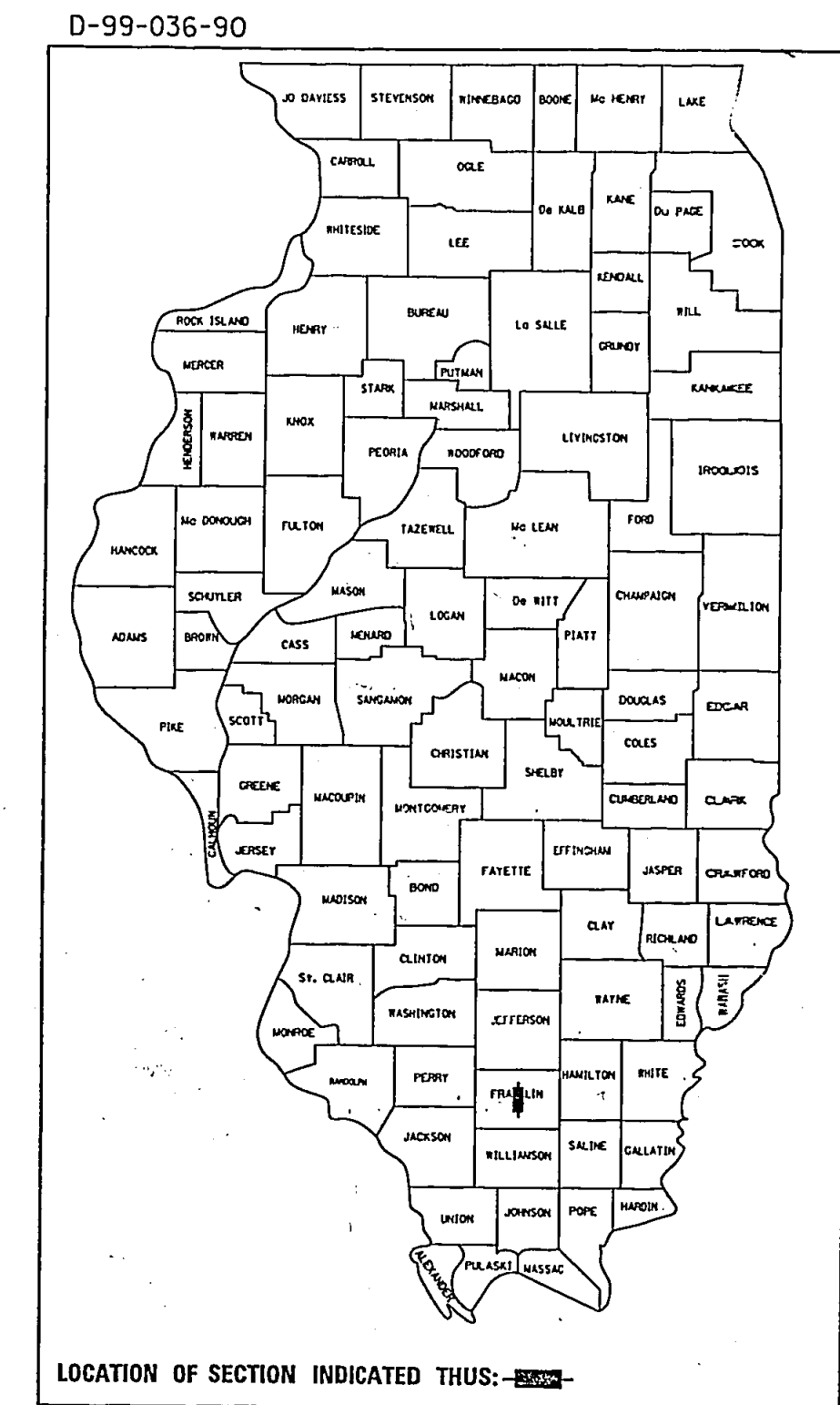
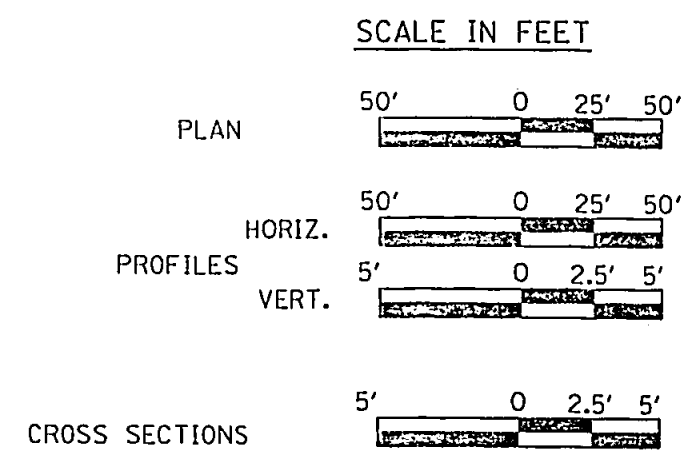


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

F.A.I. ROUTE 57
SECTION 28(5B-1,5B,2B,1B)D; 28(5VB,3VB-1)I
FRANKLIN COUNTY
PROJECT NO. IM-57-2(132)63
C-99-006-91

FOR INDEX OF SHEETS, SEE SHEET NO.2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO.3-4



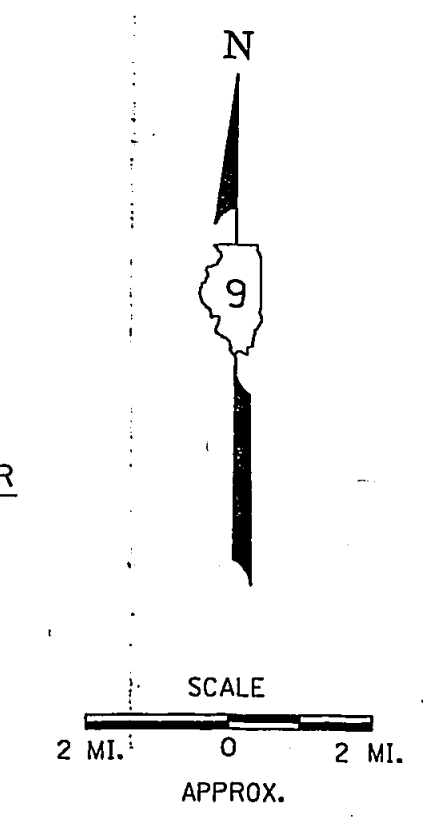
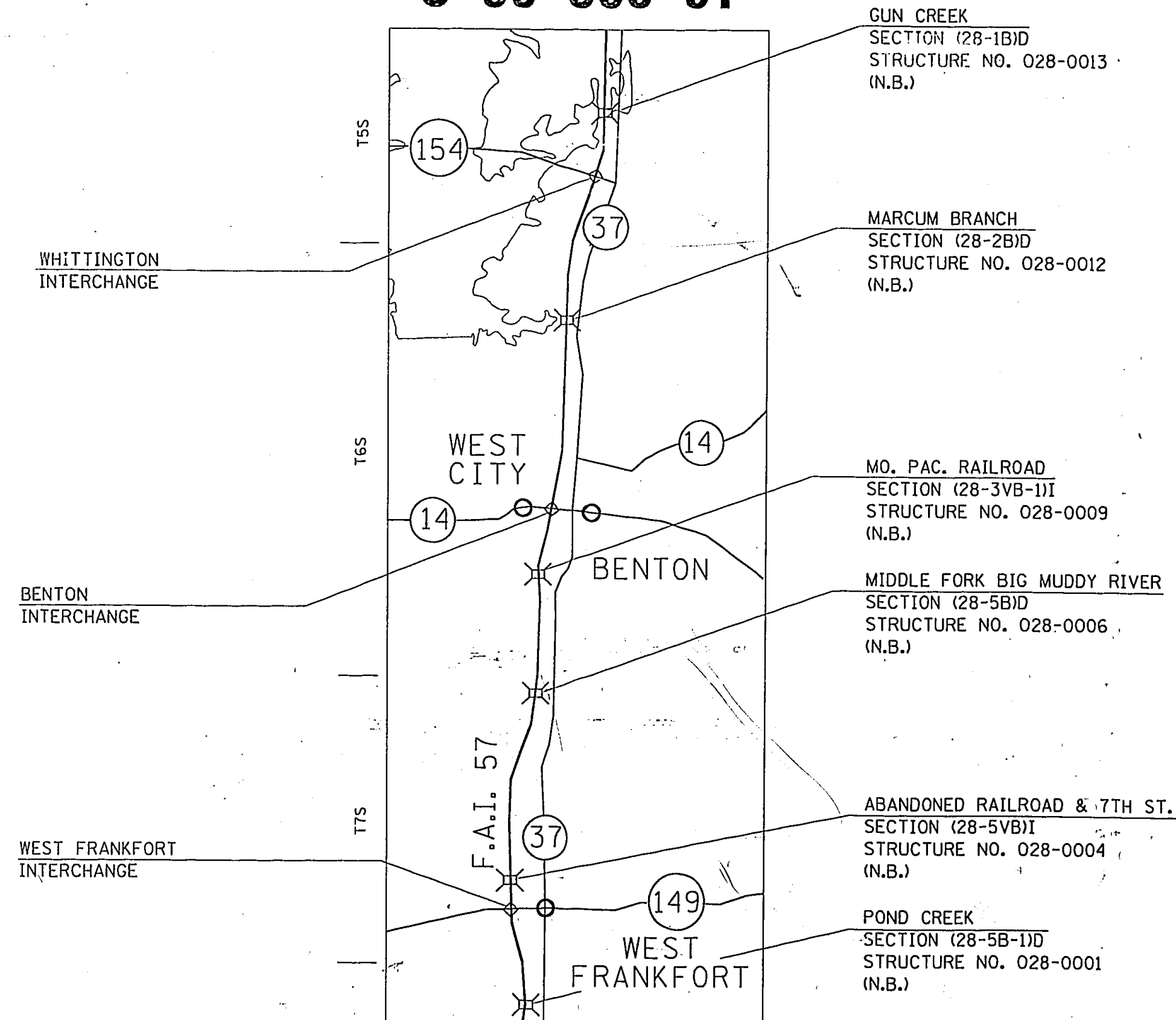
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 5/106 19 92
Paul D. Bartelme DISTRICT ENGINEER

EXAMINED 19
ENGINEER OF PLANS AND CONTRACTS

PASSED June 12, 19 92
Nancy D. Gould ENGINEER OF DESIGN

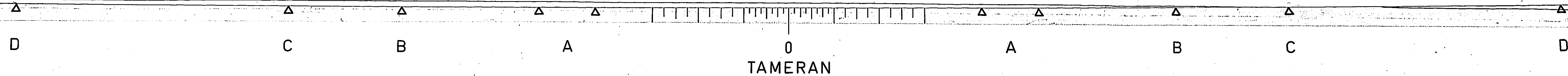
APPROVED June 12, 19 92
Laurel C. Welton DIRECTOR, DIVISION OF HIGHWAYS



JULIE 1-800-892-0123

CONTRACT NO. 98148

COUNTY: FRANKLIN SECTION: 28(5B-1,5B,2B,1B)D ; 28(5VB,3VB-1)I ROUTE: F.A.I. RTE. 57
Sheets 1 Thru 100



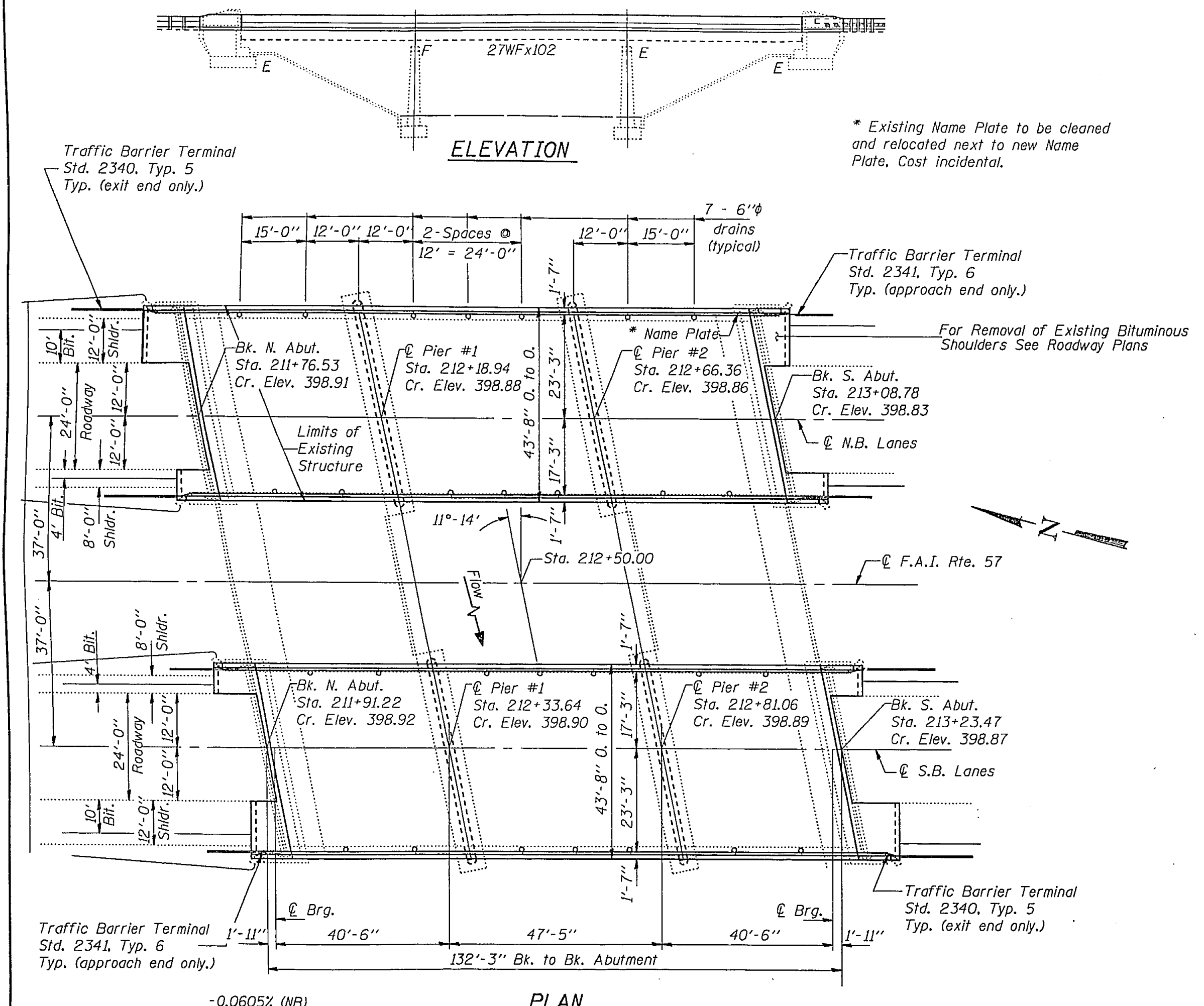
PROJECT ENGINEER: JOSE RUIZ
SQUAD LEADER: ED SHAFER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO. 1
F.A.I. RT. 57	28-5B-1D	FRANKLIN	125	125
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		16 SHEETS

Bench Mark: "□" Cut in S.W. corner of East hubguard of Pond Creek Bridge - Northbound Lane, Sta. 212+50 - Elevation 399.40
Existing Structure: 028-0001 (N.B.) Built as F.A.I. Route 57, Sec. 28-5B-1 in 1961. Superstructure consists of R.C. deck supported on a 3 span continuous W.F. beams. Temporary median cross-overs shall be utilized to divert traffic over adjacent bridge 028-0002 (S.B.) during reconstruction.

No Salvage



STATION 212+50.00
REBUILT 19 BY
STATE OF ILLINOIS
F.A.I. RT. 57 SEC. (28-5B-1D)
F.A. PROJECT: M-57-2(12)63
LOADING HS20 & ALT.
STR. NO. 028-0001
NAME PLATE
See Std. 2113

GENERAL NOTES

Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer. For cantilever forming bracket, See Special Provisions. Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60. Plan dimensions and details relative to existing structure have been taken from existing plans and field survey 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 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 bid for the work. All beams shall be lowered 1/8" from original position. (See Sht. #8 of 16) Two 1/2" 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, shims of the dimensions of top plate shall be provided and placed as detailed. The Contractor will be required to mark, on top of the concrete deck, the locations of the top flange of all the steel beams, prior to any removal of the bridge concrete deck. Saw cutting directly over the top of the beam flanges is not permitted. All top surfaces of the abutments shall receive Bridge Seat Sealer. Estimated quantity = 177 Sq. Ft. The first two coats of the Lead and Chromate free Alkyd Paint System shall be used for shop and field painting of new structural steel. Structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting New Steel and Adjacent Areas of Existing Steel Structures". Prior to Welding Studs and pouring the new concrete for the deck, all loose rust, loose mill scale and all other foreign material shall be removed from the embedded portions of flanges of stringers. The removal shall be accomplished in accordance with the requirements of the SSPC Surface Preparation Specifications SP-11 for power tool cleaning or SP-2 for hand tool cleaning. Cost shall be incidental to "Removal of Existing Concrete Deck".

TOTAL BILL OF MATERIAL

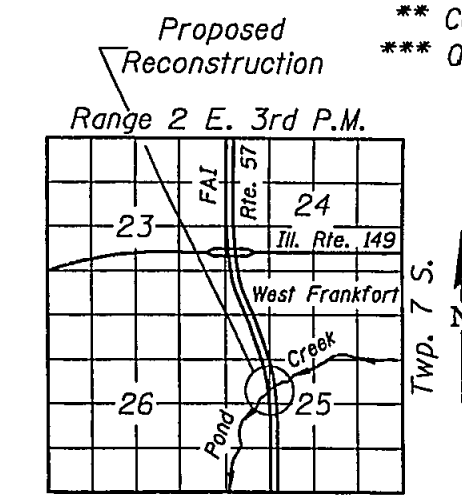
ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		9	9
Removal of Existing Concrete Deck	Each	1		1
Floor Drains	Each	14		14
Preformed Joint Seal 2 1/2"	Lin. Ft.	44		44
Preformed Joint Seal 4"	Lin. Ft.	44		44
Class X Concrete Superstructure	Cu. Yd.	187.1		187.1
Protective Coat	Sq. Yd.	690		690
Elastomeric Bearing Assembly, Type I	Each	14		14
Elastomeric Bearing Assembly, Type II	Each	7		7
Structural Steel	Lbs.	9,690		9,690
Stud Shear Connectors	Each	3,150		3,150
Reinforcement Bars, Epoxy Coated	Pound	44,150		44,150
Name Plates	Each	1		1
Bridge Seat Sealer	L. Sum	0.25		0.25
Jack and Remove Existing Bearings	Each	28		28
Bridge Deck Grooving	Sq. Yd.	584		584
Structure Excavation	Cu. Yd.		22.0	22.0

DESIGN SPECIFICATIONS

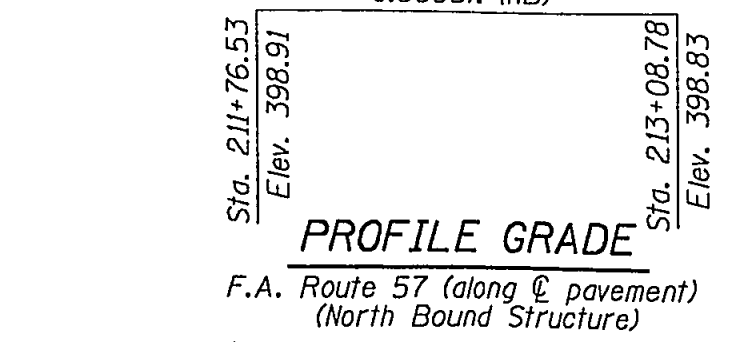
1989 AASHTO with 1990 & 1991 Interims & Seismic Retrofitting Guidelines for Highway Bridges.
LOADING HS 20-44 & Alt.
Allow 25#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS
New Construction
f_c = 3,500 psi
f_y = 60,000 psi (Reinf.)
f_y = 33,000 psi (Existing Structural Steel)
f_y = 36,000 psi (New Structural Steel)



GENERAL PLAN
F.A.I. ROUTE 57 OVER
POND CREEK
F.A.I. ROUTE 57 SECTION (28-5B-1D)
FRANKLIN COUNTY
STATION 212+50.00
STRUCTURE NUMBER 028-0001 (N.B.)



