100CC

FOR INDEX OF SHEETS, SEE SHEET NO. 2

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 6-13

CURRENT ADT: 2005
10,400 - I-72 WEST OF MONTICELLO
13,800 - I-72 FROM MONTICELLO TO IL 47

B-SMART REPAIR (MAINLINE)

SN 074-0063
SN 074-0064
SN 074-0067

B-SMART REPAIR (OVERHEADS)

SN 074-0055
SN 074-0058
SN 074-0062

STRUCTURE OMISSIONS (MAINLINE)

SN 074-0067 (EB)	STA. 1421+86.52 TO STA. 1428+63.44
SN 074-0068 (WB)	STA. 1422+80.50 TO STA. 1429+57.42
SN 074-0069 (EB)	STA. 1436+95.20 TO STA. 1439+18.28
SN 074-0070 (WB)	STA. 1438+22.94 TO STA. 1440+46.02
SN 074-0001 (EB)	STA. 1300+54.10 TO STA. 1302+62.80
SN 074-0002 (WB)	STA. 1300+45.65 TO STA. 1302+54.29

STRUCTURE OMISSIONS (OVERHEADS)

SN 074-0060
SN 074-0065
SN 074-0066
SN 074-0071
SN 074-0035
SN 074-0026
SN 074-0036

CRASHWALL EXTENSIONS

SN 074-0055
SN 074-0058
SN 074-0060
SN 074-0062
SN 074-0065
SN 074-0066
SN 074-0071

IMPACT ATTENUATOR PLACEMENTS

SN 074-0055
SN 074-0062
SN 074-0065
SN 074-0066

IMPACT ATTENUATOR UPGRADES

SN 074-0058
SN 074-0060
SN 074-0071
SN 074-0035
SN 074-0026
SN 074-0036

SEE GENERAL NOTES FOR ADDITIONAL STRUCTURE INFORMATION

DESIGN DESIGNATION

INTERSTATE

CONTRACT NO. 70022 074-0065

FAI ROUTE 72 SECTION (58,74-66) & (74-67&68)RS-1 PIATT COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

09.9%
11/12/2011

PROPOSED
HIGHWAY PLANS

FAI ROUTE 72 (I72)
SECTION (58,74-66)&(74-67&68)RS-1
MACON & PIATT COUNTY

C-95-056-99

RESURFACING

PIATT COUNTY LINE TO WHITE HEATH RD (FAS 1532) NE OF WHITE HEATH

STATION EQUATION:
1499+41.06 (BK) =
1162+63.35 (AH)

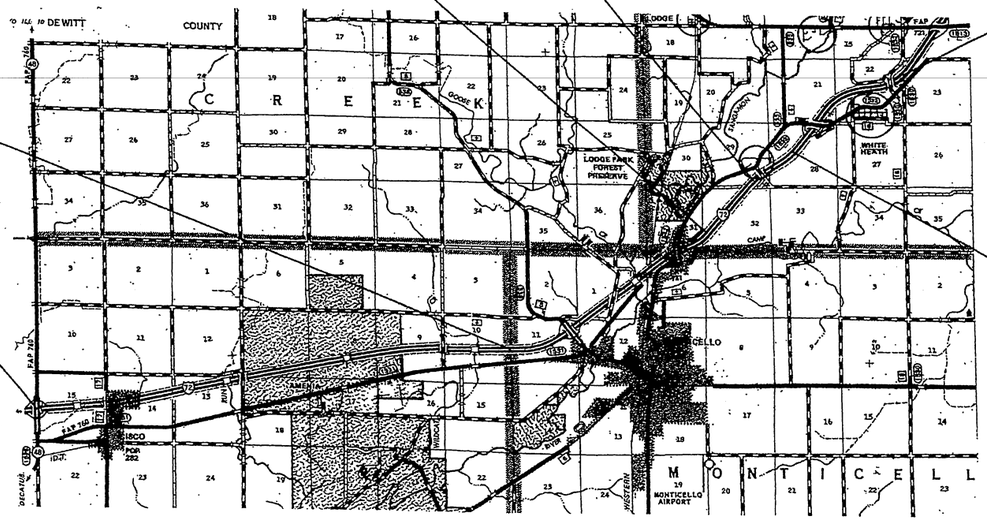
END URBAN LIMITS
STATION 1216+11.00

PROJECT ENDS
STATION 1376+84.00

BEGIN URBAN LIMITS
STATION 1308+92.00

STATION EQUATION:
1265+71.09 (BK) =
1265+30.54 (AH)

PROJECT BEGINS
STATION 910+00.00



TOTAL LENGTH OF SECTION & PROJECT = 80,407.26 FEET = 15.229 MILES
NET LENGTH OF SECTION & PROJECT = 79,298.56 FEET = 15.019 MILES

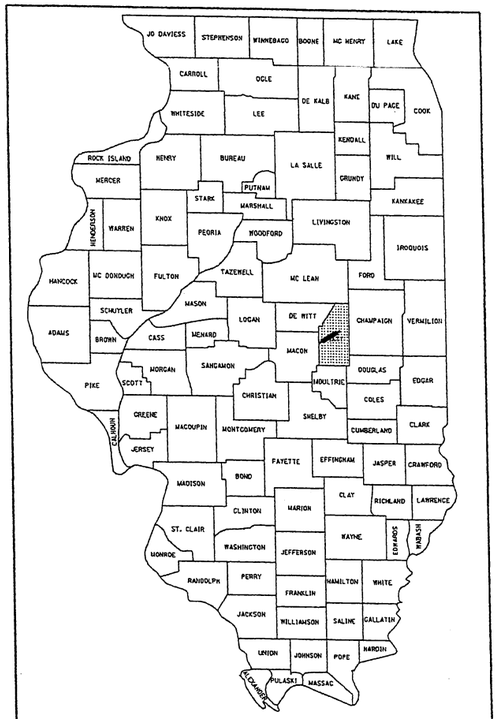
SCALE
0 1 2 3 4 5 MILES
0 5000 10000 15000 20000 25000 FEET
0 1 2 3 4 5 6 7 8 KILOMETERS

SCALE OF ENLARGEMENTS
0 .2 .3 .4 .6 .7 .8 .9 1.0 MILE
0 500 1000 2000 3000 4000 5000 FEET
0 .2 .4 .6 .8 1.0 KILOMETER

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	PIATT	251	1

* (58,74-66)&(74-67&68)RS-1

D-95-028-99



LOCATION OF SECTION INDICATED THUS: -

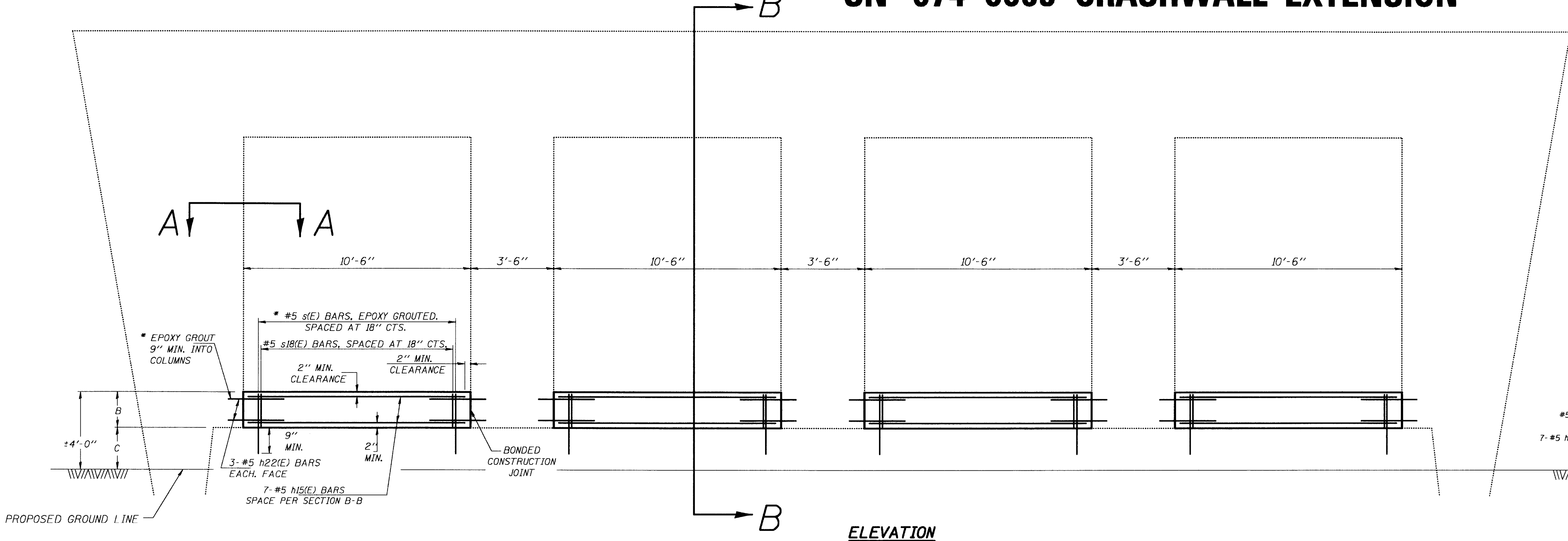
FOR UNDERGROUND UTILITY LOCATIONS CALL
TOLL FREE J.U.L.I.E. TELEPHONE NO.
1-800-892-0123

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

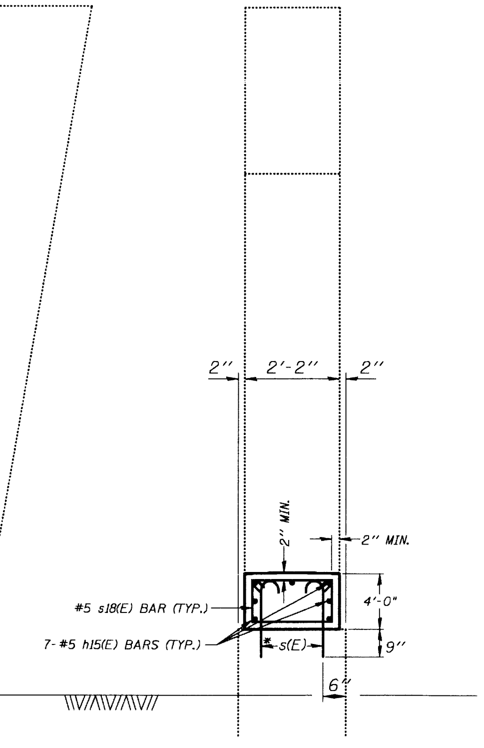
SUBMITTED 2/8 20 10
Douglas W. Gower PE
DEPUTY DIRECTOR OF HIGHWAYS, REGION THREE ENGINEER
March 19, 20 10
Scott E. Stitt P.E. (RP)
Acting ENGINEER OF DESIGN AND ENVIRONMENT
March 19, 20 10
Christine M. Reed (RP)
DIRECTOR OF HIGHWAYS/CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

SN 074-0065 CRASHWALL EXTENSION



ELEVATION



SECTION B-B

GENERAL NOTES

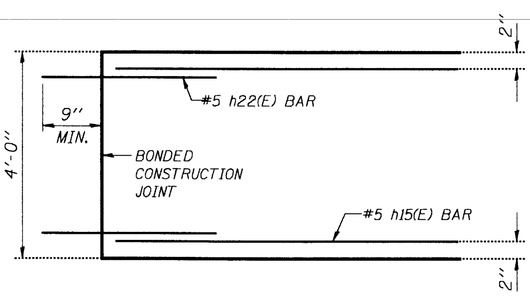
PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO ROUTINE VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF THE WORK, HOWEVER. THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED BASED UPON THE UNIT PRICE BID FOR THE WORK.

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR CONCRETE STRUCTURES.

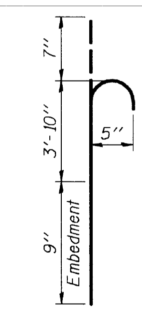
THE COST OF EPOXY GROUTING THREADED RODS SHALL BE INCLUDED WITH REINFORCEMENT BARS (EPOXY COATED).

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706 OR 60(IL MODIFIED).

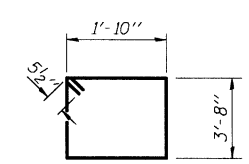
REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.



SECTION A-A



BAR s(E)



BAR s18(E)

* EPOXY GROUT BARS IN 9" MIN. HOLES ACCORDING TO ARTICLE 584 OF THE STANDARD SPECIFICATIONS.

CRASHWALL EXTENSION (TRAPEZOIDAL PIER)

STRUCTURE STATION	LOC.	DIMENSION B (FT)	DIMENSION C (FT)	CONCRETE STRUCTURES (CU YD)
SN 074-0065 1359+51.04	MED	4'-0"	0'-0"	13.5
			CONCRETE STRUCTURES =	13.5

BAR	QTY	SIZE	LENGTH	LBS
h15(E)	28	#5	10'-2"	296.2
			LBS =	296.2

BAR	QTY	SIZE	LENGTH	LBS
h22(E)	48	#5	2'-9"	137.7
			LBS =	137.7

BAR	QTY	SIZE	LENGTH	SHAPE	LBS
s(E)	56	#5	5'-2"		301.1
				LBS =	301.1

BAR	QTY	SIZE	LENGTH	SHAPE	LBS
s18(E)	28	#5	11'-11"		347.1
				LBS =	347.1
				REINFORCEMENT BARS (EPOXY COATED) =	1082.1

NOTE:
MED INDICATES MEDIAN PIER.

