610+09.659	-18.531	638.575	638.575

BEAM 9B (NB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+47.356	-13.660	638.184	638.184
CL. S. Abut.	608+49.440	-13.704	638.196	638.196
A	608+59.422	-13.900	638.252	638.265
B	608+69.405	-14.070	638.305	638.323
C	608+79.388	-14.214	638.354	638.369
D	608+89.373	-14.332	638.400	638.406
CL. Pier 1	608+98.775	-14.419	638.440	638.440
E	609+08.760	-14.486	638.478	638.482
F	609+18.746	-14.527	638.514	638.524
G	609+28.732	-14.542	638.545	638.559
H	609+38.717	-14.530	638.574	638.583
I	609+48.703	-14.493	638.598	638.601
CL. Pier 2	609+56.691	-14.444	638.615	638.615
J	609+66.676	-14.359	638.634	638.640
K	609+76.661	-14.248	638.648	638.664
L	609+86.644	-14.112	638.660	638.677
M	609+96.628	-13.949	638.667	638.679
CL. N. Abut.	610+06.027	-13.771	638.671	638.671
Bk. N. Abut.	610+08.112	-13.729	638.672	638.672

BEAM 9A (NB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+46.015	-8.796	638.273	638.273
CL. S. Abut.	608+48.096	-8.841	638.285	638.285
A	608+58.065	-9.041	638.341	638.354
B	608+68.035	-9.215	638.395	638.412
C	608+78.006	-9.362	638.444	638.459
D	608+87.978	-9.483	638.490	638.496
CL. Pier 1	608+97.368	-9.574	638.531	638.531
E	609+07.341	-9.645	638.570	638.574
F	609+17.314	-9.689	638.606	638.616
G	609+27.287	-9.708	638.638	638.651
H	609+37.260	-9.700	638.666	638.676
I	609+47.233	-9.666	638.692	638.694
CL. Pier 2	609+55.211	-9.621	638.709	638.709
J	609+65.184	-9.540	638.728	638.734
K	609+75.156	-9.433	638.743	638.758
L	609+85.127	-9.300	638.755	638.773
M	609+95.098	-9.141	638.763	638.775
CL. N. Abut.	610+04.486	-8.968	638.768	638.768
Bk. N. Abut.	610+06.568	-8.926	638.768	638.768

BEAM 9 (NB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+44.677	-3.932	638.361	638.361
CL. S. Abut.	608+46.756	-3.978	638.374	638.374
A	608+56.712	-4.181	638.431	638.444
B	608+66.670	-4.358	638.484	638.503
C	608+76.628	-4.509	638.534	638.550
D	608+86.587	-4.634	638.581	638.587
CL. Pier 1	608+95.965	-4.728	638.621	638.621
E	609+05.925	-4.803	638.661	638.665
F	609+15.886	-4.851	638.697	638.708
G	609+25.846	-4.873	638.730	638.744
H	609+35.807	-4.870	638.759	638.769
I	609+45.767	-4.840	638.785	638.788
CL. Pier 2	609+53.735	-4.797	638.803	638.803
J	609+63.695	-4.720	638.822	638.829
K	609+73.655	-4.617	638.838	638.854
L	609+83.614	-4.488	638.850	638.869
M	609+93.572	-4.333	638.859	638.871
CL. N. Abut.	610+02.948	-4.163	638.864	638.864
Bk. N. Abut.	610+05.027	-4.123	638.864	638.864

N.B. PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	608+43.598	0.000	638.433	638.433
CL. S. Abut.	608+45.662	0.000	638.446	638.446
A	608+55.551	0.000	638.507	638.520
B	608+65.447	0.000	638.565	638.584
C	608+75.350	0.000	638.618	638.633
D	608+85.261	0.000	638.667	638.673
CL. Pier 1	608+94.600	0.000	638.710	638.710
E	609+04.525	0.000	638.752	638.756
F	609+14.457	0.000	638.789	638.800
G	609+24.398	0.000	638.823	638.837
H	609+34.346	0.000	638.852	638.863
I	609+44.301	0.000	638.878	638.881
CL. Pier 2	609+52.271	0.000	638.896	638.896
J	609+62.242	0.000	638.914	638.921
K	609+72.220	0.000	638.928	638.944
L	609+82.206	0.000	638.939	638.957
M	609+92.200	0.000	638.945	638.957
CL. N. Abut.	610+01.619	0.000	638.947	638.947
Bk. N. Abut.	610+03.709	0.000	638.947	638.947

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Note:  
1. Work this Sheet with Sheet No. 5.

Date: 6/30/2006

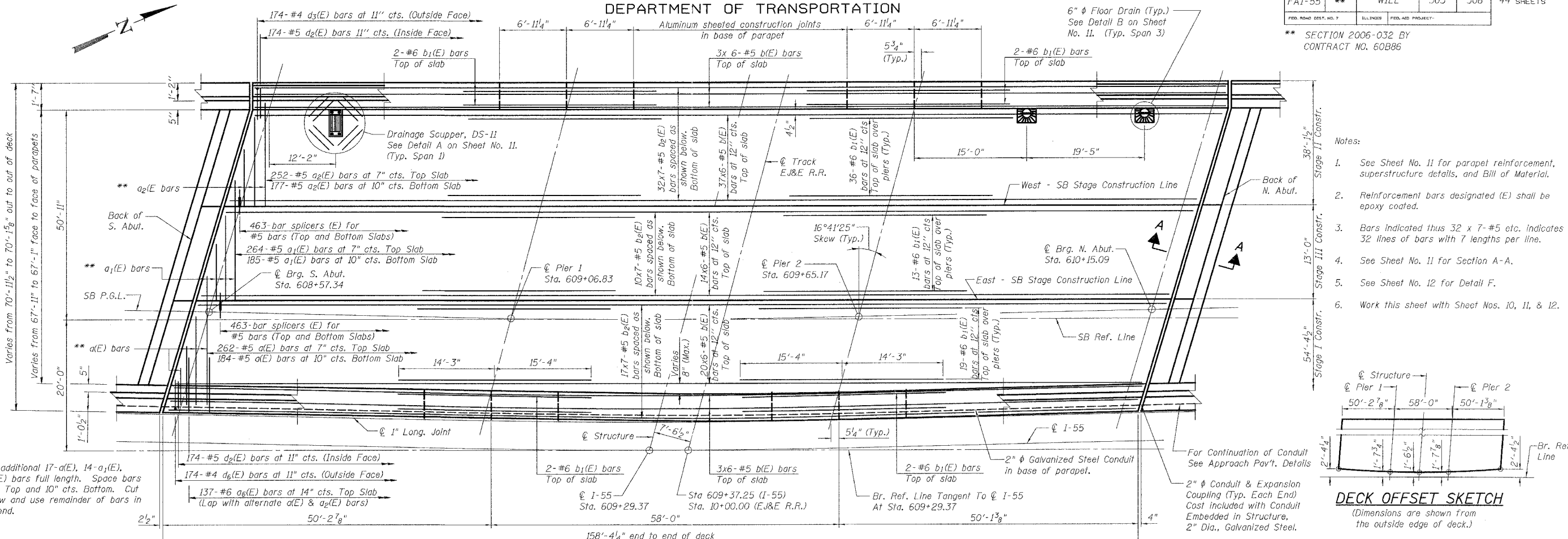
TOP OF SLAB ELEVATION III  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



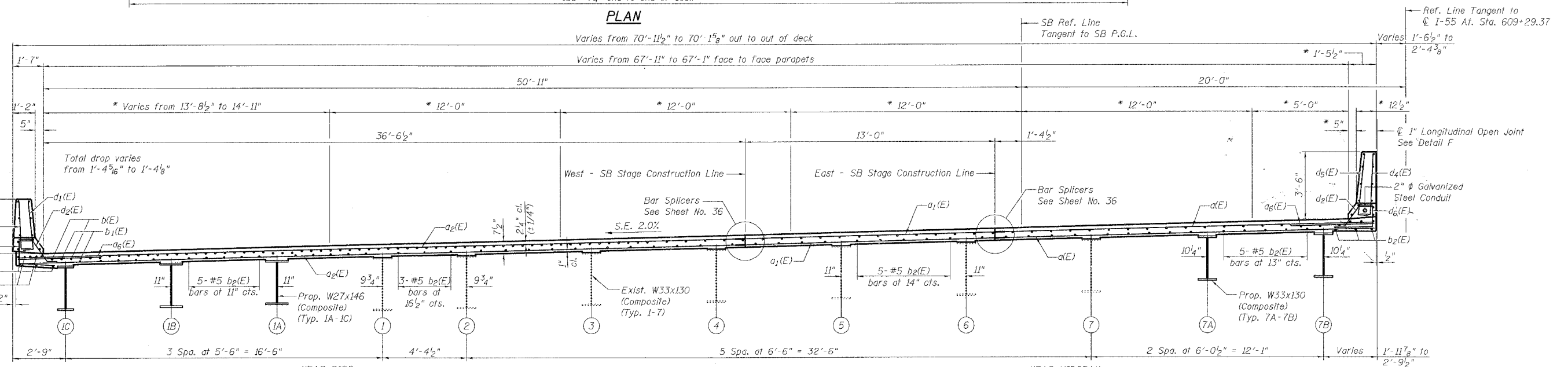
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 9
FAI-55	**	WILL	505	306	44 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



\*\* Order an additional 17-a(E), 14-a1(E), & 35-a2(E) bars full length. Space bars at 7" cts. Top and 10" cts. Bottom. Cut to fit skew and use remainder of bars in opposite end.



DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

\* Designates radial dimensions normal to  $\phi$  I-55.

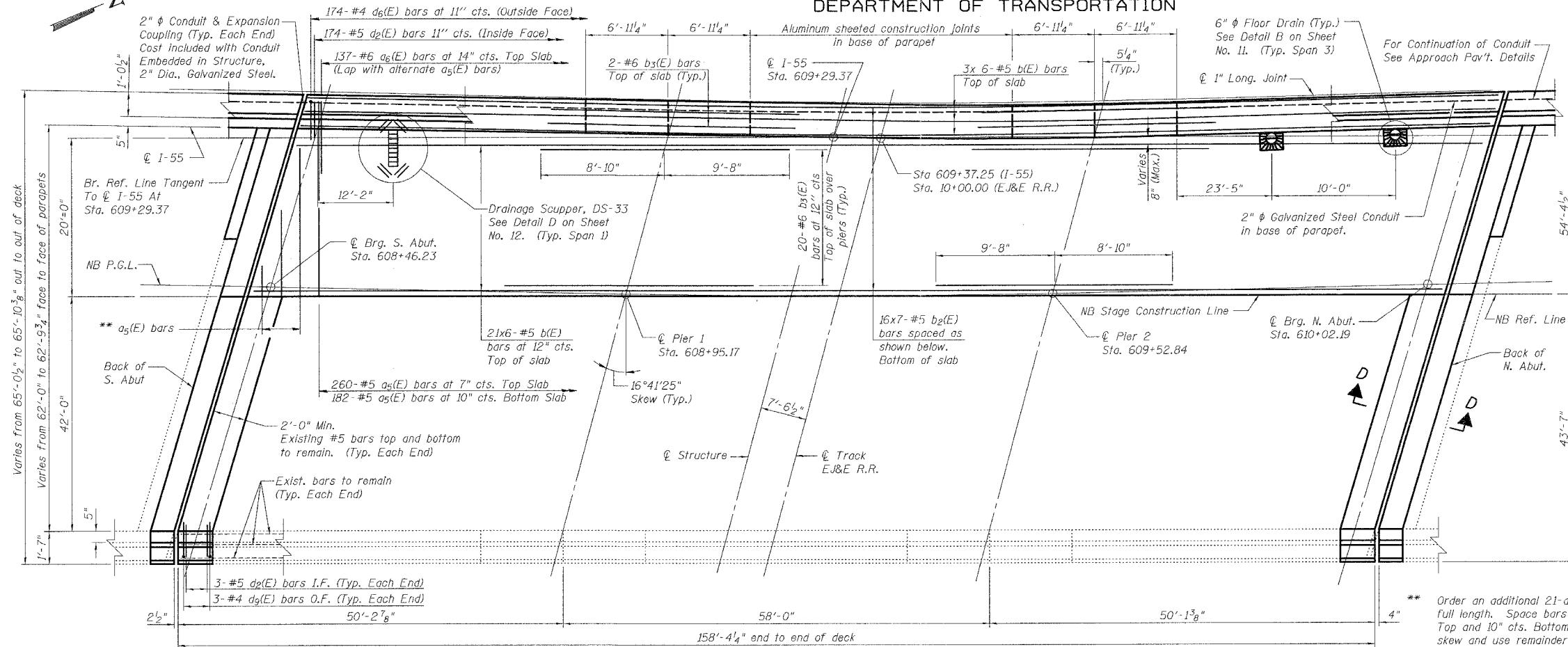


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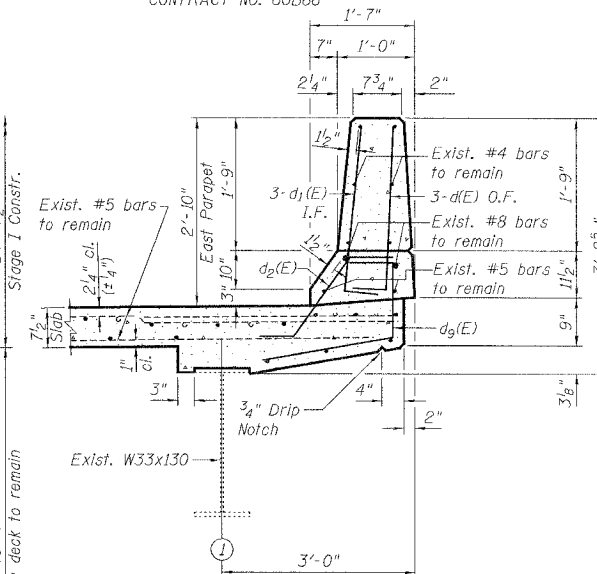
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	PROJECT NO.	SHEET NO.
FAI-55	**	WILL	505 307	44 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



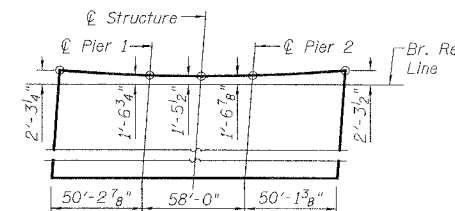
PLAN



SECTION THRU NB EAST PARAPET  
(2'-0" Min. to be removed and reconstructed)

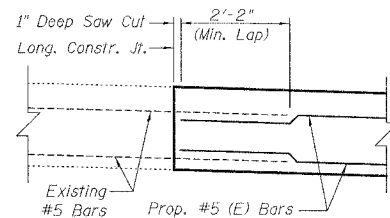
Note:

Existing reinforcement extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.



DECK OFFSET SKETCH

(Dimensions are shown from the outside edge of deck.)

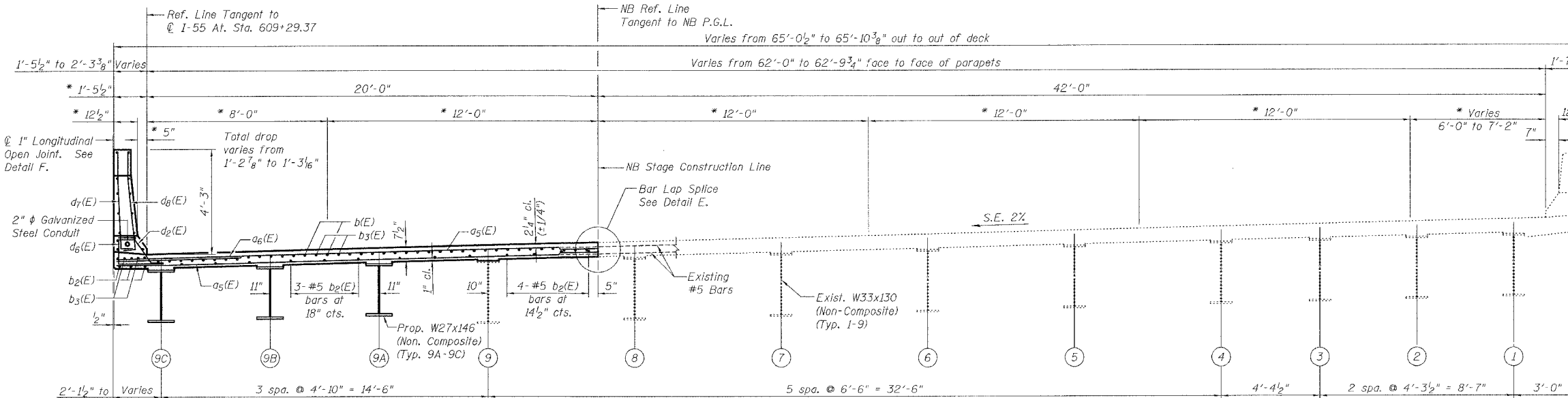


DETAIL E

Note:

Remove existing concrete to expose a minimum of 2'-2" of the existing top and bottom transverse bars which shall be incorporated into new construction.

NB DECK PLAN AND SECTION  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)



CROSS SECTION  
(Looking North)

\* Designates radial dimensions normal to  $\phi$  I-55.

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

Notes:

- See Sheet No. 12 for superstructure details, parapet reinforcement, and Bill of Material.
- Reinforcement bars designated (E) shall be epoxy coated.
- Bars indicated thus 16 x 7-#5 etc. indicates 16 lines of bars with 7 lengths per line.
- See Sheet No. 12 for Section D-D & Detail F.
- Work this sheet with Sheet Nos. 9, 11 & 12.

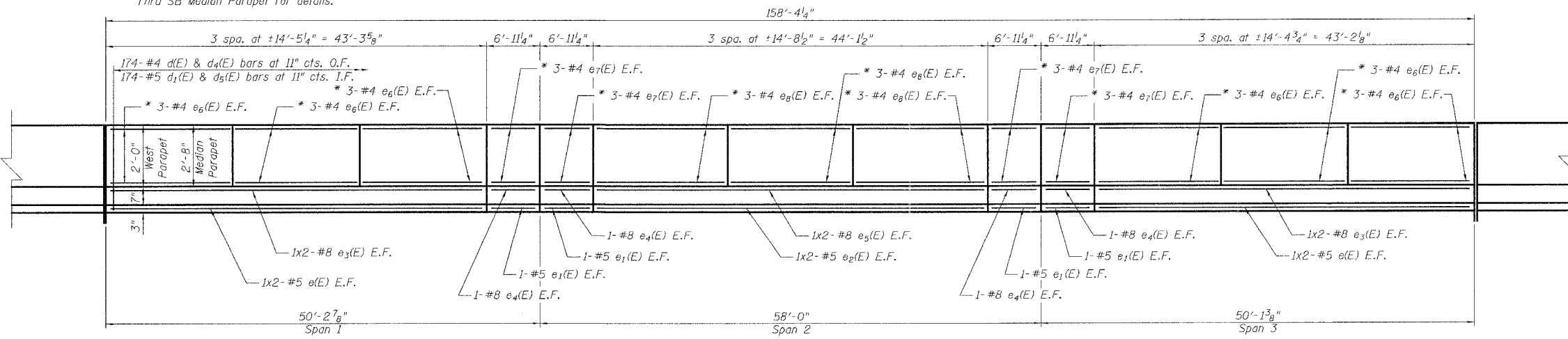


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

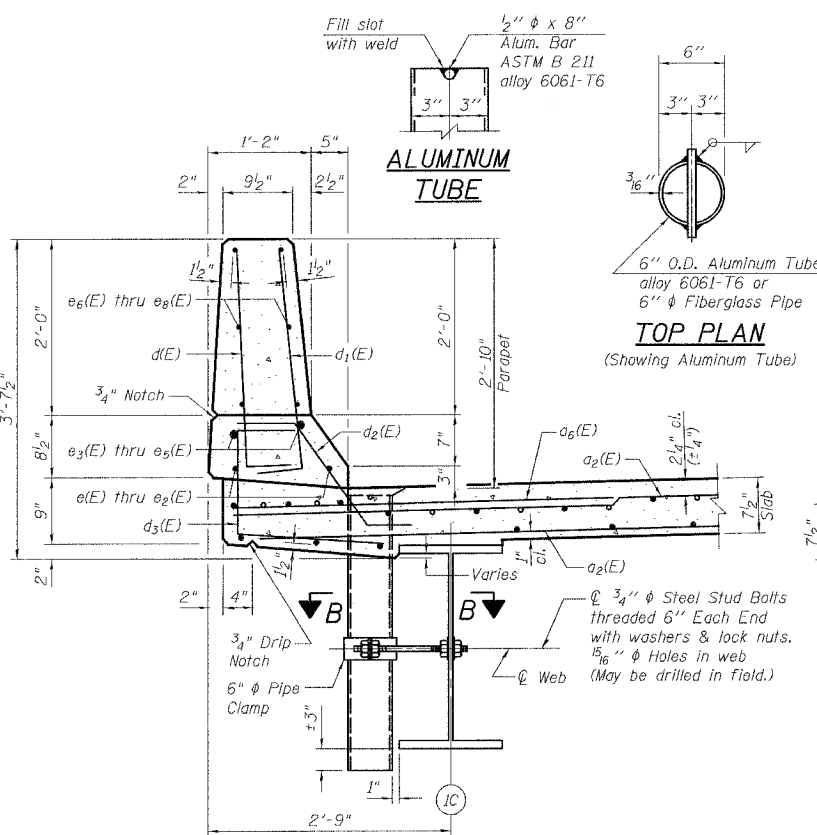
ROUTE NO.	SECTION	COUNTY	CONTRACT NO.	SHEET NO.	SHEET NO. 11
FAI-55	**	WILL	505	308	44 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

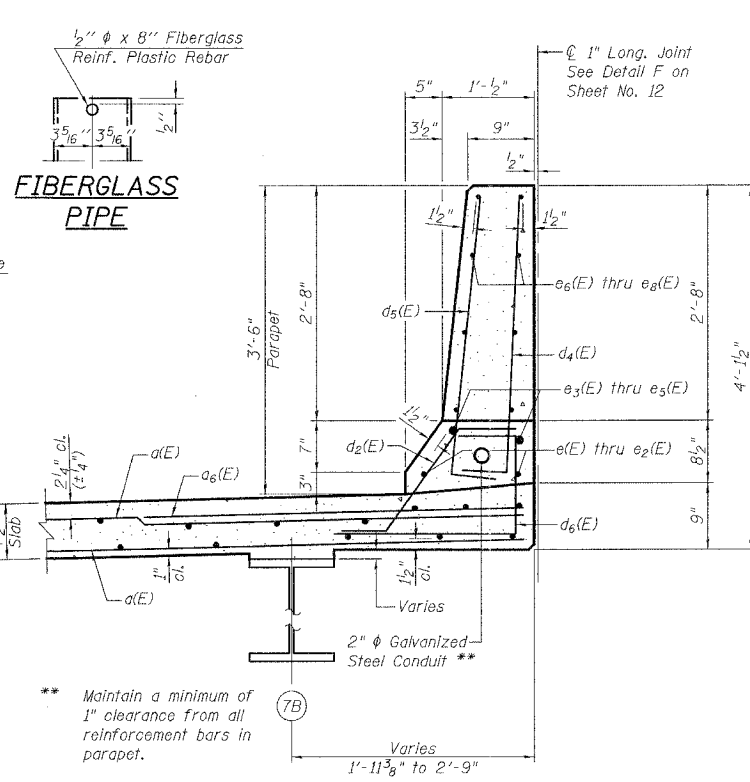
Note:  
1. \* Indicates that an additional line of bars is required in the top portion of the median parapet. See Section Thru SB Median Parapet for details.



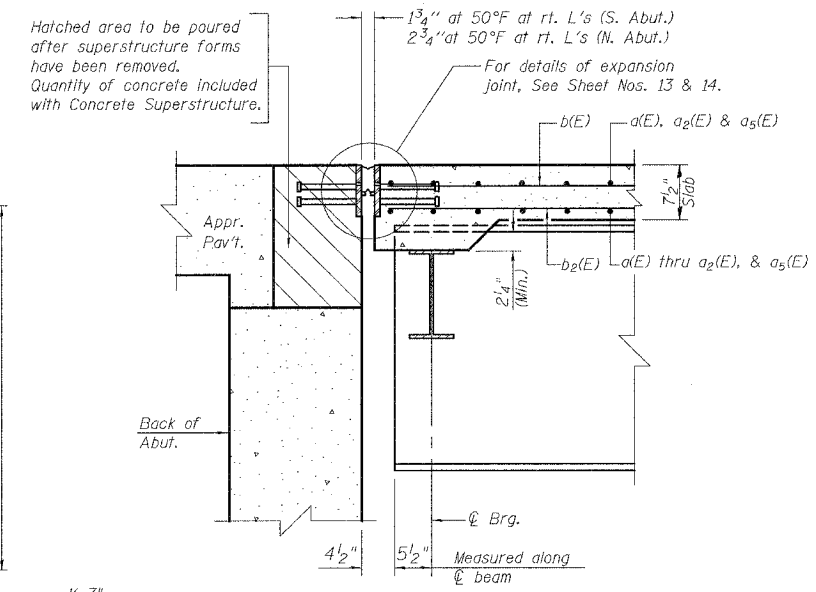
INSIDE ELEVATION OF SB WEST & MEDIAN PARAPET



SECTION THRU SB WEST PARAPET  
(Floor Drain similar at NB Median Parapet)



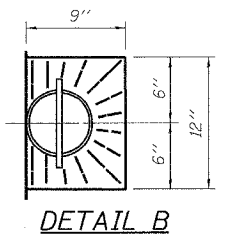
SECTION THRU SB MEDIAN PARAPET



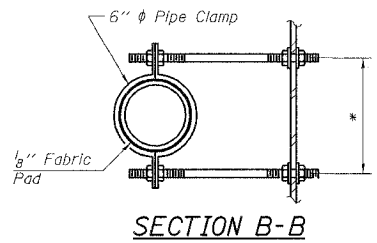
SECTION A-A

- Notes:
1. Reinforcement bars designated (E) shall be epoxy coated.
  2. Bars indicated thus 1 x 2-#5 etc. indicates 1 lines of bars with 2 lengths per line.
  3. Cut longitudinal reinforcement to clear Drainage Scuppers & Floor Drains.
  4. The exterior surfaces of the floor drains shall be painted to match the fascia beams and as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Steel Structures Painting Council's Spec. SSPC-SPI prior to painting.
  5. Work this sheet with Sheet Nos. 9, 10, & 12.

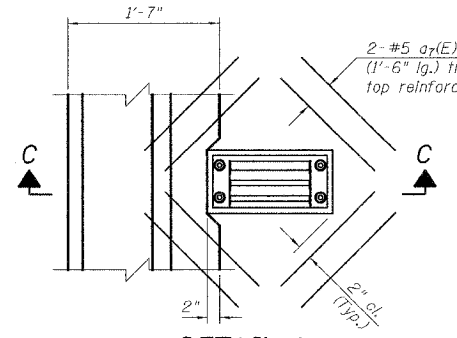
DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI



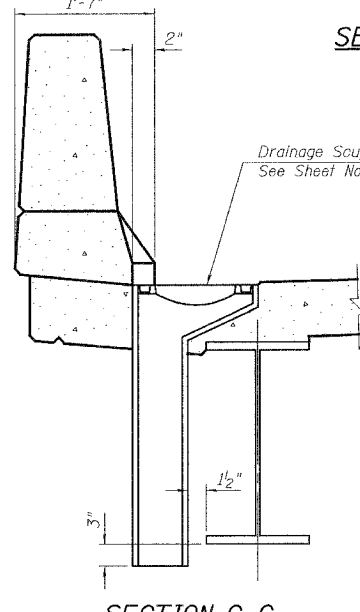
DETAIL B



SECTION B-B



DETAIL A



SECTION C-C

MIN. BAR LAPS

#4	1'-8"
#5	2'-2"
#8	4'-6"

BILL OF MATERIAL  
SB SUPERSTRUCTURE

Bar	No.	Size	Length	Shape
a(E)	463	#5	18'-6"	—
a1(E)	463	#5	12'-9"	—
a2(E)	463	#5	37'-6"	—
a6(E)	274	#6	5'-4"	—
a7(E)	8	#5	1'-6"	—
b(E)	462	#5	28'-3"	—
b1(E)	144	#6	29'-7"	—
b2(E)	413	#5	24'-6"	—
d(E)	174	#4	3'-0"	—
d1(E)	174	#5	3'-0"	—
d2(E)	348	#5	2'-5"	—
d3(E)	174	#4	3'-4"	—
d4(E)	174	#4	3'-8"	—
d5(E)	174	#5	3'-8"	—
d6(E)	174	#4	3'-9"	—
e(E)	16	#5	22'-9"	—
e1(E)	16	#5	6'-7"	—
e2(E)	8	#5	23'-2"	—
e3(E)	16	#8	23'-11"	—
e4(E)	16	#8	6'-7"	—
e5(E)	8	#8	24'-4"	—
e6(E)	84	#4	14'-1"	—
e7(E)	56	#4	6'-7"	—
e8(E)	42	#4	14'-5"	—
Reinforcement Bars, Epoxy Coated	Pound		73,610	
Concrete Superstructure	Cu. Yds.		331.3	
Protective Coat	Sq. Yd.		1,354	
Bridge Deck Grooving	Sq. Yd.		1,153	
Floor Drains	Each		2	
Conduit Embedded in Structure, 2" Dia., Galvanized Steel	Foot		159	
Protective Shield	Sq. Yd.		470.2	

SUPERSTRUCTURE DETAILS I  
I-55 OVER E.J.&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



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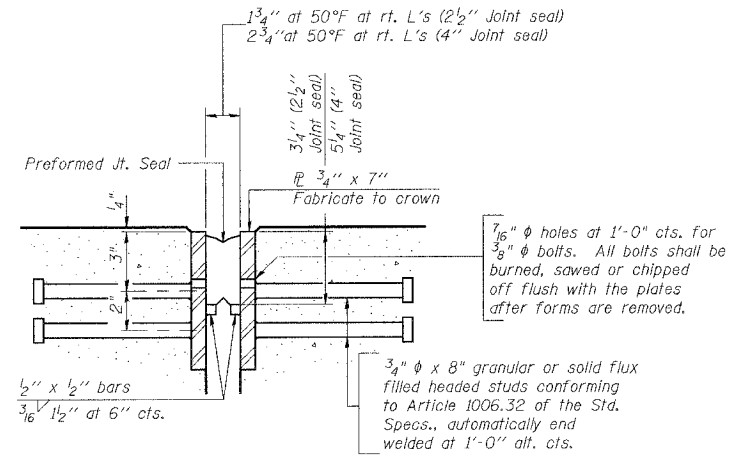


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	310
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

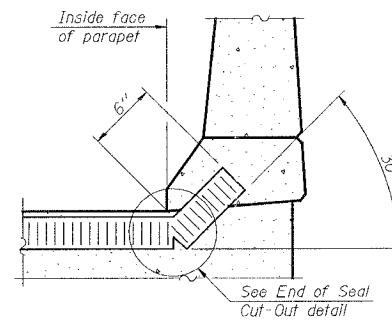
SHEET NO. 13  
44 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



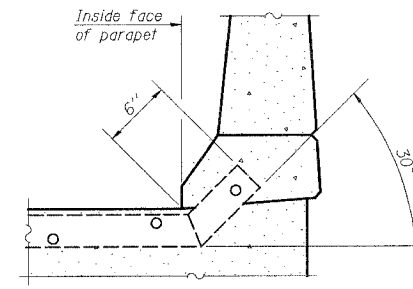
**SECTION THRU EXPANSION JOINT**

(288 Studs Required for SB Bridge)  
(272 Studs Required for NB Bridge)



**AT PARAPET**

(Showing seal)



**AT PARAPET**

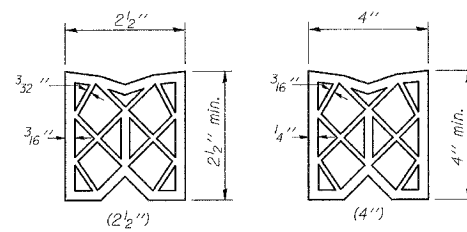
(Showing plate)

**GENERAL NOTES**

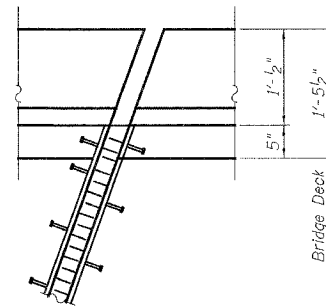
- Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant suitable for structural steel.

Bridge Joint System (Expansion)		
Design Movement	Required Preformed Joint Seal Size	Required Strip Seal Rated movement
1"	2 1/2"	1"
1 5/8"	4"	2"

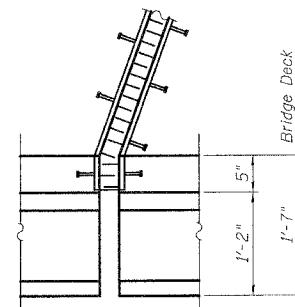
**TYPICAL END TREATMENTS**



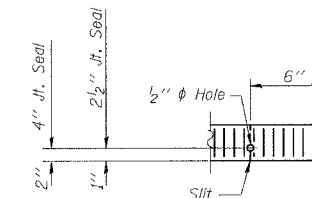
**PREFORMED JOINT SEAL**



**PLAN AT MEDIAN PARAPETS**



**PLAN AT OUTSIDE PARAPETS**



**END OF SEAL CUT-OUT**

**SB BRIDGE  
BILL OF MATERIAL**

Item	Unit	Total
Bridge Joint System (Expansion), 1"	Foot	71.1
Bridge Joint System (Expansion), 1 5/8"	Foot	71.1

**NB BRIDGE  
BILL OF MATERIAL**

Item	Unit	Total
Bridge Joint System (Expansion), 1"	Foot	66.6
Bridge Joint System (Expansion), 1 5/8"	Foot	66.6

(Sheet 1 of 2)  
**BRIDGE JOINT SYSTEM - EXPANSION  
(PREFORMED JOINT SEAL)**  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

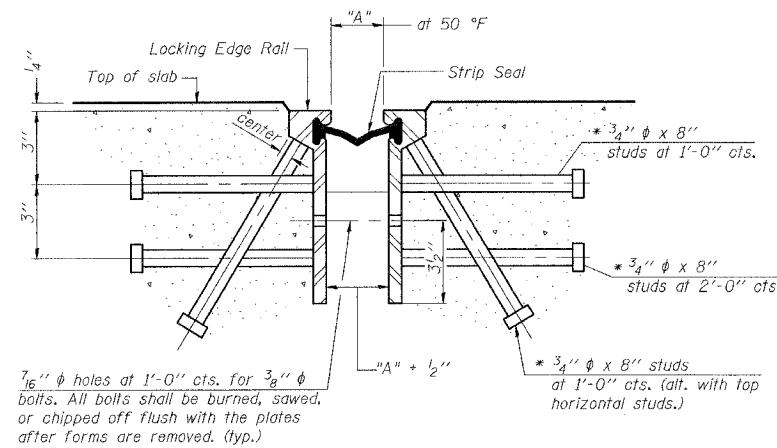
Date: 6/30/2006

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

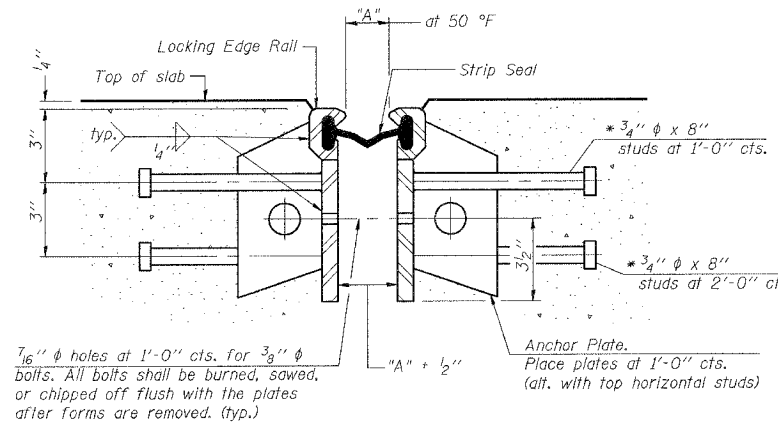
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	311
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 14  
44 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



Required Strip Seal rated movement	"A"
1"	1 1/8"
2"	1 3/4"



**GENERAL NOTES**

1. The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.
2. The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.
3. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.
4. The manufacturer's recommended installation methods shall be followed.
5. The joint opening and deck dimensions detailed on the superstructure are based on a preformed joint seal. If the contractor elects to use the alternate strip seal joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

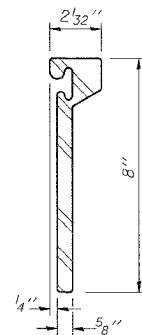
**SECTION THRU ROLLED RAIL EXP. JOINT**

(432 Studs Required For SB Bridge)  
(408 Studs Required For NB Bridge)

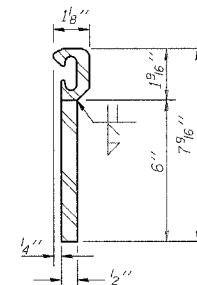
\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

**SECTION THRU WELDED RAIL EXP. JOINT**

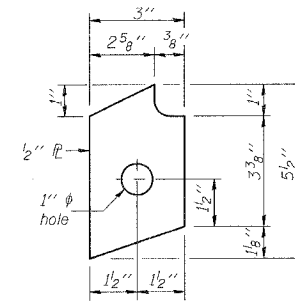
(288 Studs & 144 Anchor Plates Required for SB Bridge)  
(272 Studs & 136 Anchor Plates Required for NB Bridge)



**ROLLED (EXTRUDED) RAIL**

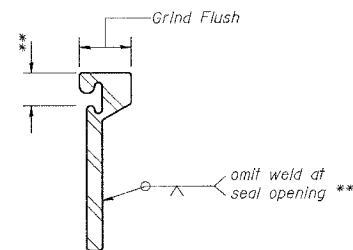


**WELDED RAIL**



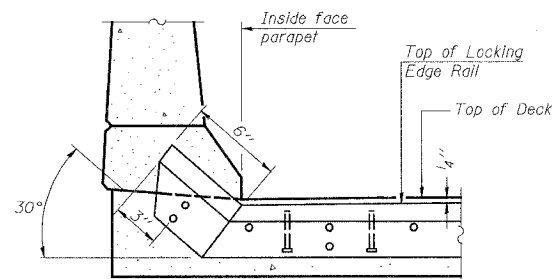
**ANCHOR PLATE**  
(for welded rail)

**LOCKING EDGE RAILS**



**LOCKING EDGE RAIL SPLICE**

The inside of the locking edge rail groove shall be free of weld residue.



**AT PARAPETS**

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

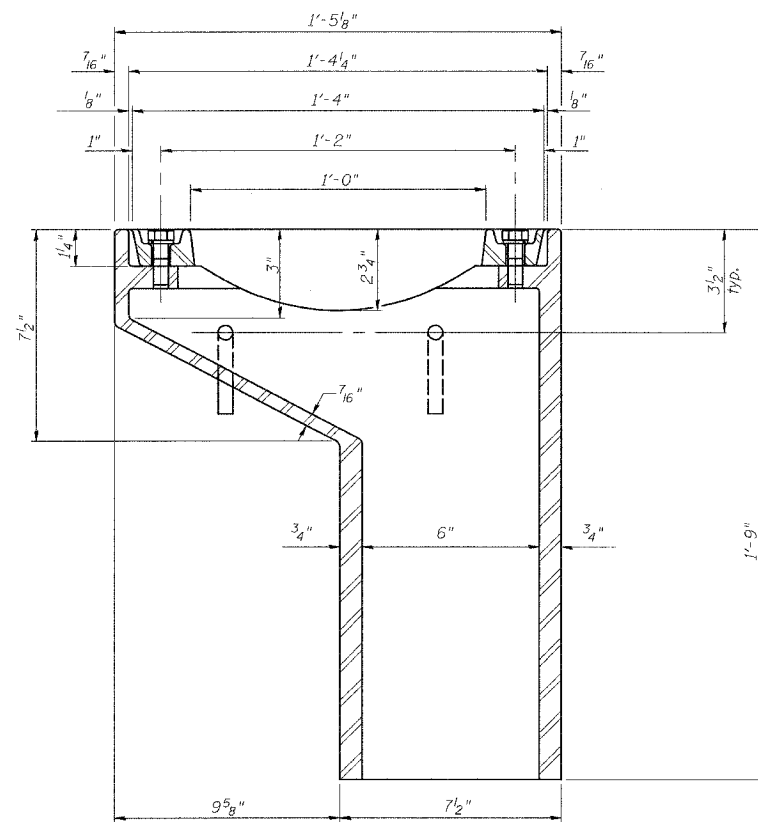
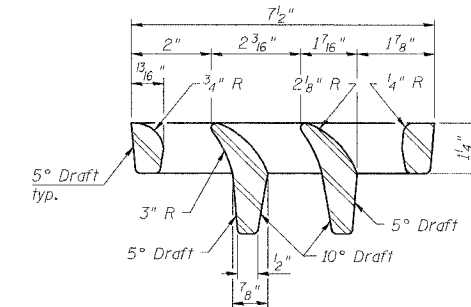
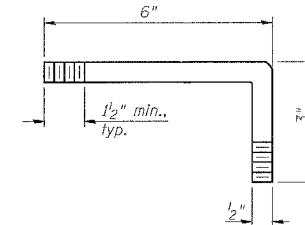
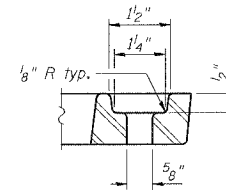
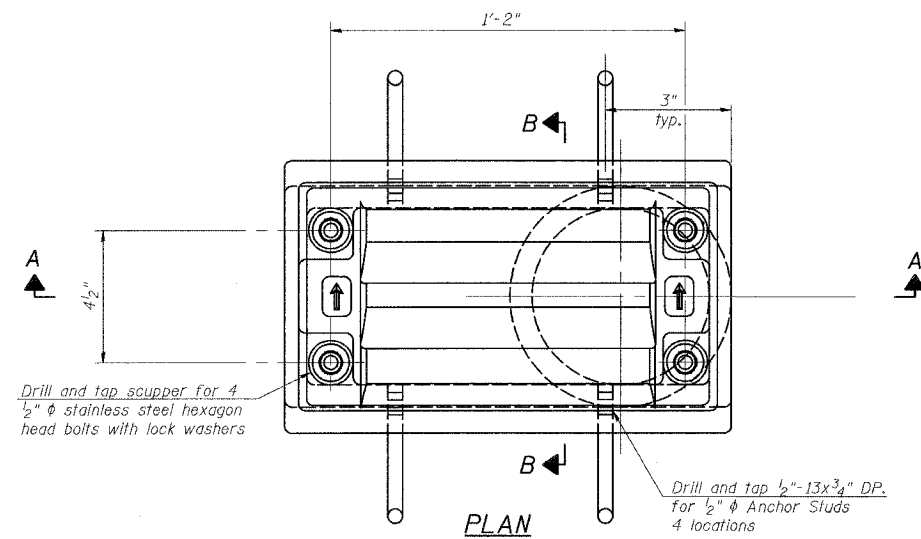


(Sheet 2 of 2)  
**BRIDGE JOINT SYSTEM-EXPANSION  
(ALTERNATE STRIP SEAL)  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)**

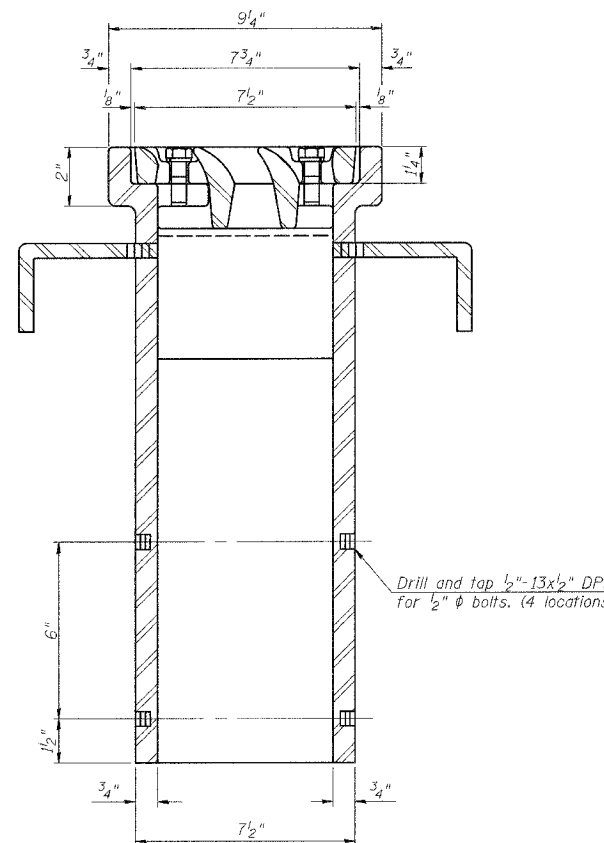
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15
FAI-55	**	WILL	505	312	44 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



SECTION A-A  
See Sheet No. 9 for scupper location relative to parapet.



Notes:

- All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
- Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
- The grate, frame and downspout shall be galvanized according to AASHTO M 111 and ASTM A 385. Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.
- As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.
- Structural steel weldments of equal sections and of the same configuration may be substituted for cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.
- The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
- Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

SB BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	1

DRAINAGE SCUPPER, DS-11  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



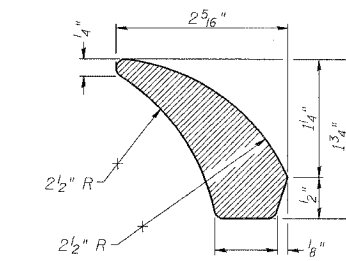
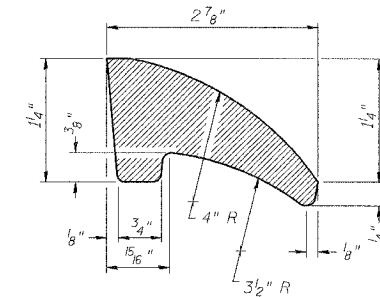
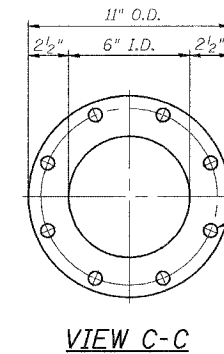
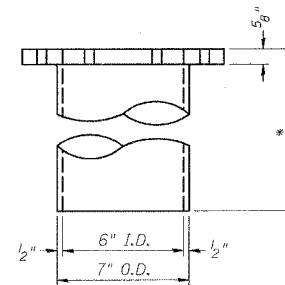
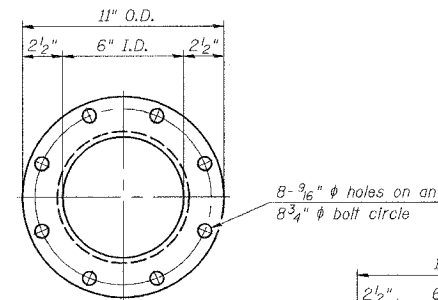
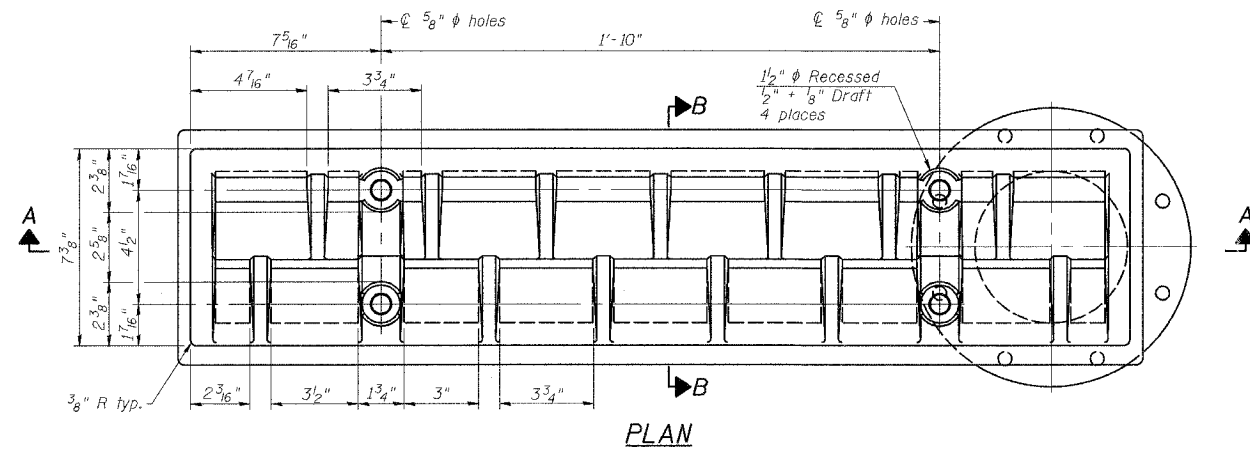
DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

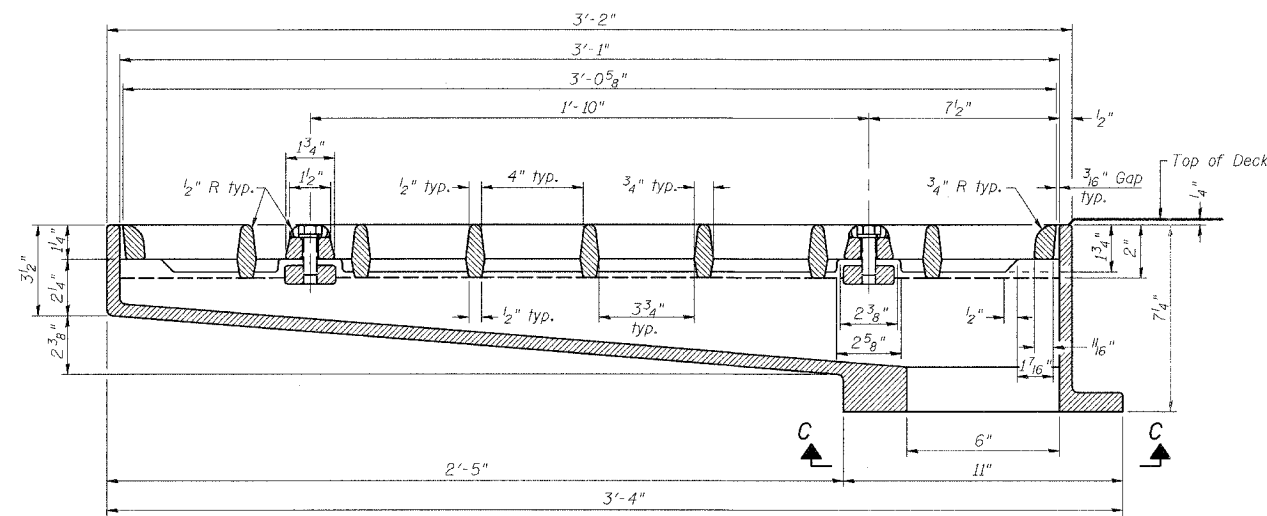
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 16 44 SHEETS
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FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO.			

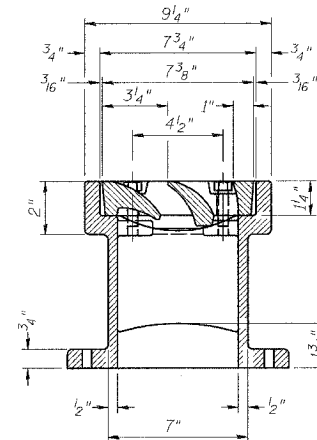
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



\* See Section Thru NB Median Parapet  
for details on Sheet No. 12.

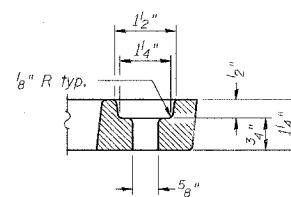


See Sheet No. 10 for scupper location relative to parapet.



Notes:

- All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
- Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
- The grate, frame and downspout shall be galvanized according to AASHTO M 111 and ASTM A 385. Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.
- As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.
- Structural steel weldments of equal sections and of the same configuration may be substituted for cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.
- The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
- Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-33.



NB BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-33	Each	1



DRAINAGE SCUPPER, DS-33  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

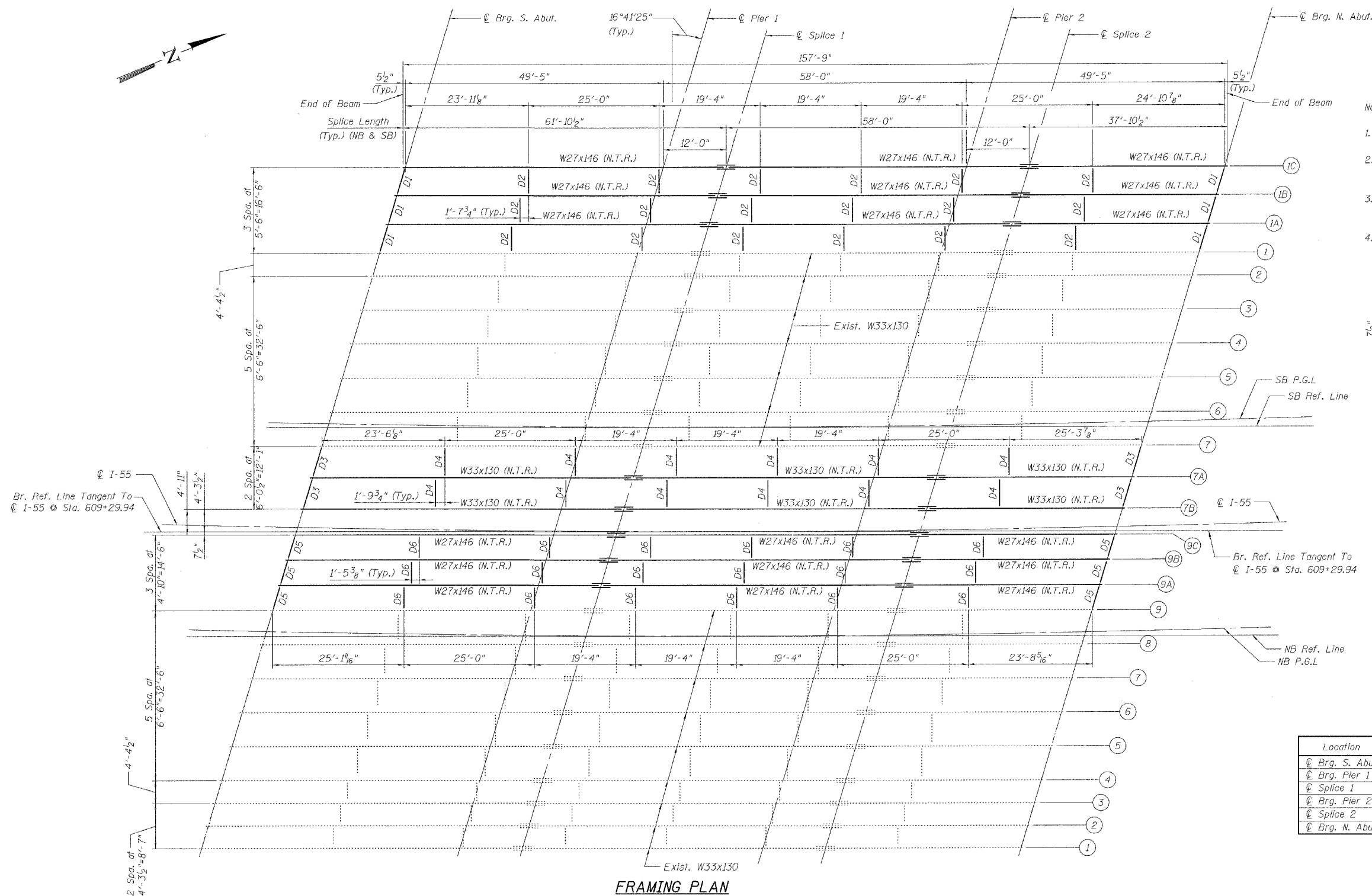
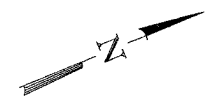
Date: 6/30/2006

DS-33 8/1/2000

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

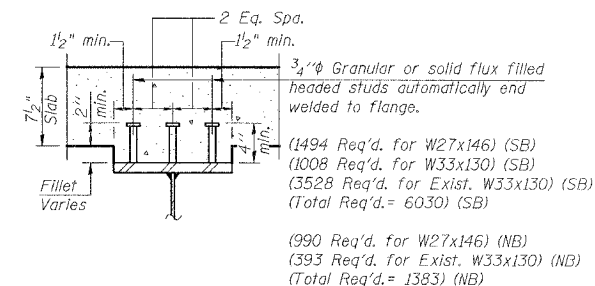
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO. 17
FAI-55	**	WILL	505	314	44 SHEETS
FED. AID DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



Notes:

- All plates except for fill plates shall conform to N.T.R.
- N.T.R. denotes members subject to the supplemental requirements for notch toughness (Zone 2).
- All work shall be performed after existing concrete has been removed.
- See Sheet Nos. 18 & 19 for Beam Elevations, Sections and Details.



SECTION A-A

TOP OF BEAM ELEVATIONS (N.B.)  
(FOR FABRICATION ONLY)

Location	Beam 9A	Beam 9B	Beam 9C
Br. S. Abut.	637.618	637.529	637.440
Br. Pier 1	637.786	637.695	637.604
Splice 1	637.827	637.736	637.644
Br. Pier 2	637.949	637.856	637.762
Splice 2	637.981	637.887	637.793
Br. N. Abut.	638.101	638.005	637.908

TOP OF BEAM ELEVATIONS (S.B.)  
(FOR FABRICATION ONLY)

Location	Beam 1A	Beam 1B	Beam 1C	Beam 7A	Beam 7B
Br. S. Abut.	637.640	637.538	637.436	638.534	638.645
Br. Pier 1	637.777	637.673	637.568	638.668	638.782
Splice 1	637.810	637.705	637.600	638.701	638.815
Br. Pier 2	637.899	637.792	637.684	638.813	638.931
Splice 2	637.922	637.814	637.705	638.842	638.961
Br. N. Abut.	638.013	637.902	637.791	638.985	639.105

FRAMING PLAN

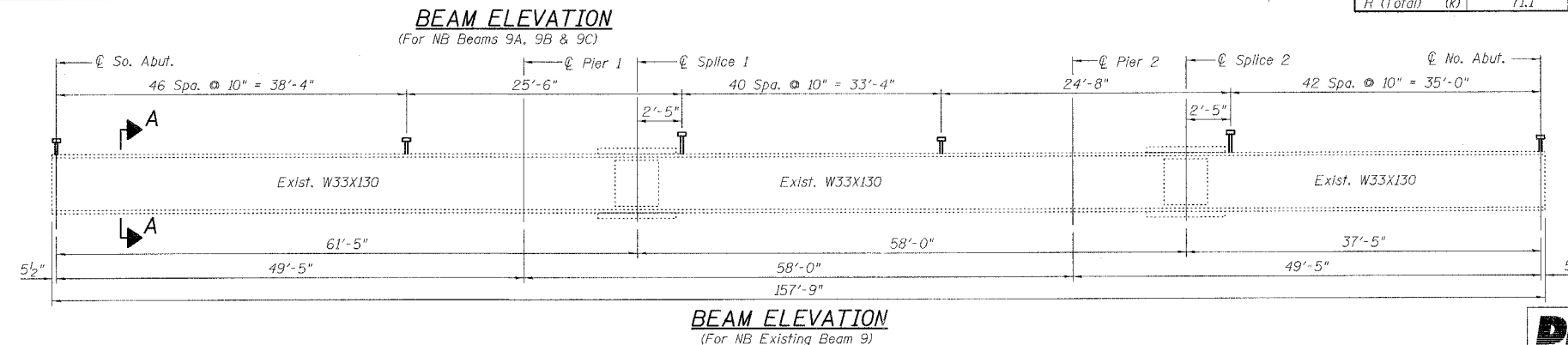
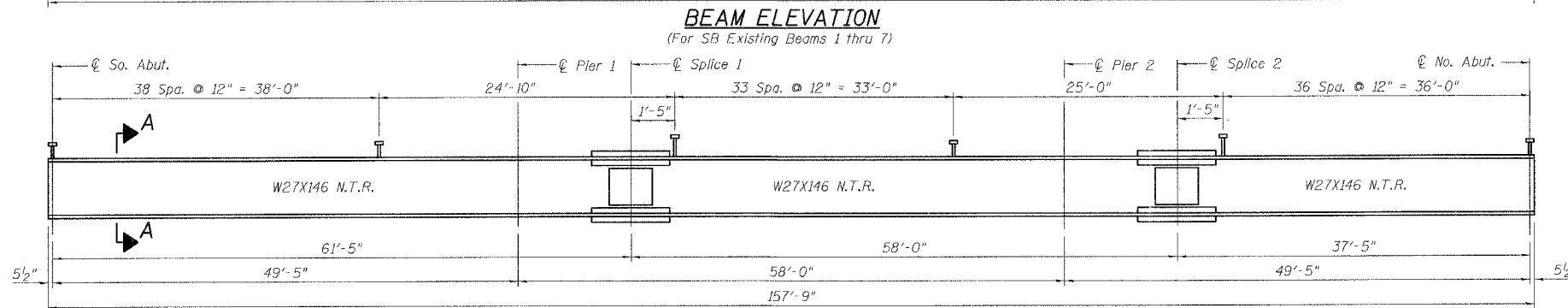
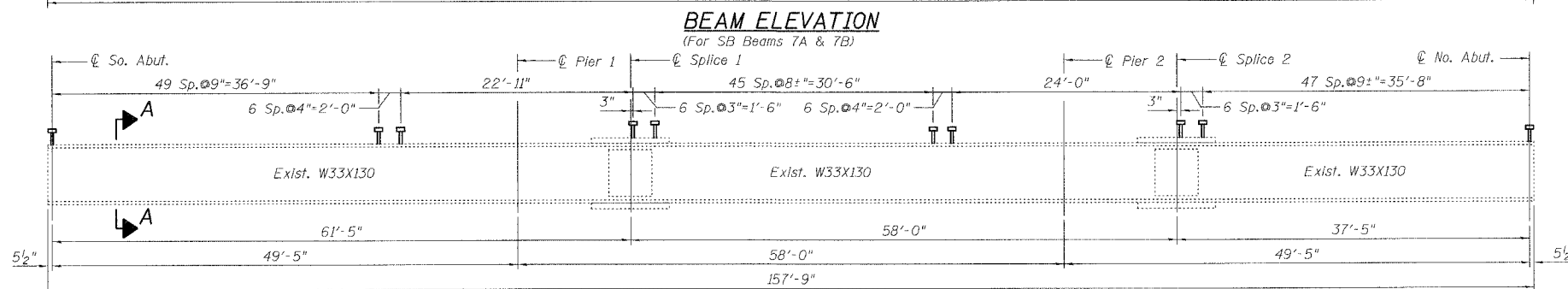
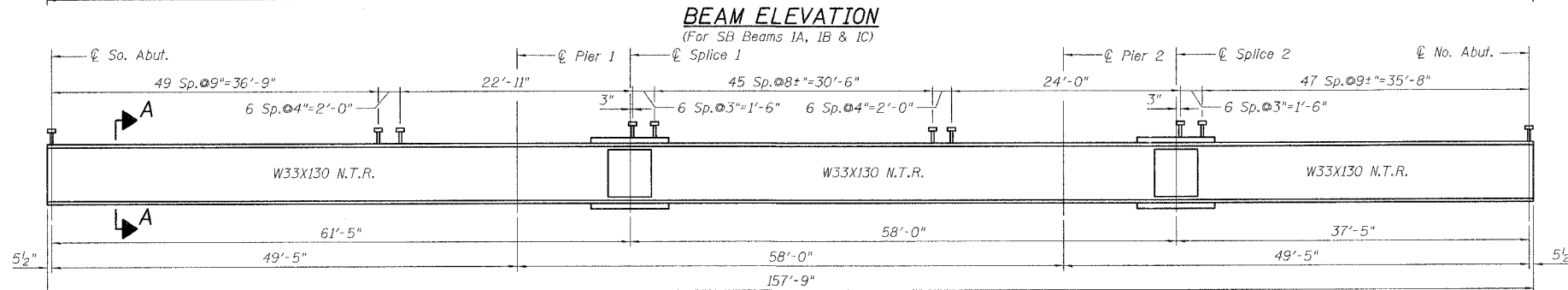
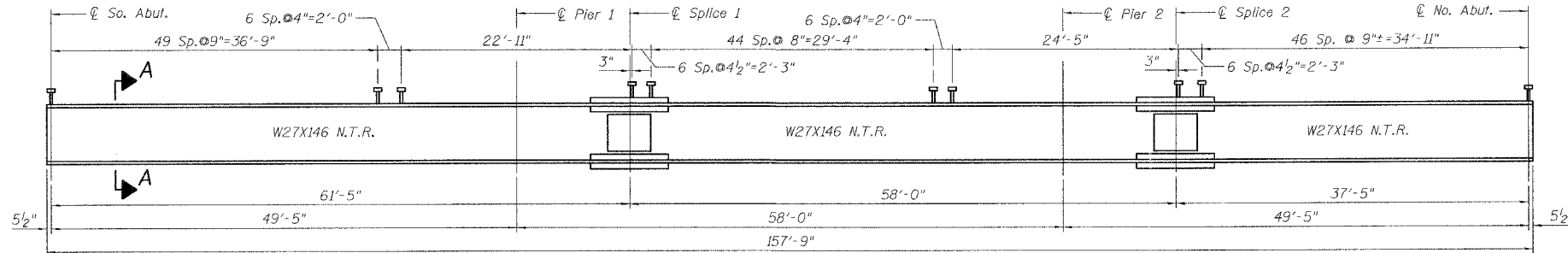
DESIGNED	J. ZUO
CHECKED	A. HAMMAD
DRAWN	Z. MORILLO
CHECKED	J. GRAINAWI

Date: 6/30/2006



FRAMING PLAN  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



INTERIOR GIRDER MOMENT TABLE  
(SB PROPOSED BEAMS 1A & 1B, COMPOSITE)

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
$I_s$ (in <sup>4</sup> )	5630	5630	5630
$I_c$ (in <sup>4</sup> )	14996		14996
$I_c$ (3n) (in <sup>4</sup> )	10570		10570
$S_s$ (in <sup>3</sup> )	411	411	411
$S_c$ (in <sup>3</sup> )	609		609
$S_c$ (3n) (in <sup>3</sup> )	542		542
$Z$ (in <sup>3</sup> )			
$\phi$ (k/ft.)	0.710	1.090	0.710
$M\phi$ (k)	128	299	96
$s\phi$ (k/ft.)	0.380		0.380
$M_s\phi$ (k)	73		65
$M_t$ (k)	264	145	269
$M$ (Imp) (k)	76	41	73
$\phi_3[M_t + M(imp)]$ (k)	567	309	571
$M_a$ (k)	998	790	951
$M_u$ (k)	1901		2193
$f_s\phi$ non-comp (k.s.i.)	3.7	8.7	2.8
$f_s\phi$ (comp) (k.s.i.)	1.6		1.4
$f_s\phi_3(\phi + imp)$ (k.s.i.)	11.2	9.0	11.3
$f_s$ (Overload) (k.s.i.)	16.5	17.8	15.5
$f_s$ (Total) (k.s.i.)		23.1	
VR (k)	45.5		34.2

INTERIOR GIRDER REACTION TABLE  
(SB PROPOSED BEAMS 1A & 1B, COMPOSITE)

	Abut.	Pier
$R\phi$ (k)	21.0	64.8
$R_t$ (k)	32.6	37.9
Imp. (k)	9.4	10.5
$R$ (Total) (k)	63.0	113.2

INTERIOR GIRDER MOMENT TABLE  
(SB EXISTING BEAMS, COMPOSITE)

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
$I_s$ (in <sup>4</sup> )	6710	6710	6710
$I_c$ (in <sup>4</sup> )	18994		18994
$I_c$ (3n) (in <sup>4</sup> )	13690		13690
$S_s$ (in <sup>3</sup> )	406	406	406
$S_c$ (in <sup>3</sup> )	621		621
$S_c$ (3n) (in <sup>3</sup> )	557		557
$Z$ (in <sup>3</sup> )			
$\phi$ (k/ft.)	0.790	1.170	0.790
$M\phi$ (k)	140	318	105
$s\phi$ (k/ft.)	0.380		0.380
$M_s\phi$ (k)	74		67
$M_t$ (k)	313	168	319
$M$ (Imp) (k)	90	47	87
$\phi_3[M_t + M(imp)]$ (k)	671	359	677
$M_a$ (k)	1151	881	1104
$M_u$ (k)	1854		2038
$f_s\phi$ non-comp (k.s.i.)	4.2	9.4	3.1
$f_s\phi$ (comp) (k.s.i.)	1.6		1.4
$f_s\phi_3(\phi + imp)$ (k.s.i.)	13.0	10.6	13.1
$f_s$ (Overload) (k.s.i.)	18.7	20.0	17.7
$f_s$ (Total) (k.s.i.)		26.0	
VR (k)	52.9		39.3

INTERIOR GIRDER REACTION TABLE  
(SB EXISTING BEAMS, COMPOSITE)

	Abut.	Pier
$R\phi$ (k)	22.4	69.0
$R_t$ (k)	37.9	44.1
Imp. (k)	10.9	12.3
$R$ (Total) (k)	71.1	125.4

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO.
FAJ-55	**	WILL	505	315	44 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60886

INTERIOR GIRDER MOMENT TABLE  
(SB PROPOSED BEAM 7A, COMPOSITE)

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
$I_s$ (in <sup>4</sup> )	6710	6710	6710
$I_c$ (in <sup>4</sup> )	18645		18645
$I_c$ (3n) (in <sup>4</sup> )	13365		13365
$S_s$ (in <sup>3</sup> )	406	406	406
$S_c$ (in <sup>3</sup> )	617		617
$S_c$ (3n) (in <sup>3</sup> )	552		552
$Z$ (in <sup>3</sup> )			
$\phi$ (k/ft.)	0.740	1.120	0.740
$M\phi$ (k)	133	306	100
$s\phi$ (k/ft.)	0.380		0.380
$M_s\phi$ (k)	74		66
$M_t$ (k)	291	158	297
$M$ (Imp) (k)	84	44	81
$\phi_3[M_t + M(imp)]$ (k)	625	336	630
$M_a$ (k)	1081	835	1035
$M_u$ (k)	1903		2169
$f_s\phi$ non-comp (k.s.i.)	3.9	9.0	3.0
$f_s\phi$ (comp) (k.s.i.)	1.6		1.4
$f_s\phi_3(\phi + imp)$ (k.s.i.)	12.2	10.0	12.3
$f_s$ (Overload) (k.s.i.)	17.7	19.0	16.7
$f_s$ (Total) (k.s.i.)		24.7	
VR (k)	48.9		37.7

INTERIOR GIRDER REACTION TABLE  
(SB PROPOSED BEAMS 7A, COMPOSITE)

	Abut.	Pier
$R\phi$ (k)	21.5	66.5
$R_t$ (k)	35.0	40.8
Imp. (k)	10.0	11.3
$R$ (Total) (k)	66.6	118.6

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total & Overload).  
 $I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.  
 $I_c(3n)$  and  $S_c(3n)$  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) =  $1.3[M\phi + M_s\phi + \phi_3(M_t + M(imp))]$ .  
 The Plastic Moment capacity ( $M_u$ ) is computed according to AASHTO 10.48.1 and 10.50.1.1.  
 $f_s$  (Overload) is the sum of the stresses due to  $M\phi + M_s\phi + \phi_3(M_t + M(imp))$ .  
 $f_s$  (Total) (Non-compact section) is the sum of the stresses due to  $1.3[M\phi + M_s\phi + \phi_3(M_t + M(imp))]$ .

- Notes:
- N.T.R. denotes members subject to the supplemental requirements for notch toughness (Zone 2).
  - Verify all existing dimensions in field prior to fabrication.
  - Work this Sheet with Sheet Nos. 17 & 19.
  - For section A-A. See Sheet No. 17.

STRUCTURAL STEEL DETAILS I  
I-55 OVER E&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 009-0018 (NB)  
STRUCTURE NO. 009-0019 (SB)



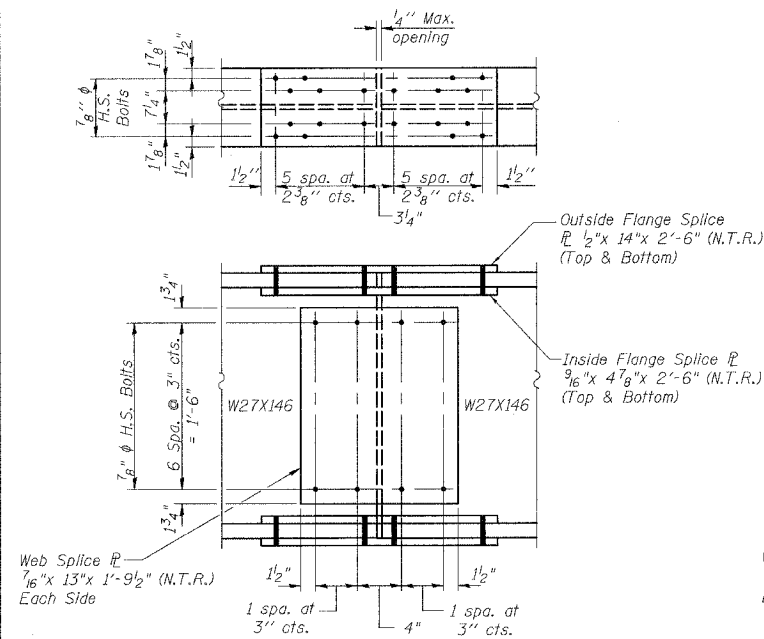
DESIGNED J. ZUO  
CHECKED A. HAMMAD  
DRAWN J. ZUO  
CHECKED J. GRAINAWI  
Date: 6/30/2006

6/30/2006 4:52:58 PM G:\18817A\Struct\Gadul\Pre-Final\EL&E RRR\Final Bridge Contract\092206-00B86-000-00-018.dgn

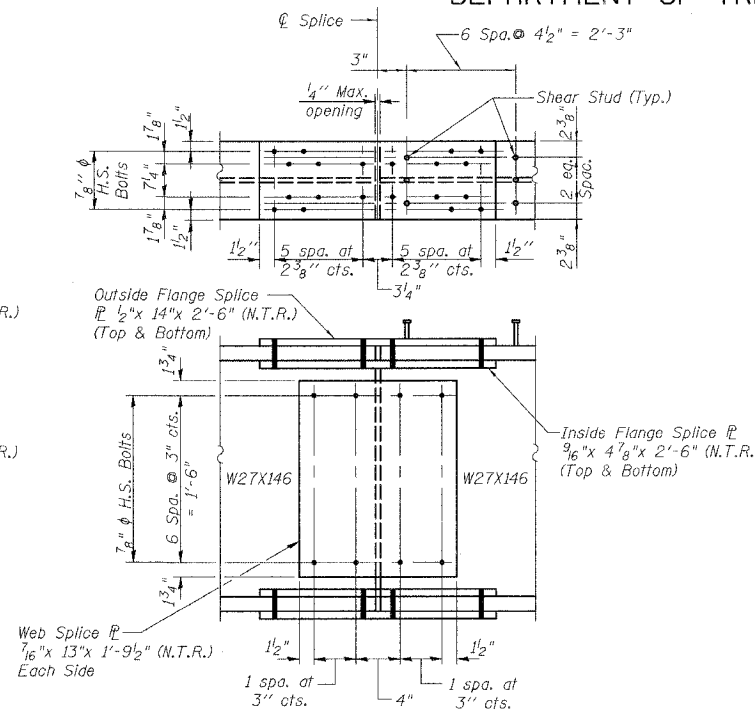
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	LEGAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	316
SHEET NO. DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

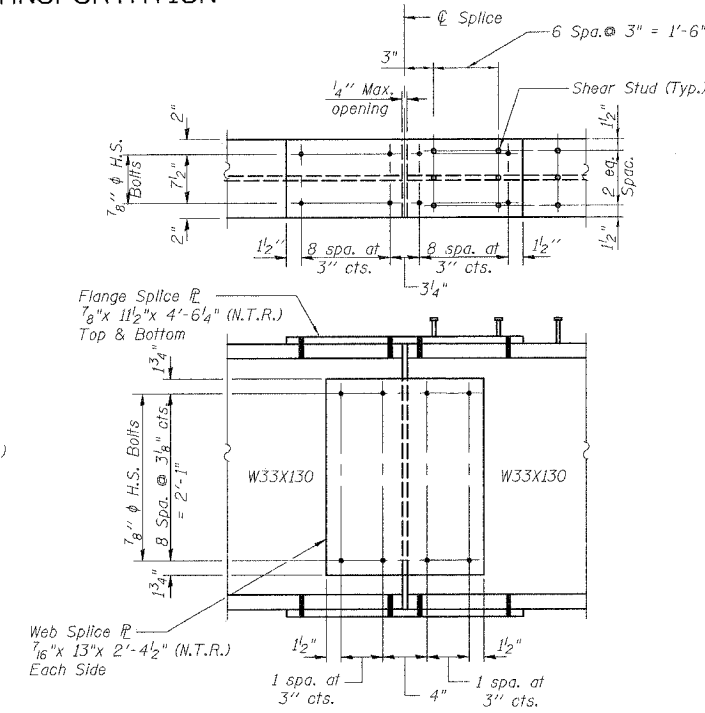
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B06



**SPLICE**  
Splice 1 shown, Splice 2 similar.  
(For NB W27X146, Non-Composite)  
(6 Locations)



**SPLICE**  
Splice 1 shown, Splice 2 similar.  
(For SB W27X146, Composite)  
(6 Locations)



**SPLICE**  
Splice 1 shown, Splice 2 similar.  
(For W33X130, Composite)  
(4 Locations SB)

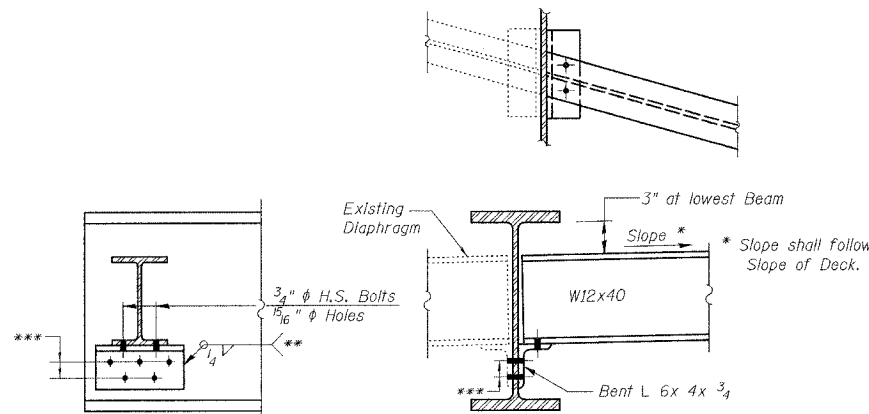
Note:  
All bolts in splices are AASHTO M 164 (ASTM 325)  
7/8" φ with Class A Contact Surfaces and Standard Holes.

INTERIOR GIRDER MOMENT TABLE  
(NB PROPOSED BEAMS 9A & 9B, NON-COMPOSITE)

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I (in) <sup>4</sup>	5630	5630	5630
S (in) <sup>3</sup>	411	411	411
D (k/ft.)	1.020	1.020	1.020
M <sub>p</sub> (k)	183	293	137
M <sub>u</sub> (k)	217	168	209
M (Imp) (k)	62	47	57
M <sub>u</sub> [M <sub>u</sub> +M(Imp)] (k)	465	359	444
M <sub>o</sub> (k)	842	849	757
f <sub>s</sub> (k.s.i.)	5.3	8.6	4.0
f <sub>s</sub> (k.s.i.) (Imp)	13.6	10.5	13.0
f <sub>s</sub> (Overload) (k.s.i.)	18.9	19.1	17.0
f <sub>s</sub> (Total) (k.s.i.)	24.6	24.8	22.1

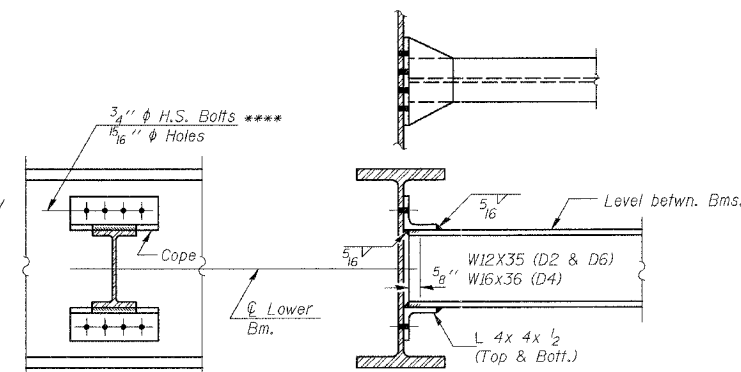
INTERIOR GIRDER REACTION TABLE  
(NB PROPOSED BEAMS 9A & 9B)

	Abut.	Pier
R <sub>p</sub> (k)	19.4	61.0
R <sub>u</sub> (k)	29.1	34.6
Imp. (k)	8.4	9.6
R (Total) (k)	56.8	105.2



**END DIAPHRAGMS D1, D3 & D5**

(6 D1 Required SB)  
(4 D3 Required SB)  
(6 D5 Required NB)



**INTERIOR DIAPHRAGMS D2, D4 & D6**

(18 D2 Required SB)  
(12 D4 Required SB)  
(18 D6 Required NB)

Note:  
Two hardened washers shall be required  
over all oversize holes for diaphragms.

\*\* Field weld angle to existing Beam 1.

\*\*\* Weld the existing angle to the beam prior to removing the existing bolts.  
At existing Beams 7 and 9, remove existing bolts. Drill 1 5/16" φ holes in  
new seat angle L 6x4x3/4" and reconnect with new 3/4" φ H.S. bolts.