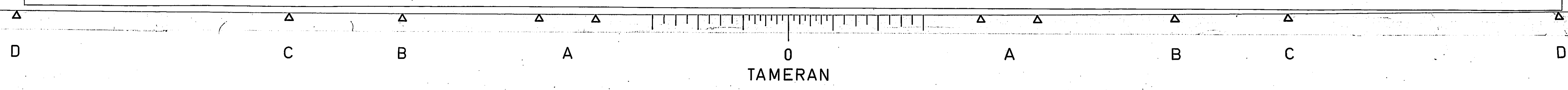
Note:
Only the North bound structure is included in this contract. South bound structure shown for information only.

DESIGNED *Richard J. Chappert*
CHECKED *Stuart P. Michael*
DRAWN *Paul W. Sweet*
CHECKED *RJC RBS*

EXAMINED *May 22 1992*
PASSED *Richard E. Anderson*
APPROVED *[Signature]*

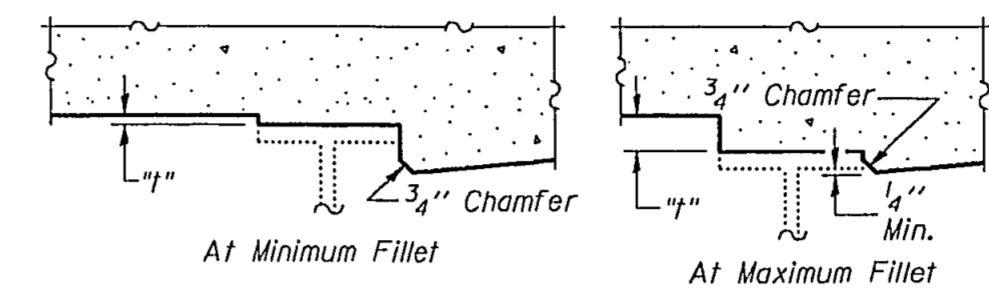
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES
DIRECTOR OF HIGHWAYS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
021-CO-336

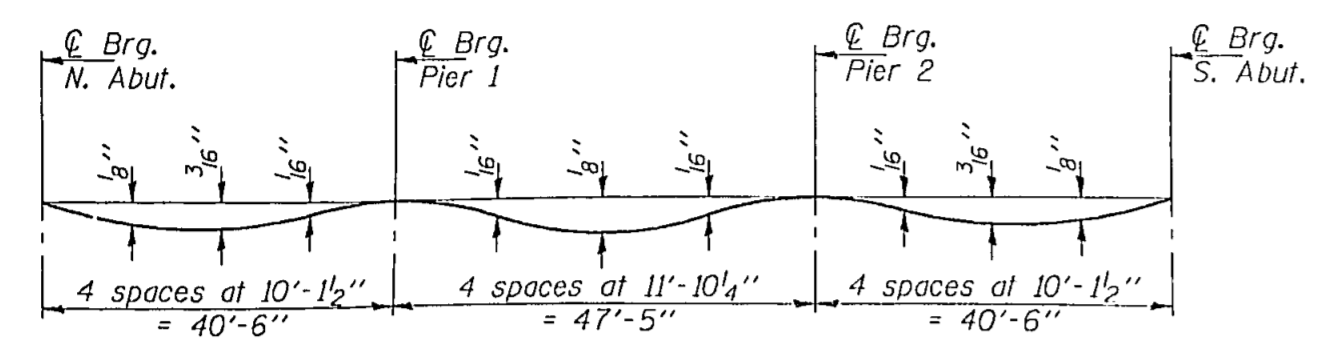


D9903690A

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO. 2
F.A.I. 57	28-5B-110	FRANKLIN	155	126
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT-		16 SHEETS



DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only)

Note: 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 as shown below.

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

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21171.986	-22.875	398.562	398.562
€ Brg. N. Abut.	21173.902	-22.875	398.561	398.561
A	21183.902	-22.875	398.555	398.566
B	21193.902	-22.875	398.549	398.563
C	21203.902	-22.875	398.543	398.550
€ Brg. Pier 1	21214.402	-22.875	398.537	398.537
D	21224.402	-22.875	398.531	398.536
E	21234.402	-22.875	398.524	398.534
F	21244.402	-22.875	398.518	398.527
G	21254.402	-22.875	398.512	398.516
€ Brg. Pier 2	21261.819	-22.875	398.508	398.508
H	21271.819	-22.875	398.502	398.509
I	21281.819	-22.875	398.496	398.510
J	21291.819	-22.875	398.490	398.501
€ Brg. S. Abut.	21302.319	-22.875	398.483	398.483
Bk. S. Abut.	21304.236	-22.875	398.482	398.482

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21173.302	-16.250	398.699	398.699
€ Brg. N. Abut.	21175.218	-16.250	398.698	398.698
A	21185.218	-16.250	398.692	398.703
B	21195.218	-16.250	398.686	398.700
C	21205.218	-16.250	398.680	398.687
€ Brg. Pier 1	21215.718	-16.250	398.674	398.674
D	21225.718	-16.250	398.668	398.673
E	21235.718	-16.250	398.661	398.671
F	21245.718	-16.250	398.655	398.664
G	21255.718	-16.250	398.649	398.653
€ Brg. Pier 2	21263.135	-16.250	398.645	398.645
H	21273.135	-16.250	398.639	398.646
I	21283.135	-16.250	398.633	398.647
J	21293.135	-16.250	398.627	398.638
€ Brg. S. Abut.	21303.635	-16.250	398.620	398.620
Bk. S. Abut.	21305.552	-16.250	398.619	398.619

EAST LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21174.146	-12.000	398.786	398.786
€ Brg. N. Abut.	21176.063	-12.000	398.785	398.785
A	21186.063	-12.000	398.779	398.790
B	21196.063	-12.000	398.773	398.787
C	21206.063	-12.000	398.767	398.774
€ Brg. Pier 1	21216.563	-12.000	398.760	398.760
D	21226.563	-12.000	398.754	398.760
E	21236.563	-12.000	398.748	398.758
F	21246.563	-12.000	398.742	398.751
G	21256.563	-12.000	398.736	398.740
€ Brg. Pier 2	21263.979	-12.000	398.732	398.732
H	21273.979	-12.000	398.726	398.733
I	21283.979	-12.000	398.720	398.734
J	21293.979	-12.000	398.714	398.725
€ Brg. S. Abut.	21304.479	-12.000	398.707	398.707
Bk. S. Abut.	21306.396	-12.000	398.706	398.706

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21174.618	-9.625	398.830	398.830
€ Brg. N. Abut.	21176.535	-9.625	398.829	398.829
A	21186.535	-9.625	398.790	398.823
B	21196.535	-9.625	398.817	398.831
C	21206.535	-9.625	398.811	398.819
€ Brg. Pier 1	21217.035	-9.625	398.805	398.805
D	21227.035	-9.625	398.760	398.804
E	21237.035	-9.625	398.758	398.802
F	21247.035	-9.625	398.757	398.795
G	21257.035	-9.625	398.751	398.789
€ Brg. Pier 2	21264.451	-9.625	398.776	398.776
H	21274.451	-9.625	398.770	398.777
I	21284.451	-9.625	398.764	398.778
J	21294.451	-9.625	398.758	398.770
€ Brg. S. Abut.	21304.951	-9.625	398.752	398.752
Bk. S. Abut.	21306.868	-9.625	398.750	398.750

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21175.934	-3.000	398.903	398.903
€ Brg. N. Abut.	21177.851	-3.000	398.901	398.901
A	21187.851	-3.000	398.895	398.907
B	21197.851	-3.000	398.889	398.904
C	21207.851	-3.000	398.883	398.891
€ Brg. Pier 1	21218.351	-3.000	398.877	398.877
D	21228.351	-3.000	398.871	398.876
E	21238.351	-3.000	398.865	398.874
F	21248.351	-3.000	398.859	398.867
G	21258.351	-3.000	398.853	398.857
€ Brg. Pier 2	21265.767	-3.000	398.848	398.848
H	21275.767	-3.000	398.842	398.849
I	21285.767	-3.000	398.836	398.850
J	21295.767	-3.000	398.830	398.842
€ Brg. S. Abut.	21306.267	-3.000	398.824	398.824
Bk. S. Abut.	21308.184	-3.000	398.823	398.823

ROADWAY AND P. G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21176.530	0.000	398.910	398.910
€ Brg. N. Abut.	21178.447	0.000	398.909	398.909
A	21188.447	0.000	398.903	398.914
B	21198.447	0.000	398.897	398.911
C	21208.447	0.000	398.891	398.898
€ Brg. Pier 1	21218.947	0.000	398.884	398.884
D	21228.947	0.000	398.878	398.883
E	21238.947	0.000	398.872	398.882
F	21248.947	0.000	398.866	398.875
G	21258.947	0.000	398.860	398.864
€ Brg. Pier 2	21266.363	0.000	398.856	398.856
H	21276.363	0.000	398.850	398.857
I	21286.363	0.000	398.844	398.858
J	21296.363	0.000	398.838	398.849
€ Brg. S. Abut.	21306.863	0.000	398.831	398.831
Bk. S. Abut.	21308.780	0.000	398.830	398.830

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21177.250	3.625	398.898	398.898
€ Brg. N. Abut.	21179.167	3.625	398.897	398.897
A	21189.167	3.625	398.891	398.902
B	21199.167	3.625	398.885	398.899
C	21209.167	3.625	398.879	398.896
€ Brg. Pier 1	21219.667	3.625	398.872	398.872
D	21229.667	3.625	398.866	398.871
E	21239.667	3.625	398.860	398.870
F	21249.667	3.625	398.854	398.863
G	21259.667	3.625	398.848	398.852
€ Brg. Pier 2	21267.084	3.625	398.844	398.844
H	21277.084	3.625	398.838	398.845
I	21287.084	3.625	398.832	398.846
J	21297.084	3.625	398.825	398.837
€ Brg. S. Abut.	21307.584	3.625	398.819	398.819
Bk. S. Abut.	21309.500	3.625	398.818	398.818

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21178.566	10.250	398.818	398.818
€ Brg. N. Abut.	21180.483	10.250	398.817	398.817
A	21190.483	10.250	398.810	398.810
B	21200.483	10.250	398.804	398.819
C	21210.483	10.250	398.798	398.806
€ Brg. Pier 1	21220.983	10.250	398.792	398.792
D	21230.983	10.250	398.786	398.791
E	21240.983	10.250	398.780	398.789
F	21250.983	10.250	398.774	398.782
G	21260.983	10.250	398.768	398.772
€ Brg. Pier 2	21268.400	10.250	398.763	398.763
H	21278.400	10.250	398.757	398.764
I	21288.400	10.250	398.751	398.765
J	21298.400	10.250	398.745	398.757
€ Brg. S. Abut.	21308.900	10.250	398.739	398.739
Bk. S. Abut.	21310.816	10.250	398.738	398.738

WEST LONGITUDINAL BONDED CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21178.914	12.000	398.784	398.784
€ Brg. N. Abut.	21180.831	12.000	398.783	398.783
A	21190.831	12.000	398.776	398.788
B	21200.831	12.000	398.770	398.785
C	21210.831	12.000	398.764	398.772
€ Brg. Pier 1	21221.331	12.000	398.758	398.758
D	21231.331	12.000	398.752	398.757
E	21241.331	12.000	398.746	398.755
F	21251.331	12.000	398.740	398.748
G	21261.331	12.000	398.734	398.738
€ Brg. Pier 2	21268.747	12.000	398.729	398.729
H	21278.747	12.000	398.723	398.730
I	21288.747	12.000	398.717	398.731
J	21298.747	12.000	398.711	398.723
€ Brg. S. Abut.	21309.247	12.000	398.705	398.705
Bk. S. Abut.	21311.164	12.000	398.704	398.704

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	21179.882	16.875	398.682	398.682
€ Brg. N. Abut.	21181.799	16.875	398.681	398.681
A	21191.799	16.875	398.674	398.686
B	21201.799	16.875	398.668	398.683
C	21211.799	16.875	398.662	398.670
€ Brg. Pier 1	21222.299	16.875	398.656	398.656
D	21232.299	16.875	398.650	398.655
E	21242.299	16.875	398.644	398.653
F	21252.299	16.875	398.638	398.646
G	21262.299	16.875	398.632	398.636
€ Brg. Pier 2	21269.716	16.875	398.627	398.627
H	21279.716	16.875	398.621	398.628
I	21289.716	16.875	398.615	398.629
J	21299.716	16.875	398.609	398.621
€ Brg. S. Abut.	21310.216	16.875	398.603	398.603
Bk. S. Abut.	21312.133	16.875	398.602	398.602

Note: Work this sheet with sheet #3 of 16.

TOP OF SLAB ELEVATIONS
F.A.I. RT. 57 SEC. (28-5B-110)
FRANKLIN COUNTY
STATION 212+50.00

DESIGNED *Richard J. Chaput*
CHECKED *Edward P. Smith*
DRAWN *Paul W. Sweet*
CHECKED *RTC*

EXAMINED *May 22 1992*
PASSED *Robert E. Anderson*
APPROVED *Robert E. Anderson*
DIRECTOR OF HIGHWAYS

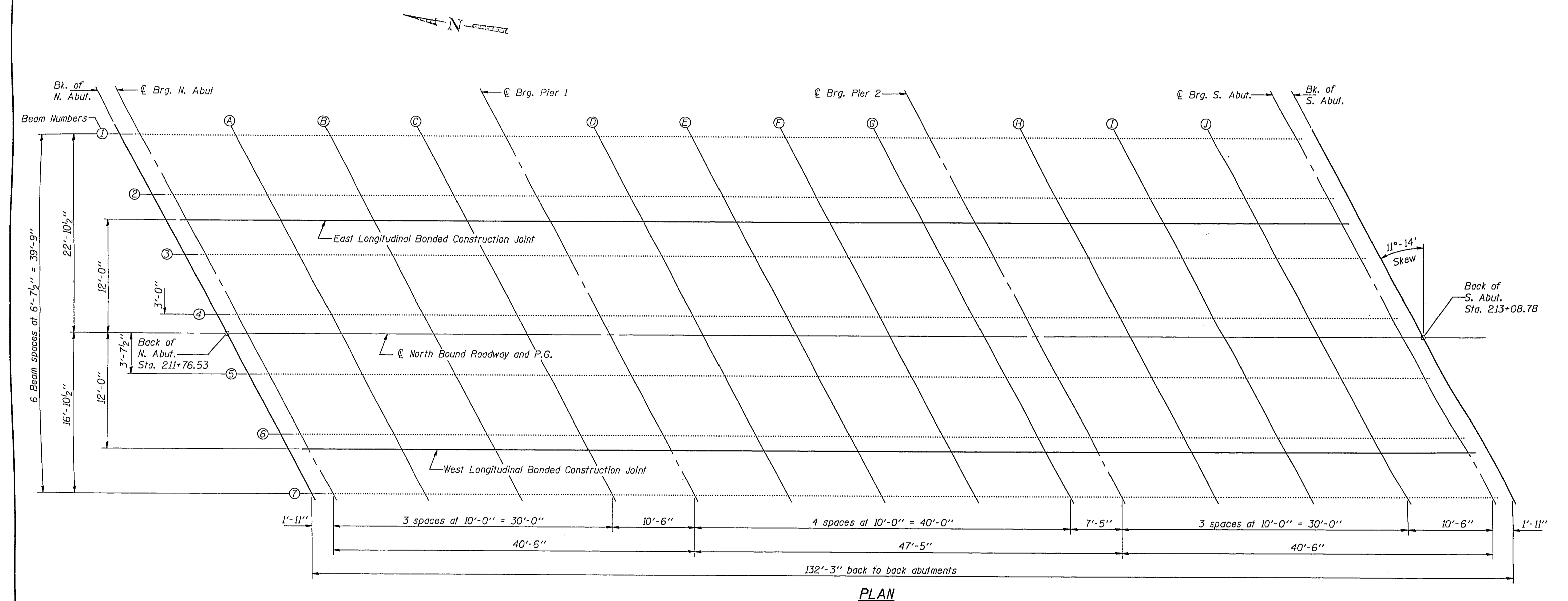
E-S 1-6-82

TAMERAN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
128-80-110		FRANKLIN	155	127
F.A.I. BY		ILLINOIS	FED. AID PROJECT	

SHEET NO. 3
16 SHEETS



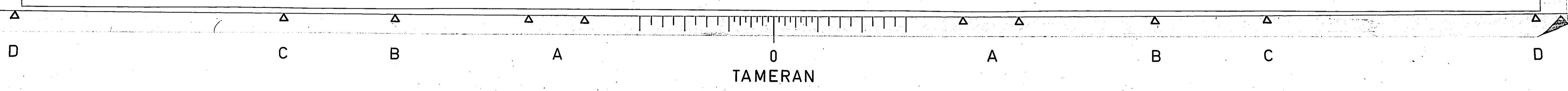
PLAN

Work this sheet with sheet #2 of 16.

DESIGNED *Richard J. Chesnut*
 CHECKED *Paul W. Sweet*
 DRAWN *Paul W. Sweet*
 CHECKED *RSC GBE 713*

EXAMINED *May 22 1992*
 PASSED *Ralph E. Anderson*
 APPROVED *Ralph E. Anderson*
 ENGINEER OF BRIDGES AND STRUCTURES
 DIRECTOR OF HIGHWAYS