SN 074-0065

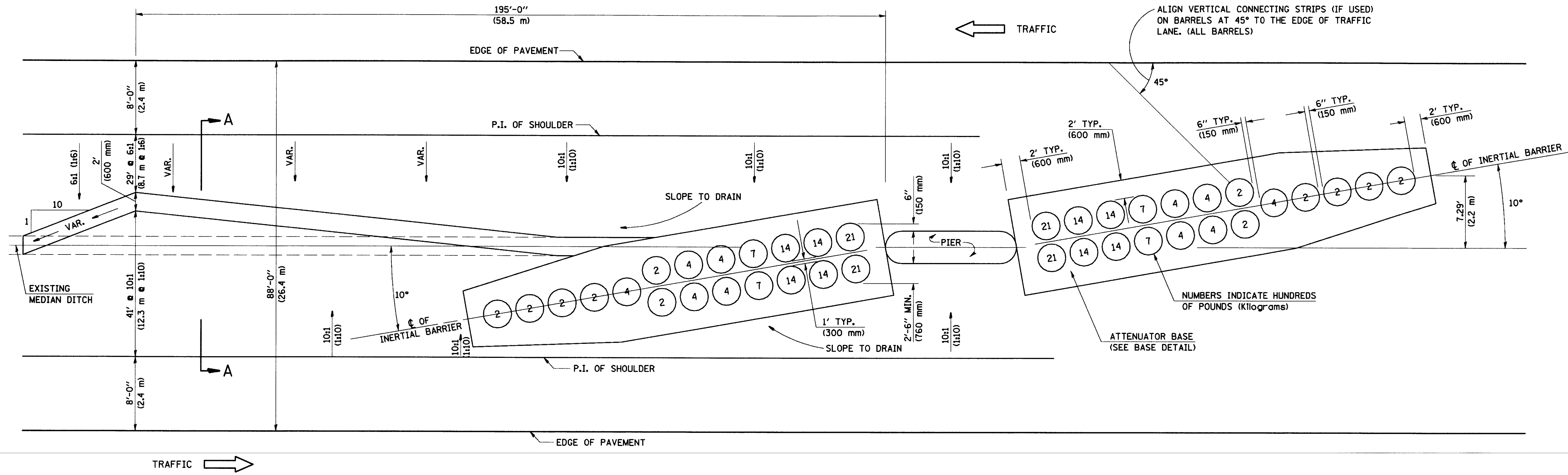
CONTRACT NO. 70022

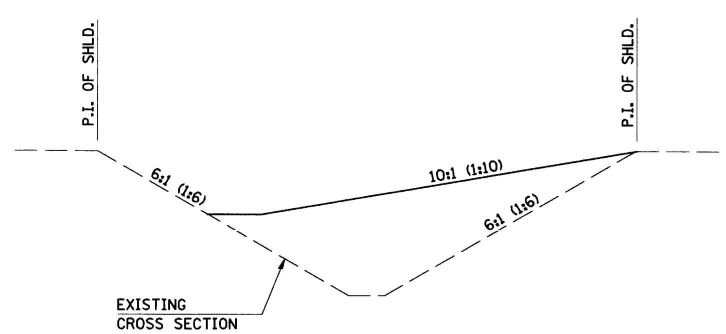
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	PIATT	251	207

* (58,74-66)&(74-67&68)RS-1

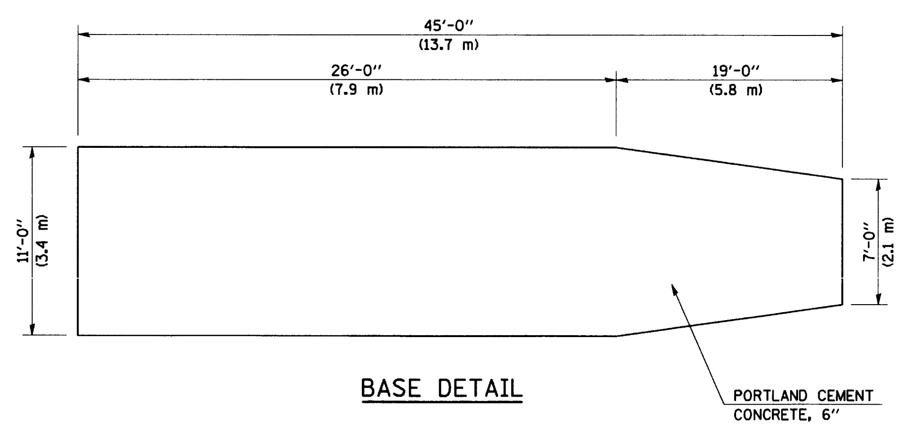
70 MPH (110 km/h) DESIGN - 88' (26.4 m) MEDIAN

STATION 932+59.22 (S.N. 074-0055)
STATION 987+02.80 (S.N. 074-0058)
STATION 1095+12.12 (S.N. 074-0060)
STATION 1256+11.76 (S.N. 074-0062)
STATION 1359+51.04 (S.N. 074-0065)
STATION 1401+86.77 (S.N. 074-0066)





SECTION A-A
GRADING AND SHAPING DETAIL



BASE DETAIL

GENERAL NOTES

1. ALL 10:1 (1:10) SLOPES SHOWN ON THIS DETAIL SHALL BE CONSTRUCTED 10:1 (1:10) OR FLATTER.
2. THE SLOPES AS SHOWN ON THIS DETAIL SHALL APPLY TO BOTH ENDS OF THE BRIDGE PIERS.
3. THE LENGTH X WIDTH OF MODULE LAYOUT IS 41.0' x 7.0': 19 MODULES - 14,400 LBS. (12.5 m x 2.1 m: 19 MODULES - 6532 kg).
4. IN AREAS OF 10:1 (1:10) SLOPES PRECEDING THE ATTENUATOR IN THE MEDIAN INSTALLATION, FOUR OR MORE WOOD POSTS SHALL BE PLACED AT 5' (1.5 m) INTERVALS IN THE MEDIAN ¢. SEE SPECIAL PROVISIONS AND SCHEDULES.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DATE	REVISIONS	NAME

ILLINOIS DEPARTMENT OF TRANSPORTATION

IMPACT ATTENUATORS (NON-REDIRECTIVE) TEST LEVEL 3

DISTRICT 5 DETAIL SPECIAL

PLOT DATE = 2/8/2010
FILE NAME = c:\pw_work\PWIDOT\PIERSONBR\d0109678\2899details.dgn
PLOT SCALE = 105.0824 ' / IN.
USER NAME = piersonbr

FEDERAL AID ROUTE NO	SEC	COUNTY	TOTAL SHEETS	SHEET NO
FAI-72	74-68 HB-1	PIATT	36	1
		ILLINOIS	PROJECT I-72-2(52)60	

JOB NO. P-95-082-70

FOR INDEX OF SHEETS
SEE SHEET NO. 3

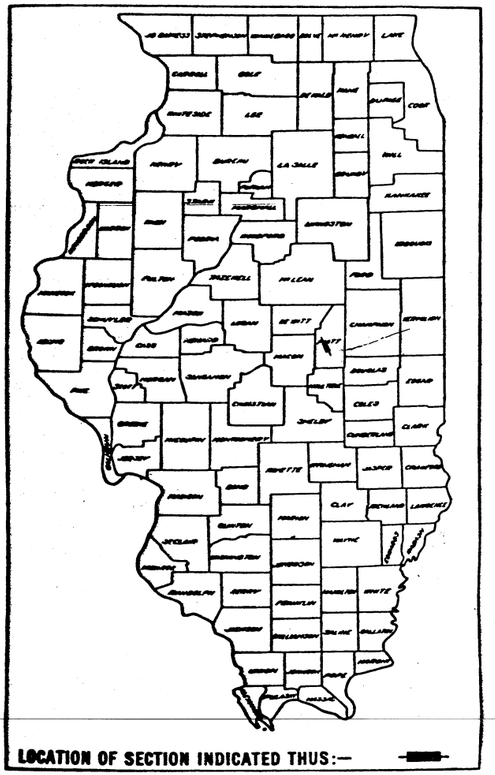
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

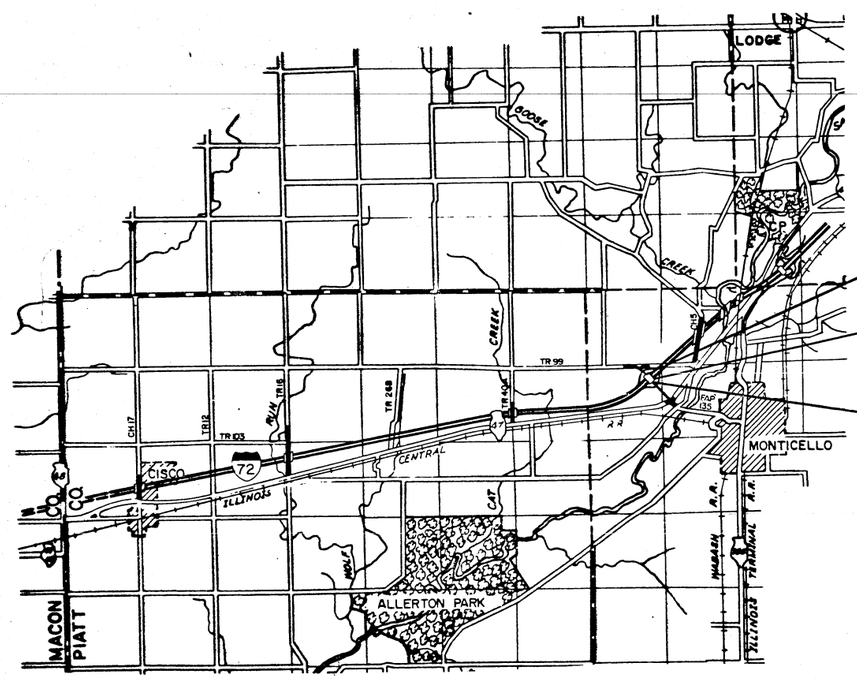
PLANS FOR PROPOSED
FEDERAL AID INTERSTATE HIGHWAY

SCALE IN FEET

MAIN LANES	PLAN & PROFILE	HOR.	0 100 200
MAIN LANES	PLAN & PROFILE	VERT.	0 10 20
CROSS ROADS	PLAN & PROFILE	HOR.	0 50 100
CROSS ROADS	PLAN & PROFILE	VERT.	0 5 10
	CROSS-SECTIONS	HOR.	0 10 20
	CROSS-SECTIONS	VERT.	0 5 10

F.A.I. ROUTE - 72 SECTION 74-68 HB-1
PIATT COUNTY
PROJECT I - 72-2(52)60
CONSTRUCTION JOB NO C-95-024-72





LAYOUT

SCALE 0 .5 1.0 2.0 MILES

SECTION 74-68 HB-1 ENDS
STA. 51+24.67

STRUCTURE 74-68 HB-1
STA. 50+00.00 (℄ FA.135)
STA. 1359+51.04 (℄ FAI-72)

SECTION 74-68 HB-1 BEGINS
STA. 48+75.33

STRUCTURE 74-68 HB-1, A TWO SPAN SEPARATION STRUCTURE CARRYING FAP 135 OVER FAI 72 AT STATION 1359+51.04.
SPANS: 2 @ 125'-4"
ROADWAY: 2 LANES @ 14' WIDTH, 18' MEDIAN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED Aug. 13, 19 73 — J. C. Faulkner, DISTRICT ENGINEER
EXAMINED Sept 26, 19 73 — ENGINEER OF PLANS AND CONTRACTS
PASSED Sept 26, 19 73 — ENGINEER OF DESIGN
APPROVED Sept 26, 19 73 — ACTING CHIEF TRANSPORTATION ENGINEER

#34
11 DEC 73
YIG

DESIGN DESIGNATION:
612 (92) COLLECTOR 0.51 (S.R.P.C.C.-20)

TOTAL LENGTH OF SECTION	74-68 HB-1	=	250.34	FEET 0.047 MILES
NET LENGTH OF SECTION	74-68 HB-1	=	250.34	FEET 0.047 MILES
NET LENGTH OF PROJECT	I-72-2(52)60	=	0.00	FEET 0.000 MILES