\*\*\*\* Drill 1 5/16" φ holes for 3/4" φ H.S. bolts in existing Beams 1, 7 and 9.  
Use new seat angle as template.

Notes:

1. N.T.R. denotes members subject to the supplemental  
requirements for notch toughness (Zone 2).

2. Work this Sheet with Sheet Nos. 17 & 18.



STRUCTURAL STEEL DETAILS II  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 009-0018 (NB)  
STRUCTURE NO. 009-0019 (SB)

DESIGNED	J. ZUO
CHECKED	A. HAMMAD
DRAWN	J. ZUO
CHECKED	J. GRAINAWI

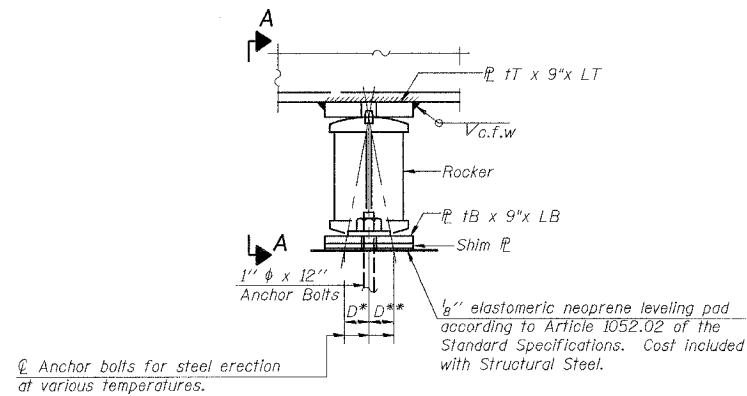
Date: 6/30/2006



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 20
FAI-55	**	WILL	505	317	44 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

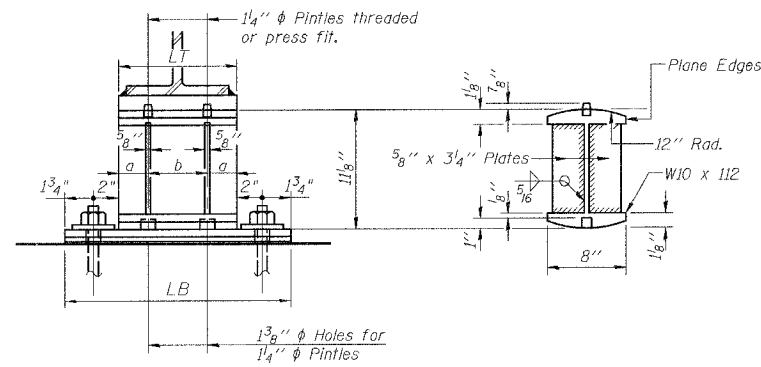
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



**ELEVATION AT PIER 2 (SB)**  
(5 Req'd)

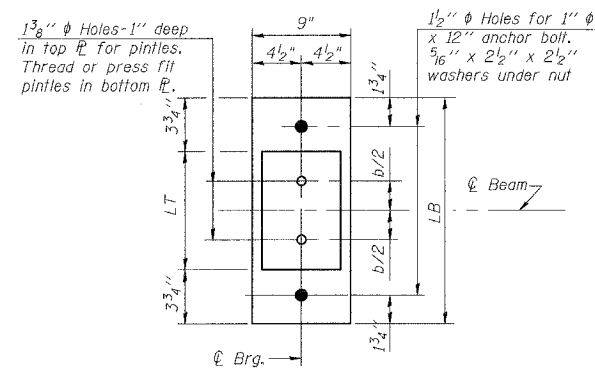
\*  $D = \frac{1}{8}''/100$  ft. of exp. for every 15° below the normal temp. of 50°F.

\*\*  $D = \frac{1}{8}''/100$  ft. of exp. for every 15° above the normal temp. of 50°F.

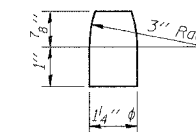


**SECTION A-A**

**DETAIL OF ROCKER**



**PLAN**



**DETAIL OF PINTLE**

Note:

- See Sheet No. 35 for anchor bolt installation. Anchor bolts at fixed bearings may be built into the masonry.

BEAM	LT	LB	tT	tB	a	b	c.f.w.	Total No. Req'd
W33X130	12 1/2"	20"	1 3/8"	1 3/4"	3"	6 1/2"	1 1/2"	2
W27X146	15 1/2"	23"	1 3/4"	1 7/8"	2 1/4"	2 @ 5 1/2"	5/8"	3

DESIGNED	J. ZUO
CHECKED	J. GRAINAWI
DRAWN	J. ZUO
CHECKED	J. GRAINAWI

Date: 6/30/2006



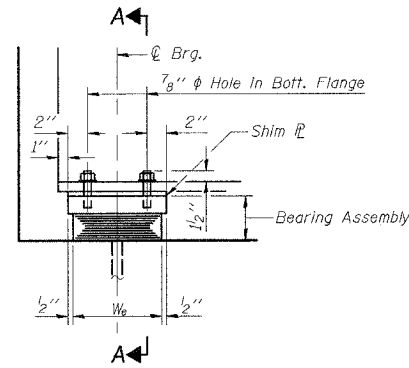
STRUCTURAL STEEL DETAILS III  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 009-0018 (NB)  
STRUCTURE NO. 009-0019 (SB)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

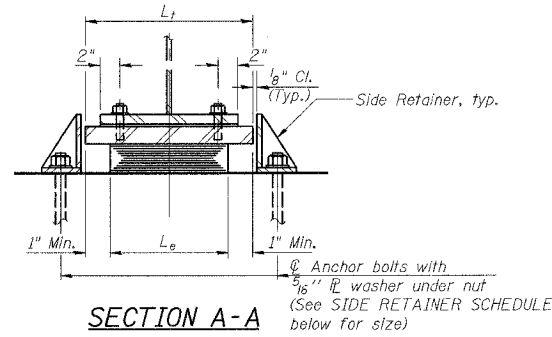
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	318
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 21  
44 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

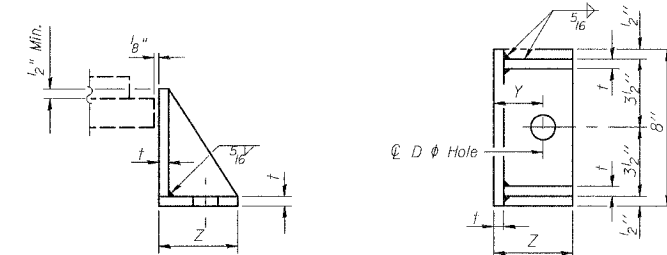


**ELEVATION AT S. ABUT. (NB & SB)**  
(8 required)



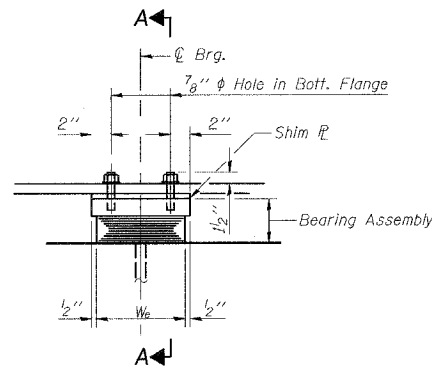
**SECTION A-A**

Anchor bolts with  
5/16" washer under nut  
(See SIDE RETAINER SCHEDULE  
below for size)

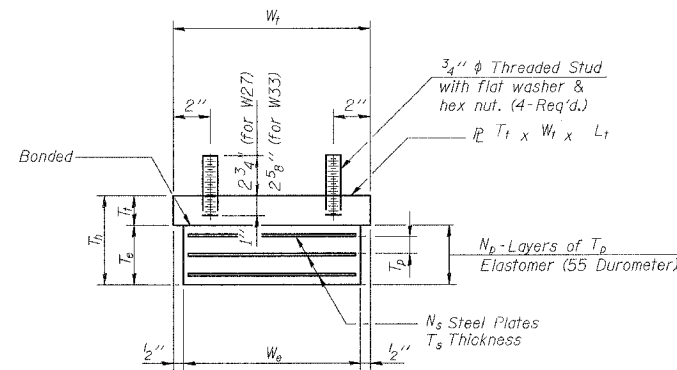


**SIDE RETAINER**

(Equivalent rolled angle with stiffeners  
will be allowed in lieu of welded plates.  
Weight included with Structural Steel)



**ELEVATION AT PIER 2 (NB)**  
(3 required)



**BEARING ASSEMBLY**

(Shim plates shall not be placed  
under Bearing Assembly)

**SIDE RETAINER SCHEDULE**

Location	Beam	Anchor Bolt Dia. x Length (in.)	Plate Washer (in.)	Side Retainer (in.)			
				Y	Z	t	D (Hole)
NB S. Abut.	W27	1 x 12	2 1/4 x 2 1/4 x 5/16	2 1/2	4	1/2	1 1/4
NB Pier 2	W27	1 1/4 x 15	2 3/4 x 2 3/4 x 5/16	2 3/8	4 3/4	1/2	1 1/2
SB S. Abut.	All	1 x 12	2 1/4 x 2 1/4 x 5/16	2 1/2	4	1/2	1 1/4

**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	11

Notes:

1. See Sheet No. 35 for Anchor Bolt Installation.

**TYPE I ELASTOMERIC EXP. BRG.**

**BEARING DIMENSION SCHEDULE**

Location	Beam	Bearing							Top Plate			Tn
		Wb	Le	Tp	Np	Ts	Ns	Te	Wt	Lt	Tt	
NB S. Abut.	W27	7"	12"	3/8"	4	3/32"	3	1 3/4"	8"	14"	2"	3 3/4"
NB Pier 2	W27	10"	14"	7/16"	5	1/8"	4	2 1/16"	11"	16"	2 1/4"	4 15/16"
SB S. Abut.	All	7"	12"	3/8"	4	3/32"	3	1 3/4"	8"	14"	2"	3 3/4"

DESIGNED	J.ZUO
CHECKED	J.GRAINAWI
DRAWN	Z.MORILLO
CHECKED	J.GRAINAWI

Date: 6/30/2006

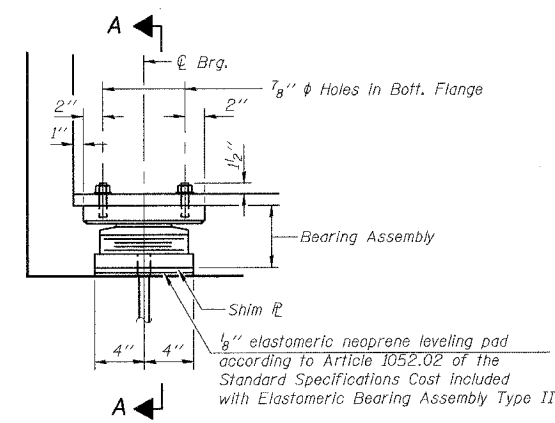


ELASTOMERIC BEARING  
ASSEMBLY TYPE I  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55 SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

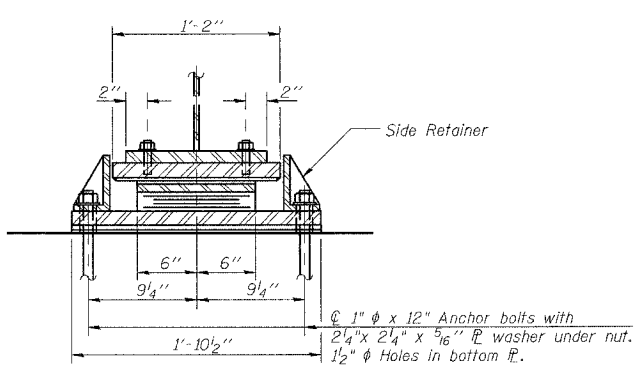
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 22
FAI-55	**	WILL	505	319	44 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

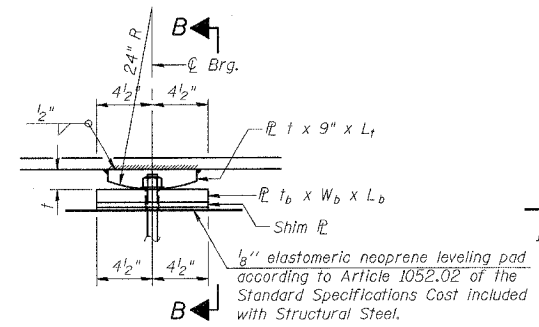
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



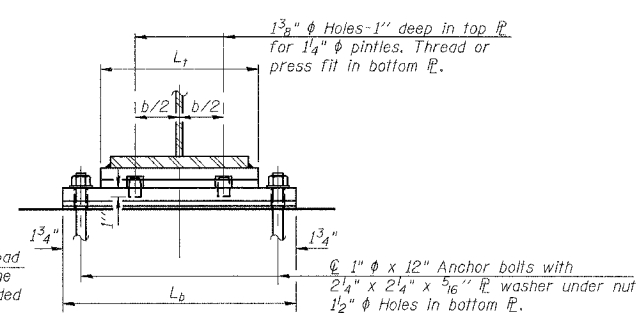
ELEVATION AT N. ABUT. (NB & SB)



SECTION A-A

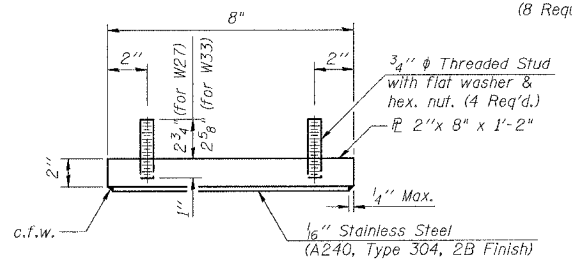


ELEVATION AT PIER 1 (NB & SB)

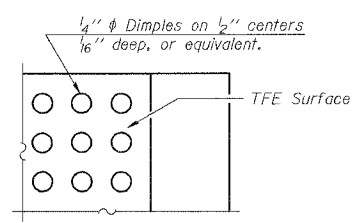


SECTION B-B

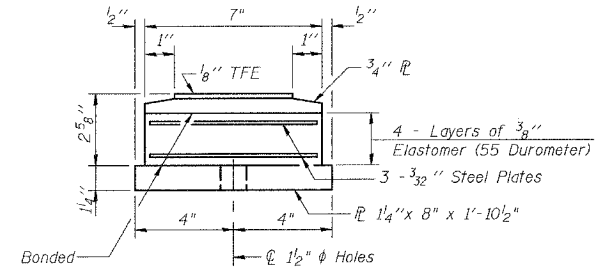
TYPE II ELASTOMERIC EXP. BRG.



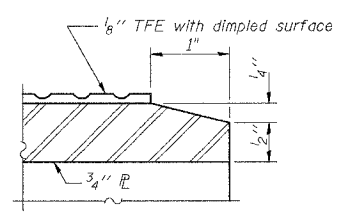
TOP BEARING ASSEMBLY



PLAN-TFE SURFACE

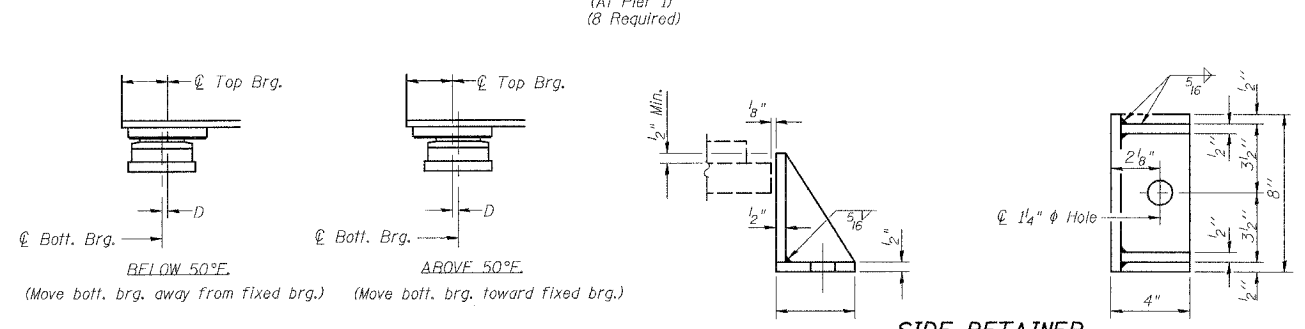


BOTTOM BEARING ASSEMBLY



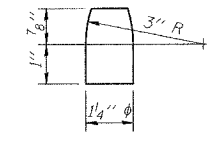
SECTION THRU TFE

FIXED BEARING



SETTING ANCHOR BOLTS AT EXP. BRG.

(D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F)



PINTLE

SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

FIXED BEARING DIMENSION SCHEDULE

Location	Beam	b	Top Plate		Bottom Plate		Brg. Ht.	No. Req'd	
			L <sub>1</sub>	t	W <sub>b</sub>	L <sub>b</sub>			t <sub>b</sub>
NB Pier 1	W27	7"	15"	1 5/8"	9"	22 1/2"	1 1/2"	3 1/4"	3
SB Pier 1	W27	7"	15"	1 3/4"	9"	22 1/2"	1 1/2"	3 3/8"	3
SB Pier 1	W33	6"	12 1/2"	1 5/8"	9"	20"	1 5/8"	3 3/8"	2

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	8

ELASTOMERIC BEARING ASSEMBLY TYPE II  
I-55 OVER E&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



- Notes:
- The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
  - Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
  - See Sheet No. 35 for Anchor Bolt Installation.

DESIGNED	J. ZUO
CHECKED	J. GRAINAWI
DRAWN	Z. MORILLO
CHECKED	J. GRAINAWI

Date: 7/21/2006

7/18/2006 9:25:27 AM C:\16817A\Struct\Cadd\Pre-Final\I&E RRR\Final Bridge Contract\02206-60B86-000-000-022.dgn

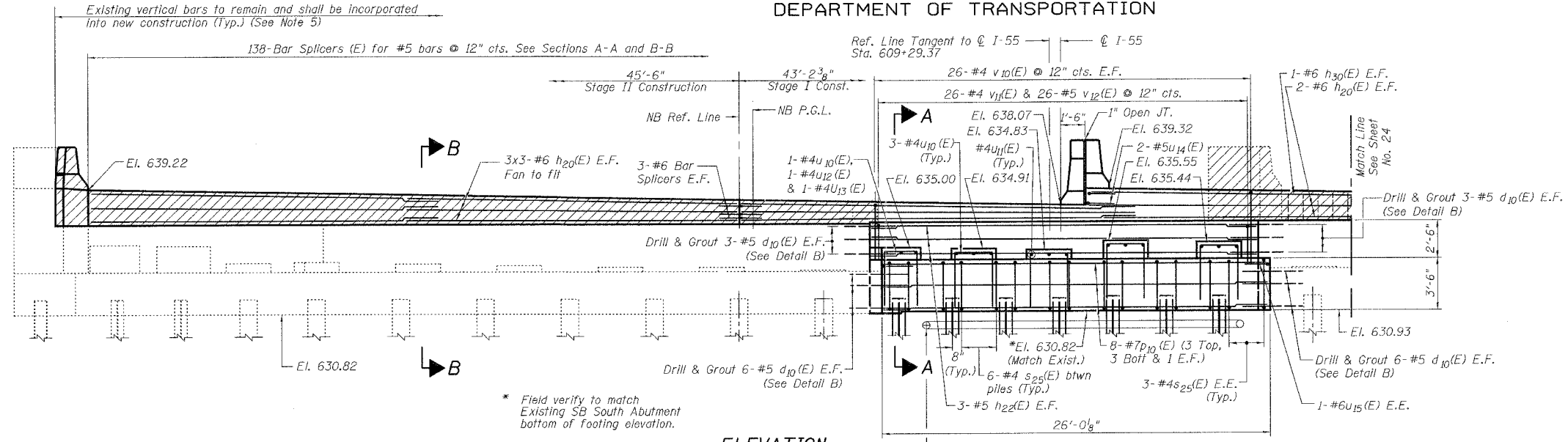
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAI-55	**	WILL	505	320

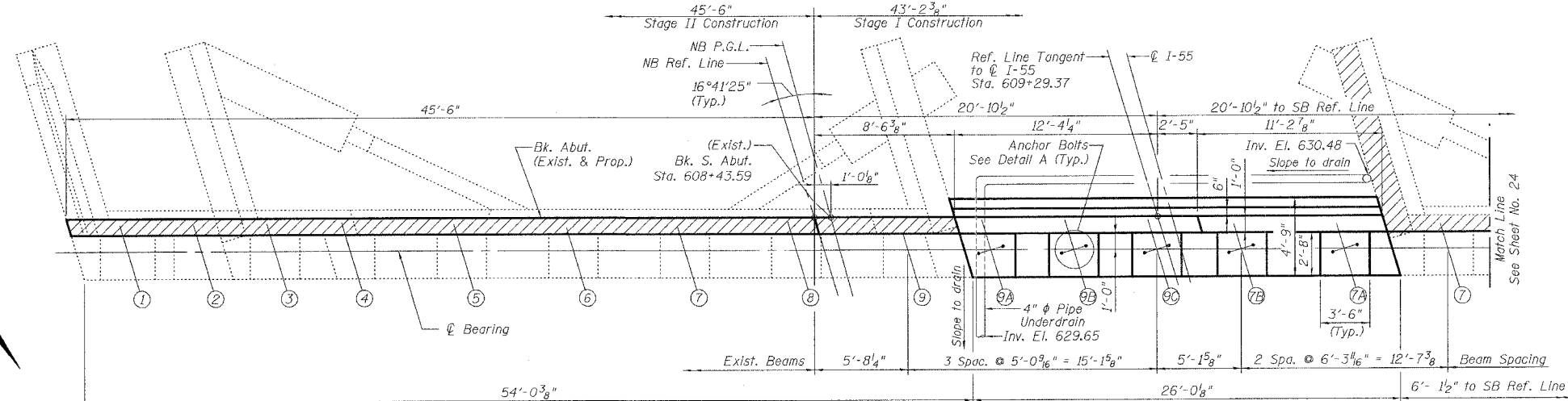
SHEET NO. 23  
44 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

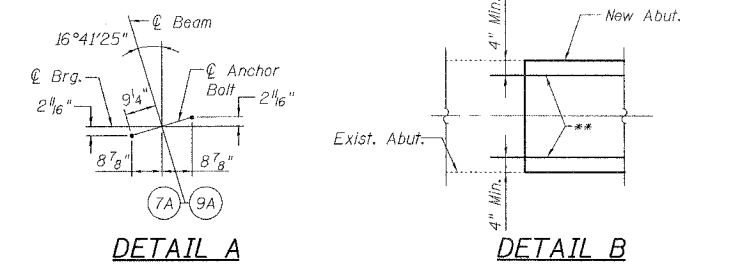
- Notes:**
- All exposed edges shall have standard  $\frac{3}{4}$ " chamfers except as noted.
  - Space reinforcement bars in steps to miss anchor bolts.
  - For details of Anchor Bolts, See Sheet No. 35.
  - For details of Bar Splicers, See Sheet No. 36.
  - Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
  - Elevations shown on existing structure were taken from survey data, unless noted otherwise. Contractor shall verify all existing dimensions in field prior to ordering any material.
  - Hatched areas indicate Concrete Removal. See Sheet No. 24 for Concrete Removal Quantity.
  - For Reinforcement Bar Schedule and Bill of Material, See Sheet No. 24.
  - Reinforcement bars designated (E) shall be epoxy coated.
  - Reinforcement bar indicated thus  $4 \times 3 \times \#4$  etc. indicates 4 lines of bars with 3 equal lengths per line.
  - Work this sheet with Sheet No. 24 and 25.



ELEVATION



TOP PLAN



DETAIL A

DETAIL B

\*\* Drill and grout #5 d10(E) in 9 in. min. drilled holes according to Section 584 of the Standard Specifications. Method and grout are subject to the approval of the Engineer. Cost included with Reinforcement Bars, Epoxy Coated.

PILE DATA

Type: HP 10x42 with Metal Shoes  
Capacity: Driven to refusal  
Est. Length: 45'  
No. Req'd: 6+1 Test Pile

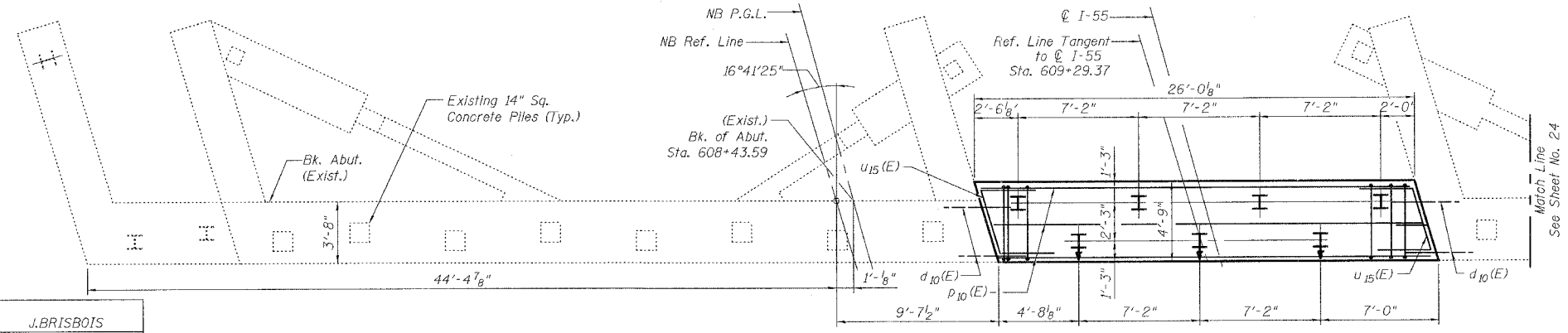
LEGEND

- Existing Pile
- Existing Concrete Removal
- Proposed Vertical Pile
- Proposed Batter Pile
- E.F. Each Face
- E.E. Each End

MIN. BAR LAPS

#5	2'-2"
#6	2'-7"
#7	3'-5"

PLAN - PILE CAP



DESIGNED	J. BRISBOIS
CHECKED	J. GRAINAWI
DRAWN	Z. MORILLO
CHECKED	J. GRAINAWI

Date: 7/21/2006



**SOUTH ABUTMENT WIDENING I**  
I-55 OVER E&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

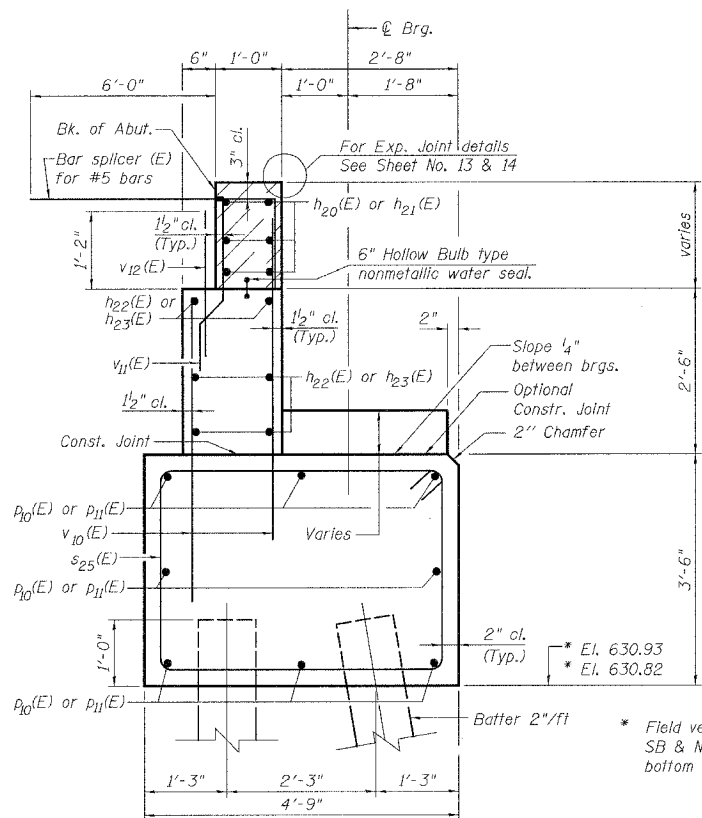
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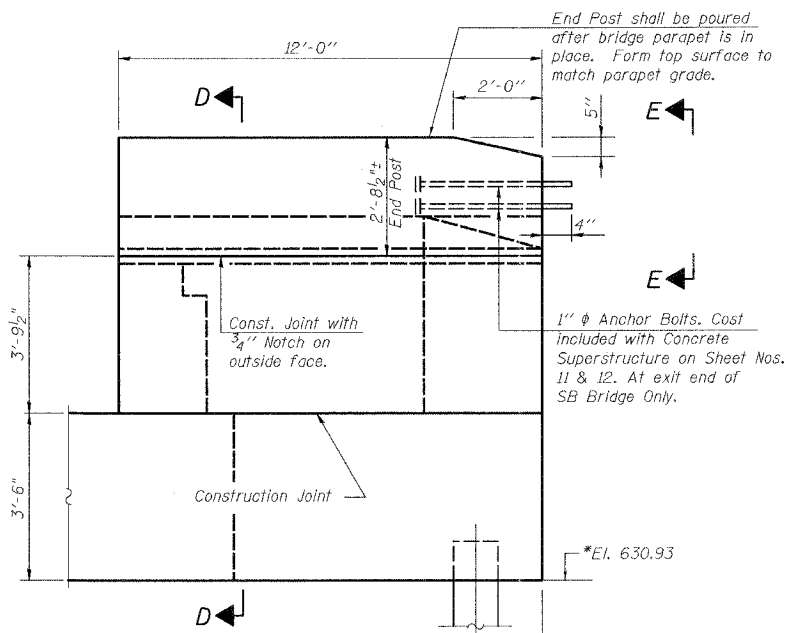
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 25
FAI-55	**	WILL	505	322	44 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

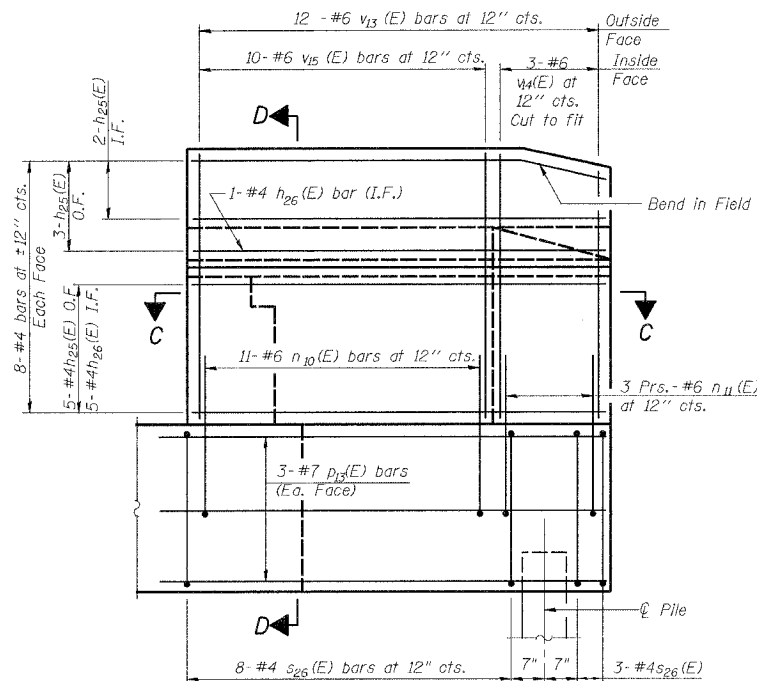


SECTION A-A



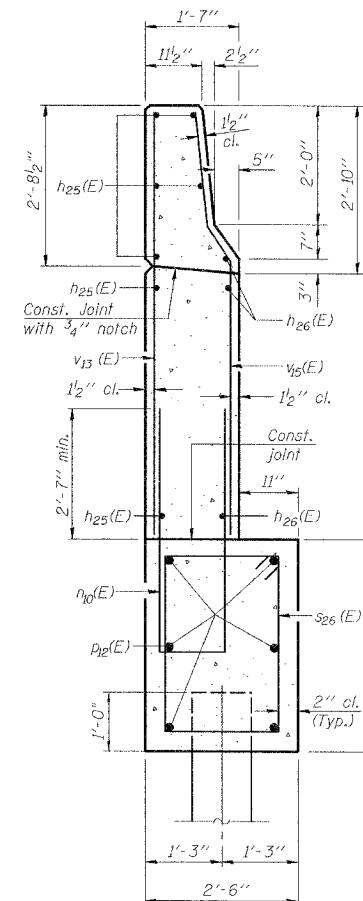
WING WALL ELEVATION

Showing Dimensions

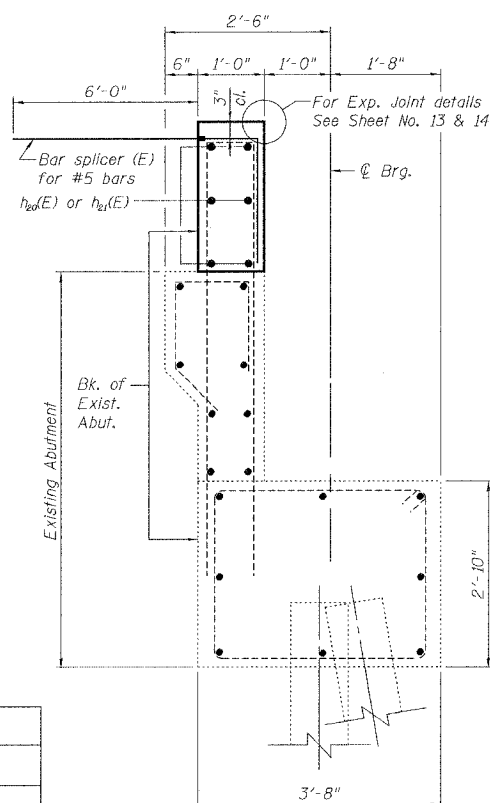


WING WALL ELEVATION

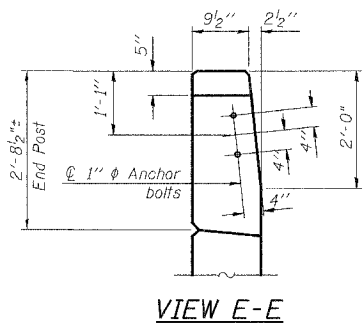
Showing Reinforcement



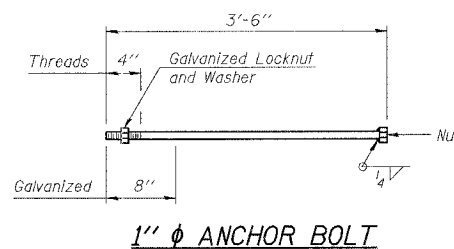
SECTION D-D



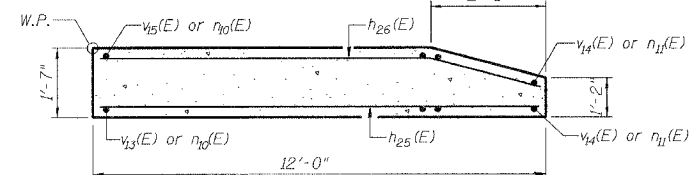
SECTION B-B



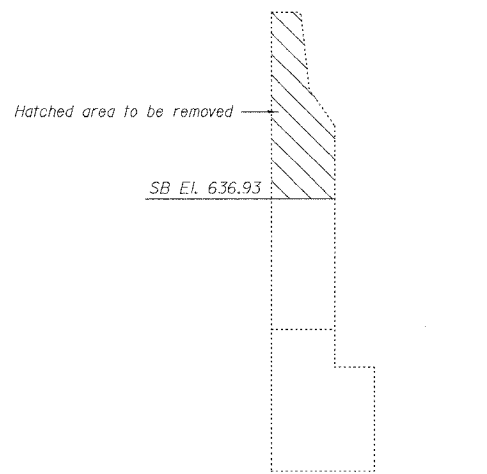
VIEW E-E



1"  $\phi$  ANCHOR BOLT



SECTION C-C



SEC. THRU EXIST.  
S.B. S. ABUT. WINGWALLS

Notes:

1. Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.
2. Space reinforcement in cap to miss anchor bolts.
3. Reinforcement bars designated (E) shall be epoxy coated.
4. Quantity of concrete in end post included with Concrete Superstructure on Sheet Nos. 11 & 12.
5. Work this sheet with Sheet Nos. 23 & 24.

DESIGNED	J. BRISBOIS
CHECKED	J. GRAINAWI
DRAWN	Z. MORILLO
CHECKED	J. GRAINAWI

Date: 6/30/2006

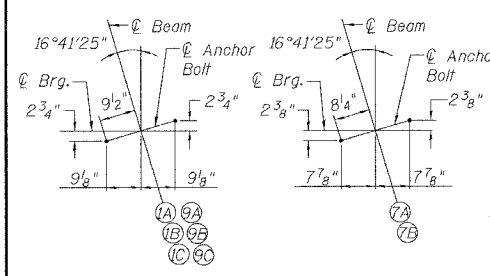


SOUTH ABUTMENT DETAILS  
I-55 OVER E&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

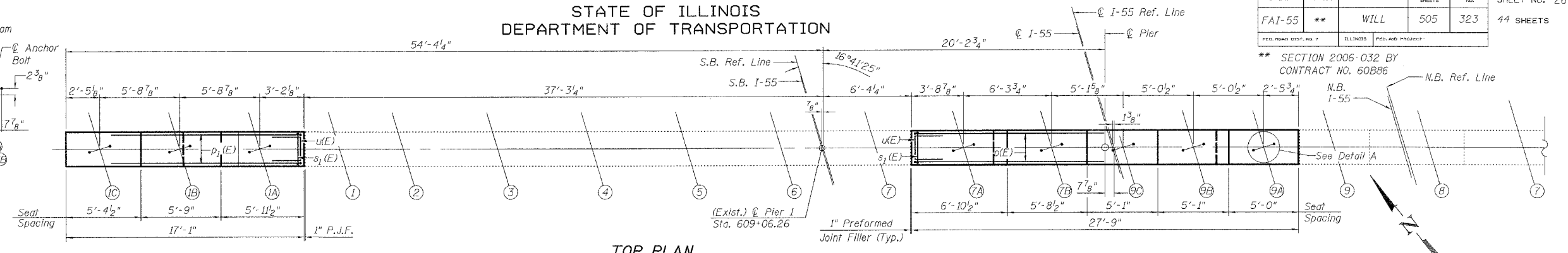
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
FAI-55	**	WILL	505	323
SHEET NO. 26				
44 SHEETS				

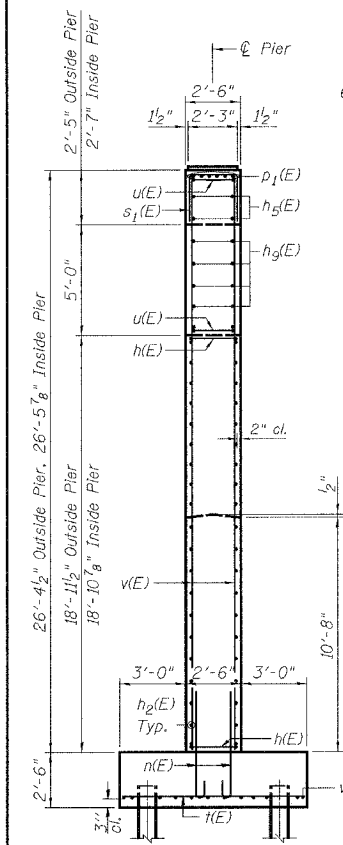
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



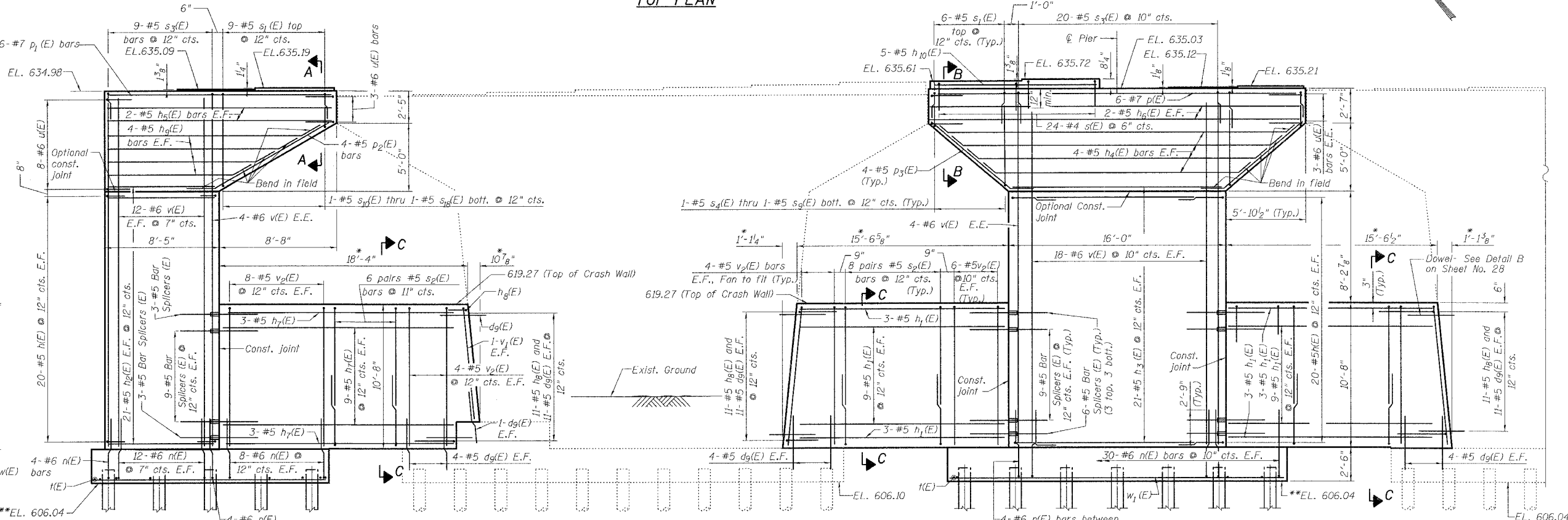
DETAIL A



TOP PLAN



END VIEW



ELEVATION  
(Looking North)

**LEGEND**  
P.J.F. Preformed Joint Filler  
E.F. Each Face  
E.E. Each End

**MIN. BAR LAPS**

#5	2'-2"
#6	2'-7"
#7	3'-5"

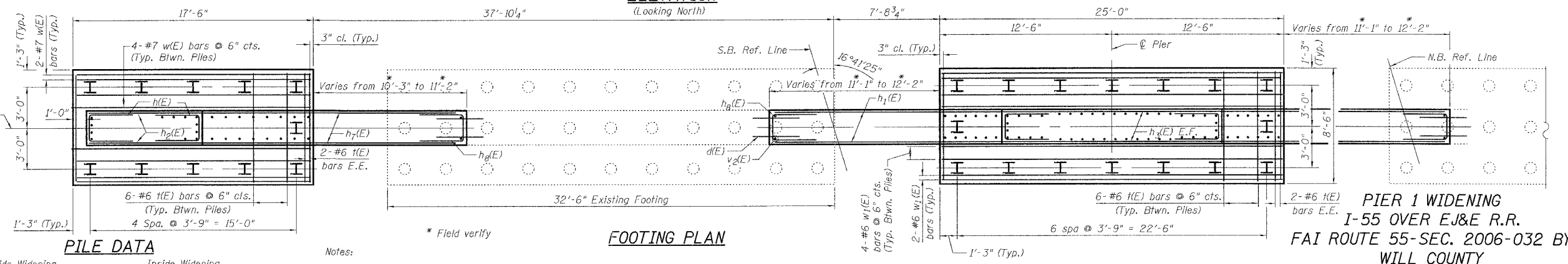
DESIGNED	P. PILARSKI
CHECKED	M. SHAIKH
DRAWN	P. PILARSKI
CHECKED	M. SHAIKH
Date:	6/30/2006

**PILE DATA**

Outside Widening	Inside Widening
Type: HP 10x42 with Metal Shoes	Type: HP 10x42 with Metal Shoes
Capacity: Driven to refusal	Capacity: Driven to refusal
Est. Length: 37.5'	Est. Length: 22'
No. Required: 10+1 Test Pile	No. Required: 16

Notes:

- All exposed edges shall have standard 3/8" chamfers except as noted.
- Space reinforcement bars in steps to miss anchor bolts.
- For details of Anchor Bolts, see Sheet No. 35.
- For details of Bar Splicers, see Sheet No. 36.
- Four steps monolithically with cap.
- For Reinforcement Bar Schedule and Bill of Material, See Sheet 28.
- Reinforcement bars designated (E) shall be epoxy coated.
- See Sheet 28 for Sections A-A through C-C and Detail B.



FOOTING PLAN

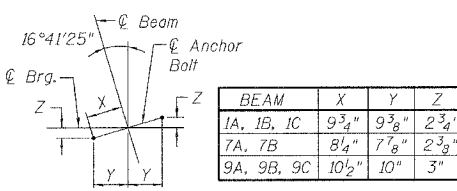
**PIER 1 WIDENING  
I-55 OVER E&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)**



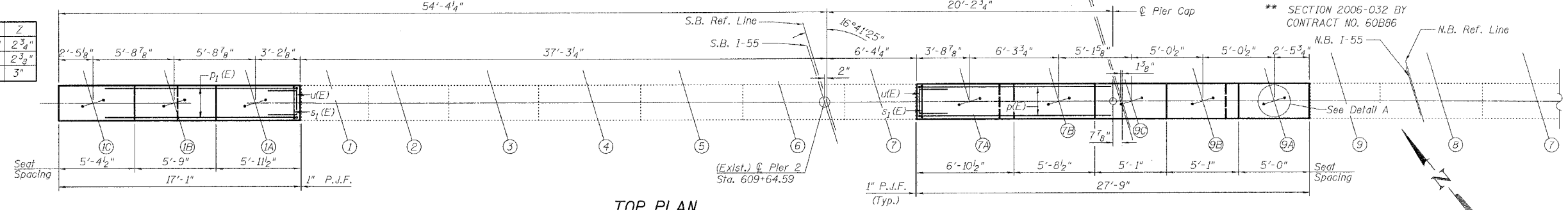
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

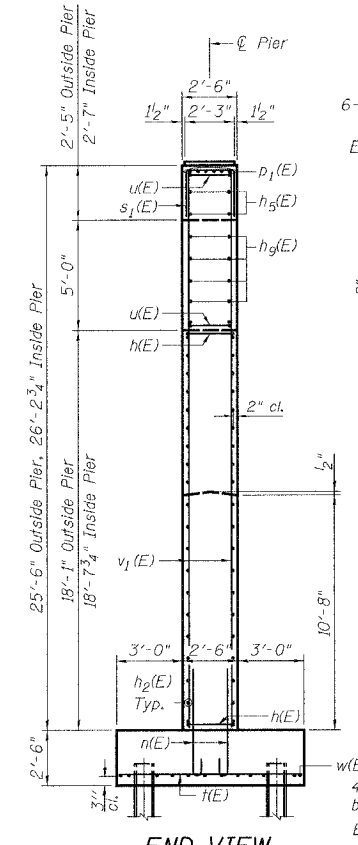
ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	324	44 SHEETS



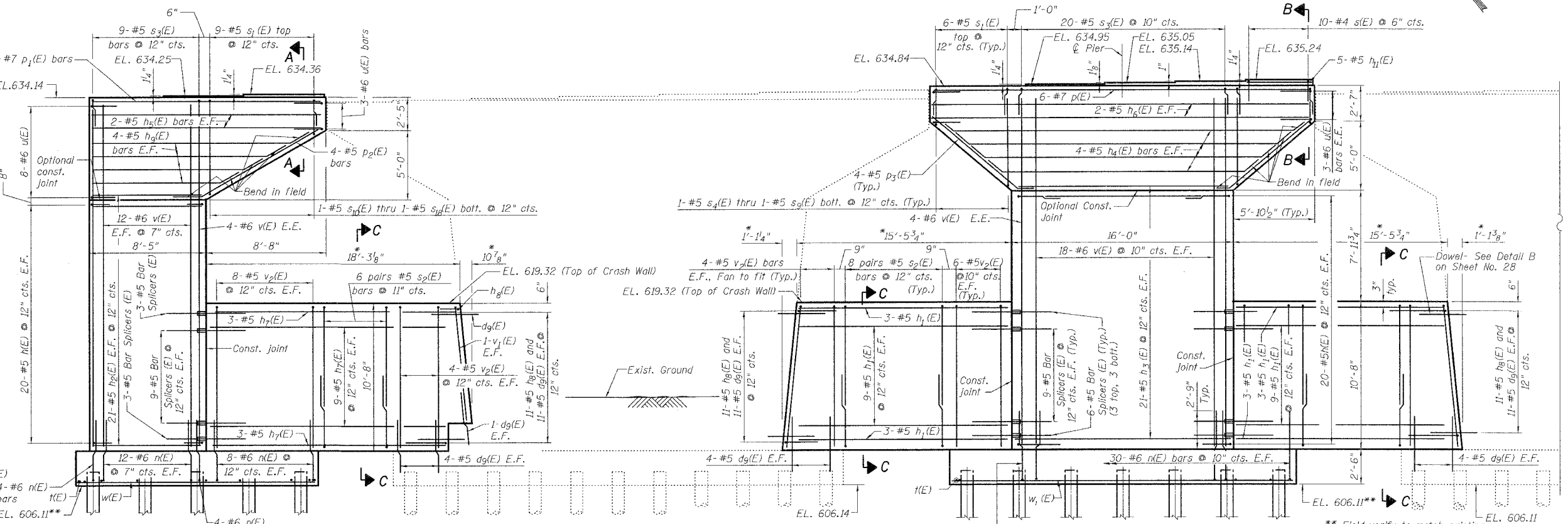
DETAIL A



TOP PLAN



END VIEW

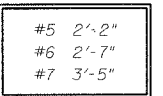


ELEVATION  
(Looking North)

LEGEND

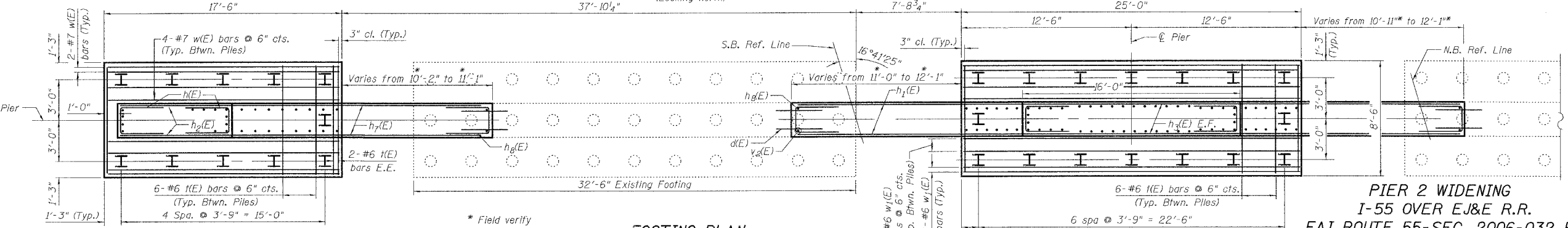
- P.J.F. Preformed Joint Filler
- E.F. Each Face
- E.E. Each End

MIN. BAR LAPS



DESIGNED	P. PILARSKI
CHECKED	M. SHAIKH
DRAWN	P. PILARSKI
CHECKED	M. SHAIKH

Date: 6/30/2006



PILE DATA

FOOTING PLAN

**Outside Widening**  
Type: HP 10x42 with Metal Shoes  
Capacity: Driven to refusal  
Est. Length: 25'  
No. Required: 11

**Inside Widening**  
Type: HP 10x42 with Metal Shoes  
Capacity: Driven to refusal  
Est. Length: 25.5'  
No. Required: 15+1 Test Pile

Notes:

- All exposed edges shall have standard 3/4" chamfers except as noted.
- Space reinforcement bars in steps to miss anchor bolts.
- For details of Anchor Bolts, see Sheet No. 35.
- For details of Bar Splicers, see Sheet No. 36.
- Pour steps monolithically with cap.
- For Reinforcement Bar Schedule and Bill of Material, See Sheet 28.
- Reinforcement bars designated (E) shall be epoxy coated.
- For Sections A-A through C-C and Detail B, See Sheet 28



PIER 2 WIDENING  
I-55 OVER E&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 28
FAI-55	**	WILL	505	325	44 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. RD. PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

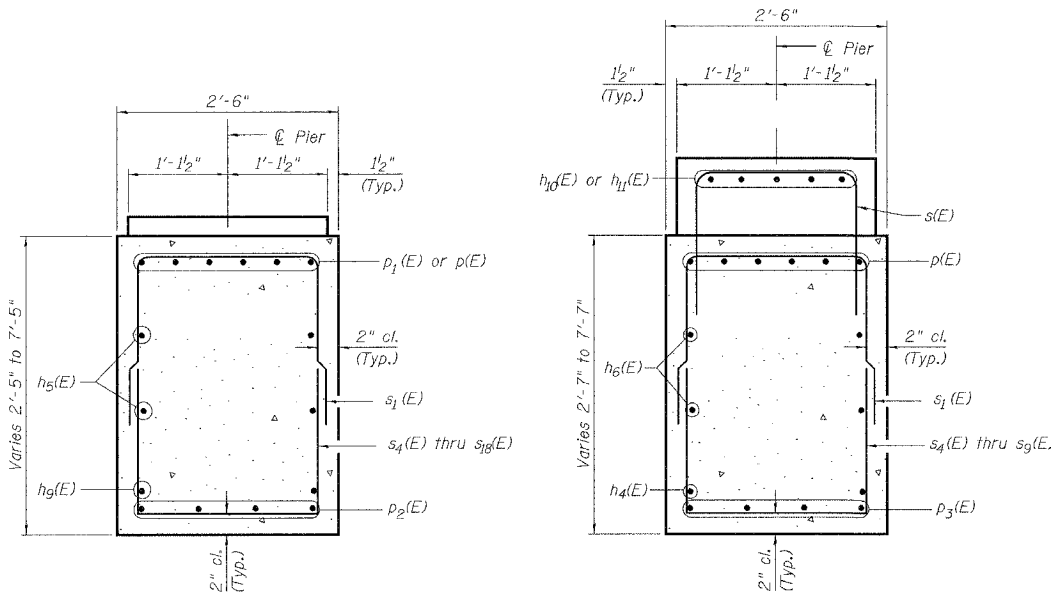
PIER 1  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d <sub>g</sub> (E)	92	#5	3'-9"	—
h(E)	101	#5	6'-6"	—
h <sub>1</sub> (E)	48	#5	15'-1"	—
h <sub>2</sub> (E)	42	#5	8'-1"	—
h <sub>3</sub> (E)	42	#5	15'-8"	—
h <sub>4</sub> (E)	4	#5	48'-6"	—
h <sub>5</sub> (E)	4	#5	16'-8"	—
h <sub>6</sub> (E)	4	#5	27'-5"	—
h <sub>7</sub> (E)	24	#5	17'-2"	—
h <sub>8</sub> (E)	33	#5	9'-7"	—
h <sub>9</sub> (E)	4	#5	27'-0"	—
h <sub>10</sub> (E)	5	#5	12'-1"	—
n(E)	116	#6	5'-8"	—
p(E)	6	#7	27'-5"	—
p <sub>1</sub> (E)	6	#7	16'-9"	—
p <sub>2</sub> (E)	4	#5	12'-0"	—
p <sub>3</sub> (E)	8	#5	9'-7"	—
s(E)	24	#4	5'-11"	—
s <sub>1</sub> (E)	21	#5	6'-6"	—
s <sub>2</sub> (E)	44	#5	15'-0"	—
s <sub>3</sub> (E)	29	#5	9'-2"	—
s <sub>4</sub> (E)	2	#5	7'-0"	—
s <sub>5</sub> (E)	2	#5	8'-10"	—
s <sub>6</sub> (E)	2	#5	10'-6"	—
s <sub>7</sub> (E)	2	#5	12'-4"	—
s <sub>8</sub> (E)	2	#5	14'-0"	—
s <sub>9</sub> (E)	2	#5	15'-10"	—
s <sub>10</sub> (E)	1	#5	6'-8"	—
s <sub>11</sub> (E)	1	#5	7'-10"	—
s <sub>12</sub> (E)	1	#5	9'-0"	—
s <sub>13</sub> (E)	1	#5	10'-2"	—
s <sub>14</sub> (E)	1	#5	11'-4"	—
s <sub>15</sub> (E)	1	#5	12'-6"	—
s <sub>16</sub> (E)	1	#5	13'-8"	—
s <sub>17</sub> (E)	1	#5	14'-10"	—
s <sub>18</sub> (E)	1	#5	16'-0"	—
u(E)	17	#6	7'-3"	—
v(E)	76	#6	25'-6"	—
v <sub>1</sub> (E)	2	#5	10'-6"	—
v <sub>2</sub> (E)	64	#5	12'-6"	—
w(E)	12	#7	17'-2"	—
w <sub>1</sub> (E)	12	#6	12'-8"	—
Structure Excavation	Cu. Yd.	180		
Concrete Structures	Cu. Yd.	154.1		
Reinforcement Bars, Epoxy Coated	Pound	12,630		
Furn. Steel Piles HP10x42	Foot	727		
Drive Steel Piles HP10x42	Foot	727		
Test Piles	Each	1		
Metal Shoes	Each	26		

PIER 2  
BILL OF MATERIAL

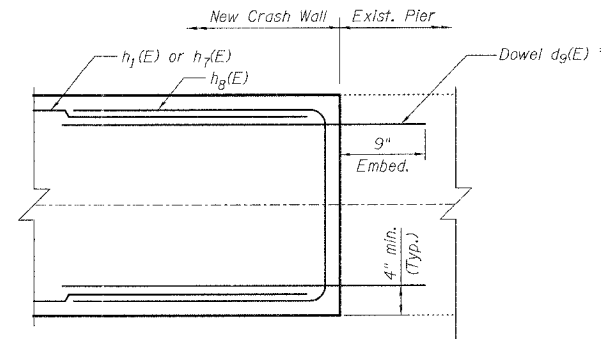
Bar	No.	Size	Length	Shape
d <sub>g</sub> (E)	92	#5	3'-9"	—
h(E)	101	#5	6'-6"	—
h <sub>1</sub> (E)	48	#5	15'-1"	—
h <sub>2</sub> (E)	42	#5	8'-1"	—
h <sub>3</sub> (E)	42	#5	15'-8"	—
h <sub>4</sub> (E)	4	#5	48'-6"	—
h <sub>5</sub> (E)	4	#5	16'-8"	—
h <sub>6</sub> (E)	4	#5	27'-5"	—
h <sub>7</sub> (E)	24	#5	17'-2"	—
h <sub>8</sub> (E)	33	#5	9'-7"	—
h <sub>9</sub> (E)	4	#5	27'-0"	—
h <sub>10</sub> (E)	5	#5	4'-6"	—
n(E)	116	#6	5'-8"	—
p(E)	6	#7	27'-5"	—
p <sub>1</sub> (E)	6	#7	16'-9"	—
p <sub>2</sub> (E)	4	#5	12'-0"	—
p <sub>3</sub> (E)	8	#5	9'-7"	—
s(E)	10	#4	5'-11"	—
s <sub>1</sub> (E)	21	#5	6'-6"	—
s <sub>2</sub> (E)	44	#5	15'-0"	—
s <sub>3</sub> (E)	29	#5	9'-2"	—
s <sub>4</sub> (E)	2	#5	7'-0"	—
s <sub>5</sub> (E)	2	#5	8'-10"	—
s <sub>6</sub> (E)	2	#5	10'-6"	—
s <sub>7</sub> (E)	2	#5	12'-4"	—
s <sub>8</sub> (E)	2	#5	14'-0"	—
s <sub>9</sub> (E)	2	#5	15'-10"	—
s <sub>10</sub> (E)	1	#5	6'-8"	—
s <sub>11</sub> (E)	1	#5	7'-10"	—
s <sub>12</sub> (E)	1	#5	9'-0"	—
s <sub>13</sub> (E)	1	#5	10'-2"	—
s <sub>14</sub> (E)	1	#5	11'-4"	—
s <sub>15</sub> (E)	1	#5	12'-6"	—
s <sub>16</sub> (E)	1	#5	13'-8"	—
s <sub>17</sub> (E)	1	#5	14'-10"	—
s <sub>18</sub> (E)	1	#5	16'-0"	—
u(E)	17	#6	7'-3"	—
v(E)	76	#6	25'-6"	—
v <sub>1</sub> (E)	2	#5	10'-6"	—
v <sub>2</sub> (E)	64	#5	12'-6"	—
w(E)	12	#7	17'-2"	—
w <sub>1</sub> (E)	12	#6	24'-8"	—
Structure Excavation	Cu. Yd.	180		
Concrete Structures	Cu. Yd.	152.3		
Reinforcement Bars, Epoxy Coated	Pound	12,540		
Furn. Steel Piles HP10x42	Foot	658		
Drive Steel Piles HP10x42	Foot	658		
Test Piles	Each	1		
Metal Shoes	Each	26		

- Notes:
- Reinforcement bars designated (E) shall be epoxy coated.
  - For details of Bar Splitters, See Sheet No. 36.



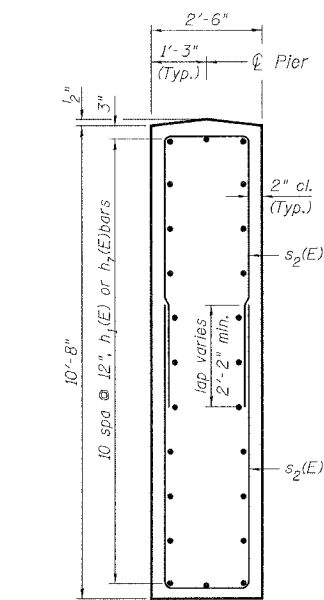
SECTION A-A

SECTION B-B

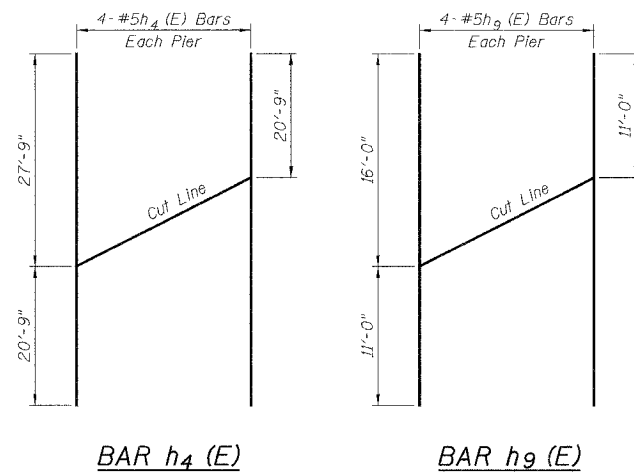


DETAIL B

\* Drill and grout #5 d<sub>g</sub>(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications. Method and grout are subject to the approval of the Engineer. Cost included with Reinforcement Bars, Epoxy Coated.

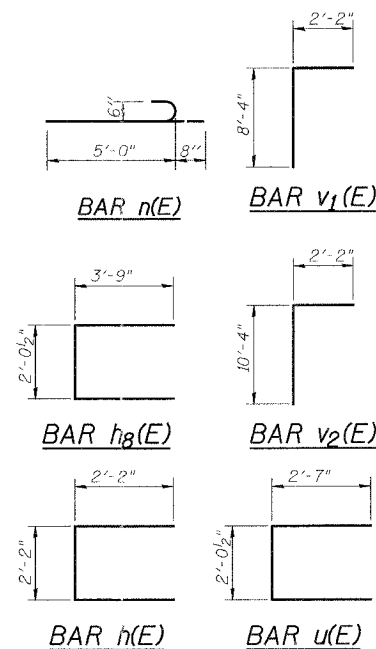


SECTION C-C



BAR h<sub>4</sub>(E)

BAR h<sub>9</sub>(E)



BAR n(E)

BAR v<sub>1</sub>(E)

BAR h<sub>8</sub>(E)

BAR v<sub>2</sub>(E)

BAR h(E)

BAR u(E)

BARS s(E), s<sub>1</sub>(E) thru s<sub>18</sub>(E)

A & B DIMENSIONS

Bar	A	B
s(E)	1'-11"	2'-0"
s <sub>1</sub> (E)	2'-2"	2'-2"
s <sub>2</sub> (E)	2'-2"	6'-5"
s <sub>3</sub> (E)	2'-2"	3'-6"
s <sub>4</sub> (E)	2'-2"	2'-5"
s <sub>5</sub> (E)	2'-2"	3'-4"
s <sub>6</sub> (E)	2'-2"	4'-2"
s <sub>7</sub> (E)	2'-2"	5'-1"
s <sub>8</sub> (E)	2'-2"	5'-11"
s <sub>9</sub> (E)	2'-2"	6'-10"
s <sub>10</sub> (E)	2'-2"	2'-3"
s <sub>11</sub> (E)	2'-2"	2'-10"
s <sub>12</sub> (E)	2'-2"	3'-5"
s <sub>13</sub> (E)	2'-2"	4'-0"
s <sub>14</sub> (E)	2'-2"	4'-7"
s <sub>15</sub> (E)	2'-2"	5'-2"
s <sub>16</sub> (E)	2'-2"	5'-9"
s <sub>17</sub> (E)	2'-2"	6'-4"
s <sub>18</sub> (E)	2'-2"	6'-11"

DESIGNED	P. PILARSKI
CHECKED	M. SHAIKH
DRAWN	P. PILARSKI
CHECKED	M. SHAIKH

Date: 6/30/2006

Note:  
See Sheet Nos. 26 and 27 for location of Section cuts.

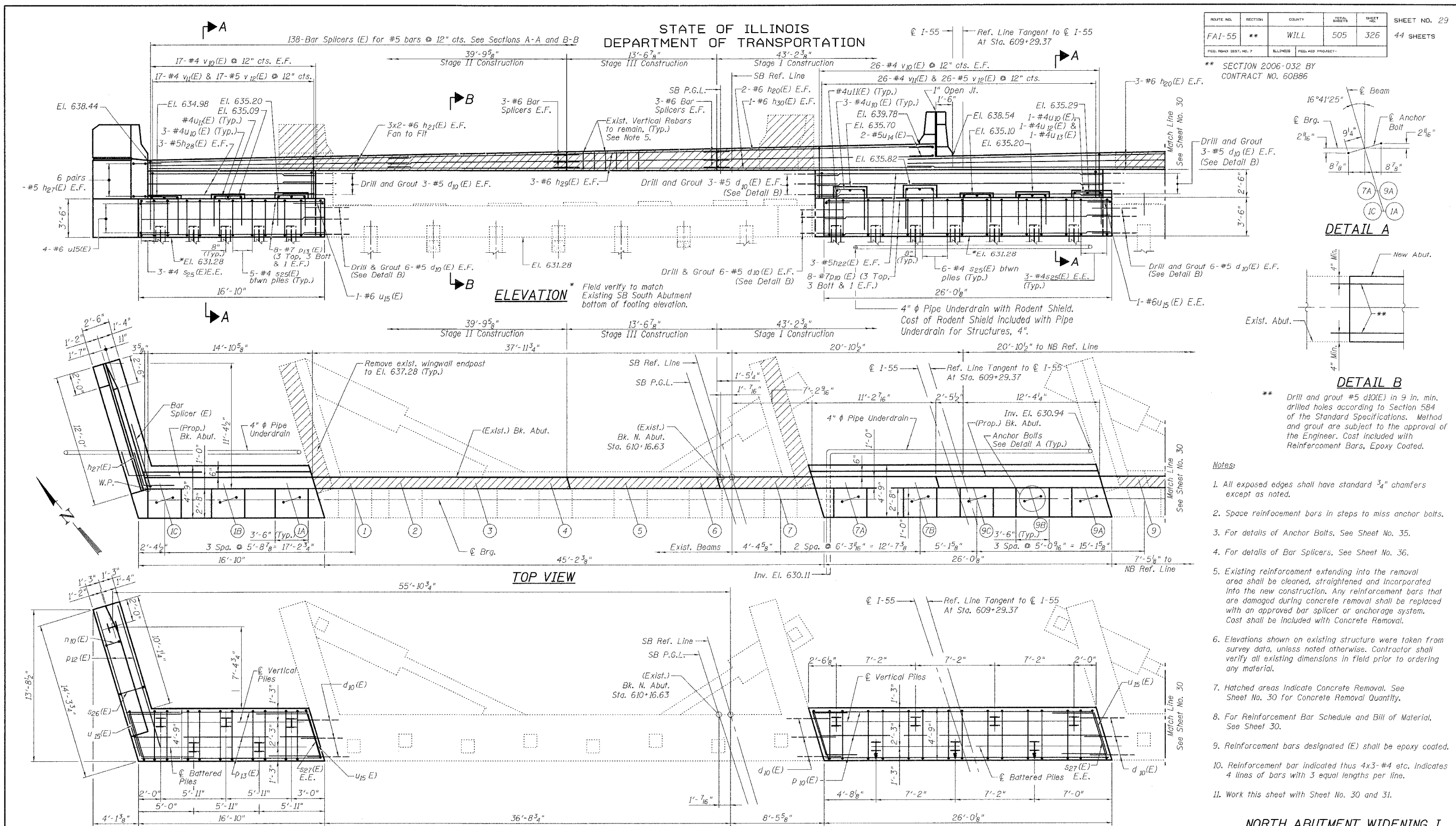
PIER 1 & 2 DETAILS  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATIONING	SHEET	SHEET NO. 29 44 SHEETS
FAI-55	**	WILL	505	326	
FED. ROAD DIST. NO. 7		ILLINOIS		FED. ROAD PROJECT	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



DESIGNED	J. BRISBOIS
CHECKED	J. GRAINAWI
DRAWN	S. CHELBIAN
CHECKED	J. GRAINAWI

Date: 7/21/2006

**PILE DATA**

Type:	HP 10x42 with Metal Shoes
Capacity:	Driven to refusal
Est. Length:	See Table
No. Req'd:	See Table

**ESTIMATED PILE LENGTHS**

	Length	No.
NB/SB Median	47'	7
SB Outside	51'	6

**LEGEND**

	Existing Pile		Proposed Batter Pile
	Existing Concrete Removal	E.F.	Each Face
	Proposed Vertical Pile	E.E.	Each End



NORTH ABUTMENT WIDENING I  
I-55 OVER E.J. & E. R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

7/19/2006 5:30:38 PM G:\1987\A\Struct\Lead\Pre-Final\EL&E RRY\Final Bridge-Contract\02206-50B86-00-00-029.dgn

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

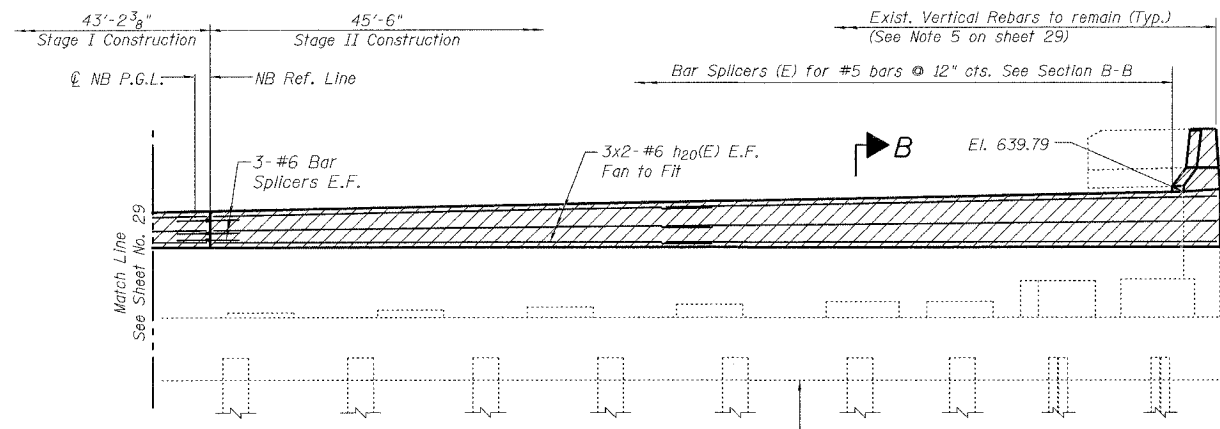
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	327
FED. ROAD DIST. NO. 7	ILL. PROJECT	FED. AID PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

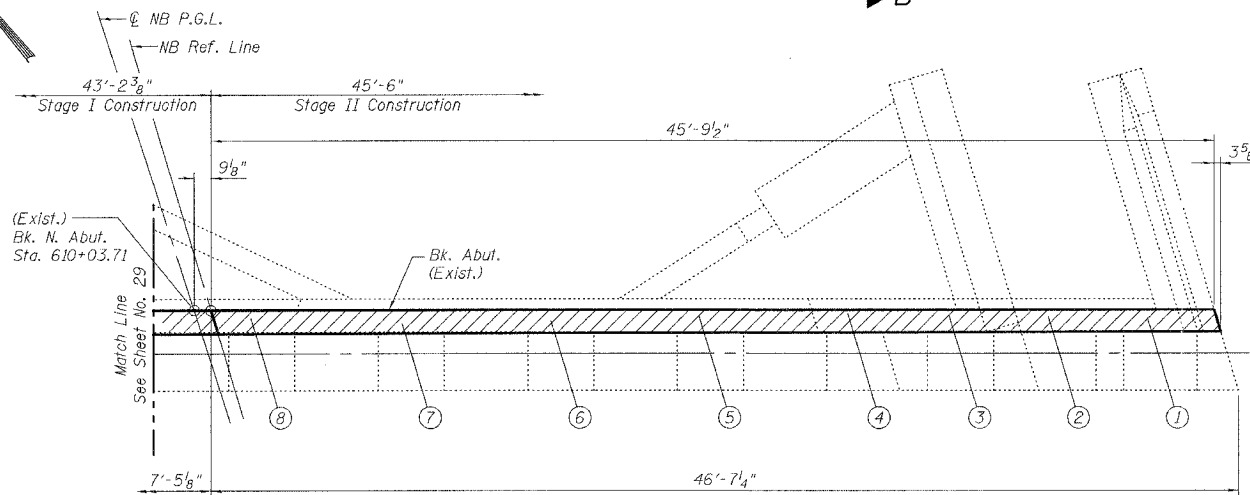
SHEET NO. 30  
44 SHEETS

**NORTH ABUTMENT  
BILL OF MATERIAL**

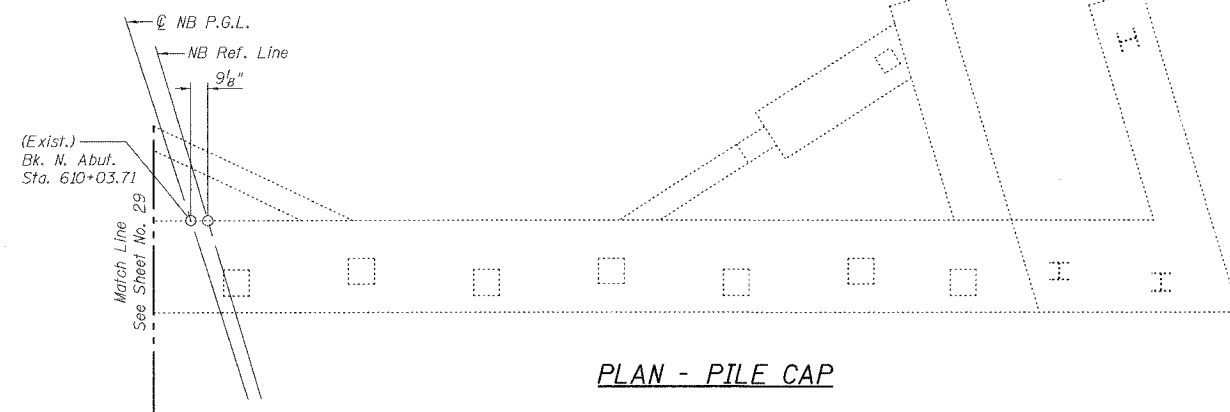
Bar	No.	Size	Length	Shape
d <sub>10</sub> (E)	36	#5	2'-8"	
h <sub>20</sub> (E)	22	#6	23'-2"	
h <sub>21</sub> (E)	12	#6	20'-4"	
h <sub>22</sub> (E)	6	#5	25'-11"	
h <sub>25</sub> (E)	10	#4	11'-9"	
h <sub>26</sub> (E)	6	#4	11'-8"	
h <sub>27</sub> (E)	12	#5	6'-0"	
h <sub>28</sub> (E)	6	#5	16'-7"	
h <sub>29</sub> (E)	6	#6	13'-4"	
h <sub>30</sub> (E)	2	#6	19'-4"	
n <sub>10</sub> (E)	11	#6	10'-4"	
n <sub>11</sub> (E)	6	#6	5'-2"	
p <sub>10</sub> (E)	8	#7	25'-11"	
p <sub>12</sub> (E)	6	#7	13'-6"	
p <sub>13</sub> (E)	8	#7	16'-7"	
s <sub>25</sub> (E)	68	#4	15'-11"	
s <sub>26</sub> (E)	11	#4	11'-5"	
s <sub>27</sub> (E)	4	#4	16'-3"	
u <sub>10</sub> (E)	22	#4	8'-6"	
u <sub>11</sub> (E)	24	#4	7'-8"	
u <sub>12</sub> (E)	1	#4	6'-10"	
u <sub>13</sub> (E)	1	#4	7'-8"	
u <sub>14</sub> (E)	2	#5	4'-3"	
u <sub>15</sub> (E)	7	#6	8'-8"	
v <sub>10</sub> (E)	86	#4	5'-0"	
v <sub>11</sub> (E)	43	#4	4'-1"	
v <sub>12</sub> (E)	43	#5	3'-4"	
v <sub>13</sub> (E)	12	#6	6'-4"	
v <sub>14</sub> (E)	3	#6	5'-6"	
v <sub>15</sub> (E)	10	#6	6'-3"	
Structure Excavation		Cu. Yd.	48	
Concrete Structures		Cu. Yd.	38.0	
Reinforcement Bars, Epoxy Coated		Pounds	4,960	
Furnishing Steel Piles HPI0x42		Foot	635	
Driving Steel Piles		Foot	635	
Metal Shoes		Each	13	
Concrete Removal		Cu. Yd.	14.2	
Porous Granular Embankment, Special		Cu. Yd.	58	
Bridge Seat Sealer		Sq. Ft.	115	
Geocomposite Wall Drain		Sq. Yd.	36	
Pipe Underdrain for Structures, 4"		Foot	66	



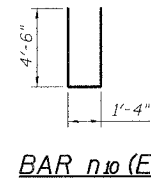
**ELEVATION**



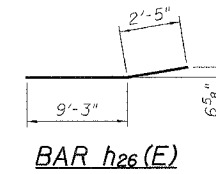
**TOP PLAN**



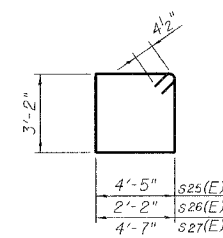
**PLAN - PILE CAP**



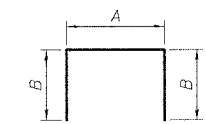
**BAR n<sub>10</sub> (E)**



**BAR h<sub>26</sub> (E)**



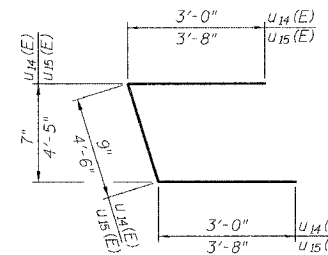
**BARS s<sub>25</sub>(E) to s<sub>27</sub>(E)**



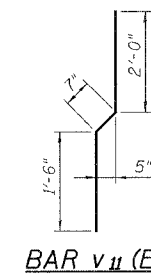
**BAR n<sub>11</sub> (E)**

Bar	A	B
u <sub>10</sub> (E)	3'-2"	2'-8"
u <sub>11</sub> (E)	2'-4"	2'-8"
u <sub>12</sub> (E)	2'-6"	2'-2"
u <sub>13</sub> (E)	3'-4"	2'-2"

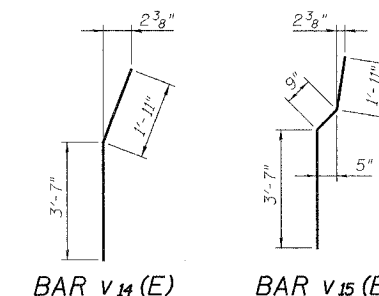
**BAR u<sub>10</sub>(E) TO u<sub>13</sub>(E)**



**BARS u<sub>14</sub>(E) & u<sub>15</sub>(E)**



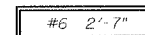
**BAR v<sub>11</sub> (E)**



**BAR v<sub>14</sub> (E)**

**BAR v<sub>15</sub> (E)**

**MIN. BAR LAPS**



Notes:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Work this sheet with Sheet Nos. 29 & 31.
3. For details of Bar Splicers, See Sheet 36.