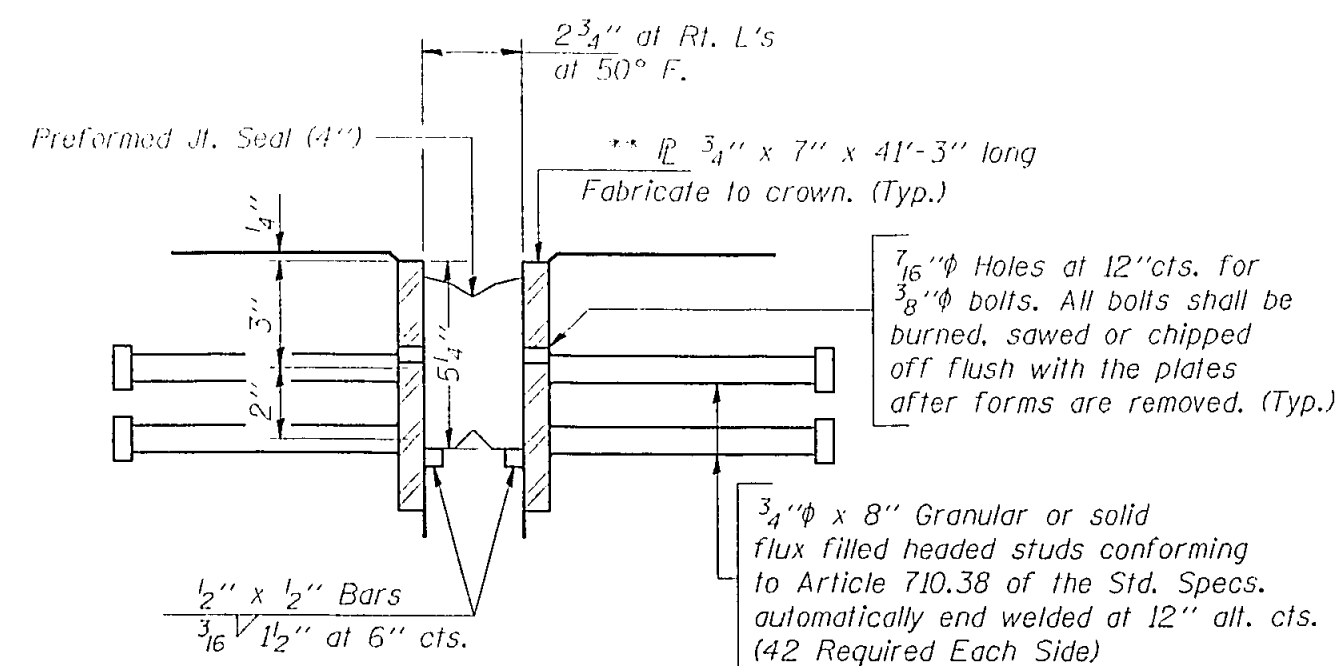
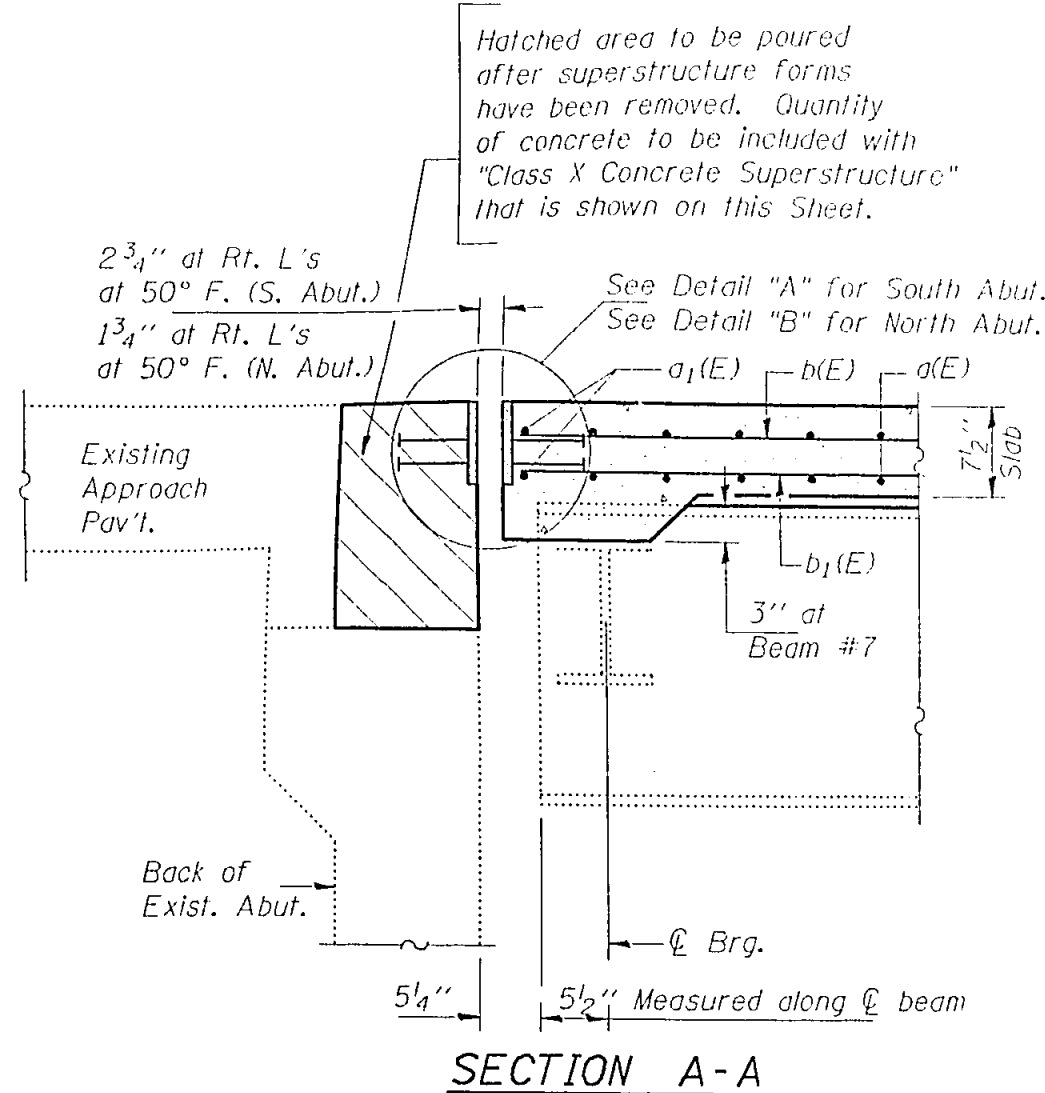
TOP OF SLAB ELEVATIONS
 F.A.I. RT. 57 SEC. (28-5B-1D)
 FRANKLIN COUNTY
 STATION 212+50.00



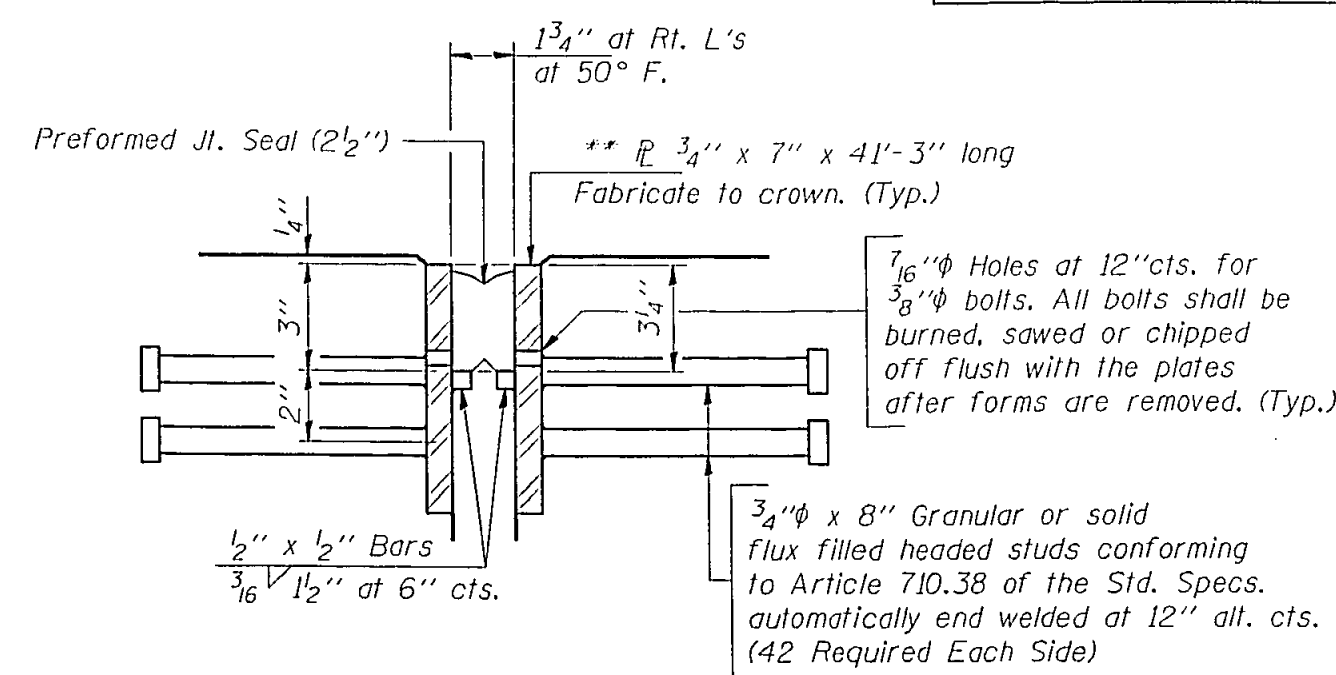
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
F.A.I. RT.	28-5B-10	FRANKLIN	155	130
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 6
16 SHEETS

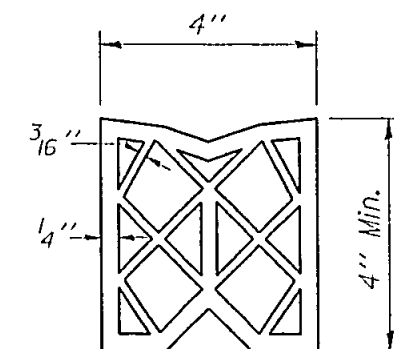


DETAIL "A"

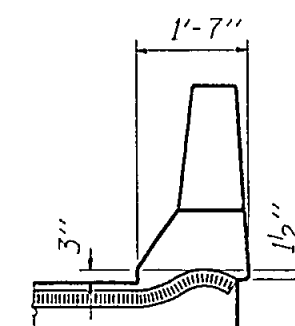


DETAIL "B"

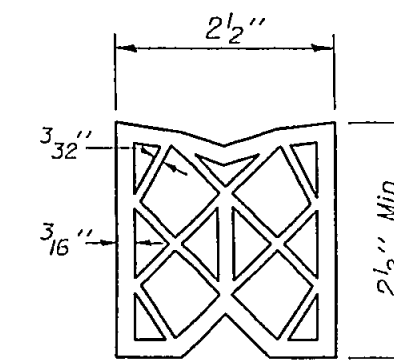
** Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/8". Seal space with Silicone Sealant suitable for Structural Steel. After fabrication all surfaces of the steel plates shall be given one shop coat of paint specified for New Structural Steel. No field painting required.



PREFORMED JOINT SEAL (4")



END TREATMENT
Typ. for (4") and (2 1/2").



PREFORMED JOINT SEAL (2 1/2")

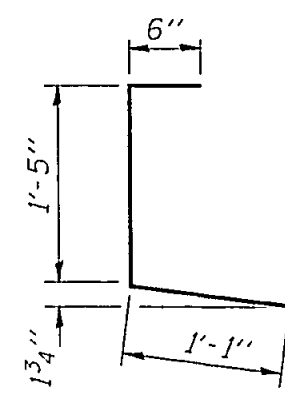
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1(E)	401	#5	41'-8"	
a1(E)	4	#5	42'-6"	
a2(E)	226	#6	4'-0"	
b1(E)	188	#5	33'-8"	
b1(E)	210	#5	27'-3"	
b2(E)	88	#6	25'-6"	
d(E)	260	#4	3'-0"	L
d1(E)	284	#5	2'-7"	L
d2(E)	284	#5	3'-0"	L
d3(E)	260	#4	3'-0"	L
e(E)	48	#4	20'-4"	
e1(E)	36	#4	15'-6"	
e2(E)	8	#8	40'-10"	
e3(E)	4	#8	47'-1"	
e4(E)	8	#5	40'-10"	
e5(E)	4	#5	47'-1"	
Reinforcement Bars, Epoxy Coated		Lbs.	40,540	
Class X Concrete Superstructure		Cu. Yd.	187.1	

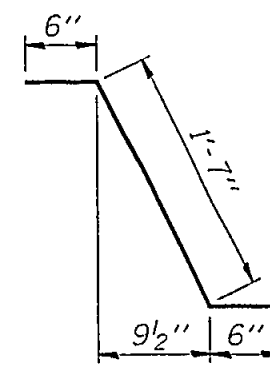
Reinforcement bars designated (E) shall be epoxy coated.

SUPERSTRUCTURE DETAILS
F.A.I. RT. 57 SEC. (28-5B-10)
FRANKLIN COUNTY
STATION 212+50.00

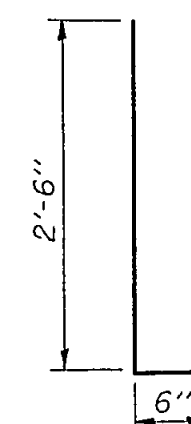
DESIGNED	Richard J. Christ	EXAMINED	May 22 1992 D. J. Kaspar ENGINEER OF BRIDGE DESIGN
CHECKED	Paul W. Sweet	PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	Paul W. Sweet	APPROVED	DIRECTOR OF HIGHWAYS
CHECKED	RJC		



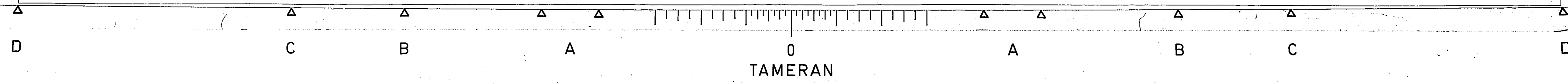
BAR d(E)



BAR d1(E)

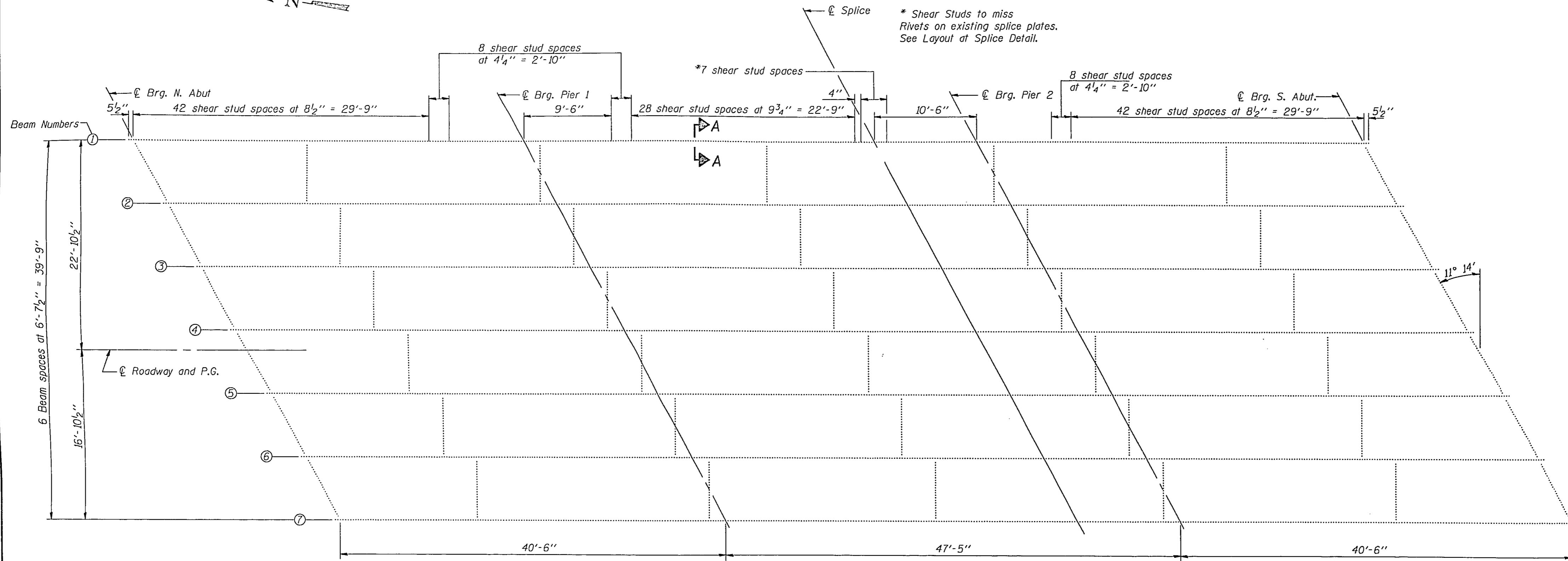


BARS d2(E) & d3(E)



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 7 16 SHEETS
F.A.I.	120-00-110	FRANKLIN	155	131	
FED. ROAD DIST. NO. 1	ILL. ROAD	FED. AID PROJECT			



PLAN

	Abuts.	Piers
R _P (K)	15.9	49.0
R _L (K)	32.2	39.3
Imp. (K)	9.7	11.6
R (Total) (K)	57.8	99.9

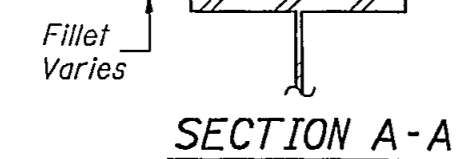
Is and Ss are the moment of inertia and section modulus of the steel section used in computing f_s (Total), and f_s (Overload).
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing, and f_s (Overload).
VR is the maximum Live Load + Impact shear range in span.
 M_a (Applied Moment) = $1.3 [M_D + M_S + \frac{1}{2}(M_L + I)]$
 M_u is the Full Plastic Moment Capacity computed according to AASHTO 10.48.1 & 10.50.1.1
 f_s (Overload) is the sum of stresses the due to $[M_D + M_S + \frac{1}{2}(M_L + I)]$
 f_s (Total) is the sum of stresses the due to $1.3 [M_D + M_S + \frac{1}{2}(M_L + I)]$, at unbraced, Non-compact, section.
 M_D - Moment due to dead load on non-composite section.
 M_S - Moment due to dead load on composite section.
 M_L - Moment due to live load on non-composite section.
I - Live load impact.

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
Is (in ⁴)	3604	3604	3604
Ic (n=9) (in ⁴)	10448		10448
Ic (n=27) (in ⁴)	7732		7732
Ss (in ³)	266	266	266
Sc (n=9) (in ³)	405		405
Sc (n=27) (in ³)	367		367
D (K/ft.)	.748	1.01	.748
M _D (K)	89.3	183.6	65.3
f_s non-comp (k.s.i.)	4.0	8.3	2.9
s _D (K/ft.)	.262		.262
M _S (K)	36.1		34.9
f_s (comp) (k.s.i.)	1.2		1.1
M _L (K)	237.3	122.9	245.1
M (Imp) (K)	71.2	36.2	70.8
$\frac{1}{2}(M_L + I)$ (K)	514.2	265.2	526.5
f_s $\frac{1}{2}(L + I)$ (k.s.i.)	15.2	11.9	15.6
M _a (K)	831.0	583.0	815.0
M _u	1657		1657
f_s (Overload) (k.s.i.)	20.4	20.2	19.6
f_s (Total) (k.s.i.)		26.3	
VR (K)	45.4		48.5

** For n = 27.

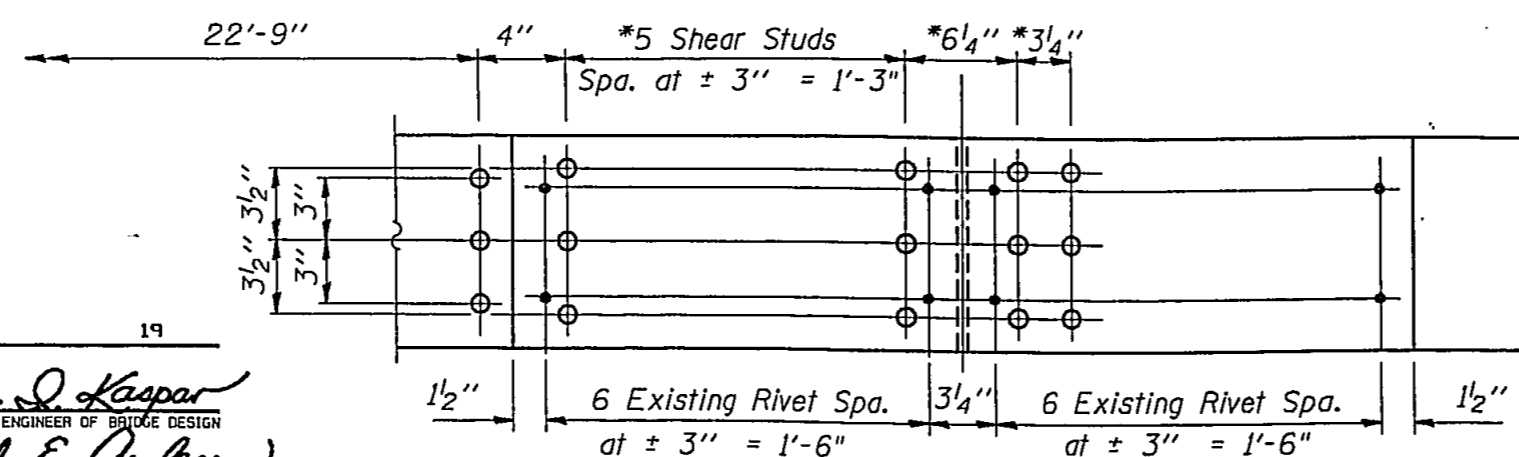
STRUCTURAL STEEL DETAILS
F.A.I. RT. 57 SEC. (28-5B-1D)
FRANKLIN COUNTY
STATION 212+50.00

$\frac{3}{4}$ " ϕ Granular or solid flux filled headed studs, conforming to the requirements of Art. 710.38 of the Std. Specs. Automatically end welded to flange. (3150 Required)

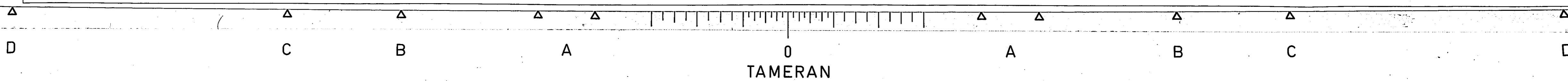


DESIGNED *Richard J. Chaput*
CHECKED *Paul W. Sweet*
DRAWN *Paul W. Sweet*
CHECKED *RJC RRB*

EXAMINED *Gregory J. Kaspar*
PASSED *Ralph E. Anderson*
APPROVED _____
DIRECTOR OF HIGHWAYS