LOUIS PAUL MOECK 28244 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

LOUIS PAUL MOECK 3359 REGISTERED STRUCTURAL ENGINEER OF ILLINOIS

Louis Paul Moeck

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ENGINEER — DATE

BRIGHTON ENGINEERING COMPANY
CONSULTING ENGINEERS
GLEN ELLYN, ILLINOIS

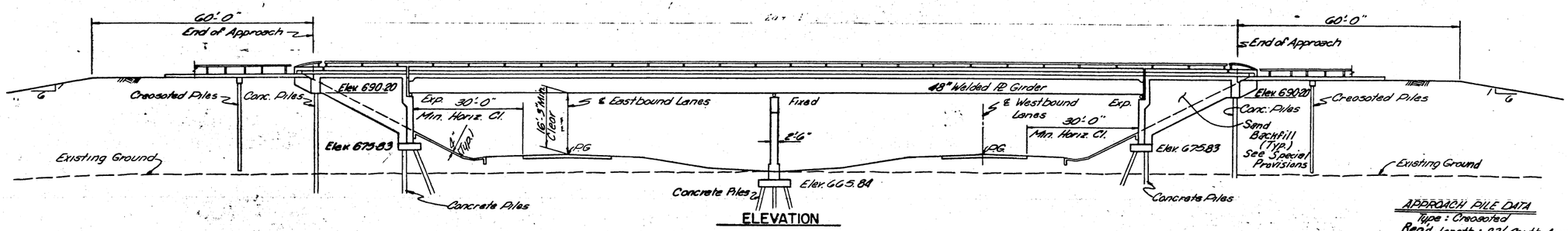
5-85

74-0865 CONTRACT NO 762

STATE OF ILLINOIS

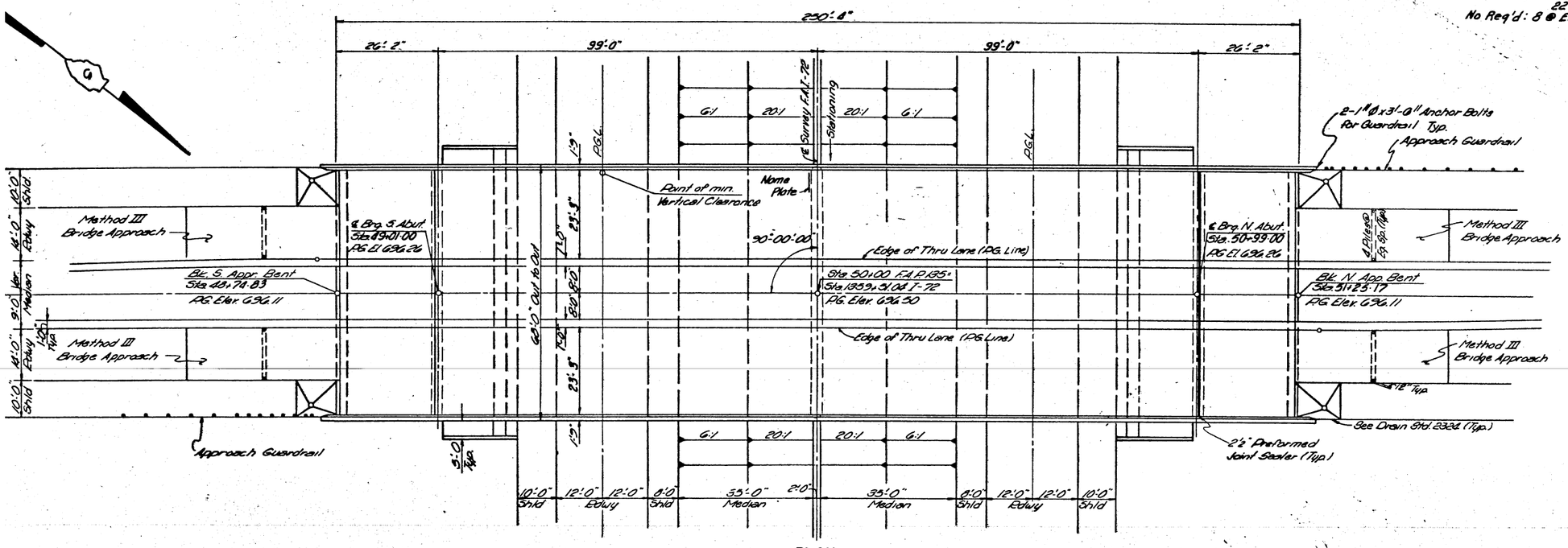
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I.-72	74-68 -HB1	PIATT	36	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
SHEETS 18

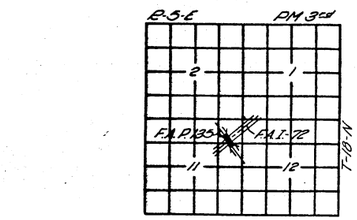


ELEVATION

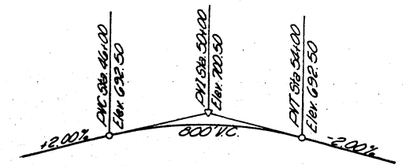
APPROACH PILE DATA
Type: Creosoted
Req'd Length: 22' South Appr.
22' North Appr.
No Req'd: 8 @ Each Approach



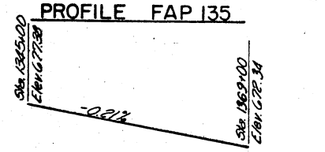
PLAN



LOCATION SKETCH



PROFILE FAP 135



PROFILE FAI-72

DESIGN STRESSES
f_c = 1400 psi Curb, Parapet & Substructure
f_c = 1200 psi Superstructure Deck
f_v = 75 psi Footing
f_s = 20,000 psi Reinforcing
f_s = 20,000 psi Structural (A-36)
n = 10
LL Deflection = 1/800 (Composite)
Loading: HS 20-44
Allow 25#/sf for Future W.S.

B.M. 43 - Top of B.R. spike in North side of 10" Ø Elm. 8' South of Sta. 1353+00. Elev. 672.73

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Engineer of Bridge & Traffic Structures

LOUIS PAUL MOECK
3359
REGISTERED STRUCTURAL ENGINEER OF
ILLINOIS

TOTAL BILL OF MATERIALS

Item	Unit	Super	Sub.	Total
Aluminum Railing	Lin. Ft.	519	———	519
Sand Backfill	Cu. Yd.	———	727	727
Structure Excavation	Cu. Yd.	———	124	124
Class X Concrete	Cu. Yd.	579.2	426.0	1005.2
Furnishing & Erecting Structural Steel	Lump Sum	1	———	1
Furnishing Concrete Piles	Lin. Ft.	———	3663	3663
Furnishing Creosoted Piles (20.1 to 38 Ft.)	Lin. Ft.	———	352	352
Driving Timber Piles	Lin. Ft.	———	352	352
Driving Concrete Piles	Lin. Ft.	———	3663	3663
Test Piles (Concrete)	Each	———	3	3
Name Plates	Each	1	———	1
Preformed Joint Sealer (2½")	Lin. Ft.	130	———	130
Slope Wall (4 Inch)	Sq. Yd.	———	357	357
Stud Shear Connectors	Each	2916	———	2916
Reinforcement Bars	Lb.	151,330	48,260	199,590

250-4
52-4
198

DESIGNED	E.S.V.
CHECKED	S.T.
DRAWN	D.D. 11-18-71
CHECKED	P.M. & D.M.

GENERAL PLAN & ELEVATION
PROJ. I-72-2(52)60
F.A.I. 72 SEC. 74-68-HB 1
PIATT COUNTY
STA. 1359+51.04 (F.A.I.-72)

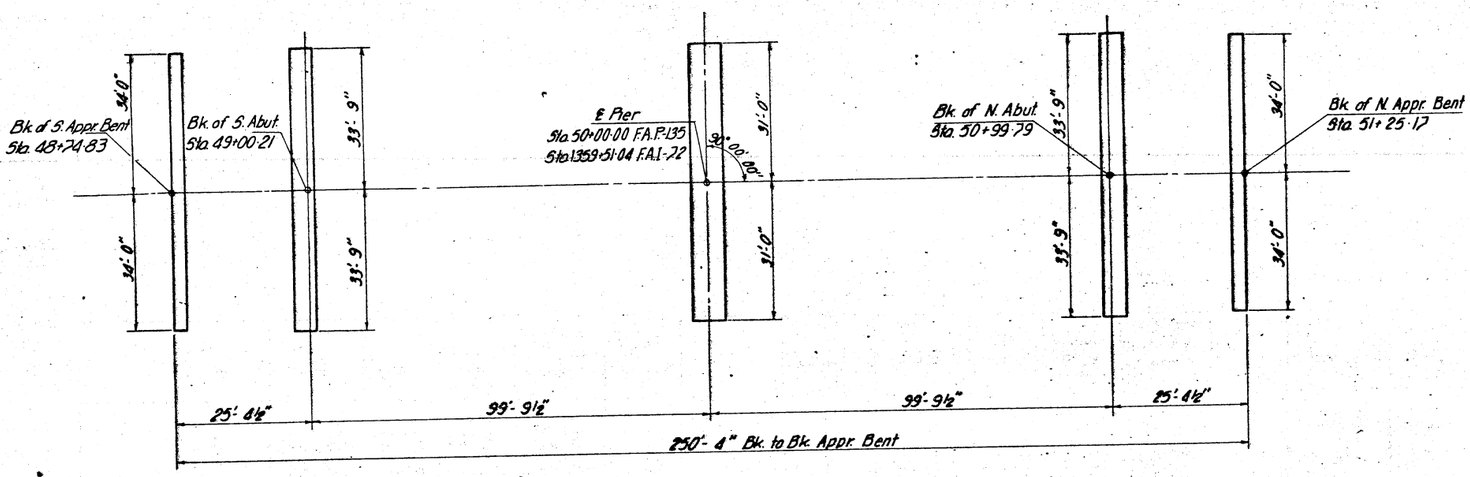
: Cl. X Conc. from 994.0 Cu. Yds. to 1005.2 Cu. Yds. Furn. & Driving Conc. Piles from 3078 Lin. Ft. to 3663 Lin. Ft. Test Piles (Conc) from 1 to 3. Reinf. Bars from 198,370# to 199,590#
lated Protective Coat - 572 Sq. Yds. Bit. Conc. Surf. Course, Class I - 151 Tons. Coal Tar Interlayer Protective Coat 1,356 Sq. Yds. 9-10-73 L.W.

1 - 2 SP CONT. COMP. W PL G

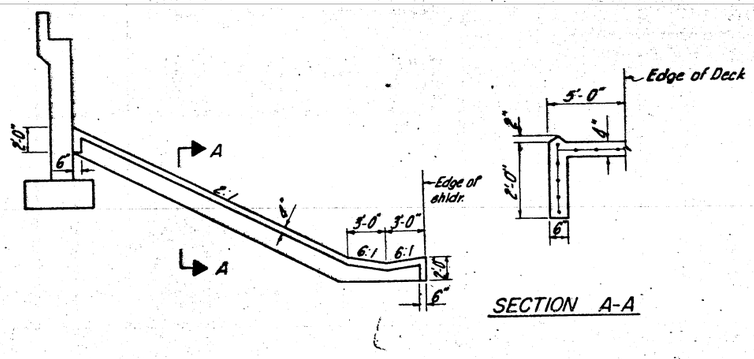
STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I.72	74-68 HB-1	PIATT	36	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
SHEETS 14



FOOTING LAYOUT



SLOPE WALL DETAIL

SECTION A-A

STATION 1359+51.04
BUILT 197 BY
STATE OF ILLINOIS
F.A.I.-72 SEC. 74-68-HB-1
F.A. PROJ. 1-72-2(52)
LOADING HS20 & ALT.

BRIDGE NAME PLATE
See Std. 2113

GENERAL NOTES

1. All Reinforcement Bars Shall Be Lapped 24 Diameters Unless Otherwise Shown.
2. Fasteners Shall Be High Strength Bolts. Bolts ¾" ϕ; Open Holes 13/16" ϕ, Unless Otherwise Noted.
3. Calculated Weight Of Structural Steel = 409,222 lbs.
4. The Basic Lead Silico Chromate Paint System Shall Be Used For Shop And Field Painting Of Structural Steel.
5. Field Welding Of Construction Accessories Will Not Be Permitted To The Bottom Flange Of Beams Or Girders 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.
6. Anchor Bolts Shall Be Set Before Bolting Diaphragms (Bolting Cross Frames) Over Supports.
7. Slope Wall Shall Be Reinforced With Welded Wire Fabric 6"x6" Mesh, Weighing 58 # Per 100 Sq. Ft.
8. The Contractor Shall Drive 3 Concrete Test Piles In A Permanent Location (1) Each Abut. & Pier As Directed By The Engineer Before Ordering The Remainder Of Piles.
9. The Embankment Configuration Shown Shall Be The Minimum Embankment That Must Be Constructed Prior To Construction Of The Abutments.
10. The Concrete Rail Section Above The Mandatory Construction Joint At The Top Of The Slab Shall Be Constructed Of Class X Concrete, Except The Aggregates Shall Conform To The Requirements Of Handrail Concrete.
11. Bearing Seat Surfaces Shall Be Constructed Or Adjusted To The Designated Elevations Within A Tolerance Of ± ⅛ Inch. Adjustment Shall Be Made Either By Grinding The Surface Or By Shimming The Bearing. Two ⅛" Adjusting Shims, Of The Dimensions Of The Bottom Bearing Plate, Shall Be Provided For Each Bearing In Addition To All Other Plates Or Shims.
12. Protective Coat Shall Not Be Applied To Surfaces To Which Coal Tar Interlayer Protective Coat Is Applied.
13. Concrete Piles at Abutments shall be Driven in Holes Precored through the Embankment in Accordance with Art. 513.03(c) of the Std. Specs.
14. The main load carrying member components subject to the Supplemental Requirements for Notch Toughness are the flanges, webs, and splice plates of the steel girders or wide flange beams.

DESIGNED	S.T.
CHECKED	M.S.S.
DRAWN	M.M.P. 6-27-72
CHECKED	K.S.Y.

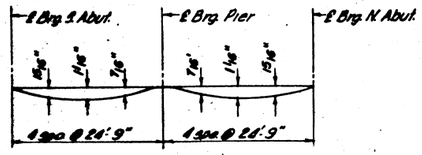
SUBSTRUCTURE LAYOUT
F.A.I.-72 SEC. 74-68-HB-1
PIATT COUNTY
STA. 1359+51.04 (F.A.I.-72)

Rev. 11-9-73 G.H.M.

STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 72	74-68 HB-1	PIATT	36	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

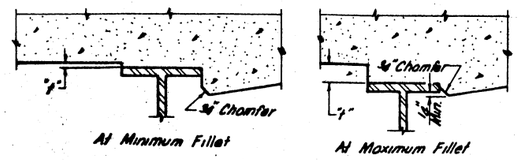
SHEET NO. 3
SHEETS 44



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.



FILLET HEIGHTS

To determine "f": After all Structural Steel or Precast Prestressed 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.