**LEGEND**

- Existing Structure
- Existing Concrete Removal

E.F. Each Face  
E.E. Each End



**NORTH ABUTMENT WIDENING II  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)**

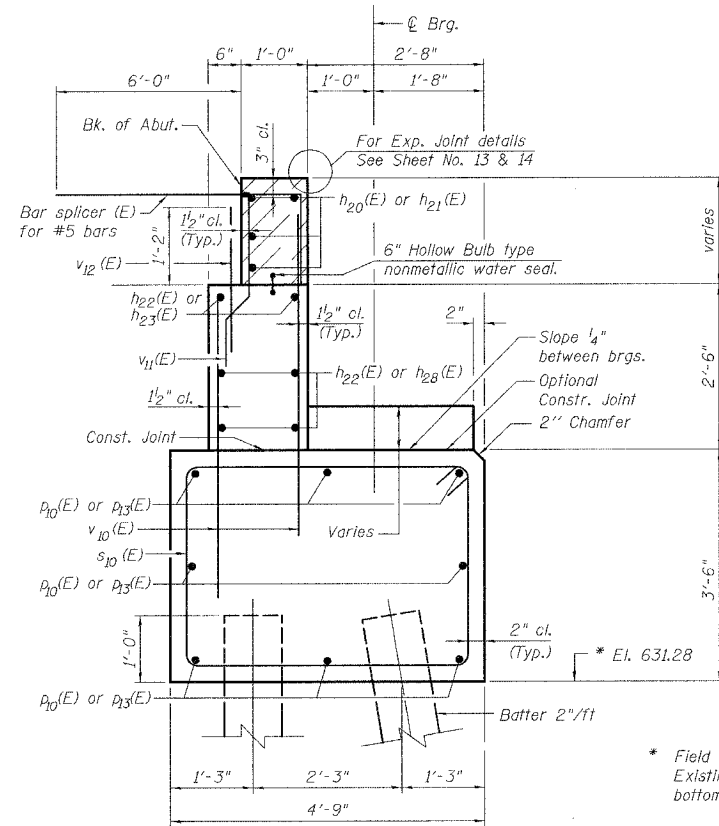
DESIGNED	J.BRISBOIS
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 7/21/2006

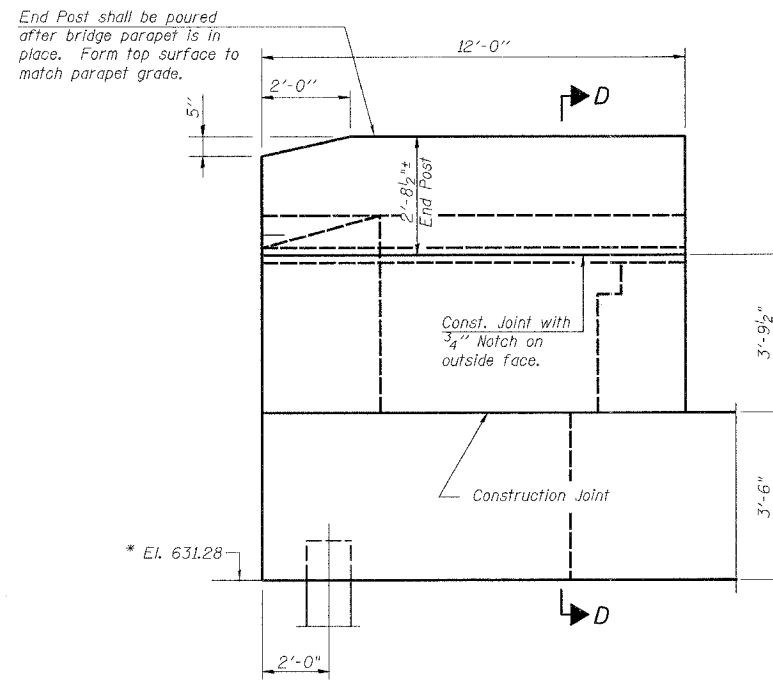
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	328
44 SHEETS				

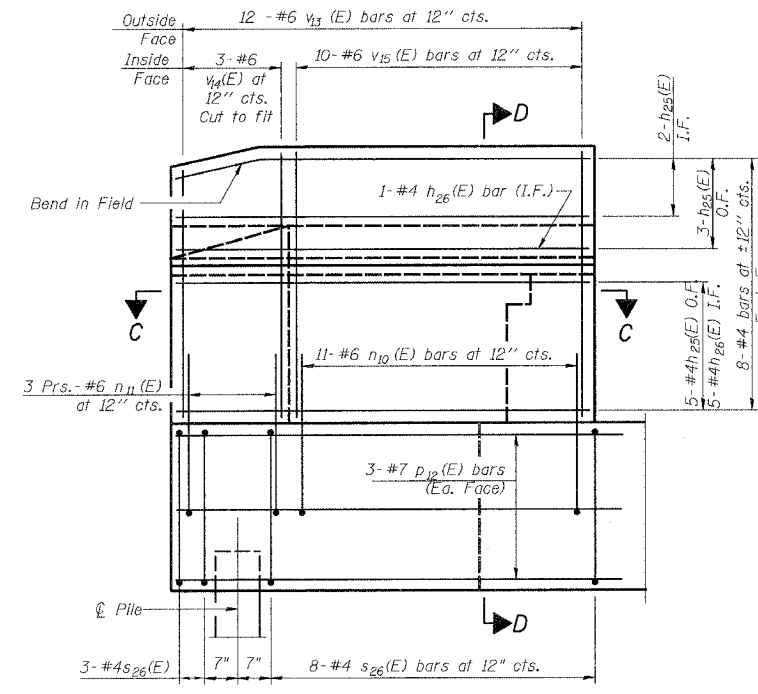
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



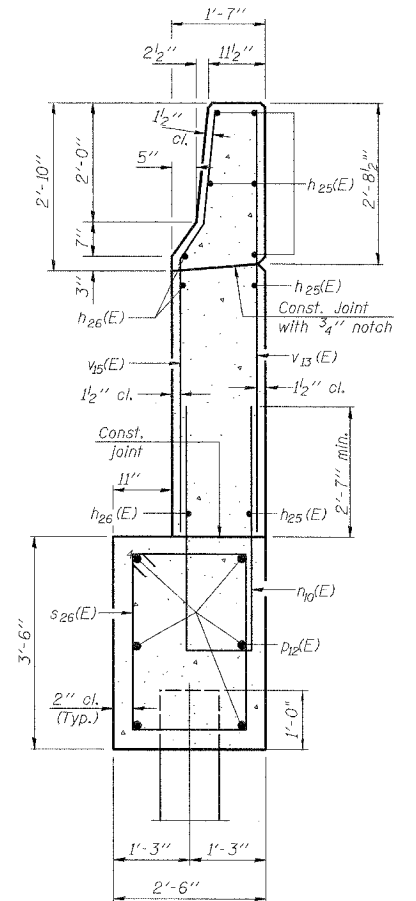
SECTION A-A



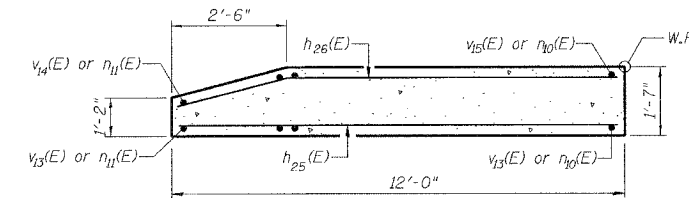
WING WALL ELEVATION  
Showing Dimensions



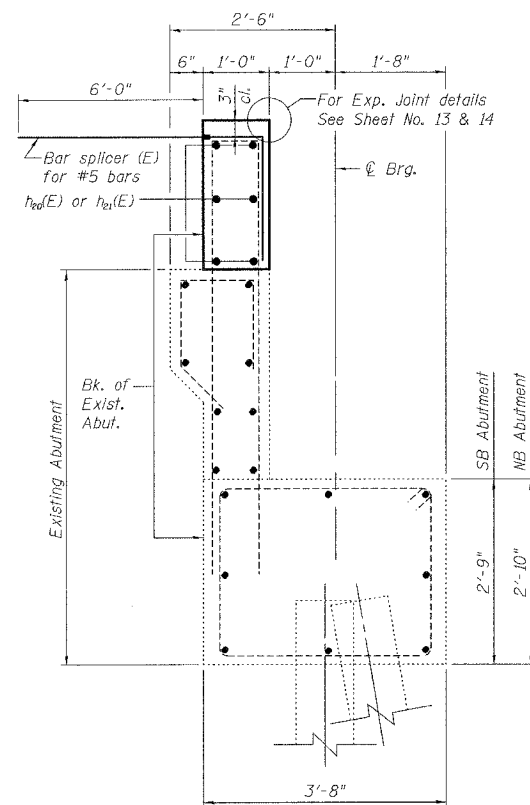
WING WALL ELEVATION  
Showing Reinforcement



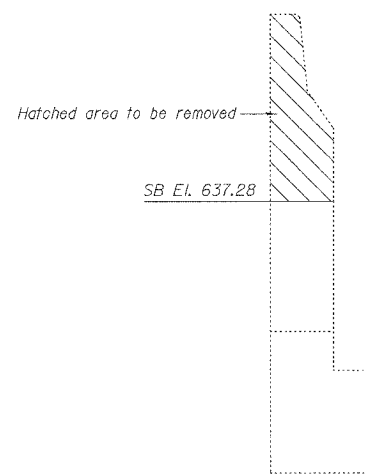
SECTION D-D



SECTION C-C



SECTION B-B



SECTION THRU EXIST.  
S.B. N. ABUT. WINGWALLS

\* Field verify to match Existing SB North Abutment bottom of footing elevation.

Notes:

1. Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.
2. Space reinforcement in cap to miss anchor bolts.
3. Reinforcement bars designated (E) shall be epoxy coated.
4. Quantity of concrete in end post included with Concrete Superstructure on Sheet Nos. 11 & 12.
5. Work this sheet with Sheet Nos. 29 & 30.



NORTH ABUTMENT DETAILS  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

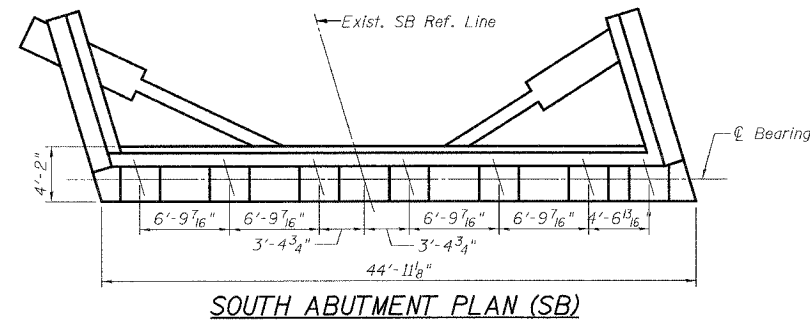
DESIGNED	J. BRISBOIS
CHECKED	J. GRAINAWI
DRAWN	Z. MORILLO
CHECKED	J. GRAINAWI

Date: 6/30/2006

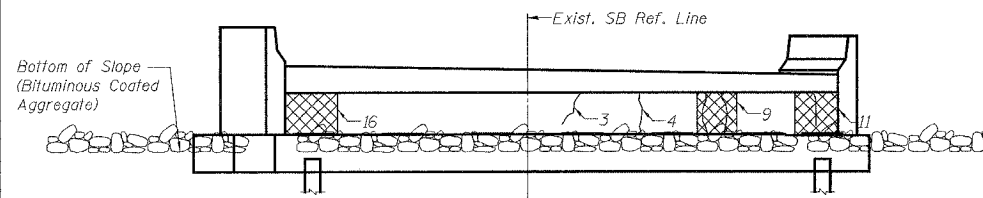
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	FEET SHEETS	SHEET NO.
FAI-55	**	WILL	505	329
SHEET NO. 32 44 SHEETS				

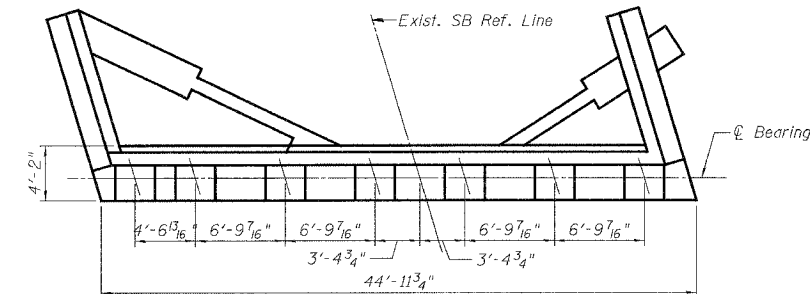
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



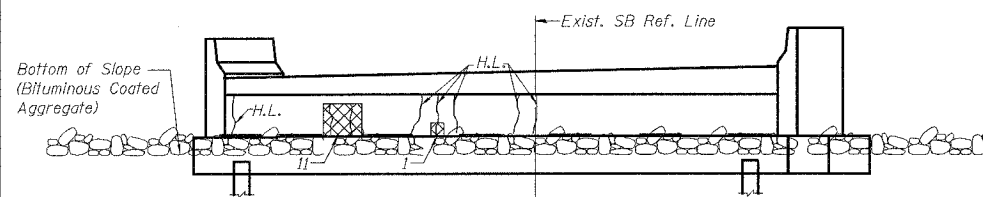
**SOUTH ABUTMENT PLAN (SB)**



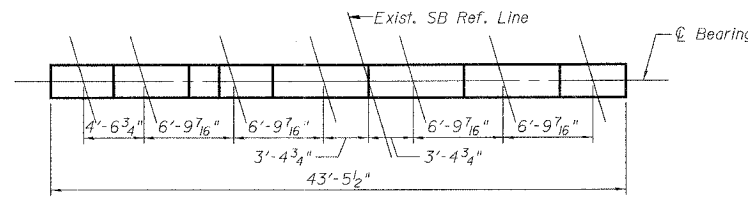
**SOUTH ABUTMENT ELEVATION (SB)**  
(Looking South)



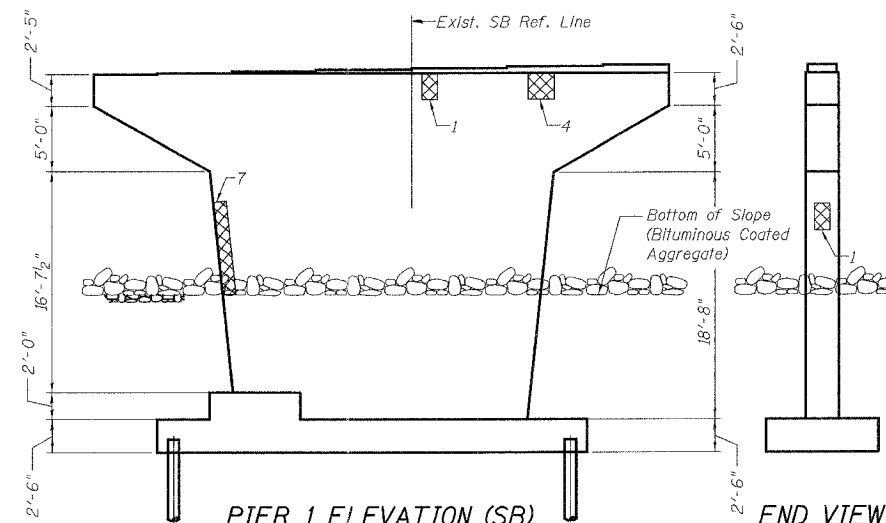
**NORTH ABUTMENT PLAN (SB)**



**NORTH ABUTMENT ELEVATION (SB)**  
(Looking North)

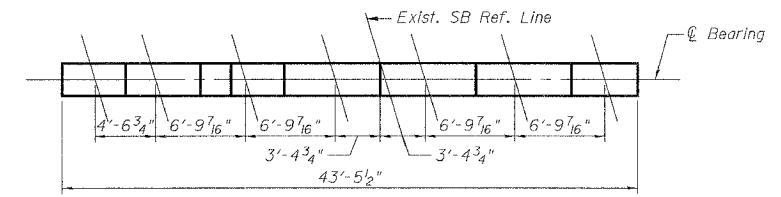


**PIER 1 PLAN (SB)**

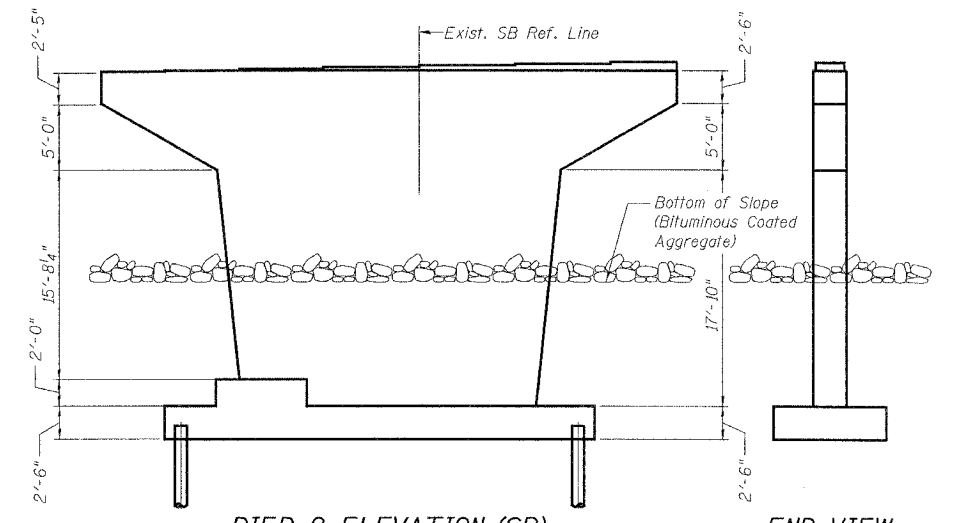


**PIER 1 ELEVATION (SB)**  
(Looking North)

**END VIEW**  
(Looking West)

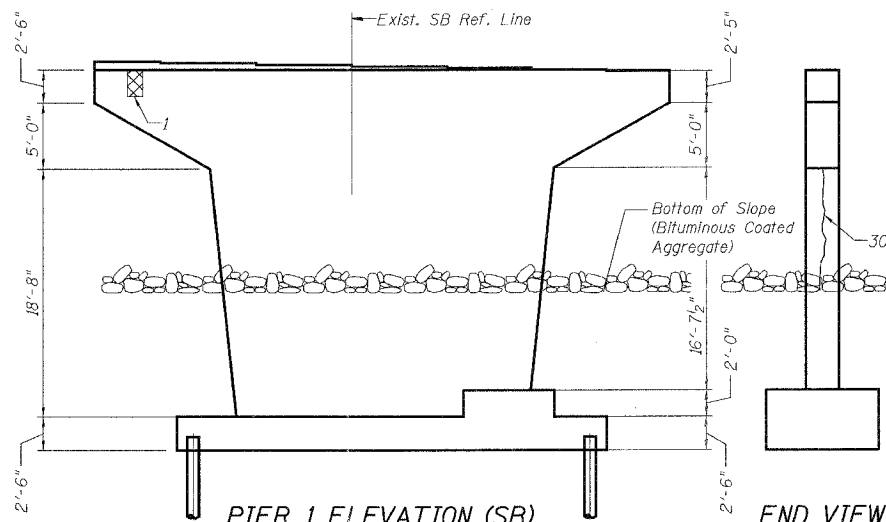


**PIER 2 PLAN (SB)**



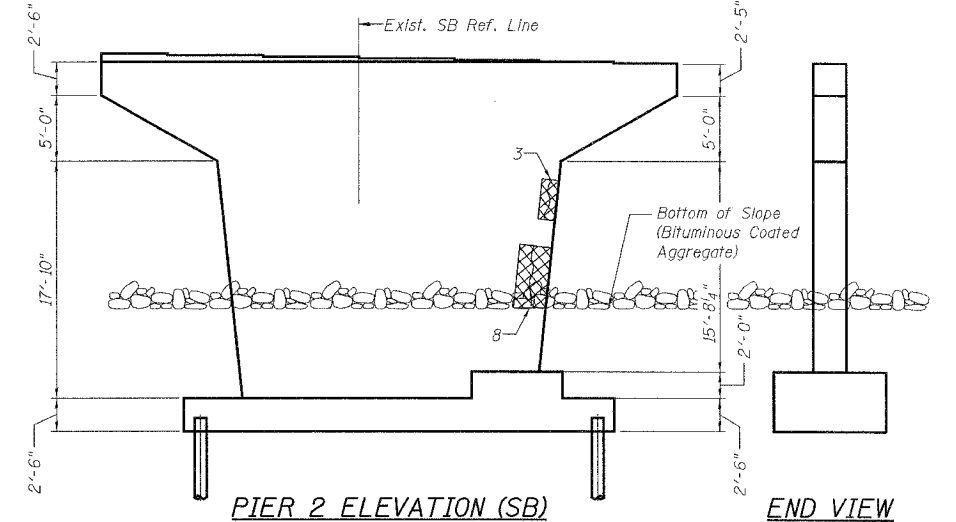
**PIER 2 ELEVATION (SB)**  
(Looking North)

**END VIEW**  
(Looking West)



**PIER 1 ELEVATION (SB)**  
(Looking North)

**END VIEW**  
(Looking East)



**PIER 2 ELEVATION (SB)**  
(Looking North)

**END VIEW**  
(Looking East)

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete <= 5 in.	Sq. Ft.	73.0
Epoxy Crack Sealing	Foot	37

**LEGEND**

- Spalled or Unsound Concrete
- Crack Length to be repaired (in feet)
- H.L. Hairline Crack

**NOTES:**

- Existing reinforcing bars that have been cut and/or damaged during repair operations shall be supplemented by new in kind reinforcing bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. A mechanical bar splicer shall be used when it is not feasible to provide the minimum bar lap. No welding of bars shall be performed. See Special Provisions.
- Areas are in square feet (sq. ft.).
- Crack widths shown to be repaired are 1/16" ± 1/16" unless otherwise noted.

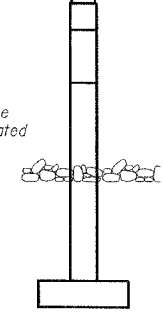
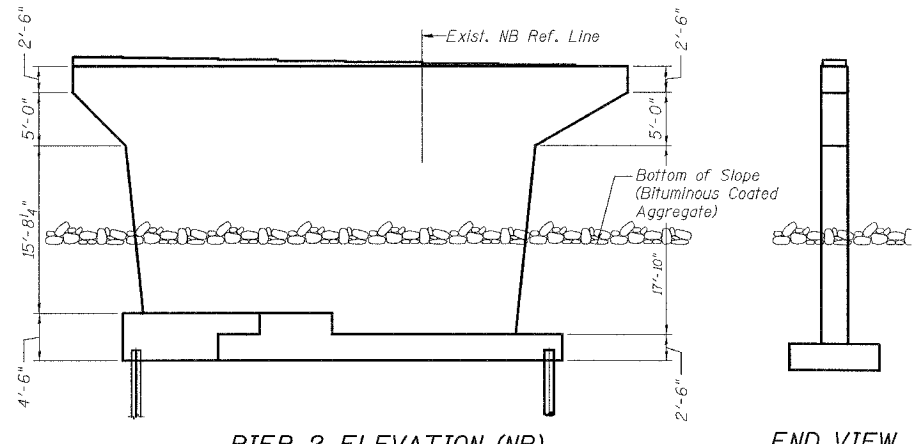
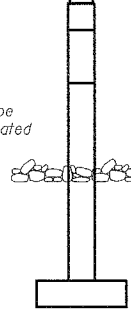
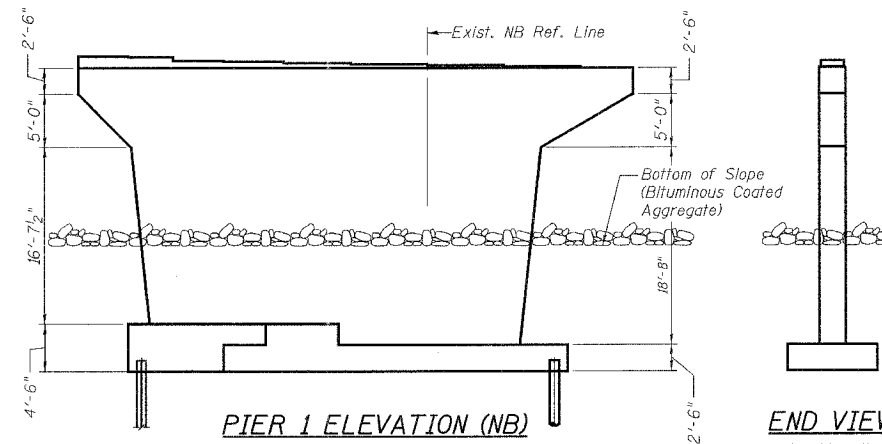
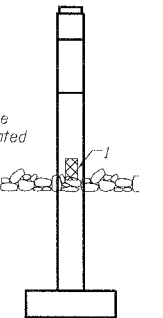
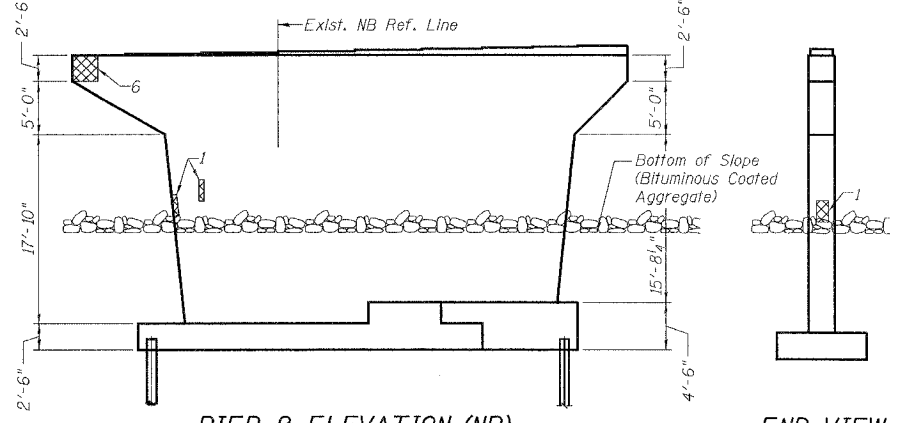
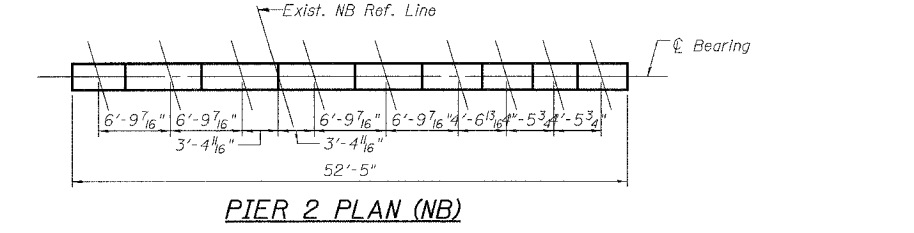
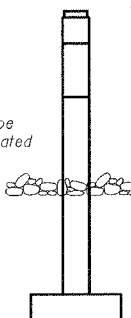
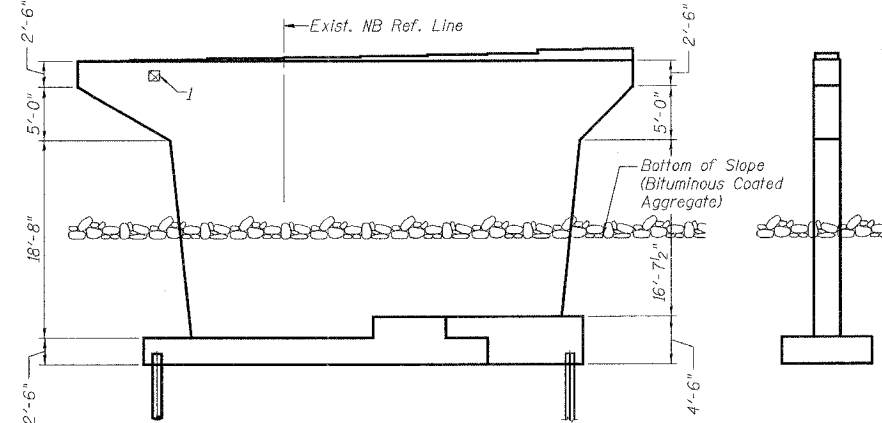
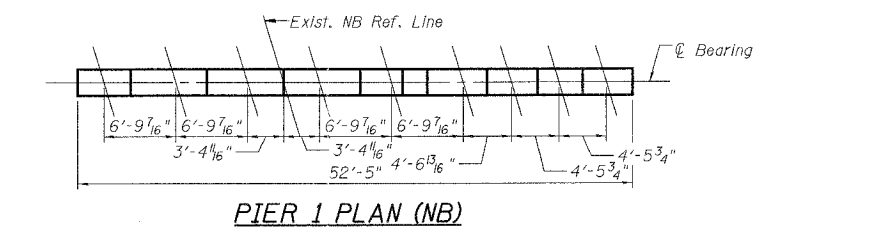
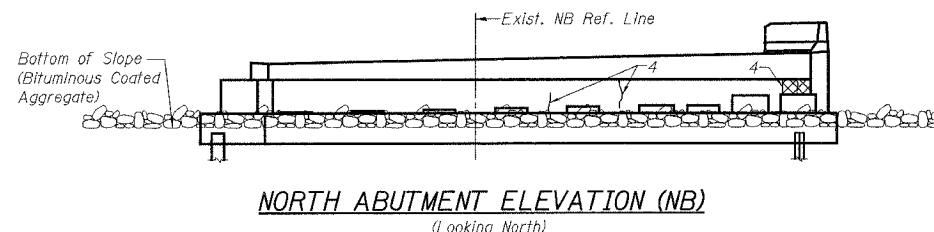
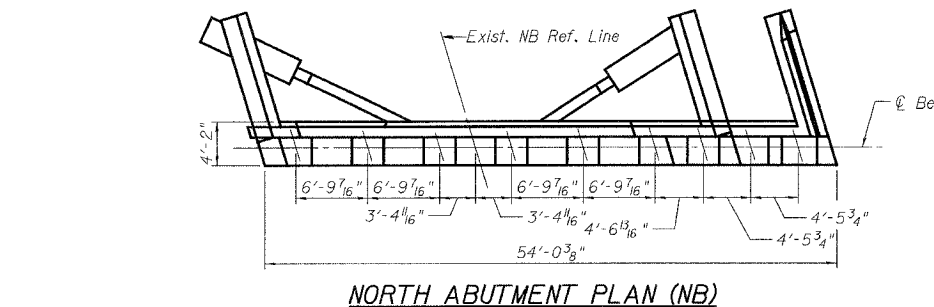
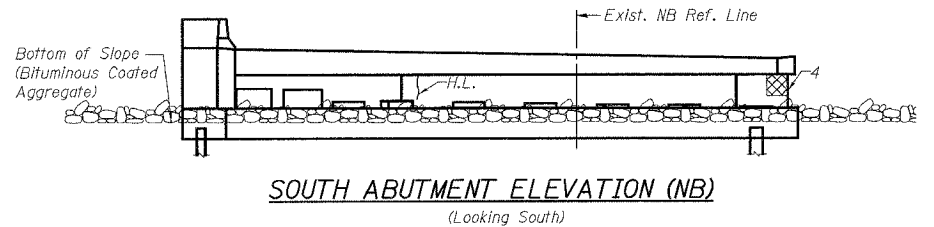
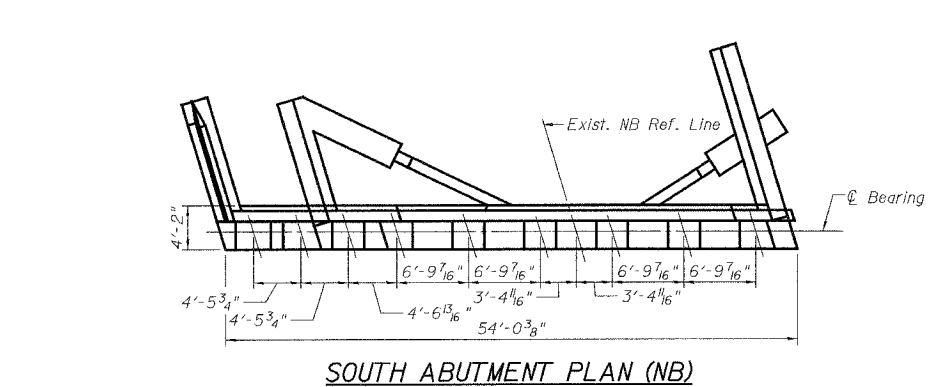


**SUBSTRUCTURE REPAIRS I**  
**I-55 OVER E&E R.R.**  
**FAI ROUTE55-SEC. 2006-032 BY**  
**WILL COUNTY**  
**STA. 609+29.37**  
**STRUCTURE NO. 009-0019 (SB)**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO.
FAI-55	**	WILL	505	330	44 SHEETS
FED. AID DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete < 5 in.	Sq. Ft.	18.0
Epoxy Crack Sealing	Foot	8

- LEGEND**
- Spalled or Unsound Concrete
  - Crack Length to be repaired (in feet)
  - H.L. Hairline Crack

- NOTES:**
- Existing reinforcing bars that have been cut and/or damaged during repair operations shall be supplemented by new in kind reinforcing bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. A mechanical bar splicer shall be used when it is not feasible to provide the minimum bar lap. No welding of bars shall be performed. See Special Provisions.
  - Areas are in square feet (sq. ft.).
  - Crack widths shown to be repaired are 1/8" ± 1/16" unless otherwise noted.

DESIGNED	J. BRISBOIS
CHECKED	J. GRAINAWI
DRAWN	Z. MORILLO
CHECKED	J. GRAINAWI

Date: 6/30/2006

**SUBSTRUCTURE REPAIRS II**  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 009-0018 (NB)

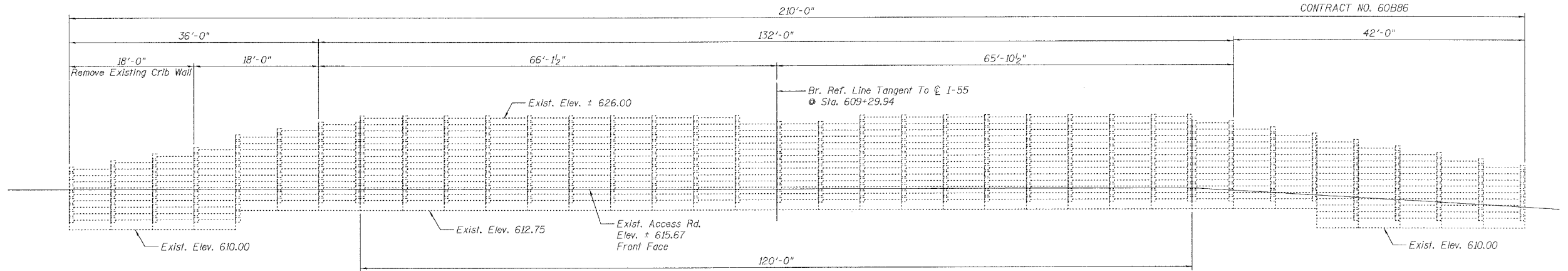


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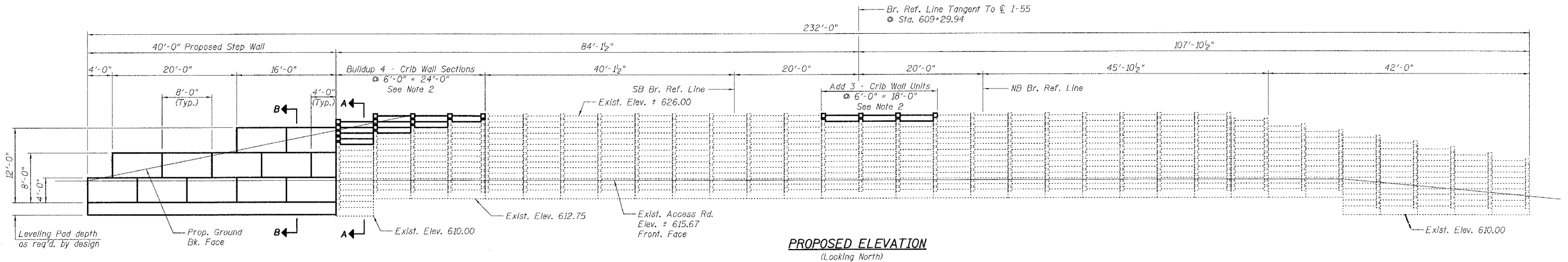
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 34 44 SHEETS
FAI-55	**	WILL	505	331	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



**EXISTING ELEVATION**  
(Looking North)



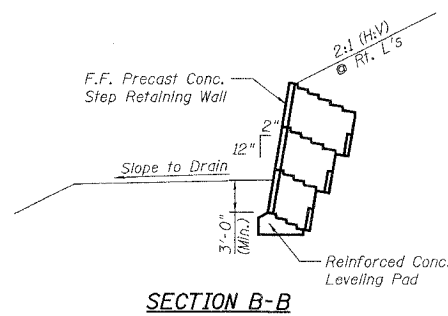
**PROPOSED ELEVATION**  
(Looking North)

**Notes:**

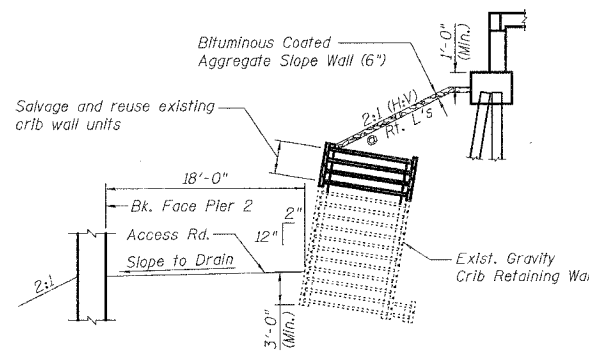
- All dimensions relative to the existing retaining wall are subject to nominal construction variations.
- 13 sets of 6'-0" existing crib wall units shall be salvaged from crib wall removal and used to buildup the existing designated wall sections outlined in proposed elevation.
- The cost of removal and buildup of existing crib wall units, the select fill, porous granular embankment, and any other related items of crib walls is included in Precast Modular Retaining Wall.
- The select fill, porous granular embankment, and their placement should conform to the special provision "Precast Modular Retaining Wall".

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Precast Modular Retaining Wall	Sq. Ft.	368



**SECTION B-B**



**SECTION A-A**

DESIGNED	J. BRISBOIS
CHECKED	J. GRAINAWI
DRAWN	S. CHELBIAN
CHECKED	J. GRAINAWI

Date: 6/30/2006



CRIB RETAINING WALL  
WIDENING & DETAILS  
I-55 OVER E&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

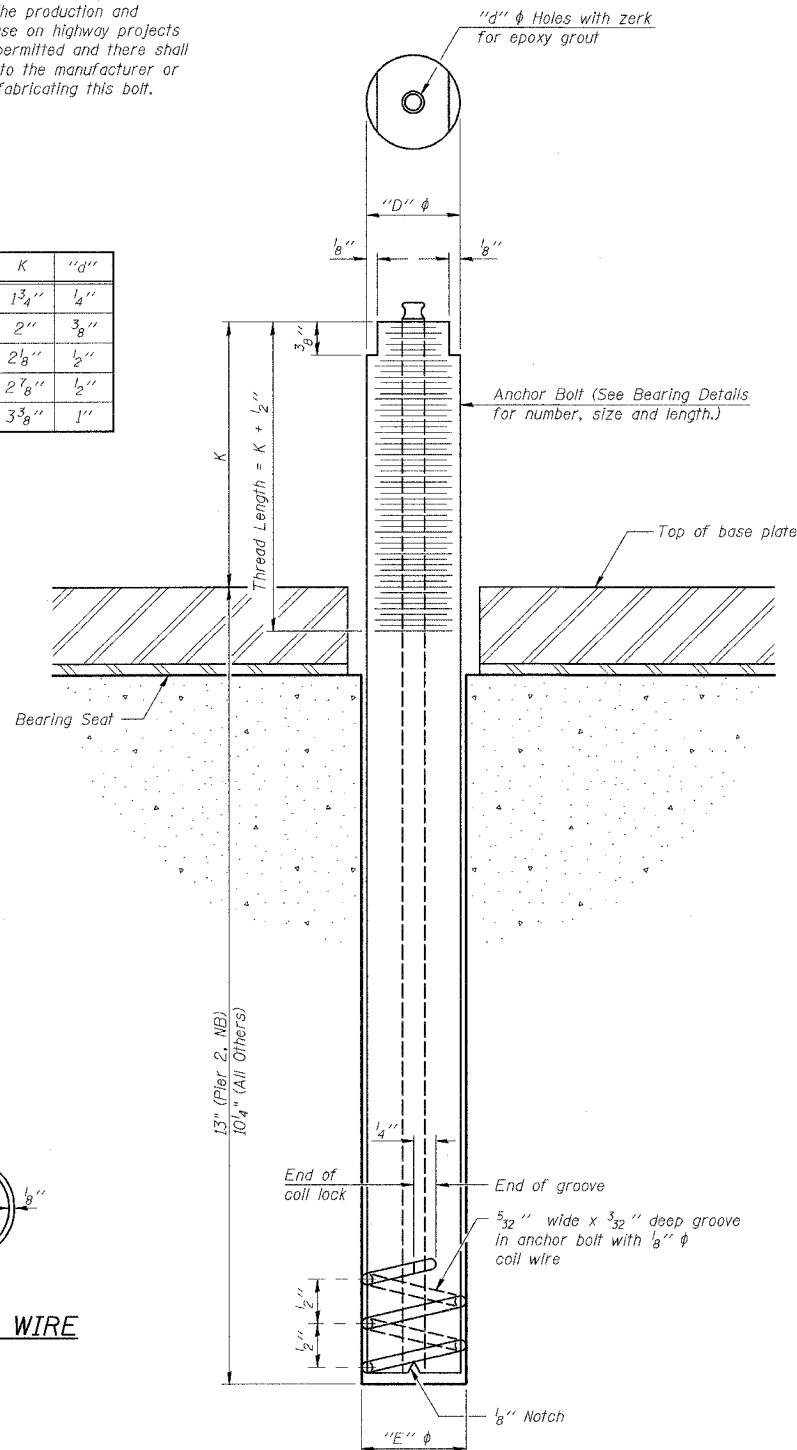
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	"PAGE"	SHEET NO.
FAI-55	**	WILL	505	332	44 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT

PLAN-COIL WIRE

**MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT**

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.  
The coil wire shall be made of any suitable soft steel wire.  
The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.  
The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

**INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT**

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

**ALTERNATE ANCHOR BOLTS**

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

- The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
1. A threaded rod stud with nut and washer of the type specified.
  2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type	Bolt $\phi$	Total Number
S. Abut., NB	A307	1"	6
Pier 1, NB	A307	1"	6
Pier 2, NB	A307	1 1/4"	6
N. Abut., NB	A307	1"	6
S. Abut., SB	A307	1"	10
Pier 1, SB	A307	1"	10
Pier 2, SB	A307	1"	10
N. Abut., SB	A307	1"	10

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

**GENERAL NOTES**

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.  
Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.  
The anchor bolts furnished, installed, and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

**NB BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	100

**SB BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	130

ANCHOR BOLT DETAILS  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 009-0018 (NB)  
STRUCTURE NO. 009-0019 (SB)



DESIGNED	J. ZUO
CHECKED	J. GRAINAWI
DRAWN	J. ZUO
CHECKED	J. GRAINAWI

Date: 6/30/2006



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET
FAI-55	**	WILL	505	333
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 36  
44 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

NOTES

1. Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
2. Splicer rods shall be a minimum of 60 ksi yield strength, threaded or coiled full length.
3. All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
4. Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
5. Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_t$
- ② Minimum \*Pull-out Strength (Tension in kips) =  $1.25 \times f_{s,allow} \times A_t$

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $f_{s,allow}$  = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
 \* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

6. Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

The diameter of this part is equal or larger than the diameter of bar spliced.

The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



\*\* ONE PIECE

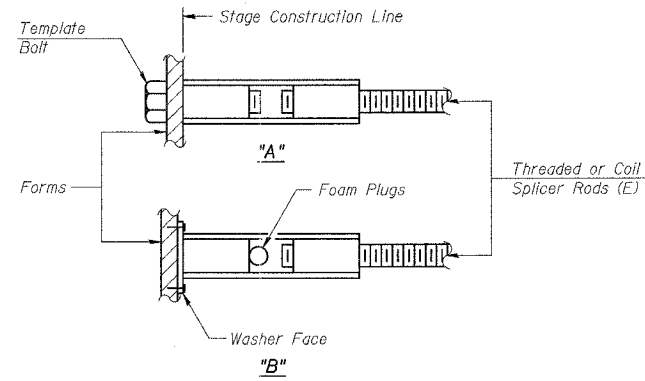
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

\*\* Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.

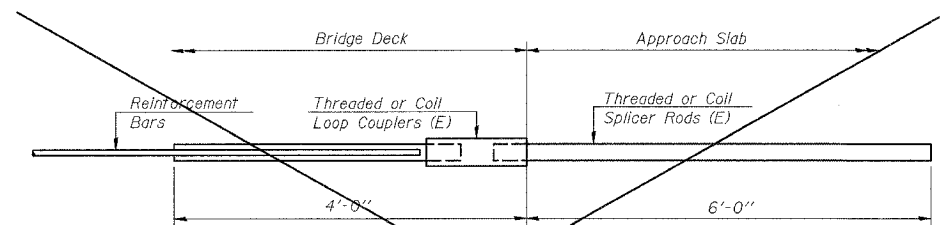


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.

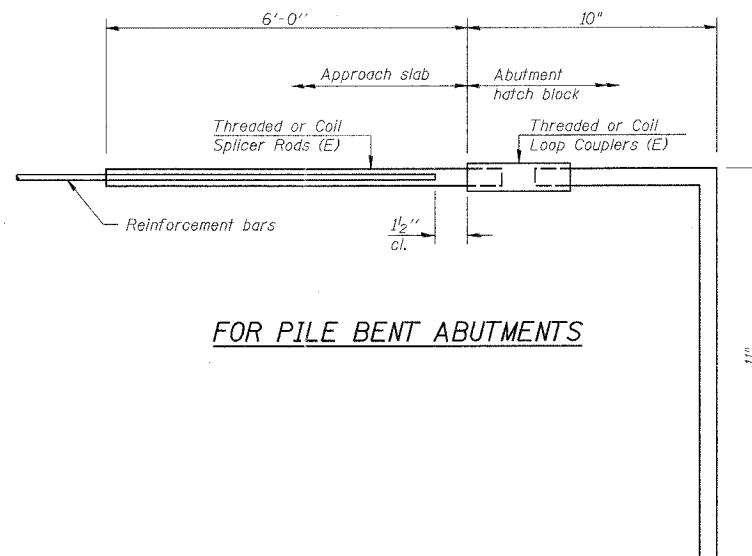
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



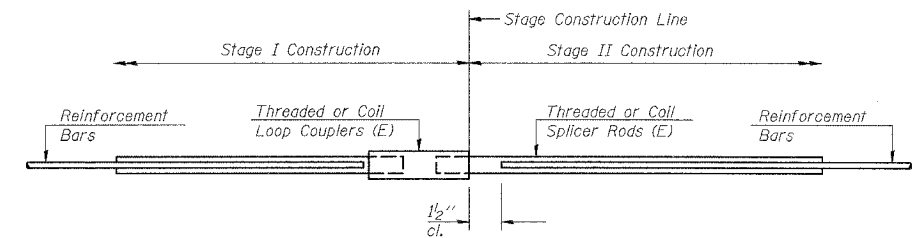
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	9.2 kips - tension
No. Required =	



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	9.2 kips - tension
No. Required at Abutments =	276



STANDARD

Bar Size	No. Assemblies Required	Location
#5	926	SB Bridge Deck
#6	36	Abutments
#5	72	Pier 1
#5	72	Pier 2

BAR SPLICER DETAILS  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

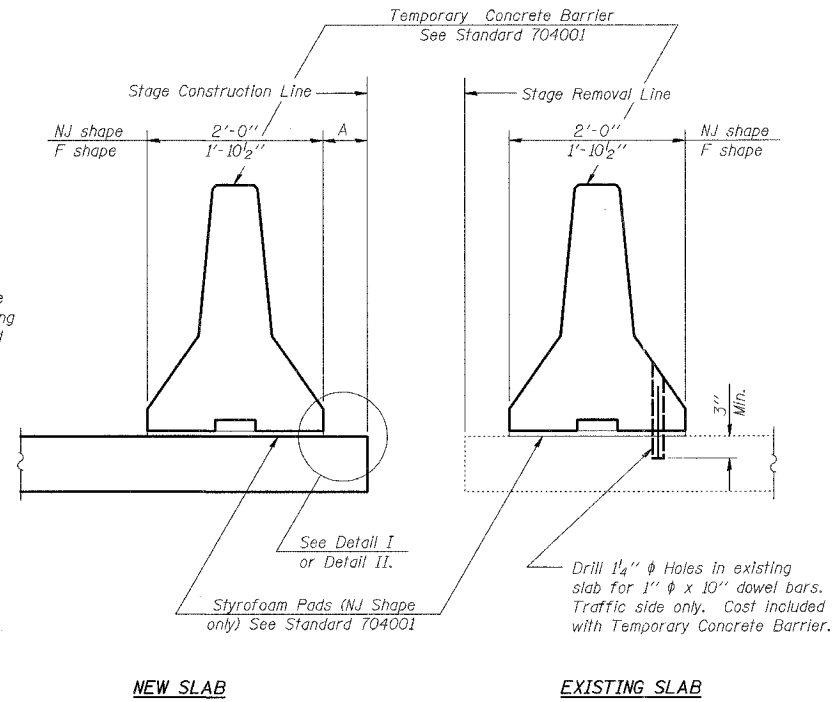
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	334
FED. AID DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 37  
44 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB

NOTES

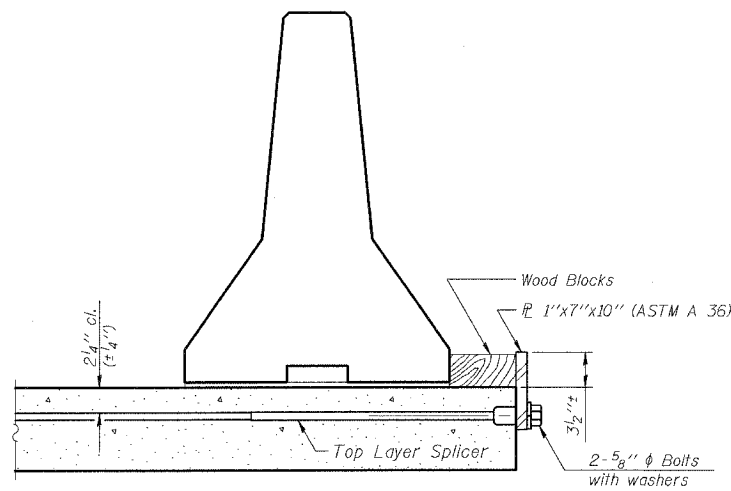
Detail I - With Bar Splicer or Couplers:

Connect one (1) 1"x7"x10" steel plate to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate center of each barrier panel.

Detail II - With Extended Reinforcement Bars:

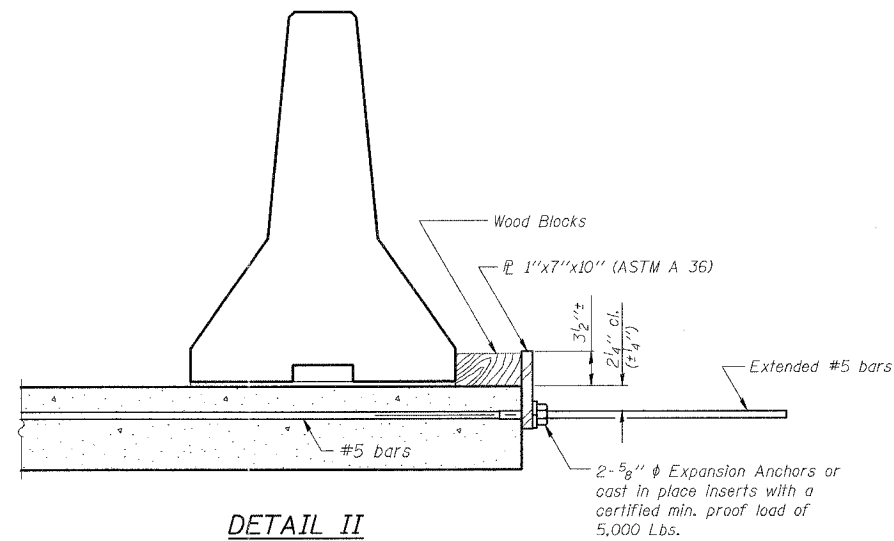
Connect one (1) 1"x7"x10" steel plate to the concrete slab with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate center of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.



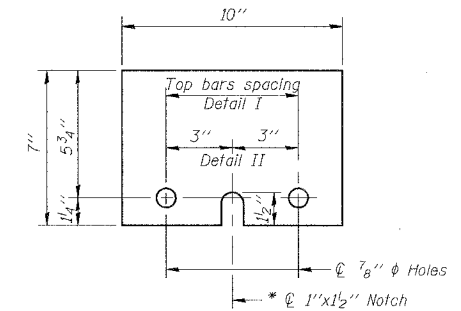
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



1" x 7" x 10"

\* Required only with Detail II

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006



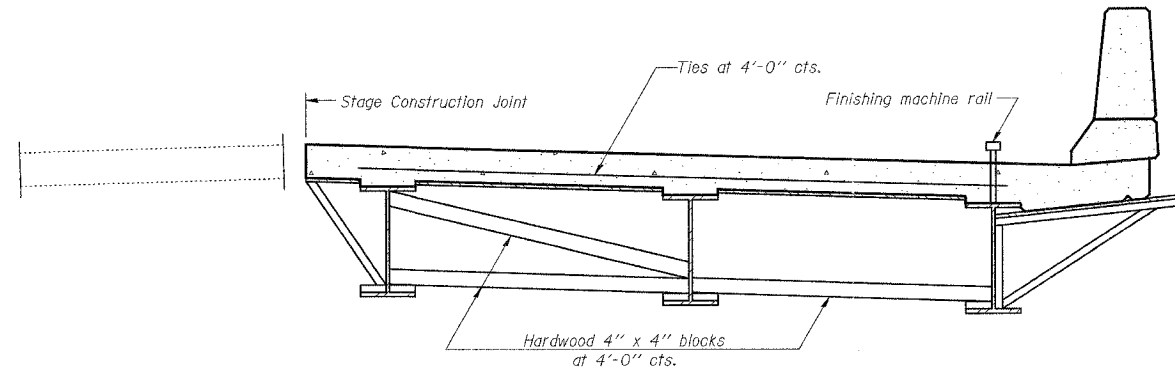
TEMPORARY CONCRETE BARRIER  
I-55 OVER E&J R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

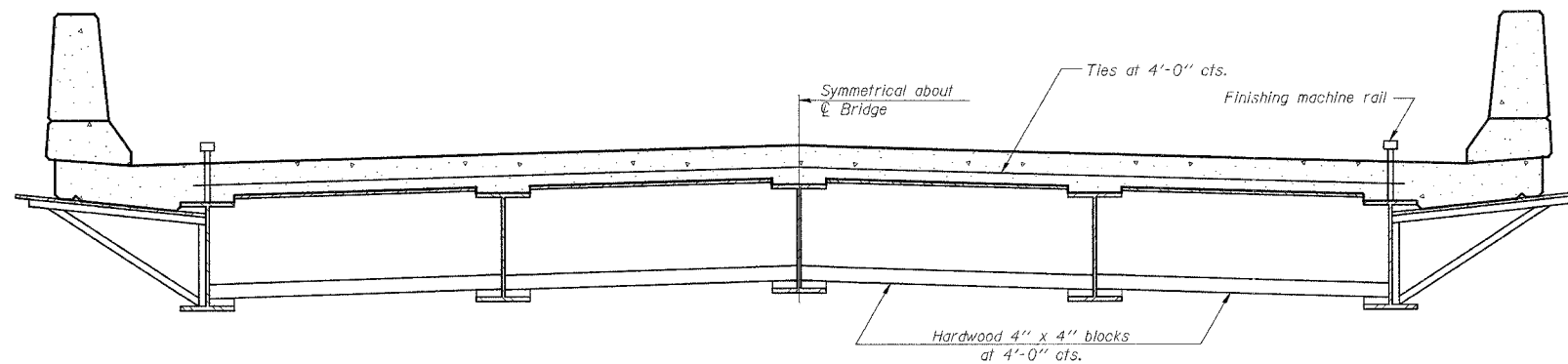
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 38
FAI-55	**	WILL	505	335	44 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

When cantilever forming brackets are used, the work shall be done according to Article 503.06, except as modified below and in the details shown on this sheet.  
The finishing machine rails shall be placed on the top flange of the exterior beams.  
The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.  
For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



FORM BRACES FOR  
STAGE CONSTRUCTION



FORM BRACES FOR  
STANDARD CONSTRUCTION

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

CANTILEVER FORMING BRACKETS  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	336
44 SHEETS				

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

BORING-BR-1

BLOOM CONSULTANTS, LLC		CHICAGO, ILLINOIS						
BORING LOG								
JOB NO: BM3-1148	CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO: BR-1						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 607+95						
LOCATION: I-55 Bridges over E. J. & E. Railroad		OFFSET: 5' Lt						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 637.4						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
0.0-1.0		636.6	FILL: Black Organic Clay A-7-6		Auger			18
1.0-2.5				14	3	5.2	15	13
3.5-5.0				18	2	(3.7)		13
6.0-7.5			Bottom S. Abut. Pile Cap = Elev. 631.1	16	10			16
8.5-10.0			FILL: Br & Gr Clay A-6	14	4	2.7	15	14
11.0-12.5				18	4	3.8	15	16
13.5-15.0				15	4	2.3	15	17
16.0-17.5		619.0		18	5	2.6	16	22
18.5-20.0		616.9	Hard Br Silty Clay A-6	18	5	4.3	15	18
21.0-22.5		614.4	Hard Br & Gr Clay A-7-6	16	5			32
23.5-25.0		611.9	Very Stiff Br & Gr to Gr Clay Loam A-6	18	2	2.3	15	13
26.0-27.5		609.4	Very Stiff Gr Clay A-7-6	18	7			25
28.5-30.0				16	8-10	2.8	15	25
31.0-32.5				16	7			14
33.5-35.0				15	4	1.5	15	14
36.0-37.5			Stiff to Very Stiff Br Clay A-6	18	7			18
38.5-40.0				14	7-10	2.1	15	18
41.0-42.5				18	8-16	3.3	15	15
43.5-45.0		593.9		13	5			10
46.0-47.5			Dense to Very Dense Gr Sand A-1-a	16	18-27			10
48.5-48.9		588.5	-Apparent Cobble noted @ 48.8'	4	23-37			10
				4	50/5"			9
				Boring terminated at 48.9'				
REMARKS				Automatic Hammer Used. ( ) Denotes Calibrated Penetrometer Estimate				
WATER	Dry FT. ELEV.	DURING DRILLING	CORE SIZE	IN. DATE:	Feb 7, 06			
WATER	FT. ELEV.	AT COMPLETION	CASING LENGTH	FT. DRILLER:	Juarez			
WATER	Dry FT. ELEV.	AFTER 1/4 HRS.	CASING DIAMETER	IN. INSPECTOR:	Allemana			

BORING-BR-2

BLOOM CONSULTANTS, LLC		CHICAGO, ILLINOIS						
BORING LOG								
JOB NO: BM3-1148	CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO: BR-2						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 609+00						
LOCATION: I-55 Bridges over E. J. & E. Railroad		OFFSET: Centerline						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 611.3						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
0.0-1.0		619.8	FILL: Black Organic Clay A-7-6		Auger			19
1.0-2.5			FILL: Dark Gr Clay A-6	16	2	1.8	15	22
3.5-5.0		607.9		14	3	(1.5)		21
6.0-7.5		605.4	Bottom of Pier 1 Pile Cap = Elev. 606.3	16	3-3			29
8.5-10.0		602.9	Stiff Br Silty Clay A-6	18	2	(0.3)		29
11.0-12.5			Soft Br Clay A-7-6	16	2-2			16
13.5-15.0		598.0	Very Stiff Br to Gr Clay A-6	15	5-6	2.8	15	16
16.0-17.5		595.4		14	6			15
18.5-20.0		592.9	Medium Dense Gr Silty Loam A-4	18	5			14
21.0-21.8			Very Stiff Gr Clay Loam A-6	12	8-10	2.2	15	14
23.5-24.0				8	10			9
			Dense Gr Sandy Loam A-2-4	4	21-50/4"			8
			- Apparent Cobble noted @ 21.6'					
			- Apparent Cobble noted @ 23.9'					
		585.1	Apparent Dolomite bedrock					12
				Auger refusal on apparent bedrock at 26.2'				
REMARKS				Automatic Hammer Used. ( ) Denotes Calibrated Penetrometer Estimate				
WATER	15 FT. ELEV.	596.3	DURING DRILLING	CORE SIZE	IN. DATE:	Jan 25, 06		
WATER	FT. ELEV.	AT COMPLETION	CASING LENGTH	FT. DRILLER:	Juarez			
WATER	14.2 FT. ELEV.	597.1	AFTER 24 HRS.	CASING DIAMETER	IN. INSPECTOR:	Allemana		

BORING-BR-3

BLOOM CONSULTANTS, LLC		CHICAGO, ILLINOIS						
BORING LOG								
JOB NO: BM3-1148	CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO: BR-3						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 609+65						
LOCATION: I-55 Bridges over E. J. & E. Railroad		OFFSET: 10' Lt						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 613.2						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
0.0-1.0		612.4	Br Sand A-1-a		Auger			13
1.0-2.5			Hard Br Clay A-6	16	4	4.1	15	15
3.5-5.0		610.2		14	3			31
6.0-7.5		607.3	Very Stiff Br Clay A-7-6	14	6-8	3.1	15	31
8.5-10.0			Bottom of Pier 2 Pile Cap = Elev. 606.4	14	5			13
11.0-12.5		602.4	Medium Dense Br Sandy Loam A-2-4	13	4			15
13.5-15.0			Stiff to Very Stiff Gr Clay A-6	18	3	1.8	15	19
16.0-17.5		597.3		18	3-5	(2.0)		20
18.5-20.0		594.8	Medium Dense Gr Sandy Loam A-2-4	13	4			14
21.0-22.5		592.7	Hard Gr Clay A-6	15	4			18
23.5-24.0		590.9	Very Stiff Gr Clay Loam A-6	14	10-20	4.1	15	18
26.0-27.5				14	4			13
28.5-30.0		584.9	Dense Gr Sandy Loam A-2-4	5	16-23	2.8	15	13
			Very Dense Gr Sand A-1-a		5	50/6"		7
			- Cobble noted @ 23.8'					
				14	26			14
			Stiff Gr Clay A-7-6	16	35-37			
		583.2		6	10-10	(1.8)		23
				Boring terminated at 30'				
REMARKS				Automatic Hammer Used. ( ) Denotes Calibrated Penetrometer Estimate				
WATER	17 FT. ELEV.	596.2	DURING DRILLING	CORE SIZE	IN. DATE:	Jan 26, 06		
WATER	FT. ELEV.	AT COMPLETION	CASING LENGTH	FT. DRILLER:	Juarez			
WATER	16.1 FT. ELEV.	597.1	AFTER 1/4 HRS.	CASING DIAMETER	IN. INSPECTOR:	Allemana		

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 6/30/2006

BORING LOGS I  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	337
44 SHEETS				

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

BORING-BR-4

BLOOM CONSULTANTS, LLC		CHICAGO, ILLINOIS						
BORING LOG								
JOB NO: BM3-1148	CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO: BR-4	STATION: 611+30					
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL	LOCATION: I-55 Bridges over E. J. & E. Railroad	OFFSET: Centerline						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 638.7						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
0.0-1.0	638.2	637.2	FILL: Black Organic Clay A-7-6		Auger			10
1.0-2.5			FILL: Br Sand A-1-a	14	6	2.0	15	25
			FILL: Dark Gr Clay A-7-6		3			
3.5-5.0		633.2		16	6-7	(2.3)		23
6.0-7.6			Bottom of N. Abut. Pile Cap = Elev. 631.6	18	4-4	4.0	15	15
8.5-10.0		628.2	FILL: Br Clay A-6	16	3	3.4	15	17
11.0-12.5		625.7	FILL: Br Clay Loam A-6	13	6-7	2.6	15	13
13.5-15.0				18	6-10	2.4	15	22
16.0-17.5			FILL: Br & Gr Clay A-6	18	6	3.4	15	17
18.5-20.0		616.2		16	7	5.2	15	19
21.0-22.5		616.7	Hard Br Clay A-7-6	14	9-11	4.5	15	25
23.5-25.0		613.2	Very Stiff Br Clay Loam A-6	16	11-12	3.8	15	13
26.0-27.5			Very Stiff Dark Gr to Br Clay A-7-6; Organic matter noted @ 26' - 27.5'	14	10-13	2.9	15	27
28.5-30.0		608.2		16	4	2.1	15	17
31.0-32.5				18	6-8	4.3	15	16
33.5-35.0			Hard to Very Stiff Br to Gr Clay A-6	15	6-8	4.1	15	17
36.0-37.5				18	5-6	4.5	15	17
38.5-40.0		598.2		17	5-8	3.9	15	16
41.0-42.5		595.7	Very Stiff Gr Clay Loam A-6	19	7-8	3.4	15	13
43.5-45.0				14	15-18			8
46.0-46.4			Dense Gr Sand A-1-a - Cobble noted @ 46.3'	4	50/6"			9
48.5-50.0		588.7		11	7-11			8
Boring terminated at 50'								
REMARKS Automatic Hammer Used. NOTE: Boring moved 50' N due to overhead power lines. ( ) Denotes Calibrated Penetrometer Estimate								
WATER	Dry FT. ELEV.	DURING DRILLING	CORE SIZE	IN. DATE:	Feb 6, 06			
WATER	FT. ELEV.	AT COMPLETION	CASING LENGTH	FT. DRILLER:	Juarez			
WATER	Dry FT. ELEV.	AFTER 1/4 HRS.	CASING DIAMETER	IN. INSPECTOR:	Allemana			

BORING-BR-5

BLOOM CONSULTANTS, LLC		CHICAGO, ILLINOIS						
BORING LOG								
JOB NO: BM3-1148	CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO: BR-5	STATION: 608+30					
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL	LOCATION: I-55 Bridges over E. J. & E. Railroad	OFFSET: 85' Lt						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 611.0						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
0.0-1.0		610.3	FILL: Dark Gr Organic Clay A-7-6		Auger			20
1.0-2.5		607.6	FILL: Dark Gr Clay A-7-6; Organic matter noted	14	9-9	4.7	15	28
3.5-5.0		605.5	Medium Stiff Br Clay A-7-6	13	3-3	(0.5)		35
6.0-7.6		602.7	Medium Stiff Br Clay Loam A-6	18	2-3	(0.5)		16
8.5-10.0			Very Stiff Br Clay A-6	16	4-7	2.0	15	19
11.0-12.5		598.0		16	3-7	2.3	15	20
13.5-15.0		595.1	Very Stiff Br & Gr to Gr Clay Loam A-6	14	9-13	3.5	15	14
16.0-17.5		592.6	Medium Dense Gr Silty Loam A-4	18	9-9			19
18.5-20.0			Very Stiff Gr Loam A-6	13	10-16	3.0	15	13
21.0-21.4		589.4	- Coarse Gravel or Cobble noted @ 21.3'	5	50/5"	(3.3)		11
		587.9	Apparent Dolomite bedrock					
Auger refusal on apparent bedrock at 23.1'								
REMARKS Automatic Hammer Used. ( ) Denotes Calibrated Penetrometer Estimate								
WATER	16.0 FT. ELEV.	595.0	DURING DRILLING	CORE SIZE	IN. DATE:	Jan 25, 06		
WATER	FT. ELEV.	AT COMPLETION	CASING LENGTH	FT. DRILLER:	Juarez			
WATER	Caved @ 17.0 FT. ELEV.	594.0	AFTER 24 HRS.	CASING DIAMETER	IN. INSPECTOR:	Allemana		

BORING-BR-6

BLOOM CONSULTANTS, LLC		CHICAGO, ILLINOIS						
BORING LOG								
JOB NO: BM3-1148	CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO: BR-6	STATION: 609+15					
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL	LOCATION: I-55 Bridges over E. J. & E. Railroad	OFFSET: 80' Lt						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 611.0						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
0.0-1.0		610.4	Black Organic Clay A-7-6		Auger			22
1.0-2.5			Stiff to Very Stiff Br Clay A-7-6	16	5-5	1.7	15	31
3.5-5.0		605.5	Bottom of Pier 1 Pile Cap = Elev. 605.5	15	3-4	2.1	15	24
6.0-7.6		602.8	Very Stiff Br to Gr Clay A-6	16	4-5	2.2	15	10
8.5-10.0		600.5	Very Stiff Gr Clay Loam A-6	16	7-7	2.2	15	11
11.0-12.5				14	5	(2.5)		15
13.5-15.0			Very Stiff Gr Clay A-6	16	6-6	3.7	15	17
16.0-17.5				15	5-6	3.1	15	18
18.5-20.0		590.1		18	7-7	3.2	15	16
21.0-22.5			Dense Gr to Br Sand A-1-a	13	17-17			7
23.5-25.0		585.2		14	20-20			10
26.0-27.5				16	20-16			21
28.5-30.0			Dense to Very Dense Gr Silt A-4; Gravel seams and occasional Cobbles noted	12	19			24
31.0-32.3		578.0	- Coarse Gravel or Cobble noted @ 32.2'	11	29-50/3"			21
33.5-33.9				4	50/6"			13
38.5-39.0		572.0	Extremely Dense Br Sand A-1-a; Cobbles noted	4	50/6"			14
Boring terminated at 39'								
REMARKS Automatic Hammer Used. ( ) Denotes Calibrated Penetrometer Estimate								
WATER	21.0 FT. ELEV.	590.0	DURING DRILLING	CORE SIZE	IN. DATE:	Jan 25, 06		
WATER	FT. ELEV.	AT COMPLETION	CASING LENGTH	FT. DRILLER:	Juarez			
WATER	20.3 FT. ELEV.	600.7	AFTER 24 HRS.	CASING DIAMETER	IN. INSPECTOR:	Allemana		

DESIGNED S.CHELBIAN  
CHECKED J.GRAINAWI  
DRAWN D.C.PATEL  
CHECKED J.GRAINAWI  
Date: 6/30/2006

BORING LOGS II  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		44 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

BORING-BR-7

BLOOM CONSULTANTS, LLC		CHICAGO, ILLINOIS						
BORING LOG								
JOB NO: BM3-1148	CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO: BR-7						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 609+75						
LOCATION: I-55 Bridges over E. J. & E. Railroad		OFFSET: 85' Lt						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 609.7						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
	0.0-1.0	608.9	FILL: Black Organic Clay A-7-6		Auger 2			34
	1.0-2.5		FILL: Dark Gr Clay A-7-6; Organic matter noted	14	3-3	1.9	15	33
		606.3	Bottom of Pier 2 Pile Cap = Elev. 606.4					
	3.5-5.0		Stiff Br Sandy Loam A-4	15	2-2	(1.5)		19
		603.8			2			
	6.0-7.5		Stiff Br Clay A-6	16	3-4	(1.5)		17
		601.7			2			
10	8.5-10.0		Very Stiff to Stiff Gr Clay Loam A-6	14	3-5	(2.5)		14
					3			
	11.0-12.5			15	3-4	(1.8)		15
		596.4			4			
	13.5-15.0		Medium Dense Gr Sandy Loam A-2-4	12	8-10			13
					3			
	16.0-17.5			15	5-5			16
		591.3			19			
20	18.5-20.0			11	21-30			10
					20			
	21.0-22.3		Very Dense to Extremely Dense Gr Sand A-1-a; random	8	21-50/3"			10
			Cobbles noted					
	23.5-23.8			2	50/3"			9
		583.9						
		582.5	Apparent Dolomite bedrock					
Auger refusal on apparent bedrock at 27.2'								
REMARKS Automatic Hammer Used.				() Denotes Calibrated Penetrometer Estimate				
WATER 14 FT. ELEV. 595.7 DURING DRILLING		CORE SIZE IN. DATE: Jan 26, 06						
WATER FT. ELEV. AT COMPLETION		CASING LENGTH FT. DRILLER: Juarez						
WATER 13.5 FT. ELEV. 596.2 AFTER 14 HRS.		CASING DIAMETER IN. INSPECTOR: Allemana						

BORING-BR-8

BLOOM CONSULTANTS, LLC		CHICAGO, ILLINOIS						
BORING LOG								
JOB NO: BM3-1148	CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO: BR-8						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 610+30						
LOCATION: I-55 Bridges over E. J. & E. Railroad		OFFSET: 90' Lt						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 609.8						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
	0.0-1.0				Auger 2			28
	1.0-2.5		Black Organic Clay A-7-6	16	3-3	4.7	15	23
		606.4			2			
	3.5-5.0		Hard Br Clay A-6	18	6-9	(4.5+)		14
		603.9			3			
	6.0-7.5			15	4-7	1.7	15	18
			Stiff to Very Stiff Br Clay A-6		3			
10	8.5-10.0			16	4-4	2.2	15	17
		599.0			2			
	11.0-12.5		Stiff Gr Clay Loam A-6	14	3-4	1.6	15	14
		596.4			2			
	13.5-15.0		Medium Dense Br Sandy Loam A-2-4	18	4-6			13
		593.6			2			
	16.0-17.5		Very Stiff Gr Clay A-6	18	3-5	2.3	15	18
		591.4			16			
20	18.5-20.0			14	28-22			9
					7	18-50/3"		9
	21.0-21.8		Very Dense to Extremely Dense Gr Sand A-1-a; random					
			Cobbles noted					
	23.5-24.3			8	48-50/4"			9
	26.0-26.3			2	50/4"			4
		582.9						
		581.7	Apparent Dolomite bedrock					
Auger refusal on apparent bedrock at 28.1'								
REMARKS Automatic Hammer Used.				() Denotes Calibrated Penetrometer Estimate				
WATER 15.0 FT. ELEV. 594.8 DURING DRILLING		CORE SIZE IN. DATE: Jan 26, 06						
WATER FT. ELEV. AT COMPLETION		CASING LENGTH FT. DRILLER: Juarez						
WATER Caved @ 8.5 FT. ELEV. 601.3 AFTER 1/4 HRS.		CASING DIAMETER IN. INSPECTOR: Allemana						

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 6/30/2006

BORING LOGS III  
I-55 OVER E.J. & E. R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

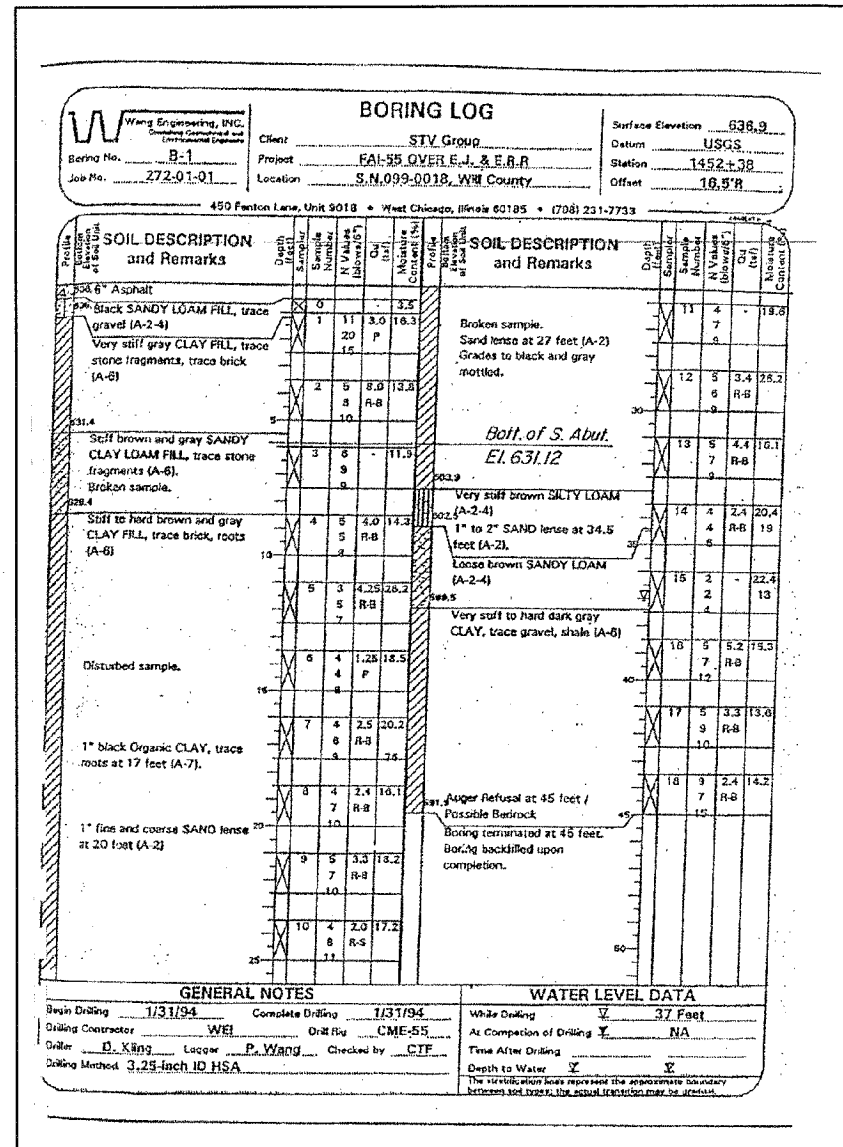


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

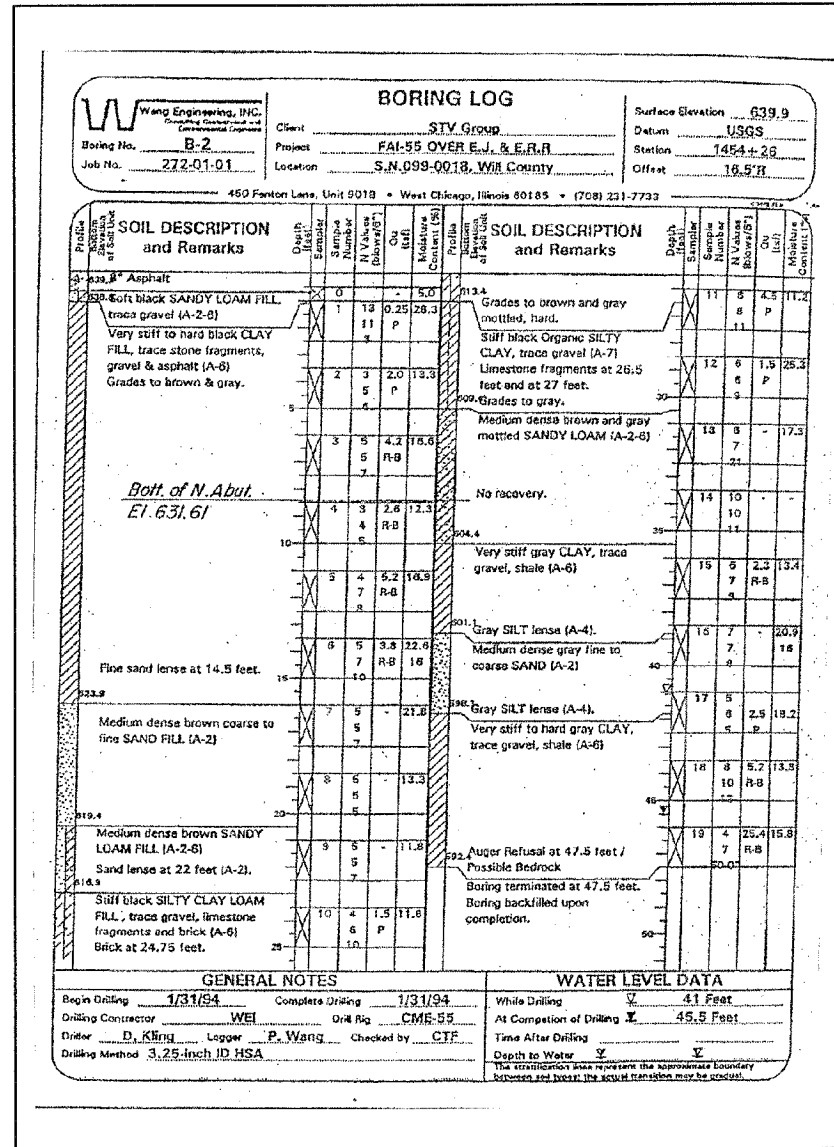
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	42
PROJECT NO. (SHEET NO.)	ILLINOIS	FED. AID PROJECT		
** SECTION 2006-032 BY				
CONTRACT NO. 60B86				

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

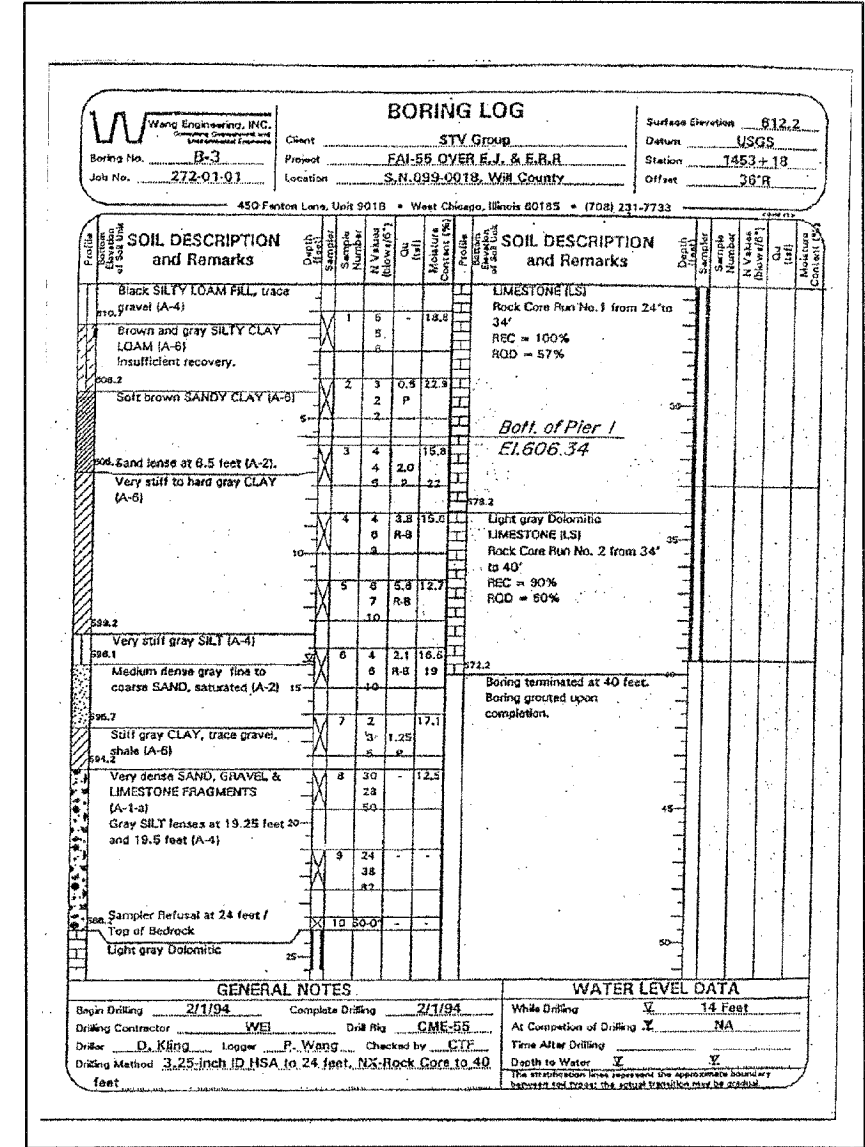
EXISTING BORING-B-1



EXISTING BORING-B-2



EXISTING BORING-B-3



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DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 6/30/2006

BORING LOGS IV  
I-55 OVER EJ&E R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)

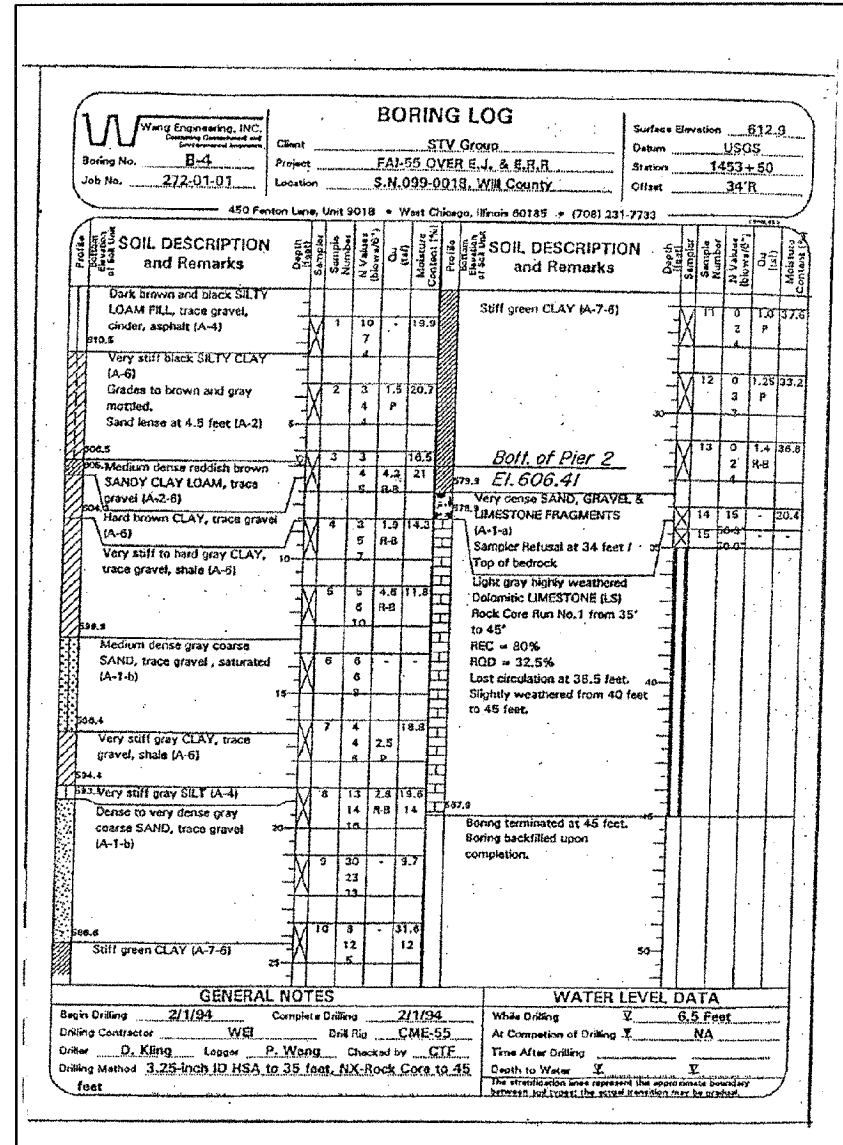


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

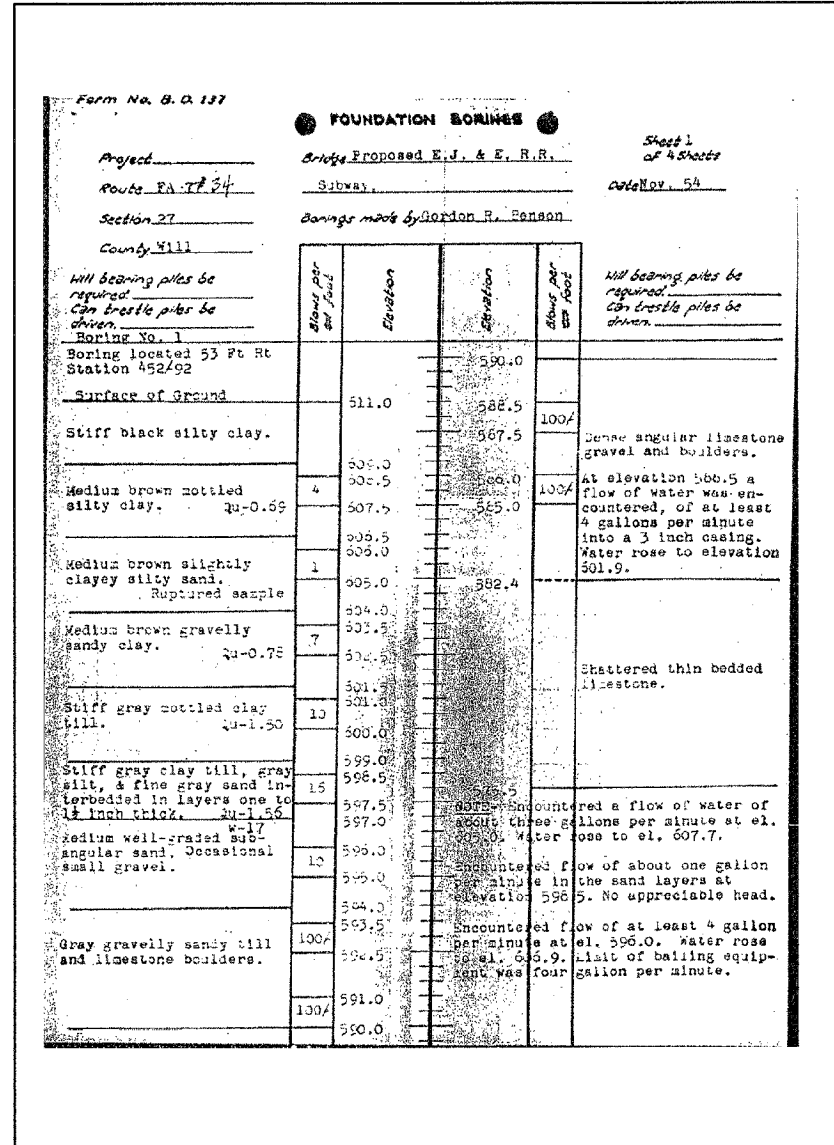
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FAI-55	**	WILL	505	340
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

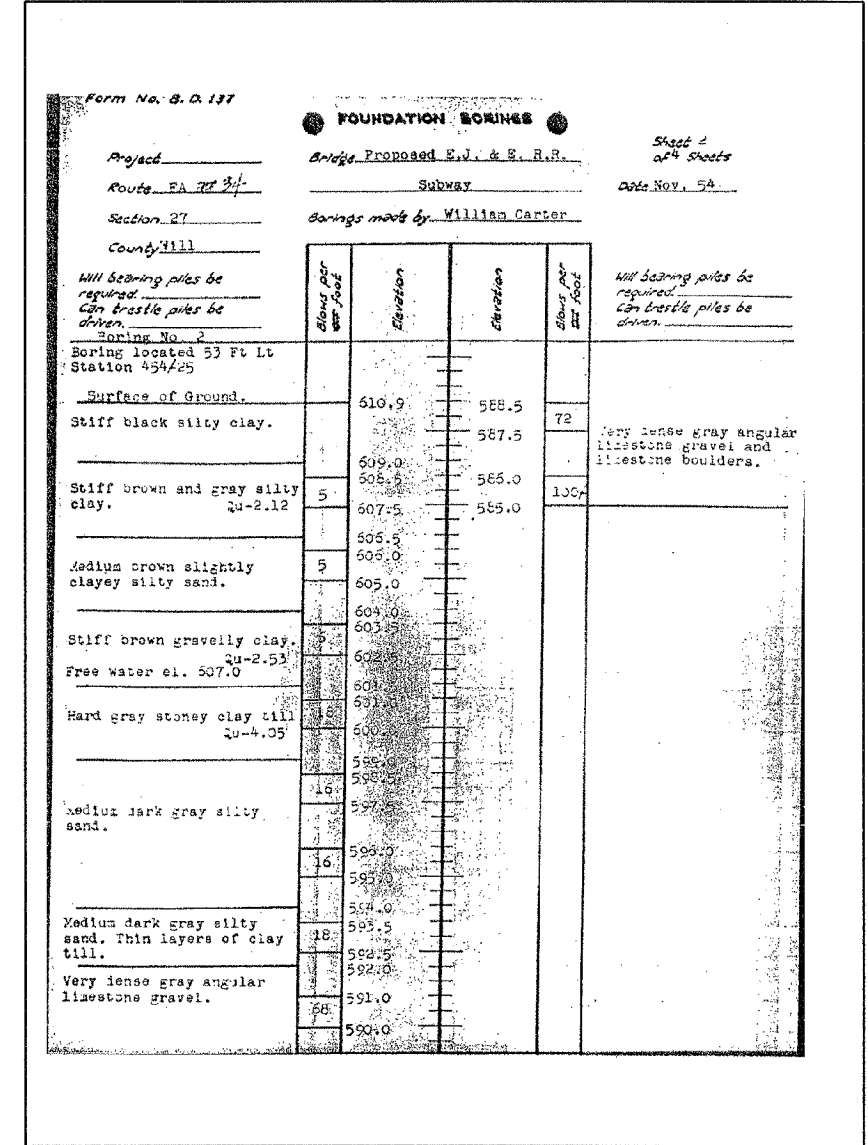
EXISTING BORING-B-4



EXISTING BORING-B-1



EXISTING BORING-B-2



BORING LOGS V  
I-55 OVER E.J. & E. R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 609+29.37  
STRUCTURE NO. 099-0018 (NB)  
STRUCTURE NO. 099-0019 (SB)



DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 6/30/2006

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B.M. 3225 -  
Cut in the SE corner of tri-angular conc. slab, 2' high on the W. side of the W. Frontage Rd. and on the N. side of the gravel rd. running W.