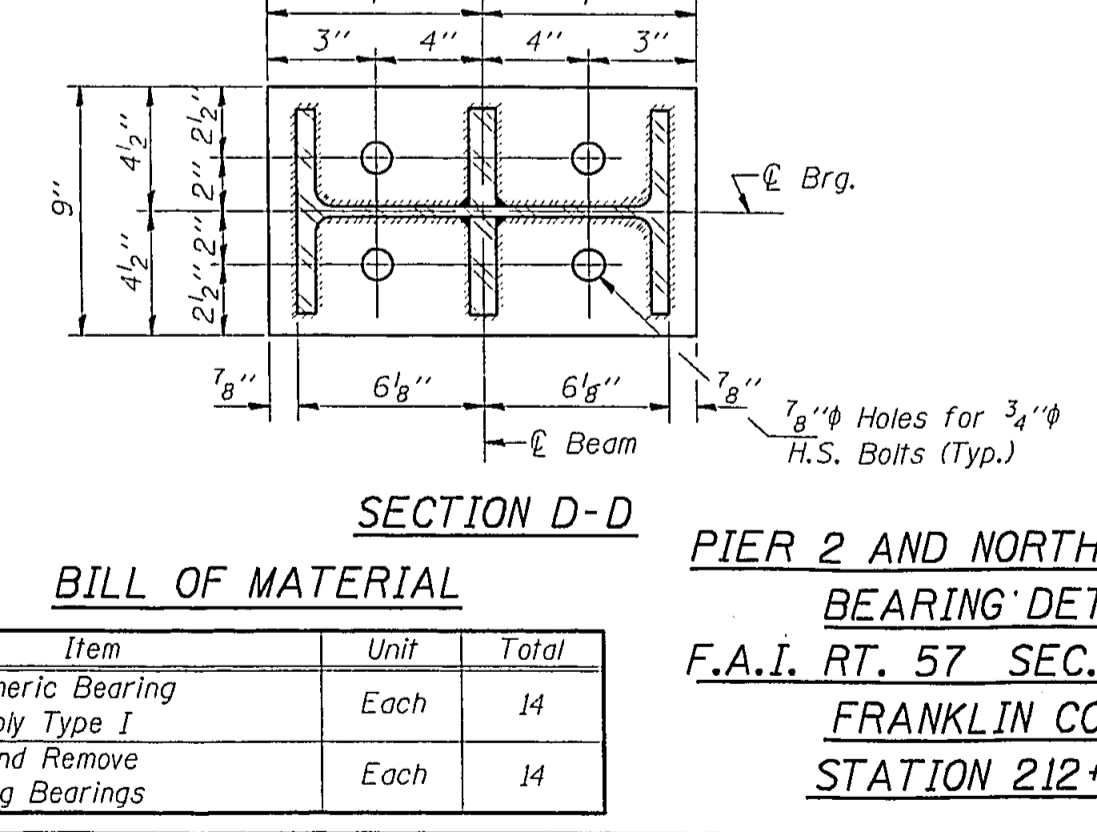
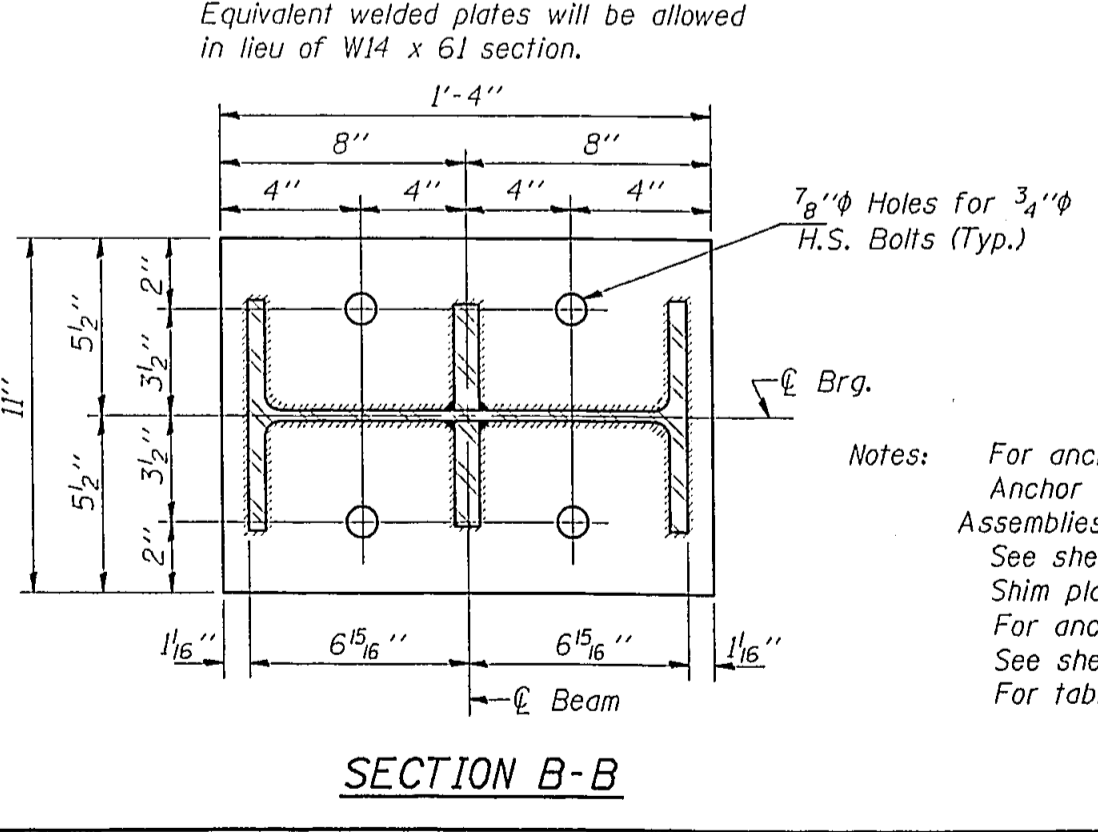
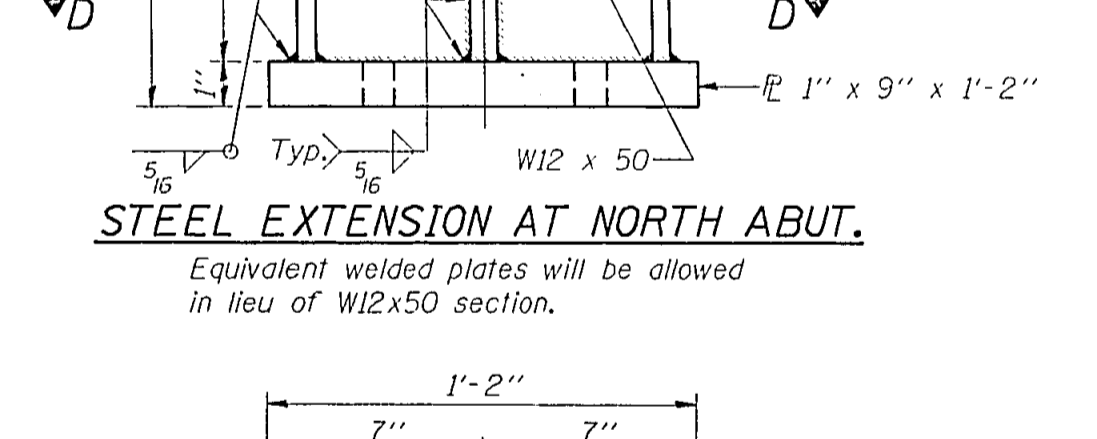
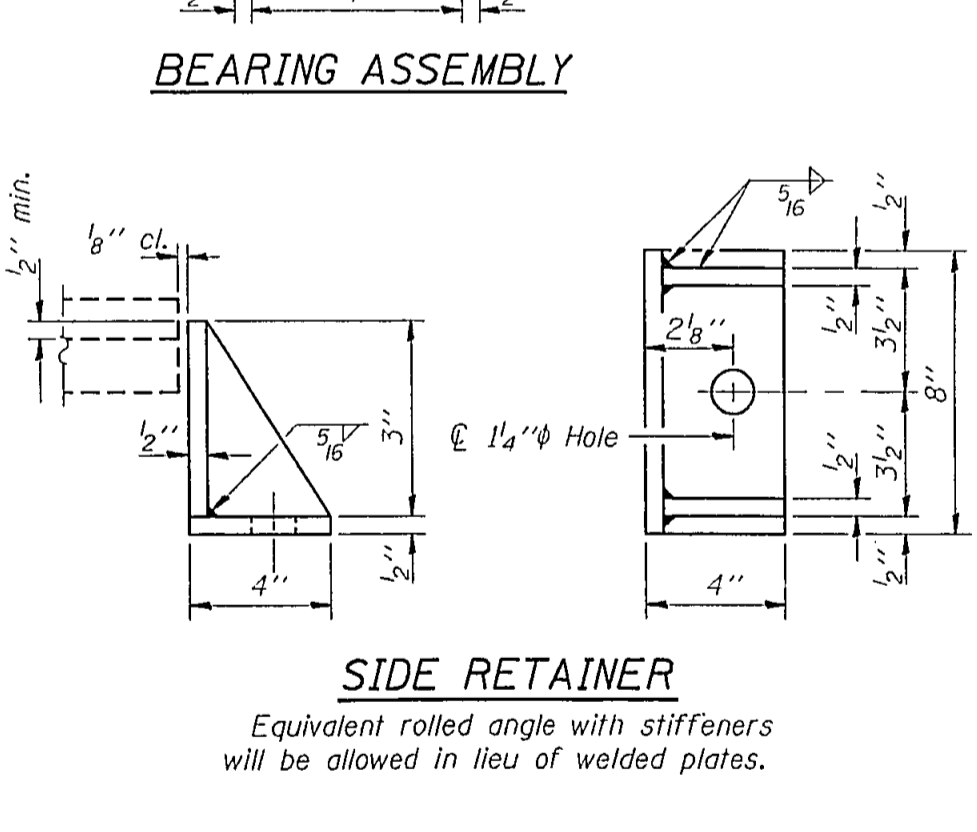
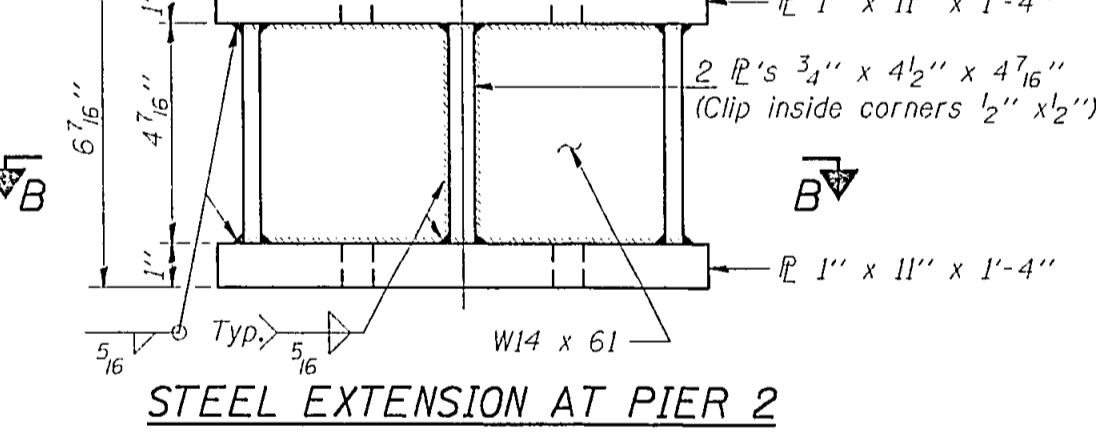
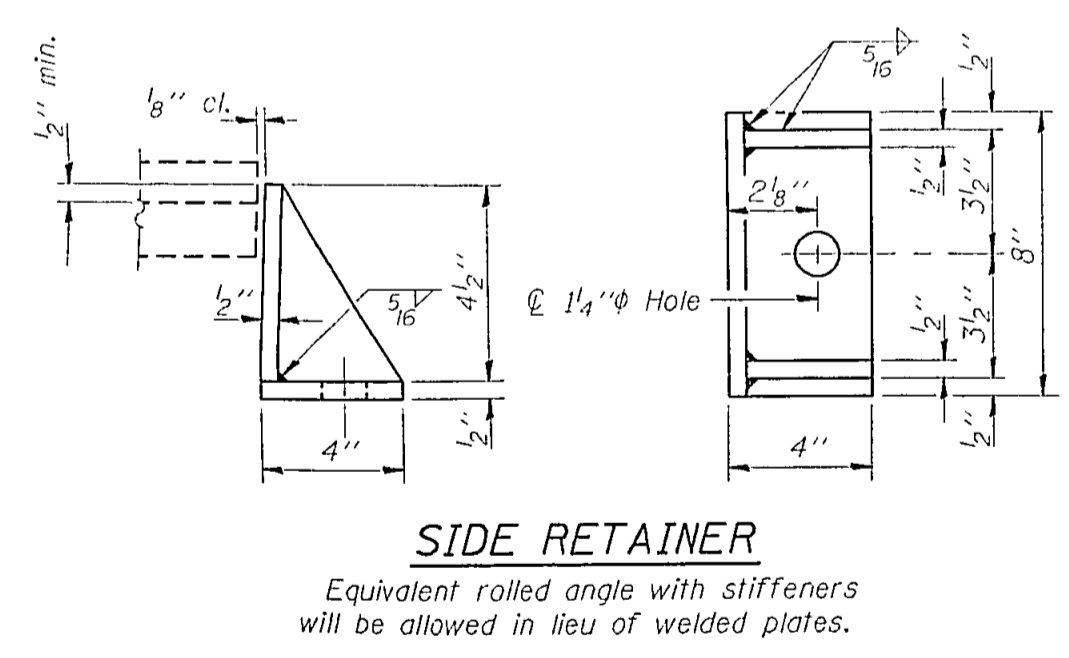
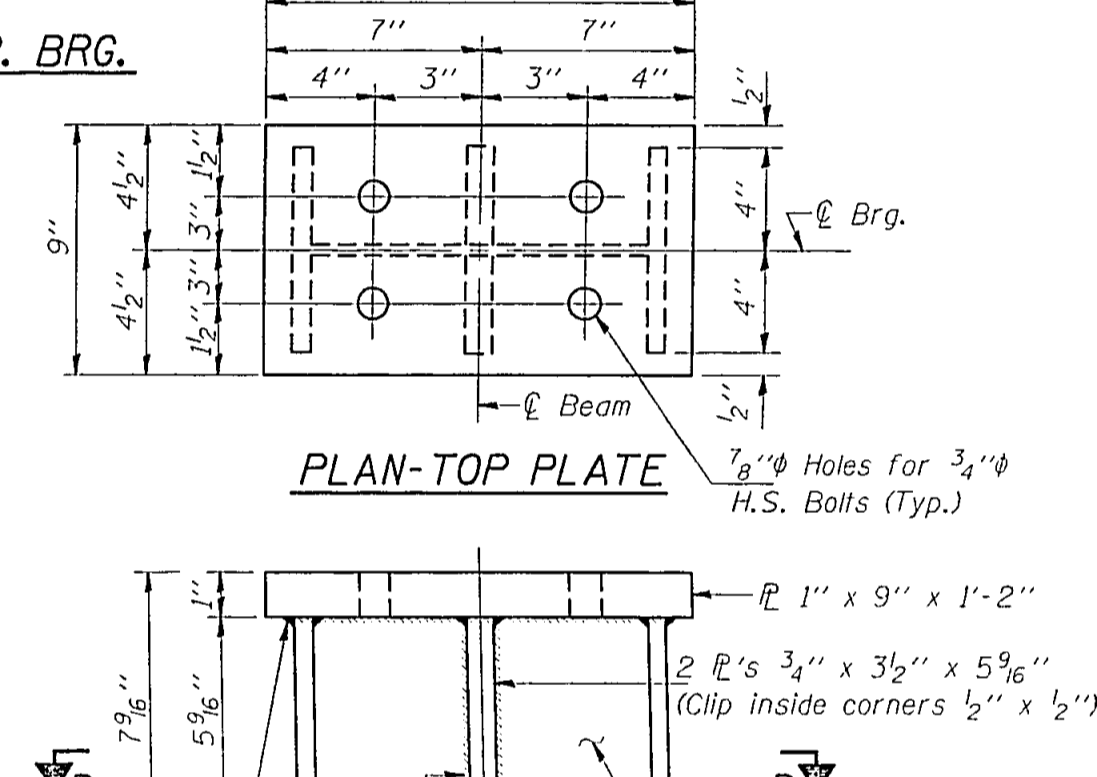
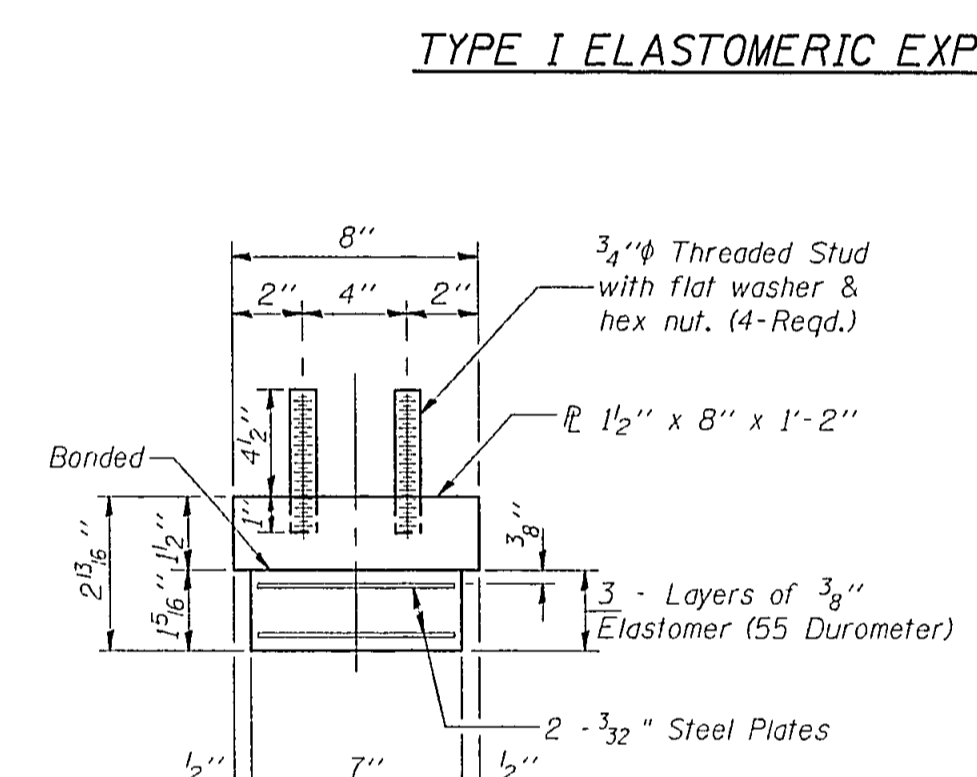
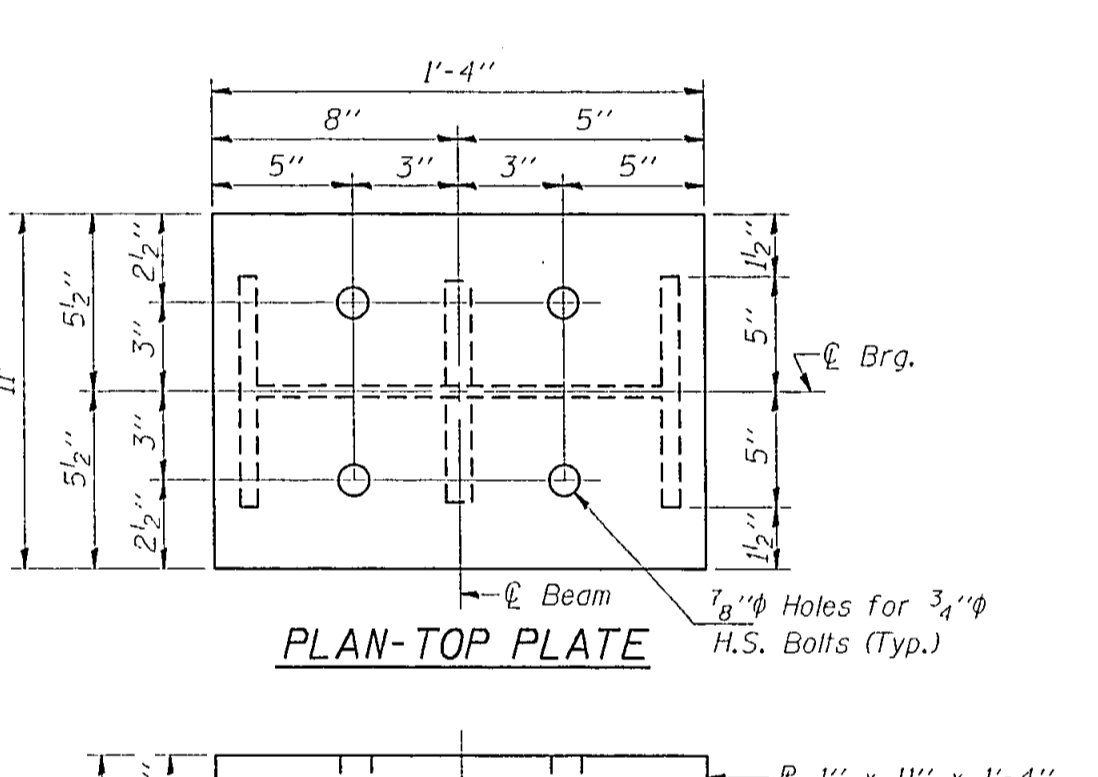
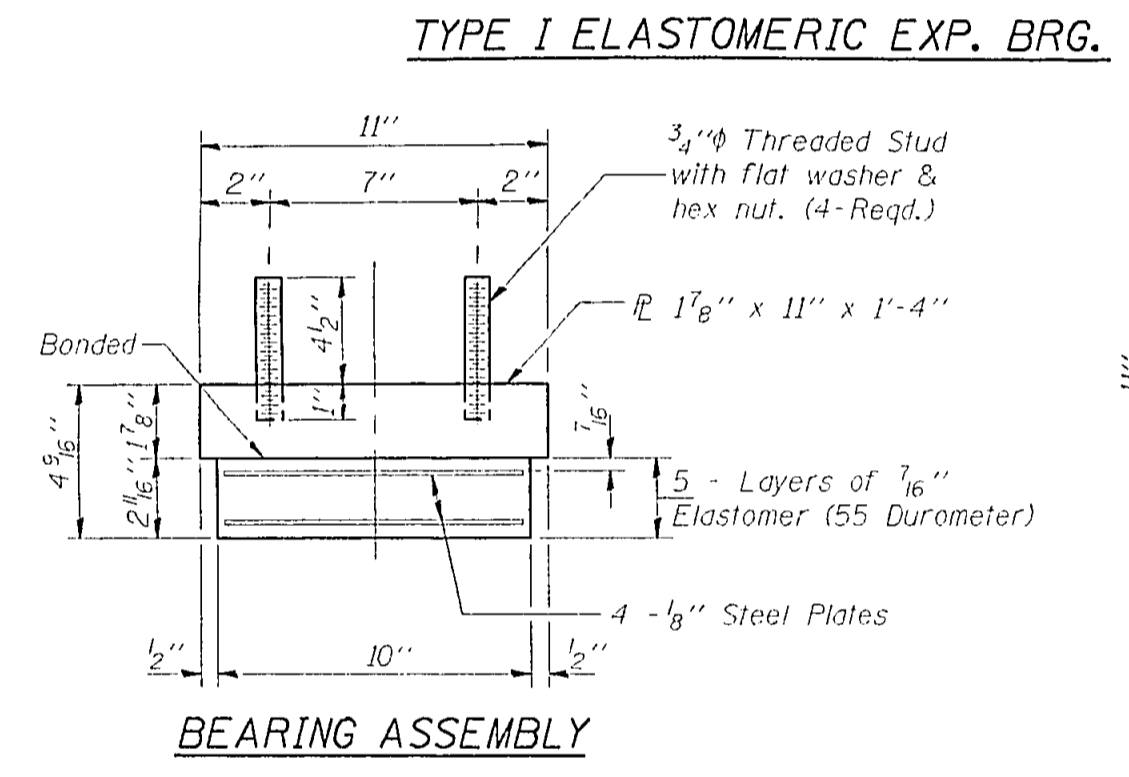
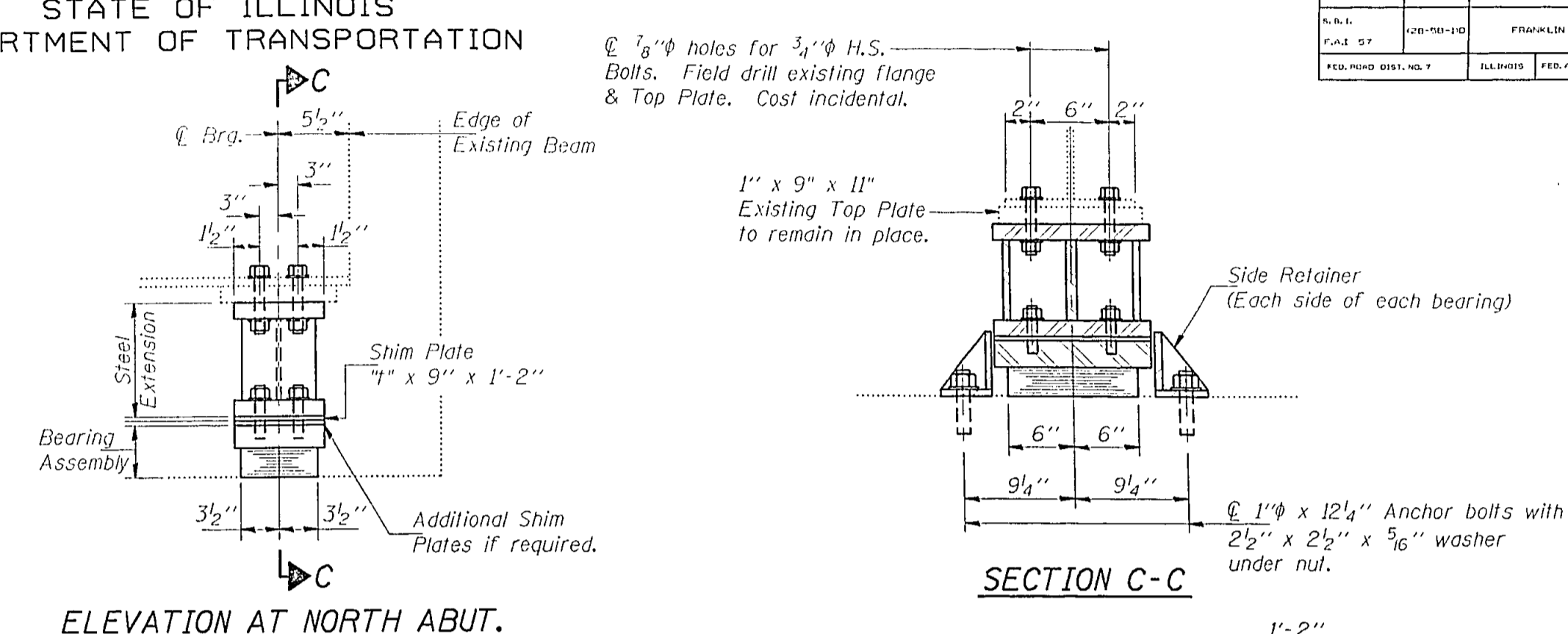
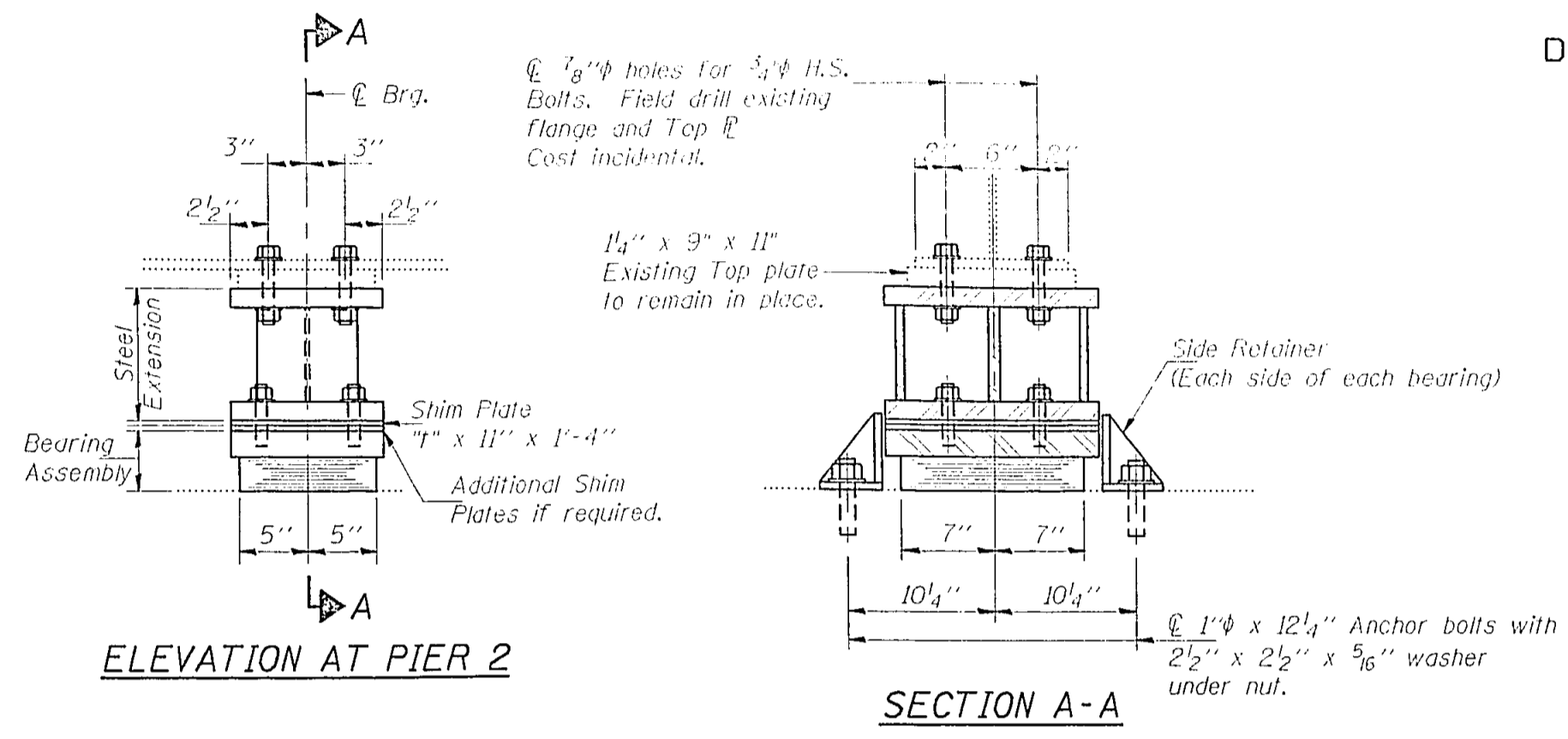
LAYOUT AT SPLICE