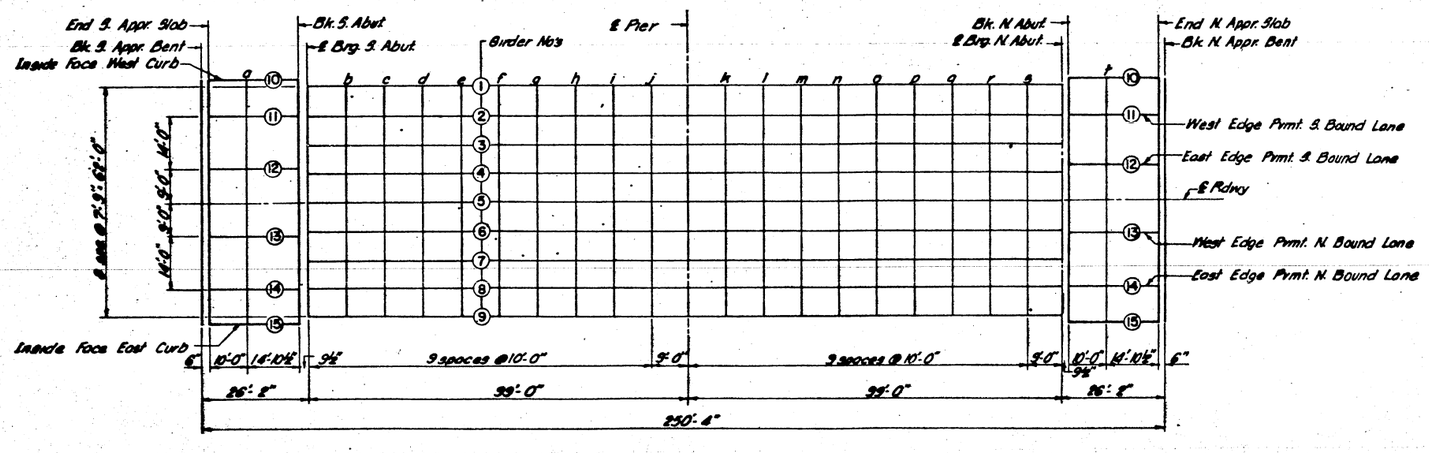
SOUTH APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elev. Adjusted For D.L. Deflection
BACK OF APPROACH BENT				
10	4874.830	-32.250	695.574	695.574
11	4874.830	-23.000	695.765	695.765
12	4874.830	-9.000	695.983	695.983
13	4874.830	9.000	695.983	695.983
14	4874.830	23.000	695.765	695.765
15	4874.830	32.250	695.574	695.574
BACK OF APPROACH SLAB				
10	4875.330	-32.250	695.578	695.578
11	4875.330	-23.000	695.768	695.768
12	4875.330	-9.000	695.987	695.987
13	4875.330	9.000	695.987	695.987
14	4875.330	23.000	695.768	695.768
15	4875.330	32.250	695.578	695.578
a				
10	4885.330	-32.250	695.637	695.637
11	4885.330	-23.000	695.828	695.828
12	4885.330	-9.000	696.046	696.046
13	4885.330	9.000	696.046	696.046
14	4885.330	23.000	695.828	695.828
15	4885.330	32.250	695.637	695.637
BACK OF ABUTMENT				
10	4900.210	-32.250	695.717	695.717
11	4900.210	-23.000	695.908	695.908
12	4900.210	-9.000	696.126	696.126
13	4900.210	9.000	696.126	696.126
14	4900.210	23.000	695.908	695.908
15	4900.210	32.250	695.717	695.717

Location	Girder	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elev. Adjusted For D.L. Deflection
℄ Brg. S. Abut.	1	4901.000	-31.000	695.747	695.747
	2	4901.000	-23.250	695.906	695.906
	3	4901.000	-15.500	696.029	696.029
	4	4901.000	-7.750	696.150	696.150
	5	4901.000	-.000	696.271	696.896
	6	4901.000	7.750	696.150	696.150
	7	4901.000	15.500	696.029	696.029
	8	4901.000	23.250	695.906	695.906
	9	4901.000	31.000	695.747	695.747
b	1	4911.000	-31.000	695.794	695.832
	2	4911.000	-23.250	695.953	695.991
	3	4911.000	-15.500	696.076	696.113
	4	4911.000	-7.750	696.197	696.234
	5	4911.000	-.000	696.318	696.943
	6	4911.000	7.750	696.197	696.234
	7	4911.000	15.500	696.076	696.113
	8	4911.000	23.250	695.953	695.991
	9	4911.000	31.000	695.794	695.832
c	1	4921.000	-31.000	695.836	695.905
	2	4921.000	-23.250	695.995	696.064
	3	4921.000	-15.500	696.118	696.187
	4	4921.000	-7.750	696.239	696.308
	5	4921.000	-.000	696.360	696.985
	6	4921.000	7.750	696.239	696.308
	7	4921.000	15.500	696.118	696.187
	8	4921.000	23.250	695.995	696.064
	9	4921.000	31.000	695.836	695.905

Location	Girder	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elev. Adjusted For D.L. Deflection
d	1	4931.000	-31.000	695.873	695.962
	2	4931.000	-23.250	696.032	696.121
	3	4931.000	-15.500	696.155	696.244
	4	4931.000	-7.750	696.276	696.365
	5	4931.000	-.000	696.397	697.022
	6	4931.000	7.750	696.276	696.365
	7	4931.000	15.500	696.155	696.244
	8	4931.000	23.250	696.032	696.121
	9	4931.000	31.000	695.873	695.962
e	1	4941.000	-31.000	695.905	696.001
	2	4941.000	-23.250	696.064	696.160
	3	4941.000	-15.500	696.187	696.282
	4	4941.000	-7.750	696.308	696.403
	5	4941.000	-.000	696.429	697.054
	6	4941.000	7.750	696.308	696.403
	7	4941.000	15.500	696.187	696.282
	8	4941.000	23.250	696.064	696.160
	9	4941.000	31.000	695.905	696.001
f	1	4951.000	-31.000	695.932	696.021
	2	4951.000	-23.250	696.091	696.181
	3	4951.000	-15.500	696.214	696.303
	4	4951.000	-7.750	696.335	696.424
	5	4951.000	-.000	696.456	697.081
	6	4951.000	7.750	696.335	696.424
	7	4951.000	15.500	696.214	696.303
	8	4951.000	23.250	696.091	696.181
	9	4951.000	31.000	695.932	696.021

Location	Girder	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elev. Adjusted For D.L. Deflection
g	1	4961.000	-31.000	695.954	696.025
	2	4961.000	-23.250	696.113	696.185
	3	4961.000	-15.500	696.236	696.307
	4	4961.000	-7.750	696.357	696.428
	5	4961.000	-.000	696.478	697.103
	6	4961.000	7.750	696.357	696.428
	7	4961.000	15.500	696.236	696.307
	8	4961.000	23.250	696.113	696.185
	9	4961.000	31.000	695.954	696.025
h	1	4971.000	-31.000	695.971	696.018
	2	4971.000	-23.250	696.130	696.178
	3	4971.000	-15.500	696.253	696.300
	4	4971.000	-7.750	696.374	696.421
	5	4971.000	-.000	696.495	697.120
	6	4971.000	7.750	696.374	696.421
	7	4971.000	15.500	696.253	696.300
	8	4971.000	23.250	696.130	696.178
	9	4971.000	31.000	695.971	696.018
i	1	4981.000	-31.000	695.983	696.006
	2	4981.000	-23.250	696.142	696.166
	3	4981.000	-15.500	696.265	696.288
	4	4981.000	-7.750	696.386	696.409
	5	4981.000	-.000	696.507	697.132
	6	4981.000	7.750	696.386	696.409
	7	4981.000	15.500	696.265	696.288
	8	4981.000	23.250	696.142	696.166
	9	4981.000	31.000	695.983	696.006



PLAN

Note:
Elevations Given For Girders 4, 5, & 6 Are For A Theoretical Top of Roadway Deck Slab - If Top of Median Slab is Desired Add .625 ft. To The Elevation Given Above.

DESIGNED	K. S. Y.
CHECKED	C. S.
DRAWN	R.R.P./B.G.
CHECKED	K. S. Y.

TOP OF SLAB ELEVATIONS
F.A.I.-72 SEC. 74-68-HB-1
PIATT COUNTY
STA. 1359+51.04 (F.A.I.-72)

STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I- 72	74-68 HB-1	PIATT	36	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 4
SHEETS 14

Location	Girder	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elev. Adjusted For D.L. Deflection
j	1	4991.000	-31.000	695.990	695.996
	2	4991.000	-23.250	696.144	696.156
	3	4991.000	-15.500	696.27.	696.278
	4	4991.000	-7.750	696.393	696.399
	5	4991.000	-.000	696.514	697.139
	6	4991.000	7.750	696.393	696.399
	7	4991.000	15.500	696.272	696.278
	8	4991.000	23.250	696.149	696.156
	9	4991.000	31.000	695.990	695.996
℄ Pier	1	5000.000	-31.000	695.992	695.992
	2	5000.000	-23.250	696.151	696.151
	3	5000.000	-15.500	696.274	696.274
	4	5000.000	-7.750	696.395	696.395
	5	5000.000	-.000	696.516	697.141
	6	5000.000	7.750	696.395	696.395
	7	5000.000	15.500	696.274	696.274
	8	5000.000	23.250	696.151	696.151
	9	5000.000	31.000	695.992	695.992
k	1	5010.000	-31.000	695.989	695.996
	2	5010.000	-23.250	696.149	696.156
	3	5010.000	-15.500	696.271	696.278
	4	5010.000	-7.750	696.392	696.399
	5	5010.000	-.000	696.513	697.131
	6	5010.000	7.750	696.392	696.399
	7	5010.000	15.500	696.271	696.278
	8	5010.000	23.250	696.149	696.156
	9	5010.000	31.000	695.989	695.996
l	1	5020.000	-31.000	695.982	696.007
	2	5020.000	-23.250	696.141	696.167
	3	5020.000	-15.500	696.264	696.289
	4	5020.000	-7.750	696.385	696.410
	5	5020.000	-.000	696.506	697.131
	6	5020.000	7.750	696.385	696.410
	7	5020.000	15.500	696.264	696.289
	8	5020.000	23.250	696.141	696.167
	9	5020.000	31.000	695.982	696.007

Location	Girder	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elev. Adjusted For D.L. Deflection
m	1	5030.000	-31.000	695.969	696.019
	2	5030.000	-23.250	696.129	696.179
	3	5030.000	-15.500	696.251	696.301
	4	5030.000	-7.750	696.372	696.422
	5	5030.000	-.000	696.493	697.118
	6	5030.000	7.750	696.372	696.422
	7	5030.000	15.500	696.251	696.301
	8	5030.000	23.250	696.129	696.179
	9	5030.000	31.000	695.969	696.019
n	1	5040.000	-31.000	695.952	696.026
	2	5040.000	-23.250	696.111	696.185
	3	5040.000	-15.500	696.234	696.307
	4	5040.000	-7.750	696.355	696.428
	5	5040.000	-.000	696.476	697.101
	6	5040.000	7.750	696.355	696.428
	7	5040.000	15.500	696.234	696.307
	8	5040.000	23.250	696.111	696.185
	9	5040.000	31.000	695.952	696.026
o	1	5050.000	-31.000	695.929	696.020
	2	5050.000	-23.250	696.089	696.179
	3	5050.000	-15.500	696.211	696.301
	4	5050.000	-7.750	696.332	696.422
	5	5050.000	-.000	696.453	697.078
	6	5050.000	7.750	696.332	696.422
	7	5050.000	15.500	696.211	696.301
	8	5050.000	23.250	696.089	696.179
	9	5050.000	31.000	695.929	696.020
p	1	5060.000	-31.000	695.902	695.997
	2	5060.000	-23.250	696.061	696.157
	3	5060.000	-15.500	696.184	696.279
	4	5060.000	-7.750	696.305	696.400
	5	5060.000	-.000	696.426	697.051
	6	5060.000	7.750	696.305	696.400
	7	5060.000	15.500	696.184	696.279
	8	5060.000	23.250	696.061	696.157
	9	5060.000	31.000	695.902	695.997

Location	Girder	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elev. Adjusted For D.L. Deflection
q	1	5070.000	-31.000	695.869	695.957
	2	5070.000	-23.250	696.029	696.116
	3	5070.000	-15.500	696.151	696.238
	4	5070.000	-7.750	696.272	696.359
	5	5070.000	-.000	696.393	697.018
	6	5070.000	7.750	696.272	696.359
	7	5070.000	15.500	696.151	696.238
	8	5070.000	23.250	696.029	696.116
	9	5070.000	31.000	695.869	695.957
r	1	5080.000	-31.000	695.832	695.898
	2	5080.000	-23.250	695.991	696.057
	3	5080.000	-15.500	696.114	696.180
	4	5080.000	-7.750	696.235	696.301
	5	5080.000	-.000	696.356	696.981
	6	5080.000	7.750	696.235	696.301
	7	5080.000	15.500	696.114	696.180
	8	5080.000	23.250	695.991	696.057
	9	5080.000	31.000	695.832	695.898
s	1	5090.000	-31.000	695.789	695.823
	2	5090.000	-23.250	695.949	695.983
	3	5090.000	-15.500	696.071	696.105
	4	5090.000	-7.750	696.192	696.226
	5	5090.000	-.000	696.313	696.938
	6	5090.000	7.750	696.192	696.226
	7	5090.000	15.500	696.071	696.105
	8	5090.000	23.250	695.949	695.983
	9	5090.000	31.000	695.789	695.823
℄ Brg. N. Abut.	1	5099.000	-31.000	695.747	695.747
	2	5099.000	-23.250	695.906	695.906
	3	5099.000	-15.500	696.029	696.029
	4	5099.000	-7.750	696.150	696.150
	5	5099.000	-.000	696.271	696.896
	6	5099.000	7.750	696.150	696.150
	7	5099.000	15.500	696.029	696.029
	8	5099.000	23.250	695.906	695.906
	9	5099.000	31.000	695.747	695.747

NORTH APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elev. Adjusted For D.L. Deflection
BACK OF ABUTMENT				
10	5099.790	-32.250	695.717	695.717
11	5099.790	-23.000	695.908	695.908
12	5099.790	-9.000	696.126	696.126
13	5099.790	9.000	696.126	696.126
14	5099.790	23.000	695.908	695.908
15	5099.790	32.250	695.717	695.717
t				
10	5109.790	-32.250	695.665	695.665
11	5109.790	-23.000	695.855	695.855
12	5109.790	-9.000	696.074	696.074
13	5109.790	9.000	696.074	696.074
14	5109.790	23.000	695.855	695.855
15	5109.790	32.250	695.665	695.665
BACK OF APPROACH SLAB				
10	5124.670	-32.250	695.578	695.578
11	5124.670	-23.000	695.768	695.768
12	5124.670	-9.000	695.987	695.987
13	5124.670	9.000	695.987	695.987
14	5124.670	23.000	695.768	695.768
15	5124.670	32.250	695.578	695.578
BACK OF APPROACH BENT				
10	5125.170	-32.250	695.574	695.574
11	5125.170	-23.000	695.765	695.765
12	5125.170	-9.000	695.983	695.983
13	5125.170	9.000	695.983	695.983
14	5125.170	23.000	695.765	695.765
15	5125.170	32.250	695.574	695.574