Existing Structure -  
Both the northbound structure 099-0022 and southbound structure 099-0023 over Material Service Railroad (abandoned) were originally built in 1956. The superstructure and substructure was widened in 1977. Also, additional rehabilitation work was performed in 1994. The structures are 122'-3" long from bk. to bk. of abutments and 41'-10" wide. Both superstructures consist of three continuous multi-beam spans. The existing concrete deck shall be partially removed and widened. The road shall be kept open with two lanes of traffic at all times by utilizing stages construction.

Salvage -  
None

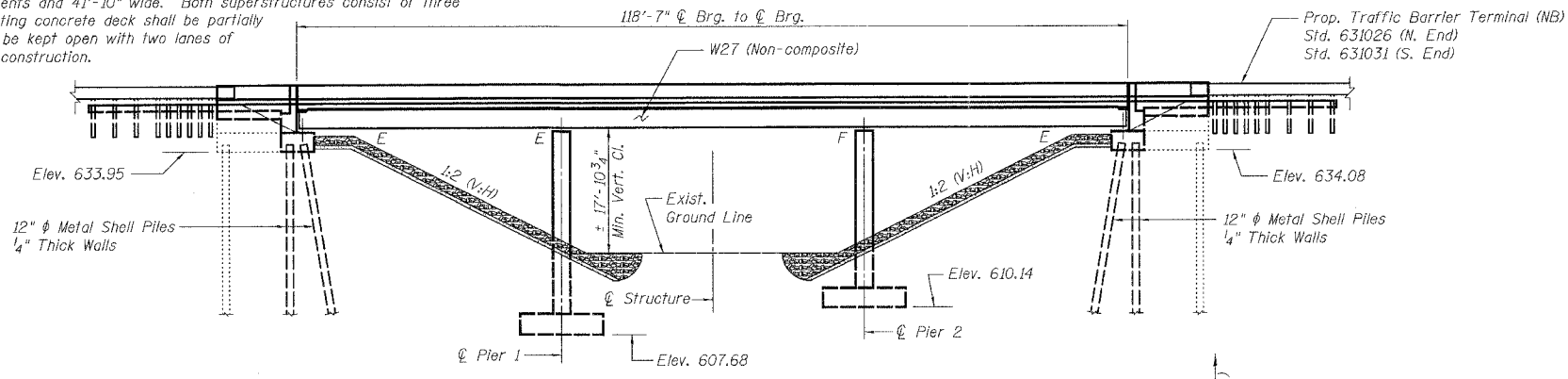
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	342
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

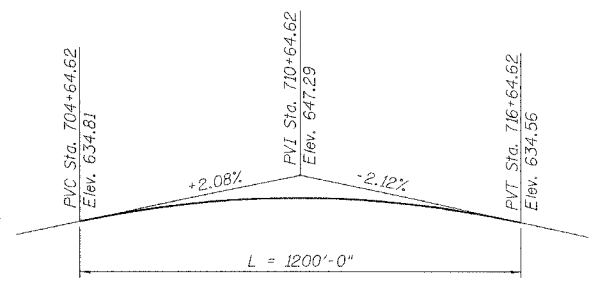
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

SCOPE OF WORK

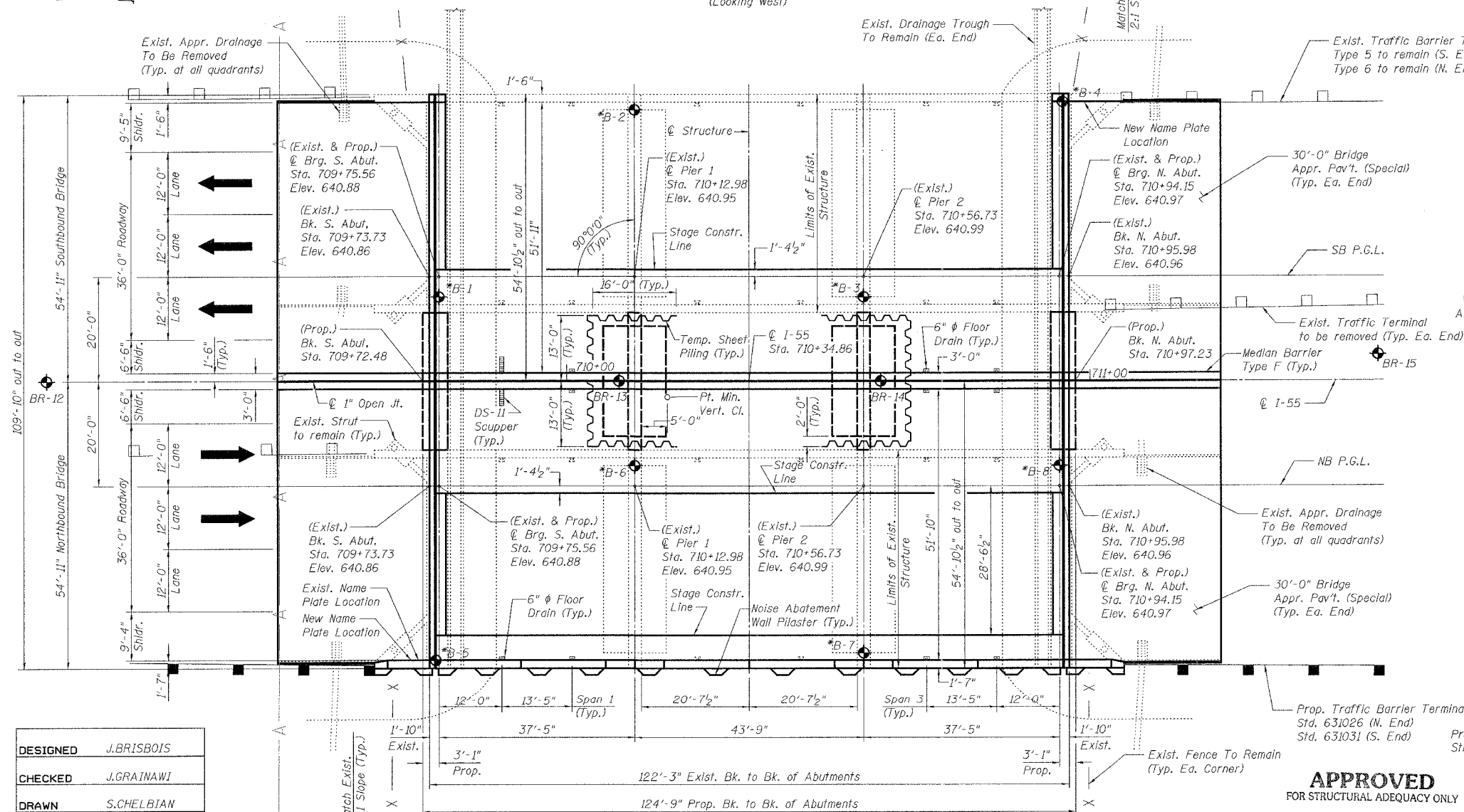
1. Remove and replace the northbound and southbound approach pavements.
2. Widen the northbound and southbound bridges to the inside median with new cast-in-place reinforced concrete decks supported by a new steel superstructure.
3. Remove and replace the existing outside northbound barrier and overhang, add structural steel brackets at 10' spacing to accommodate a proposed noise abatement wall.
4. Remove and replace expansion joints.
5. Widen the existing substructure elements. Remove the existing northbound and southbound inside wingwalls in accordance with Standard Specifications.
6. New girder lines will utilize steel rocker bearings at pier 1 to match existing.
7. Utilize stage construction as noted herein.



ELEVATION  
(Looking West)



NB & SB PROFILE GRADE OF I-55



PLAN

LOADING HS20-44 & ALT.

Allow 50#/sq. ft. for future wearing surface.  
Wind Load on Noise Abatement Wall = 35#/sq. ft.  
Allowable Noise Abatement Wall Weight = 30#/sq. ft.

DESIGN STRESSES

FIELD UNITS  
f<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (reinforcement)  
f<sub>s</sub> = 18,000 psi (exist. structural steel)  
f<sub>y</sub> = 36,000 psi (new structural steel)

DESIGN SPECIFICATIONS

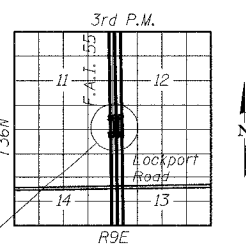
2002 AASHTO

SEISMIC DATA

Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 0.04g  
Site Coefficient (S) = 1.0

LEGEND

- ◆ \* B-1 - Soil Boring Location (1954)
- ◆ BR-1 - Soil Boring Location (2006)
- A — Aerial Lines



LOCATION SKETCH

DESIGNED	J. BRISBOIS
CHECKED	J. GRAINAWI
DRAWN	S. CHELBIAN
CHECKED	J. GRAINAWI

Date: 7/21/2006

APPROVED  
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson, P.E.  
ENGINEER OF BRIDGES AND STRUCTURES



Signed *Jamal Grainawi*  
Jamal I. Grainawi, S.E., Ill. Lic. No. 061-000861  
Expires 12-31-2006  
Date 7/21/2006

GENERAL PLAN & ELEVATION  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STATION 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO.
FAI-55	**	WILL	505	343	32 SHEETS
FED. ROAD DIST. NO. 7		RELEASE	FED. AID PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

**GENERAL NOTES:**

- Fasteners shall be high strength bolts. Bolts  $\frac{7}{8}$ "  $\phi$ , open holes  $\frac{15}{16}$ "  $\phi$ , unless otherwise noted.
  - Expansion joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.
  - Field welding of construction accessories will not be permitted to beams.
  - Anchor bolts shall be set before bolting diaphragms over supports.
  - The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams and all splice plate material except fill plates.
  - Reinforcement bars shall conform to the requirements of AASHTO M 31M, or M322 Grade 60.
  - Plan dimensions and details relative to existing structure have been taken from subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work; however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.
  - Bearing seat surfaces shall be constructed or adjusted to the designated elevations of  $\frac{1}{8}$  inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two  $\frac{1}{8}$  inch adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, two  $\frac{1}{8}$  inch adjusting shims shall be provided for each bearing and placed as detailed.
  - The contractor shall drive one test pile in a permanent location at each abutment as directed by the Engineer before ordering the remainder of piles.
  - Bridge Seat Sealer shall be applied to the seat area of both abutments.
  - Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04. All existing construction accessories welded to the top flange over the pier between the quarter points of the beams or girders shall be removed. The remaining weld shall be ground smooth and inspected for cracks using magnetic particle testing. Any cracks that can not be removed by grinding approximately  $\frac{1}{4}$  inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of this work will be paid for according to Article 109.04.
  - The existing structural steel coating contains lead. The Contractor shall take appropriate to deal with the presence of lead on this project. Prepare the surface and paint the existing steel structures in areas that will be in contact with the new steel. See special provisions for "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
  - Partial depth saw cutting of the existing concrete deck over the top of the beam flanges shall be permitted. See Special Provision of Existing Non-Composite Bridge Decks.
  - The Organic Zinc-Rich/Epoxy/Urethane Paint System shall be used by the Fabrication Contractor for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, field installed fasteners and damaged areas shall be touched in the field. The color of the final finish coat for all new interior steel surfaces shall be gray, Munsell No. 5B 7/1. See Special Provision for "Cleaning and Painting New Metal Structures". The Erection Contractor shall use care when working with beams. Touch up in the field will be performed by the Erection Contractor. The cost for touch up painting shall be included in the contract unit price for Erecting Structural Steel.
  - Calculated weight of Structural Steel = 62,180 lbs.
  - All Construction joints shall be bonded.
- \* These notes included in Mainline Contract for information only.

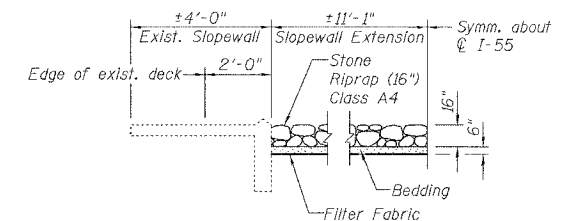
**INDEX OF SHEETS**

- General Plan & Elevation
- General Notes & Bill of Materials
- Stage Construction
- Top of Slab Elevation Layout
- Top of Slab Elevation I
- Top of Slab Elevation II
- NB Deck Plan & Section
- SB Deck Plan & Section
- Superstructure Details I
- Superstructure Details II
- Bridge Joint System - Expansion (Preformed Joint Seal)
- Bridge Joint System - Expansion (Alternate Strip Seal)
- Drainage Scupper, DS-II
- Framing Plan
- Structural Steel Details I
- Structural Steel Details II
- Elastomeric Bearing Assembly, Type I
- Elastomeric Bearing Assembly, Type II
- South Abutment Widening
- North Abutment Widening
- Abutment Details
- Pier 1 Widening
- Pier 2 Widening
- Pier 1 & 2 Details
- Anchor Bolt Details
- Bar Splicer Details
- Temporary Concrete Barrier
- Cantilever Farming Bracket
- Pile Details
- Boring Log I
- Boring Log II
- Boring Log III

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.		11	11
Granular Embankment, Special	Cu. Yd.		11	11
Porous Granular Embankment, Special	Cu. Yd.		54	54
Stone Riprap, Class A4	Sq. Yd.		270	270
Filter Fabric	Sq. Yd.		289	289
Concrete Removal	Cu. Yd.	115.2	26.2	141.4
Structure Excavation	Cu. Yd.		432	432
Floor Drains	Each	10		10
Preformed Joint Seal, 2 1/2"	Foot	120		120
Concrete Structures	Cu. Yd.		176	176
Concrete Superstructure	Cu. Yd.	214.0		214.0
Bridge Deck Grooving	Sq. Yd.	579		579
Protective Coat **	Sq. Yd.	1,631		1,631
Erecting Elastomeric Bearing Assembly, Type I	Each	4		4
Erecting Elastomeric Bearing Assembly, Type II	Each	4		4
Erecting Structural Steel	L. Sum	0.15		0.15
Furnishing and Erecting Structural Steel *	Pound	110		110
Reinforcement Bars, Epoxy Coated	Pound	50,300	14,410	64,710
Furnishing Metal Pile Shells 12"	Foot	288		288
Driving and Filling Shells	Foot	288		288
Test Pile Metal Shells	Each	2		2
Temporary Sheet Piling	Sq. Ft.		3,016	3,016
Name Plates	Each	2		2
Bridge Seat Sealer	Sq. Ft.		151	151
Geocomposite Wall Drain	Sq. Yd.		33	33
Pipe Underdrains For Structures 4"	Foot		98	98
Conduit Embedded In Structure, 2" Dia., Galvanized Steel	Foot	240		240
Bridge Joint System (Expansion), 1"	Foot	211.5		211.5
Drainage Scuppers DS-II	Each	2		2
Bar Splicers	Each		232	232

\* For Anchor Bolts Only.  
\*\* Quantity shown includes existing construction.  
Apply in accordance with Section 503.19 of the standard specifications.



**SECTION B-B**

STATION 710+34.86 REBUILT BY STATE OF ILLINOIS FAI RT. 55 SEC. 2006-032 BY LOADING HS20 & ALT. STR. NO. 099-0022	STATION 710+34.86 REBUILT BY STATE OF ILLINOIS FAI RT. 55 SEC. 2006-032 BY LOADING HS20 & ALT. STR. NO. 099-0023
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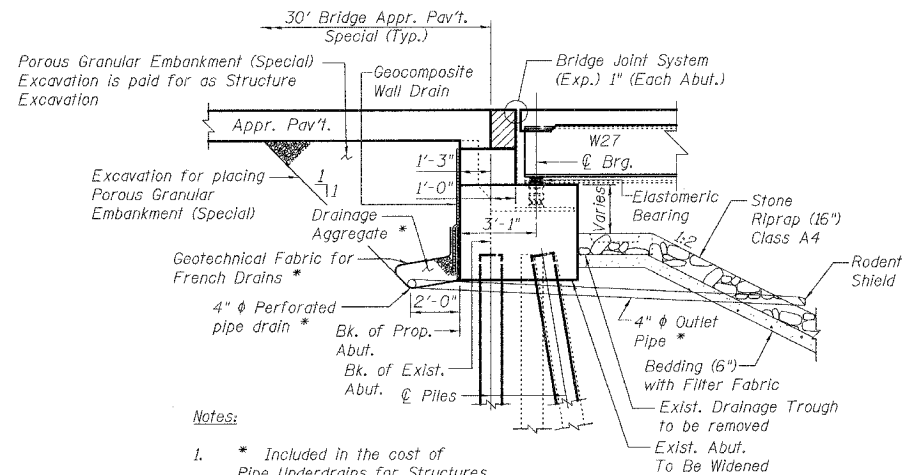
**NAME PLATE**  
See Std. 515001

**NAME PLATE**  
See Std. 515001

Notes:

- The new name plate for the SB structure shall be located next to the existing name plate. The name plate shall be attached to the existing concrete using concrete anchors and set in a bed of epoxy. Concrete anchors and epoxy shall be subject to approval of the Engineer. Cost included with Name Plate.
- The existing name plate for the NB structure shall be cleaned and relocated next to the new name plate. Cost included with Name Plate.

**GENERAL NOTES &  
BILL OF MATERIAL**  
I-55 OVER MS (ABANDONED) RR  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

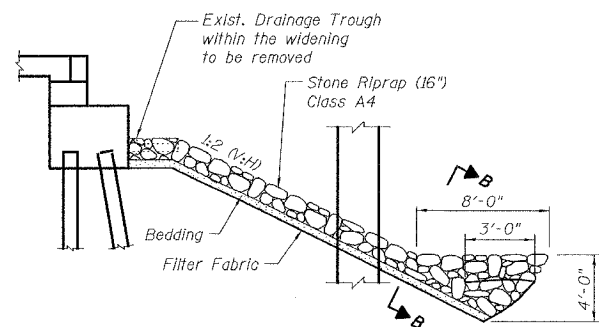


Notes:

- \* Included in the cost of Pipe Underdrains for Structures.
- Connect 4"  $\phi$  Perforated Pipe Drain to 4"  $\phi$  Outlet Pipe and extend until it intersects and passes through slope wall. The end of the Outlet Pipe shall be protected by a permanent Rodent Shield. Rodent Shield shall be according to Section 601 of the Standard Specifications and cost shall be included with Pipe Underdrain for Structures, 4".

**SECTION THRU ABUTMENTS**

(Dimension  $\phi$  Rt. L's)



**SECTION THRU SLOPEWALL**

(Dimension  $\phi$  Rt. L's)

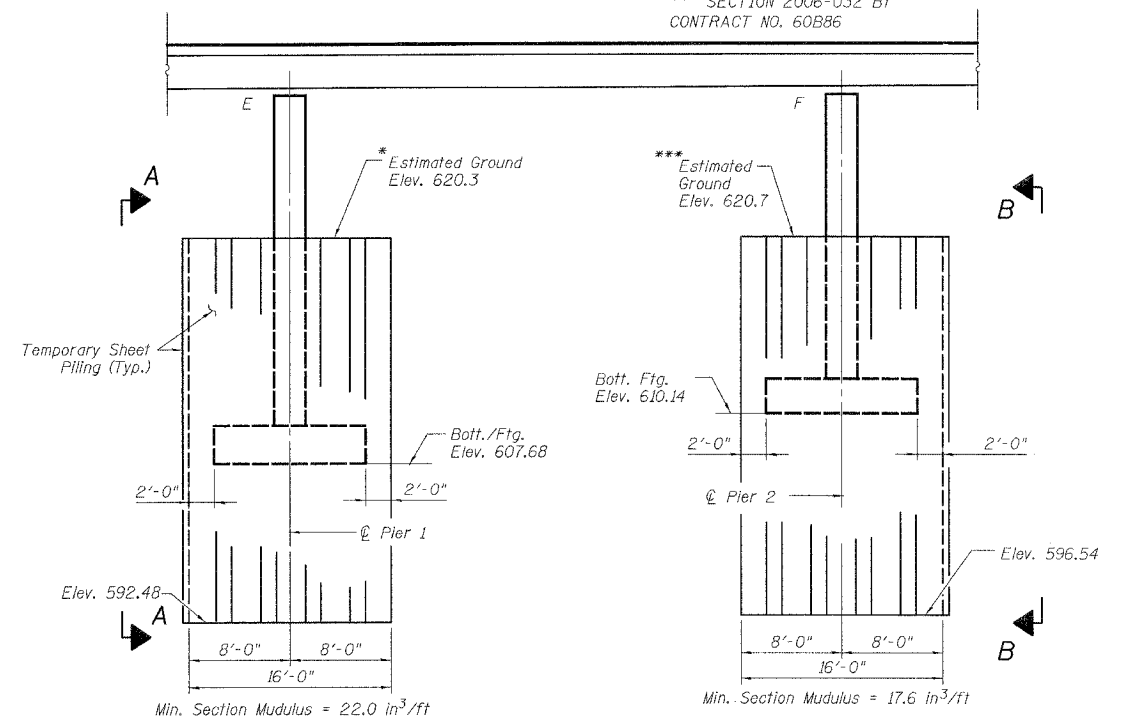
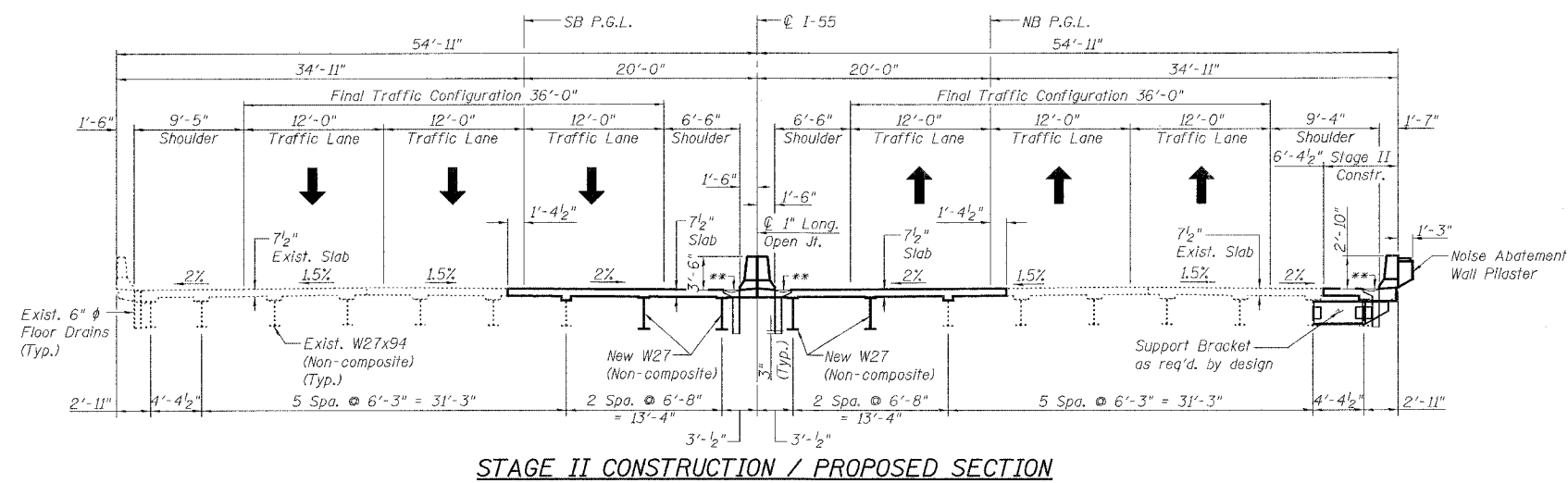
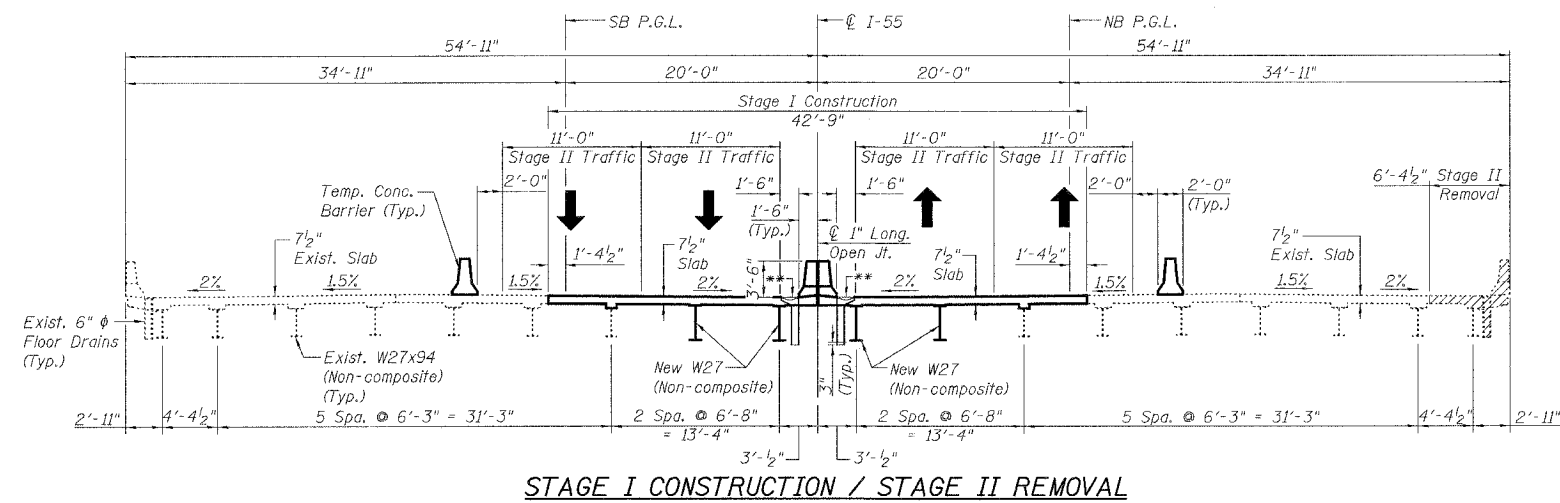
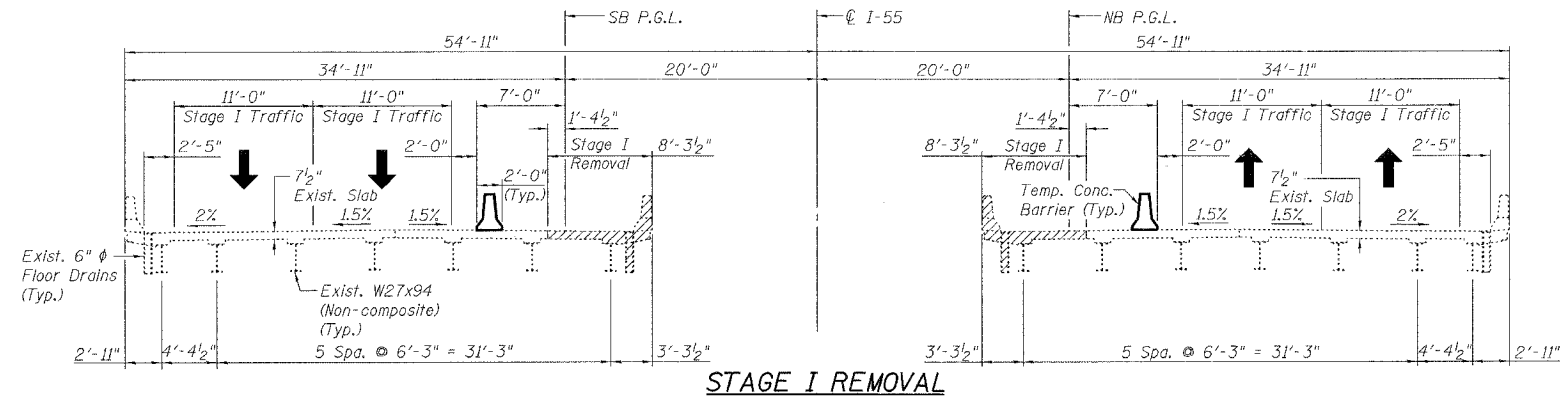
DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 7/21/2006

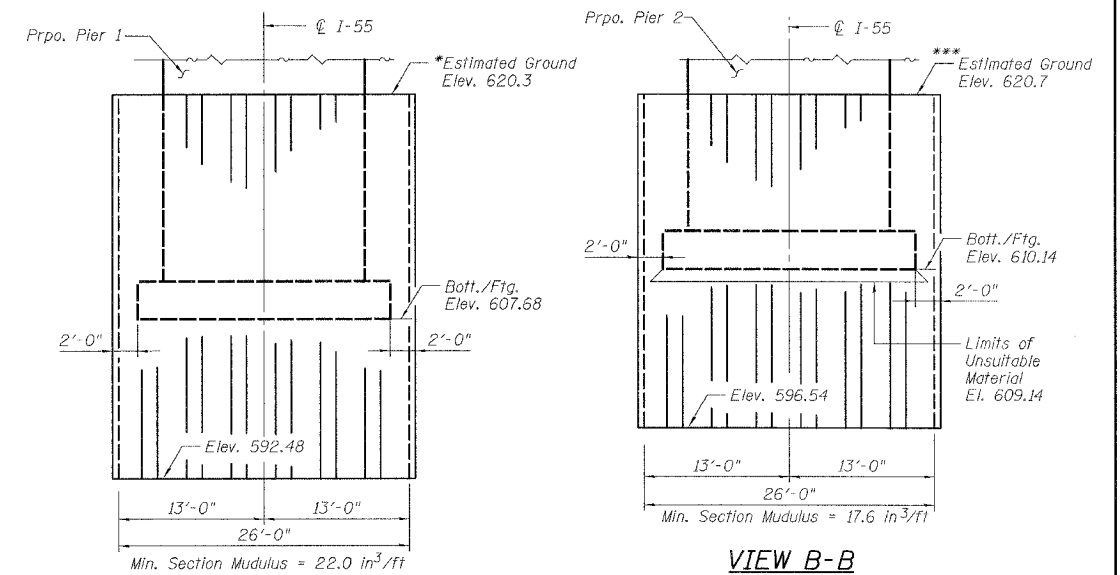
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	344
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



\* Taken from Boring No. BR-13 (2006) **TEMPORARY SHEET PILING ELEVATION** \*\*\* Taken from Boring No. BR-14 (2006)



**NOTES:**

- For Temporary Concrete Barrier, See Sheet No. 27.
- \*\* Designates Drainage Scupper DS-11 & 6" φ Floor Drains. See Plan Views on Sheet Nos. 7 & 8 for location and spacing.
- All Cross Sections are Looking North.

**LEGEND**

Hatched Area Indicates Concrete Removal

**TEMPORARY SHEET PILING NOTES:**

- If the contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plan, a design submittal including plan details and calculations will be required for review and acceptance by the engineer.
- Hard driving may be encountered during the sheet piling installation. The contractor shall provide the appropriate driving equipment for the soil conditions indicated on the boring logs.
- The Contractor shall verify possible utility conflicts prior to driving any sheet piling. See Special Provisions.
- For locations of temporary sheet piling, see General Plan on Sheet No. 1.

**VIEW A-A**

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Temporary Sheet Piling	Sq. Ft.	3,016
Concrete Removal	Cu. Yd.	115.2



**STAGE CONSTRUCTION**  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

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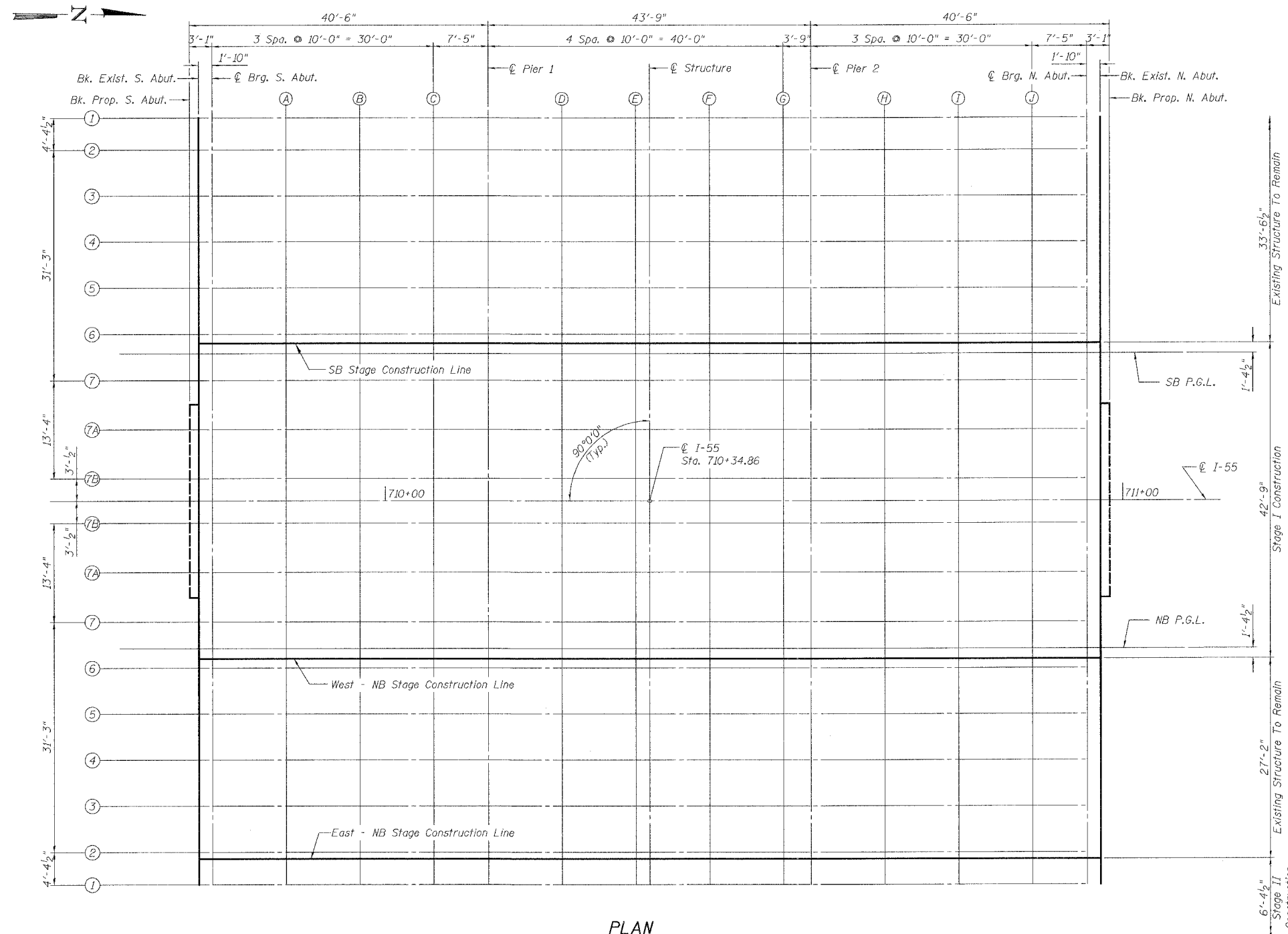
DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

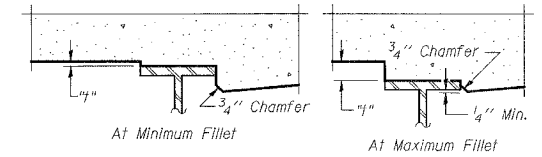
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	345
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

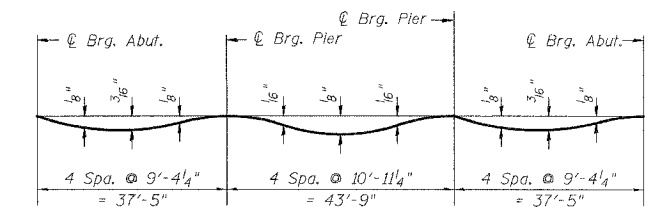


PLAN



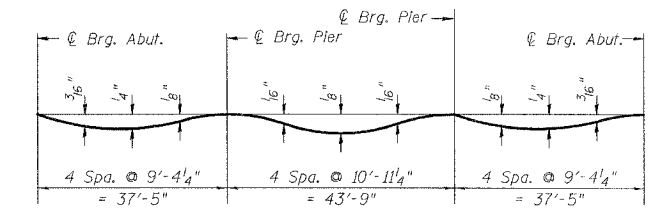
To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



DEAD LOAD DEFLECTION DIAGRAM

(Beams 7 thru 7B, SB & NB)  
(Includes weight of concrete only.)



DEAD LOAD DEFLECTION DIAGRAM

(Existing Beam 1)  
(Includes weight of concrete only.)

Notes:

- The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections.
- Work this Sheet with Sheet Nos. 5 & 6.



TOP OF SLAB LAYOUT  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	346
FED. ROAD DIST. NO. 7		ILLINOIS	REGULAR PROJECT-	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

**SB PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	709+73.731	0.000	640.857	640.857
CL. S. Abut.	709+75.564	0.000	640.862	640.862
A	709+85.564	0.000	640.890	640.901
B	709+95.564	0.000	640.913	640.926
C	710+05.564	0.000	640.934	640.939
CL. Pier 1	710+12.981	0.000	640.947	640.947
D	710+22.981	0.000	640.961	640.965
E	710+32.981	0.000	640.972	640.981
F	710+42.981	0.000	640.979	640.986
G	710+52.981	0.000	640.983	640.983
CL. Pier 2	710+56.731	0.000	640.983	640.983
H	710+66.731	0.000	640.982	640.989
I	710+76.731	0.000	640.977	640.991
J	710+86.731	0.000	640.969	640.979
CL. N. Abut.	710+94.148	0.000	640.961	640.961
Bk. N. Abut.	710+95.981	0.000	640.959	640.959

**BEAM 7 (SB)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	709+73.731	3.625	640.784	640.784
CL. S. Abut.	709+75.564	3.625	640.790	640.790
A	709+85.564	3.625	640.817	640.828
B	709+95.564	3.625	640.841	640.853
C	710+05.564	3.625	640.861	640.866
CL. Pier 1	710+12.981	3.625	640.874	640.874
D	710+22.981	3.625	640.888	640.893
E	710+32.981	3.625	640.899	640.909
F	710+42.981	3.625	640.906	640.913
G	710+52.981	3.625	640.910	640.911
CL. Pier 2	710+56.731	3.625	640.911	640.911
H	710+66.731	3.625	640.909	640.917
I	710+76.731	3.625	640.905	640.918
J	710+86.731	3.625	640.897	640.906
CL. N. Abut.	710+94.148	3.625	640.889	640.889
Bk. N. Abut.	710+95.981	3.625	640.886	640.886

**BEAM 7A (SB)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	709+72.481	10.292	640.647	640.647
CL. S. Abut.	709+75.564	10.292	640.656	640.656
A	709+85.564	10.292	640.684	640.695
B	709+95.564	10.292	640.708	640.720
C	710+05.564	10.292	640.728	640.733
CL. Pier 1	710+12.981	10.292	640.741	640.741
D	710+22.981	10.292	640.755	640.760
E	710+32.981	10.292	640.766	640.775
F	710+42.981	10.292	640.773	640.780
G	710+52.981	10.292	640.777	640.777
CL. Pier 2	710+56.731	10.292	640.777	640.777
H	710+66.731	10.292	640.776	640.784
I	710+76.731	10.292	640.772	640.785
J	710+86.731	10.292	640.764	640.773
CL. N. Abut.	710+94.148	10.292	640.755	640.755
Bk. N. Abut.	710+97.231	10.292	640.751	640.751

**BEAM 7B (SB)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	709+72.481	16.958	640.514	640.514
CL. S. Abut.	709+75.564	16.958	640.523	640.523
A	709+85.564	16.958	640.550	640.562
B	709+95.564	16.958	640.574	640.587
C	710+05.564	16.958	640.595	640.599
CL. Pier 1	710+12.981	16.958	640.607	640.607
D	710+22.981	16.958	640.622	640.626
E	710+32.981	16.958	640.632	640.642
F	710+42.981	16.958	640.640	640.647
G	710+52.981	16.958	640.643	640.644
CL. Pier 2	710+56.731	16.958	640.644	640.644
H	710+66.731	16.958	640.643	640.650
I	710+76.731	16.958	640.638	640.652
J	710+86.731	16.958	640.630	640.640
CL. N. Abut.	710+94.148	16.958	640.622	640.622
Bk. N. Abut.	710+97.231	16.958	640.618	640.618

DESIGNED	S.CHELBIAN
CHECKED	J. ZUO
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Note:

1. Work this Sheet with Sheet Nos. 4 & 6.

Date: 6/30/2006

TOP OF SLAB ELEVATION I  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6 32 SHEETS
FAI-55	**	WILL	505	347	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

BEAM 7B (NB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	709+72.481	-16.958	640.514	640.514
CL. S. Abut.	709+75.564	-16.958	640.523	640.523
A	709+85.564	-16.958	640.550	640.562
B	709+95.564	-16.958	640.574	640.587
C	710+05.564	-16.958	640.595	640.599
CL. Pier 1	710+12.981	-16.958	640.607	640.607
D	710+22.981	-16.958	640.622	640.626
E	710+32.981	-16.958	640.632	640.642
F	710+42.981	-16.958	640.640	640.647
G	710+52.981	-16.958	640.643	640.644
CL. Pier 2	710+56.731	-16.958	640.644	640.644
H	710+66.731	-16.958	640.643	640.650
I	710+76.731	-16.958	640.638	640.652
J	710+86.731	-16.958	640.630	640.640
CL. N. Abut.	710+94.148	-16.958	640.622	640.622
Bk. N. Abut.	710+97.231	-16.958	640.618	640.618

BEAM 7A (NB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	709+72.481	-10.292	640.647	640.647
CL. S. Abut.	709+75.564	-10.292	640.656	640.656
A	709+85.564	-10.292	640.684	640.695
B	709+95.564	-10.292	640.708	640.720
C	710+05.564	-10.292	640.728	640.733
CL. Pier 1	710+12.981	-10.292	640.741	640.741
D	710+22.981	-10.292	640.755	640.760
E	710+32.981	-10.292	640.766	640.775
F	710+42.981	-10.292	640.773	640.780
G	710+52.981	-10.292	640.777	640.777
CL. Pier 2	710+56.731	-10.292	640.777	640.777
H	710+66.731	-10.292	640.776	640.784
I	710+76.731	-10.292	640.772	640.785
J	710+86.731	-10.292	640.764	640.773
CL. N. Abut.	710+94.148	-10.292	640.755	640.755
Bk. N. Abut.	710+97.231	-10.292	640.751	640.751

BEAM 7 (NB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	709+73.731	-3.625	640.784	640.784
CL. S. Abut.	709+75.564	-3.625	640.790	640.790
A	709+85.564	-3.625	640.817	640.828
B	709+95.564	-3.625	640.841	640.853
C	710+05.564	-3.625	640.861	640.866
CL. Pier 1	710+12.981	-3.625	640.874	640.874
D	710+22.981	-3.625	640.888	640.893
E	710+32.981	-3.625	640.899	640.909
F	710+42.981	-3.625	640.906	640.913
G	710+52.981	-3.625	640.910	640.911
CL. Pier 2	710+56.731	-3.625	640.911	640.911
H	710+66.731	-3.625	640.909	640.917
I	710+76.731	-3.625	640.905	640.918
J	710+86.731	-3.625	640.897	640.906
CL. N. Abut.	710+94.148	-3.625	640.889	640.889
Bk. N. Abut.	710+95.981	-3.625	640.886	640.886

NB PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	709+73.731	0.000	640.857	640.857
CL. S. Abut.	709+75.564	0.000	640.862	640.862
A	709+85.564	0.000	640.890	640.901
B	709+95.564	0.000	640.913	640.926
C	710+05.564	0.000	640.934	640.939
CL. Pier 1	710+12.981	0.000	640.947	640.947
D	710+22.981	0.000	640.961	640.965
E	710+32.981	0.000	640.972	640.981
F	710+42.981	0.000	640.986	640.979
G	710+52.981	0.000	640.983	640.983
CL. Pier 2	710+56.731	0.000	640.983	640.983
H	710+66.731	0.000	640.982	640.989
I	710+76.731	0.000	640.977	640.991
J	710+86.731	0.000	640.969	640.979
CL. N. Abut.	710+94.148	0.000	640.961	640.961
Bk. N. Abut.	710+95.981	0.000	640.959	640.959

BEAM 1 (NB)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	709+73.731	32.000	640.697	640.697
CL. S. Abut.	709+75.564	32.000	640.702	640.702
A	709+85.564	32.000	640.730	640.745
B	709+95.564	32.000	640.753	640.771
C	710+05.564	32.000	640.774	640.781
CL. Pier 1	710+12.981	32.000	640.787	640.787
D	710+22.981	32.000	640.801	640.804
E	710+32.981	32.000	640.812	640.821
F	710+42.981	32.000	640.819	640.826
G	710+52.981	32.000	640.823	640.823
CL. Pier 2	710+56.731	32.000	640.823	640.823
H	710+66.731	32.000	640.822	640.832
I	710+76.731	32.000	640.817	640.835
J	710+86.731	32.000	640.809	640.821
CL. N. Abut.	710+94.148	32.000	640.801	640.801
Bk. N. Abut.	710+95.981	32.000	640.799	640.799

DESIGNED	S.CHELBIAN
CHECKED	J. ZUO
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Note:

1. Work this Sheet with Sheet Nos. 4 & 5.

Date: 6/30/2006

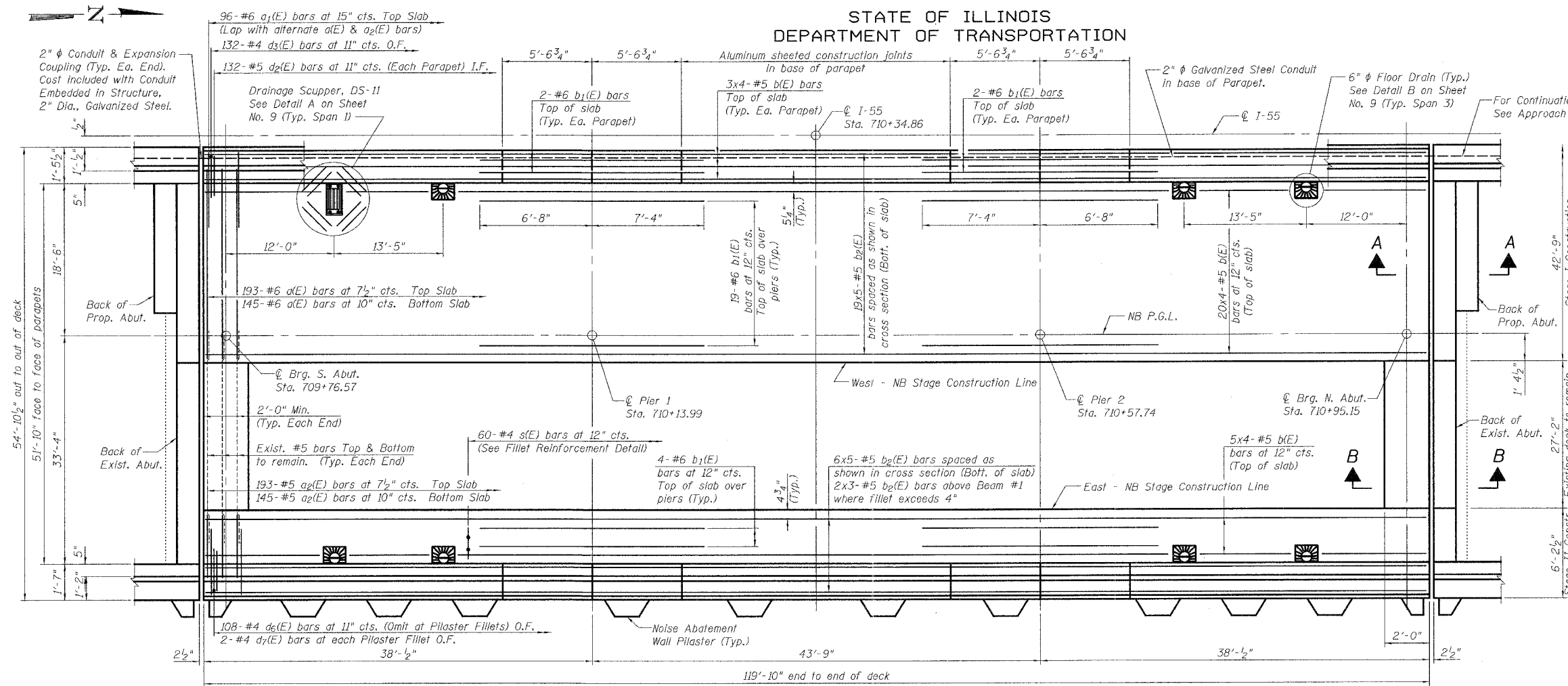
TOP OF SLAB ELEVATION II  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



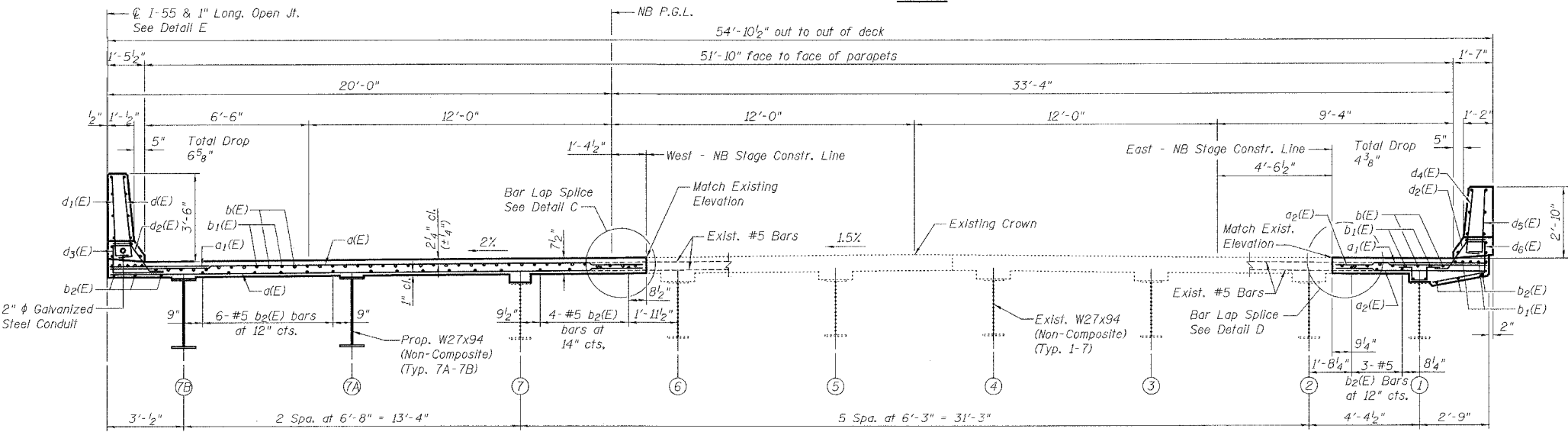
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	JOB SHEETS	SHEET NO.	SHEET NO.
FAI-55	**	WILL	505	348	32 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



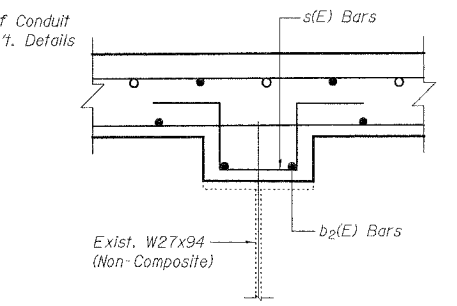
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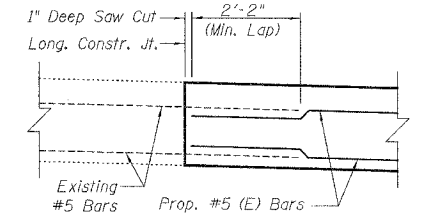
CROSS SECTION  
(Looking North)

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

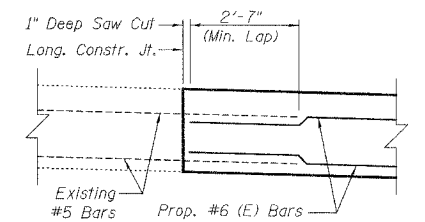


FILLET REINFORCEMENT DETAIL  
(New Deck at Existing NB Beam 1 where Fillet exceeds 4")



DETAIL D

Note:  
Remove existing concrete to expose a minimum of 2'-2" of the existing top and bottom transverse bars which shall be incorporated into new construction.



DETAIL C

Note:  
Remove existing concrete to expose a minimum of 2'-7" of the existing top and bottom transverse bars which shall be incorporated into new construction.

- Notes:
1. See Sheet No. 10 for superstructure details and Bill of Material.
  2. See Sheet Nos. 9 & 10 for parapet reinforcement.
  3. Reinforcement bars designated (E) shall be epoxy coated.
  4. Bars indicated thus 19 x 5-#5 etc. indicates 19 lines of bars with 5 lengths per line.
  5. See Sheet No. 10 for Sections A-A & B-B.
  6. See Sheet No. 9 for Detail E.
  7. Work this sheet with Sheet Nos. 8, 9 & 10.

NB DECK PLAN & SECTION  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)



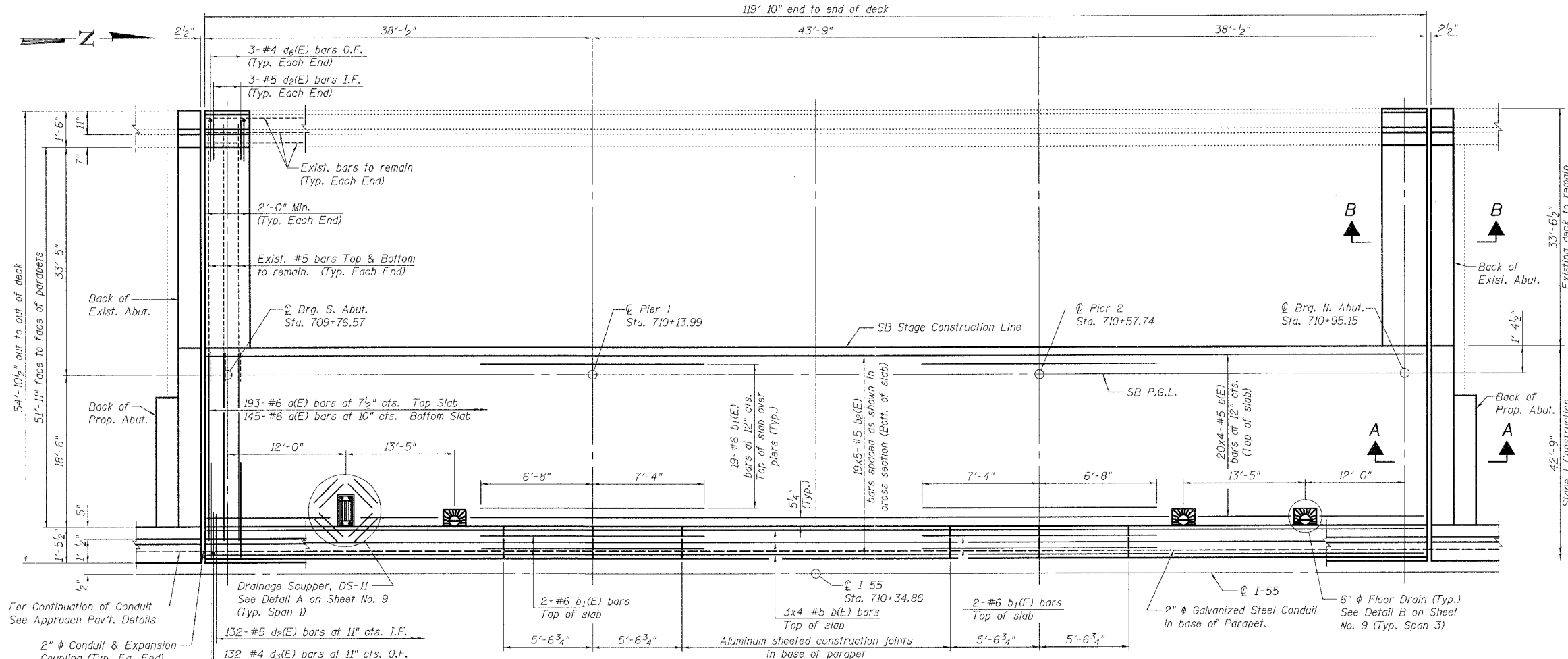
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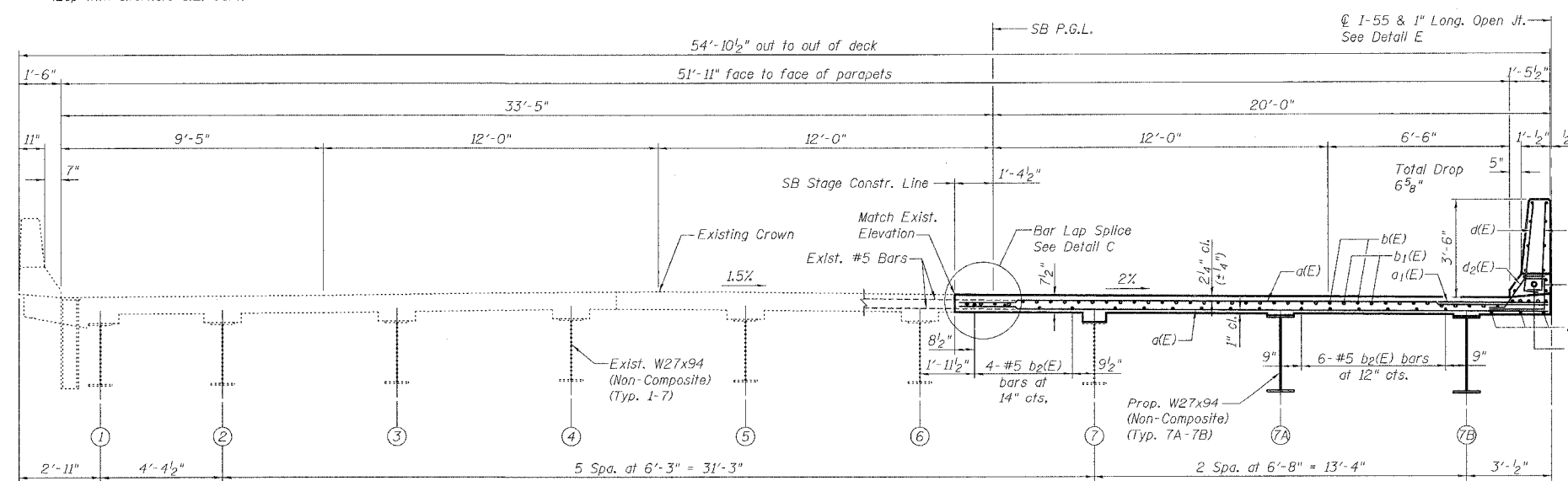
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAI-55	**	WILL	505	349
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT

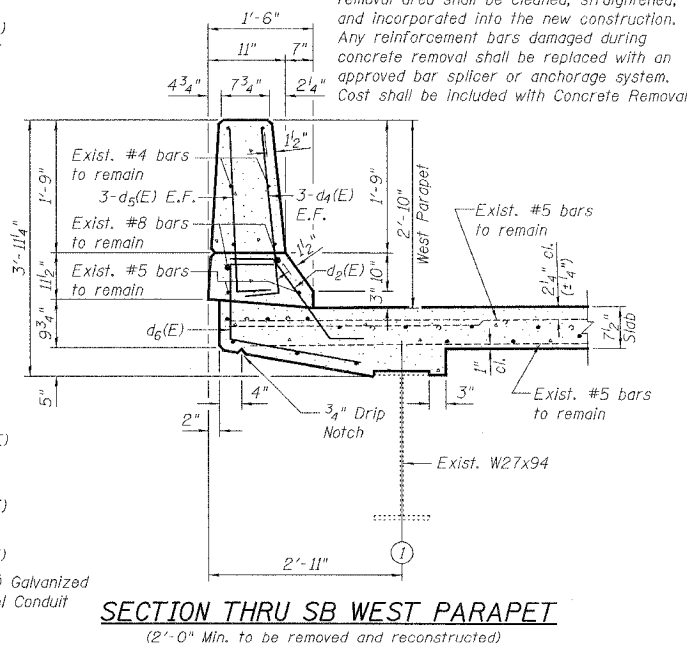
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



PLAN



CROSS SECTION  
(Looking North)



SECTION THRU SB WEST PARAPET  
(2'-0" Min. to be removed and reconstructed)

- Notes:
1. See Sheet No. 10 for superstructure details and Bill of Material.
  2. Reinforcement bars designated (E) shall be epoxy coated.
  3. Bars indicated thus 19 x 5-#5 etc. indicates 19 lines of bars with 5 lengths per line.
  4. See Sheet No. 9 for parapet reinforcement & for Detail E.
  5. See Sheet No. 10 for Sections A-A & B-B.
  6. Work this sheet with Sheet Nos. 7, 9 & 10.

Note:  
Existing reinforcement extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006



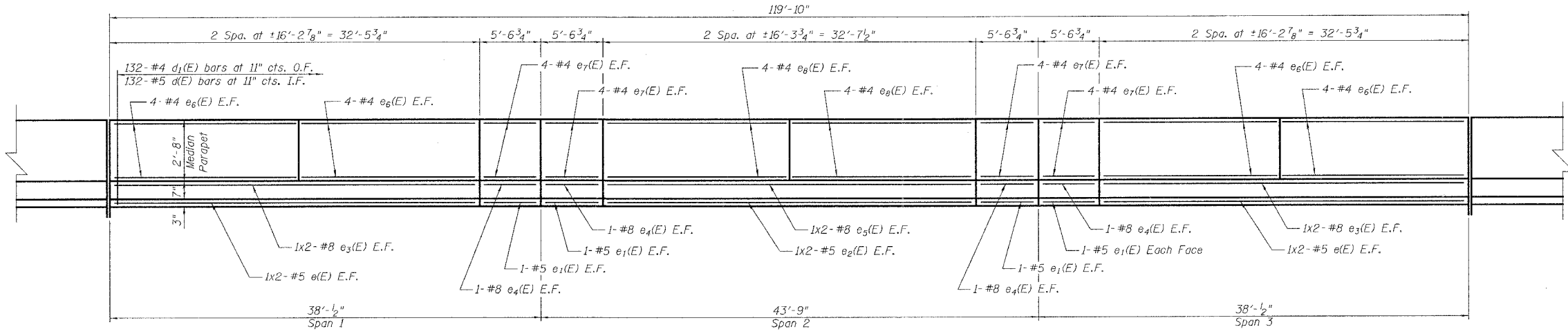
SB DECK PLAN & SECTION  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0023 (SB)

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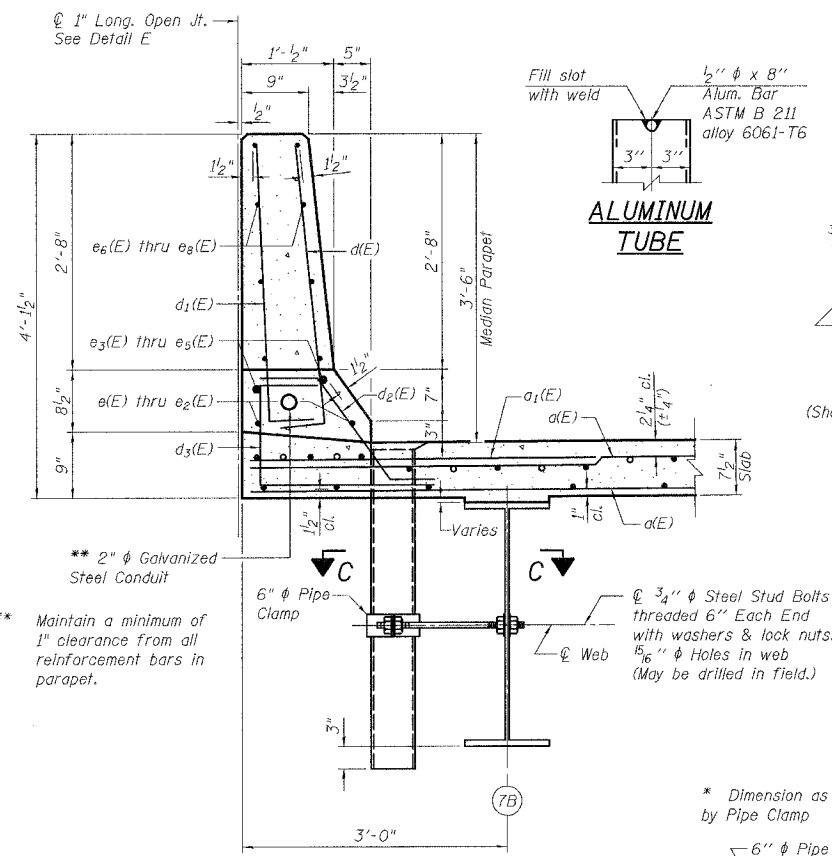
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO.
FAI-55	**	WILL	505	350	32 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	

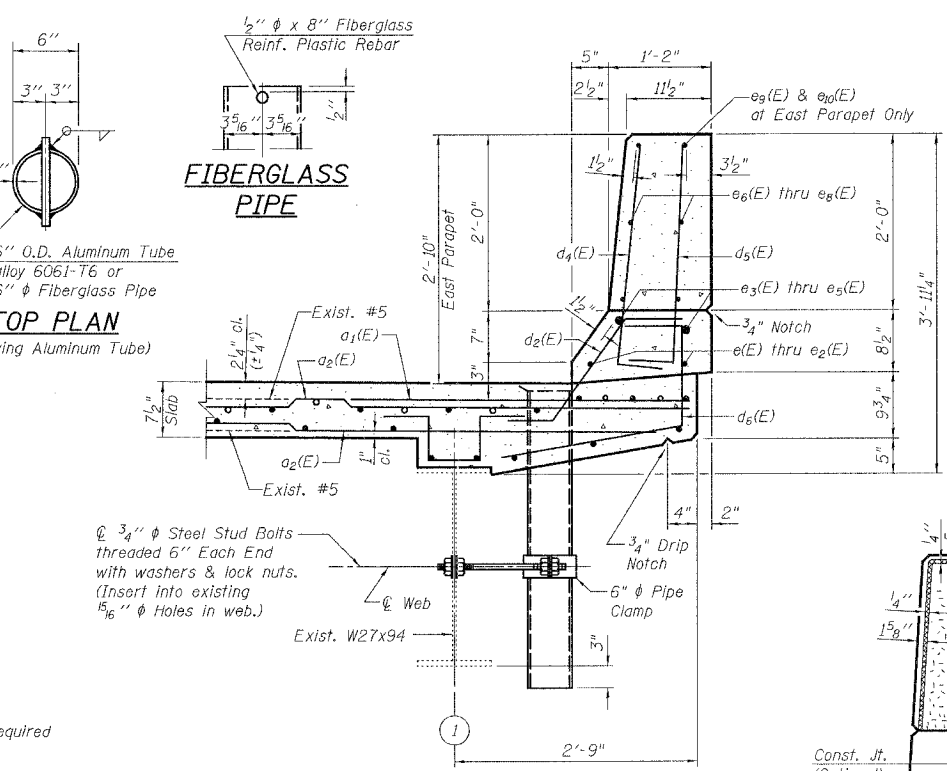
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



INSIDE ELEVATION OF MEDIAN PARAPET



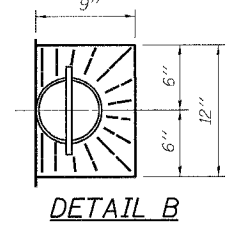
SECTION THRU MEDIAN PARAPET  
(NB Median Parapet Shown, SB Median Parapet Similar)



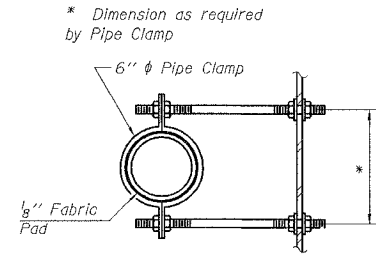
SECTION THRU NB EAST PARAPET  
(For NB East Parapet Inside Elevation, See Sheet No. 10)

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

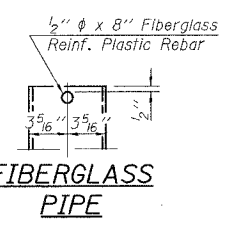
Date: 6/30/2006



DETAIL B



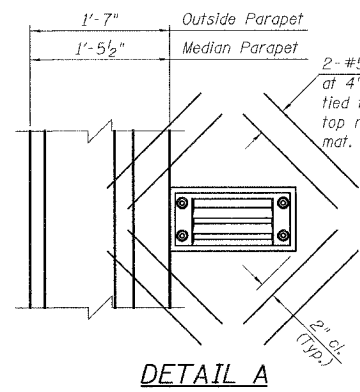
SECTION C-C



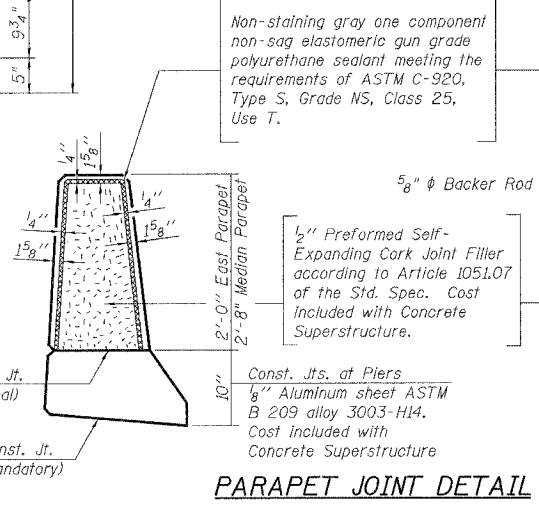
ALUMINUM TUBE

FIBERGLASS PIPE

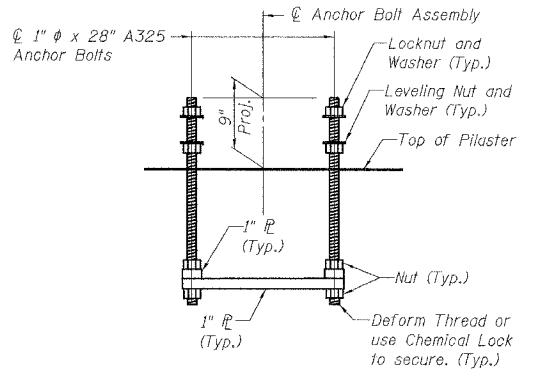
TOP PLAN  
(Showing Aluminum Tube)



DETAIL A

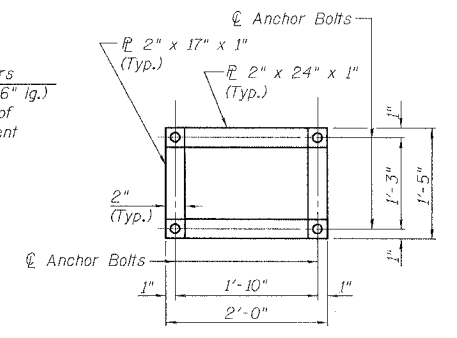


PARAPET JOINT DETAIL



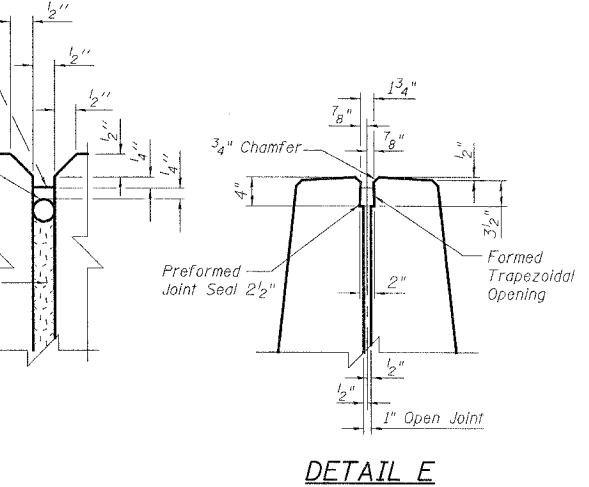
ELEVATION ANCHOR BOLT ASSEMBLY

(All Anchor Bolts, Steel Plates, Nuts and Washers shall be Galvanized according to AASHTO M111 & M232 and cost included with Concrete Superstructure.)