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	CDPART	DATE	SHEET
F.A.I. 57	28-5B-1D	FRANKLIN	155	133
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 9
16 SHEETS



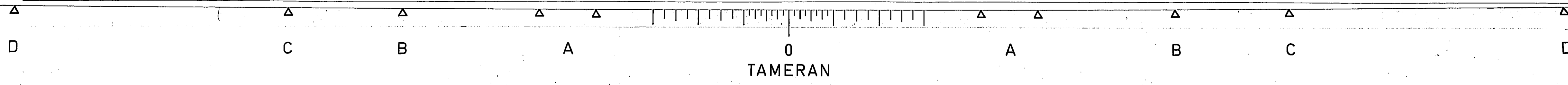
Notes:
 For anchor bolt installation details see sheet #16 of 16.
 Anchor bolts, Side Retainers, Shim plates, Lead Plates, and Steel Extension Assemblies included in "Structural Steel" Quantity.
 See sheet #8 of 16 for Jack and Remove Existing Bearing Procedure.
 Shim plates shall not be placed under Bearing Assembly.
 For anchor bolt location at Pier #2 See sheet #10 of 16.
 See sheet #12 of 16 for anchor bolt layout at North Abutment.
 For table of Shim Plate "I" Dimensions see sheet #10 of 16.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	14
Jack and Remove Existing Bearings	Each	14

PIER 2 AND NORTH ABUTMENT BEARING DETAILS
 F.A.I. RT. 57 SEC. (28-5B-1D)
 FRANKLIN COUNTY
 STATION 212+50.00

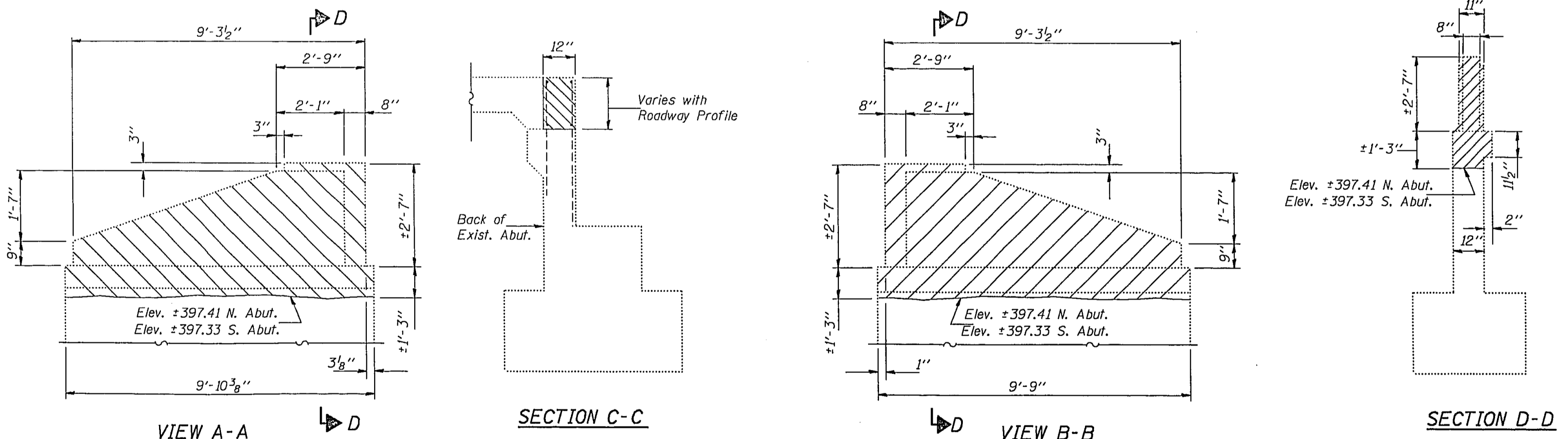
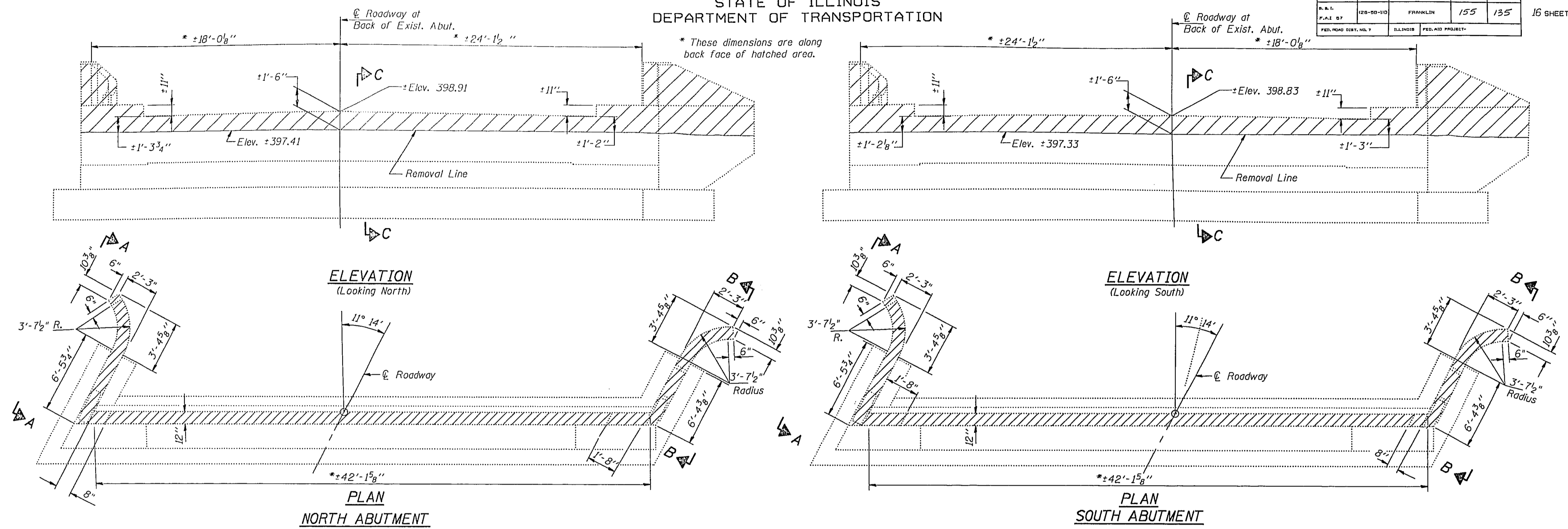
DESIGNED: Robert J. Clapp
 CHECKED: Louis P. Rinaldi
 DRAWN: Paul W. Sweet
 CHECKED: RJC RFB GLE
 EXAMINED: Greg J. Kaspar
 PASSED: Ralph E. Anderson
 APPROVED: [Signature]
 DIRECTOR OF HIGHWAYS



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
F.A.I. RT. 57	212+50.00	FRANKLIN	155	135
FED. ROAD DIST. NO. Y		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 11
16 SHEETS



DESIGNED *Richard L. Christ*
 CHECKED *Steve P. Residorski*
 DRAWN *Paul W. Sweet*
 CHECKED *RSC/RIB/GCE*

EXAMINED *Gregory J. Keppner*
 PASSED *Ralph C. Anderson*
 APPROVED _____
 DIRECTOR OF HIGHWAYS

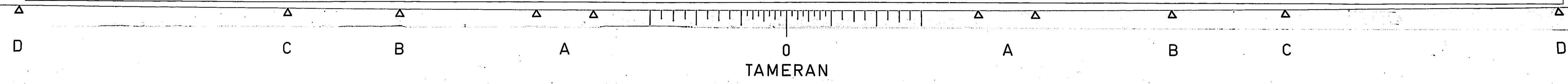
May 22 1992

Notes: Hatched area indicates "Concrete Removal".
 For existing shoulder pavement removal see Roadway Plans.
 Existing vertical reinforcement shall be cleaned,
 straightened and incorporated into the new construction
 Cost incidental to "Concrete Removal".