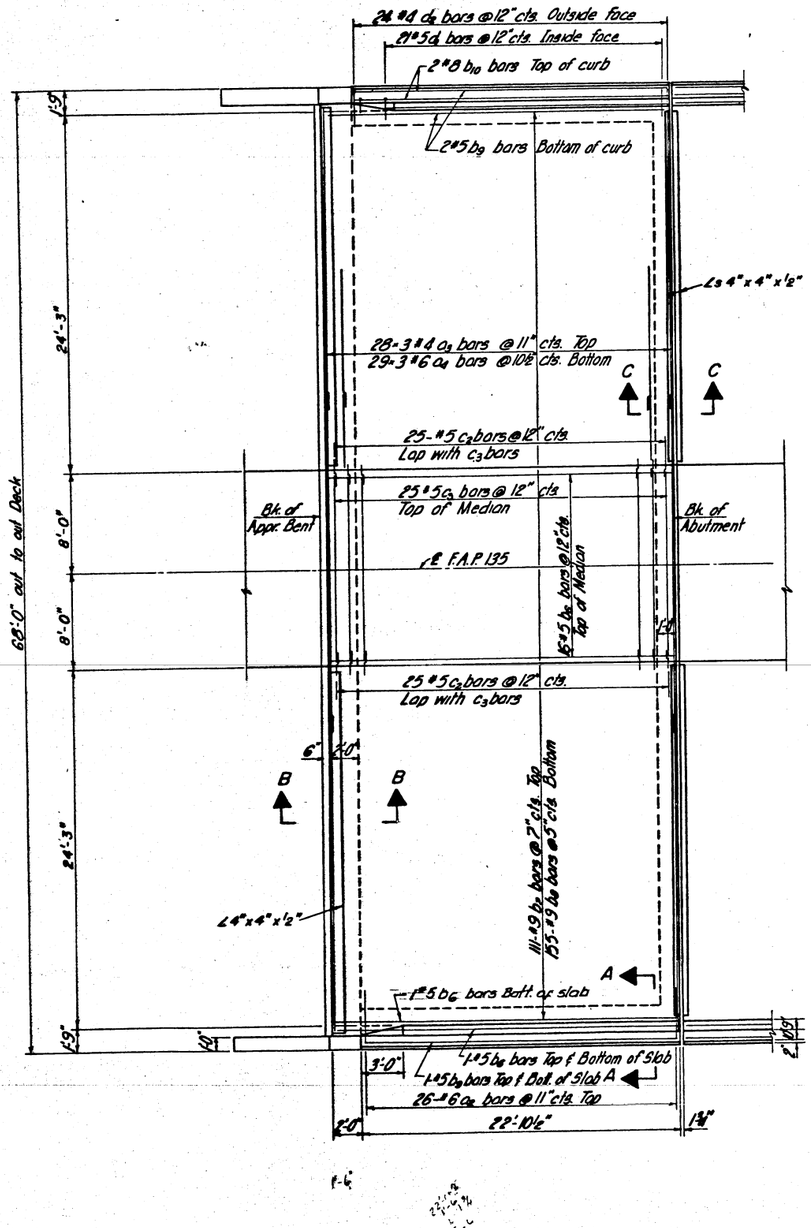
DESIGNED	K.S.Y.
CHECKED	M.S.S.
DRAWN	B.G.
CHECKED	K.S.Y.

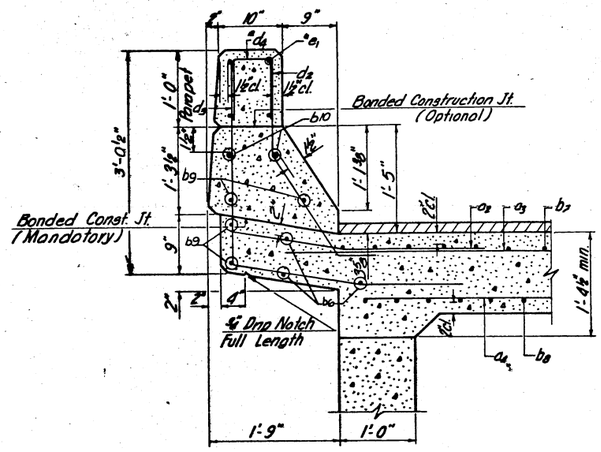
TOP OF SLAB ELEVATIONS
F.A.I.-72 SEC. 74-68HB-1
PIATT COUNTY
STA. 1359+51.04 (F.A.I.-72)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I.72	74-68 HB-1	PIATT	36	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

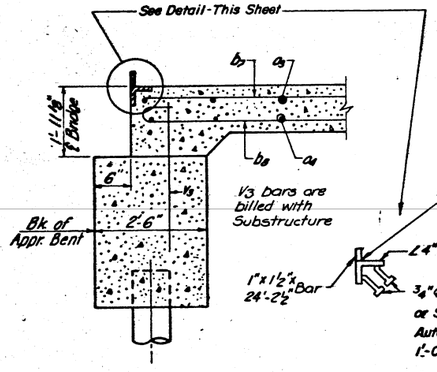
SHEET NO. 5
SHEETS 16

STATE OF ILLINOIS
DIVISION OF HIGHWAYS





SECTION A-A



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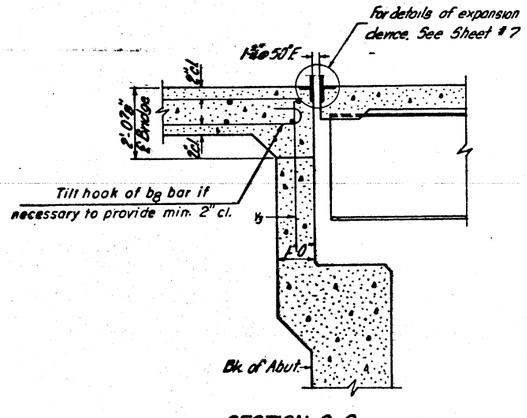

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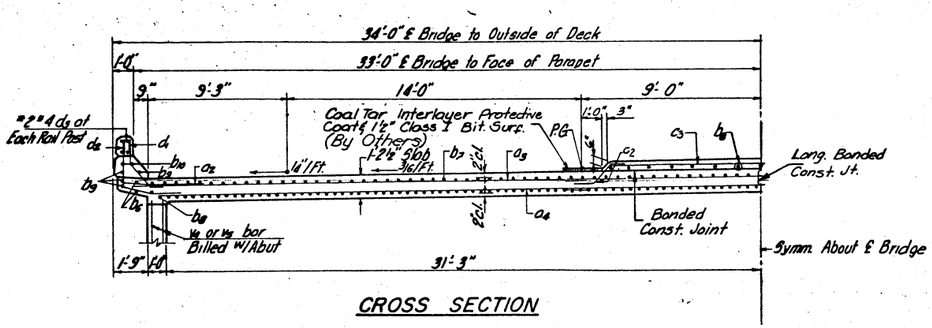
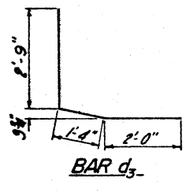
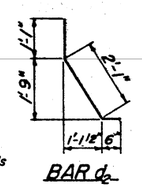


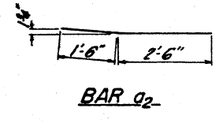
CROSS SECTION



BAR d_3



BAR d_2



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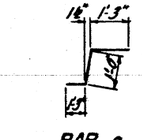
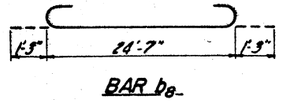


BAR c_2



BAR b_8

BILL OF MATERIAL - ONE SLAB

Bar	No.	Size	Length	Shape
a_2	52	#6	4'-0"	
a_3	84	#4	23'-0"	
a_4	87	#6	23'-0"	
b_6	22	#5	24'-6"	
b_7	111	#9	24'-6"	
b_8	155	#9	27'-1"	
b_9	8	#5	22'-6"	
b_{10}	1	#8	22'-6"	
c_2	50	#5	3'-6"	
c_3	25	#5	15'-4"	
d_2	42	#5	3'-8"	
d_3	48	#4	6'-1"	
Class X Concrete		Cu. Yds.	88.8	
Reinforcement Bars		Lbs.	30060	

*Parapet Reinforcement And Class X Concrete Are Billed On Sheet #8

Note: Bars Indicated Thus, 20-#3-#5 etc. Indicates 20 Lines of Bars With 3 Lengths Per Line
Min Bar Lap - 24 Diameters

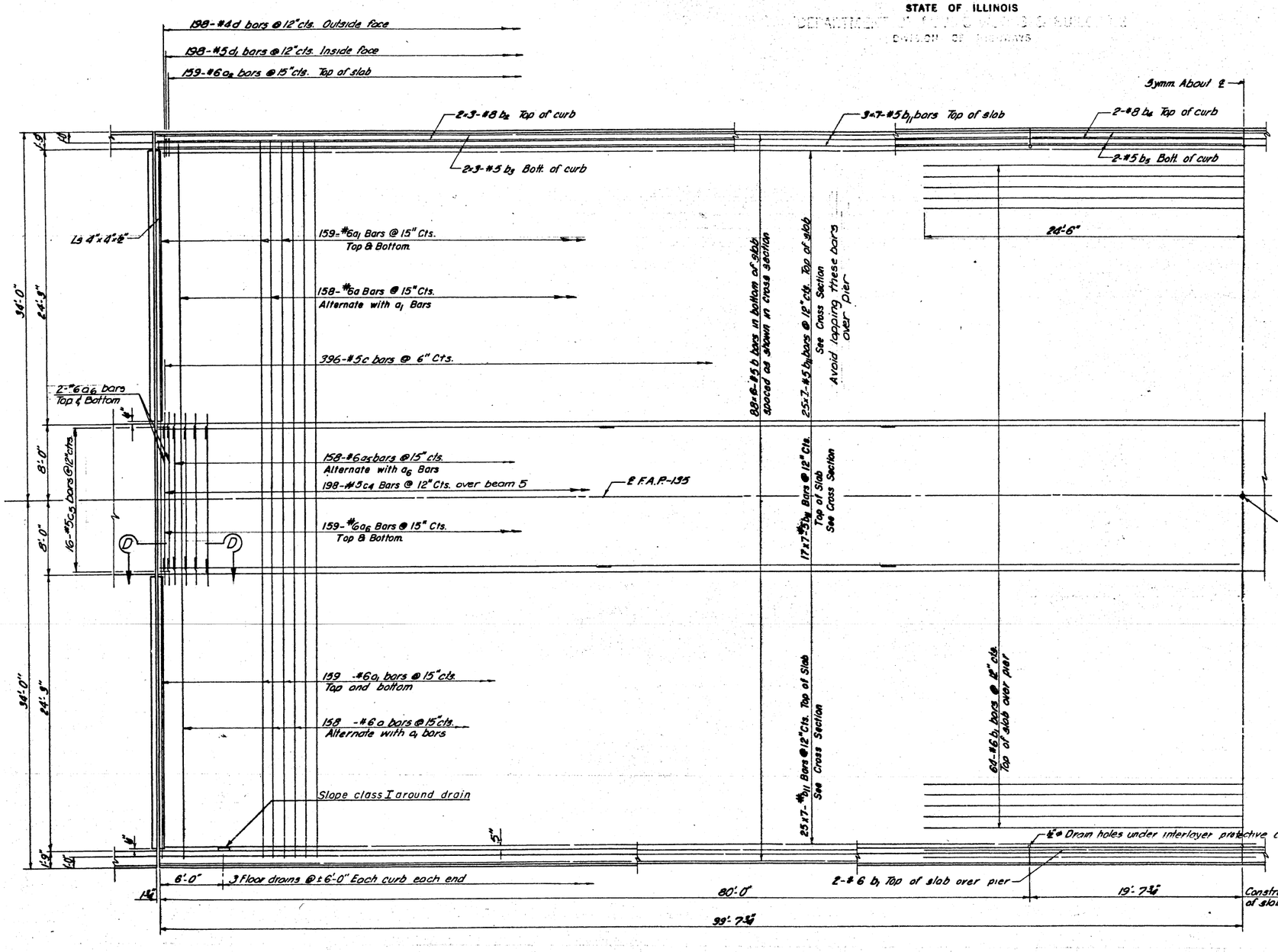
DESIGNED	S.T.
CHECKED	M.S.S.
DRAWN	M.M.P. 6-28-72
CHECKED	K.S.Y.

SLAB DETAILS
F.A.I.-72 SEC. 74-68-HB-1
PIATT COUNTY
STA. 1359+51.04 (F.A.I.-72)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I.	74-68	PIATT	36	18
F. A. I. 72	HB-1			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

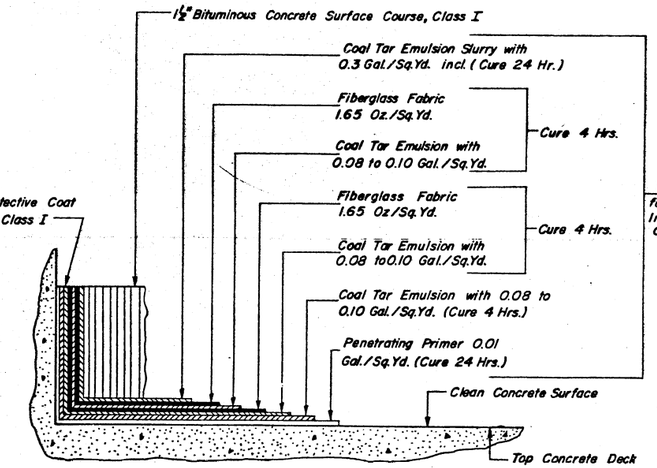
SHEET NO. 6
SHEETS 14

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

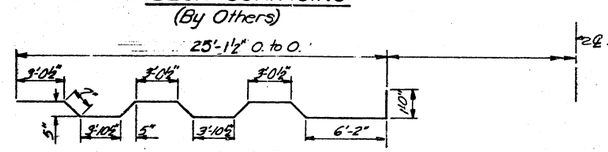


NOTE:
For Detail of Floor Drain, See Sheet 7.