PLAN ANCHOR BOLT ASSEMBLY

(Verify Anchor Bolt spacing with Noise Abatement Wall Manufacturer.)



DETAIL E

SUPERSTRUCTURE DETAILS I  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

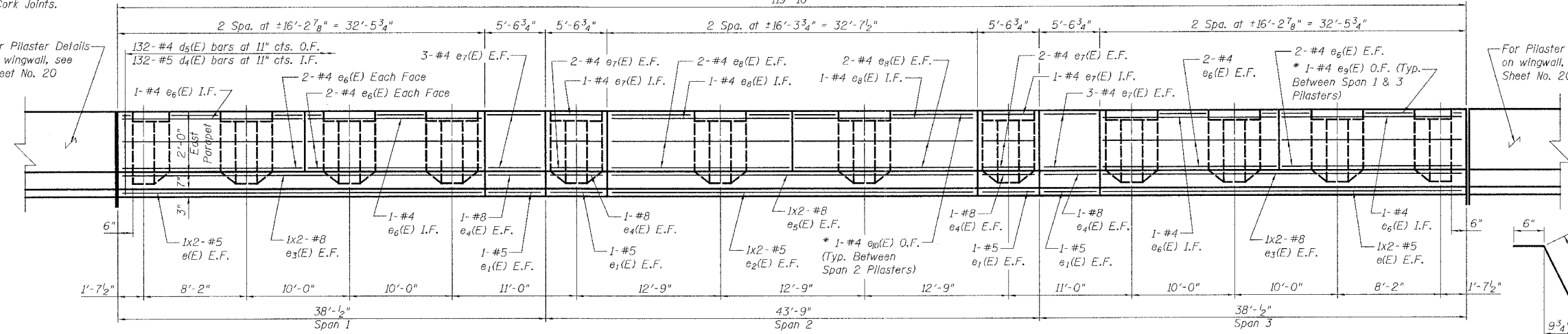
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 10
FAI-55	**	WILL	505	351	32 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

Note:  
\* e<sub>3</sub>(E) & e<sub>6</sub>(E) bars shall be cut in field to clear 1/2" Preformed Self Expanding Cork Joints.

For Pilaster Details on wingwall, see Sheet No. 20

For Pilaster Details on wingwall, see Sheet No. 20



INSIDE ELEVATION OF NB EAST PARAPET

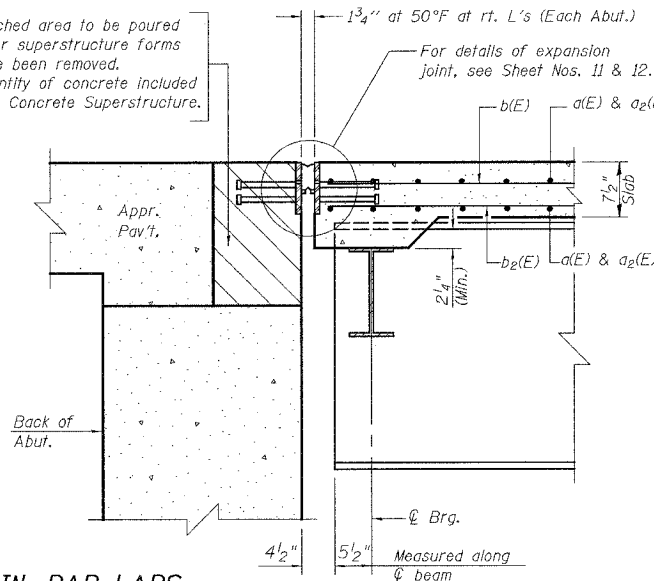
BILL OF MATERIAL  
NB & SB SUPERSTRUCTURE

Bar	No.	Size	Length	Shape
a(E)	676	#6	21'-1"	—
a <sub>1</sub> (E)	288	#6	4'-0"	—
a <sub>2</sub> (E)	338	#5	6'-2"	—
a <sub>3</sub> (E)	16	#5	1'-6"	—
b(E)	216	#5	31'-7"	—
b <sub>1</sub> (E)	96	#6	14'-0"	—
b <sub>2</sub> (E)	226	#5	25'-9"	—
d(E)	264	#5	3'-8"	—
d <sub>1</sub> (E)	264	#4	3'-8"	—
d <sub>2</sub> (E)	402	#5	2'-5"	—
d <sub>3</sub> (E)	264	#4	3'-11"	—
d <sub>4</sub> (E)	138	#5	3'-0"	—
d <sub>5</sub> (E)	138	#4	3'-0"	—
d <sub>6</sub> (E)	114	#4	3'-9"	—
d <sub>7</sub> (E)	24	#4	4'-0"	—
d <sub>8</sub> (E)	36	#5	4'-0"	—
e(E)	24	#5	17'-4"	—
e <sub>1</sub> (E)	24	#5	5'-4"	—
e <sub>2</sub> (E)	12	#5	17'-5"	—
e <sub>3</sub> (E)	24	#8	18'-6"	—
e <sub>4</sub> (E)	24	#8	5'-4"	—
e <sub>5</sub> (E)	12	#8	18'-7"	—
e <sub>6</sub> (E)	84	#4	16'-0"	—
e <sub>7</sub> (E)	86	#4	5'-4"	—
e <sub>8</sub> (E)	42	#4	16'-1"	—
e <sub>9</sub> (E)	6	#4	5'-0"	—
e <sub>10</sub> (E)	3	#4	7'-9"	—
s(E)	60	#4	2'-7"	—
s <sub>1</sub> (E)	36	#5	4'-4"	—
s <sub>2</sub> (E)	30	#5	8'-10"	—
s <sub>3</sub> (E)	6	#5	7'-11"	—
Reinforcement Bars, Epoxy Coated		Pound	50,300	
Concrete Superstructure		Cu. Yds.	214.0	
Bridge Deck Grooving		Sq. Yds.	579	
Protective Coat *		Sq. Yds.	1,631	
Floor Drains		Each	10	
Preformed Joint Seal, 2 1/2"		Foot	120	
Conduit Embedded in Structure, 2" Dia., Galvanized Steel		Foot	240	

\* Includes existing construction.

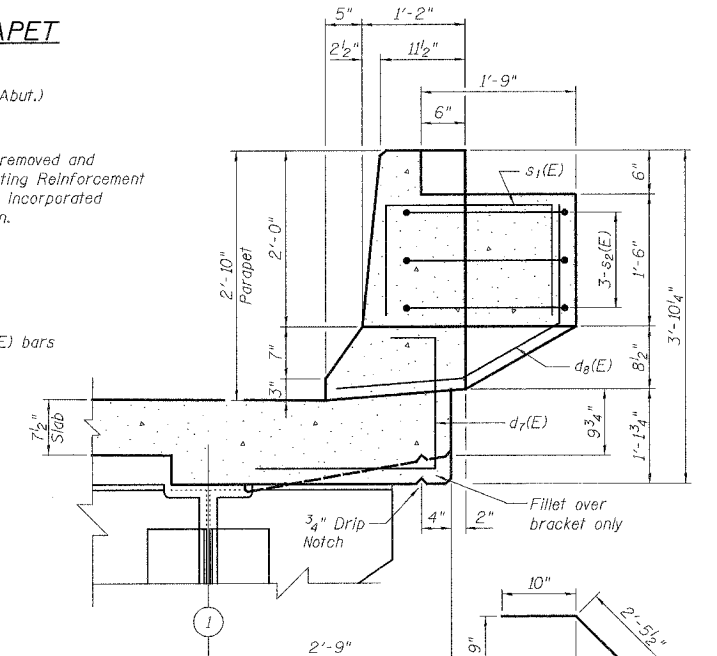
Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.

For details of expansion joint, see Sheet Nos. 11 & 12.  
Hatched area to be removed & replaced after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.



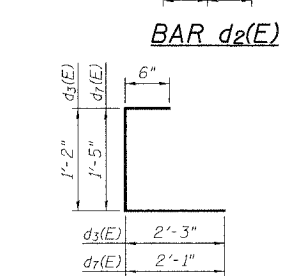
SECTION A-A

SECTION B-B

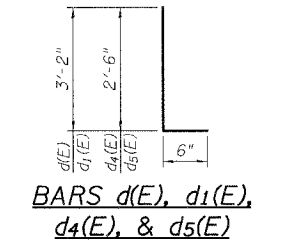


SECTION D-D

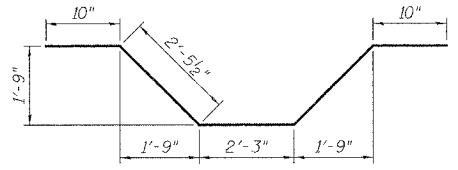
(Noise Abatement Wall Post, Segments, and Anchor Bolt Assembly not shown for clarity.)



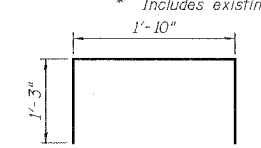
BAR d<sub>2</sub>(E)



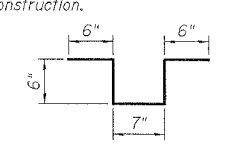
BARS d(E), d<sub>1</sub>(E), d<sub>4</sub>(E), & d<sub>5</sub>(E)



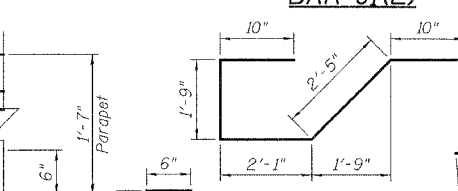
BAR s<sub>2</sub>(E)



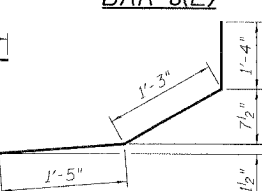
BAR s<sub>1</sub>(E)



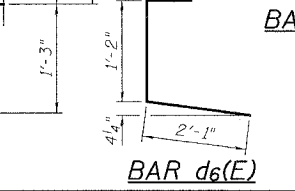
BAR s(E)



BAR s<sub>3</sub>(E)



BAR d<sub>8</sub>(E)



BAR d<sub>6</sub>(E)

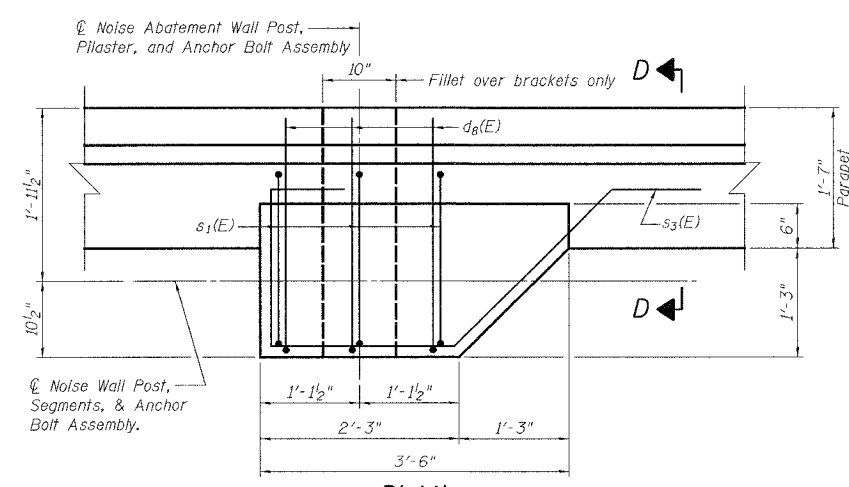
MIN. BAR LAPS

#4	1'-8"
#5	2'-2"
#8	4'-6"

- Notes:
1. Reinforcement bars designated (E) shall be epoxy coated.
  2. Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.
  3. Cut longitudinal reinforcement to clear Drainage Scuppers & Floor Drains.
  4. Work this sheet with Sheet Nos. 7, 8, & 9.

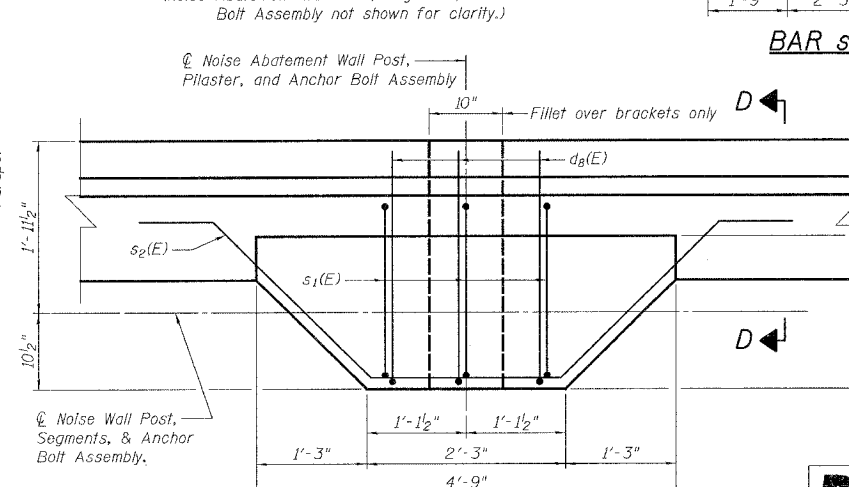
DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006



PLAN

(Typical at both ends of bridge.)



PLAN



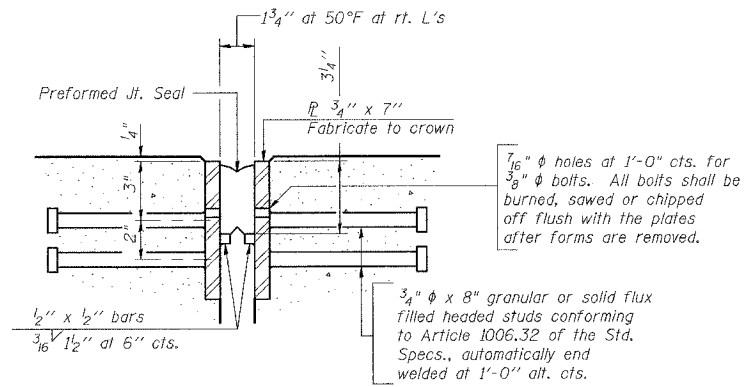
SUPERSTRUCTURE DETAILS II  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

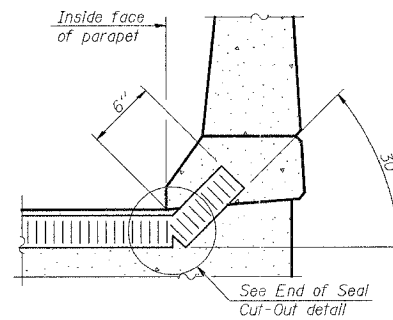
ROUTE NO.	SECTION	EQUITY	TOTAL SHEETS	SHEET NO.	SHEET NO. 11 32 SHEETS
FAI-55	**	WILL	505	352	
FED. ROAD DIST. NO. 7		ILLINOIS	PROJ. NO. PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



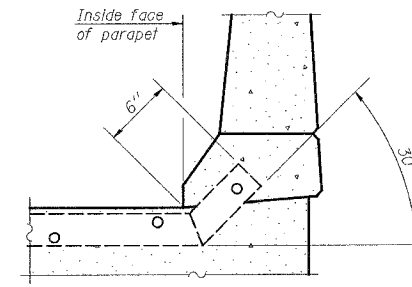
**SECTION THRU EXPANSION JOINT**

(216 Studs Required For SB Bridge)  
(216 Studs Required For NB Bridge)



**AT PARAPETS**

(Showing seal)



**AT PARAPETS**

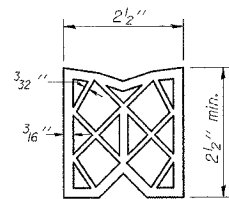
(Showing plate)

**GENERAL NOTES**

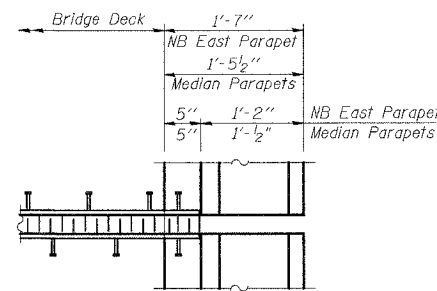
- Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant suitable for structural steel.

Bridge Joint System (Expansion)		
Design Movement	Required Preformed Joint Seal Size	Required Strip Seal Rated movement
1"	2 1/2"	1"

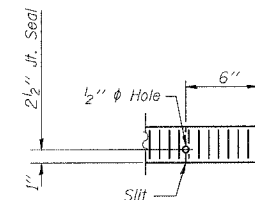
**TYPICAL END TREATMENTS**



**PREFORMED JOINT SEAL**



**PLAN AT PARAPETS**



**END OF SEAL CUT-OUT**

**BILL OF MATERIAL**

Item	Unit	Total
Bridge Joint System (Expansion), 1"	Foot	211.5

(Sheet 1 of 2)

BRIDGE JOINT SYSTEM-EXPANSION  
(PREFORMED JOINT SEAL)  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



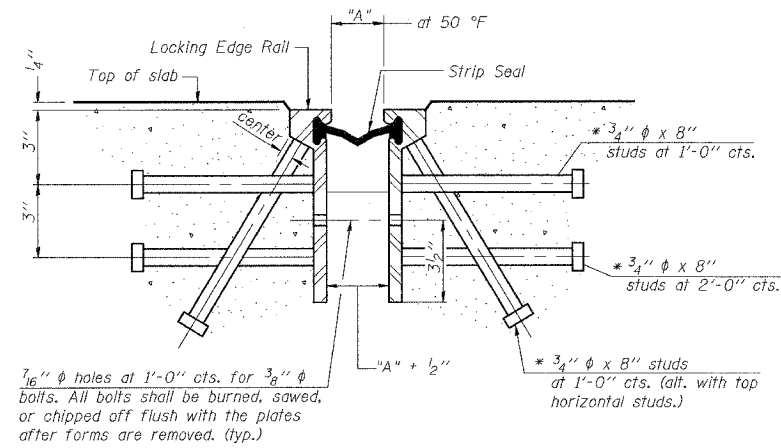
DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12
FAJ-55	**	WILL	505	353	32 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

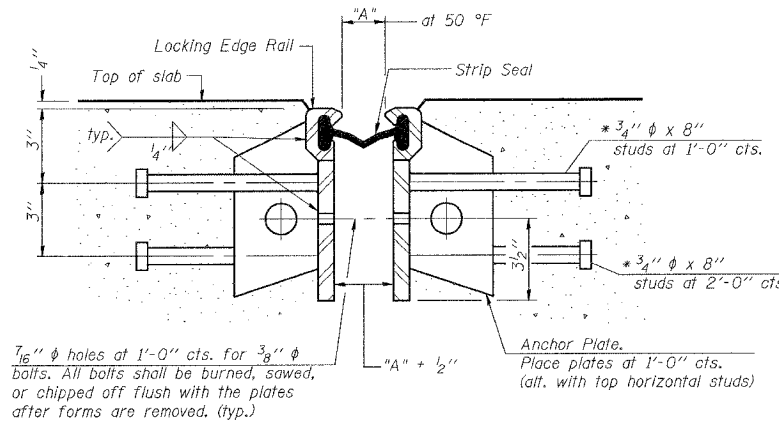
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



**SECTION THRU ROLLED RAIL EXP. JOINT**

(324 Studs Required For SB Bridge)  
(324 Studs Required For NB Bridge)

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

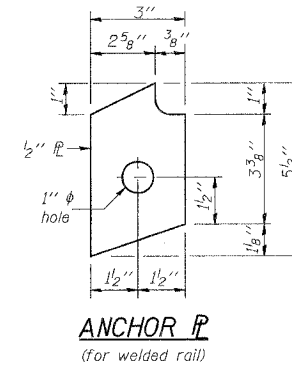
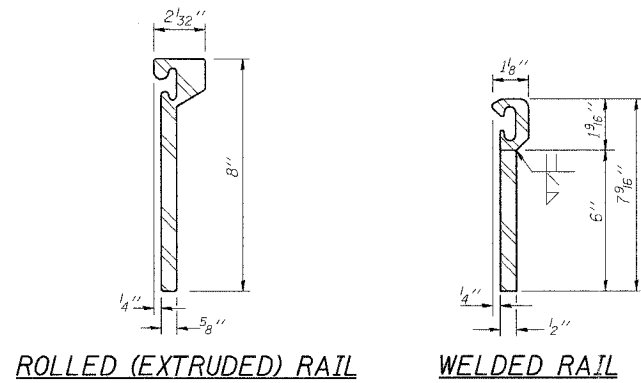


**SECTION THRU WELDED RAIL EXP. JOINT**

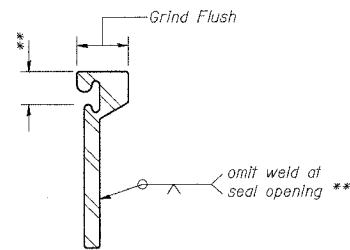
(216 Studs & 108 Anchor Plates Required for SB Bridge)  
(216 Studs & 108 Anchor Plates Required for NB Bridge)

**GENERAL NOTES**

- 1 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.
- 2 The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.
- 3 Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.
- 4 The manufacturer's recommended installation methods shall be followed.
- 5 The joint opening and deck dimensions detailed on the superstructure are based on a preformed joint seal. If the contractor elects to use the alternate strip seal joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

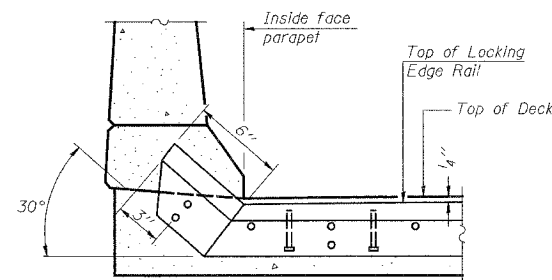


**LOCKING EDGE RAILS**



**LOCKING EDGE RAIL SPLICE**

The inside of the locking edge rail groove shall be free of weld residue.



**AT PARAPETS**

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

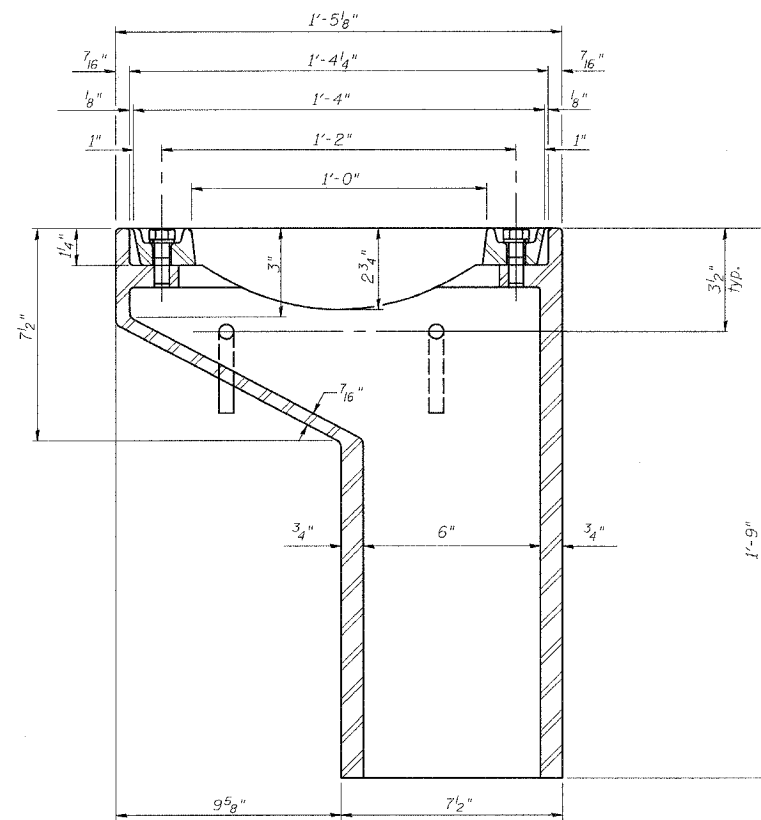
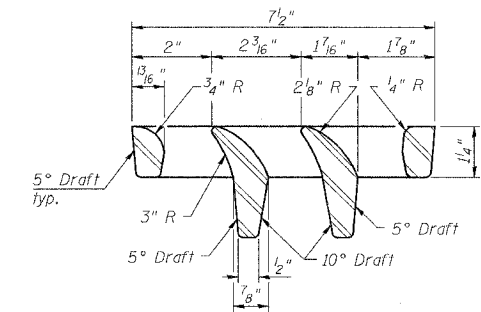
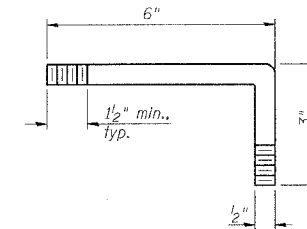
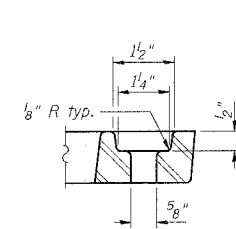
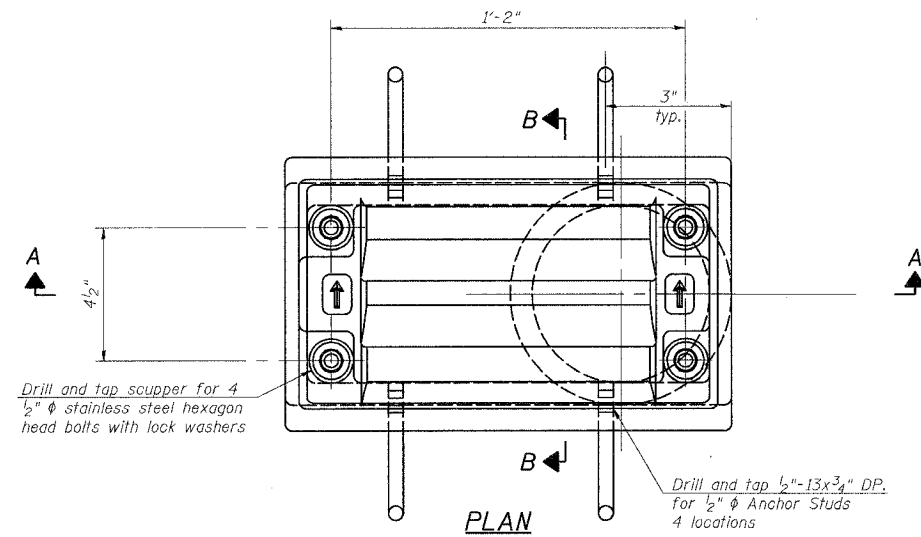


(Sheet 2 of 2)  
BRIDGE JOINT SYSTEM-EXPANSION  
(ALTERNATE STRIP SEAL)  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

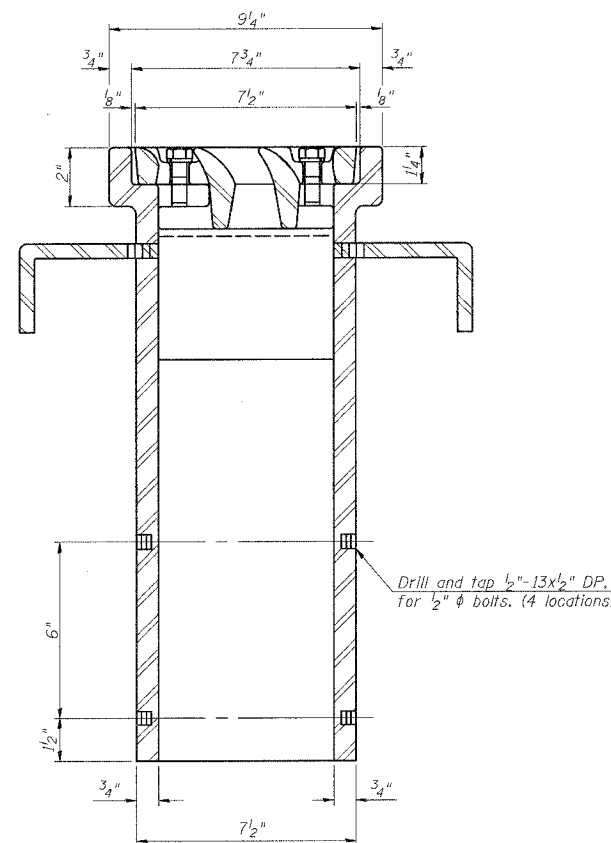
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET
FAI-55	**	WILL	505	354	32 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



SECTION A-A  
See Sheet Nos. 7 & 8 for scupper location relative to parapet.



Notes:

- All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
- Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
- The grate, frame and downspout shall be galvanized according to AASHTO M 111 and ASTM A 385. Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.
- As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.
- Structural steel weldments of equal sections and of the same configuration may be substituted for cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.
- The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
- Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	2

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006



DRAINAGE SCUPPER, DS-11  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 14 32 SHEETS
FAI-55	**	WILL	505	355	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

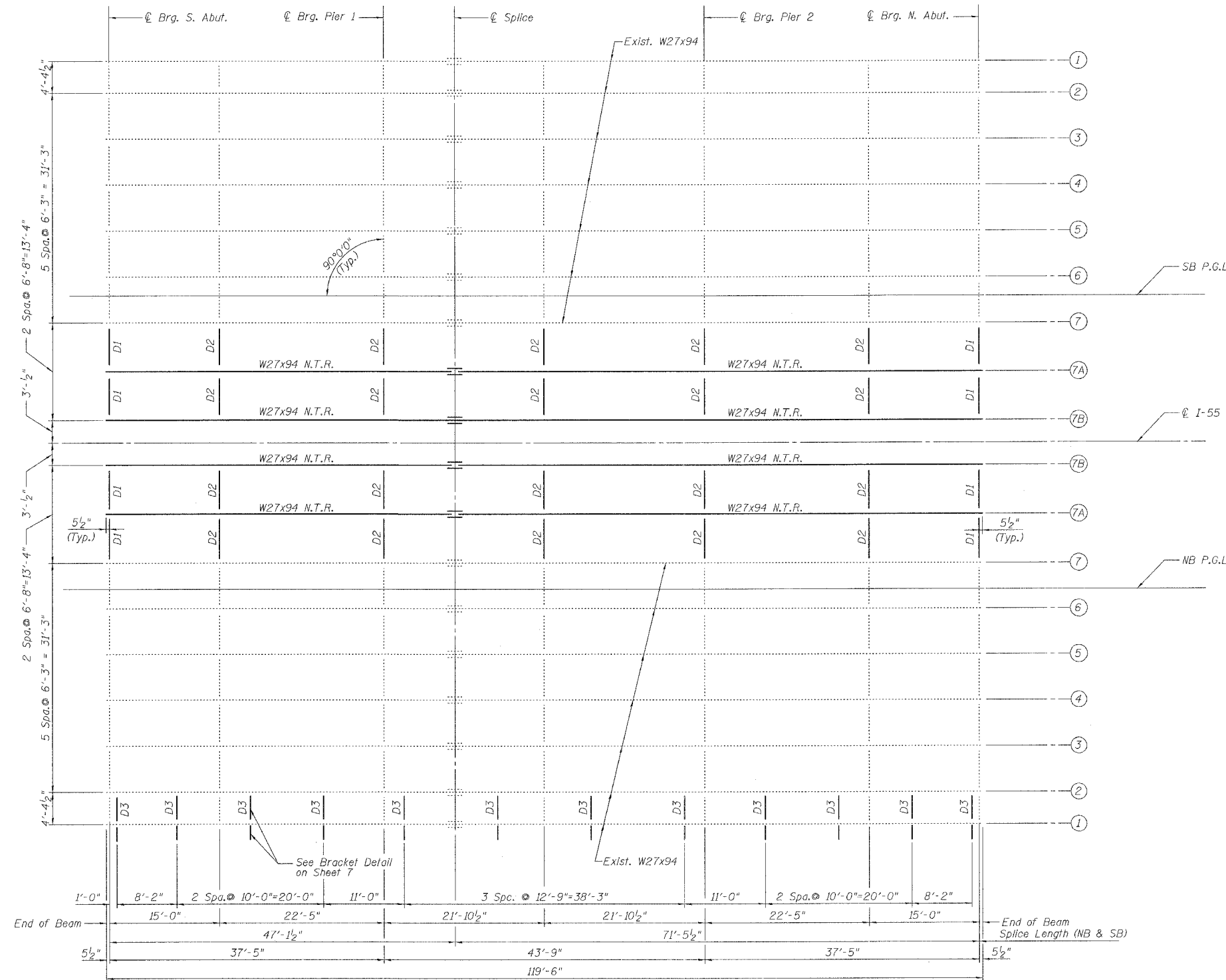
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

**TOP OF BEAM ELEVATIONS**  
(FOR FABRICATION ONLY)

Location	Southbound		Northbound	
	Beam 7A	Beam 7B	Beam 7A	Beam 7B
℄ Brg. S. Abut.	639.990	639.856	639.990	639.856
℄ Brg. Pier 1	639.985	639.852	639.985	639.852
℄ Splice 1	639.984	639.850	639.984	639.850
℄ Brg. Pier 2	640.034	639.900	640.034	639.900
℄ Brg. N. Abut.	640.089	639.955	640.089	639.955

**BEAM SEAT ELEVATIONS**  
(FOR INFORMATION ONLY)

Location	Southbound		Northbound	
	Beam 7A	Beam 7B	Beam 7A	Beam 7B
℄ Brg. S. Abut.	637.26	637.12	637.26	637.12
℄ Brg. Pier 1	636.53	636.40	636.53	636.40
℄ Brg. Pier 2	637.49	637.35	637.49	637.35
℄ Brg. N. Abut.	637.55	637.42	637.55	637.42



**FRAMING PLAN**

DESIGNED	J. ZUO
CHECKED	A. HAMMAD
DRAWN	J. ZUO
CHECKED	A. HAMMAD

Date: 6/30/2006

Notes:

- All plates except for fill plates shall conform to N.T.R.
- N.T.R. denotes members subject to the supplemental requirements for notch toughness (Zone 2).
- All work shall be performed after existing concrete has been removed.
- See Sheet No. 15 For Sections and Details.

FRAMING PLAN  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

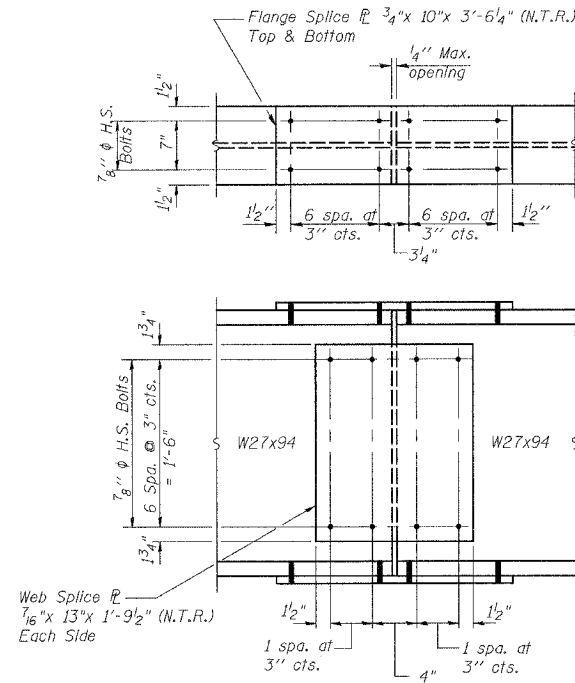


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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15
FAI-55	**	WILL	505	356	32 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

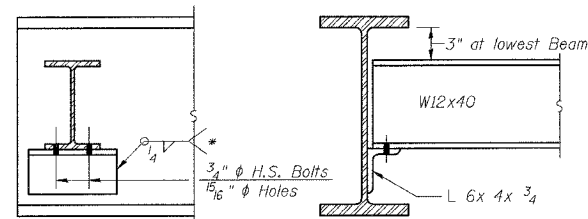
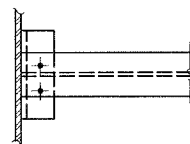
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



**SPLICE**

(For W27x94)  
(2 Locations NB, 2 Locations SB)

Note:  
All bolts in splices are AASHTO M 164 (ASTM 325)  
7/8" φ with Class A Contact Surfaces and Standard Holes.

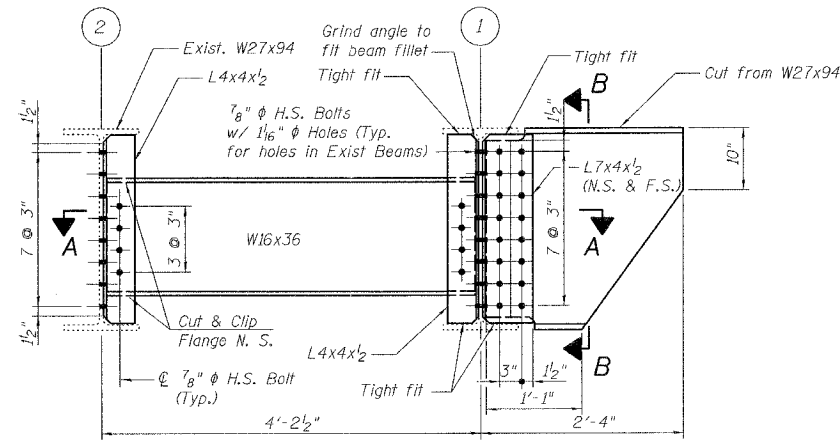


**END DIAPHRAGM D1**

(4 D1 Required NB)  
(4 D1 Required SB)

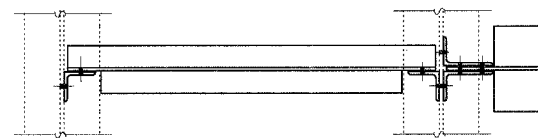
\* Field weld angles to existing NB & SB Beams 7.

\*\* At existing NB & SB Beams 7, remove existing bolts. Drill 5/16" φ holes in new connector angle L 6x4x3/4 (cut vertical leg as required) and reconnect with new 3/4" φ H.S. Bolts.

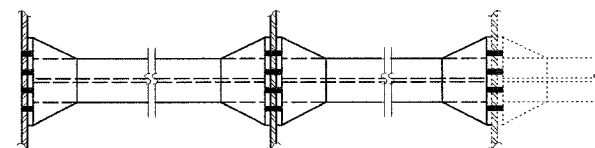


**INTERIOR DIAPHRAGM D3  
AND BRACKET DETAIL**

(NB ONLY - 12 REQUIRED)

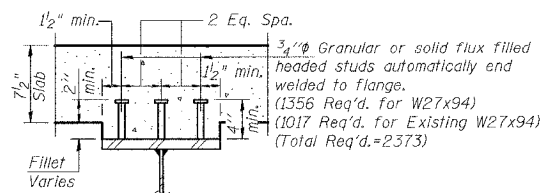


**SECTION A-A**



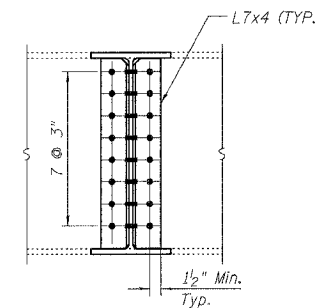
**INTERIOR DIAPHRAGM D2**

(10 D2 Required NB)  
(10 D2 Required SB)



**SECTION C-C**

(For Information Only)



**SECTION B-B**

INTERIOR GIRDER MOMENT TABLE  
(NB PROPOSED BEAMS 7A & 7B, NON-COMPOSITE)

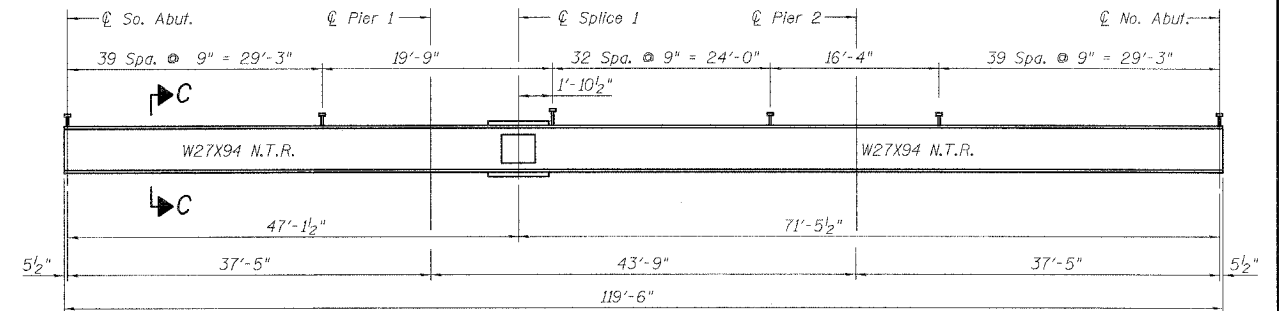
	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I (in 4)	3270	3270	3270
S (in 3)	243	243	243
φ (k/ft.)	1.230	1.230	1.230
M <sub>D</sub> (k)	127	202	93
M <sub>L</sub> (k)	196	153	191
M (Imp) (k)	59	46	57
5/8 M <sub>L</sub> + M (Imp) (k)	424	331	412
M <sub>a</sub> (k)	717	693	659
f <sub>sD</sub> (k.s.i.)	6.3	10.0	4.6
f <sub>s5/8(L+Imp)</sub> (k.s.i.)	21.0	16.3	20.4
f <sub>s</sub> (Overload) (k.s.i.)	27.2	26.3	25.0
f <sub>s</sub> (Total) (k.s.i.)	35.4	34.2	32.5

INTERIOR GIRDER REACTION TABLE  
(NB PROPOSED BEAMS 7A & 7B)

	Abut.	Pier
R <sub>D</sub> (k)	17.7	55.5
R <sub>L</sub> (k)	35.4	44.1
Imp. (k)	10.6	13.2
R (Total) (k)	63.7	112.8

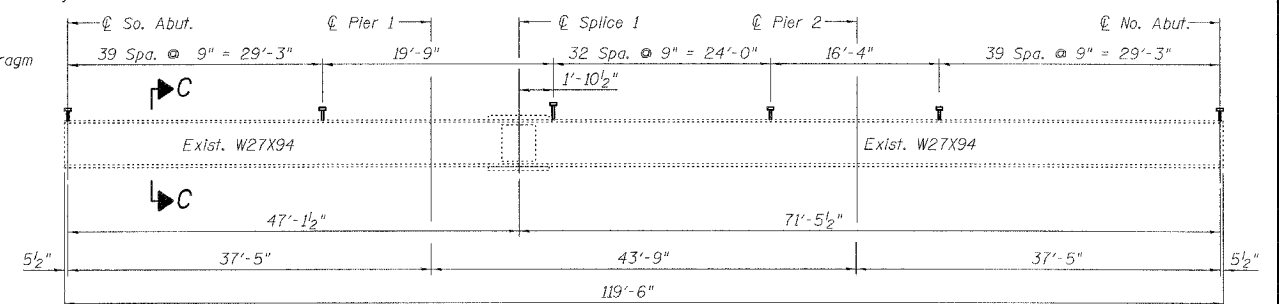
I and S are the moment of inertia and section modulus of the steel section used in computing f<sub>s</sub> (Total & Overload).

M<sub>a</sub> (Applied Moment) = 1.3(M<sub>D</sub> + 5/8 M<sub>L</sub> + M (Imp)).  
f<sub>s</sub> (Overload) is the sum of the stresses due to M<sub>D</sub> + 5/8 M<sub>L</sub> + M (Imp).  
f<sub>s</sub> (Total) (Non-compact section) is the sum of the stresses due to 1.3(M<sub>D</sub> + 5/8 M<sub>L</sub> + M (Imp)).



**BEAM ELEVATION**

(For SB Beams 7A & 7B and NB Beams 7A & 7B)



**BEAM ELEVATION**

(For Existing SB Beam 7 and NB Beams 1 & 7)

DESIGNED	J. ZUO
CHECKED	A. HAMMAD
DRAWN	J. ZUO
CHECKED	J. GRAINAWI

Date: 6/30/2006

Notes:

- N.T.R. denotes members subject to the supplemental requirements for notch toughness (Zone 2).
- Two hardened washers shall be required over all oversize holes for diaphragms.
- Work this Sheet with Sheet No. 14.



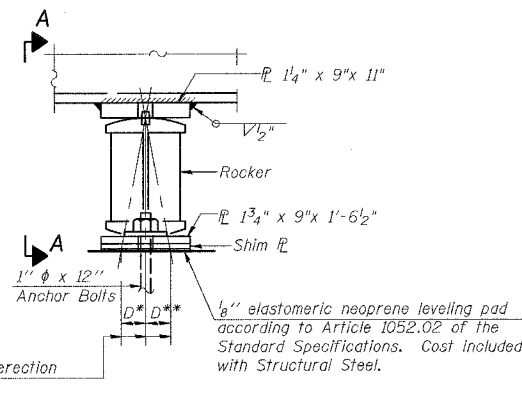
STRUCTURAL STEEL DETAILS I  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAI-55	**	WILL	505	357	32 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS			
		FED. AID PROJECT-			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



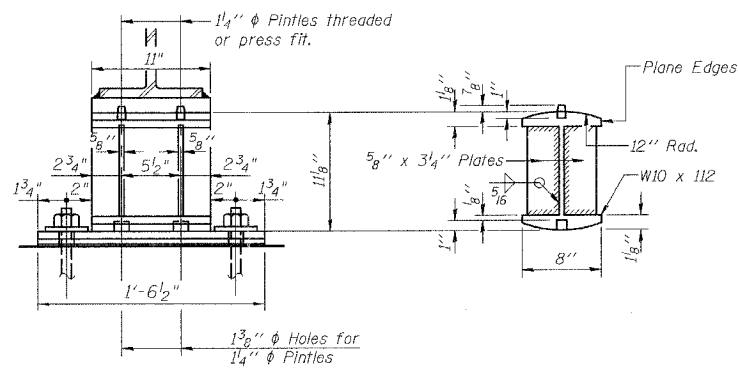
Anchor bolts for steel erection at various temperatures.

**ELEVATION AT PIER 1 (NB & SB)**

(2 Req'd NB, 2 Req'd SB)

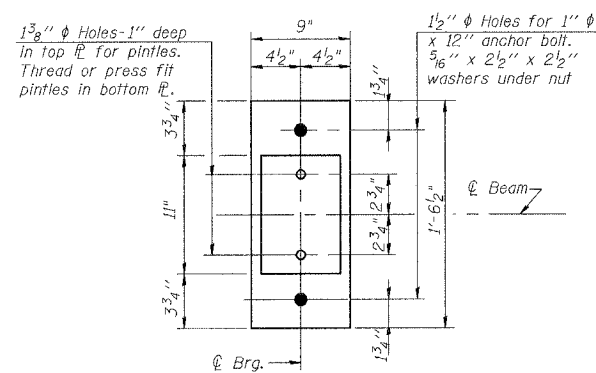
\*  $D = \frac{1}{8}$ " / 100 ft. of exp. for every 15° below the normal temp. of 50°F.

\*\*  $D = \frac{1}{8}$ " / 100 ft. of exp. for every 15° above the normal temp. of 50°F.

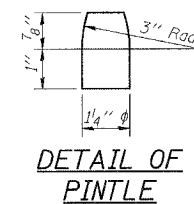


**SECTION A-A**

**DETAIL OF ROCKER**



**PLAN**



**DETAIL OF PINTLE**

Note:

1. See Sheet No. 25 for Anchor Bolt Installation.

DESIGNED	J. ZUO
CHECKED	J. GRAINAWI
DRAWN	J. ZUO
CHECKED	J. GRAINAWI

Date: 6/30/2006

STRUCTURAL STEEL DETAILS II  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

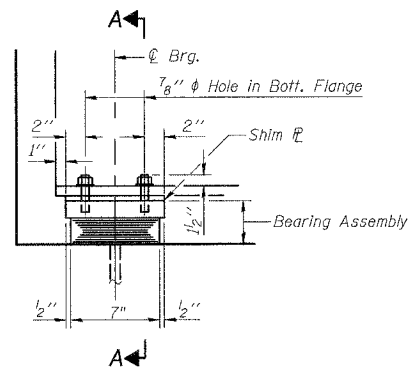


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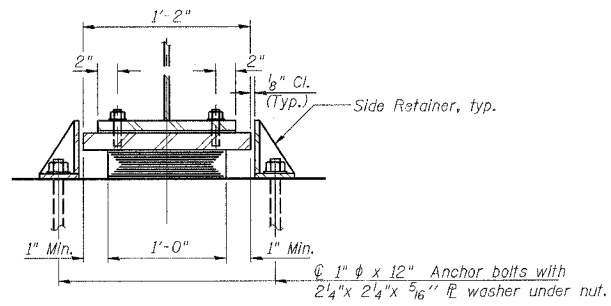
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 17 32 SHEETS
FAI-55	**	WILL	505	358	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



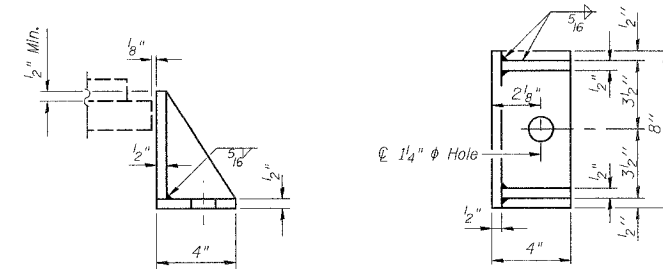
ELEVATION AT N. ABUT. (NB & SB)



SECTION A-A

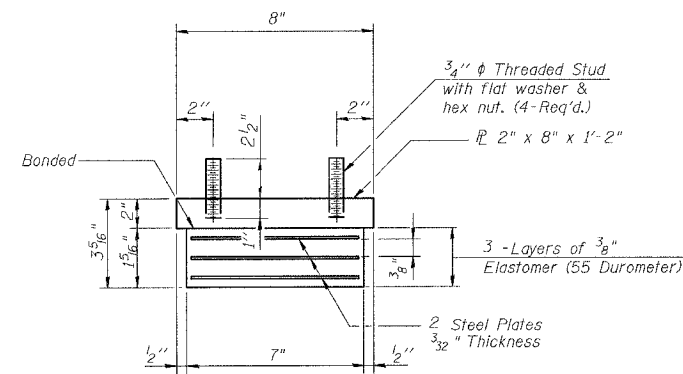
TYPE I ELASTOMERIC EXP. BRG.

(2 Req'd NB, 2 Req'd SB)



SIDE RETAINER

(Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel)



BEARING ASSEMBLY

(Shim plates shall not be placed under Bearing Assembly)

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	4

Notes:

1. See Sheet No. 25 For Anchor Bolt Installation.

DESIGNED	J. ZUO
CHECKED	J. GRAINAWI
DRAWN	Z. MORILLO
CHECKED	J. GRAINAWI

Date: 6/30/2006

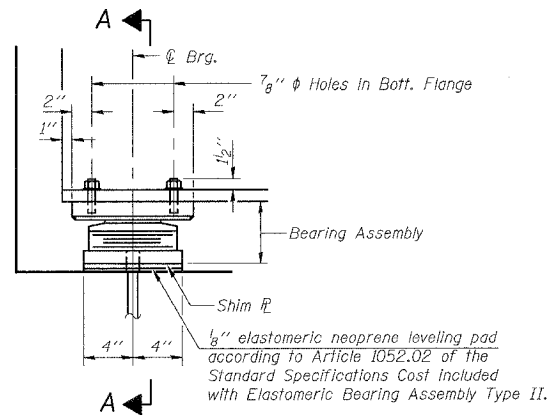
ELASTOMERIC BEARING  
ASSEMBLY TYPE I  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



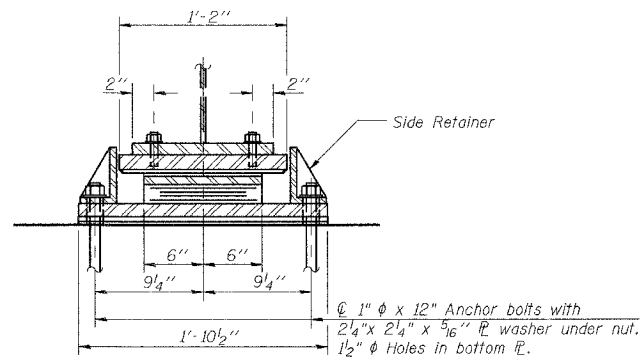
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAI-55	**	WILL	505	359	32 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

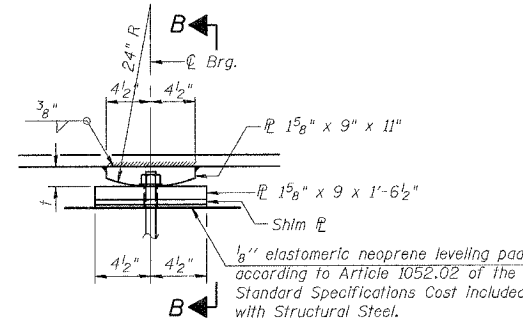
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



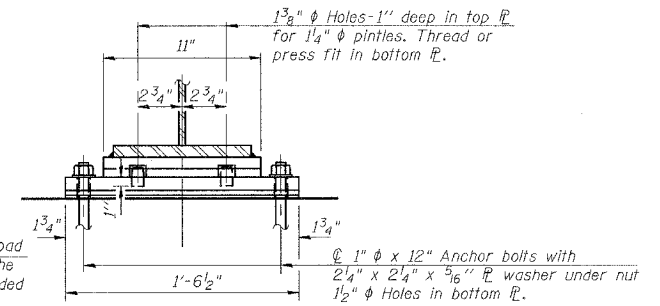
ELEVATION AT S. ABUT. (NB & SB)



SECTION A-A



ELEVATION AT PIER 2 (NB & SB)



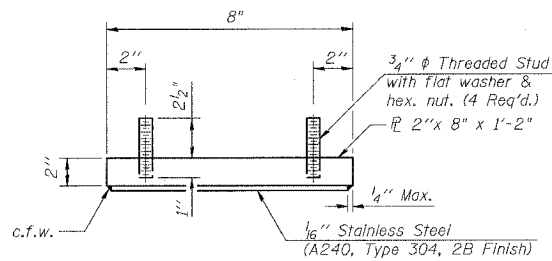
SECTION B-B

**TYPE II ELASTOMERIC EXP. BRG.**

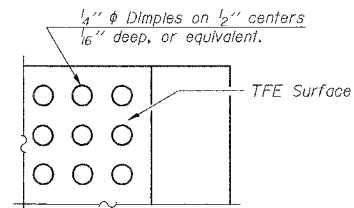
(2 Req'd NB, 2 Req'd SB)

**FIXED BEARING**

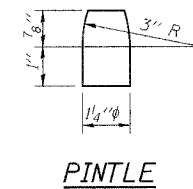
(2 Req'd NB, 2 Req'd SB)



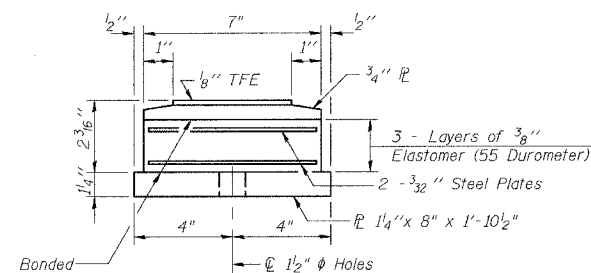
TOP BEARING ASSEMBLY



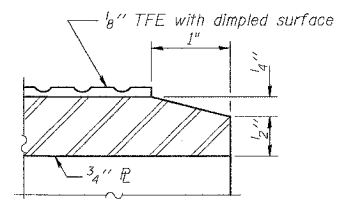
PLAN-TFE SURFACE



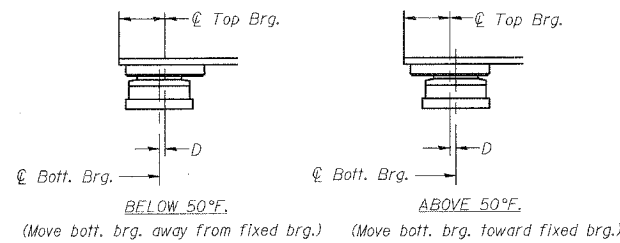
PINTLE



BOTTOM BEARING ASSEMBLY

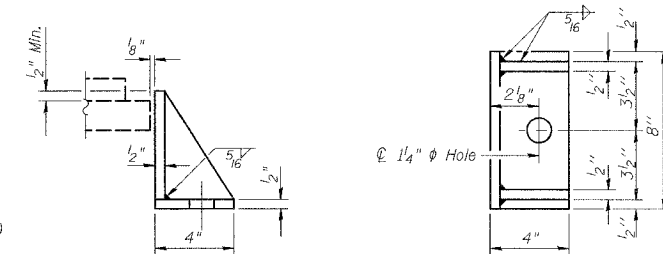


SECTION THRU TFE



**SETTING ANCHOR BOLTS AT EXP. BRG.**

(D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F)



**SIDE RETAINER**

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

Notes:

- The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
- Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
- See Sheet No. 25 for Anchor Bolt Installation.
- Anchor bolts at fixed bearings may be built into the masonry.

**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	4

LOW-PROFILE FIXED AND ELASTOMERIC BEARING ASSEMBLY TYPE II  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



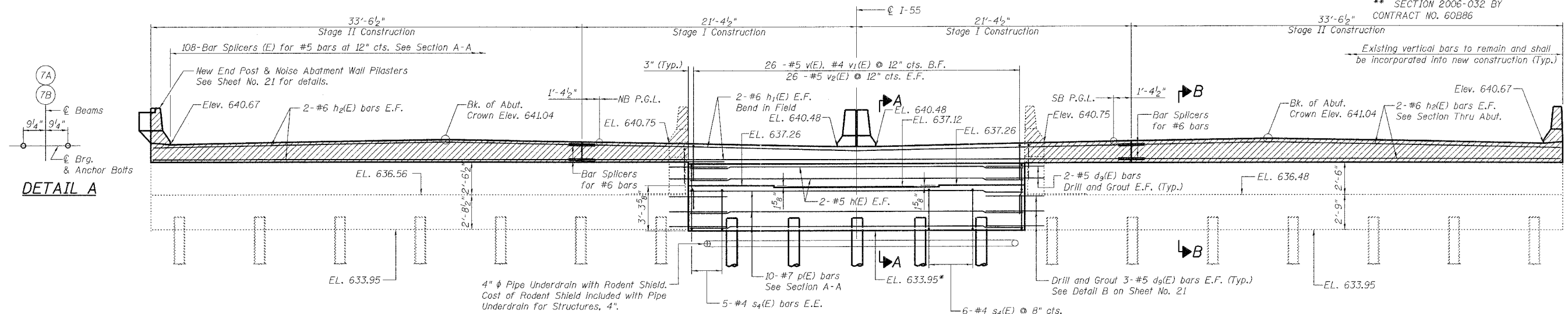
DESIGNED	J.ZUO
CHECKED	J.GRAINAWI
DRAWN	Z.MORILLO
CHECKED	J.GRAINAWI

Date: 6/30/2006

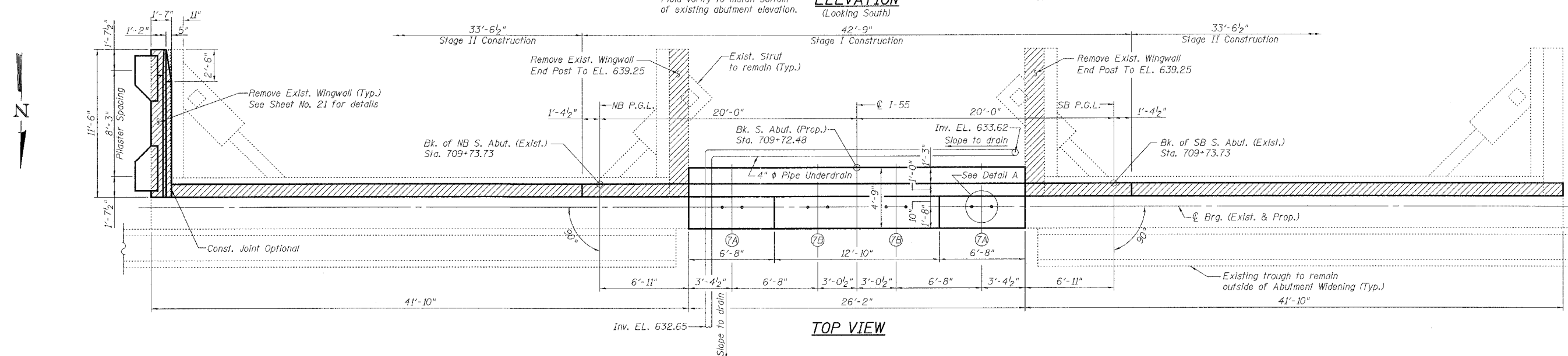
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO.
FAI-55	**	WILL	505	360	19
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		32 SHEETS

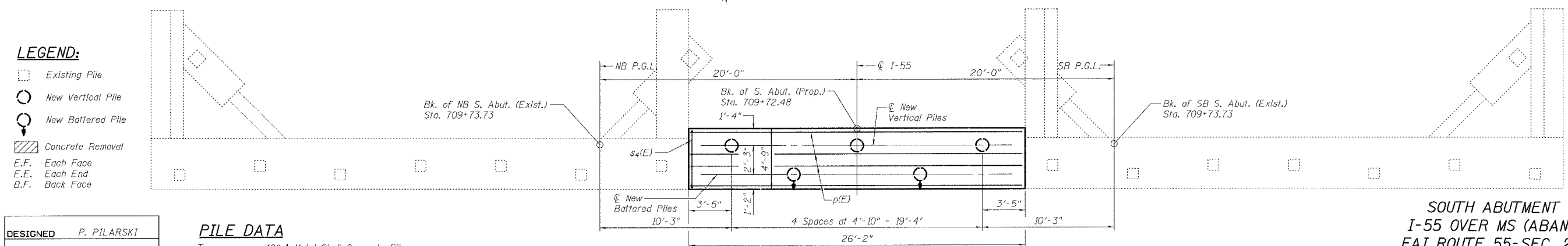
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



ELEVATION  
(Looking South)



TOP VIEW



PLAN-PILE CAP

**LEGEND:**

- Existing Pile
- New Vertical Pile
- New Battered Pile
- Concrete Removal
- E.F. Each Face
- E.E. Each End
- B.F. Back Face

DESIGNED	P. PILARSKI
CHECKED	M. SHAIKH
DRAWN	P. PILARSKI
CHECKED	M. SHAIKH

**PILE DATA**

Type: 12"  $\phi$  Metal Shell Concrete Piles with  $\frac{1}{4}$ " Thick Walls

Capacity: 55 Tons

Est. Length: 36'

No. Required: 4+1 Test Pile

- Notes:
- See Sheet No. 21 for Sections A-A & B-B.
  - All elevations given at back of abutment unless otherwise noted.
  - For Details of bar splice, See Sheet No. 26.



SOUTH ABUTMENT WIDENING  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 21
FAI-55	**	WILL	505	362	32 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Note:  
Quantity of concrete in end post included with Concrete Superstructure on Sheet No. 10.

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60BB6

**BILL OF MATERIAL  
SOUTH ABUTMENT**

Bar	No.	Size	Length	Shape
d <sub>8</sub> (E)	6	#5	4'-0"	
d <sub>9</sub> (E)	28	#5	3'-1"	
h <sub>1</sub> (E)	4	#5	25'-10"	
h <sub>1</sub> (E)	8	#6	22'-9"	
h <sub>2</sub> (E)	8	#6	33'-2"	
h <sub>3</sub> (E)	5	#4	11'-3"	
h <sub>4</sub> (E)	1	#4	11'-10"	
p(E)	10	#7	25'-10"	
s <sub>1</sub> (E)	6	#5	4'-4"	
s <sub>3</sub> (E)	6	#5	7'-11"	
s <sub>4</sub> (E)	34	#4	15'-3"	
v(E)	26	#5	2'-10"	
v <sub>1</sub> (E)	26	#4	2'-10"	
v <sub>2</sub> (E)	52	#4	3'-10"	
v <sub>3</sub> (E)	12	#6	2'-9"	

Porous Granular Embankment, Special	Cu. Yd.	27
Stone Riprap, Class A4	Sq. Yd.	135
Filter Fabric	Sq. Yd.	144
Concrete Removal	Cu. Yd.	13.1
Structure Excavation	Cu. Yd.	38
Concrete Structures	Cu. Yd.	18.7
Reinforcement Bars, Epoxy Coated	Pound	2,160
Furnishing Metal Pile Shells 12"	Foot	144
Driving and Filling Shells	Foot	144
Test Pile Metal Shells	Each	1
Bridge Seat Sealer	Sq. Ft.	65
Geocomposite Wall Drain	Sq. Yd.	16
Pipe Underdrain for Structures, 4"	Foot	49

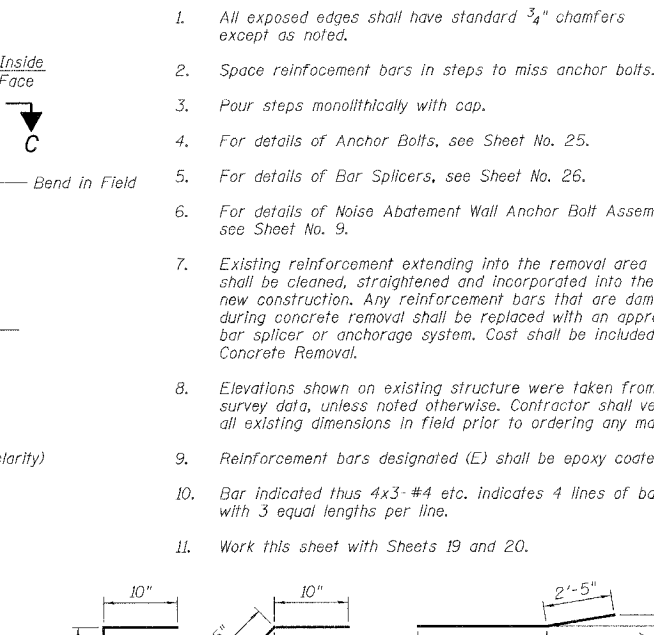
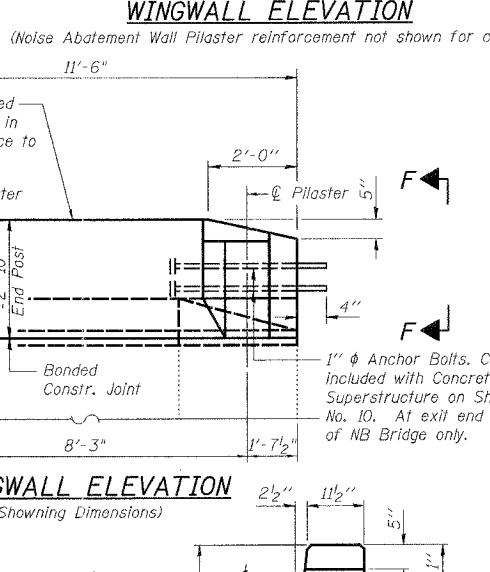
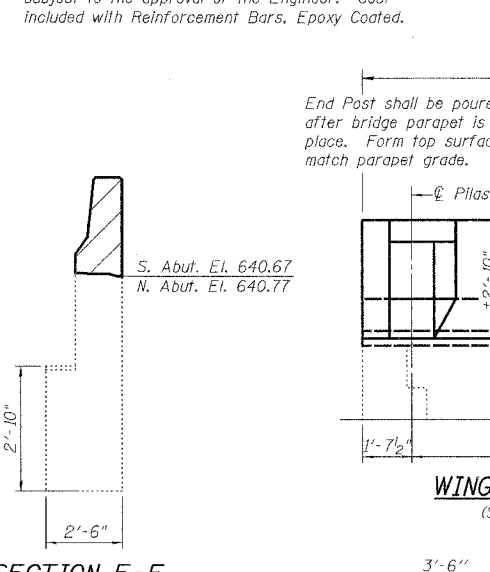
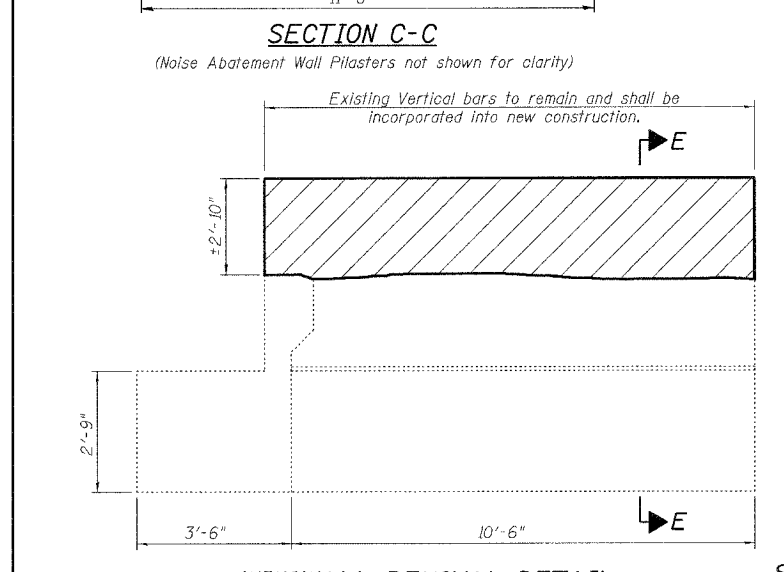
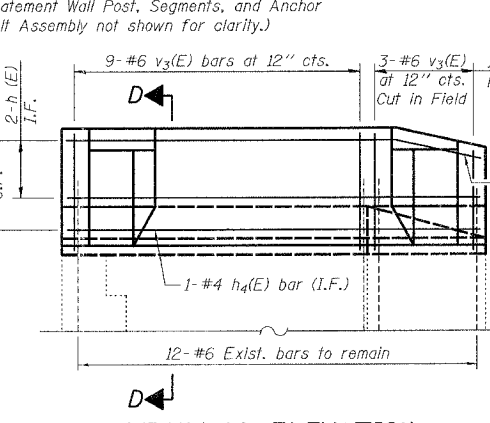
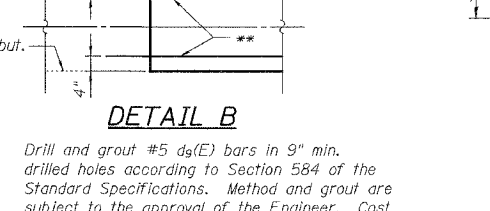
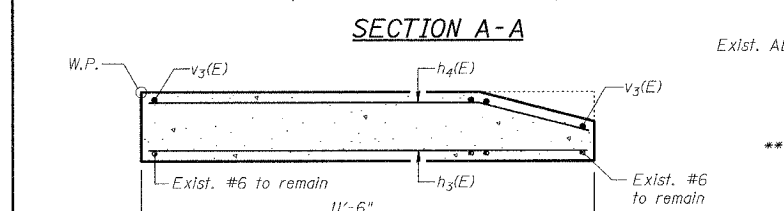
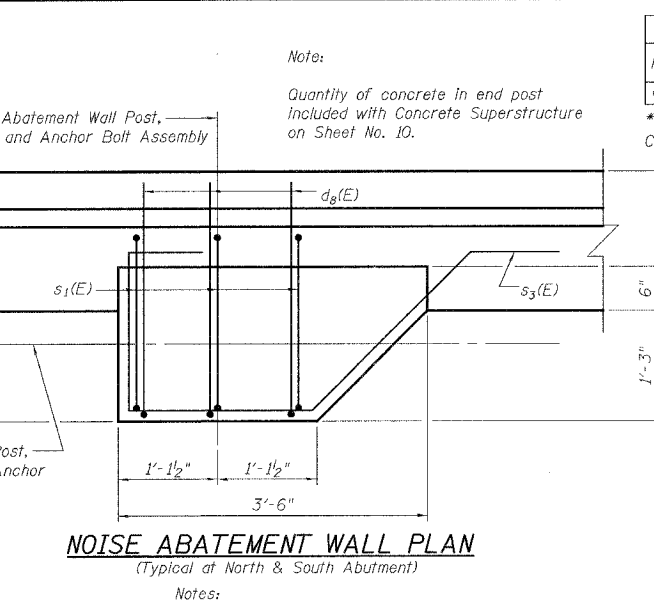
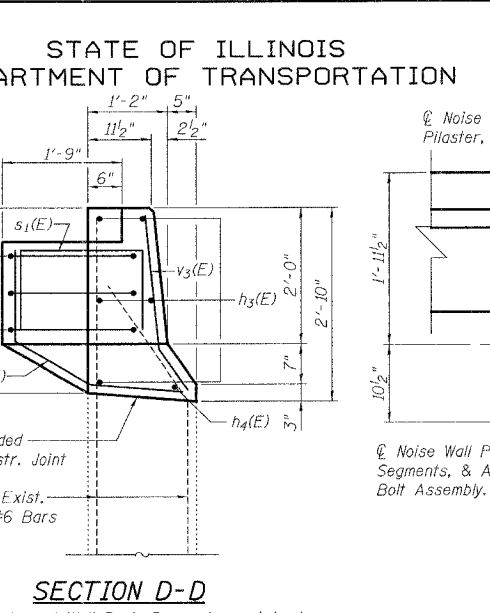
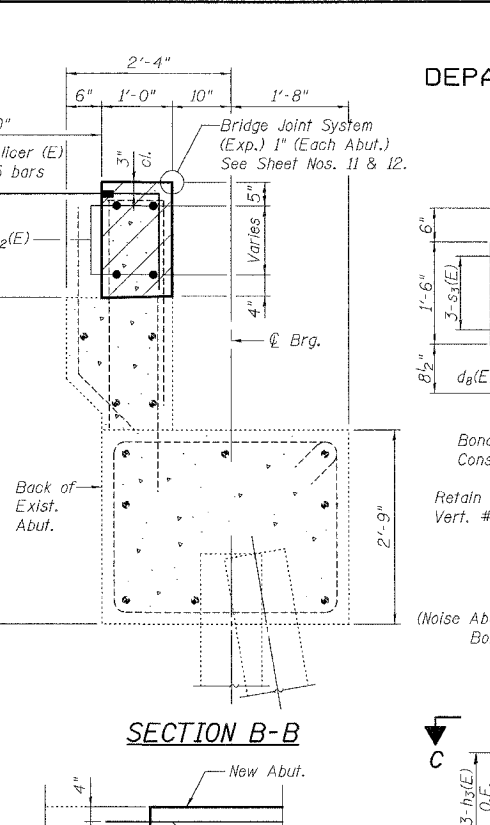
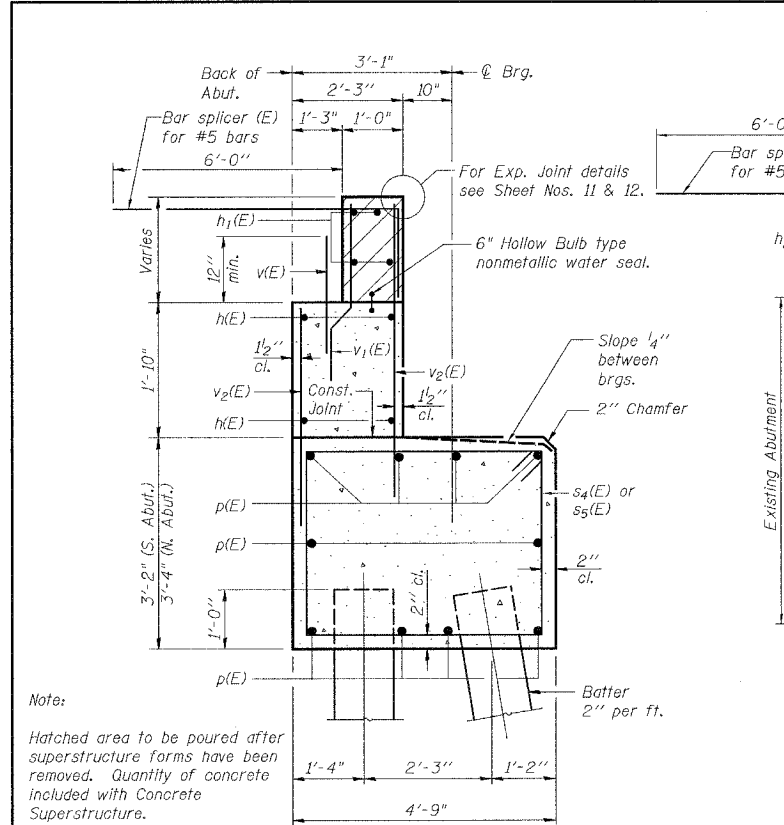
**BILL OF MATERIAL  
NORTH ABUTMENT**

Bar	No.	Size	Length	Shape
d <sub>8</sub> (E)	6	#5	4'-0"	
d <sub>9</sub> (E)	28	#5	3'-1"	
h <sub>1</sub> (E)	4	#5	25'-10"	
h <sub>1</sub> (E)	8	#6	22'-9"	
h <sub>2</sub> (E)	8	#6	33'-2"	
h <sub>3</sub> (E)	5	#4	11'-3"	
h <sub>4</sub> (E)	1	#4	11'-10"	
p(E)	10	#7	25'-10"	
s <sub>1</sub> (E)	6	#5	4'-4"	
s <sub>3</sub> (E)	6	#5	7'-11"	
s <sub>4</sub> (E)	34	#4	15'-3"	
v(E)	26	#5	2'-10"	
v <sub>1</sub> (E)	26	#4	2'-10"	
v <sub>2</sub> (E)	52	#4	3'-10"	
v <sub>3</sub> (E)	12	#6	2'-9"	

Porous Granular Embankment, Special	Cu. Yd.	27
Stone Riprap, Class A4	Sq. Yd.	135
Filter Fabric	Sq. Yd.	145
Concrete Removal	Cu. Yd.	13.1
Structure Excavation	Cu. Yd.	38
Concrete Structures	Cu. Yd.	19.5
Reinforcement Bars, Epoxy Coated	Pound	2,170
Furnishing Metal Pile Shells 12"	Foot	144
Driving and Filling Shells	Foot	144
Test Pile Metal Shells	Each	1
Bridge Seat Sealer	Sq. Ft.	66
Geocomposite Wall Drain	Sq. Yd.	17
Pipe Underdrain for Structures, 4"	Foot	49

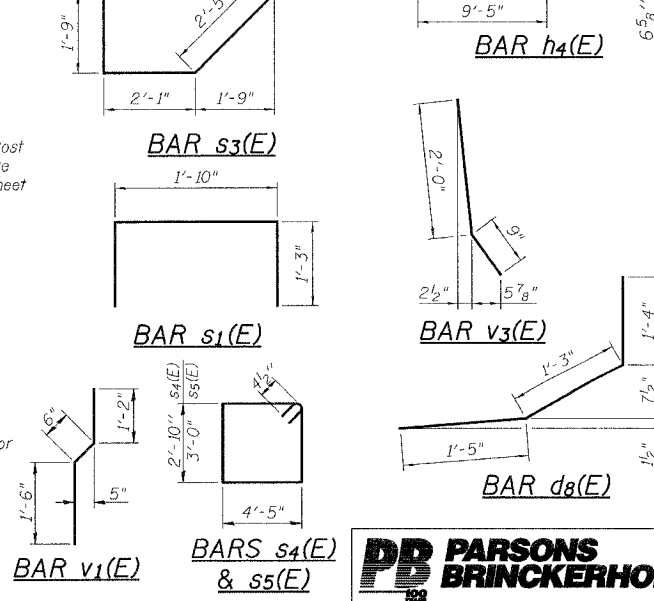
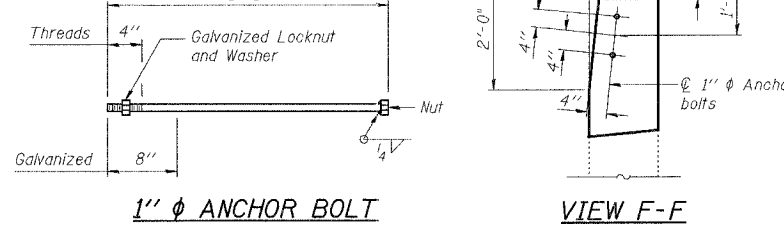
ABUTMENT DETAILS  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STATION 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



DESIGNED	P. PILARSKI
CHECKED	J. BRISBOIS
DRAWN	S. CHELBIAN
CHECKED	J. BRISBOIS

MIN. BAR LAPS

#4	1'-8"
#5	2'-2"
#6	2'-7"



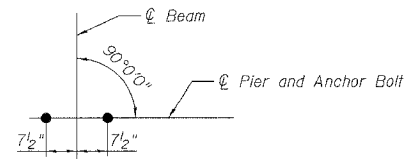
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Date: 6/30/2006

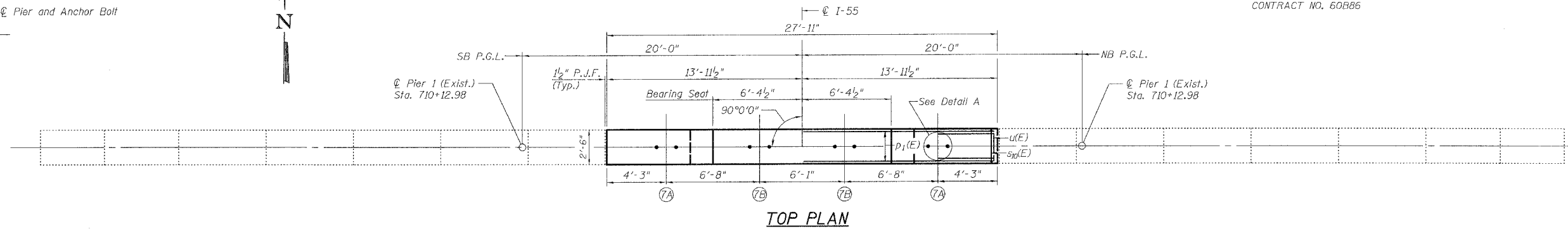
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NOS.	SHEET NO. 22
FAI-55	**	WILL	505	363	32 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

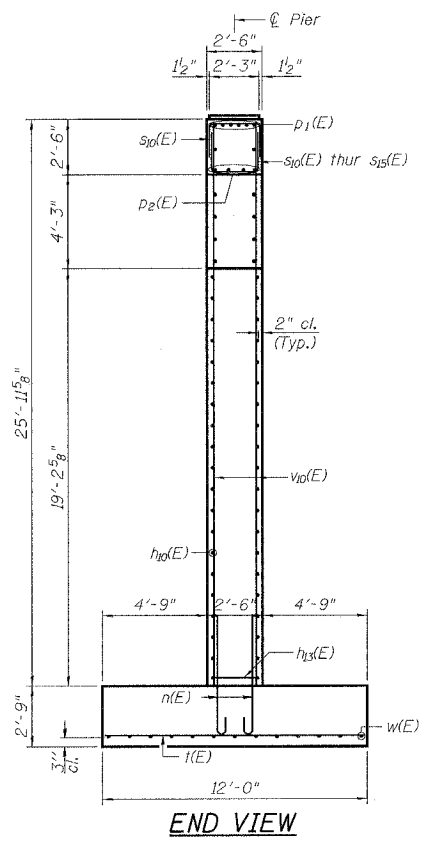
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



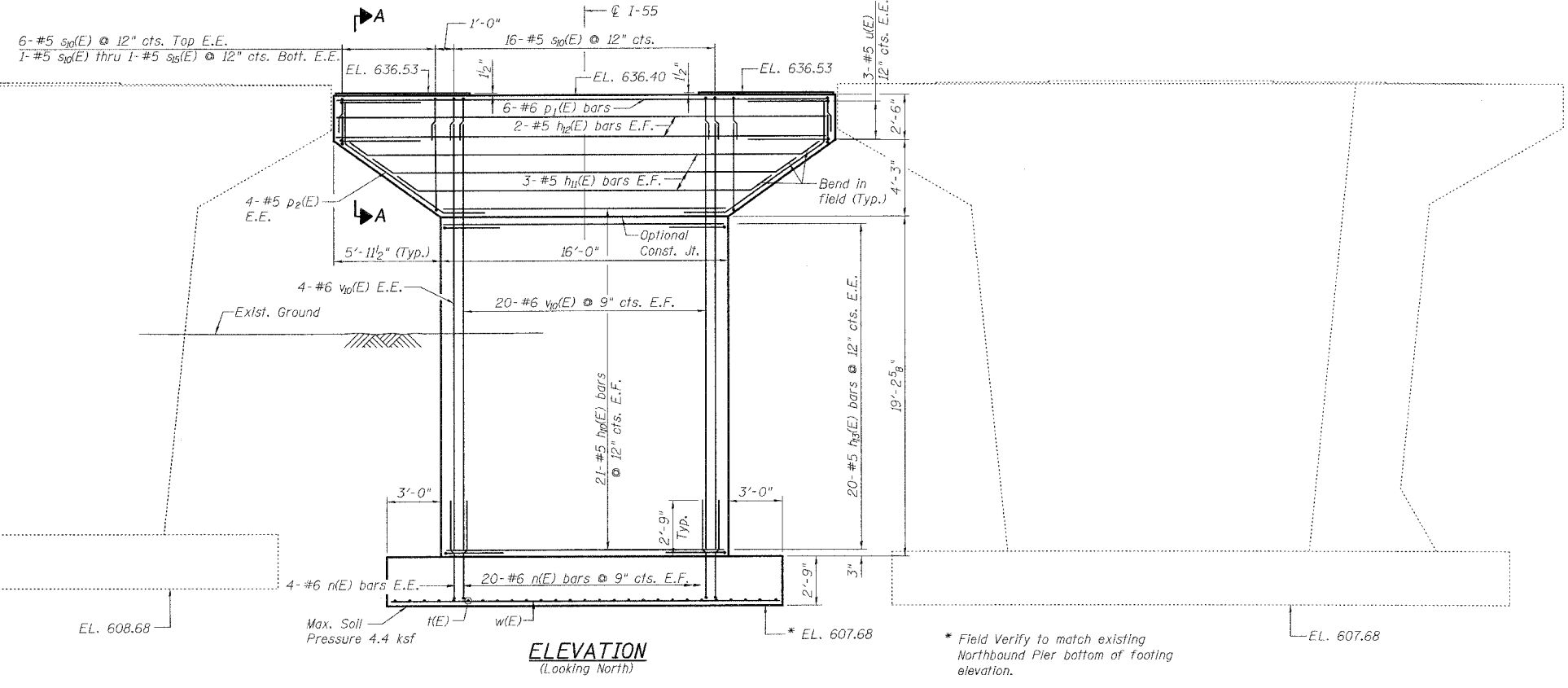
DETAIL A



TOP PLAN

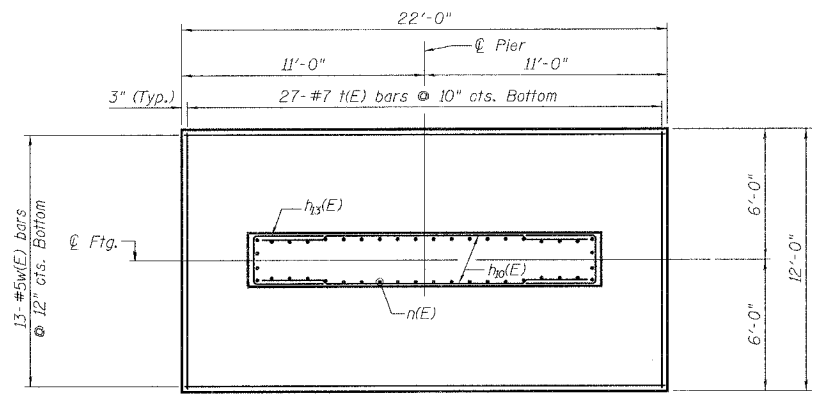


END VIEW



ELEVATION  
(Looking North)

\* Field Verify to match existing Northbound Pier bottom of footing elevation.