**TWO ABUTMENTS
BILL OF MATERIAL**

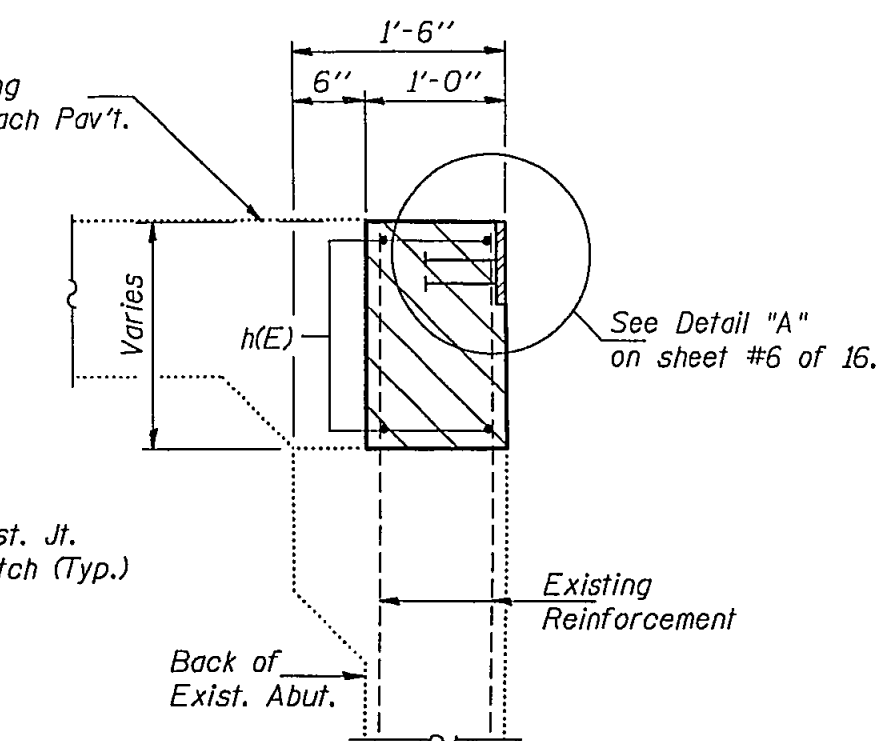
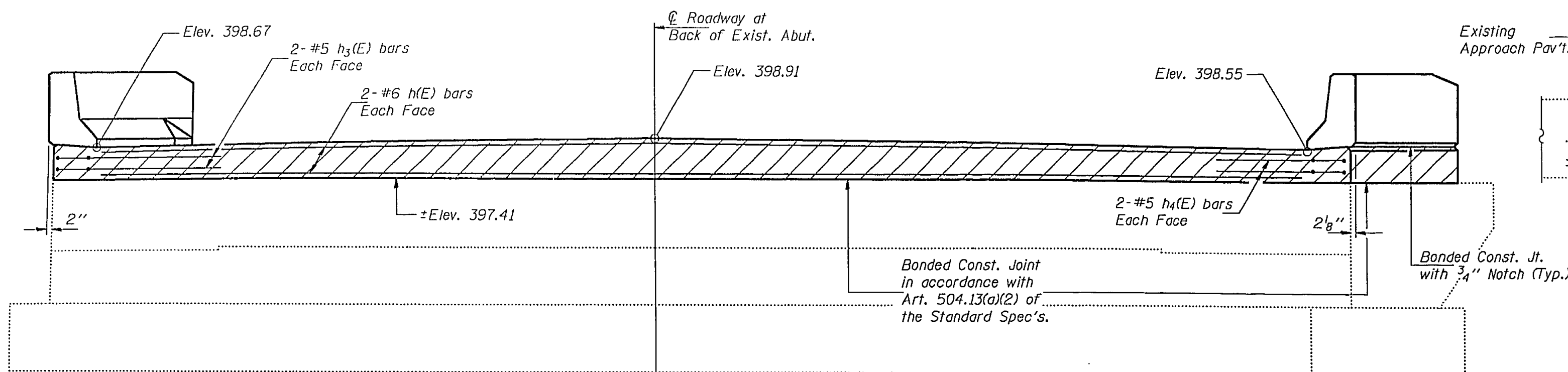
Item	Unit	Total
Concrete Removal	Cu. Yd.	9

**CONCRETE REMOVAL DETAILS
FOR EXISTING ABUTMENTS
F.A.I. RT. 57 SEC. (28-5B-1D)
FRANKLIN COUNTY
STATION 212+50.00**

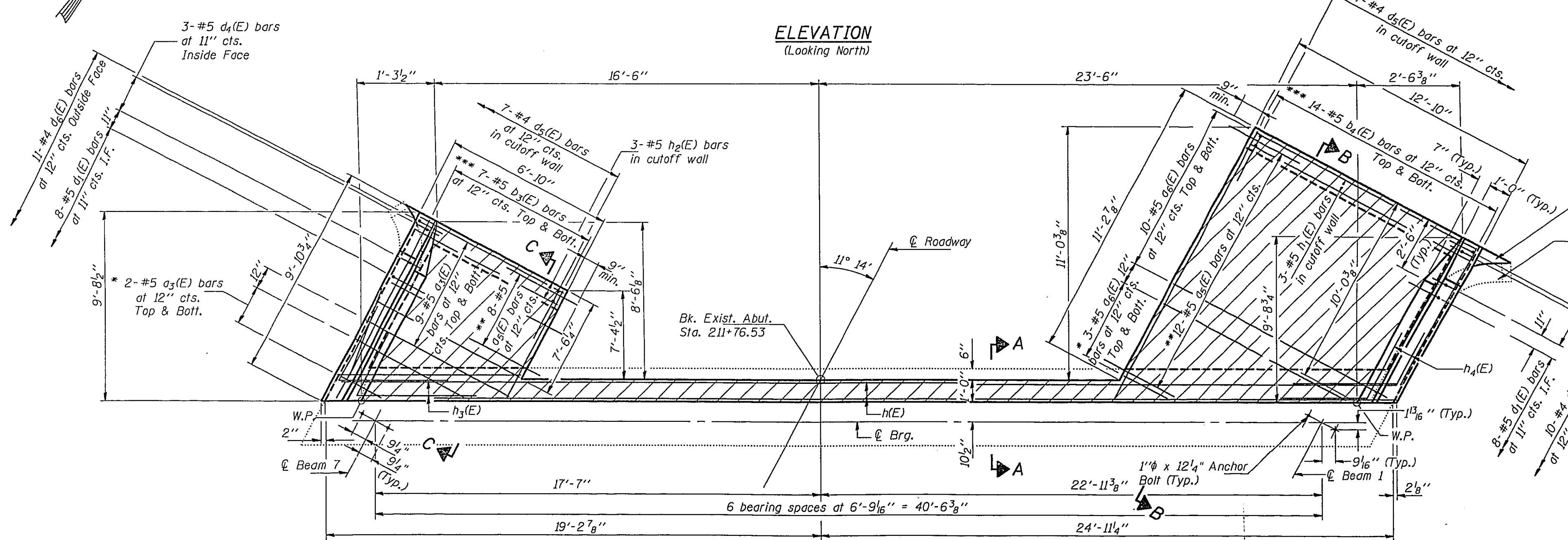


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.I. RT. 57	(28-5B-1D)	FRANKLIN	155	136
SHEET NO. 12 16 SHEETS				



ELEVATION
(Looking North)



PLAN

* Order a₃(E) and a₆(E) bars full length. Cut to fit and use remainder of bars in bottom of slab.
** Drill 3/8" x 9" Min. hole in existing approach Pavement. Epoxy grout a₃(E) bars. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the Engineer. See Special Provisions.

Extend toewall to Face of existing wingwall and slope to drain. (Typ.)
Grout existing surface smooth and slope to drain after concrete removal. (Typ.)
3-#5 d4(E) bars at 11" cts. Inside Face

*** Order b₃(E) and b₄(E) bars full length. Cut to fit as shown in Field Cutting Diagram on sheet #13 of 16 and use remainder of bars in bottom of slab directly below top bars.

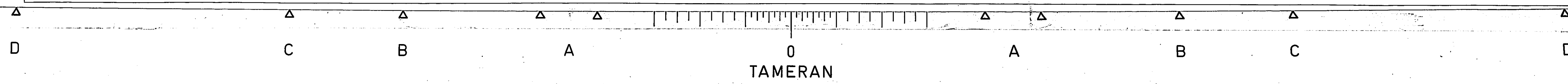
Notes: Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with "Class X Concrete Superstructure" on sheet #6 of 16. Existing reinforcement extending into new construction shall be cleaned, straightened and incorporated into the new construction. Reinforcement bars designated (E) shall be epoxy coated. For anchor bolt installation details see sheet #16 of 16. Concrete Quantity for End Posts is included in "Class X Concrete Superstructure". All edges shall have standard 3/4" chamfer, Except as Noted.

DESIGNED *Richard J. Chaput*
CHECKED *Phuoc P. Phan*
DRAWN *Paul W. Sweet*
CHECKED *RSC RBG*

EXAMINED *Greg J. Kasper*
PASSED *Robert E. Anderson*
APPROVED _____
DIRECTOR OF HIGHWAYS

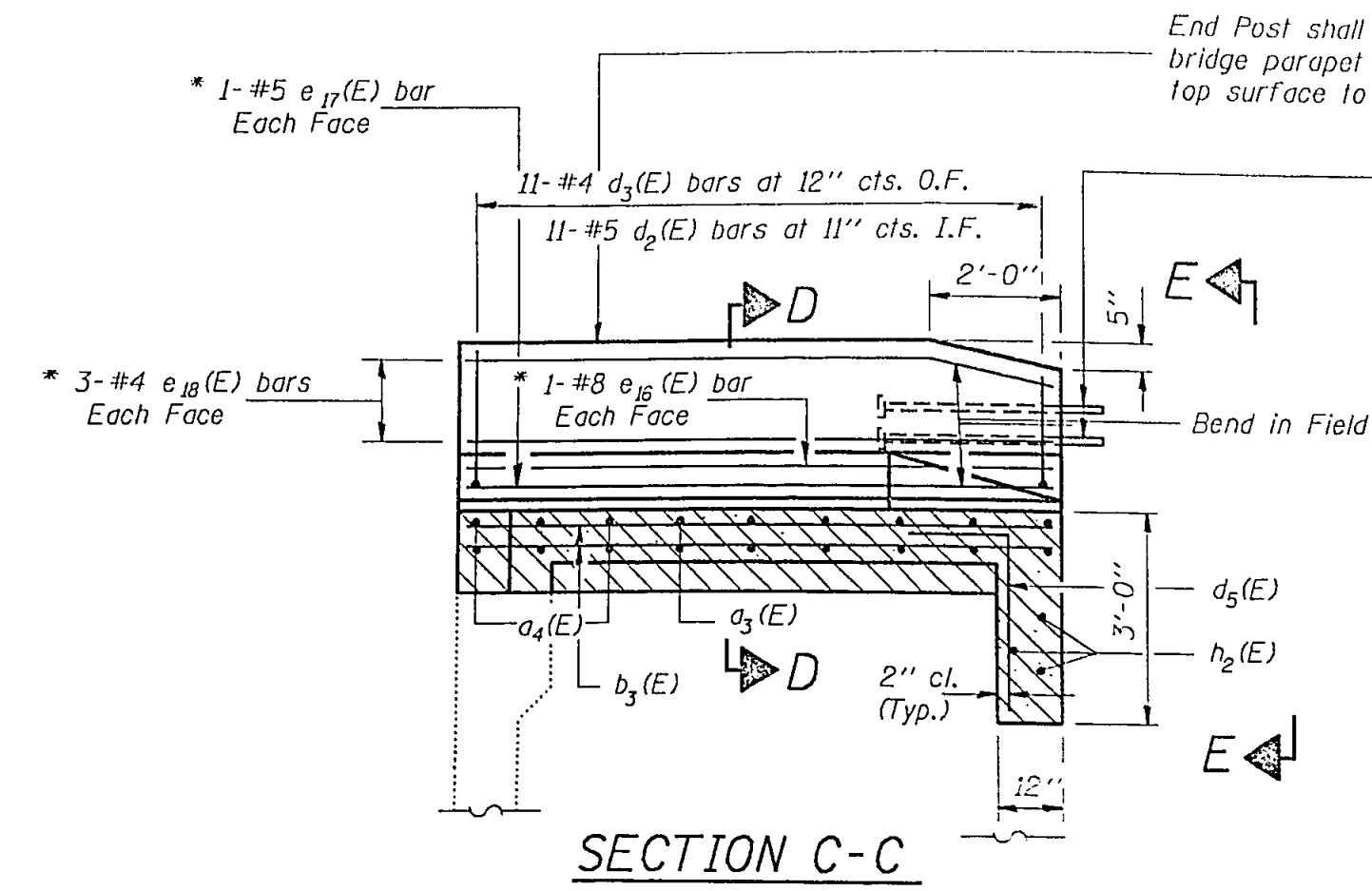
May 22 1992

NORTH ABUTMENT
F.A.I. RT. 57 SEC. (28-5B-1D)
FRANKLIN COUNTY
STATION 212+50.00

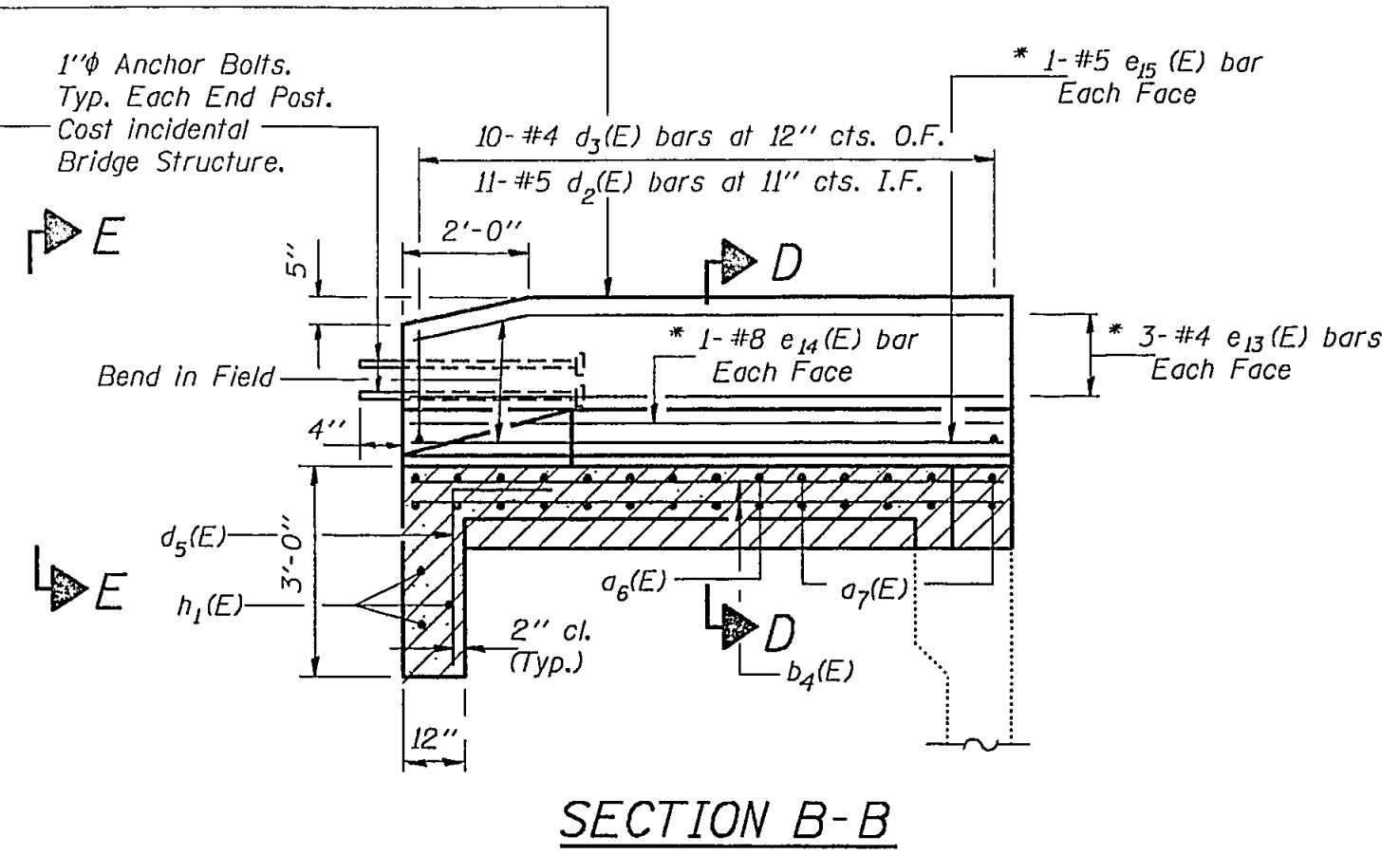


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

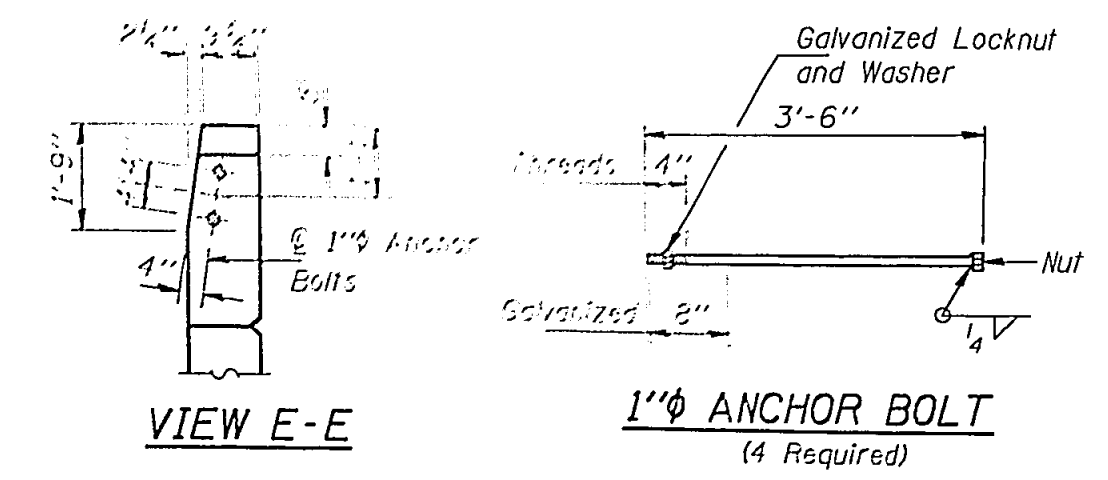
PROJECT NO.	SECTION	COUNTY	SHEET	DATE	SHEET NO. 13
F.A.I. RT. 57	28-5B-110	FRANKLIN	155	1/37	16 SHEETS
F.I.L. DIST. NO. 1	ILLINOIS	FED. AID PROJECT			