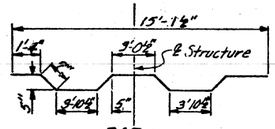
HALF PLAN



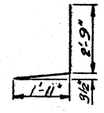
DECK SURFACING
(By Others)



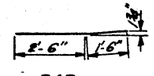
BAR a



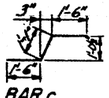
BAR a5



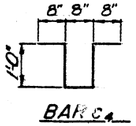
BAR d



BAR a2



BAR c



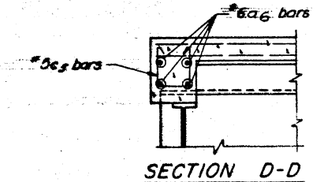
BAR d1

BAR c4

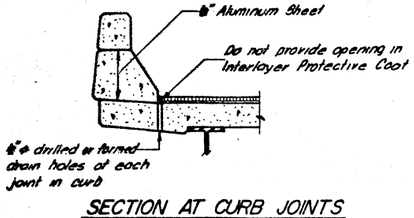
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	316	#6	26'-1½"	
a1	636	#6	25'-3"	
a2	318	#6	4'-0"	
a5	158	#6	15'-9½"	
a6	326	#6	15'-2"	
b	528	#5	34'-4"	
b1	68	#6	49'-0"	
b2	24	#8	28'-0"	
b3	24	#5	27'-6"	
b4	8	#8	19'-3"	
b5	8	#5	19'-3"	
b11	511	#5	29'-8"	
c	792	#5	4'-1"	
c4	198	#5	4'-0"	
c5	32	#5	3'-6"	
d	396	#4	4'-8"	
d1	396	#5	3'-6"	
Reinforcement Bars		Lbs.	95,780	
Class X Concrete		Cu. Yds.	385.8	

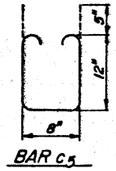
Parapet reinforcement and class x concrete are billed on sheet #8



SECTION D-D



SECTION AT CURB JOINTS



BAR c5

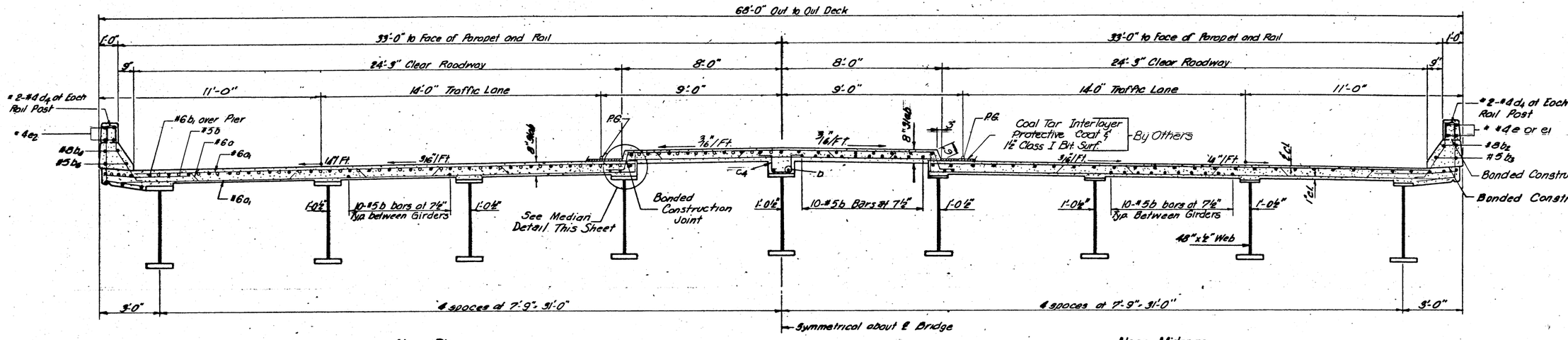
DESIGNED	S.T.
CHECKED	M.S.S.
DRAWN	M.M.P. Aug. 2nd '72
CHECKED	K.S.Y.

SLAB DETAILS
F.A.I.-72 SEC. 74-68-HB-1
PIATT COUNTY
STA. 1359+51.04 (F.A.I.-72)

STATE OF ILLINOIS

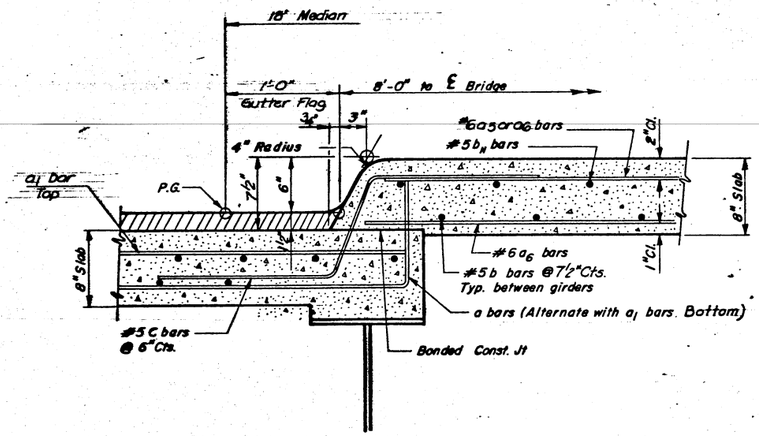
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
E.B.L.	74-68	PIATT	36	19
F.A.I. 72	HB-1			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 7
SHEETS 12

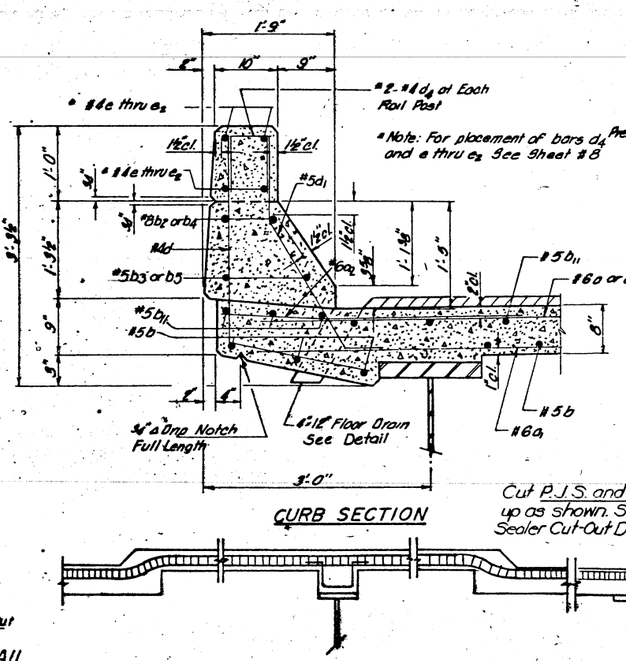


Near Pier — Near Midspan

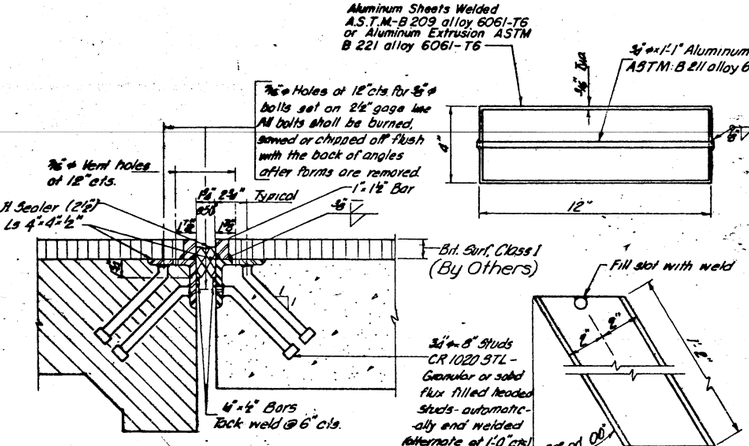
CROSS SECTION



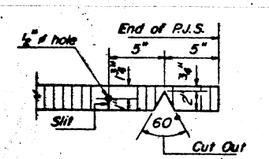
MEDIAN DETAIL (MAIN SPAN)



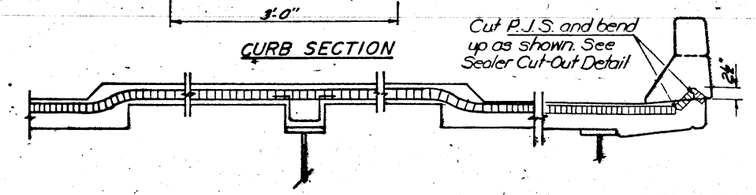
CURB SECTION

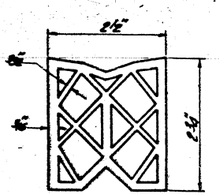


FLOOR DRAIN
Cost Incidental To Class X Concrete



SEALER CUT-OUT DETAIL





EXPANSION DEVICE AND JOINT SEALER DETAILS

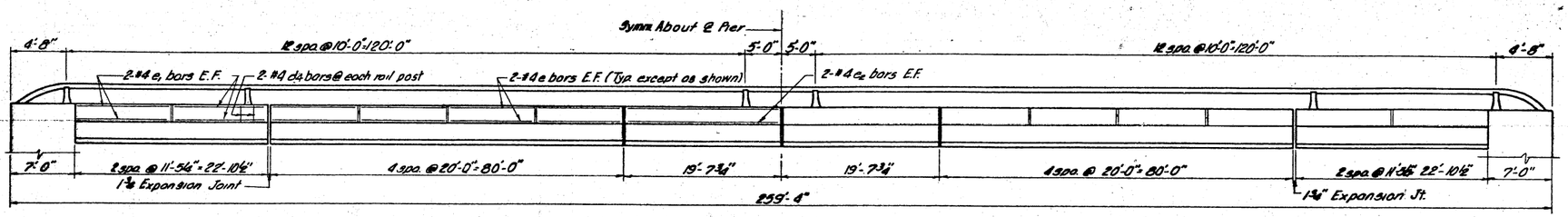
DESIGNED	J.T.
CHECKED	M.S.S.
DRAWN	M.M.P. 8-7-72
CHECKED	K.S.Y.

SLAB DETAILS
F.A.I.-72 SEC. 74-68-HB-1
PIATT COUNTY
STA. 1359+51.04 (F.A.I.-72)

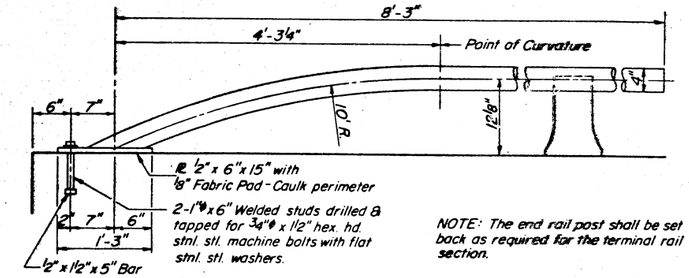
STATE OF ILLINOIS

DIST. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6 & 7 FAI 72	74-68 HB-1	PIATT	36	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

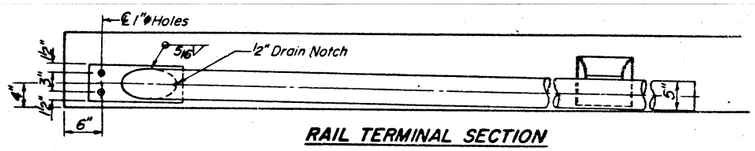
SHEET NO. 8
SHEETS 14



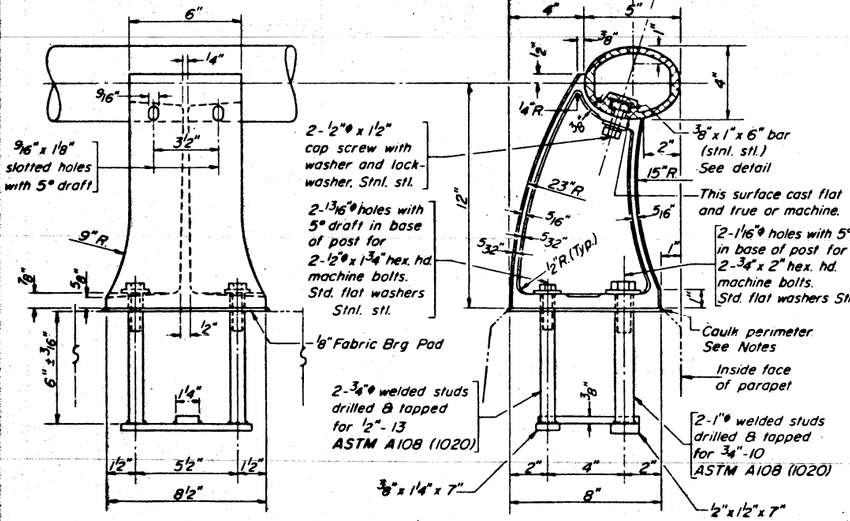
ELEVATION



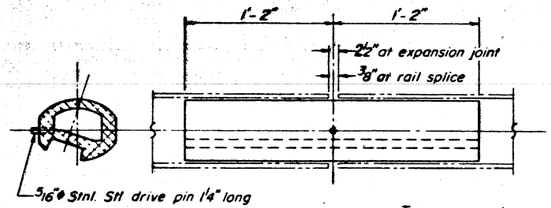
NOTE: The end rail post shall be set back as required for the terminal rail section.