FOOTING PLAN

LEGEND:

P.J.F. Preformed Joint Filler  
E.F. Each Face  
E.E. Each End

- Notes:
1. Space reinforcement bars in steps to miss anchor bolts.
  2. All exposed edges shall have standard 3/4" chamfers except as noted.
  3. Reinforcement bars designated (E) shall be epoxy coated.
  4. See Sheet No. 24 for Section A-A.
  5. Pour step monolithically with cap.

DESIGNED	P. PILARSKI
CHECKED	M. SHAIKH
DRAWN	A. ASKARI
CHECKED	M. SHAIKH

Date: 6/30/2006

PIER 1 WIDENING  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

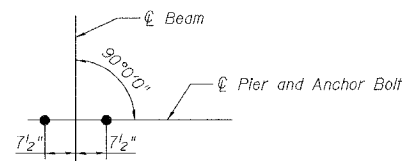


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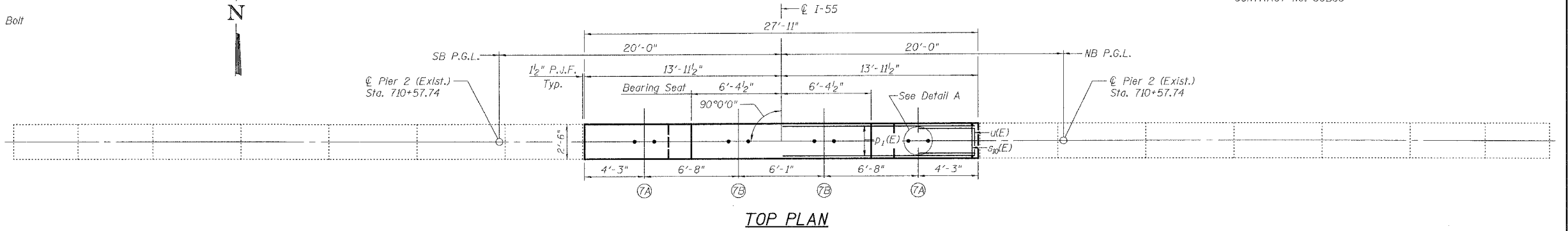
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAI-55	**	WILL	505	364	32 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. ROAD PROJECT		

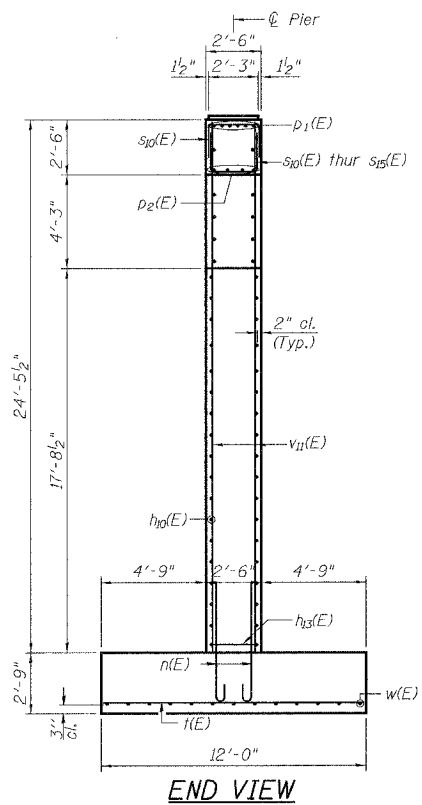
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



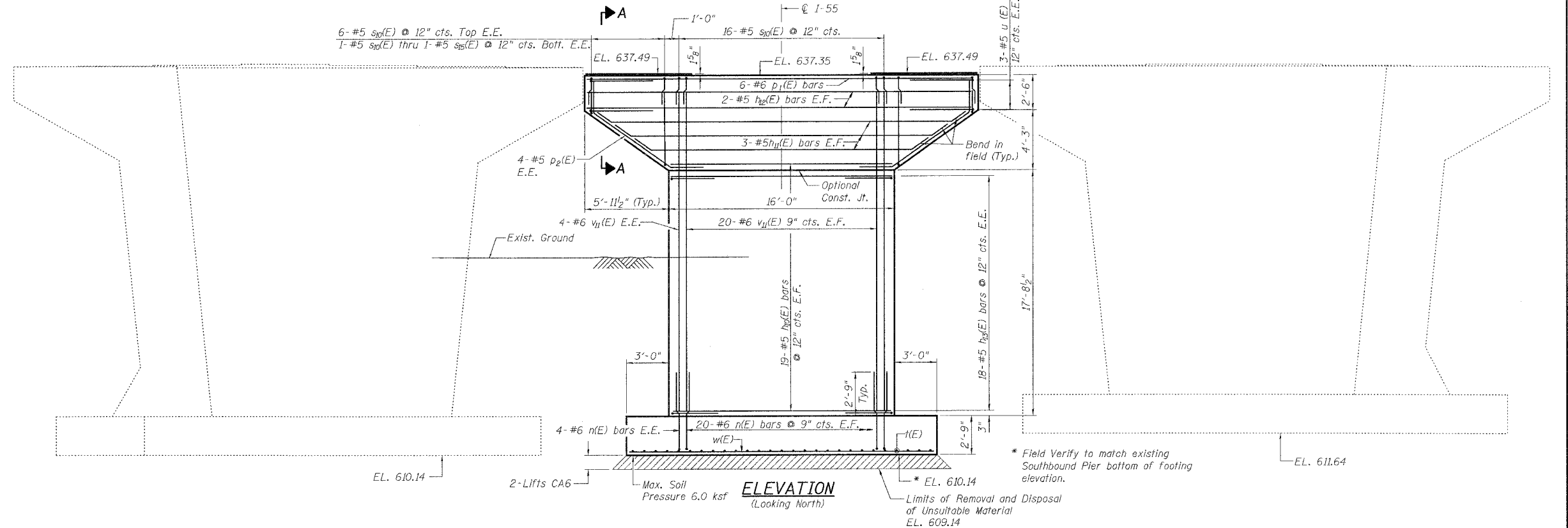
DETAIL A



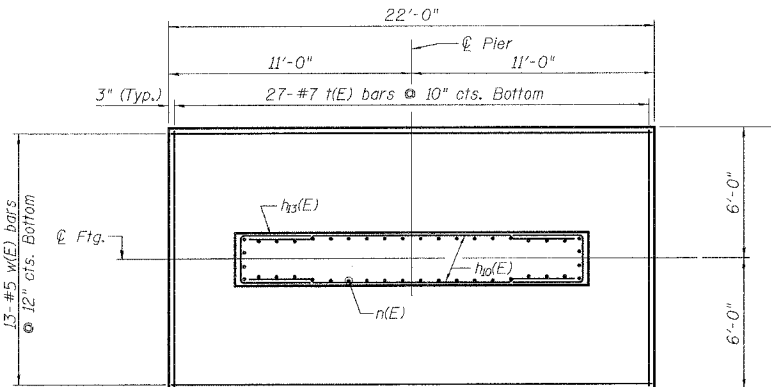
TOP PLAN



END VIEW



ELEVATION  
(Looking North)



FOOTING PLAN

LEGEND:

P.J.F. Performed Joint Filler  
E.F. Each Face  
E.E. Each End

Notes:

1. Space reinforcement bars in steps to miss anchor bolts.
2. All exposed edges shall have standard  $\frac{3}{4}$ " chamfers except as noted.
3. Reinforcement bars designated (E) shall be epoxy coated.
4. See Sheet No. 24 for Section A-A.
5. Pour step monolithically with cap.

DESIGNED	P. PILARSKI
CHECKED	M. SHAIKH
DRAWN	A. ASKARI
CHECKED	M. SHAIKH

Date: 6/30/2006

\* Field Verify to match existing Southbound Pier bottom of footing elevation.

\* EL. 610.14  
Limits of Removal and Disposal of Unsuitable Material EL. 609.14

PIER 2 WIDENING  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)







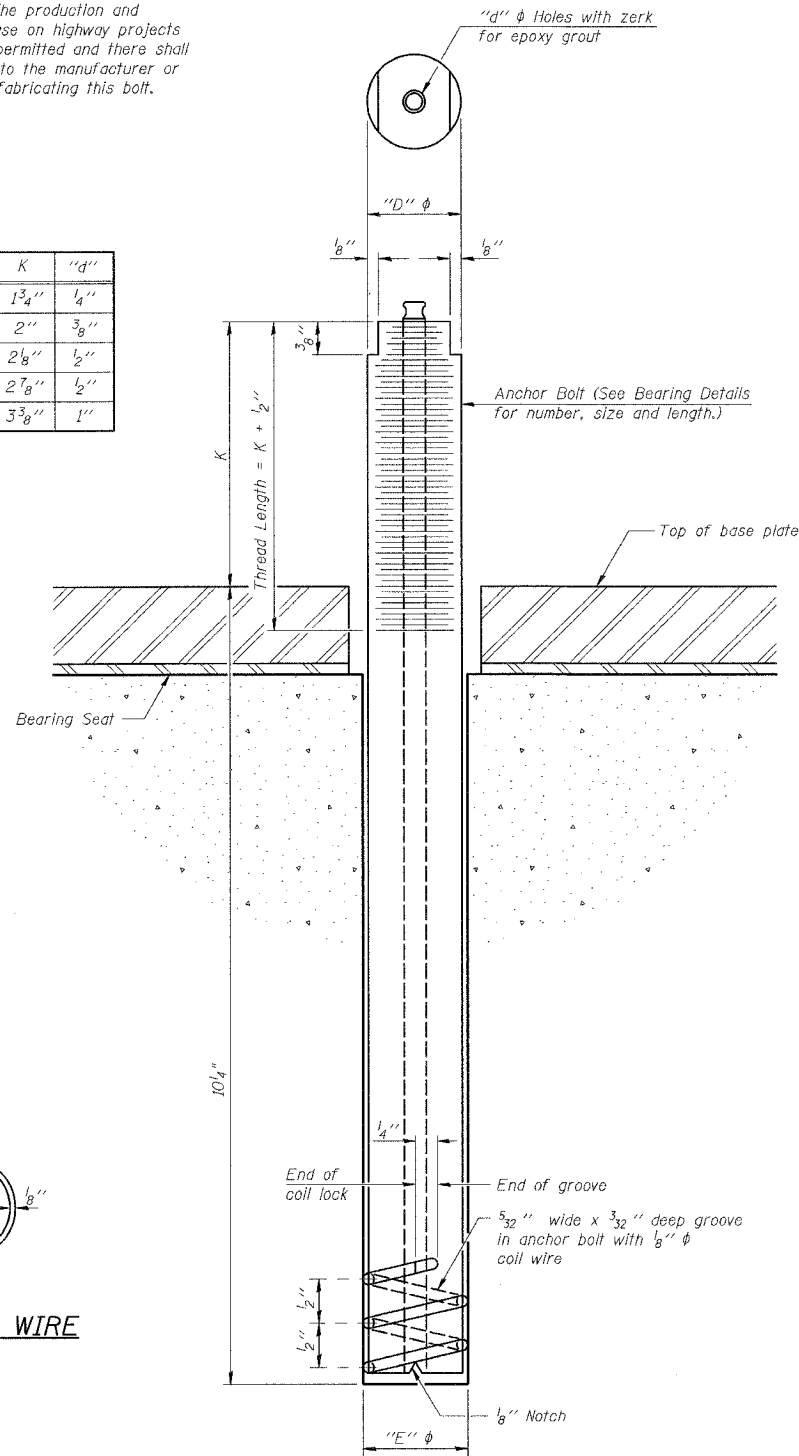
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 25 32 SHEETS
FAI-55	**	WILL	505	366	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 3/8"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT

**MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT**

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.  
The coil wire shall be made of any suitable soft steel wire.  
The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.  
The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade I and of a Class suitable for the temperature at installation.

**INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT**

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

**ALTERNATE ANCHOR BOLTS**

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.  
The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:  
1. A threaded rod stud with nut and washer of the type specified.  
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type	Bolt $\phi$	Total Number
S. Abut., NB	A307	1"	4
Pier 1, NB	A307	1"	4
Pier 2, NB	A307	1"	4
N. Abut., NB	A307	1"	4
S. Abut., SB	A307	1"	4
Pier 1, SB	A307	1"	4
Pier 2, SB	A307	1"	4
N. Abut., SB	A307	1"	4

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

**GENERAL NOTES**

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.  
Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.  
The anchor bolts furnished, installed, and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	110

ANCHOR BOLT DETAILS  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



DESIGNED	J. ZUO
CHECKED	J. GRAINAWI
DRAWN	J. ZUO
CHECKED	J. GRAINAWI

Date: 6/30/2006

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 26 32 SHEETS
FAI-55	**	WILL.	505	367	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

NOTES

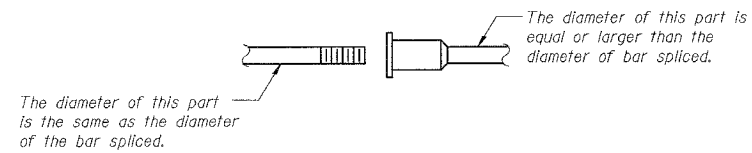
1. Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
2. Splicer rods shall be a minimum of 60 ksi yield strength, threaded or coiled full length.
3. All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
4. Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
5. Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_1$
- ② Minimum \*Pull-out Strength (Tension in kips) =  $1.25 \times f_{s_{allow}} \times A_1$

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $f_{s_{allow}}$  = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)  
 $A_1$  = Tensile stress area of lapped reinforcement bars.  
 \* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

6. Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

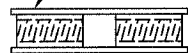


ROLLED THREAD DOWEL BAR



\*\* ONE PIECE

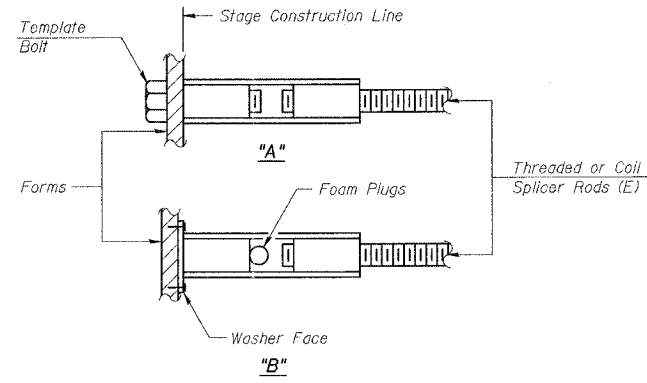
Wire Connector



WELDED SECTIONS

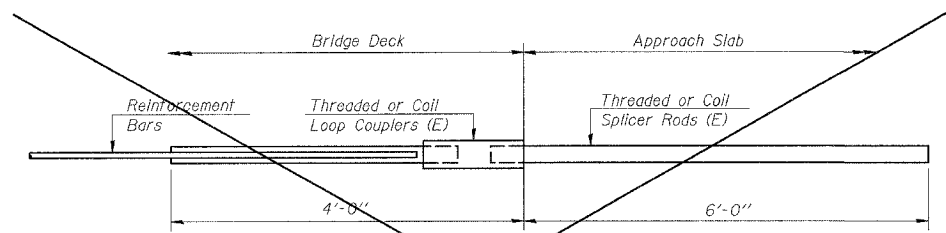
BAR SPLICER ASSEMBLY ALTERNATIVES

\*\* Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



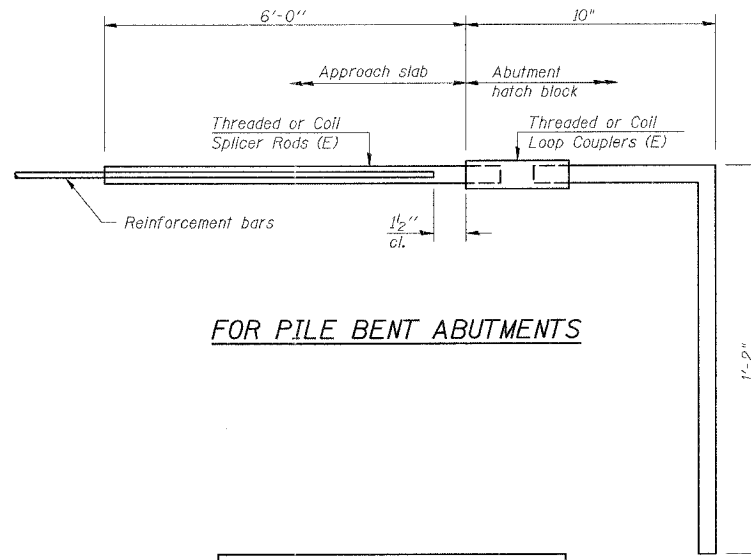
INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt.  
 "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
 (E) : Indicates epoxy coating.



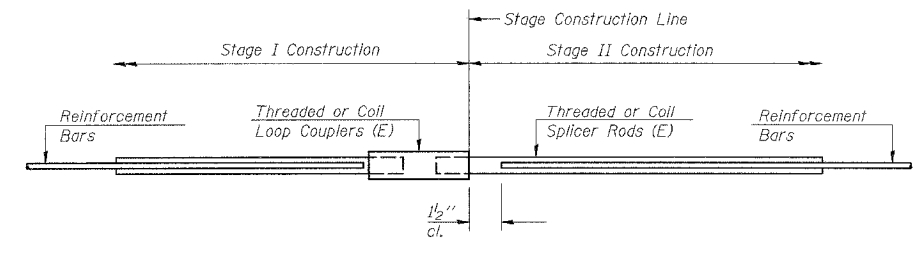
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required at S. Abut. = 108
No. Required at N. Abut. = 108



STANDARD

Bar Size	No. Assemblies Required	Location
#6	8	S. Abut.
#6	8	N. Abut.

BAR SPLICER DETAILS  
 I-55 OVER MS (ABANDONED) R.R.  
 FAI ROUTE 55-SEC. 2006-032 BY  
 WILL COUNTY  
 STA. 710+34.86  
 STRUCTURE NO. 099-0022 (NB)  
 STRUCTURE NO. 099-0023 (SB)



DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

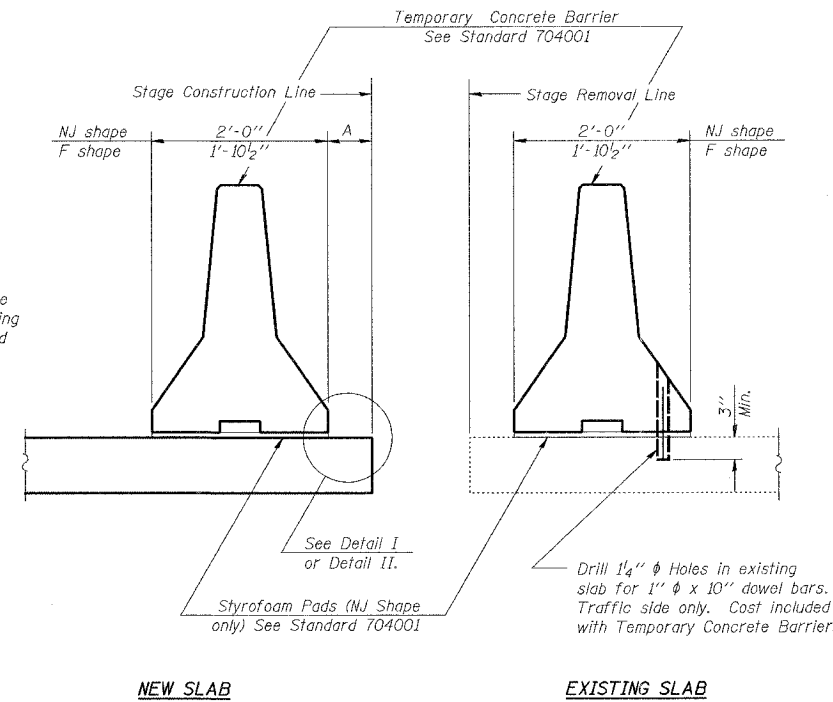
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	368
PRELIMINARY NO. 7		ILLINOIS	FEDERAL PROJECT	

SHEET NO. 27  
32 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB

NOTES

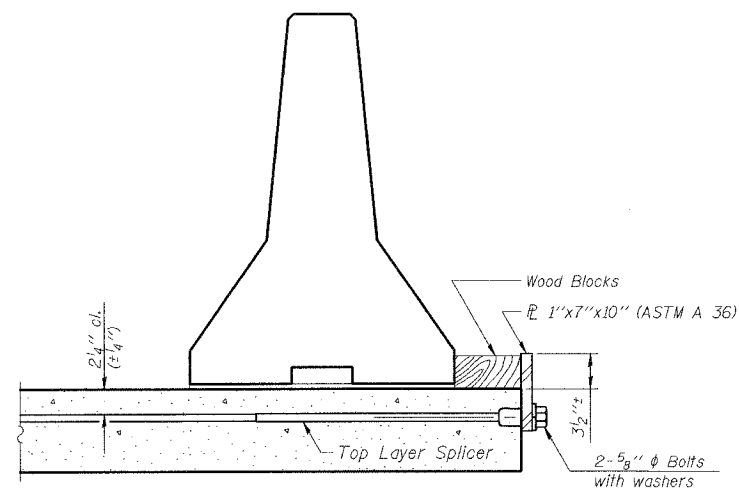
Detail I - With Bar Splicer or Couplers:

Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.

Detail II - With Extended Reinforcement Bars:

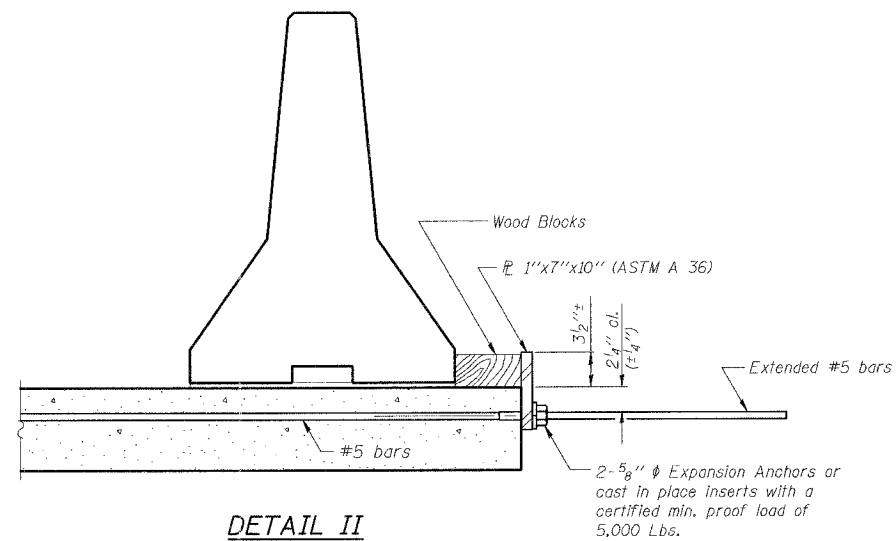
Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the concrete slab with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.



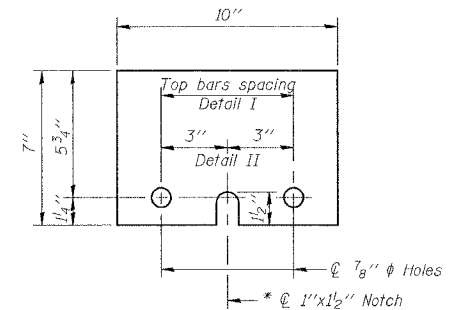
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



1" x 7" x 10"

\* Required only with Detail II

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006



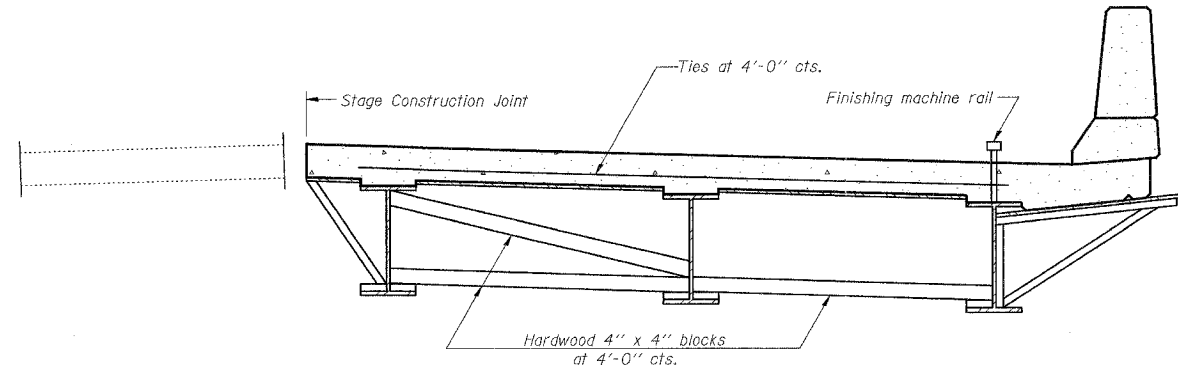
TEMPORARY CONCRETE BARRIER  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

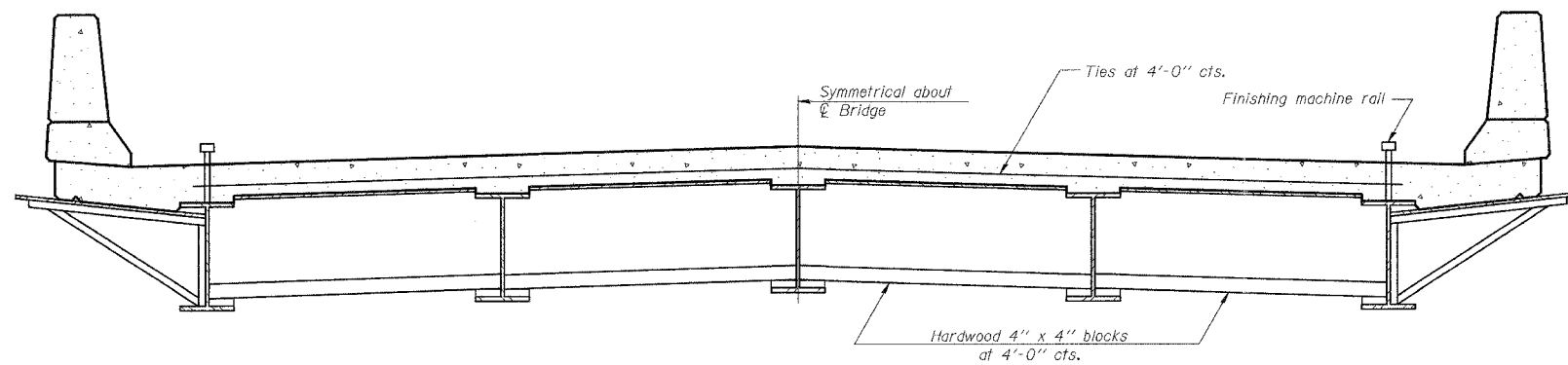
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 28 32 SHEETS
FAI-55	**	WILL	505	369	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. ROAD PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

When cantilever forming brackets are used, the work shall be done according to Article 503.06, except as modified below and in the details shown on this sheet.  
The finishing machine rails shall be placed on the top flange of the exterior beams.  
The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.  
For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



**FORM BRACES FOR  
STAGE CONSTRUCTION**



**FORM BRACES FOR  
STANDARD CONSTRUCTION**

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

CANTILEVER FORMING BRACKET  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

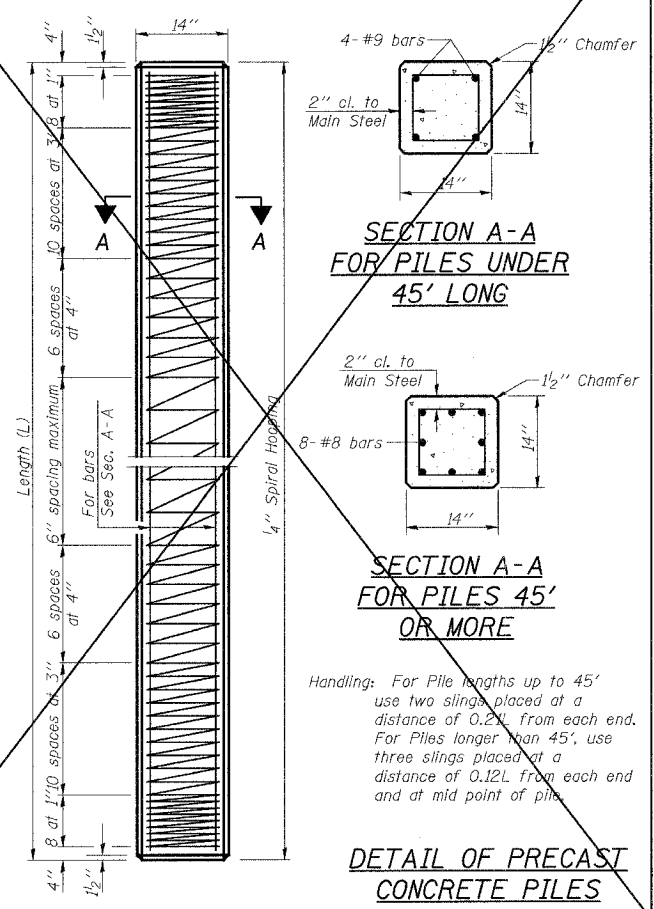


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

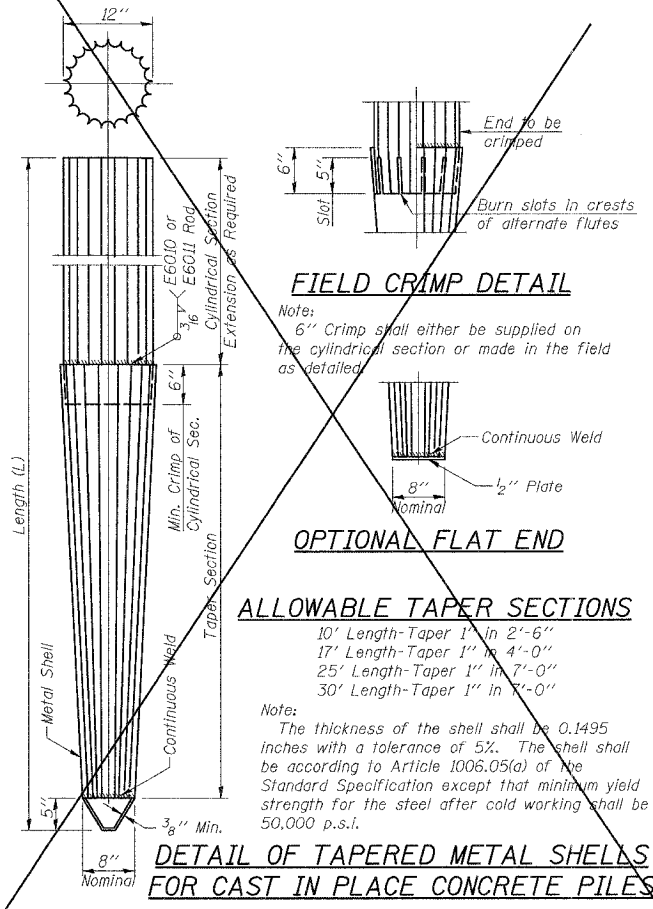
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	370
FIEL. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

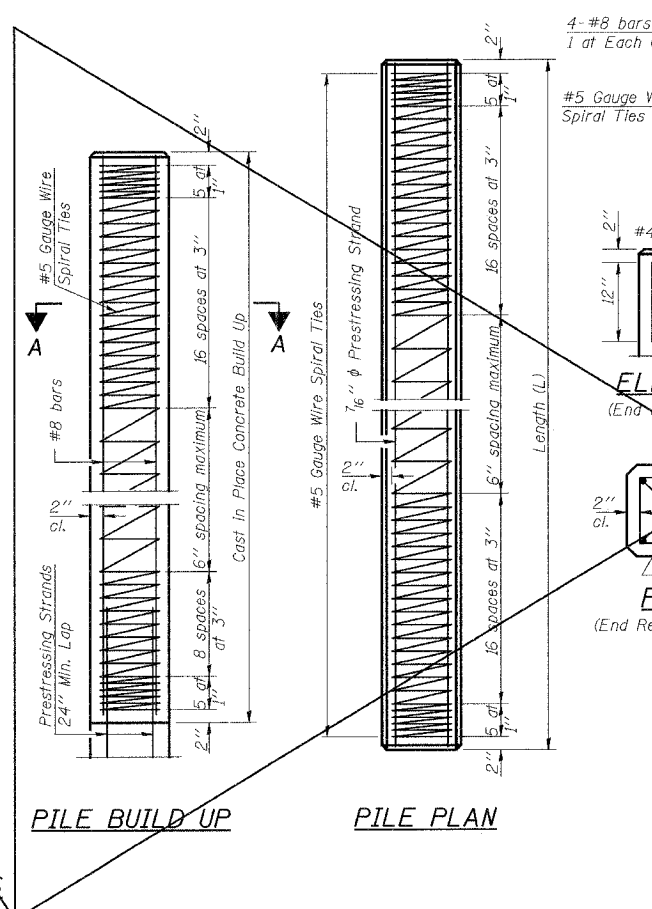
SHEET NO. 29  
32 SHEETS



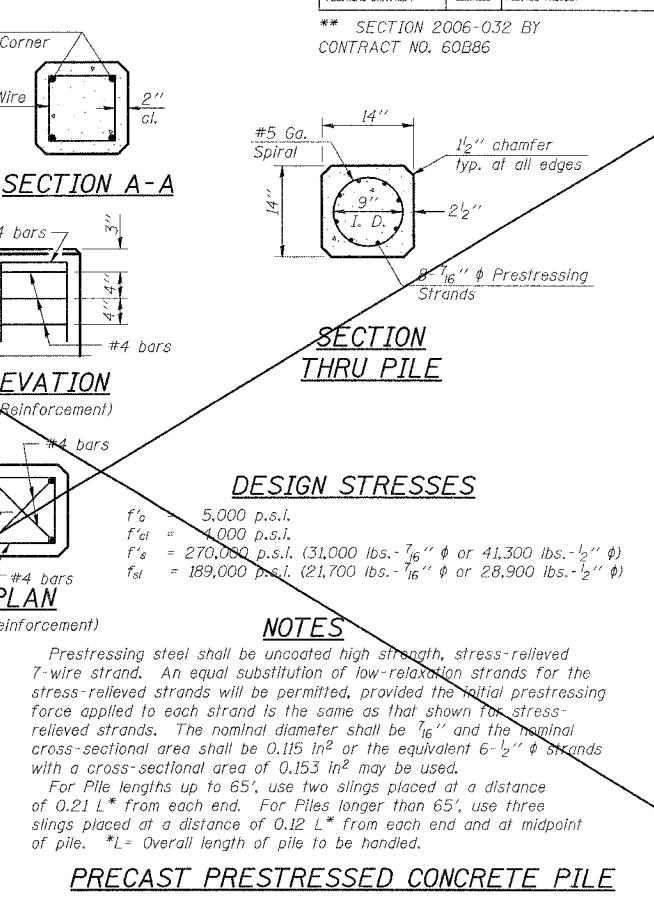
**DETAIL OF PRECAST CONCRETE PILES**



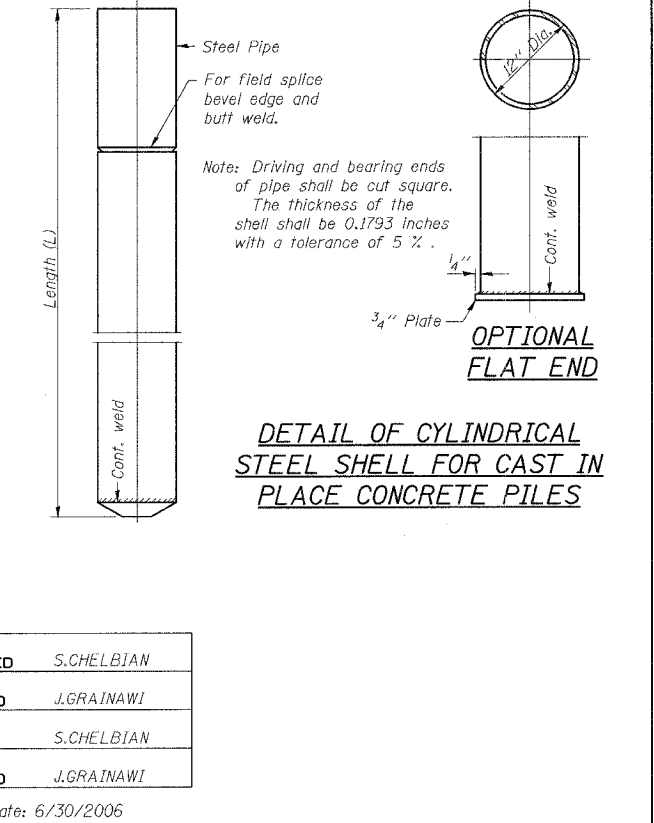
**DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES**



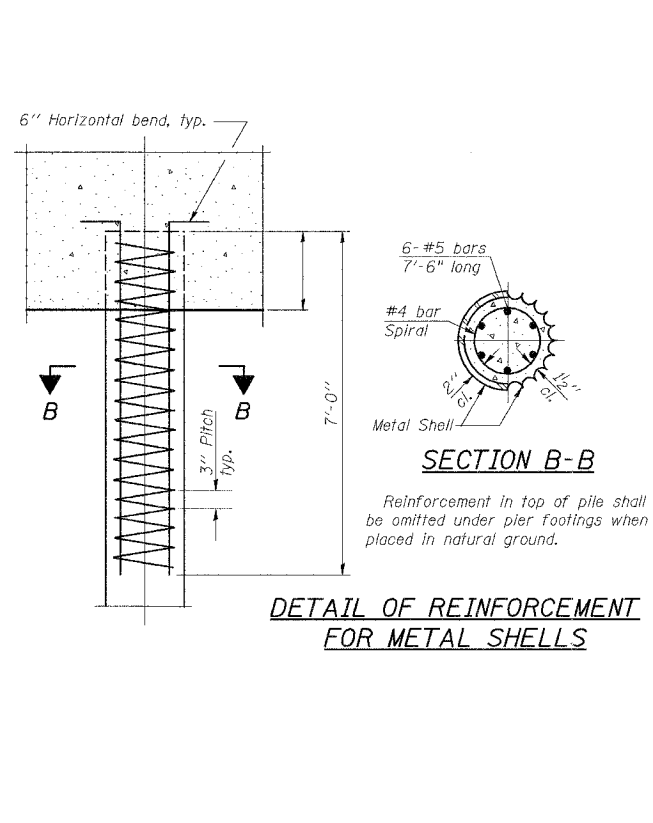
**PRECAST PRESTRESSED CONCRETE PILE**



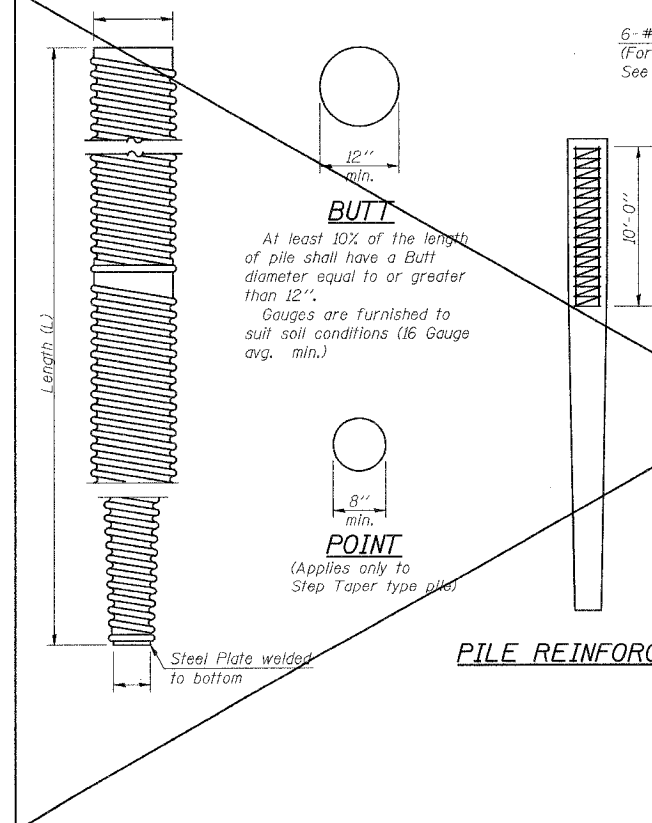
**DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES**



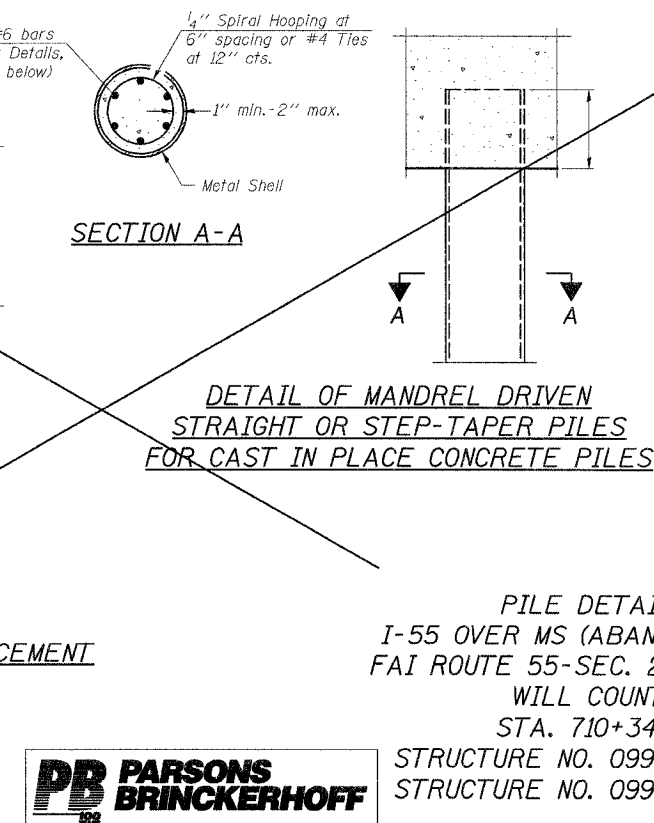
**DETAIL OF REINFORCEMENT FOR METAL SHELLS**



**PILE REINFORCEMENT**



**PILE DETAILS**



**PARSONS BRINCKERHOFF**

6/30/2006 4:23:14 PM C:\16817A\Struct\Card\Pre-Final\MS RRR\Final Bridge Contract\02206-60B86-00-00-00-029.dgn

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 30 32 SHEETS
FAI-55	**	WILL	505	371	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

BORING-BR-12

BORING-BR-13

BORING-BR-14

BLOOM CONSULTANTS, LLC		BORING LOG		CHICAGO, ILLINOIS				
JOB NO: BM3-1148 CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION		BORING NO: BR-12						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 708+40						
LOCATION: I-55 Bridges over Material Service RR (Abandoned)		OFFSET: Centerline						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 637.6						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
	0.0-1.0	697.1	FILL: Dark Br Clay A-6; Organic matter noted		Auger			14
	1.0-2.5	634.6	FILL: Br Clay A-7-6; Organic matter noted	14	5-3	1.7	15	30
	Bottom S. Abut. Pile Cap = Elev. 634.2				6			
	3.5-5.0		FILL: Br & Gr Clay Loam A-6	18	6-8	(1.5)		11
	6.0-7.5	629.2		18	9-8	5.8	15	15
	8.5-10.0	626.7	FILL: Gr Clay A-7-6	16	6-6	2.0	15	27
	11.0-12.5	624.6	FILL: Gr Sandy Loam A-1-b	13	9-6			14
	13.5-15.0		FILL: Br & Gr Clay A-7-6	15	7-10	2.2	15	23
	16.0-17.5	620.6		14	11-22			8
	18.5-20.0	616.8	FILL: Br Sand A-1-a	16	9-12			6
	21.0-22.5		Black Organic Clay A-7-6	18	10-11	4.0	15	25
	23.5-25.0	613.6		18	7-9			17
	26.0-27.5	609.2	Medium Dense Br Sandy Loam A-2-4	18	10-11			12
	28.5-30.0			13	22-28			8
	31.0-32.5		Very Dense to Dense Br Sand A-1-a; Occasional Cobbles noted	15	21-22			5
	33.5-35.0	601.7		5	14-24			10
	36.0-37.5	599.2	Hard Gr Clay A-6	12	8-10	6.0	15	16
	38.5-40.0	597.6	Medium Dense Br Sand A-1-a	13	17-17			7
Boring terminated at 40'								
REMARKS Automatic Hammer Used. NOTE: Boring moved 60' S of original location due to overhead power lines. ( ) Denotes Calibrated Penetrometer Estimate								
WATER 12 FT. ELEV. 625.6 DURING DRILLING		CORE SIZE		IN. DATE: Feb 22, 06				
WATER FT. ELEV. AT COMPLETION		CASING LENGTH		FT. DRILLER: Juarez				
WATER 22 FT. ELEV. 615.6 AFTER 1/4 HRS.		CASING DIAMETER		IN. INSPECTOR: Allemanna				

BLOOM CONSULTANTS, LLC		BORING LOG		CHICAGO, ILLINOIS				
JOB NO: BM3-1148 CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION		BORING NO: BR-13						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 710+10						
LOCATION: I-55 Bridges over Material Service RR (Abandoned)		OFFSET: Centerline						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 620.3						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
	0.0-1.0		2" Root Zone Material		Auger			9
	1.0-2.5	616.9	Medium Dense Br Sand A-1-a	8	9-11			13
	3.5-5.0			10	6-8	(2.3)		27
	6.0-7.5		Very Stiff to Stiff Dark Br to Br Clay A-6; trace Organic matter noted to 4'	12	3-5	(2.5)		20
	8.5-10.0	609.5		14	5-5	1.9	15	19
	11.0-12.5		Bottom Footing (SB Bridge) = Elev. 609.0 Bottom Footing (NB Bridge) = Elev. 608.6	15	16-16			7
	13.5-15.0		Dense to Medium Dense Br Sand A-1-b	11	13-12			5
	16.0-17.5	604.4		14	10-15			10
	18.5-20.0		Medium Dense Br Sand A-1-a	14	5-10			15
	21.0-22.5	599.2		16	4			17
	23.5-25.0	597.9	Dense Br Sand A-1-b	16	13-22			17
	26.0-27.5	594.4	Stiff Gr Clay A-6	14	6-16	1.9	15	20
	28.5-30.0	591.7	Medium Dense Gr Sand A-1-a	16	9-6			10
	31.0-32.5		Medium Dense Gr Silt A-4	13	12-11			17
	33.5-33.6	589.9		14	6-9			17
		584.2	Extremely Dense Gr Sand A-1-a	1	50/1"			17
		582.1	Apparent Dolomite bedrock					
Auger refusal on apparent bedrock at 38.2'								
REMARKS Automatic Hammer Used. ( ) Denotes Calibrated Penetrometer Estimate								
WATER 17.5 FT. ELEV. 602.8 DURING DRILLING		CORE SIZE		IN. DATE: Jan 16, 06				
WATER FT. ELEV. AT COMPLETION		CASING LENGTH		FT. DRILLER: Juarez				
WATER Caved @ 13.8 FT. ELEV. 606.5 AFTER 1/4 HRS.		CASING DIAMETER		IN. INSPECTOR: Allemanna				

BLOOM CONSULTANTS, LLC		BORING LOG		CHICAGO, ILLINOIS				
JOB NO: BM3-1148 CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION		BORING NO: BR-14						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 710+60						
LOCATION: I-55 Bridges over Material Service RR (Abandoned)		OFFSET: Centerline						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 620.7						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
	0.0-1.0		2" Root Zone Material		Auger			5
	1.0-2.5	617.4	Medium Dense Br Sand A-1-a	12	7-10			12
	3.5-5.0	615.2	Very Stiff Dark Br to Br Clay A-6	14	5-7	(2.3)		23
	6.0-7.5	612.7	Stiff Br Clay A-7-6	8	5-7	(1.5)		31
	8.5-10.0		Bottom Footing (NB Bridge) = Elev. 611.9 Stiff Br to Gr Clay A-6 Bottom Footing (SB Bridge) = Elev. 610.4	18	3-7	1.4	15	23
	11.0-12.5	607.3	Very Dense Br Sand A-1-a	10	13-38			7
	13.5-15.0	604.8	Very Stiff Gr Clay A-6	14	11-13	3.8	16	17
	16.0-17.5			16	14-15			9
	18.5-20.0	599.6	Dense to Medium Dense Br Sand A-1-a	14	5			19
	21.0-22.5	597.3	Dense Br Sand A-1-a	13	5			11
	23.5-25.0	595.7	Dense Br Sand A-1-b	12	63			22
Boring terminated at 25'								
REMARKS Automatic Hammer Used. ( ) Denotes Calibrated Penetrometer Estimate								
WATER 16.5 FT. ELEV. 604.2 DURING DRILLING		CORE SIZE		IN. DATE: Jan 16, 06				
WATER FT. ELEV. AT COMPLETION		CASING LENGTH		FT. DRILLER: Juarez				
WATER Caved @ 10.5 FT. ELEV. 610.2 AFTER 1/4 HRS.		CASING DIAMETER		IN. INSPECTOR: Allemanna				

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 6/30/2006

BORING LOGS I  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 31 32 SHEETS
FAI-55	**	WILL	505	372	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

BORING-BR-15

BORING-BR-16

BLOOM CONSULTANTS, LLC		BORING LOG		CHICAGO, ILLINOIS				
JOB NO: BM3-1148 CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION		BORING NO: BR-15						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 711+55						
LOCATION: I-55 Bridges over Material Service RR (Abandoned)		OFFSET: 5' Lt						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 638.9						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/10'	q <sub>u</sub>	STRAIN %	WATER CONTENT %
	0.0-1.0	638.1	FILL: Dark Br Organic Clay A-7-6		Auger			21
	1.0-2.5	635.0	FILL: Br Clay A-6	8	11 7-8	(2.5)		19
	3.5-5.0		Bottom N. Abut. Pile Cap = Elev. 634.4	14	3 5-7	1.9	15	26
	6.0-7.5		FILL: Br & Gr Clay A-7-6	18	4 5-6	(2.3)		26
10	8.5-10.0			15	3 6-8	3.5	15	29
	11.0-12.5	625.9		18	4 6-9	3.4	15	24
	13.5-15.0	622.8	FILL: Br Clay Loam A-6	13	6 7-16	3.0	15	14
	16.0-17.5		FILL: Br Sandy Loam A-4	16	10 13-11	(3.5)		13
20	18.5-20.0	617.8		4	8 9-13	(3.5)		17
	21.0-22.5	615.6	Black Organic Clay A-7-6	18	7 10-13	3.5	15	24
	23.5-25.0		Medium Dense Br Sandy Loam A-2-4	16	6 7-9			14
	26.0-27.5	610.5		18	8 8-12			6
30	28.5-30.0		Dense to Very Dense Br Sand A-1-b	16	21 24-25			3
	31.0-32.5	605.7		13	20 26-30			5
	33.5-35.0			14	17 7-9			8
	36.0-37.5		Medium Dense to Dense Br Sand A-1-a	16	10 15-18			6
40	38.5-40.0	508.0		18	9 14-16			15
Boring terminated at 40'								
REMARKS Automatic Hammer Used. ( ) Denotes Calibrated Penetrometer Estimate								
WATER 33 FT. ELEV. 605.9 DURING DRILLING		CORE SIZE		IN. DATE: Feb 22, 06				
WATER FT. ELEV. AT COMPLETION		CASING LENGTH		FT. DRILLER: Juarez				
WATER 31.5 FT. ELEV. 607.4 AFTER 1/4 HRS.		CASING DIAMETER		IN. INSPECTOR: Allemana				

BLOOM CONSULTANTS, LLC		BORING LOG		CHICAGO, ILLINOIS				
JOB NO: BM3-1148 CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION		BORING NO: BR-16						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 709+30						
LOCATION: I-55 Bridges over Material Service RR (Abandoned)		OFFSET: 115' Lt						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 618.1						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/10'	q <sub>u</sub>	STRAIN %	WATER CONTENT %
	0.0-1.0	617.1	2" Root Zone material		Auger			9
	1.0-2.5	615.1	Br Sand A-1-a	14	5 10-16	3.8	15	22
	3.5-5.0		Very Stiff Br Clay A-6	8	7 9-11	3.3	16	28
	6.0-7.5	612.6		13	3 8-18	(2.3)		24
10	8.5-10.0	609.7	Very Stiff Br & Gr to Gr Clay A-6	12	11 21-27			7
	11.0-12.5			14	13 15-15			6
	13.5-15.0		Dense to Medium Dense Br Sand A-1-a	8	6 7-16			19
	16.0-17.5			13	6 12-15			17
20	18.5-20.0	599.8		10	4 3-16			19
	21.0-22.5		Medium Dense to Dense Gr Silt A-4	12	11 13-19			19
	23.5-25.0	594.9		14	4 7-6	(1.8)		13
	26.0-27.5	601.8	Stiff Gr Clay Loam A-6	18	5 6-9			18
	28.5-30.0	589.7	Medium Dense Gr Silt A-4	13	8 13-13	(4.5)		11
30	31.0-31.9	587.3	Hard Gr Loam A-4	6	13-50/4"			11
		584.5	Extremely Dense Gr Sand A-1-a					
		583.0	Apparent Dolomite bedrock					
Auger refusal on apparent bedrock at 35.1'								
REMARKS Automatic Hammer Used. ( ) Denotes Calibrated Penetrometer Estimate								
WATER 15.0 FT. ELEV. 603.1 DURING DRILLING		CORE SIZE		IN. DATE: Jan 12, 06				
WATER FT. ELEV. AT COMPLETION		CASING LENGTH		FT. DRILLER: Juarez				
WATER 15.1 FT. ELEV. 603.0 AFTER 96 HRS.		CASING DIAMETER		IN. INSPECTOR: Allemana				

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 6/30/2006

BORING LOGS II  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)



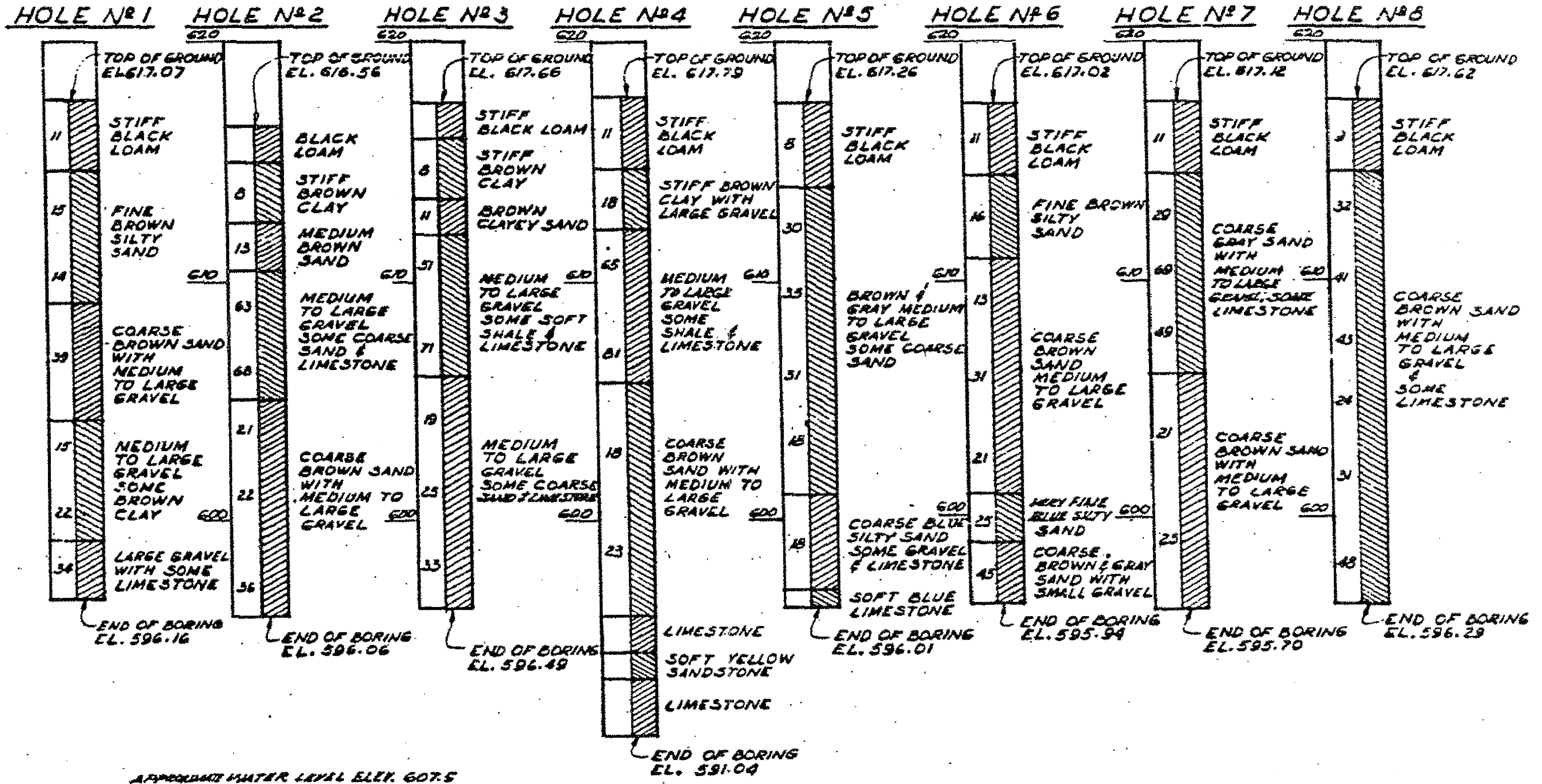


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
FAI-55	**	WILL	505	373
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

BORING LOGS 1954



**NOTE:**

N° INDICATES NUMBER OF BLOWS REQUIRED TO DRIVE SAMPLE SPOON 12" WITH 140 LBS WEIGHT FALLING 30" SAMPLE SPOON 1 3/8" INSIDE DIAMETER - 2" OUTSIDE DIAMETER  
BORING DATA ARE SHOWN ONLY AS A GUIDE FOR BIDDERS IN ESTIMATING SOIL CONDITIONS WHICH MAY BE ENCOUNTERED IN THE WORK.  
FOR LOCATION OF BORINGS SEE SHEET NO. 2

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 6/30/2006



BORING LOGS III  
I-55 OVER MS (ABANDONED) R.R.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 710+34.86  
STRUCTURE NO. 099-0022 (NB)  
STRUCTURE NO. 099-0023 (SB)

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 2
FAI-55	**	WILL	505	375	16 SHEETS
FED. ROAD EST. NO. 7	ILLINOIS	FED. ROAD PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

**GENERAL NOTES:**

- Reinforcement bars shall conform to the requirements of AASHTO M 31M or M 322 Grade 60.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- The Contractor shall make allowance for the deflection for forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection.
- Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work; however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.
- The contractor shall drive one HP10x42 test pile in a permanent location at each substructure element as directed by the Engineer before ordering the remainder of piles.
- All Construction joints shall be bonded.

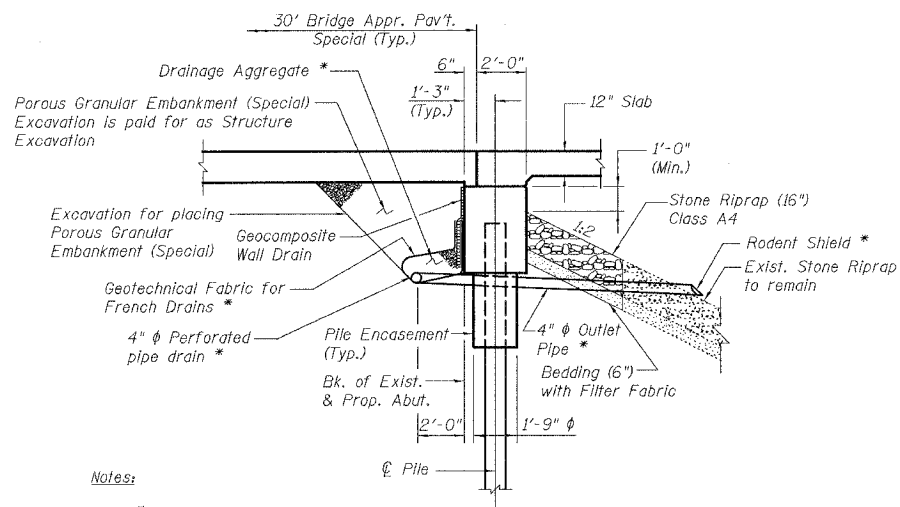
**INDEX OF SHEETS**

- General Plan & Elevation
- General Notes & Bill of Material
- Stage Construction
- Top of Slab Elevation Layout
- Top of Slab Elevations I
- SB Deck Plan & Section
- NB Deck Plan & Section
- Superstructure Details
- Abutment Widening & Details
- Pier Widening & Details
- Substructure Repairs I (SB)
- Substructure Repairs II (NB)
- Temporary Concrete Barrier
- Log of Borings I
- Log of Borings II
- Log of Borings III

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		45	45
Stone Riprap, Class A4	Sq. Yd.		15	15
Filter Fabric	Sq. Yd.		15	15
Concrete Removal	Cu. Yd.	31.2	7	38.2
Structure Excavation	Cu. Yd.		65	65
Floor Drains	Each	6		6
Preformed Joint Seal, 2 1/2"	Foot	77		77
Concrete Structures	Cu. Yd.		57.3	57.3
Concrete Superstructure	Cu. Yd.	109.5		109.5
Bridge Deck Grooving	Sq. Yd.	212		212
Protective Coat *	Sq. Yd.	1,061		1,061
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.		10.0	10.0
Reinforcement Bars, Epoxy Coated	Pound	33,290	5,640	38,930
Furnishing Steel Piles HP10x42	Foot		375	375
Driving Steel Piles HP10x42	Foot		375	375
Test Pile Steel HP10x42	Each		4	4
Metal Shoes	Each		12	12
Temporary Sheet Piling	Sq. Ft.		422	422
Name Plates	Each	2		2
Epoxy Crack Sealing	Foot		13	13
Geocomposite Wall Drain	Sq. Yd.		20	20
Pipe Underdrains For Structures 4"	Foot		73	73
Conduit Embedded in Structure, 2" Dia., Galvanized Steel	Foot	154		154
Underwater Structure Excavation Protection - Pier 1	Each		1	1
Underwater Structure Excavation Protection - Pier 2	Each		1	1

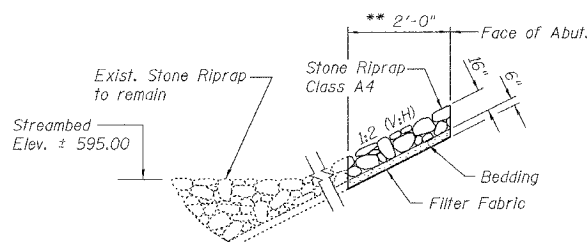
\* Quantity shown includes existing construction.  
Apply in accordance with Section 503.19 of the standard specifications.



Notes:

- \* Included in the cost of Pipe Underdrains for Structures.
- Connect 4" Perforated Pipe Drain to 4" Outlet Pipe and extend until it intersects and passes through slope wall. The end of the Outlet Pipe shall be protected by a permanent Rodent Shield. Rodent Shield shall be according to Section 601 of the Standard Specifications and cost shall be included with Pipe Underdrain for Structures, 4".

**SECTION THRU ABUTMENTS**  
(Dimension @ Rt. L's)



**STONE RIPRAP TREATMENT**  
(Dimension @ Rt. L's)

\*\* Remove and reconstruct 2'-0" of the existing Stone Riprap for construction of the proposed abutment widening.

STATION 630+07.11  
REBUILT BY  
STATE OF ILLINOIS  
FAI RT. 55 SEC. 2006-032 BY  
LOADING HS20 & ALT.  
STR. NO. 099-4615

**NAME PLATE**  
See Std. 515001

Notes:

- The new name plate for the NB & SB structures shall be located next to the existing name plate. The name plate shall be attached to the existing concrete using concrete anchors and set in a bed of epoxy. Concrete anchors and epoxy shall be subject to approval of the Engineer. Cost included with Name Plate.

STATION 630+07.11  
REBUILT BY  
STATE OF ILLINOIS  
FAI RT. 55 SEC. 2006-032 BY  
LOADING HS20 & ALT.  
STR. NO. 099-4616

**NAME PLATE**  
See Std. 515001

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 7/21/2006

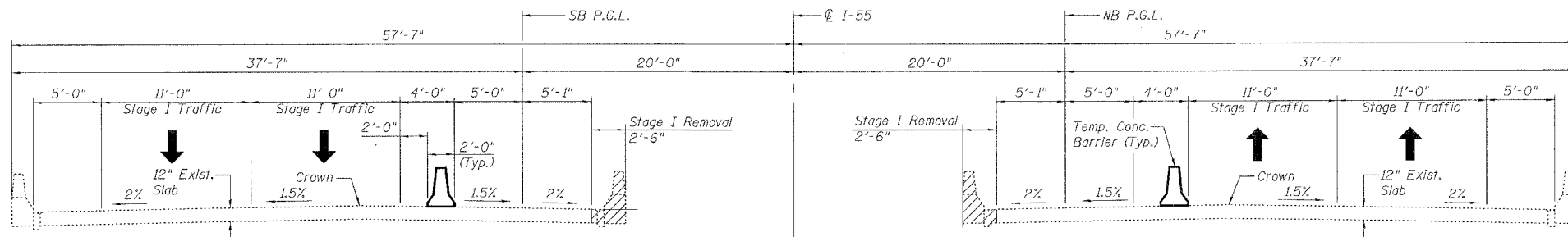


GENERAL NOTES &  
BILL OF MATERIAL  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NR)  
STRUCTURE NO. 099

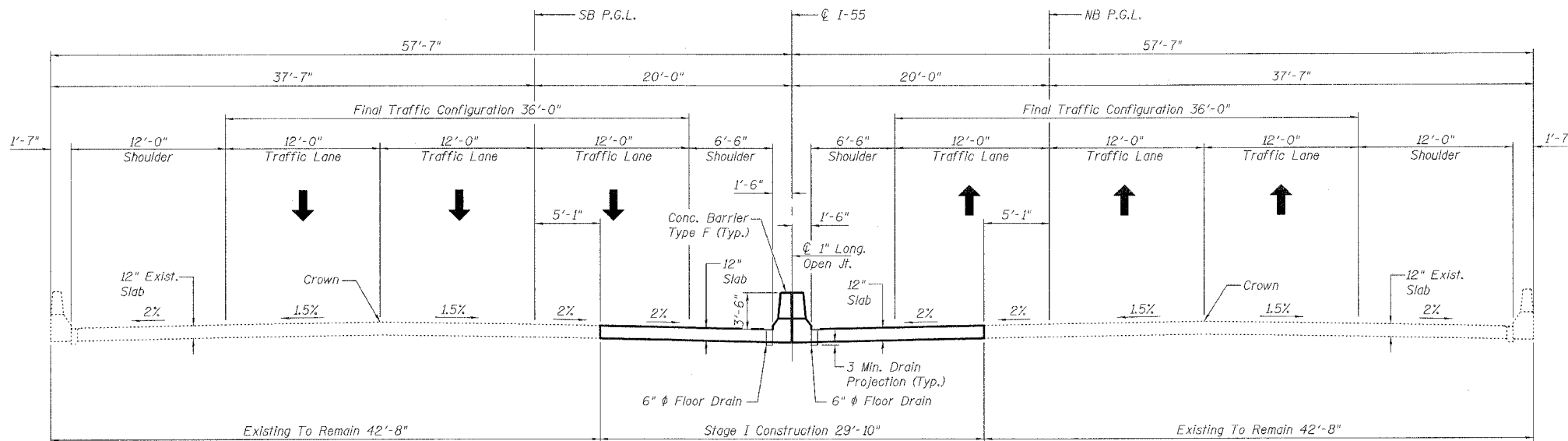
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 3 16 SHEETS
FAI-55	**	WILL	505	376	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



STAGE I REMOVAL



STAGE I CONSTRUCTION / PROPOSED SECTION

NOTES:

1. For Temporary Concrete Barrier, See Sheet No. 13.
2. For location and spacing of Floor Drains, See Sheet Nos. 6 & 7.
3. All Cross Sections are Looking North.

LEGEND

Hatched Area Indicates Concrete Removal

BILL OF MATERIAL

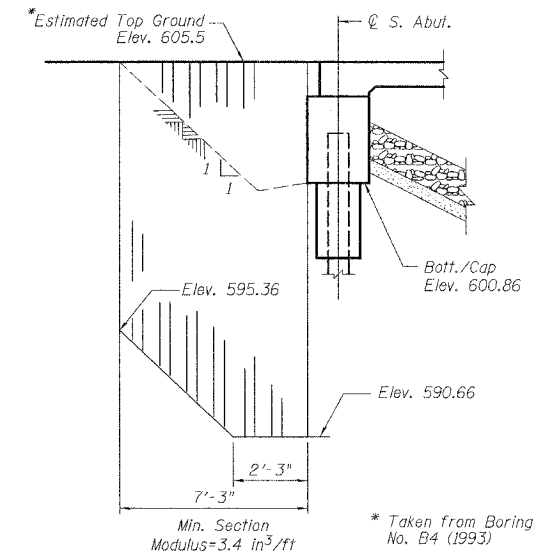
ITEM	UNIT	TOTAL
Temporary Sheet Piling	Sq. Ft.	422
Concrete Removal	Cu. Yd.	31.2

TEMPORARY SHEET PILING NOTES:

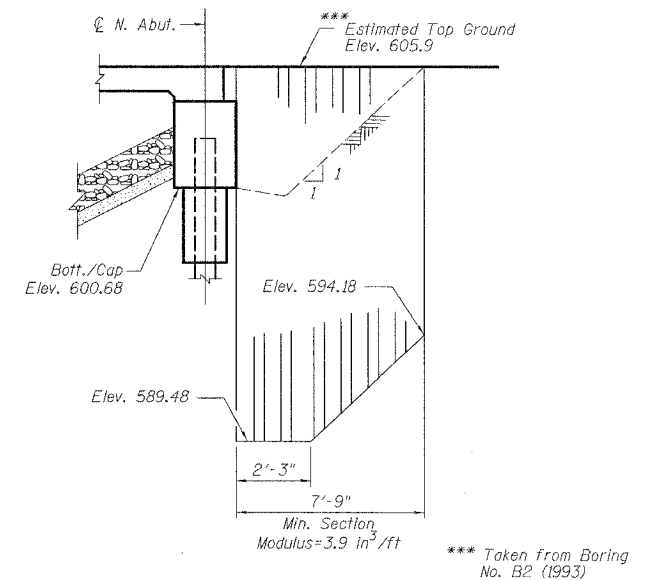
1. If the contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plan, a design submittal including plan details and calculations will be required for review and acceptance by the engineer.
2. Hard driving may be encountered during the sheet piling installation. The contractor shall provide the appropriate driving equipment for the soil conditions indicated on the boring logs.
3. For locations of Temporary Sheet Piling, see General Plan on Sheet No. 1.

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006



TEMPORARY SHEET PILING ELEVATION  
AT SOUTH ABUTMENT (NB & SB)  
(Measured along PGL)



TEMPORARY SHEET PILING ELEVATION  
AT NORTH ABUTMENT (NB & SB)  
(Measured along PGL)

STAGE CONSTRUCTION  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NB)  
STRUCTURE NO. 099-4616 (SB)

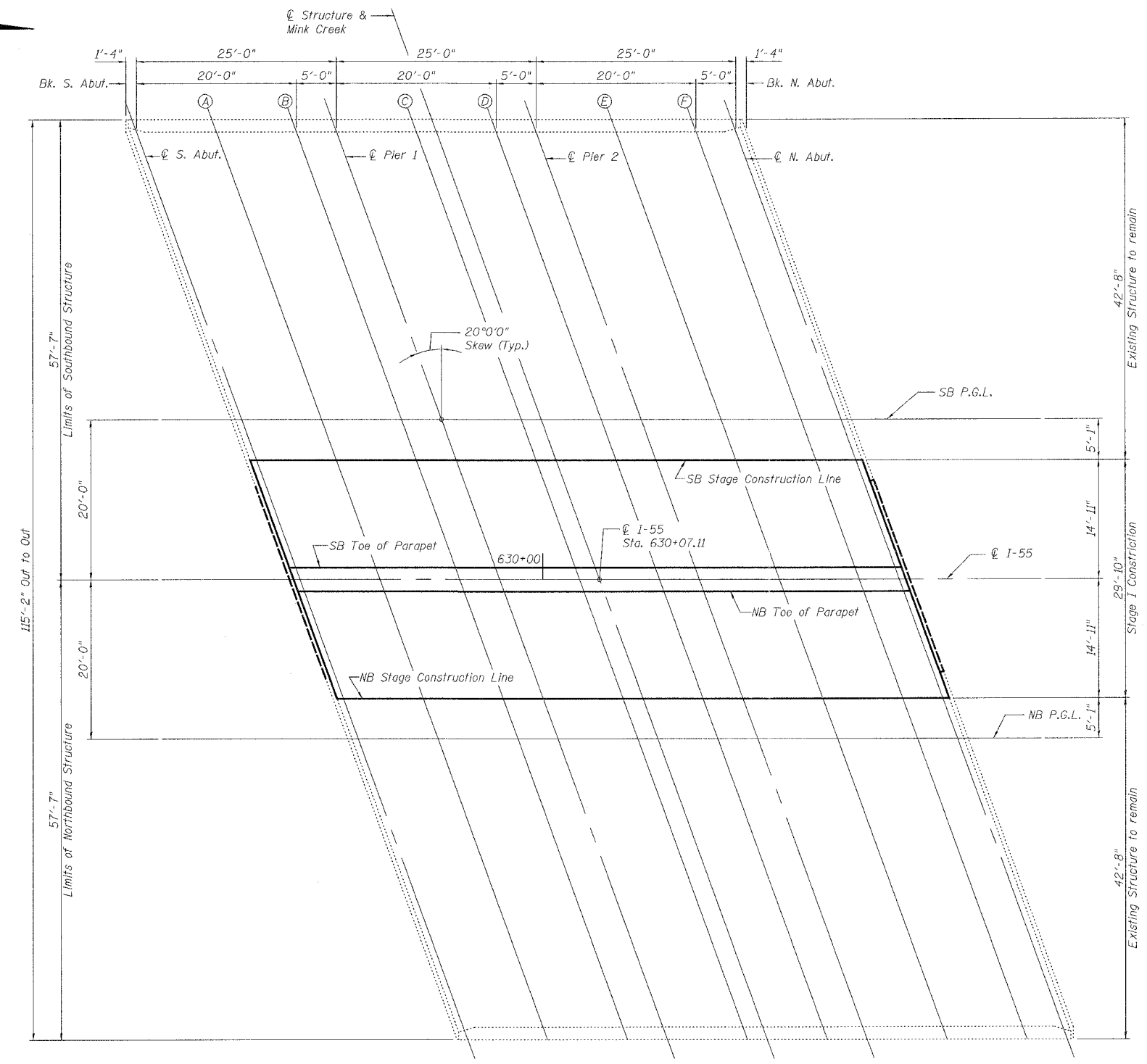
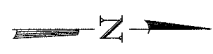


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

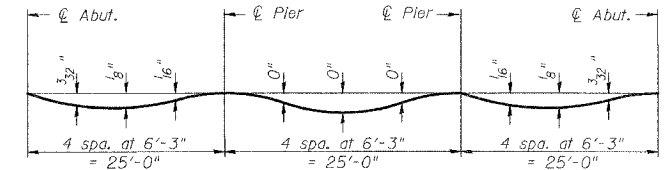
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
FAI-55	**	WILL	505	377
ILLINOIS PROJECT NO. 60B86				

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

SHEET NO. 4  
16 SHEETS



PLAN



**DEAD LOAD DEFLECTION DIAGRAM**  
(For 1'-0" Width of Slab)  
(Includes weight of concrete only.)

- Notes:
- The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections.
  - Work this Sheet with Sheet No. 5.