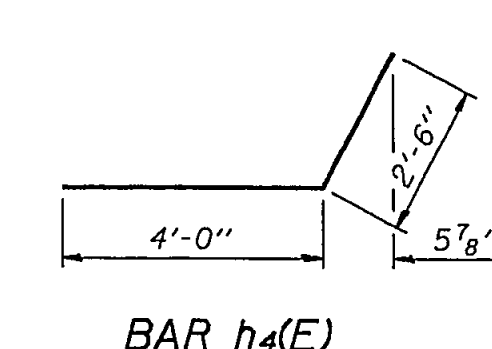
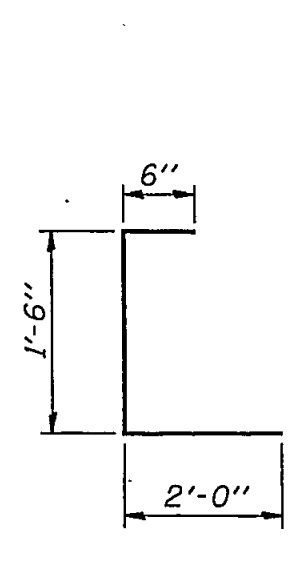
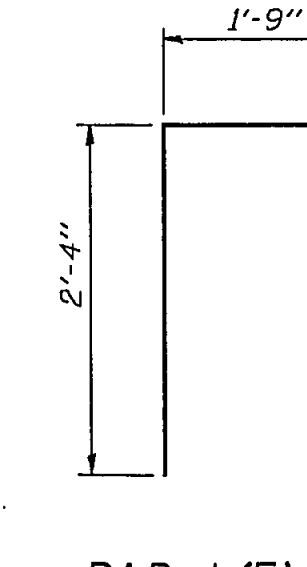
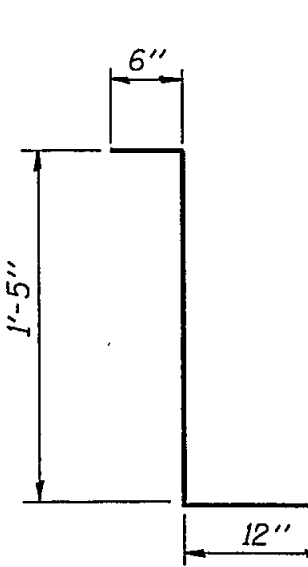
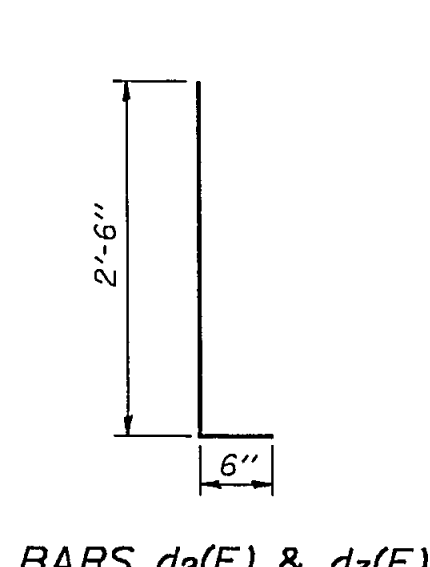
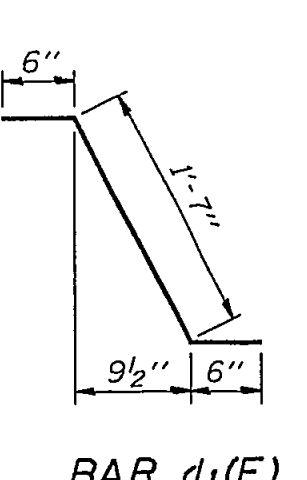
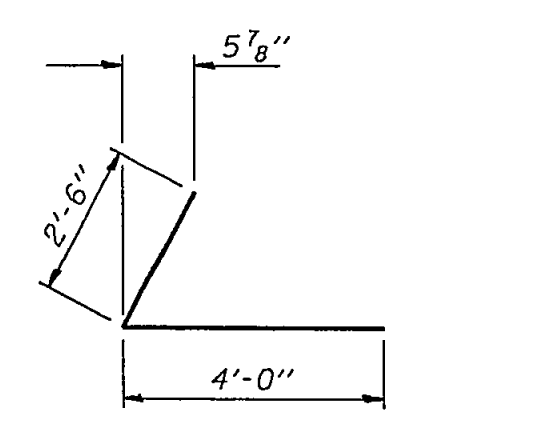
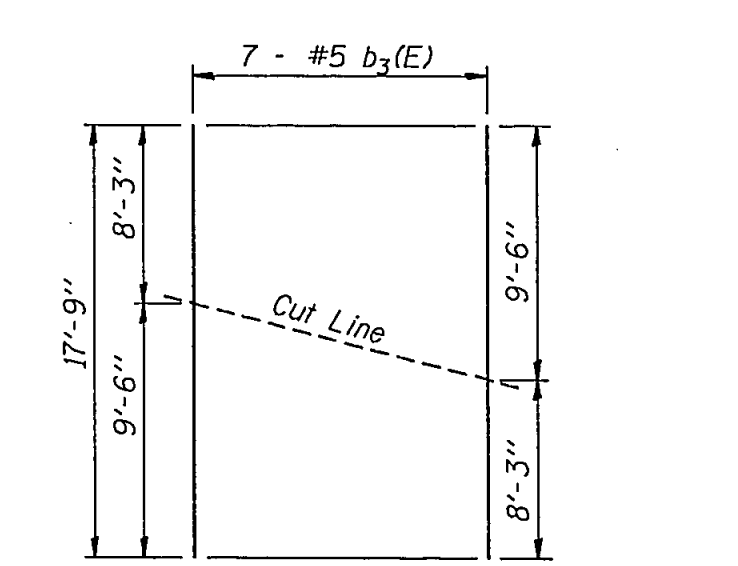
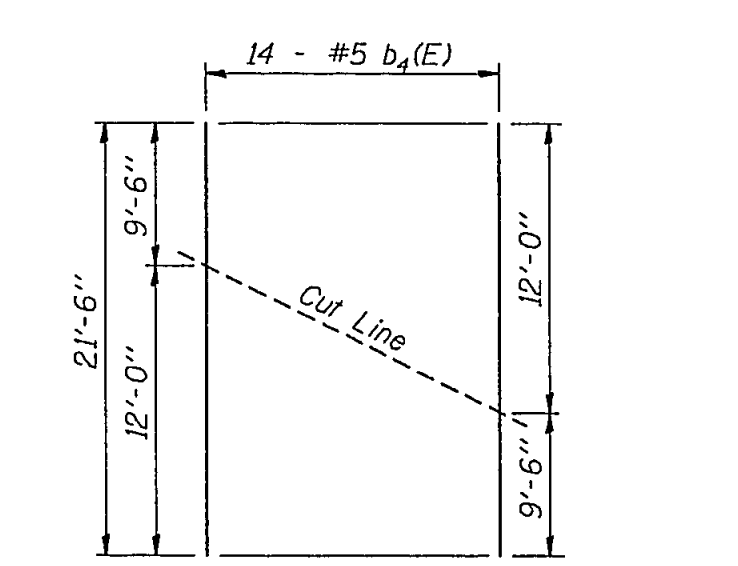
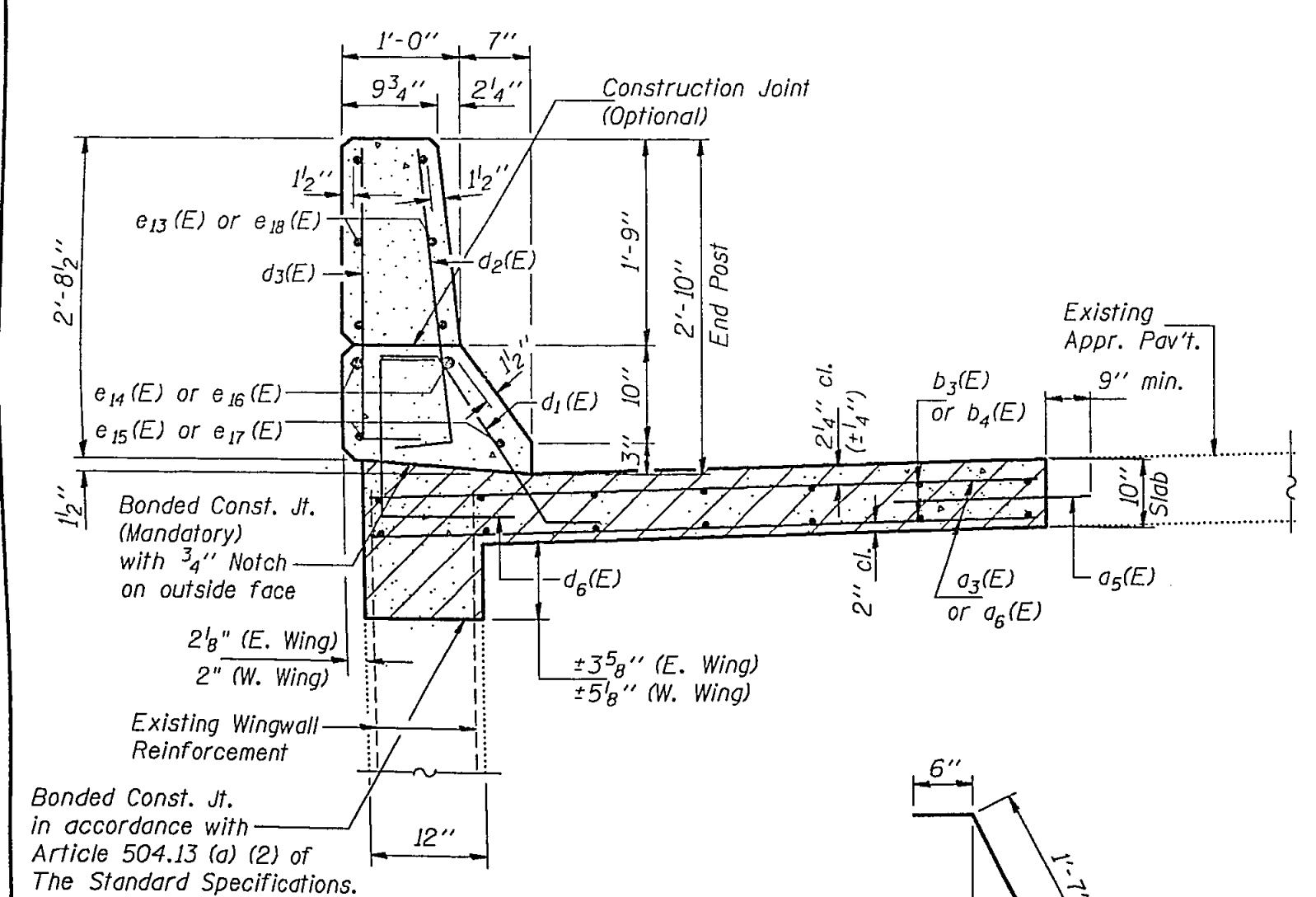
End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.



1" Anchor Bolts. Typ. Each End Post. Cost incidental Bridge Structure.



* Order End Post e3(E) thru e6(E) bars full length, cut to fit skew in the field.



BILL OF MATERIAL

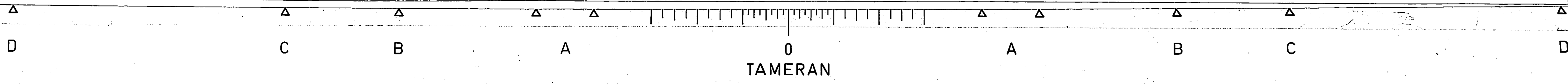
Bar	No.	Size	Length	Shape
a3(E)	20	#5	6'-7"	
a5(E)	20	#5	3'-0"	
a6(E)	23	#5	12'-7"	
b3(E)	7	#5	17'-9"	
b4(E)	14	#5	21'-6"	
d1(E)	16	#5	2'-7"	
d2(E)	22	#5	3'-0"	
d3(E)	21	#4	3'-0"	
d4(E)	6	#5	2'-11"	
d5(E)	21	#4	4'-1"	
d6(E)	21	#4	4'-0"	
e13(E)	6	#4	9'-9"	
e14(E)	2	#8	9'-9"	
e15(E)	2	#5	9'-9"	
e16(E)	2	#8	9'-7"	
e17(E)	2	#5	9'-7"	
e18(E)	6	#4	9'-7"	
h(E)	4	#6	43'-6"	
h1(E)	3	#5	12'-7"	
h2(E)	3	#5	6'-7"	
h3(E)	4	#5	6'-6"	
h4(E)	4	#5	6'-6"	
Reinforcement Bars, Epoxy Coated		Lbs.	1,870	
Structure Excavation		Cu. Yd.	11.0	

Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED *Frederic J. Chaput*
 CHECKED *Paul W. Sweet*
 DRAWN *Paul W. Sweet*
 CHECKED *RJC RB GLE*

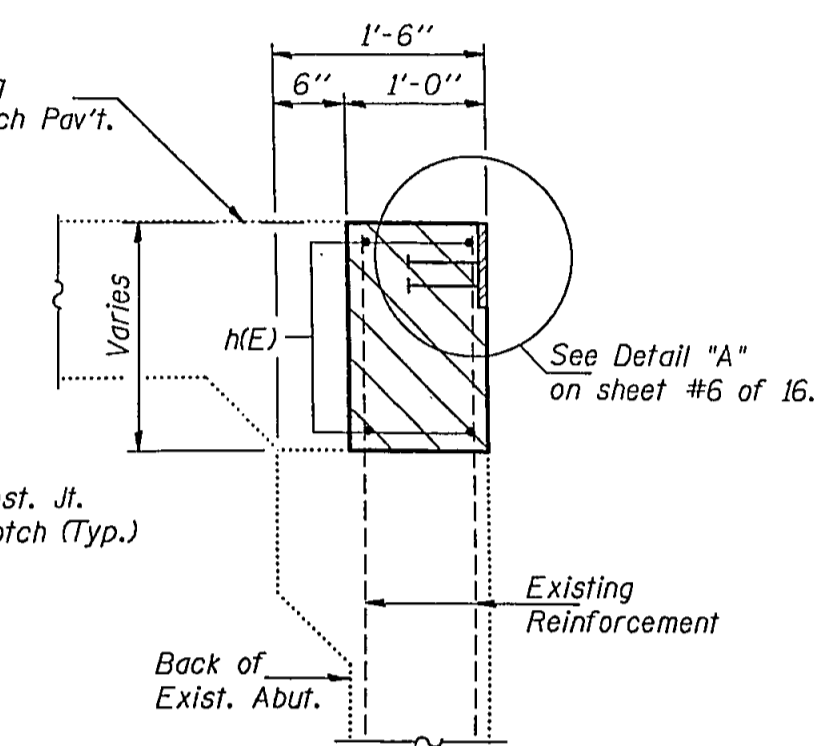
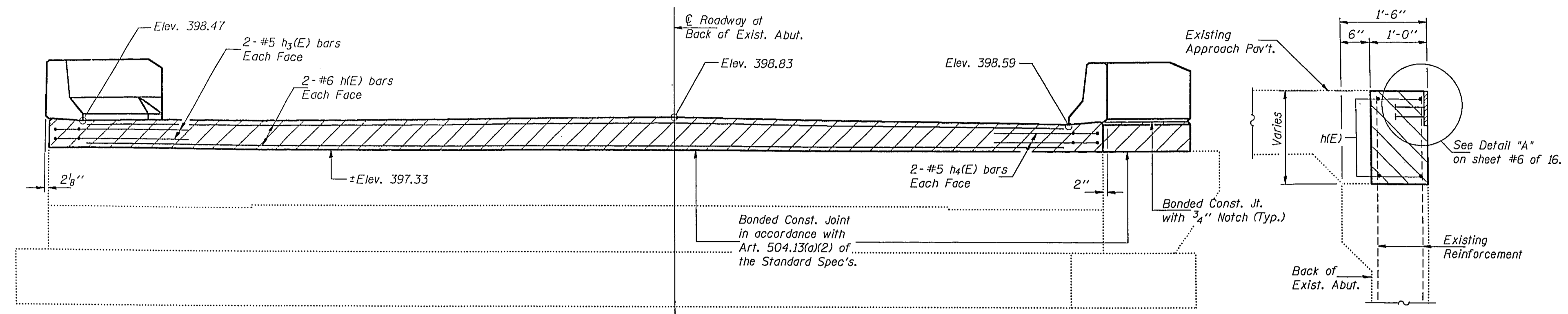
EXAMINED *Mary W 1992*
 PASSED *Ralph E. Anderson*
 APPROVED *Ralph E. Anderson*
 DIRECTOR OF HIGHWAYS

NORTH ABUTMENT DETAILS
 F.A.I. RT. 57 SEC. (28-5B-110)
 FRANKLIN COUNTY
 STATION 212+50.00

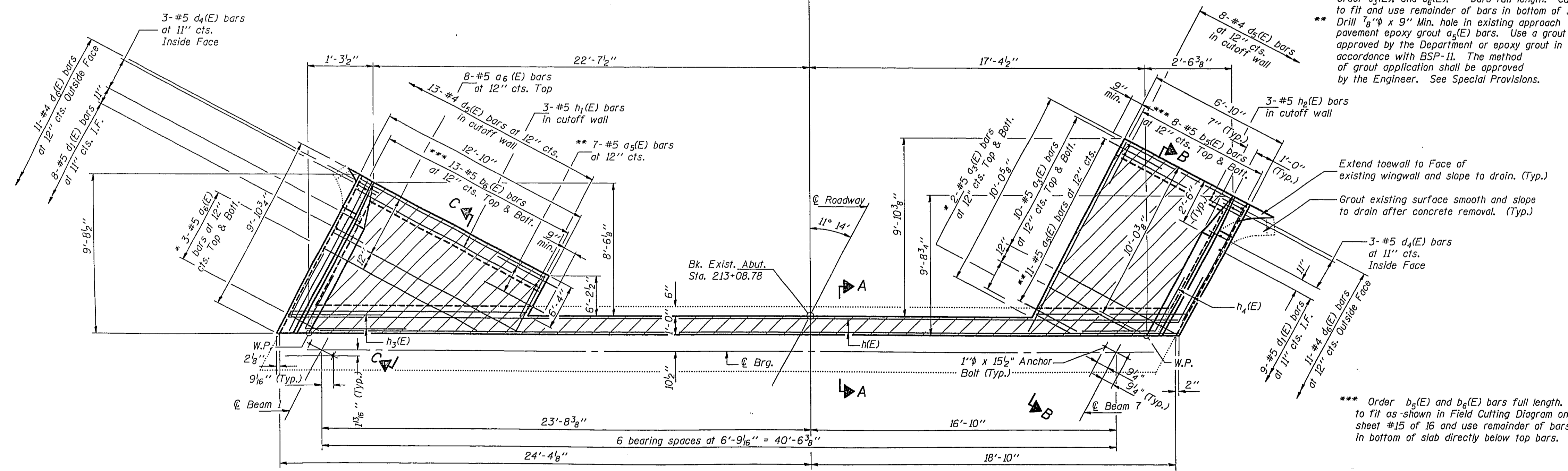


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET
128-00-110	FRANKLIN	155	138	16 SHEETS
F.A.I. BY	ILLINOIS	FED. AID PROJECT		



ELEVATION
(Looking South)



PLAN

* Order $a_3(E)$ and $a_6(E)$ bars full length. Cut to fit and use remainder of bars in bottom of slab.
 ** Drill $3/8"$ x $9"$ Min. hole in existing approach pavement epoxy grout $a_6(E)$ bars. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the Engineer. See Special Provisions.

*** Order $b_5(E)$ and $b_6(E)$ bars full length. Cut to fit as shown in Field Cutting Diagram on sheet #15 of 16 and use remainder of bars in bottom of slab directly below top bars.

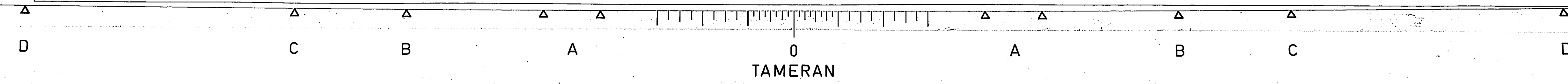
Notes: Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with "Class X Concrete Superstructure" on sheet #6 of 16. Existing reinforcement extending into removed area shall be cleaned, straightened and incorporated into the new construction. Reinforcement bars designated (E) shall be epoxy coated. For anchor bolt installation details see sheet #16 of 16. Concrete Quantity for End Posts is included in "Class X Concrete Superstructure". All edges shall have standard $3/4"$ chamfer.

DESIGNED *Richard J. Chaput*
 CHECKED *Shawn P. Nantel*
 DRAWN *Paul W. Sweet*
 CHECKED *RJC/RMB/GSE*