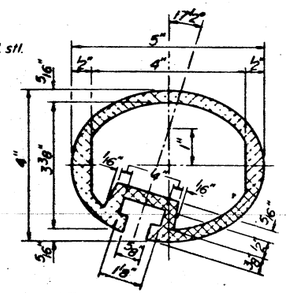
RAIL TERMINAL SECTION



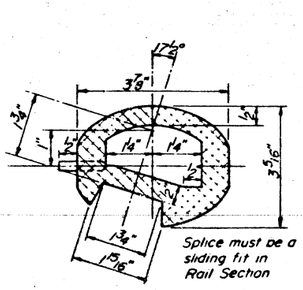
RAIL POST DETAILS



RAIL SPLICE

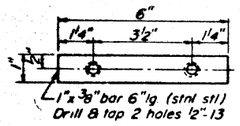


SEC. THRU ELLIPTICAL RAIL SECTION



Splice must be a sliding fit in Rail Section

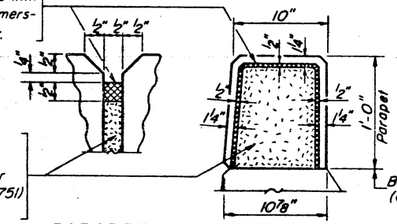
SEC. THRU SPLICE



CLAMP BAR

Two component non-staining gray sealing compound with polysulfide liquid polymers-gun grade with primer.

½" Preformed Cork Asphalt Joint Filler. (meets qualifications for ASTM: Designation D 1751) Cost incidental.



Bonded Constr. Jt. (Optional)

PARAPET JOINT DETAIL

NOTES:

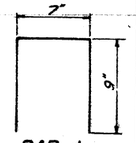
All Aluminum Alloy Extruded Rail shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts

All joints in rail shall be spliced per detail.

Provide 1 - ⅛" and 2 - 1/16" Aluminum Shims for 25% of the Posts. Rail element shall be parallel to Grade - high spots shall be ground and low spots shimmed.

Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers, gun grade with primer. Fabric Bearing Pad shall have same dimensions as base of post.

Aluminum alloy rail shall conform to ASTM B 221 alloy 6061-T6 or 6351-T5 with min. yield 35 ksi, min tensile 38 ksi, and elongation of 10% in 2 inches.



BAR d_3

TWO PARAPETS & RAILS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e	64	#4	19'-8"	
e_1	32	#4	11'-1"	
e_2	16	#4	19'-5"	
-				
d_4	104	#4	2'-1"	
Reinforcement Bars			Lbs.	1430
Class X Concrete			Cu. Yds.	15.8
Aluminum Railing			Lin. Ft.	519

DESIGNED	S.T.
CHECKED	K.S.Y.
DRAWN	M.M.P. 8-4-72
CHECKED	K.S.Y.

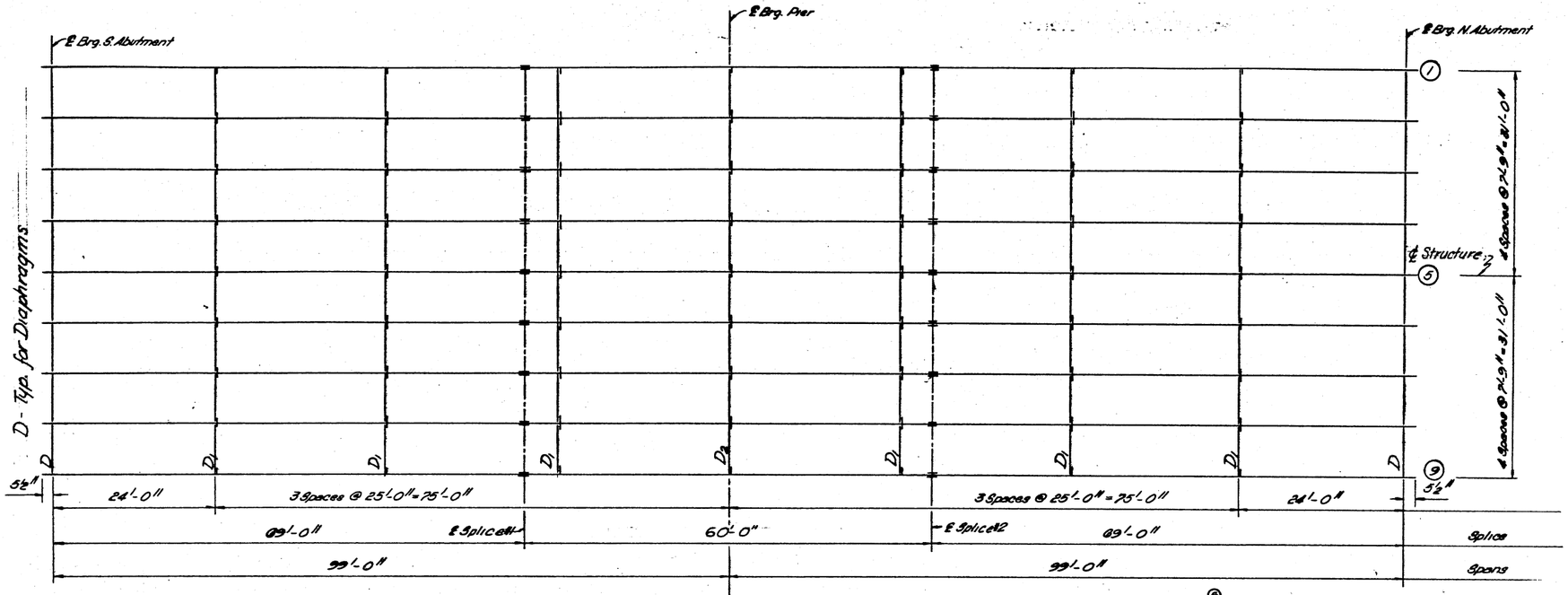
R-17 4-22-68 9-18-69 3-3-71

RAILING DETAILS
F.A.I.-72 SEC. 74-68+HB-1
PIATT COUNTY
STA. 359+51.04 (F.A.I.-72)

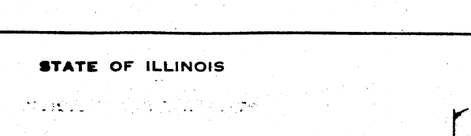
STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 72	74-68 HB-1	PIATT	36	21
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 9
SHEETS 16



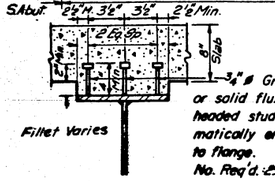
FRAMING PLAN



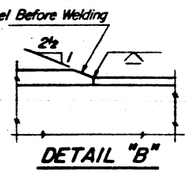
CAMBER DIAGRAM

CAMBER DIAGRAM	A	B	C	D	E	F	G
Dimension							
Total Camber	0	15/16"	1 5/16"	15/16"	0	5/16"	7/16"
Camber Due to Vertical Curve	0	1/4"	5/16"	1/4"	0	3/16"	1/4"
Camber Due to Deflection	0	11/16"	1"	11/16"	0	1/2"	11/16"

GIRDER ELEVATION



SECTION A-A



DETAIL "B"

MOMENT TABLE

Interior Girder	0.4 Span	Pier
I_a (in⁴)	19844	44629
I_c (in⁴)	55462	
S_a (in³)	956	1717
S_c (in³)	1352	
ϕ (k/i)	.992	1.459
$M_{\phi a}$ (k)	573	1886
ϕ_a (ksi)	7.2	13.2
ϕ_c (k/i)	.36	
$M_{\phi a}$ (i'k)	250	
M_{LL} (i'k)	882	718
M_{max} (i'k)	196	160
T_{TOTAL} (i'k)	1328	2763
ϕ_{LL} (ksi)	11.8	6.1
ϕ_{TOTAL} (ksi)	19.0	19.92
V_{HR} (k)	67.2**	

ELEVATIONS TOP OF WEB

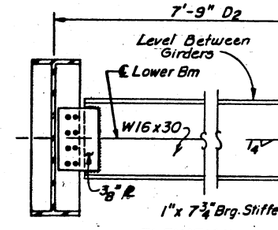
Girder	℄ Brg. S. Abut.	℄ Splice # 1	℄ Brg. Pier	℄ Splice # 2	℄ Brg. N. Abut.
1 & 9	094.98	095.16	095.12	095.16	094.98
2 & 8	095.14	095.32	095.28	095.32	095.14
3 & 7	095.26	095.44	095.40	095.44	095.26
4 & 6	095.38	095.56	095.52	095.56	095.38
5	095.50	095.68	095.64	095.68	095.50

* For Fabrication Only

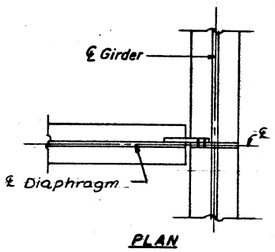
REACTION TABLE

Interior Girder	Abutment	Pier
R_{ϕ} (K)	47.2	173.8
R_{LL} (K)	45.0	79.1
I_{MP} (K)	9.9	16.3
R_{TOTAL} (K)	102.1	263.2

Note: I_a and S_a are the moment of inertia and section modulus of the steel section.
I_c and S_c are the moment of inertia and section modulus of th composite section used in computing R_{ϕ}.
** V_r is the maximum $\phi + I$ shear range in span used to determine shear stud spacing max.



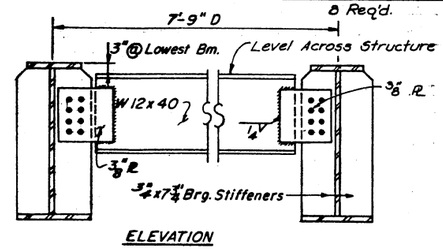
ELEVATION



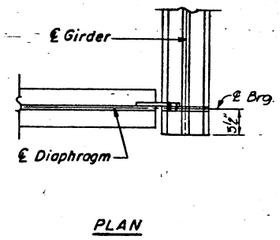
PLAN

DIAPHRAGM D2

8 Req'd.



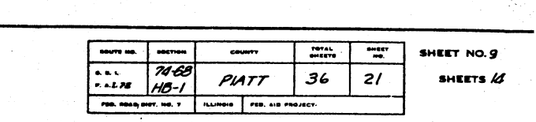
ELEVATION



PLAN

DIAPHRAGM D

16 Req'd.



CAMBER DIAGRAM

CAMBER DIAGRAM	A	B	C	D	E	F	G
Dimension							
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Camber Due to Vertical Curve	0	1/4"	5/16"	1/4"	0	3/16"	1/4"
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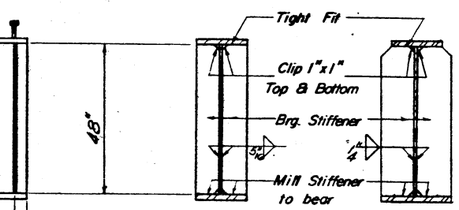
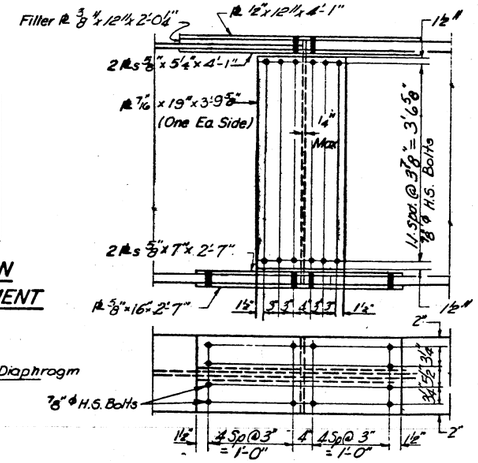


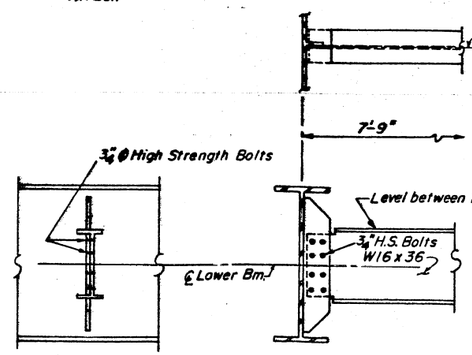
SECTION AT PIER

SECTION AT ABUTMENT



FIELD SPLICE DETAIL

Use ⅞ø H.S. Bolts



DIAPHRAGM D1

48 Req'd.

DESIGNED	ST.
CHECKED	M.S.S.
DRAWN	D.D. 8-4-72
CHECKED	K.S.Y.