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

TOP OF SLAB LAYOUT  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NB)  
STRUCTURE NO. 099-4616 (SB)



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAI-55	**	WILL	505	378
FED. ROAD DIST. NO. 7		ILLINOIS	FED. ROAD PROJECT	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

**SB PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	629+61.002	0.000	606.048	606.048
CL. S. Abut.	629+62.335	0.000	606.044	606.044
A	629+72.335	0.000	606.014	606.024
B	629+82.335	0.000	605.986	605.990
CL. Pier 1	629+87.335	0.000	605.973	605.973
C	629+97.335	0.000	605.949	605.949
D	630+07.335	0.000	605.927	605.927
CL. Pier 2	630+12.335	0.000	605.917	605.917
E	630+22.335	0.000	605.900	605.909
F	630+32.335	0.000	605.885	605.892
CL. N. Abut.	630+37.335	0.000	605.878	605.878
Bk. N. Abut.	630+38.668	0.000	605.877	605.877

**SB STAGE CONSTRUCTION JOINT \***

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	629+62.852	5.083	605.941	605.941
CL. S. Abut.	629+64.182	5.083	605.937	605.937
A	629+74.182	5.083	605.907	605.917
B	629+84.182	5.083	605.879	605.884
CL. Pier 1	629+89.182	5.083	605.866	605.866
C	629+99.182	5.083	605.843	605.844
D	630+09.182	5.083	605.822	605.822
CL. Pier 2	630+14.182	5.083	605.812	605.812
E	630+24.182	5.083	605.795	605.804
F	630+34.182	5.083	605.781	605.787
CL. N. Abut.	630+39.182	5.083	605.774	605.774
Bk. N. Abut.	630+40.519	5.083	605.773	605.773

**SB TOE OF MEDIAN PARAPET**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	629+67.735	18.500	605.657	605.657
CL. S. Abut.	629+69.065	18.500	605.653	605.653
A	629+79.065	18.500	605.625	605.635
B	629+89.065	18.500	605.598	605.603
CL. Pier 1	629+94.065	18.500	605.586	605.586
C	630+04.065	18.500	605.564	605.565
D	630+14.065	18.500	605.544	605.544
CL. Pier 2	630+19.065	18.500	605.535	605.535
E	630+29.065	18.500	605.519	605.528
F	630+39.065	18.500	605.506	605.513
CL. N. Abut.	630+44.065	18.500	605.500	605.500
Bk. N. Abut.	630+45.402	18.500	605.499	605.499

\* Top of slab elevations at the stage construction lines shall match the existing top of slab elevations. Table shown is a point of reference only.

**NB PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	629+75.561	0.000	606.035	606.035
CL. S. Abut.	629+76.891	0.000	606.031	606.031
A	629+86.891	0.000	606.002	606.012
B	629+96.891	0.000	605.975	605.979
CL. Pier 1	630+01.891	0.000	605.962	605.962
C	630+11.891	0.000	605.938	605.939
D	630+21.891	0.000	605.916	605.916
CL. Pier 2	630+26.891	0.000	605.906	605.906
E	630+36.891	0.000	605.887	605.896
F	630+46.891	0.000	605.871	605.878
CL. N. Abut.	630+51.891	0.000	605.863	605.863
Bk. N. Abut.	630+53.227	0.000	605.861	605.861

**NB STAGE CONSTRUCTION JOINT \***

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	629+73.710	-5.083	605.939	605.939
CL. S. Abut.	629+75.041	-5.083	605.935	605.935
A	629+85.041	-5.083	605.905	605.915
B	629+95.041	-5.083	605.878	605.882
CL. Pier 1	630+00.041	-5.083	605.865	605.865
C	630+10.041	-5.083	605.841	605.841
D	630+20.041	-5.083	605.819	605.818
CL. Pier 2	630+25.041	-5.083	605.808	605.808
E	630+35.041	-5.083	605.789	605.798
F	630+45.041	-5.083	605.772	605.779
CL. N. Abut.	630+50.041	-5.083	605.764	605.764
Bk. N. Abut.	630+51.377	-5.083	605.762	605.762

**NB TOE OF MEDIAN PARAPET**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	629+68.827	-18.500	605.686	605.686
CL. S. Abut.	629+70.157	-18.500	605.681	605.681
A	629+80.157	-18.500	605.651	605.661
B	629+90.157	-18.500	605.623	605.627
CL. Pier 1	629+95.157	-18.500	605.609	605.609
C	630+05.157	-18.500	605.584	605.585
D	630+15.157	-18.500	605.561	605.560
CL. Pier 2	630+20.157	-18.500	605.550	605.550
E	630+30.157	-18.500	605.530	605.539
F	630+40.157	-18.500	605.512	605.519
CL. N. Abut.	630+45.157	-18.500	605.504	605.504
Bk. N. Abut.	630+46.494	-18.500	605.501	605.501

\* Top of slab elevations at the stage construction lines shall match the existing top of slab elevations. Table shown is a point of reference only.

Note:

1. Work this sheet with Sheet No. 4

DESIGNED	S.CHELBIAN
CHECKED	Z.MORILLO
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

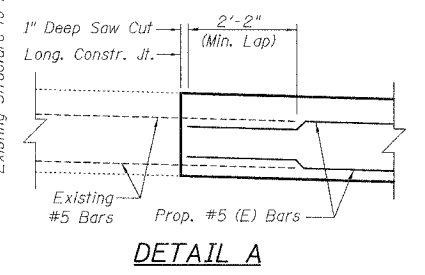
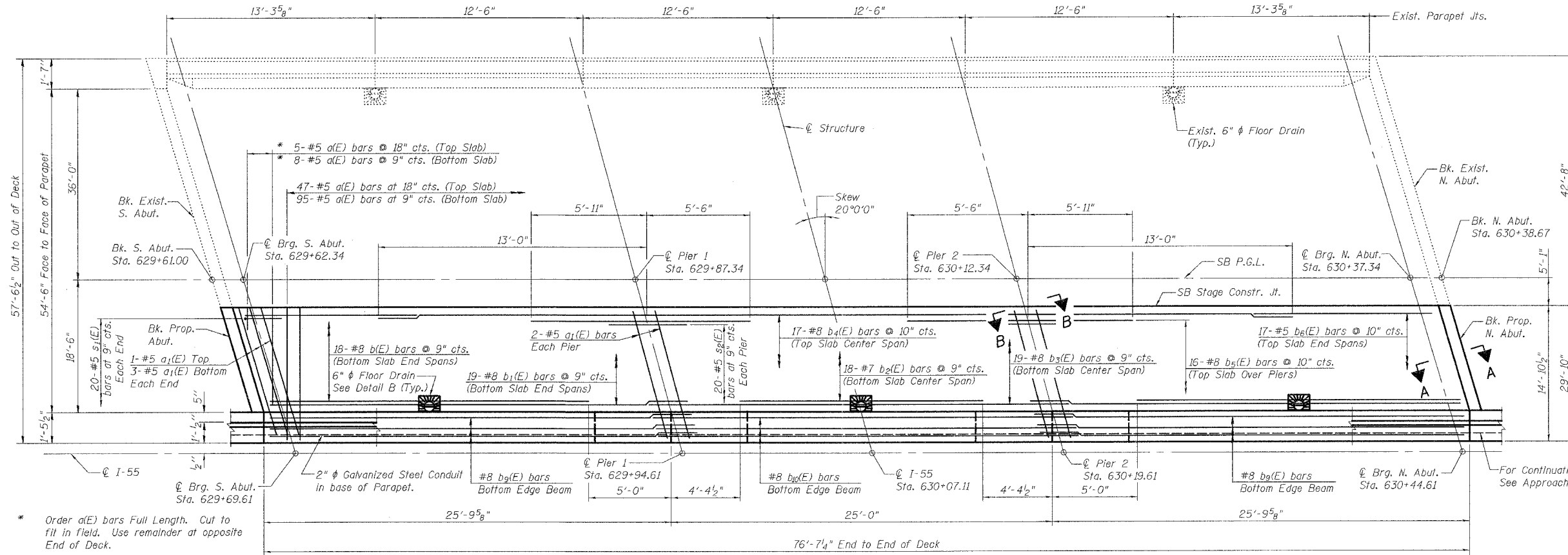
TOP OF SLAB ELEVATIONS I  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NB)  
STRUCTURE NO. 099-4616 (SB)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

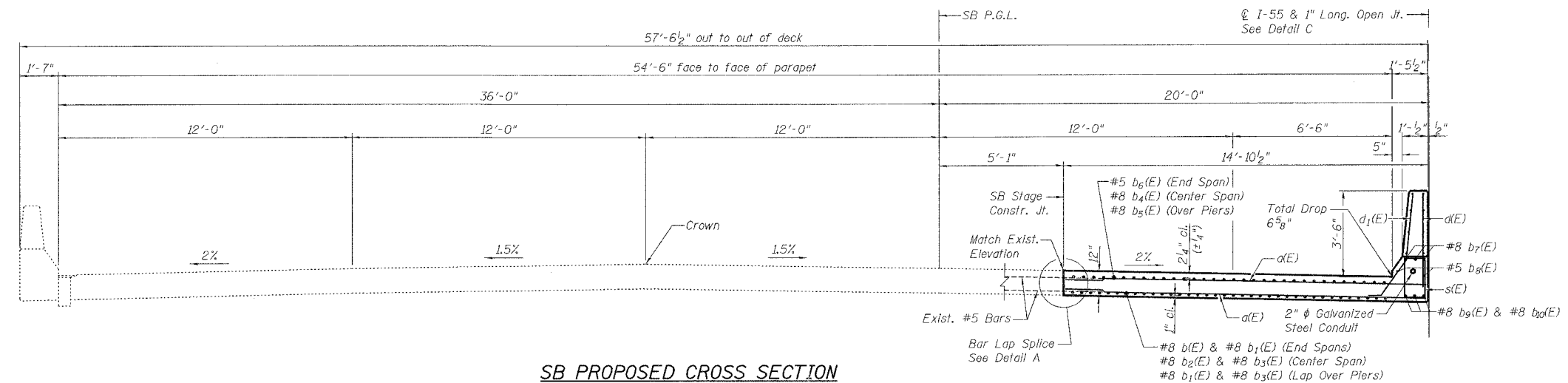
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6
FAI-55	**	WILL	505	379	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



**DETAIL A**  
Note:  
Remove existing concrete to expose a minimum of 2'-2" of the existing top and bottom transverse bars which shall be incorporated into the new construction.

**SB DECK PLAN**



**SB PROPOSED CROSS SECTION**  
(Looking North)

- Notes:
- See Sheet No. 8 for superstructure details, Parapet Reinforcement, and Bill of Material.
  - Reinforcement bars designated (E) shall be epoxy coated.
  - For Section A-A, Section B-B, & Detail C, see Sheet No. 8.
  - See Sheet No. 8 for 6" φ Floor Drain Details.
  - Work this sheet with Sheet Nos. 7 & 8.

DESIGNED	S.CHELBIAN
CHECKED	A.HAMMAD
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006



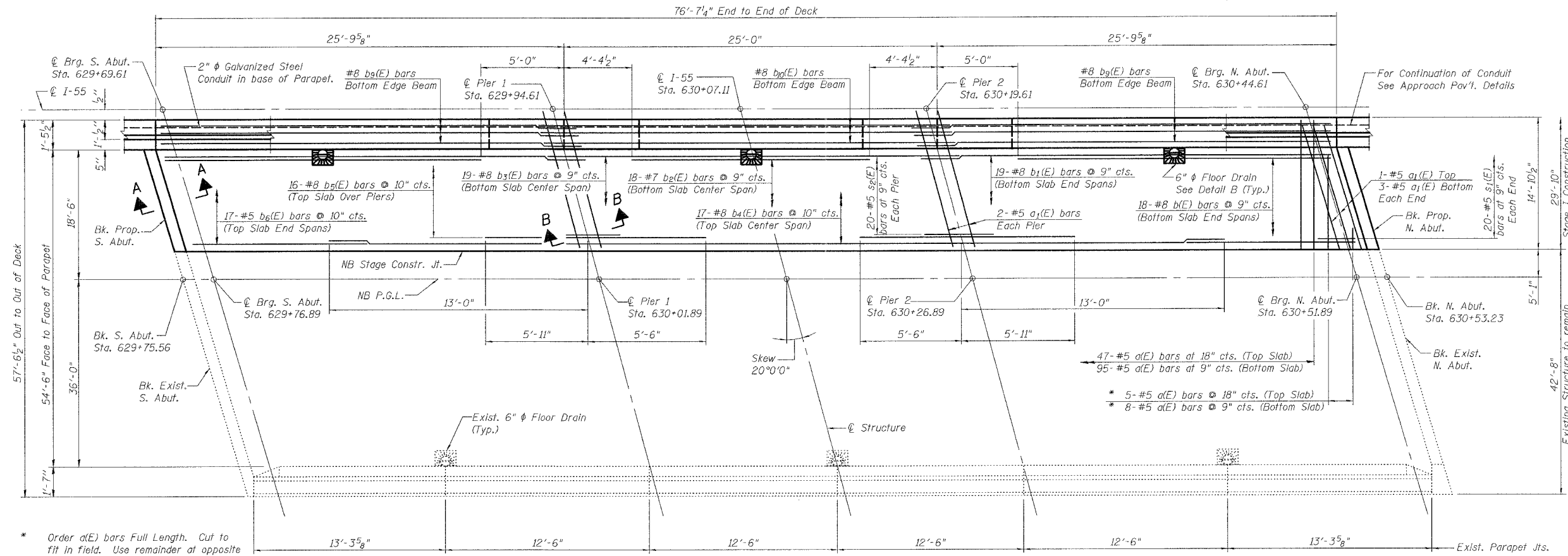
**SB DECK PLAN AND SECTION**  
**I-55 OVER MINK CREEK**  
**FAI ROUTE 55-SEC. 2006-032 BY**  
**WILL COUNTY**  
**STA. 630+07.11**  
**STRUCTURE NO. 099-4616 (SB)**

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

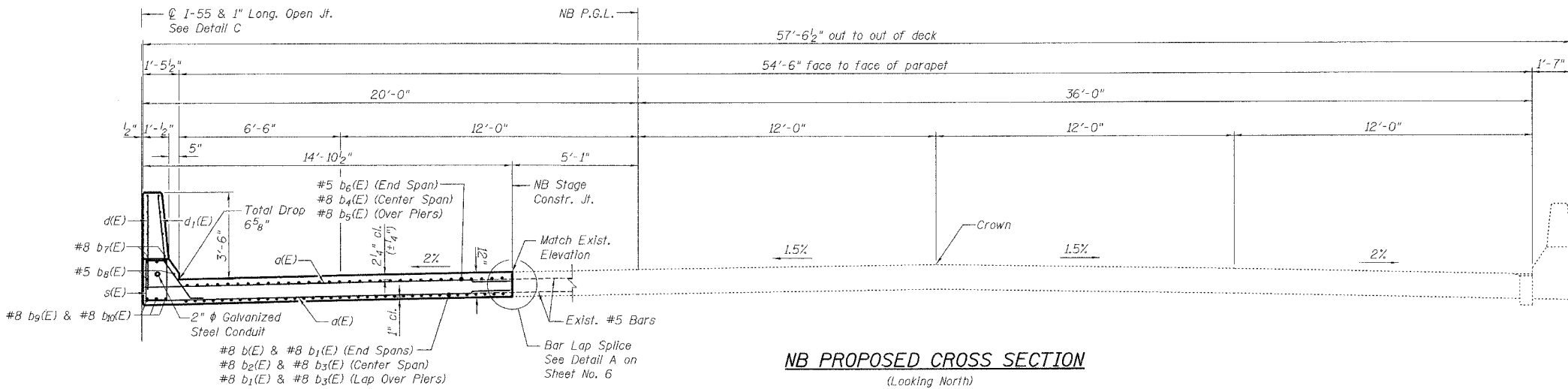
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	380
FED. ROAD DIST. NO. 7		BLDG. NO.	FED. AID PROJECT NO.	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



\* Order a(E) bars Full Length. Cut to fit in field. Use remainder at opposite End of Deck.

NB DECK PLAN



NB PROPOSED CROSS SECTION  
(Looking North)

- Notes:
1. See Sheet No. 8 for superstructure details, Parapet Reinforcement, and Bill of Material.
  2. Reinforcement bars designated (E) shall be epoxy coated.
  3. For Section A-A, Section B-B, & Detail C, see Sheet No. 8.
  4. See Sheet No. 8 for 6" φ Floor Drain Details.
  5. Work this sheet with Sheet Nos. 6 & 8.

DESIGNED	S.CHELBIAN
CHECKED	A.HAMMAD
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

NB DECK PLAN AND SECTION  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NB)



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO.
FAI-55	**	WILL	505	381	16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

**BILL OF MATERIAL**  
**NB & SB SUPERSTRUCTURE**

Bar	No.	Size	Length	Shape
d(E)	310	#5	14'-7"	—
d <sub>1</sub> (E)	24	#5	15'-7"	—
b <sub>1</sub> (E)	72	#8	20'-0"	—
b <sub>1</sub> (E)	76	#8	28'-5"	—
b <sub>2</sub> (E)	36	#7	16'-3"	—
b <sub>3</sub> (E)	38	#8	28'-8"	—
b <sub>4</sub> (E)	34	#8	51'-0"	—
b <sub>5</sub> (E)	64	#8	11'-5"	—
b <sub>6</sub> (E)	68	#5	16'-1"	—
b <sub>7</sub> (E)	12	#8	40'-6"	—
b <sub>8</sub> (E)	8	#5	39'-4"	—
b <sub>9</sub> (E)	12	#8	28'-0"	—
b <sub>10</sub> (E)	6	#8	29'-6"	—
d(E)	166	#4	3'-6"	—
d <sub>1</sub> (E)	186	#5	4'-11"	—
e(E)	64	#4	10'-10"	—
e <sub>1</sub> (E)	64	#4	3'-4"	—
e <sub>2</sub> (E)	16	#4	17'-6"	—
s(E)	154	#4	5'-1"	—
s <sub>1</sub> (E)	80	#5	5'-0"	—
s <sub>2</sub> (E)	80	#5	8'-1"	—
Reinforcement Bars, Epoxy Coated			Pound	33,290
Concrete Superstructure			Cu. Yd.	109.5
Bridge Deck Grooving			Sq. Yd.	212
Floor Drains			Each	6
Protective Coat *			Sq. Yd.	1,061
Preformed Joint Seal, 2 1/2"			Foot	77
Conduit Embedded in Structure, 2" Dia., Galvanized Steel			Foot	154

\* Includes existing construction.

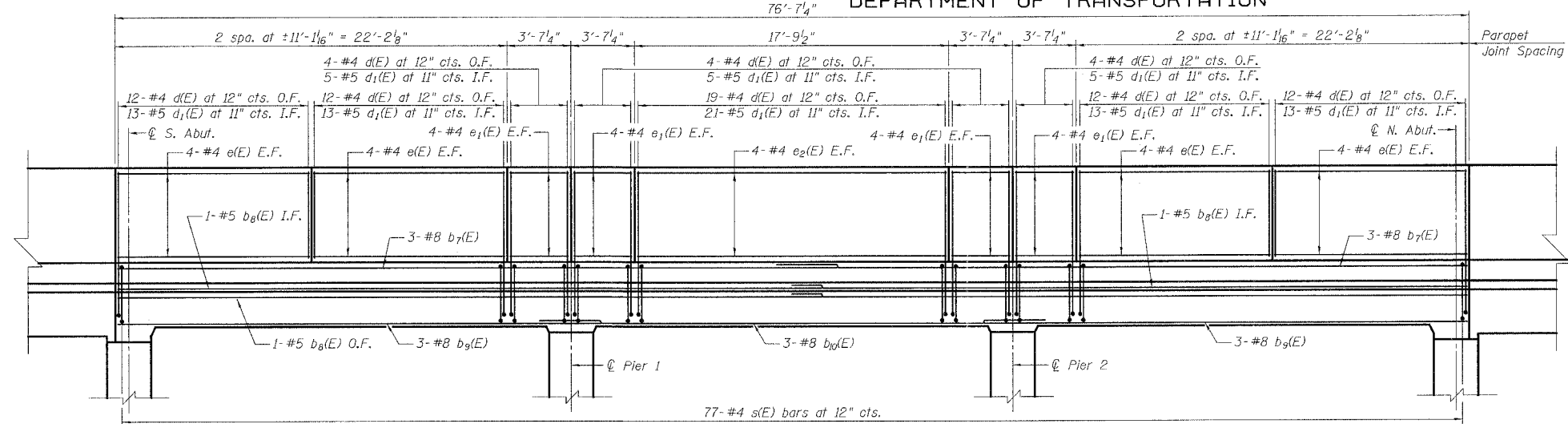
**MIN. BAR LAPS**

- #5 1'-8"
- #8 3'-5"
- #8 b<sub>7</sub>(E), #8 b<sub>9</sub>(E), & #8 b<sub>10</sub>(E) bars - 4'-6"
- #5 b<sub>6</sub>(E) - 2'-2"

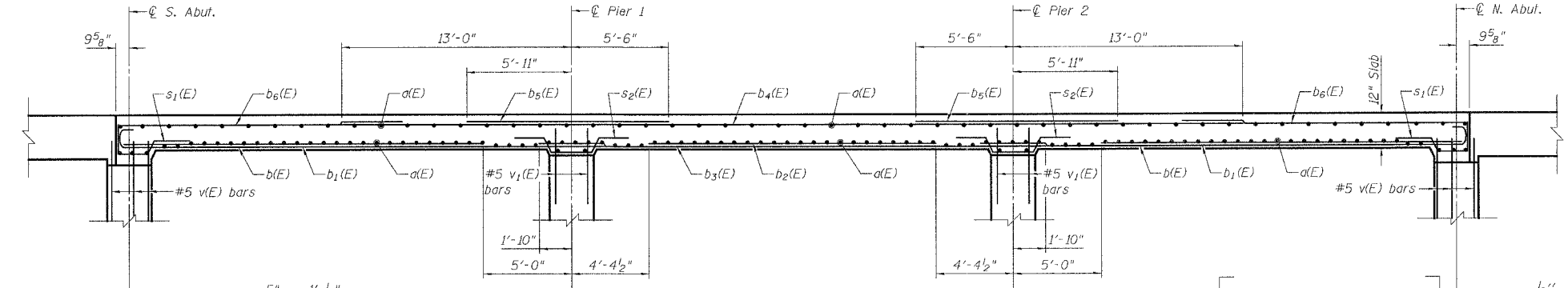
Notes:

- Reinforcement bars designated (E) shall be epoxy coated.
- Cut longitudinal reinforcement to clear Floor Drains.
- Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 PSI minimum.
- The exterior surfaces of the floor drains shall be coated or pigmented by the manufacturer with a color that matches the concrete.
- v(E) and v<sub>1</sub>(E) bars are billed with Abutments and Piers, respectively.
- Work this sheet with Sheet Nos. 6 & 7.

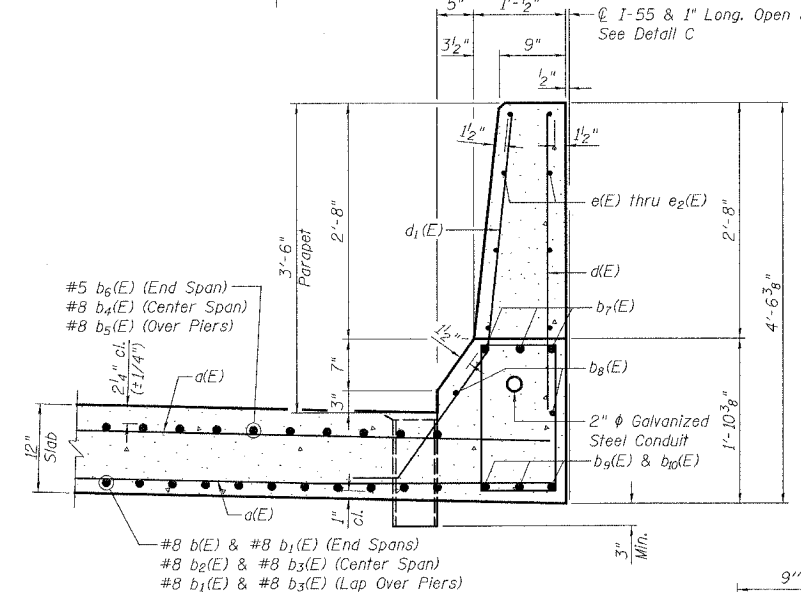
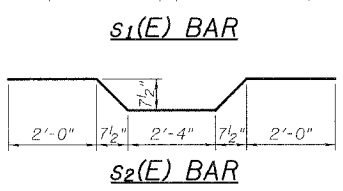
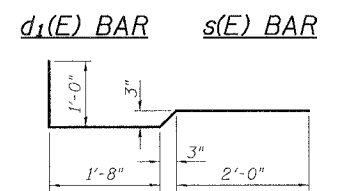
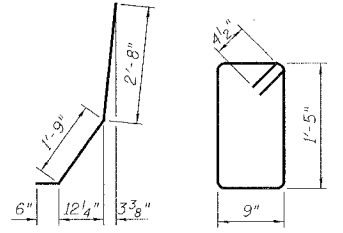
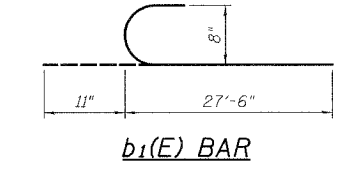
**SUPERSTRUCTURE DETAILS**  
**I-55 OVER MINK CREEK**  
**FAI ROUTE 55-SEC. 2006-032 BY**  
**WILL COUNTY**  
**STA. 630+07.11**  
**STRUCTURE NO. 099-4615 (NB)**  
**STRUCTURE NO. 099-4616 (SB)**



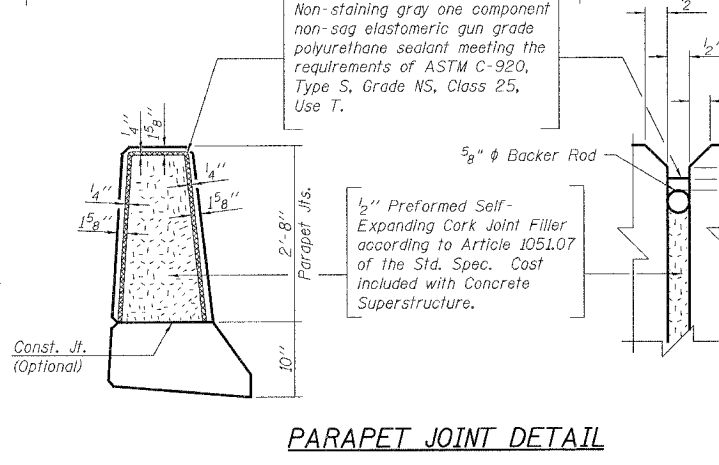
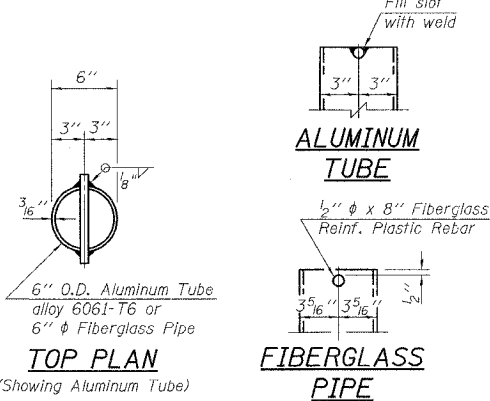
**ELEVATION OF EDGE BEAM & PARAPET**



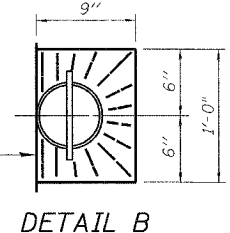
**LONGITUDINAL DECK SECTION**



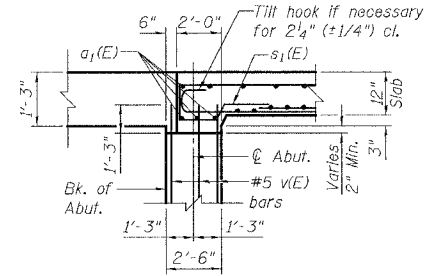
**SECTION THRU MEDIAN PARAPET**



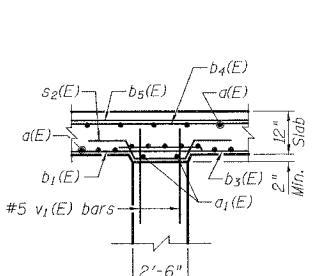
**PARAPET JOINT DETAIL**



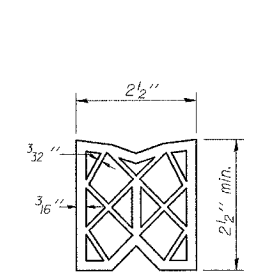
**DETAIL B**



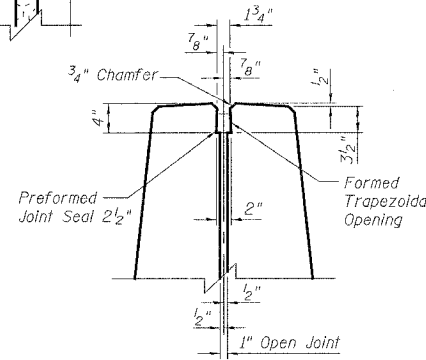
**SECTION A-A**



**SECTION B-B**



**PREFORMED JOINT SEAL**



**DETAIL C**

DESIGNED	S.CHELBIAN
CHECKED	A.HAMMAD
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

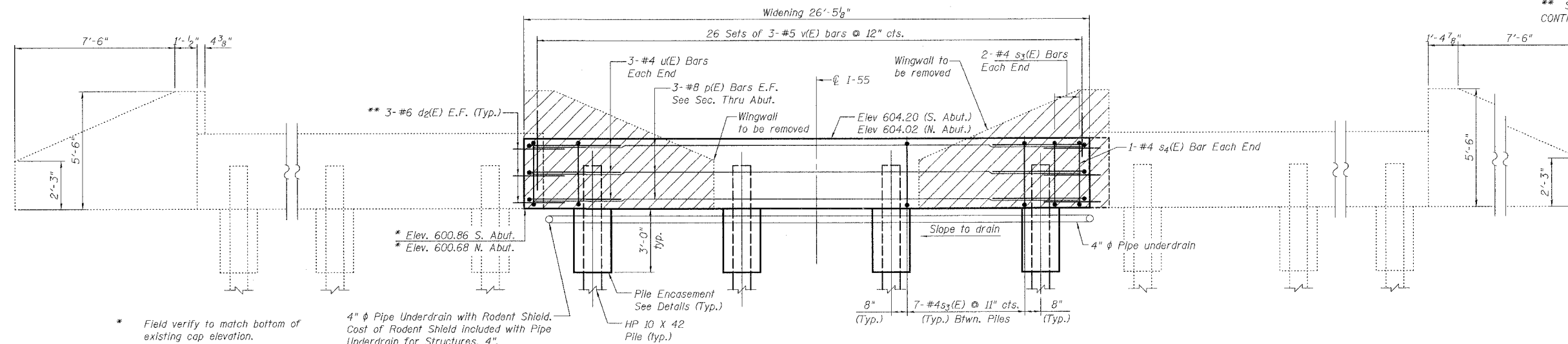
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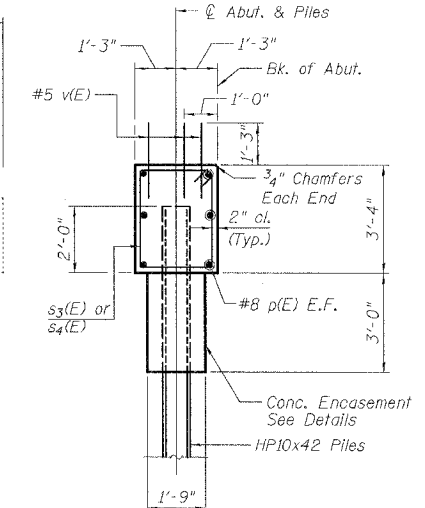
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9
FAI-55	**	WILL	505	382	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



**ELEVATION**  
(North Abutment shown, South Abutment Similar)

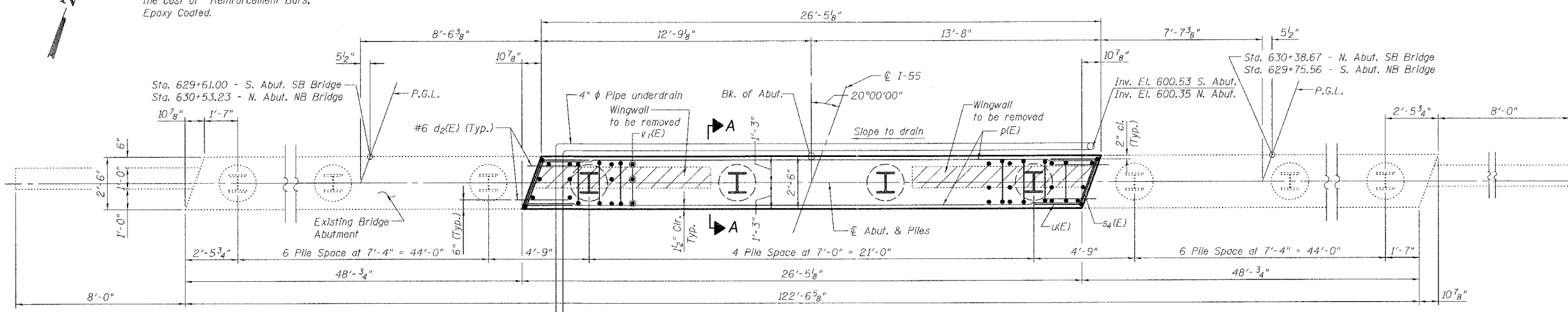


**SECTION A-A**

\* Field verify to match bottom of existing cap elevation.

4" φ Pipe Underdrain with Rodent Shield. Cost of Rodent Shield included with Pipe Underdrain for Structures, 4".

\*\* Drill and grout #6 d2(E) Bars in drilled holes according to Section 584 of the Standard Specifications. Minimum embedment shall be 9" Cost included in the cost of Reinforcement Bars, Epoxy Coated.



**ABUTMENT TOP PLAN**

**BILL OF MATERIAL  
NORTH AND SOUTH ABUTMENT**

Bar No.	Size	Length	Shape
d2(E)	24 #6	3'-4"	—
v(E)	156 #5	2'-3"	—
p(E)	12 #8	26'-0"	—
s3(E)	50 #4	11'-3"	□
s4(E)	50 #4	11'-5"	□
u(E)	12 #5	6'-4"	—
Concrete Removal	Cu. Yd.	5.3	
Concrete Structures	Cu. Yd.	16.3	
Reinforcement Bars, (Epoxy Coated)	Pound	1,800	
Structure Excavation	Cu. Yd.	55	
Furnishing Steel			
Pile HP 10 X 42	Foot	167	
Driving Steel Piles	Foot	167	
Test Piles	Each	2	
Metal Shoes	Each	6	
Pipe Underdrain for Structures, 4"	Foot	73	

Reinforcement bars designated (E) shall be epoxy coated.

**PILE DATA**

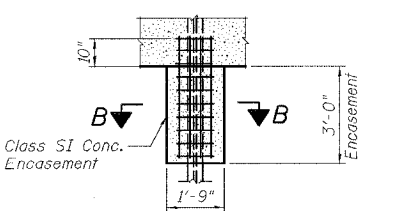
Type: Steel HP 10x42 with metal shoes  
Capacity: Driven to refusal  
Est. Length: See Table

**ESTIMATED PILE LENGTHS**

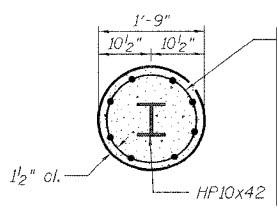
	S. Abut.	N. Abut.
SB	26'	31'
NB	26'	27'

DESIGNED	P. PILARSKI
CHECKED	A. HAMMAD
DRAWN	A. ASKARI
CHECKED	A. HAMMAD

Date: 6/30/2006

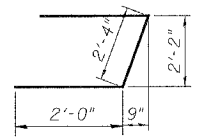


**PILE ENCASEMENT DETAILS**

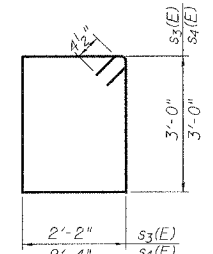


**SECTION B-B**

Welded wire fabric 6x6-W4.0xW4.0 weighing 58#/100 sq. ft. The of excavation, concrete encasement and reinforcement is incidental to the cost of furnishing piles. Forms for encasement may be omitted when soil conditions permits.



**BAR u(E)**



**BAR s3(E) & s4(E)**

**LEGEND**

- Designates Concrete Removal
- E.F. = Each Face
- B.F. = Back Face
- F.F. = Front Face

**ABUTMENT WIDENING & DETAILS  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NB)  
STRUCTURE NO. 099-4616 (SB)**



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

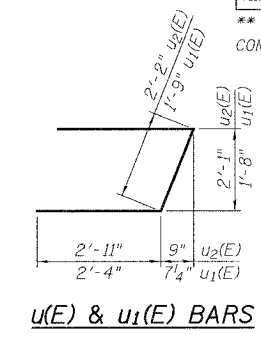
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FAI-55	**	WILL	505	383	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

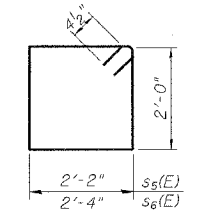
**BILL OF MATERIAL  
PIER 1 & PIER 2**

Bar	No.	Size	Length	Shape
d <sub>3</sub> (E)	32	#6	5'-6"	—
d <sub>4</sub> (E)	56	#5	4'-6"	—
h(E)	56	#5	12'-0"	—
p <sub>1</sub> (E)	24	#8	12'-0"	—
s <sub>5</sub> (E)	44	#4	9'-1"	□
s <sub>6</sub> (E)	4	#4	9'-5"	□
u <sub>1</sub> (E)	28	#5	6'-5"	┘
u <sub>2</sub> (E)	12	#6	8'-0"	┘
v <sub>1</sub> (E)	92	#5	2'-9"	—
v <sub>2</sub> (E)	92	#5	9'-11"	—
Concrete Structures			Cu. Yd.	41.0
Reinforcement Bars, (Epoxy Coated)			Pound	3,840
Structure Excavation			Cu. Yd.	12
Furnishing Steel Pile HP 10 X 42			Foot	208
Driving Steel Piles			Foot	208
Test Pile Steel HP 10 X 42			Each	2
Metal Shoes			Each	6
Concrete Removal			Cu. Yd.	1
Underwater Structure Excavation Protection-Pier 1			Each	1
Underwater Structure Excavation Protection-Pier 2			Each	1

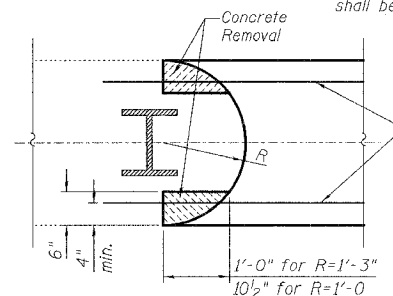
Reinforcement Bars designated (E)  
shall be Epoxy Coated.



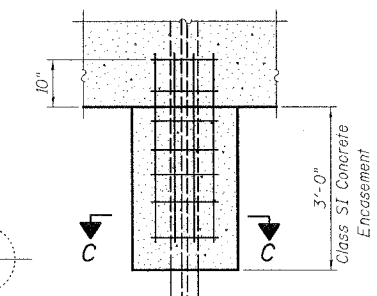
**u(E) & u<sub>1</sub>(E) BARS**



**s<sub>5</sub>(E) & s<sub>6</sub>(E) BARS**



**DETAIL "A"**



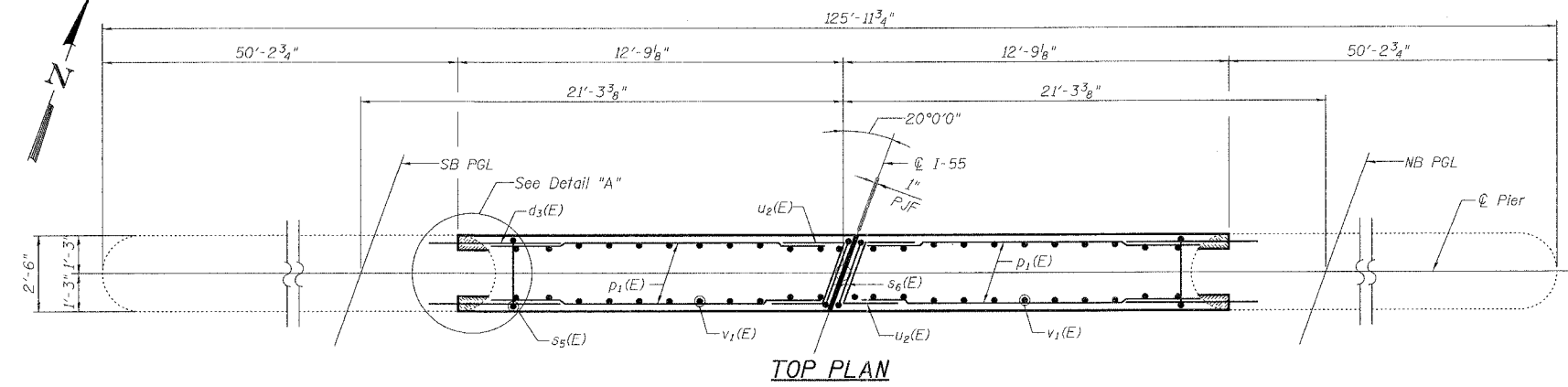
Welded wire fabric 6x6-  
W4.0xW4.0 weighing  
58#/100 sq. ft. The cost  
of, excavation, concrete  
encasement and  
reinforcement is included  
with furnishing piles.  
Forms for encasement  
may be omitted when  
soil conditions will permit.

**PILE ENCASEMENT DETAILS**

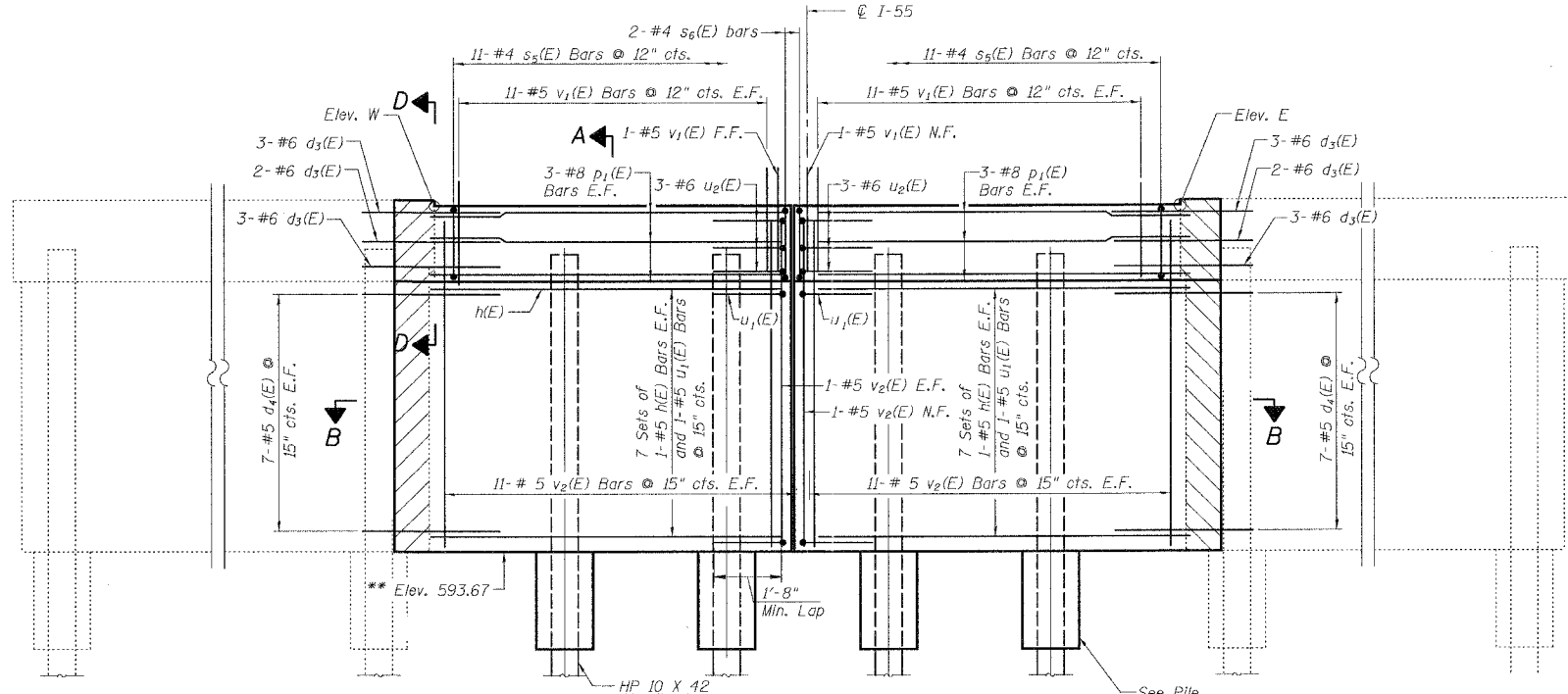
**LEGEND**

- E.F. = Each Face
- E.E. = Each End
- N.F. = Near Face
- F.F. = Far Face

**PIER WIDENING & DETAILS  
I-55 OVER MINK CREEK.  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STATION 630+07.11  
STRUCTURE NO. 099-4615 (NB)  
STRUCTURE NO. 099-4616 (SB)**

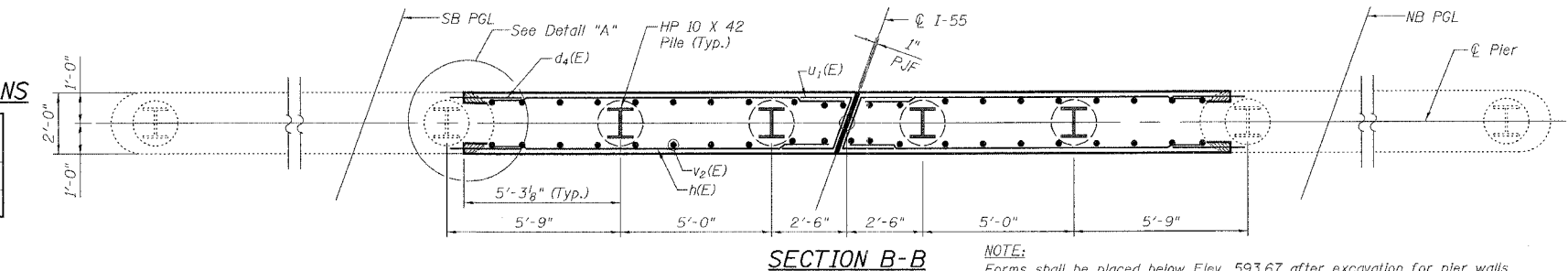


**TOP PLAN**

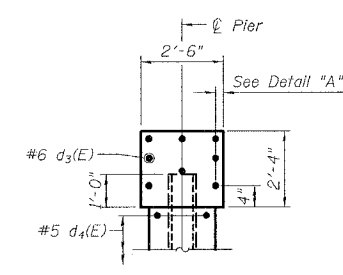


**ELEVATION  
(Looking North)**

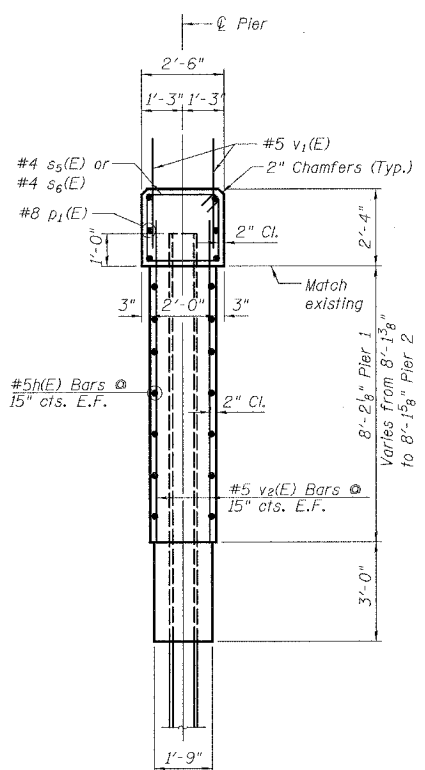
\*\* Field verify to match existing bottom of footing elevation.



**SECTION B-B**



**SECTION D-D  
(p(E) Bars and h(E) Bars not shown for clarity)**



**SECTION A-A**

**TOP OF PILE CAP ELEVATIONS**

Elev. @ Top of Pile Cap	Pier #1	Pier #2
Elev. W	604.35	604.28
Elev. E	604.35	604.30

DESIGNED	P. PILARSKI
CHECKED	J. BRISBOIS
DRAWN	A. ASKARI
CHECKED	J. BRISBOIS
Date:	6/30/2006

**PILE DATA**

Type: Steel HP 10 X 42 with Metal Shoes  
Capacity: Driven to Refusal.  
Estimated length: See Table  
No. Req.: 6 (+2 Test Piles)

**ESTIMATED PILE LENGTHS**

	Pier #1	Pier #2
SB	34'	36'
NB	34'	34'

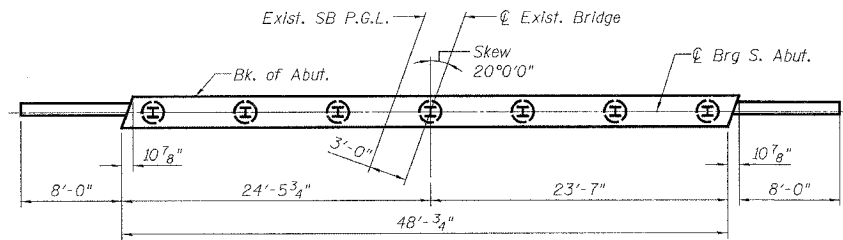
**NOTE:**

Forms shall be placed below Elev. 593.67 after excavation for pier walls. Reinforcement and concrete for encasements shall be placed underwater into forms. The cost of concrete for encasements, reinforcement, form excavation, and furnishing and placing forms is included in the cost of furnishing steel piles. If a portion of the pier wall is below the waterline, the concrete shall be tremied underwater into forms according to Article 503.08 of the standard specifications. Tremied concrete shall be placed to an elevation 12" above the water level at the time of construction. Provide protection for the underwater excavation at Piers 1 & 2. See Special Provisions for "Underwater Structure Excavation Protection".

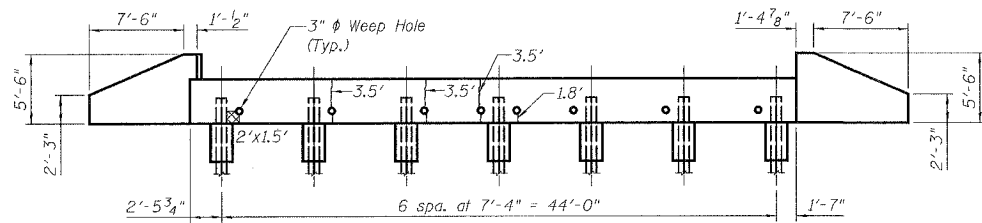
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	**	WILL	505	384
SHEET NO. 11				
16 SHEETS				

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

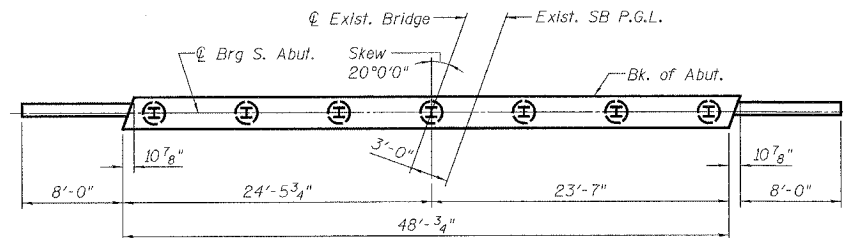


**SOUTH ABUTMENT PLAN (SB)**

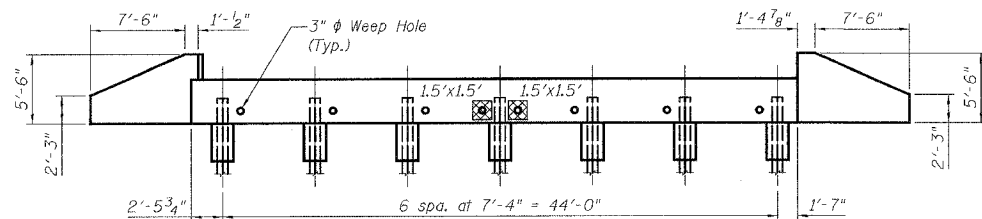


**SOUTH ABUTMENT ELEVATION (SB)**

(Looking South)

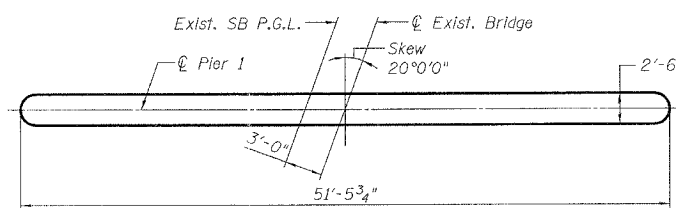


**NORTH ABUTMENT PLAN (SB)**

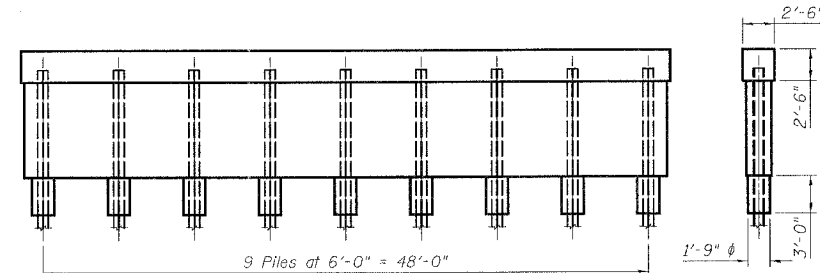


**NORTH ABUTMENT ELEVATION (SB)**

(Looking North)



**PIER 1 PLAN (SB)**

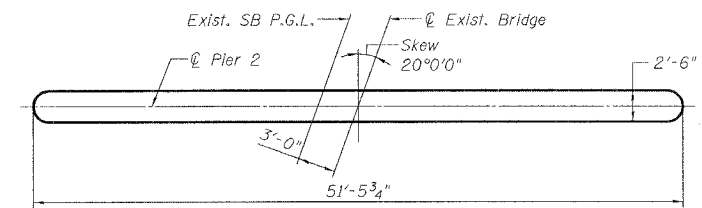


**PIER 1 ELEVATION (SB)**

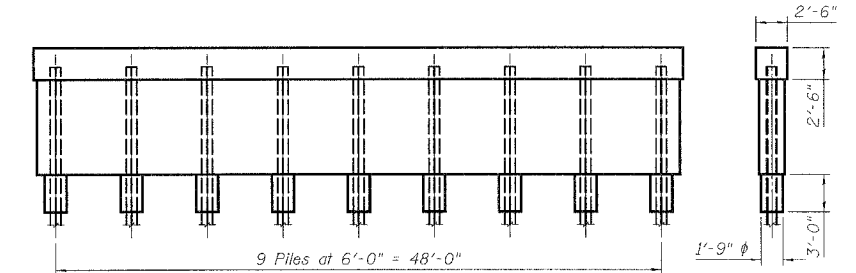
(Looking South)

**END VIEW**

(Looking East)



**PIER 2 PLAN (SB)**

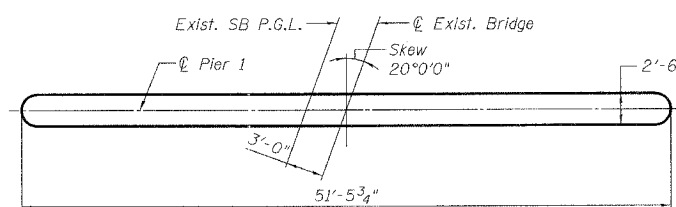


**PIER 2 ELEVATION (SB)**

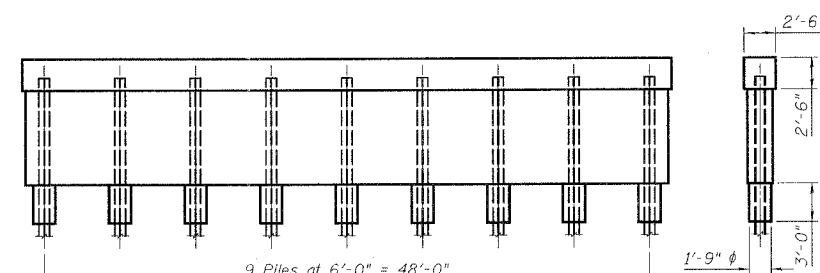
(Looking South)

**END VIEW**

(Looking East)



**PIER 1 PLAN (SB)**

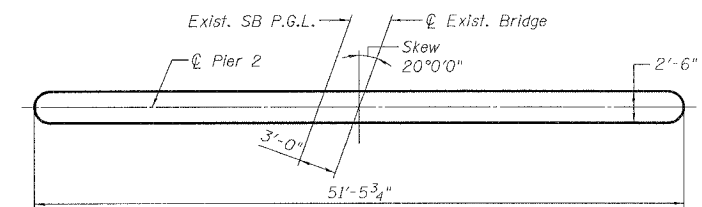


**PIER 1 ELEVATION (SB)**

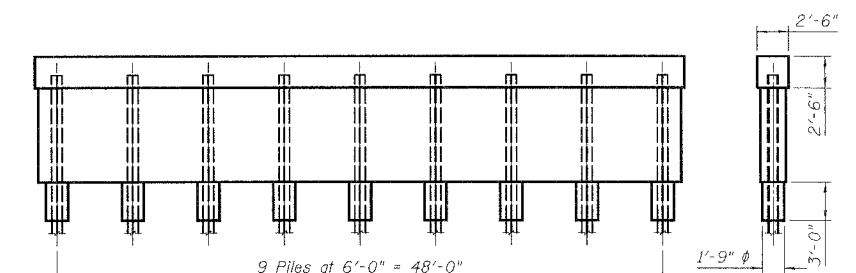
(Looking North)

**END VIEW**

(Looking West)



**PIER 2 PLAN (SB)**



**PIER 2 ELEVATION (SB)**

(Looking North)

**END VIEW**

(Looking West)

**NOTES:**

- Existing reinforcing bars that have been cut and/or damaged during repair operations shall be supplemented by new in kind reinforcing bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. A mechanical bar splicer shall be used when it is not feasible to provide the minimum bar lap. No welding of bars shall be performed. See Special Provisions.
- Crack widths shown to be repaired are 1/8" ± 1/16" unless otherwise noted.

**LEGEND**

- Spalled or Unsound Concrete
- Crack Length to be repaired (in feet)

**BILL OF MATERIALS**

Item	Unit	Total
Structural Repair of Concrete < = 5 in.	Sq. Ft.	7.0
Epoxy Crack Sealing	Foot	13

DESIGNED	S.CHELBIAN
CHECKED	A.HAMMAD
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

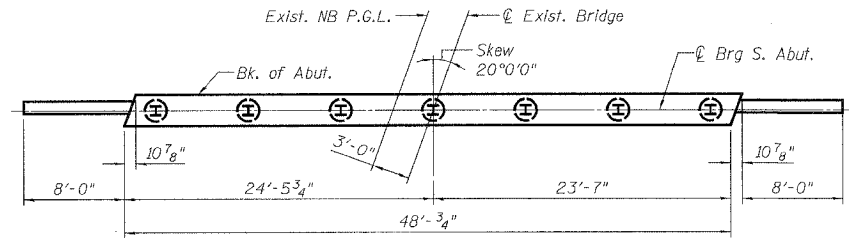
**SUBSTRUCTURE REPAIRS I (SB)**  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NB)  
STRUCTURE NO. 099-4616 (SB)



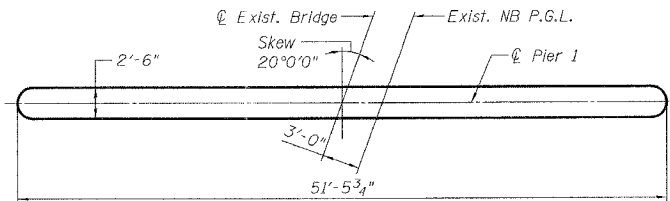
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12
FAI-55	**	WILL	505	385	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

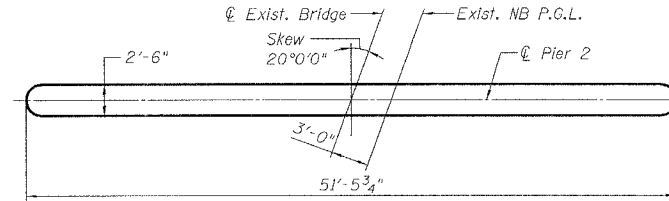
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



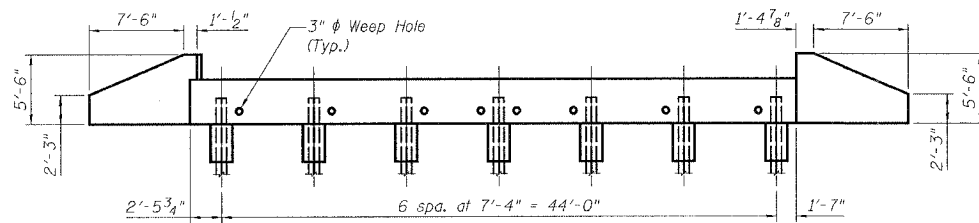
NORTH ABUTMENT PLAN (NB)



PIER 1 PLAN (NB)

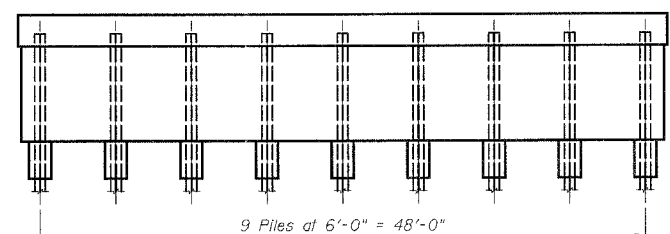


PIER 2 PLAN (NB)



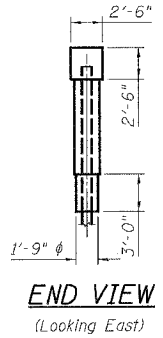
NORTH ABUTMENT ELEVATION (NB)

(Looking North)



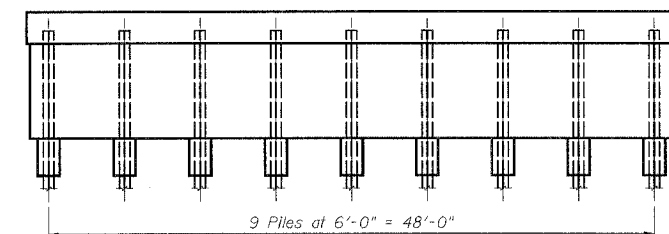
PIER 1 ELEVATION (NB)

(Looking South)



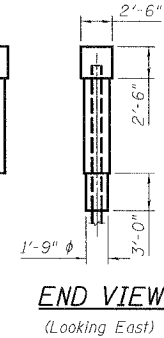
END VIEW

(Looking East)



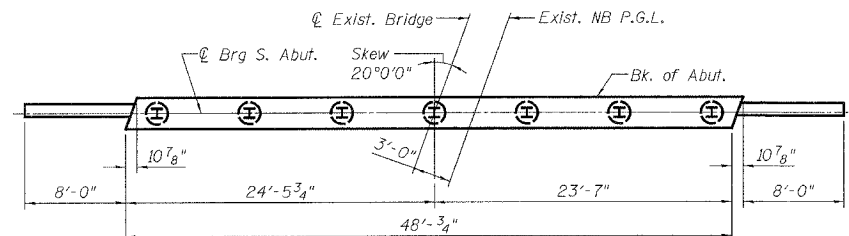
PIER 2 ELEVATION (NB)

(Looking South)

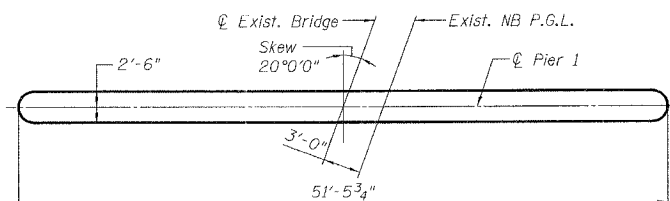


END VIEW

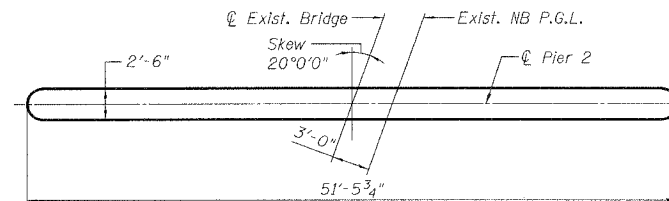
(Looking East)



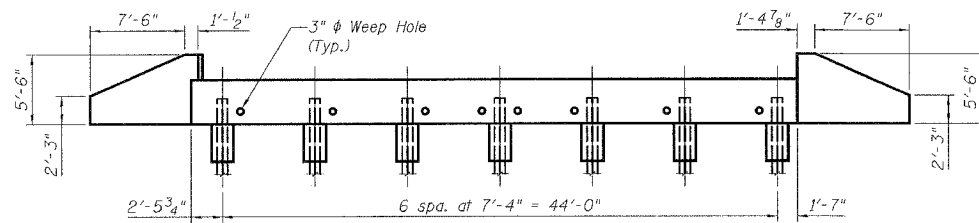
SOUTH ABUTMENT PLAN (NB)



PIER 1 PLAN (NB)

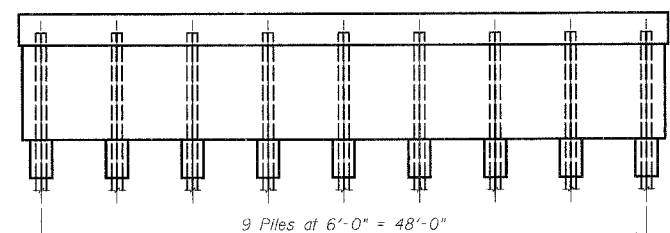


PIER 2 PLAN (NB)



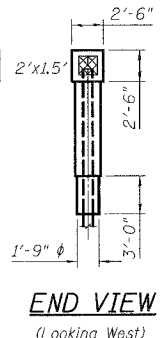
SOUTH ABUTMENT ELEVATION (NB)

(Looking South)



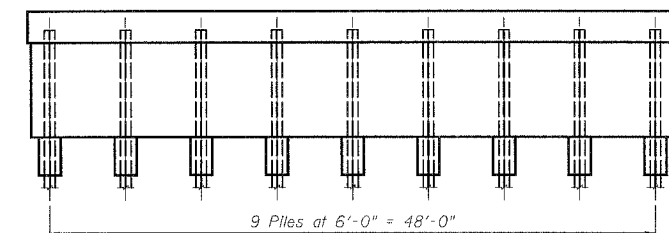
PIER 1 ELEVATION (NB)

(Looking North)



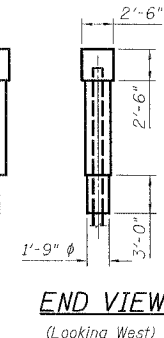
END VIEW

(Looking West)



PIER 2 ELEVATION (NB)

(Looking North)



END VIEW

(Looking West)

NOTES:

- Existing reinforcing bars that have been cut and/or damaged during repair operations shall be supplemented by new in kind reinforcing bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. A mechanical bar splicer shall be used when it is not feasible to provide the minimum bar lap. No welding of bars shall be performed. See Special Provisions.
- Crack widths shown to be repaired are 1/8"  $\pm$  1/16" unless otherwise noted.

LEGEND

Spalled or Unsound Concrete

BILL OF MATERIALS

Item	Unit	Total
Structural Repair of Concrete $\leq$ 5 in.	Sq. Ft.	3.0

DESIGNED	S.CHELBIAN
CHECKED	A.HAMMAD
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006

SUBSTRUCTURE REPAIRS II (NB)  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NB)  
STRUCTURE NO. 099-4616 (SB)

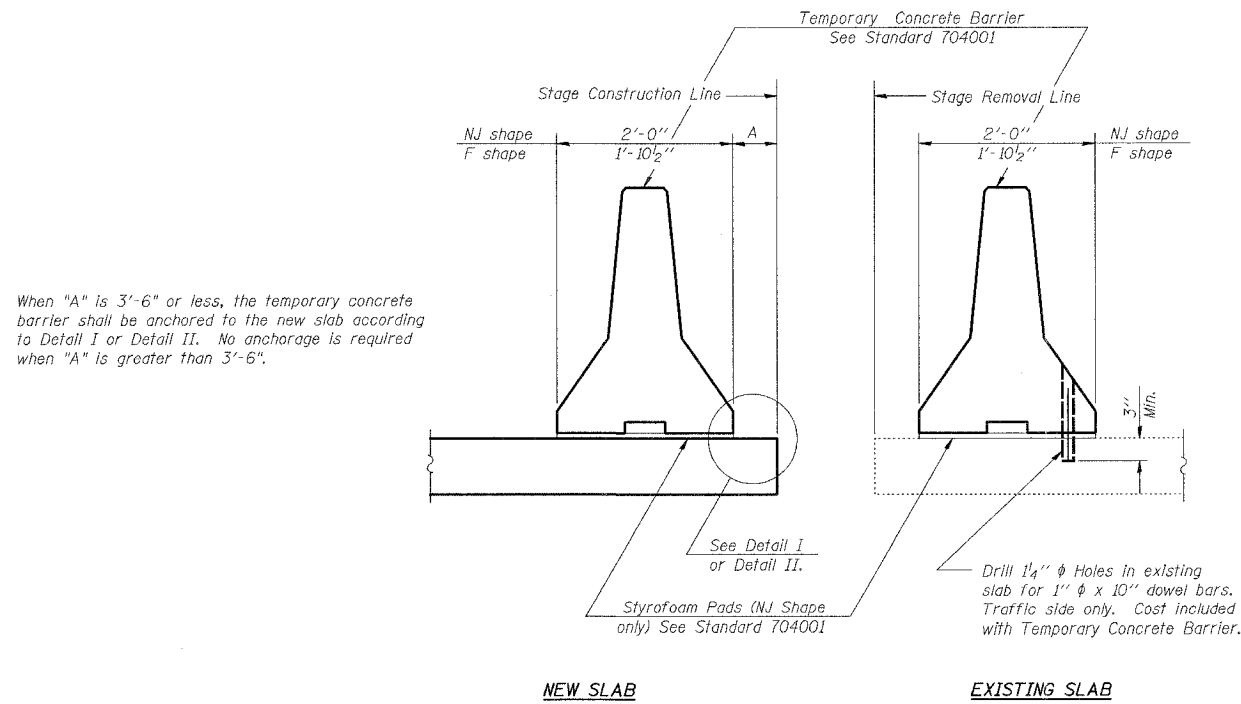


6/30/2006 3:50:20 PM C:\16817\AS\Struct\CAD\PIE-Plan\MINK CREEK\Final Bridge Contract\60206-60B86-00-00-012.dgn

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 13 16 SHEETS
FAI-55	**	WILL	505	386	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



SECTIONS THRU SLAB

NOTES

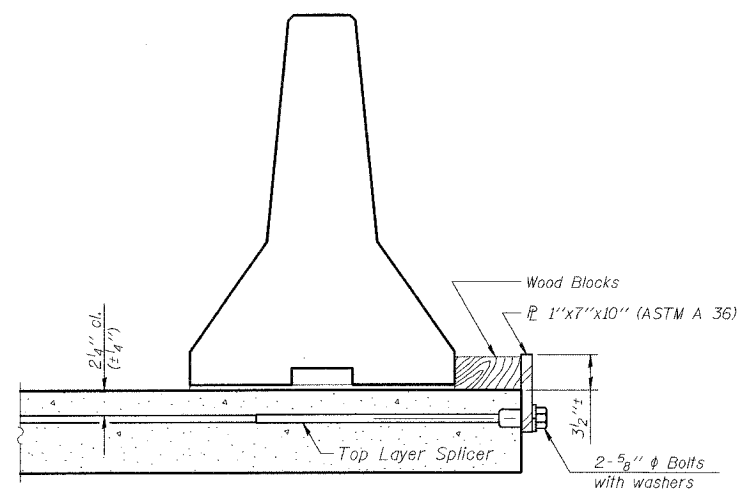
Detail I - With Bar Splicer or Couplers:

Connect one (1) 1"x7"x10" steel plate to the top layer of couplers with 2-5/8" diameter bolts screwed to coupler at approximate center of each barrier panel.

Detail II - With Extended Reinforcement Bars:

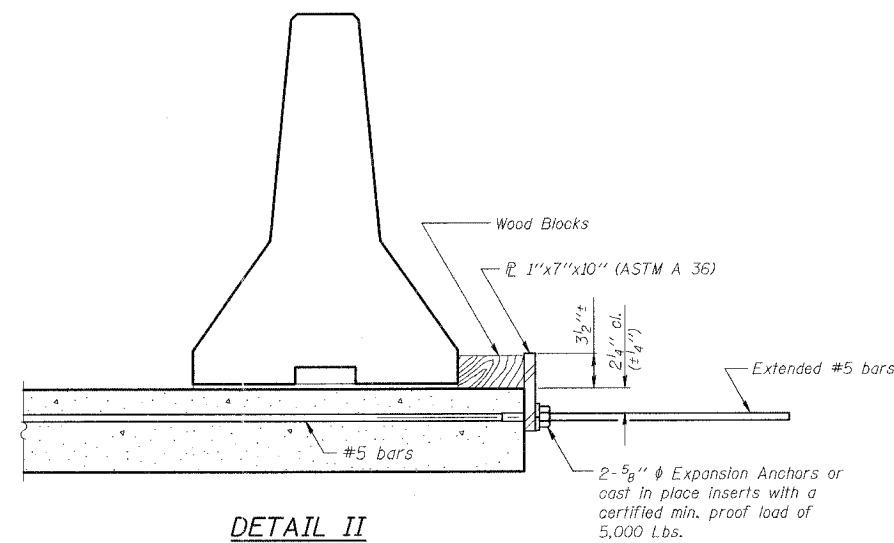
Connect one (1) 1"x7"x10" steel plate to the concrete slab with 2-5/8" diameter Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate center of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.