EXAMINED *Dan J. Kaspar*
 PASSED *Ralph E. Anderson*
 APPROVED

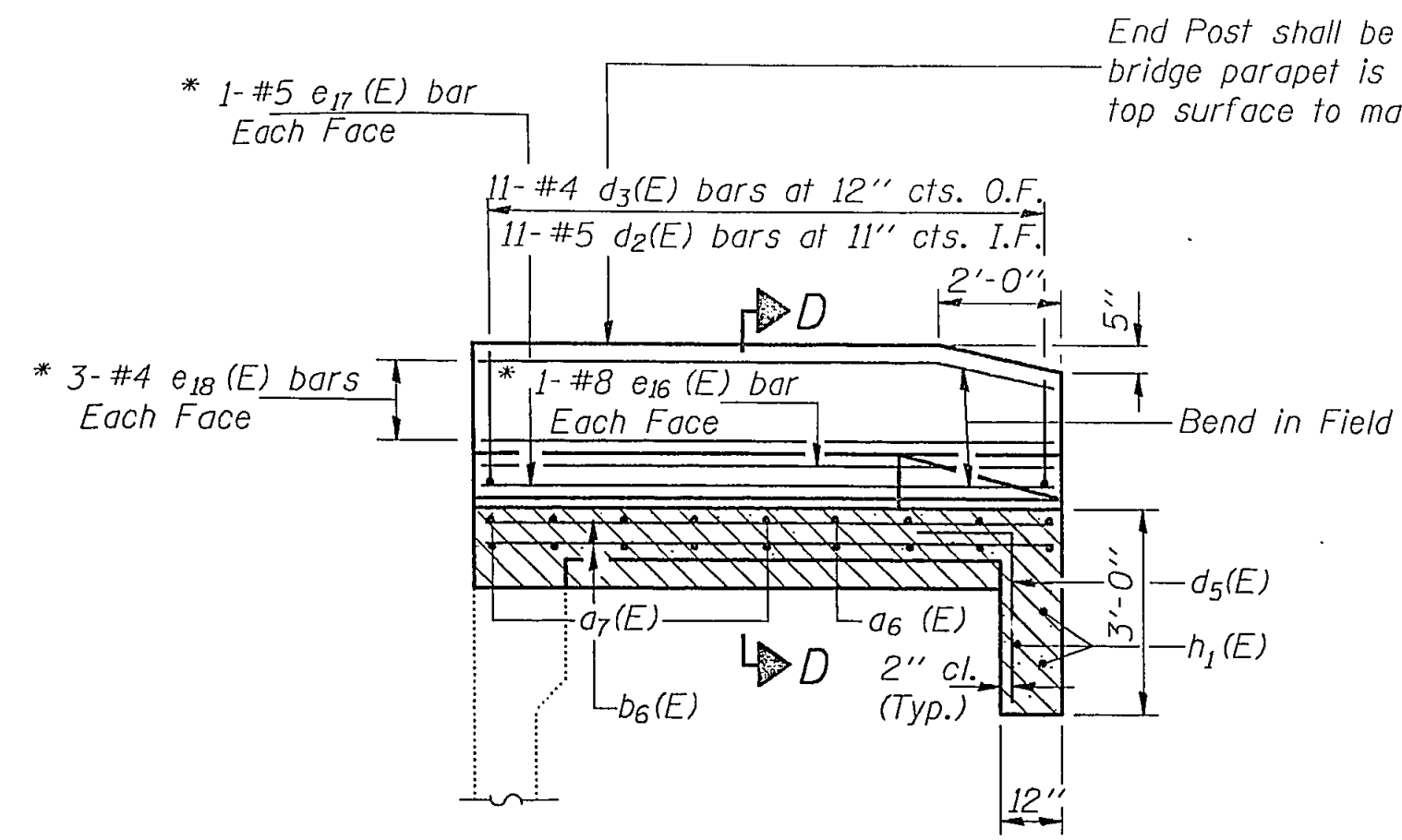
May 22 1992
 DIRECTOR OF HIGHWAYS

SOUTH ABUTMENT
 F.A.I. RT. 57 SEC. (28-5B-1D)
 FRANKLIN COUNTY
 STATION 212+50.00

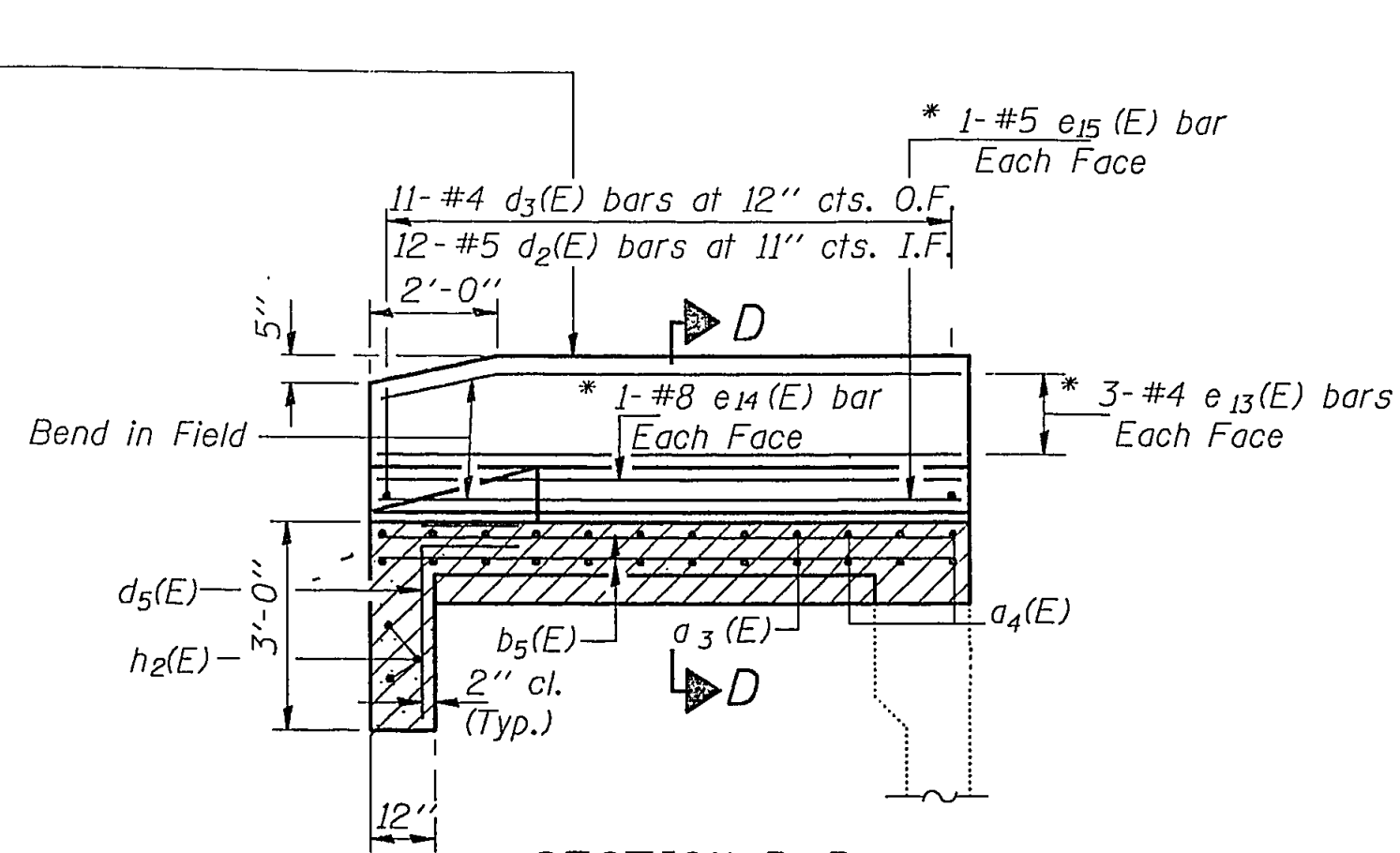


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	NO.	SHEET NO. 15
F.A.I. RT. 57	28-5B-1D	FRANKLIN	155	139	16 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

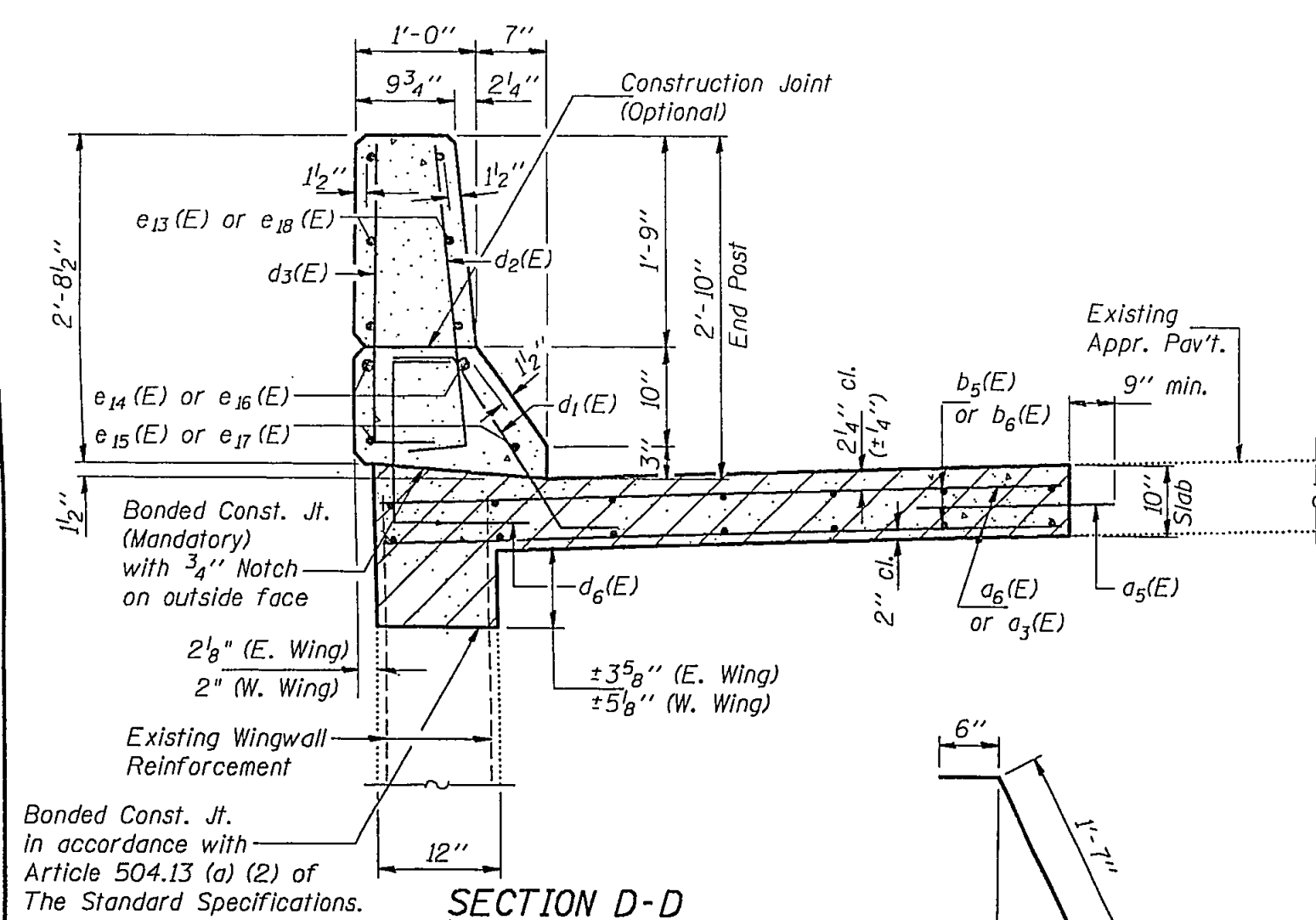


SECTION C-C

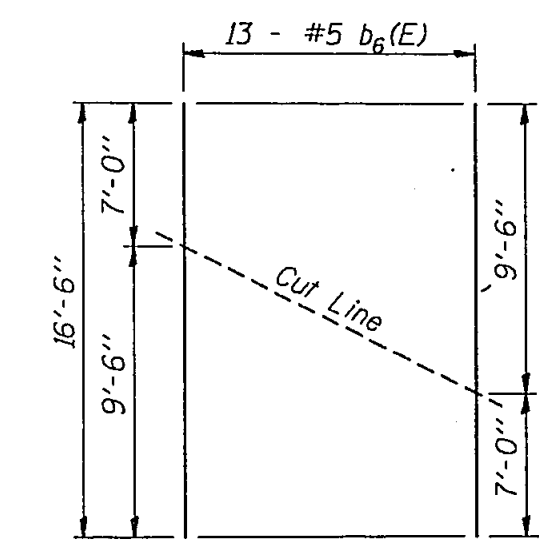


SECTION B-B

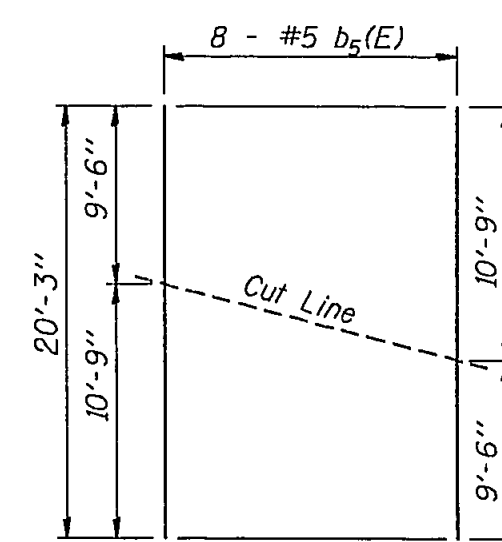
* Order End Post e13 (E) thru e18 (E) bars full length, cut to fit skew in the field.



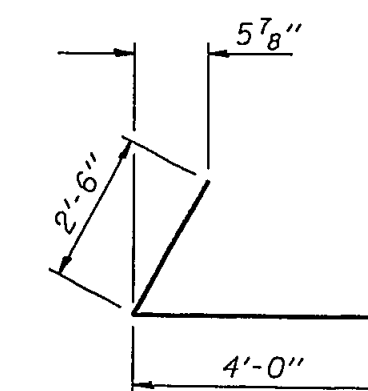
SECTION D-D



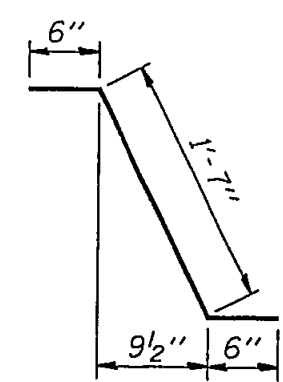
FIELD CUTTING DIAGRAM
BAR b6 (E)



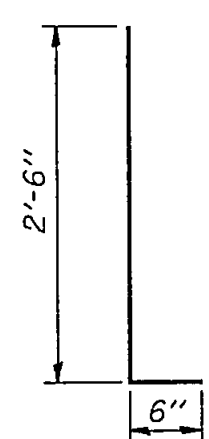
FIELD CUTTING DIAGRAM
BAR b5 (E)



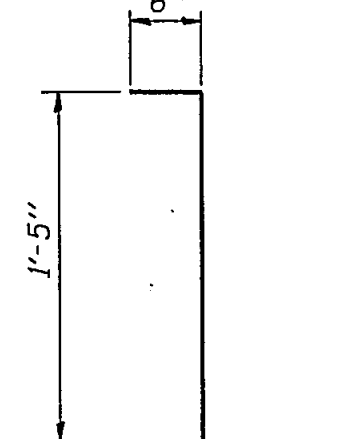
BAR h3 (E)



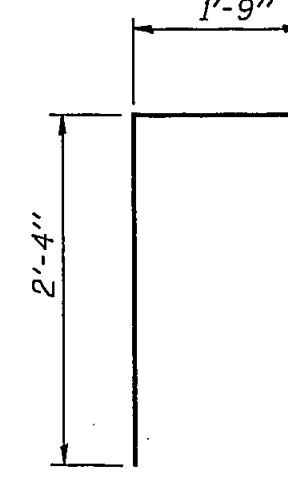
BAR d1 (E)



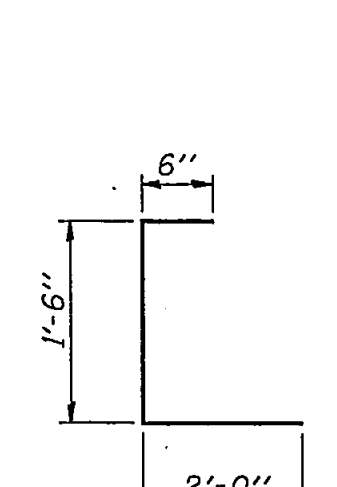
BARS d2 (E) & d3 (E)



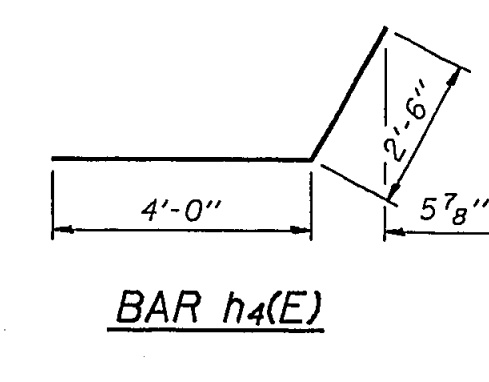
BAR d4 (E)



BAR d5 (E)



BAR d6 (E)



BAR h4 (E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a3 (E)	22	#5	6'-7"	
a5 (E)	18	#5	3'-0"	
a6 (E)	19	#5	12'-7"	
b5 (E)	8	#5	20'-3"	
b6 (E)	13	#5	16'-6"	
d1 (E)	17	#5	2'-7"	
d2 (E)	23	#5	3'-0"	
d3 (E)	22	#4	3'-0"	
d4 (E)	6	#5	2'-11"	
d5 (E)	21	#4	4'-0"	
d6 (E)	22	#4	4'-0"	
e13 (E)	6	#4	9'-9"	
e14 (E)	2	#8	9'-9"	
e15 (E)	2	#5	9'-9"	
e16 (E)	2	#8	9'-7"	
e17 (E)	2	#5	9'-7"	
e18 (E)	6	#4	9'-7"	
h1 (E)	4	#6	43'-6"	
h2 (E)	3	#5	12'-7"	
h3 (E)	4	#5	6'-6"	
h4 (E)	4	#5	6'-6"	
Reinforcement Bars, Epoxy Coated		Lbs.	1,740	
Structure Excavation		Cu. Yd.	11.0	

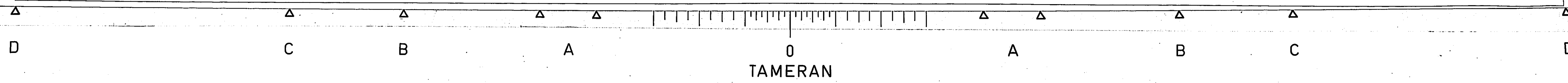
Reinforcement bars designated (E) shall be epoxy coated.

SOUTH ABUTMENT DETAILS
F.A.I. RT. 57 SEC. (28-5B-1D)
FRANKLIN COUNTY
STATION 212+50.00

DESIGNED *Richard J. Orsini*
CHECKED *Edward P. Nienkwa*
DRAWN *Paul W. Sweet*
CHECKED *RJC RJB GAE*

EXAMINED *Gregory J. Kasper*
PASSED *Richard E. Anderson*
APPROVED

MAY 22 1992
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES
DIRECTOR OF HIGHWAYS

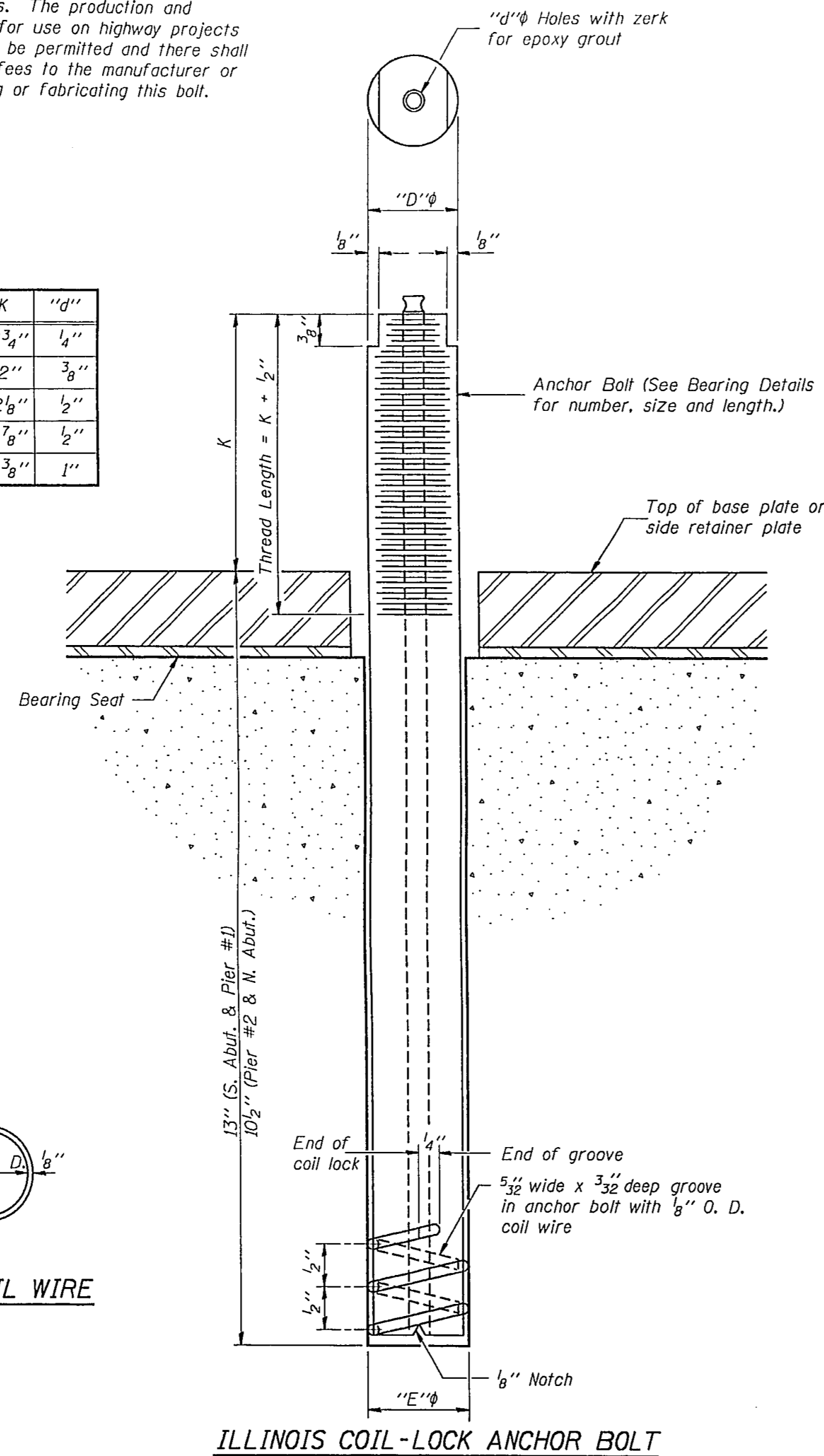


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO. 16
F.A.I. RT.	28-5B-1D	FRANKLIN	155	140
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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 1/8"	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"



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 A519, Grade 1026 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 C881, 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 in accordance with 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 conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with 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 and installed 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".

DESIGNED *Richard J. Chapp*
CHECKED *James L. Nisich*
DRAWN *Paul W. Sweet*
CHECKED *RJC/RIB/GSE*
EXAMINED *May 22 1992*
PASSED *Prof. J. Kaspar*
APPROVED *Ralph E. Anderson*
DIRECTOR OF HIGHWAYS

ANCHOR BOLT DETAILS
FOR BEARINGS
F.A.I. RT. 57 SEC. (28-5B-1D)
FRANKLIN COUNTY
STATION 212+50.00