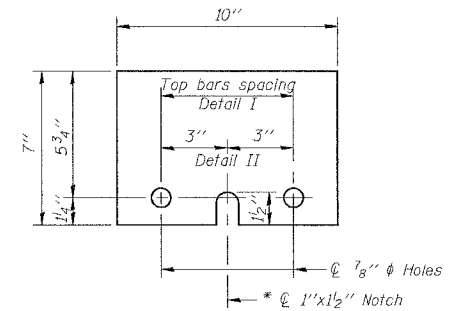
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



1"x7"x10"

\* Required only with Detail II

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	S.CHELBIAN
CHECKED	J.GRAINAWI

Date: 6/30/2006



TEMPORARY CONCRETE BARRIER  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NB)  
STRUCTURE NO. 099-4616 (SB)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAI-55	**	WILL	505	387
16 SHEETS				

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

BORING-BR-9

BORING-BR-10

BORING-BR-11

BLOOM CONSULTANTS, LLC		BORING LOG		CHICAGO, ILLINOIS				
JOB NO: BM3-1148 CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION		BORING NO: BR-9						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 629+06						
LOCATION: I-55 Bridges over Mink Creek		OFFSET: 6.3' Lt						
BORING RIG & METHOD: CME-75 w/Hollow Stem Augers		SURF ELEV: 606.1						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
0.0-1.0		605.3	3" Bituminous Concrete		Auger			
1.0-2.5		602.7	7" Crushed Stone	16	8-8			10
3.5-5.0		600.6	FILL: Dark Gr Sandy Loam A-2-4					
6.0-7.5		597.9	FILL: Dark Gr Clay Loam A-7-6	18	3-6	2.5	15	28
8.5-10.0		592.7	Bottom NB & SB Bridge S. Abut. Pile Caps = Elev 601.2					
11.0-12.5		590.1	FILL: Dark Gr & Br Clay Loam A-6	18	5-8	(2.3)		12
13.5-15.0		589.1	Medium Stiff to Stiff Black Organic Clay A-7-6	8	2-2	(0.7)		20
16.0-17.5		585.6	Medium Dense Gr Sand A-1-b	10	3-4	(1.0)		23
18.5-20.0		582.7	Medium Dense Gr Sand A-1-b	14	5-8			24
21.0-22.5		579.7	Medium Dense Gr Sand A-1-a	13	8-11			21
23.5-24.9		579.9	Medium Dense Gr Silt A-4	14	8-10			12
26.0-26.2		579.9	Stiff Gr Loam A-4	13	8-50/5"	1.7	15	11
27.2-32.2		579.9	Gr Dolomite; to 1.3' severely weathered; random horizontal and vertical fractures as well as occasional thin Clay partings noted	1	50/2"			7
32.2-37.2		568.9	Recovery = 54% Core Run = 60" Percent Recovery = 90%	54	Core			
			Recovery = 60% Core Run = 60" Percent Recovery = 100%	60	Core			
Boring terminated at 37.2'								
REMARKS * Drilling water introduced into borehole below 27.2' to facilitate rock coring. ( ) Denotes Calibrated Automatic Hammer Used.								
WATER 8.5 FT. ELEV. 597.6 DURING DRILLING CORE SIZE NX=2 1/2 IN. DATE: Feb 27, 06								
WATER FT. ELEV. AT COMPLETION CASING LENGTH FT. DRILLER: Juarez								
WATER * FT. ELEV. AFTER HRS. CASING DIAMETER IN. INSPECTOR: Allemana								

BLOOM CONSULTANTS, LLC		BORING LOG		CHICAGO, ILLINOIS				
JOB NO: BM3-1148 CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION		BORING NO: BR-10						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 630+00						
LOCATION: I-55 Bridges over Mink Creek		OFFSET: 20.4' Lt						
BORING RIG & METHOD: Diedrich D-120 w/Rotary Wash Method below 2.5'		DECK SURF ELEV: 605.7						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
			T/Bridge Deck (Elev. 605.7)					
			Top of Bridge Deck to Ground Surface = 11.0'					
			Ground Surface					
11.0		594.7	Bottom Pier 1 & Pier 2 Pile Cap = Elev. 594.0					
10	1.0-1.3		Very Dense to Dense Gr Sand A-1-b; Organic matter noted	2	50/4"			39
	3.5-5.0	588.9	- Cobbles noted to 3'	18	14-22			18
	6.0-7.5		Dense to Medium Dense Gr Sand A-1-a	10	33-30			10
10	8.5-10.0	584.2	Medium Dense Gr Sand A-1-a	18	8-14			11
	11.0-12.5		Medium Dense Gr Sand A-1-b	18	6-9			14
	13.5-15.0		Medium Dense Gr Sand A-1-b	18	4-8			17
20	16.0-17.5		Medium Dense Gr Sand A-1-b	18	7-16			19
	18.5-20.0		Gr Dolomite; top 1.7' severely weathered; random horizontal and vertical fractures as well as occasional thin Clay partings noted	18	6-16			15
20	21.0-22.5	571.1	Recovery = 48% Core Run = 60" Percent Recovery = 80%	18	7-16			19
	25.0-30.0		Recovery = 60% Core Run = 60" Percent Recovery = 95%	48	Core			
30	30.0-35.0	559.7	Recovery = 60% Core Run = 60" Percent Recovery = 100%	60	Core			
Boring terminated at 35'								
REMARKS * Drilling water introduced into borehole below 2.5' to facilitate rotary wash method and rock coring. Automatic Hammer Used. ( ) Denotes Calibrated Penetrometer Estimate								
WATER Dry to 2.5 FT. ELEV. 592.2 DURING DRILLING CORE SIZE NX=2 1/2 IN. DATE: Mar 2, 06								
WATER FT. ELEV. AT COMPLETION CASING LENGTH 25 FT. DRILLER: Juarez								
WATER * FT. ELEV. AFTER HRS. CASING DIAMETER 4 IN. INSPECTOR: Allemana								

BLOOM CONSULTANTS, LLC		BORING LOG		CHICAGO, ILLINOIS				
JOB NO: BM3-1148 CLIENT: ILLINOIS DEPARTMENT OF TRANSPORTATION		BORING NO: BR-11						
PROJECT: I-55 Improvements - U.S. Route 30 to Weber Road - Will County, IL		STATION: 630+81						
LOCATION: I-55 Bridges over Mink Creek		OFFSET: 21' Lt						
BORING RIG & METHOD: Diedrich D-50 (ATV) w/Hollow Stem Augers		SURF ELEV: 605.8						
DEPTH	SAMPLE FROM - TO	ELEV.	SOIL DESCRIPTION	REC.	BLOWS/6"	q <sub>u</sub>	STRAIN %	WATER CONTENT %
0.0-1.0		604.9	9" Bituminous Concrete		Auger			3
1.0-2.5			FILL: Dark Gr Clay Loam A-6	12	7-7	(3.0)		10
3.5-5.0		600.3	Bottom NB & SB Bridge N. Abut. Pile Caps = Elev. 601.0					
6.0-7.5		597.4	Black Organic Clay A-7-6	16	4-3	2.3	15	18
8.5-10.0		592.5	Stiff Gr Loam A-4	18	5-9	(2.5)		32
11.0-12.5			Stiff Gr Loam A-4	14	2-3	1.6	15	13
13.5-15.0			Medium Dense Gr Sand A-1-b	18	8-8			17
16.0-17.5		587.4	Medium Dense Gr Sand A-1-b	14	14			11
18.5-20.0			Stiff Gr Clay A-6	18	12-10			11
21.0-22.5		582.1	Stiff Gr Clay A-6	12	4-5	1.5	15	23
23.5-25.0		579.9	Medium Dense Gr Sandy Loam A-2-4	14	6-8	(1.8)		21
26.0-27.5			Hard Gr Loam A-4	14	4			10
28.5-30.0		575.0	Hard Gr Loam A-4	16	11	(4.0)		10
31.0-32.5		572.5	Medium Dense Gr Silt A-4	10	12	(4.5+)		8
33.5-34.1		571.7	Very Dense Gr Silt A-4	16	11-10			23
35.0-40.0			Gr Dolomite; top 1.3' severely weathered; random horizontal and vertical fractures as well as occasional Clay partings noted	4	10			20
			Recovery = 57% Core Run = 60" Percent Recovery = 95%	57	Core			
			Recovery = 55% Core Run = 60" Percent Recovery = 92%	55	Core			
40.0-45.0		580.8	Recovery = 55% Core Run = 60" Percent Recovery = 92%	55	Core			
Boring terminated at 45'								
REMARKS * Drilling water introduced into borehole below 35' to facilitate rock coring. ( ) Denotes Calibrated Penetrometer Estimate								
WATER 13 FT. ELEV. 592.8 DURING DRILLING CORE SIZE NX=2 1/2 IN. DATE: Feb 27, 06								
WATER FT. ELEV. AT COMPLETION CASING LENGTH FT. DRILLER: Juarez								
WATER * FT. ELEV. AFTER HRS. CASING DIAMETER IN. INSPECTOR: Allemana								

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 6/30/2006

BORING LOGS I  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NB)  
STRUCTURE NO. 099-4616 (SB)







STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BORING-B-4

MIRZA ENGINEERING, INC. BORING LOG		CHICAGO, ILLINOIS				
JOB NO. 9179	CLIENT ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO. 4	DATE Dec. 21, 1993			
PROJECT FAI-55 over Mink Creek	LOCATION Will County, Illinois	STATION 3473+8B	OFFSET 16' RT			
BORING NO & METHOD Mobile B-57 w/Hollow Stem Augers	GROUND WATER OBSERVATIONS	CORE SIZE IN	DRILLER Roesel			
13 FT ELEV. 592.5 DURING DRILLING	CASING LENGTH FT	INSPECTOR Moutrey	SURE ELEV. 603.5			
12.8 FT ELEV. 592.7 AFTER 4 HRS	CASING DIAMETER IN					
DEPTH	SAMPLE FROM-TO	ELEV	SOIL DESCRIPTION AND REMARKS	N	S	WATER CONTENT %
0.0-1.0		604.7	10" BITUMINOUS CONCRETE	Auger		
1.5-2.5				3-5	2.4	19
4.0-5.0			FILL: Dark Gr to Br Clay Loam A-7-6; trace Organic matter noted	2	2.0	24
6.5-7.5				3	1.4	24
9.0-10.0				3	1.7	26
11.5-12.5		592.9		2	2.1	18
14.0-15.0				3	2.1	21
16.5-17.5			Medium Dense to Dense Sand A-1-a	7-7		16
19.0-20.0				6	14-12	9
21.5-22.5		583.7		18-17		10
24.0-25.0			Very Stiff to Hard Gr Sandy Loam A-4	15	9-16 (3.5)	11
26.5-27.5		579.3		6	24-14 (4.0)	10
29.5		577.0	Extremely Dense Gr Sand A-1-a (LIME-STONE) (Probable weathered bedrock)	11		
			Very difficult drilling below 26.5'	16-37		31
				100/0"		

EXISTING BORING-B-5

MIRZA ENGINEERING, INC. BORING LOG		CHICAGO, ILLINOIS				
JOB NO. 9179	CLIENT ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO. 5	DATE Dec. 21, 1993			
PROJECT FAI-55 over Mink Creek	LOCATION Will County, Illinois	STATION 3474+04	OFFSET 50' RT			
BORING NO & METHOD Mobile B-57 w/Hollow Stem Augers	GROUND WATER OBSERVATIONS	CORE SIZE IN	DRILLER Roesel			
13 FT ELEV. 592.3 DURING DRILLING	CASING LENGTH FT	INSPECTOR Moutrey	SURE ELEV. 606.1			
13.3 FT ELEV. 592.8 AFTER 4 HRS	CASING DIAMETER IN					
DEPTH	SAMPLE FROM-TO	ELEV	SOIL DESCRIPTION AND REMARKS	N	S	WATER CONTENT %
0.0-1.0		685.3	9" BITUMINOUS CONCRETE	Auger		
1.5-2.5				4-5	(2.0)	19
4.0-5.0			FILL: Dark Gr to Br Clay Loam A-7-6; Organic matter noted	4-4	2.1	22
6.5-7.5		597.3		1	2.0	
9.0-10.0		596.0	Black Organic Clay A-7-5	3-5	0.9	24
11.5-12.5		593.1	Stiff Gr & Br Clay A-6	3-4	(1.0)	24
14.0-15.0				2-3	1.9	17
16.5-17.5			Loose to Medium Dense Br to Gr Sand A-1-b	4	2.0	20
19.0-20.0				5		
21.5-22.5		583.1		6-9		26
24.0-25.0			Loose to Medium Dense Br to Gr Sand A-1-b; clay lenses noted	9-11		19
26.5-27.5		577.7		4	14-12	26
28.5-29.0		576.5	(Apparent) Dolomitic LIMESTONE bedrock	4		
29.6			Augered thru apparent LIMESTONE bedrock from 28.8' to refusal to drilling equipment at 29.6'	3-3		19
				6-13		10
				100/3"		
				100/0"		

EXISTING BORING-B-6

MIRZA ENGINEERING, INC. BORING LOG		CHICAGO, ILLINOIS				
JOB NO. 9179	CLIENT ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING NO. 6	DATE Dec. 21, 1993			
PROJECT FAI-55 over Mink Creek	LOCATION Will County, Illinois	STATION 3474+90	OFFSET 50' RT			
BORING NO & METHOD Mobile B-57 w/Hollow Stem Augers	GROUND WATER OBSERVATIONS	CORE SIZE IN	DRILLER Roesel			
13.7 FT ELEV. 592.3 DURING DRILLING	CASING LENGTH FT	INSPECTOR Moutrey	SURE ELEV. 606.0			
12.6 FT ELEV. 593.4 AFTER 4 HRS	CASING DIAMETER IN					
DEPTH	SAMPLE FROM-TO	ELEV	SOIL DESCRIPTION AND REMARKS	N	S	WATER CONTENT %
0.0-1.0		605.1	11" BITUMINOUS CONCRETE	Auger		
1.5-2.5			FILL: Br Sand A-1-b	3		3
4.0-5.0		602.2		4-4		
6.5-7.5		598.0	FILL: Dark Gr & Br Clay A-6; trace Organic matter noted	4-5	2.1	25
9.0-10.0			Stiff to Medium Stiff Gr & Br to Gr Clay A-7-6	4-4	1.8	20
11.5-12.5		592.3		2	2.0	
14.0-15.0		589.5	Medium Dense Gr Sand A-1-a	2-4	1.6	38
16.5-17.5			Medium Dense Gr Sand A-1-b	1		
19.0-20.0		586.9		2-3	0.7	24
21.5-22.5			Stiff Gr Clay Loam A-6	8	2.0	
24.0-25.0				5-5	1.1	17
26.0-26.5		579.5	(Apparent) Dolomitic LIMESTONE bedrock	5	2.0	
27.4		578.6	Augered thru apparent LIMESTONE bedrock from 26.5' to refusal to drilling equipment @ 27.4' (Very hard drilling)	100/0"	1.3	18
				100/0"	2.0	



BORING LOGS III  
I-55 OVER MINK CREEK  
FAI ROUTE 55-SEC. 2006-032 BY  
WILL COUNTY  
STA. 630+07.11  
STRUCTURE NO. 099-4615 (NB)  
STRUCTURE NO. 099-4616 (SB)

DESIGNED S.CHELBIAN  
CHECKED J.GRAINAWI  
DRAWN D.C.PATEL  
CHECKED J.GRAINAWI  
Date: 6/30/2006

B.M. 3208 -  
 Square cut on S. end of a headwall of a 30" CMP under E. Frontage Rd. and about 1/4 mile  
 N. of Renwick Rd.  
 E.I. 607.15

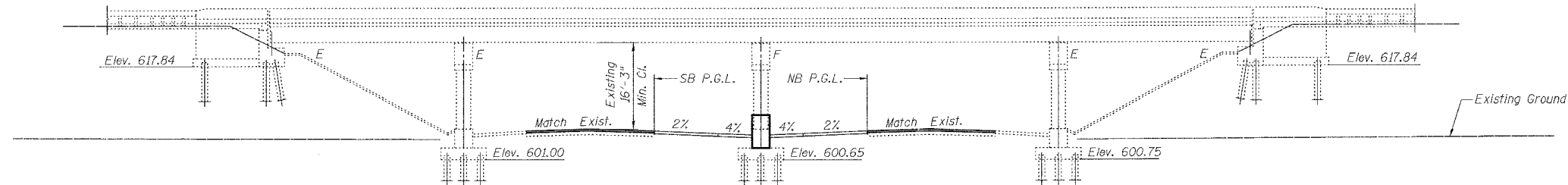
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. /
FAI 55	**	WILL	505	390	5 SHEETS

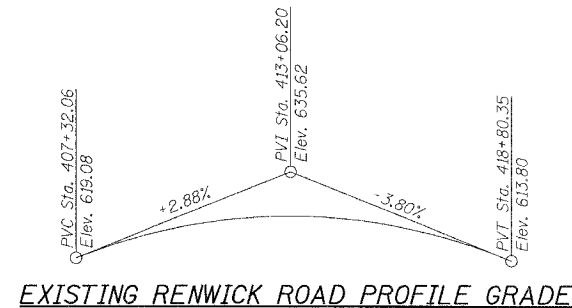
\*\* SECTION 2006-032 BY  
 CONTRACT NO. 60B86

Existing Structure -  
 Structure No. 099-0212 was rehabilitated as Renwick Road Section 99-1HB 3-BR in 2002.  
 The Existing structure is 188'-6" Bk. to Bk. of Abutments and is a four-span structure consisting  
 of a 38'-8 3/4" wide reinforced concrete deck supported on a continuous steel wide flange beam  
 superstructure. The existing substructure was rehabilitated and incorporated into the 2002  
 improvement and consists of stub type abutments and concrete piers supported on a pile foundation.

Salvage -  
 None



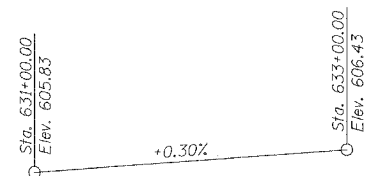
ELEVATION



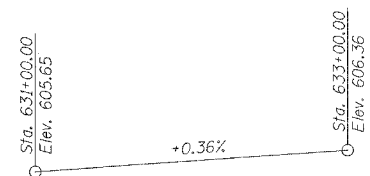
EXISTING RENWICK ROAD PROFILE GRADE

SCOPE OF WORK

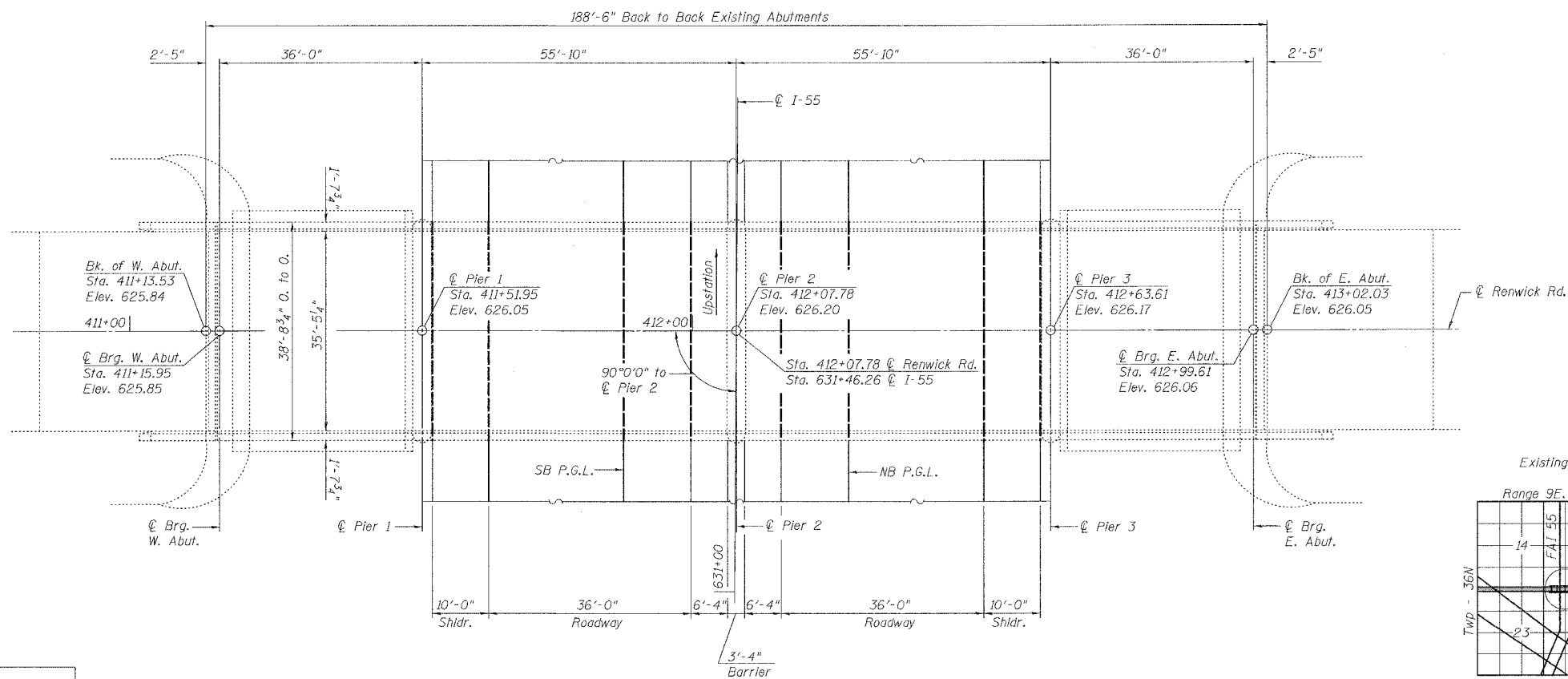
1. Repair substructure defects at Pier 1, Pier 2, & Pier 3 with Structural Repair of Concrete and/or Epoxy Crack Sealing.
2. The Pier 2 Crashwall will be extended to a height equal to 42" from edge of pavement to match the proposed I-55 mainline median barrier configuration.



SB I-55 PROFILE GRADE



NB I-55 PROFILE GRADE



PLAN

DESIGN SPECIFICATIONS

AASHTO 2002

LOADING HS20-44

Allow 50#/Sq. Ft. for future wearing surface.

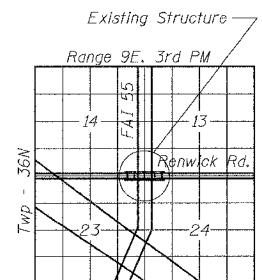
DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)



Signed Jamal I. Grainawi  
 Jamal I. Grainawi, S.E., IL Lic. No. 081-005361  
 Expires 11-30-2006  
 Date 07-25-2006



LOCATION SKETCH

GENERAL PLAN AND ELEVATION  
 RENWICK ROAD OVER I-55  
 SECTION 2006-032 BY  
 WILL COUNTY  
 STA. 412+07.78  
 STRUCTURE NO. 099-0212



DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 7/21/2006

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	WILL	505	391
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2  
5 SHEETS

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

GENERAL NOTES:

- Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work; however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.
- All Construction joints shall be bonded.

INDEX OF SHEETS

- Existing General Plan & Elevation
- General Notes & Bill of Materials
- Pier 1 Repair Details
- Pier 2 Repair Details
- Pier 3 Repair Details

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		0.2	0.2
Concrete Structures	Cu. Yd.		9.8	9.8
Reinforcement Bars, Epoxy Coated	Pound		580	580
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.		90.5	90.5
Epoxy Crack Sealing	Foot		8	8

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 7/21/2006

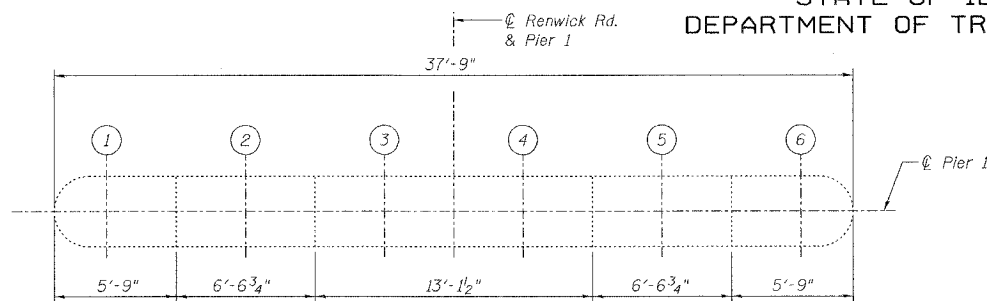
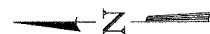
GENERAL NOTES  
& BILL OF MATERIALS  
RENWICK ROAD OVER I-55  
SECTION 2006-032 BY  
WILL COUNTY  
STA. 412+07.78  
STRUCTURE NO. 099-0212



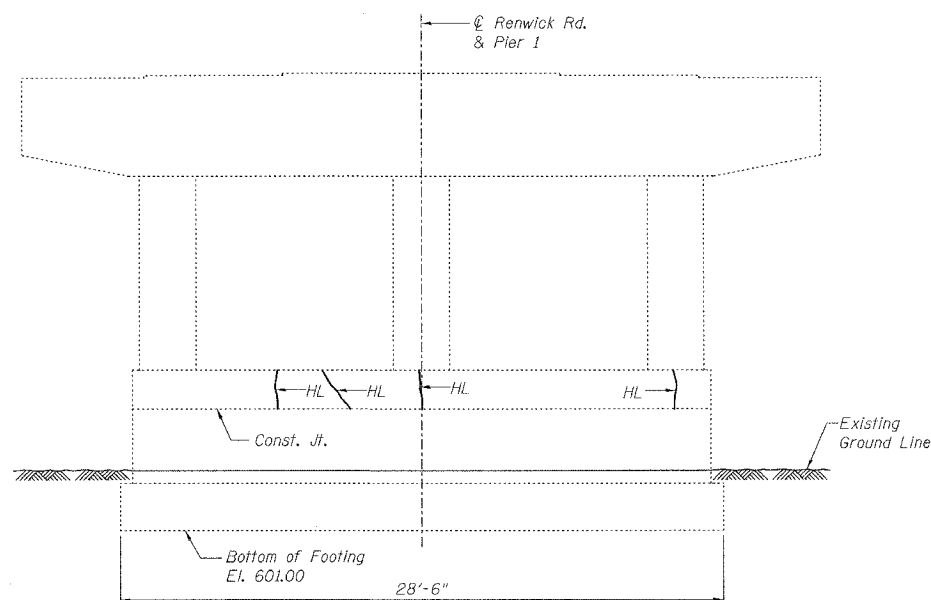
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATE SHEETS	SHEET	SHEET NO. 3
FAI 55	**	WILL	505	392	5 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

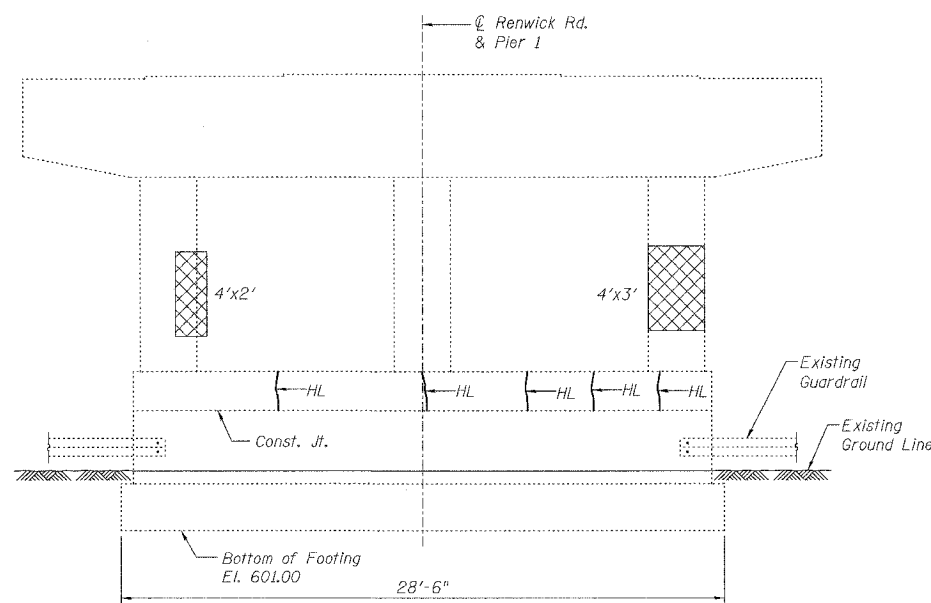
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



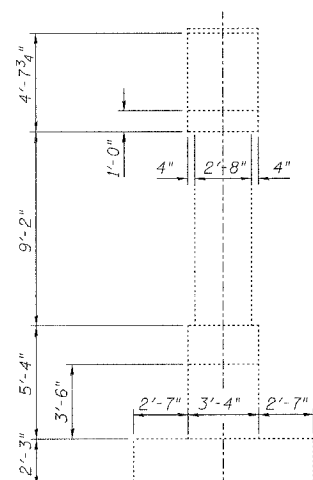
TOP PLAN



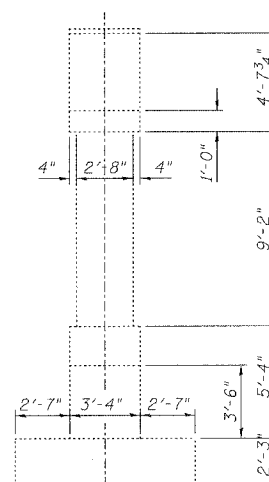
PIER ELEVATION  
(Looking East)



PIER ELEVATION  
(Looking West)



END VIEW  
(Looking South)



END VIEW  
(Looking North)

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	20.0

LEGEND

- Structural Repair of Concrete  
(Depth equal to or less than 5")
- H.L. Hairline Crack - Not to be sealed

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 7/21/2006

PIER 1 REPAIR DETAILS  
RENWICK ROAD OVER I-55  
SECTION 2006-032 BY  
WILL COUNTY  
STA. 412+07.78  
STRUCTURE NO. 099-0212



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO.
FAT 55	**	WILL	505	393	5 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

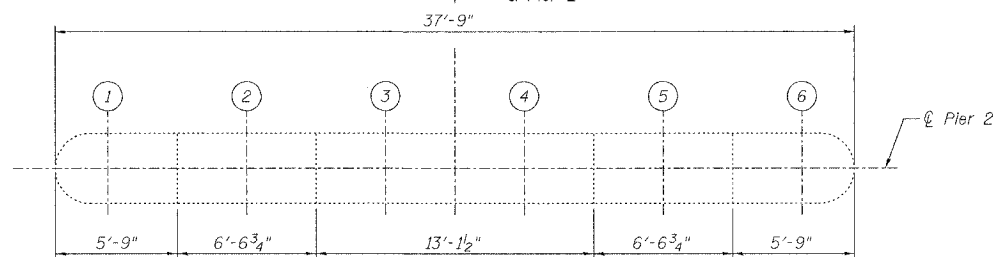
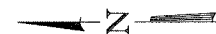
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

Notes:

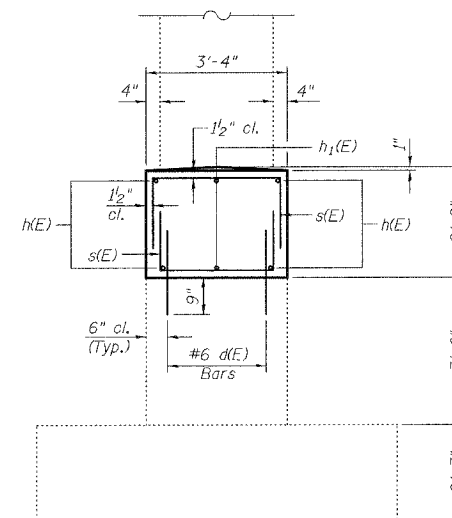
- Reinforcement designated "(E)" shall be epoxy coated.
- Drill and grout #6 d(E) in 9" min. drilled holes according to Section 584 of the Standard Specifications. Method and grout are subject to the approval of the Engineer. Cost included with Reinforcement Bars, Epoxy Coated.
- Existing reinforcement extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Minimum lap shall be 1'-8" for #4 bars & 2'-2" for #5 bars.

LEGEND

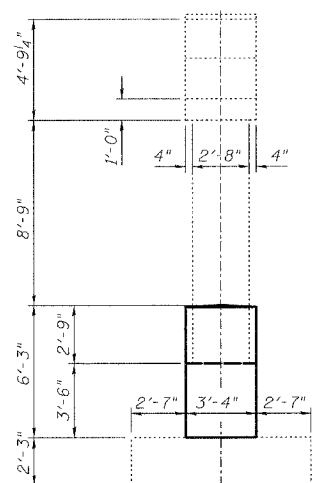
	Structural Repair of Concrete (Depth equal to or less than 5")
	Concrete Removal



TOP PLAN

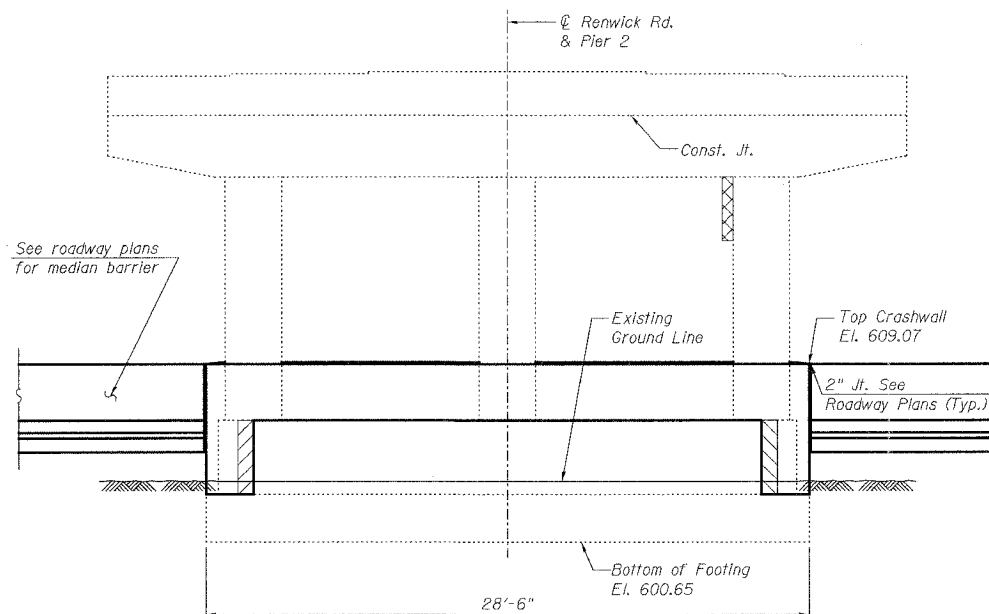


SECTION A-A



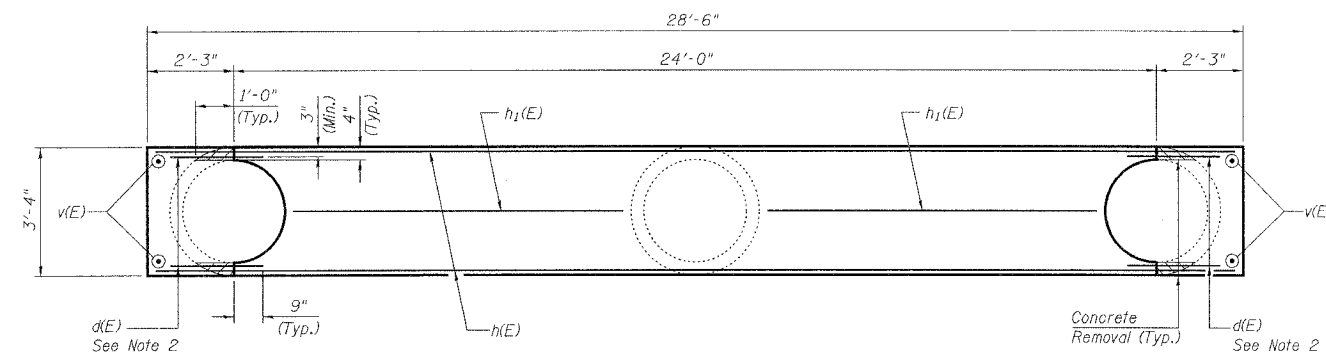
END VIEW

(Looking South)  
(Reinforcement Not Shown)



PIER ELEVATION

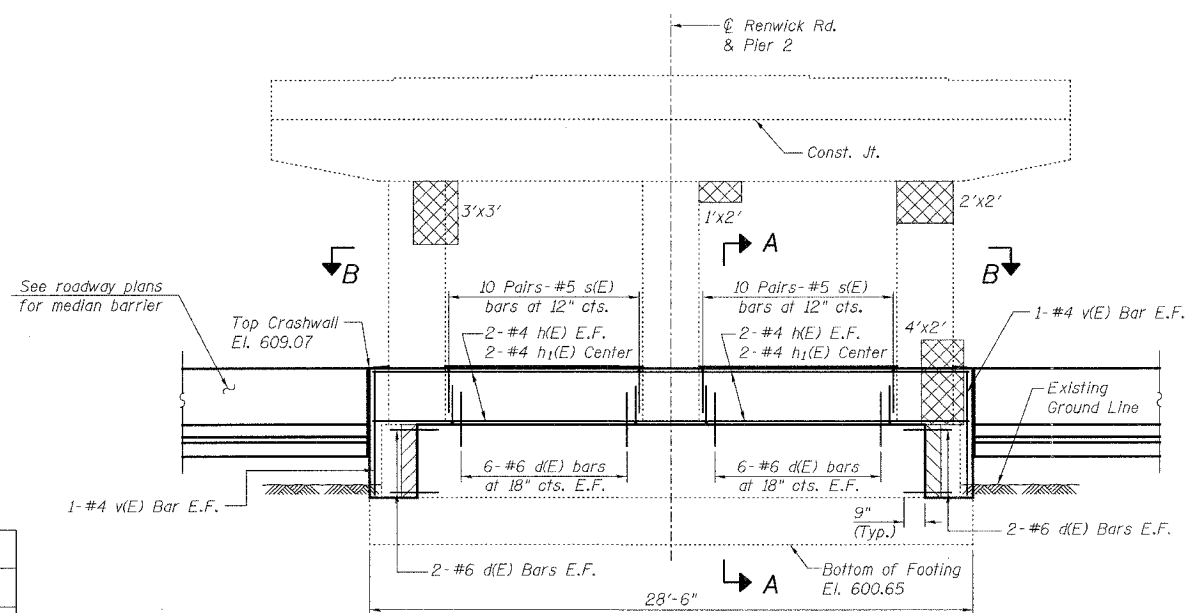
(Looking East)  
(Reinforcement Not Shown)



SECTION B-B

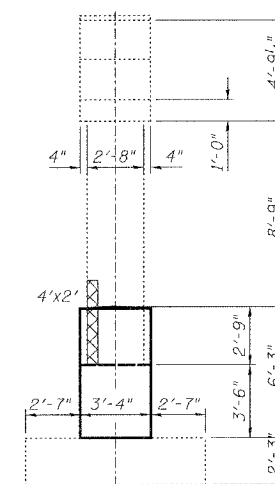
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	32	#6	2'-9"	—
h(E)	4	#4	28'-3"	—
h1(E)	4	#4	9'-1"	—
v(E)	4	#4	5'-11"	—
s(E)	40	#5	7'-9"	U
Item	Unit	Total		
Concrete Structures	Cu. Yd.	9.8		
Concrete Removal	Cu. Yd.	0.2		
Reinforcing Bars, Epoxy Coated	Pound	580		
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	23.0		



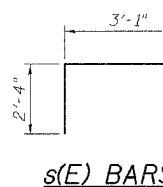
PIER ELEVATION

(Looking West)  
(Reinforcement Shown)



END VIEW

(Looking North)  
(Reinforcement Not Shown)



s(E) BARS

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 7/21/2006

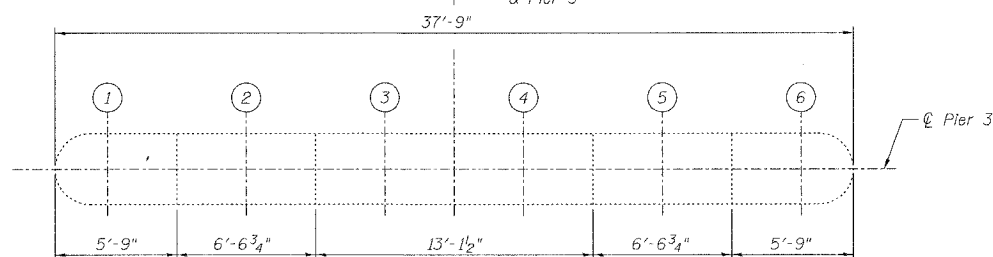
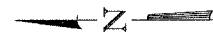


PIER 2 REPAIR DETAILS  
RENWICK ROAD OVER I-55  
SECTION 2006-032 BY  
WILL COUNTY  
STA. 412+07.78  
STRUCTURE NO. 099-0212

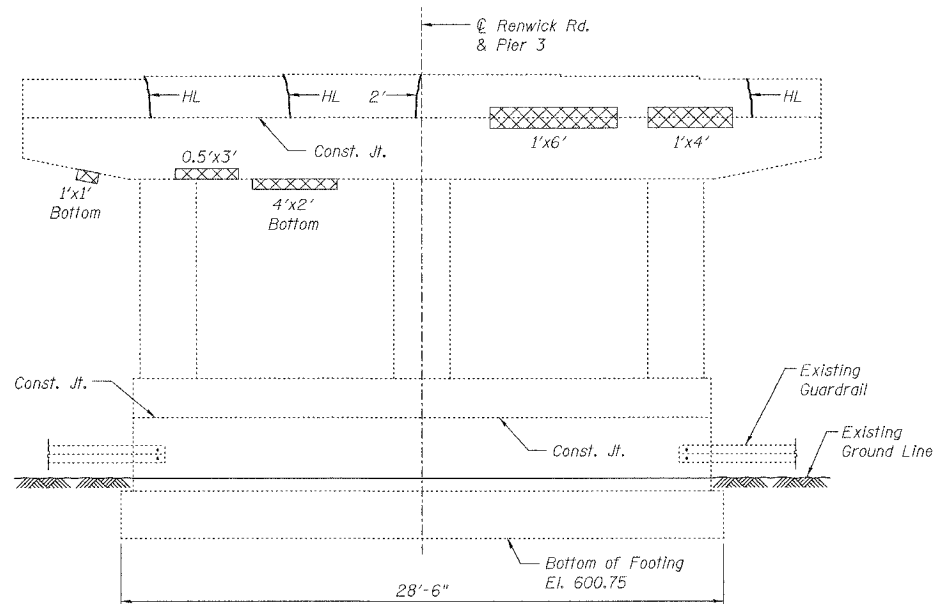
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO.
FAI 55	**	WILL	505	394	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

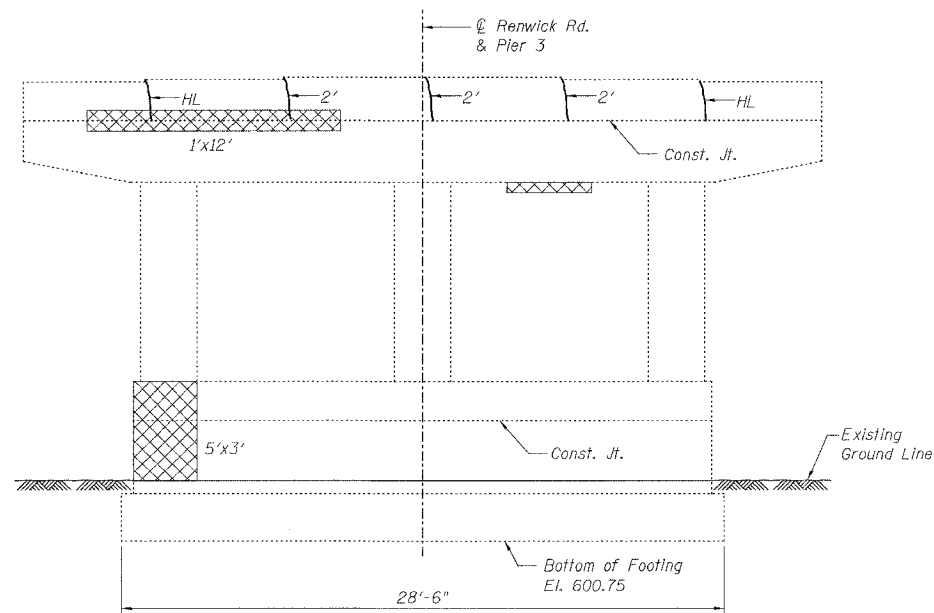
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



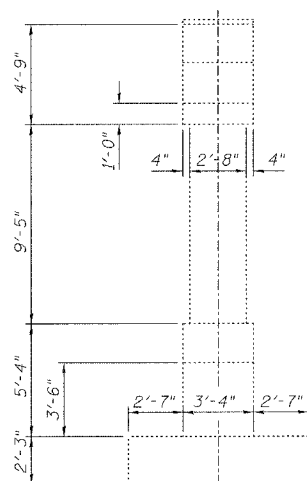
TOP PLAN



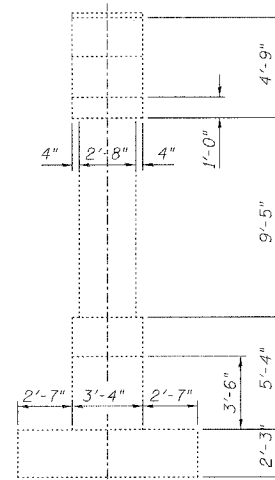
PIER ELEVATION  
(Looking East)



PIER ELEVATION  
(Looking West)



END VIEW  
(Looking South)



END VIEW  
(Looking North)

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	47.5
Epoxy Crack Sealing	Foot	8

LEGEND

- Structural Repair of Concrete  
(Depth equal to or less than 5")
- Epoxy Crack Sealing
- H.L. Hairline Crack - Not to be sealed

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 7/21/2006

PIER 3 REPAIR DETAILS  
RENWICK ROAD OVER I-55  
SECTION 2006-032 BY  
WILL COUNTY  
STA. 412+07.78  
STRUCTURE NO. 099-0212



B.M. 3249  
Cul square on E. edge and S. end of middle pier of Rt. 126 bridge over I-55.  
El. 625.30

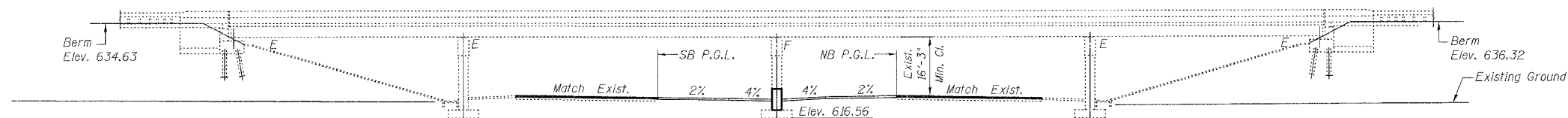
Existing Structure -  
Structure No. 099-0031 was constructed in 1955 under Section No. 27 HB-1. The superstructure and substructure was rehabilitated in 1993 under Section No. 27 HB-1BR. The bridge deck was removed and replaced and the substructure was raised approximately 2'-0" to accommodate an existing vertical clearance of 16'-3". The existing structure is 309'-4" Bk. to Bk. of Abutments and consists of a four span 32'-0" wide reinforced concrete deck supported on a continuous non-composite wide flange steel beam superstructure. The substructure consists of concrete piers and bent type abutments supported on a concrete pile foundation.

Salvage -  
None

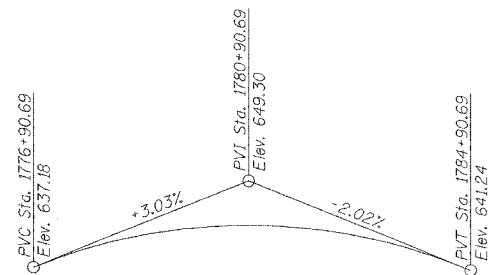
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO.
FAI 55	**	WILL	505	395	5 SHEETS

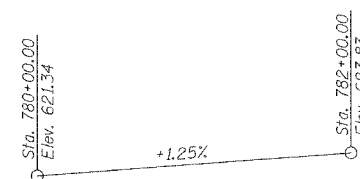
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86



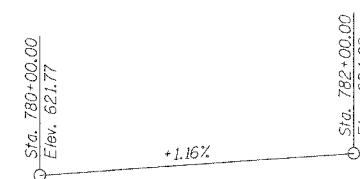
ELEVATION



EXISTING IL. RTE. 126 (RAMP B)  
PROFILE GRADE



SB I-55 PROFILE GRADE



NB I-55 PROFILE GRADE

SCOPE OF WORK

1. Repair substructure defects at Pier 1, Pier 2, & Pier 3 with Structural Repair of Concrete and/or Epoxy Crack Sealing.
2. The Pier 2 Crashwall will be extended to a height equal to 42" from edge of pavement to match the proposed I-55 mainline median barrier configuration.

DESIGN SPECIFICATIONS

AASHTO 2002

LOADING HS20-44

Allow 25#/sq. ft. for future wearing surface.

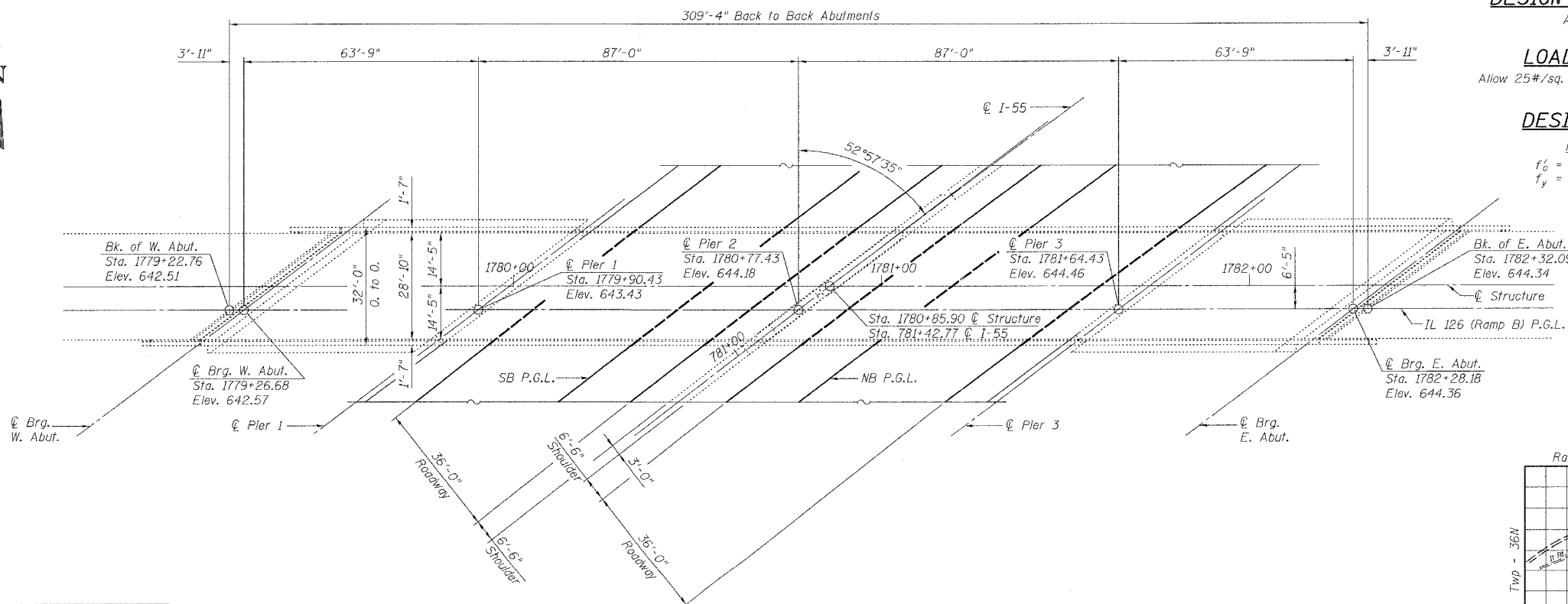
DESIGN STRESSES

FIELD UNITS

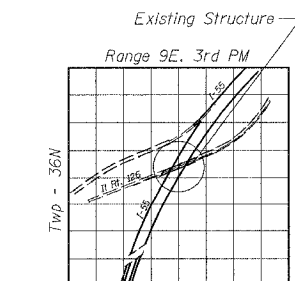
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)

PROP. I-55 CURVE DATA C21

P.I. Sta. = 779+08.16  
 $\Delta = 53^\circ 46' 28''$  (RT.)  
 $D = 1^\circ 14' 58''$   
 $R = 4,586.00'$   
 $T = 2,325.33'$   
 $L = 4,304.16'$   
 $E = 555.84''$   
P.C. Sta. = 755+82.83  
P.T. Sta. = 798+86.99



PLAN



LOCATION SKETCH



Signed *Jamal I. Grainawi*  
Jamal I. Grainawi, S.E. IL. Lic. No. 081-005161  
Expires 11-30-2006  
Date 07-25-2006

GENERAL PLAN AND ELEVATION  
IL. ROUTE 126 (RAMP B)  
OVER FAI ROUTE 55 (I-55)  
SECTION 2006-032 BY  
WILL COUNTY  
STA. 1780+77.43  
STRUCTURE NO. 099-0031



DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 7/21/2006

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	WILL	505	396
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

GENERAL NOTES:

- Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work; however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.
- All Construction joints shall be bonded.

INDEX OF SHEETS

- Existing General Plan & Elevation
- General Notes & Bill of Materials
- Pier 1 Repair Details
- Pier 2 Repair Details
- Pier 3 Repair Details

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		0.5	0.5
Concrete Structures	Cu. Yd.		4.4	4.4
Reinforcement Bars, Epoxy Coated	Pound		310	310
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.		178.3	178.3
Epoxy Crack Sealing	Foot		3	3

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 7/21/2006

GENERAL NOTES  
& BILL OF MATERIALS  
IL. ROUTE 126 (RAMP B)  
OVER FAI ROUTE 55 (I-55)  
SECTION 2006-032 BY  
WILL COUNTY  
STA. 1780+77.43  
STRUCTURE NO. 099-0031



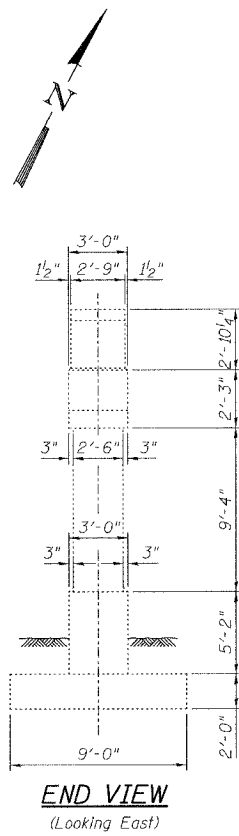


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

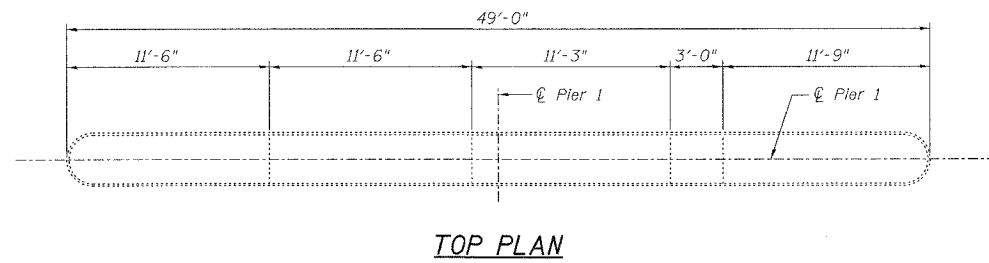
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	WILL	505	397
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO.		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

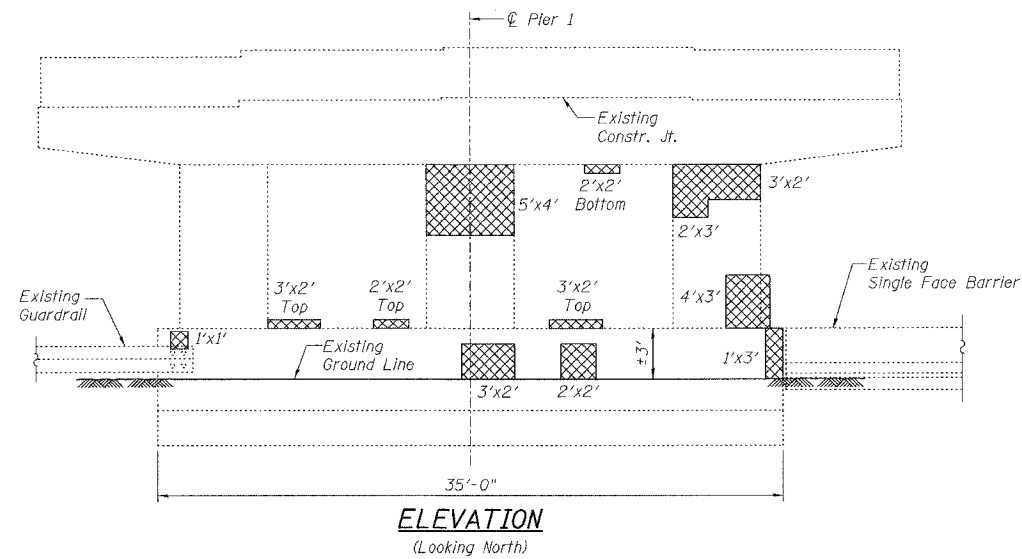
SHEET NO. 3  
5 SHEETS



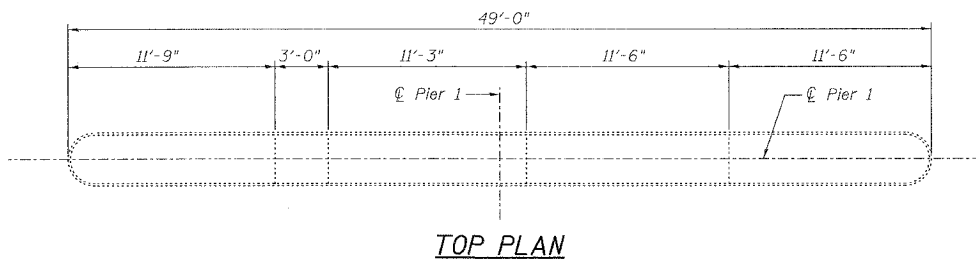
END VIEW  
(Looking East)



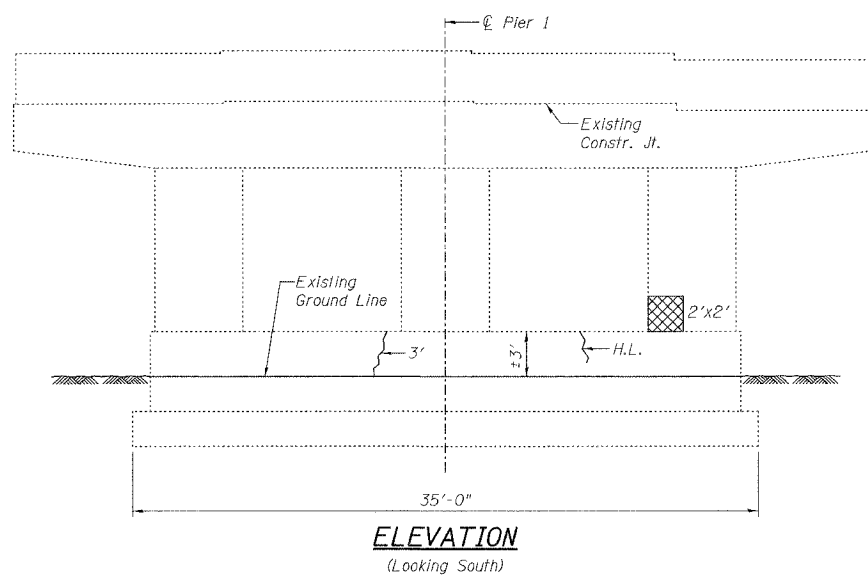
TOP PLAN



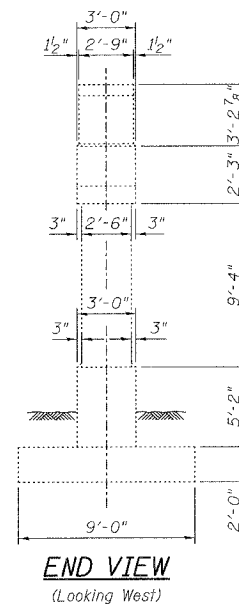
ELEVATION  
(Looking North)



TOP PLAN



ELEVATION  
(Looking South)



END VIEW  
(Looking West)

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	82.0
Epoxy Crack Sealing	Foot	3

LEGEND

- Structural Repair of Concrete  
(Depth equal to or less than 5")
- Epoxy Crack Sealing
- H.L. Hairline Crack - not to be sealed

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 7/21/2006

PIER 1 REPAIR DETAILS  
IL. ROUTE 126 (RAMP B)  
OVER FAI ROUTE 55 (I-55)  
SECTION 2006-032 BY  
WILL COUNTY  
STA. 1780+77.43  
STRUCTURE NO. 099-0031



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION




ROUTE NO.	SECTION	COUNTY	STATE	SHEET	SHEET NO. 4 5 SHEETS
FAI 55	**	WILL	505	398	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

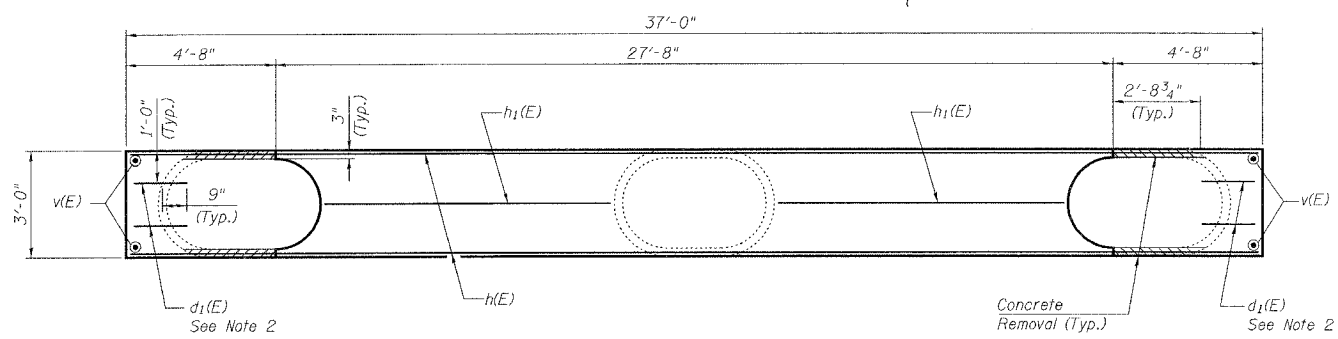
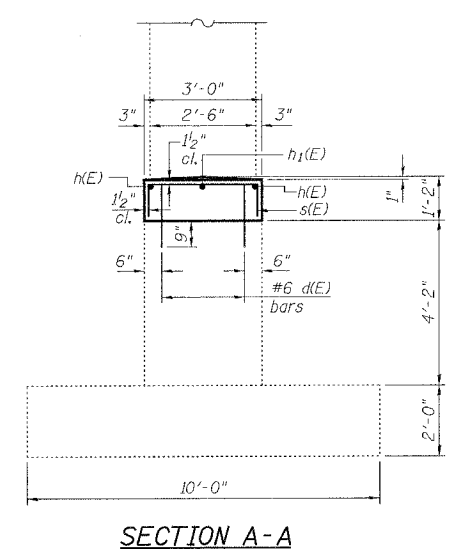
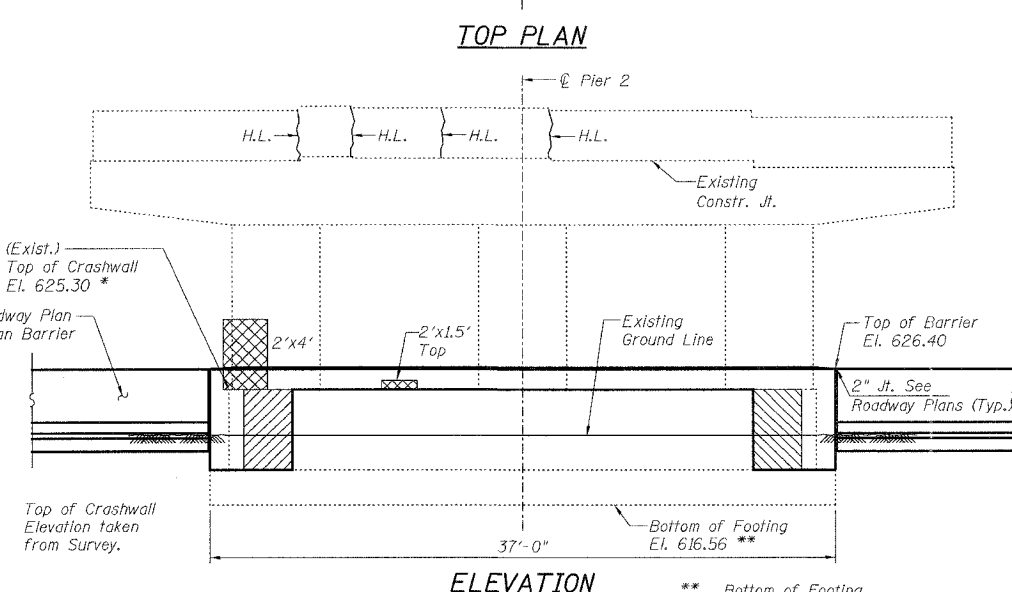
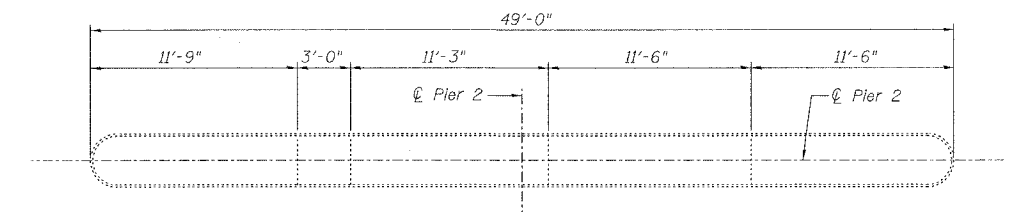
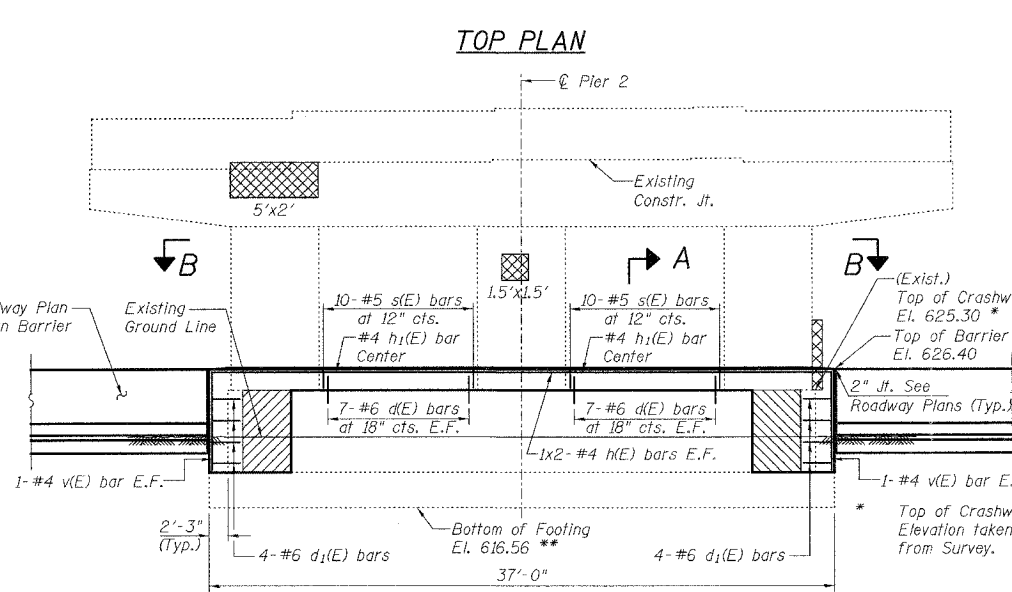
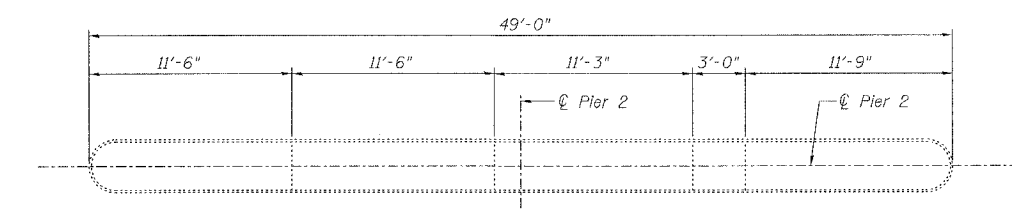
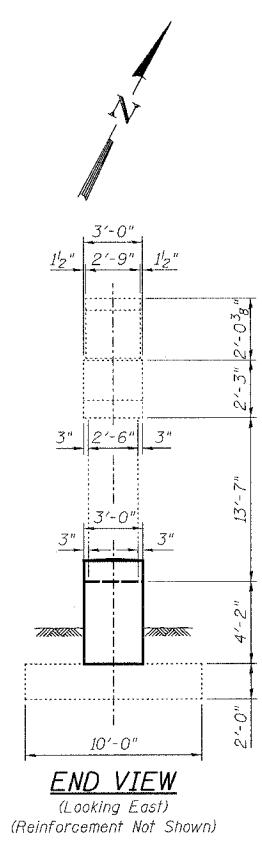
\*\* SECTION 2006-032 BY  
CONTRACT NO. 60886

Notes:

1. Reinforcement designated "(E)" shall be epoxy coated.
2. Drill and grout #6 d(E) & #6 d<sub>1</sub>(E) in 9" min. drilled holes according to Section 584 of the Standard Specifications Method and grout are subject to the approval of the Engineer. Cost included with Reinforcement Bars, Epoxy Coated.
3. Existing reinforcement extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
4. Bars indicated thus 1 x 2 - #4 etc. indicates 1 line of bars with 2 lengths per line.
5. Minimum lap shall be 1'-8" for #4 bars.

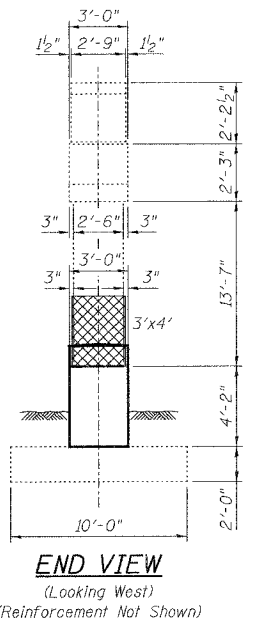
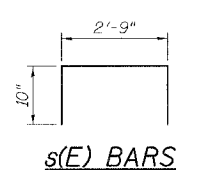
LEGEND

-  Structural Repair of Concrete (Depth equal to or less than 5")
-  Concrete Removal
-  H.L. Hairline Crack - Not to be sealed



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	28	#6	1'-9"	—
d <sub>1</sub> (E)	16	#6	2'-10"	—
h(E)	4	#4	19'-4"	—
h <sub>1</sub> (E)	2	#4	8'-3"	—
v(E)	4	#4	5'-0"	—
s(E)	20	#5	4'-5"	—
Item	Unit	Total		
Concrete Structures	Cu. Yd.	4.4		
Concrete Removal	Cu. Yd.	0.5		
Reinforcing Bars, Epoxy Coated	Pound	310		
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	35.3		



DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 7/21/2006



PIER 2 REPAIR DETAILS  
IL. ROUTE 126 (RAMP B)  
OVER FAI ROUTE 55 (I-55)  
SECTION 2006-032 BY  
WILL COUNTY  
STA. 1780+77.43  
STRUCTURE NO. 099-0031

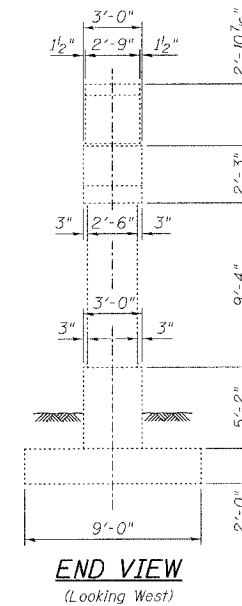
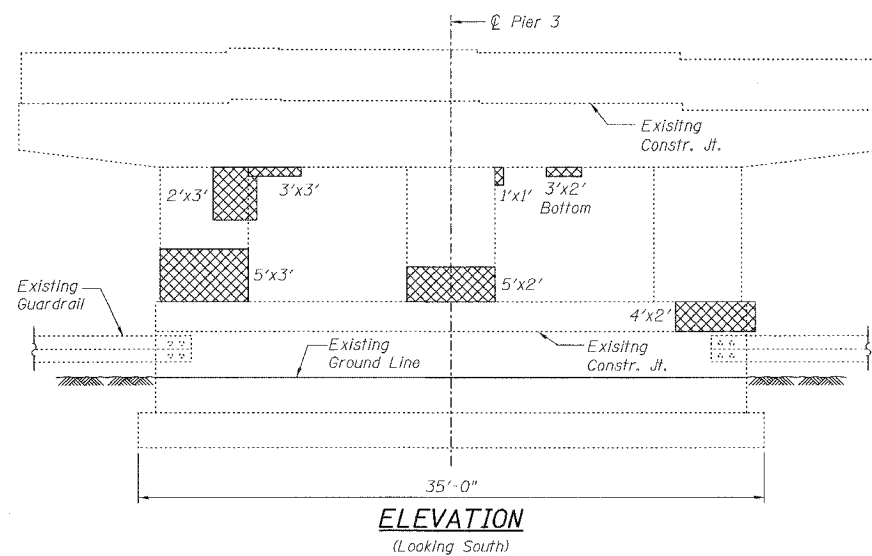
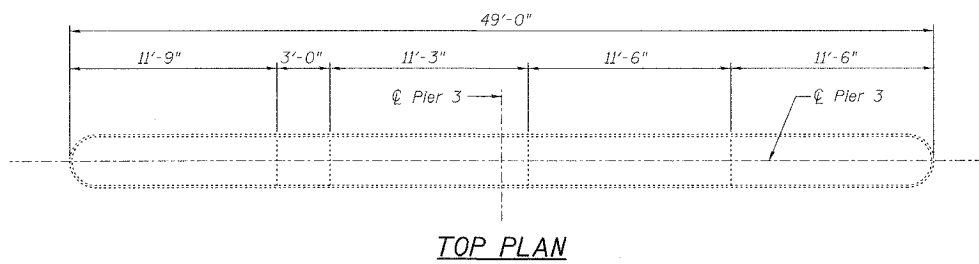
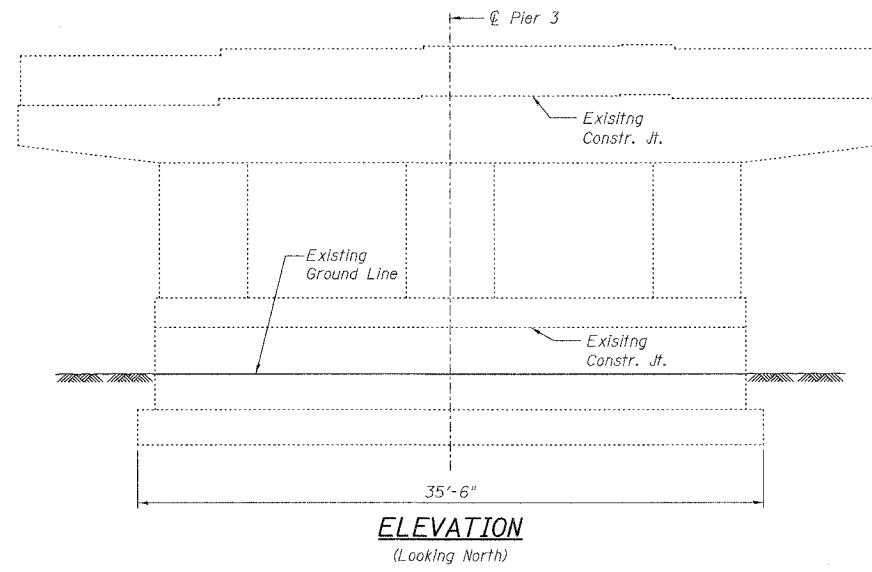
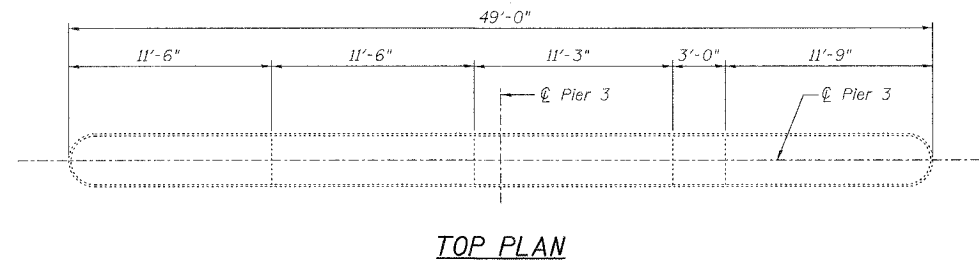
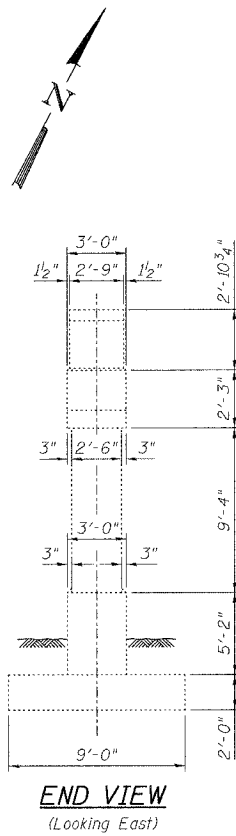
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 55	**	WILL	505	399
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

\*\* SECTION 2006-032 BY  
CONTRACT NO. 60B86

SHEET NO. 5  
5 SHEETS



**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	61.0

**LEGEND**

Structural Repair of Concrete  
(Depth equal to or less than 5")

DESIGNED	S.CHELBIAN
CHECKED	J.GRAINAWI
DRAWN	D.C.PATEL
CHECKED	J.GRAINAWI

Date: 7/21/2006

PIER 3 REPAIR DETAILS  
IL. ROUTE 126 (RAMP B)  
OVER FAI ROUTE 55 (I-55)  
SECTION 2006-032 BY  
WILL COUNTY  
STA. 1780+77.43  
STRUCTURE NO. 099-0031



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DIST.	SHEET
F.A.I. 55	2006-032 BY	WILL	505	400
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT #: 60886				

SHEET NO. S-1  
S-10 SHEETS

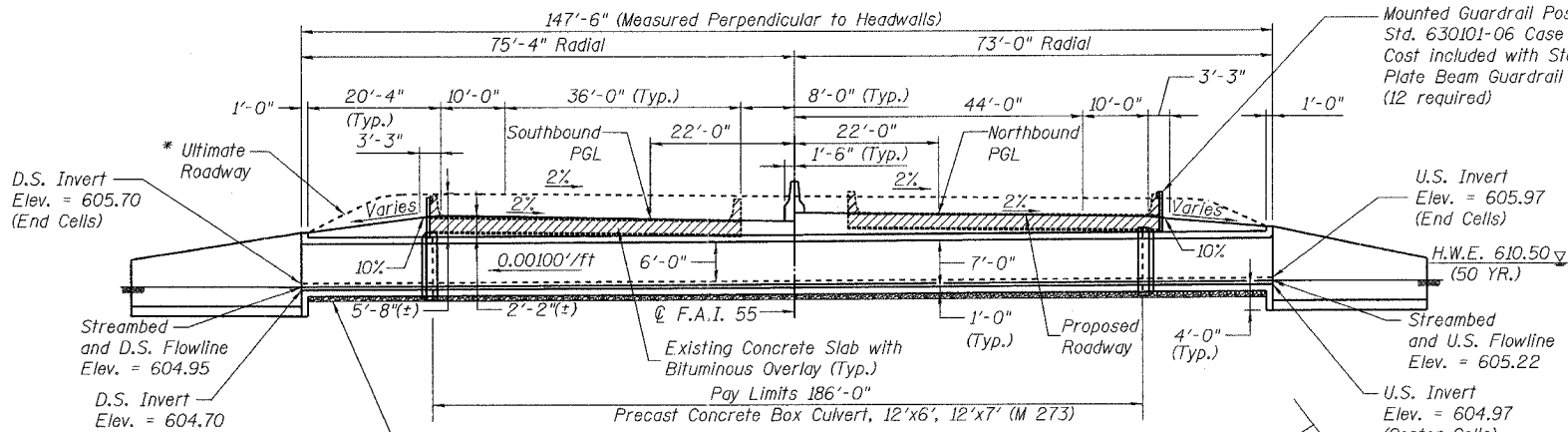
Benchmark: # 3245  
Cut square on top of southwest abutment-wingwall  
corner of southbound I-55 bridge SN 099-0025  
Sta. 771+69.73, 55.51' LT  
Elev. = 615.67

Benchmark: # 3246  
Found square cut on top of southeast corner of  
abutment-wingwall of northbound I-55 bridge  
SN 099-0024  
Sta. 773+18.43, 54.59' RT  
Elev. = 615.57

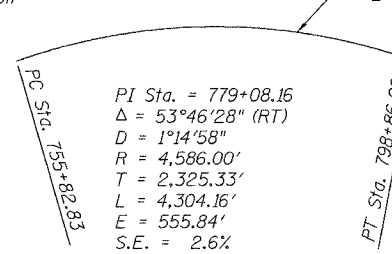
Existing Structures:  
SN 099-0024 Northbound Structure  
SN 099-0025 Southbound Structure  
Built originally in 1956 as single span  
deck slab structures. The structures were  
rehabilitated in 1975 and 1995. The structures  
are 36'-7" long with a clear width of 34'-0 1/2"  
measured parallel to the roadway centerline.

No Salvage

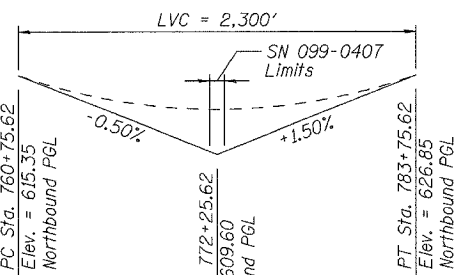
Staging:  
Two lanes of traffic shall be maintained in each  
direction utilizing staged construction.



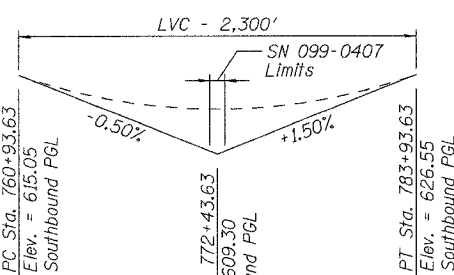
**LONGITUDINAL SECTION**  
(Looking North)



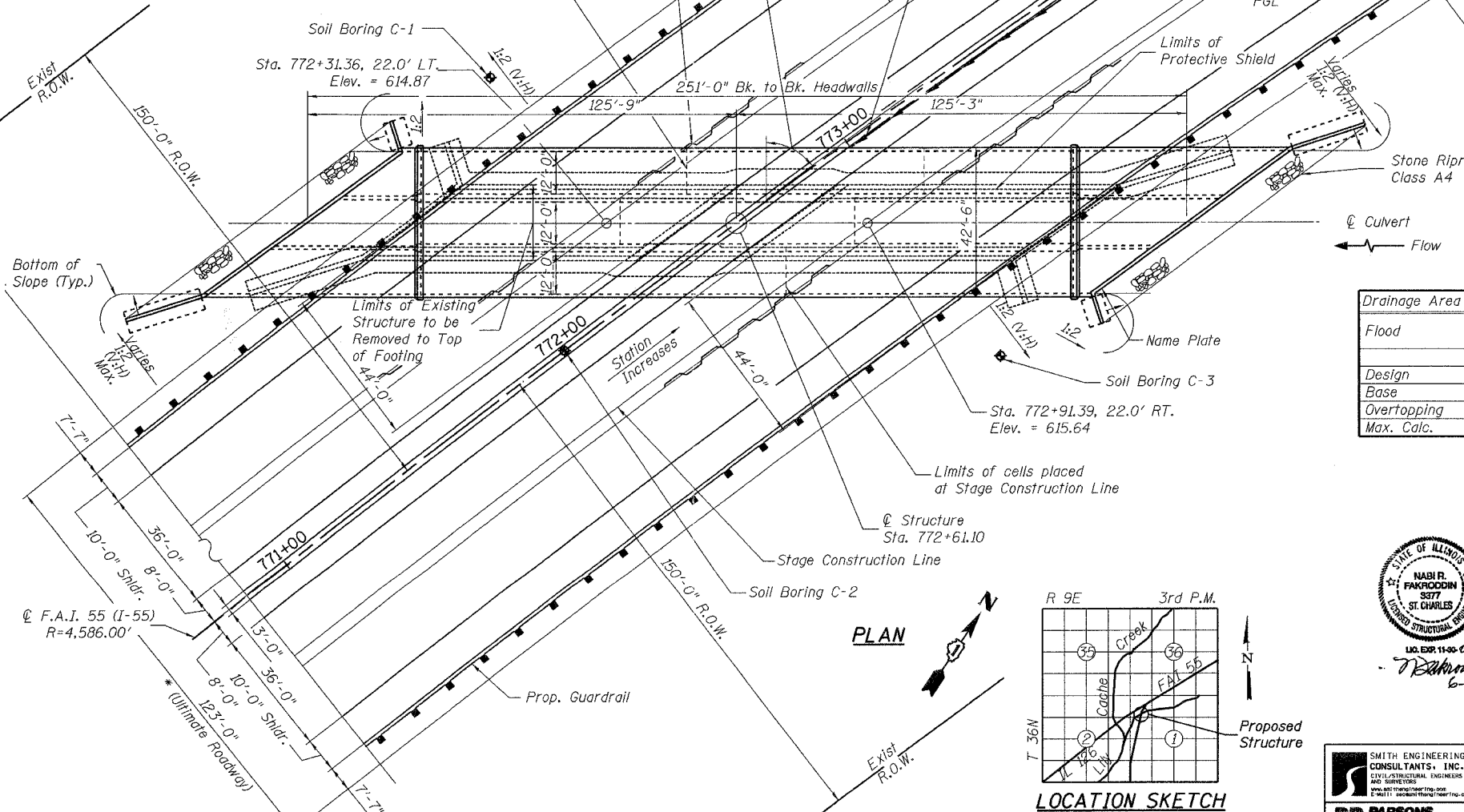
**PROPOSED AND ULTIMATE  
ROADWAY CURVE DATA 21**



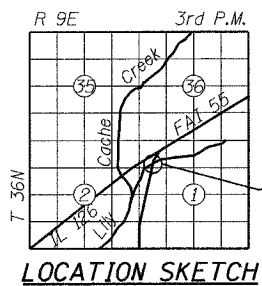
**PROFILE GRADE I-55**  
(Northbound)



**PROFILE GRADE I-55**  
(Southbound)



**PLAN**



**LOCATION SKETCH**

**LOADING HS20-44 & ALTERNATE**

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

**DESIGN SPECIFICATIONS**

2002 AASHTO

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c$  = 3,500 psi  
 $f_y$  = 60,000 psi (Reinforcement Bars)

**PRECAST UNITS**

$f'_c$  = 5,000 psi  
 $f_y$  = 65,000 psi (Welded Wire Fabric)

\* Ultimate profile is a future condition  
accommodated in design. The ultimate  
profile is not a part of this contract.

**WATERWAY INFORMATION**

Drainage Area = 6.2 Sq Mi Exist. & Prop. Low Grade Elev. 614.08 @ Sta. 767+41.70

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	10	393	71.50	116.40	609.30	2.00	0.32	611.30	609.62
Base	50	513	94.30	159.60	610.50	1.62	0.24	612.12	610.74
Overtopping	100	769	100.00	170.00	610.80	2.26	0.50	613.06	611.30
Max. Calc.	500	1080	119.00	206.40	611.80	1.56	0.64	613.36	612.44

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

*Rafiq E. Anderson* P.E.  
ENGINEER OF BRIDGES AND STRUCTURES



LIC. EXP. 11-05-06  
*N. Farroodin*  
6-28-06

DESIGNED	M Herding
CHECKED	N Fekroddin
DRAWN	M Williams
CHECKED	N Fekroddin



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
GENERAL PLAN AND ELEVATION  
I-55 OVER  
LILY CACHE SLOUGH  
F.A.I. ROUTE 55 SECTION 2006-032 BY  
WILL COUNTY  
STA. 772+61.10  
SN 099-0407  
DATE 07-05-2006