G-1 3-29-71

FRAMING DETAILS
F.A.I.-72 SEC. 74-68 HB-1
PIATT COUNTY
STA. 1359+51.04 (F.A.I.-72)

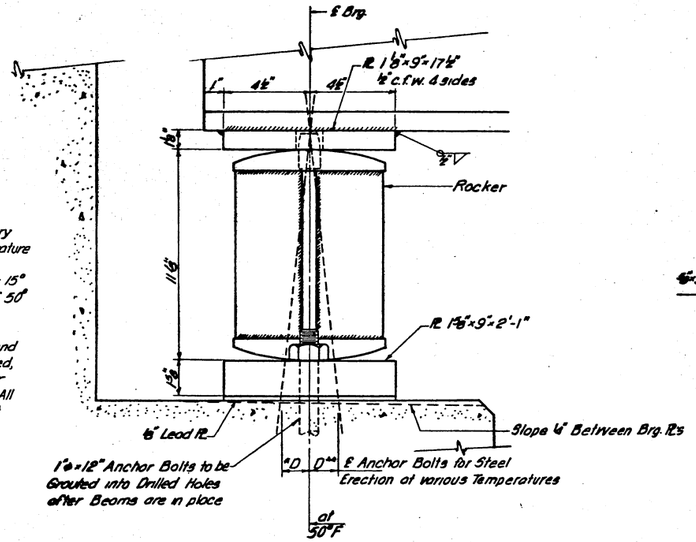
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 72	74-68 HB-1	PIATT	36	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

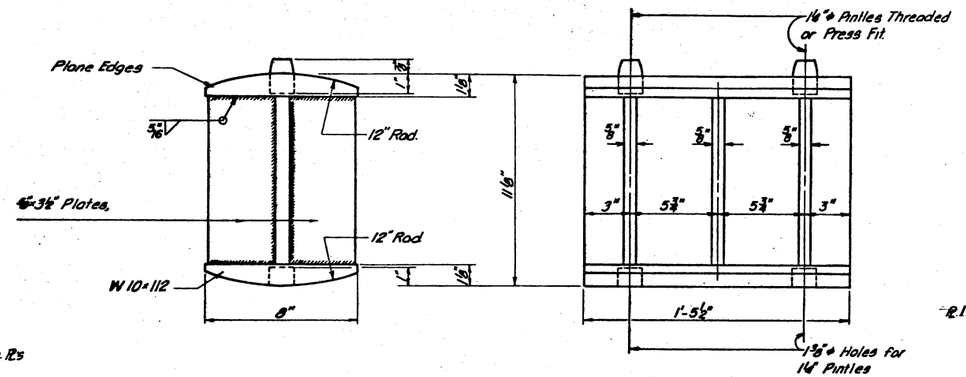
SHEET NO. 10
SHEETS 14

.6"/100 ft. of Expansion for Every 15° Below the Normal Temperature of 50°
.6"/100 ft. of Expansion for Every 15° Above the Normal Temperature of 50°

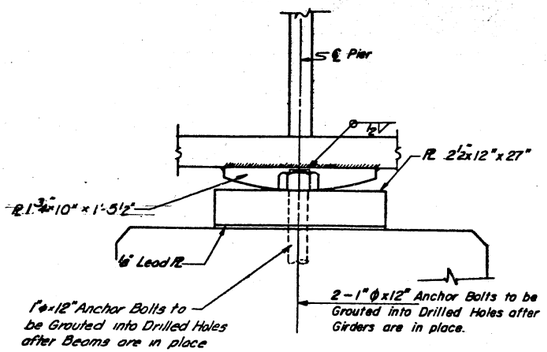
After beams have been erected and dimensions D' and D'' determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry



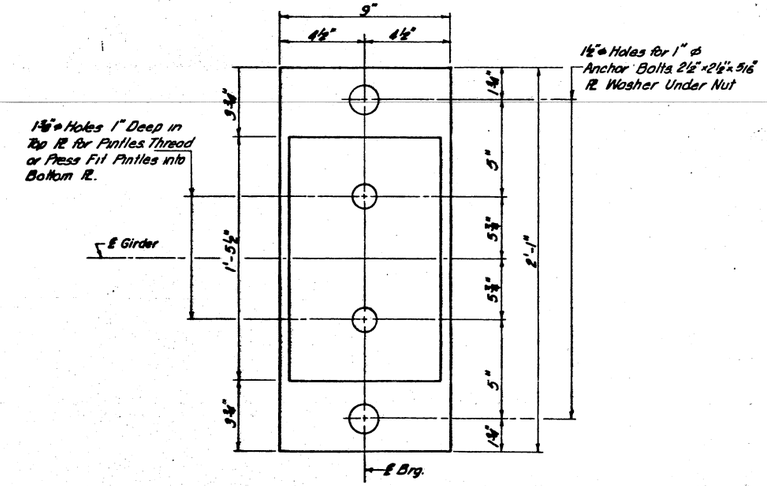
SECTION AT ABUTMENT



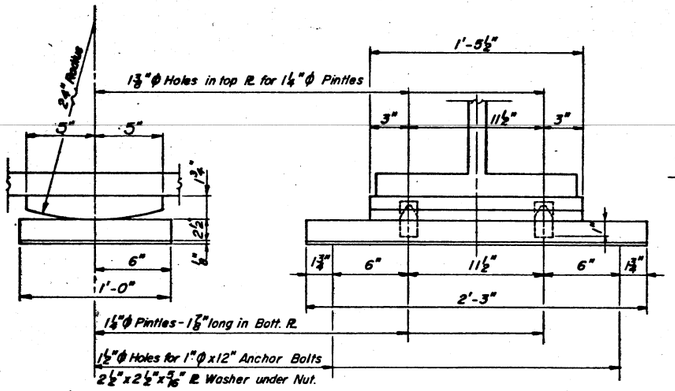
DETAIL OF ROCKER AT ABUTMENT



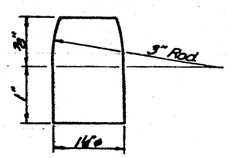
SECTION AT PIER



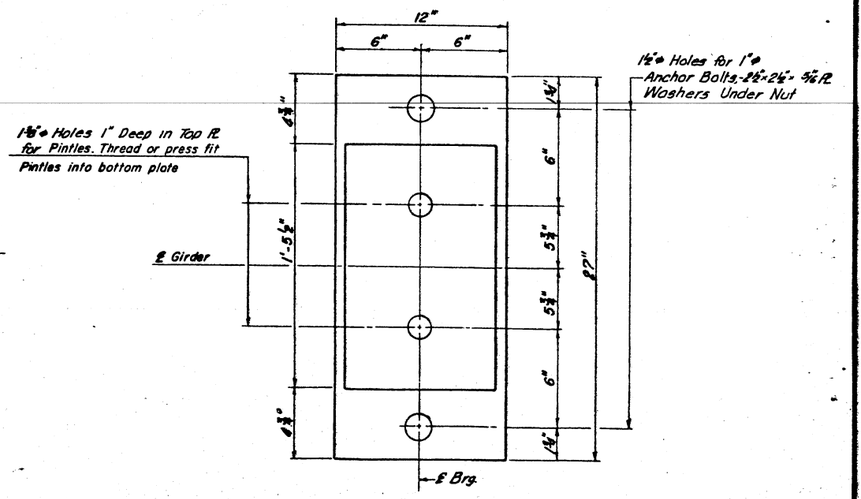
PLAN AT ABUTMENT



DETAIL OF BOLSTER AT PIER



DETAIL OF PINTLE



PLAN AT PIER

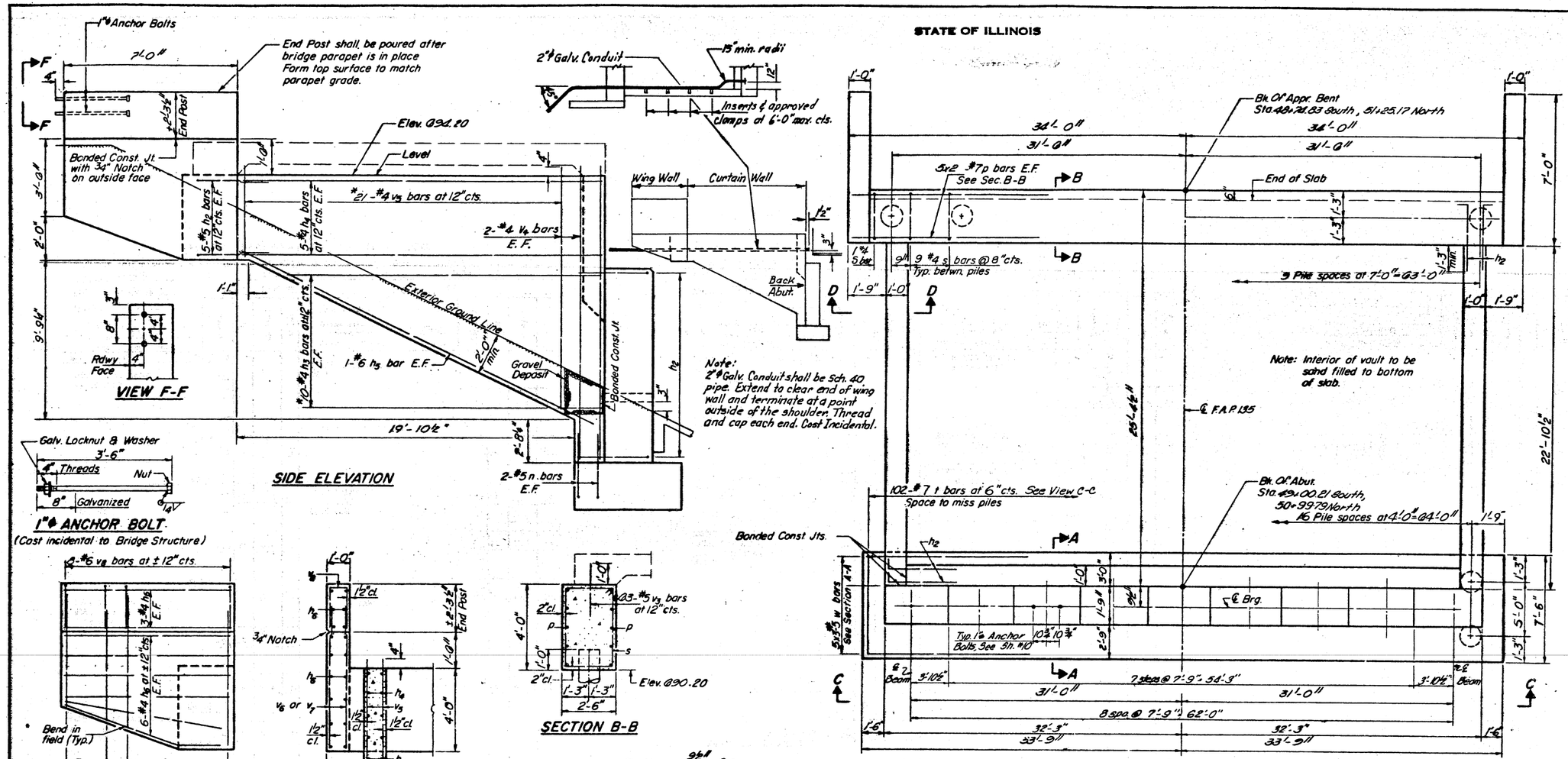
DESIGNED	S.T.
CHECKED	M.S.S.
DRAWN	M.M.P. 8-3-72
CHECKED	K.S.Y.

BEARING DETAILS
F.A.I-72 SEC. 74-68-HB-1
PIATT COUNTY
STA. 1359+51.04 (F.A.I-72)

STATE OF ILLINOIS

SECTION NO.	SECTION	COUNTY	TOTAL SHEETS NO.	SHEET NO.
B.B.L. F. A.I. 72	74-68 HB-1	PIATT	36	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 11
SHEETS 14



ABUT.-PILE DATA

Type	Concrete Piles
Capacity	35 Tons
Est. Length	34' South Abut.
No. Reqd.	33+1 Test Pile
Est. Length	23' North Abut.
No. Req'd.	33+1 Test Pile

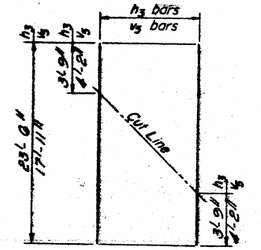
APPR. BENT-PILE DATA

Type	Concrete Piles
Capacity	35 Tons
Est. Length	49' South
No. Req'd.	10
Est. Length	38' North
No. Req'd.	10

DESIGNED	G.T.
CHECKED	K.S.Y.
DRAWN	D.D. 8-7-72
CHECKED	K.S.Y.

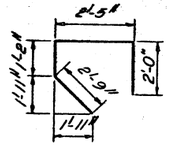
VAF-0 3-23-71

Rev. Reinf. Bars from 13,760# to 14,370# Cl. X Conc. from 144.5 Cu. Yds. to 150.1 Cu. Yds. Test Piles (Conc.) from 1 to 2.

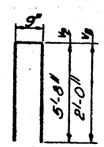


FIELD CUTTING DIAGRAM

*Order h3 & v5 bars full length. Cut to fit as shown and use remainder of bars in other face.



BAR v_1

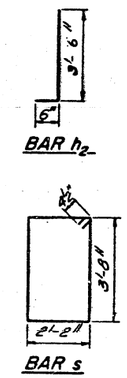


BARS v_2 & v_8

ONE ABUTMENT BILL OF MATERIAL

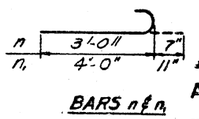
Bar	No	Size	Length	Shape
h	81	#5	22'-4"	
h_1	36	#5	21'-7"	
h_2	92	#5	4'-0"	
h_3	20	#4	23'-6"	
h_4	10	#4	22'-6"	
h_5	4	#6	26'-4"	
h_6	30	#4	6'-8"	
n	73	#5	3'-2"	
n_1	78	#8	4'-11"	
p	20	#7	34'-9"	
s	83	#4	12'-5"	
t	102	#7	7'-2"	
v	65	#5	11'-6"	
v_1	63	#5	8'-4"	
v_2	63	#5	12'-1"	
v_3	126	#5	2'-3"	
v_4	8	#4	10'-5"	
v_5	42	#4	17'-11"	
v_6	20	#6	9'-0"	
v_7	12	#6	5'-4"	
v_8	10	#6	4'-9"	
v_9	78	#7	11'-6"	
w	15	#5	23'-3"	
Reinforcement Bars		*	Lbs.	14,370 *
Class X Concrete		*	Cu. Yds.	150.1
Test Piles (Concrete)			Each	2
Concrete Piles (2 Abut.)			Lin. Ft.	2751
Sand Backfill			Cu. Yds.	303.5

* Multiply by 2 for both Abutments



BAR h_2

BAR s



BARS n & n_1

ABUTMENT DETAILS

FAI-72 SEC. 74-68 HB-1

PIATT COUNTY

STA. 1359 + 51.04 (FAI-72)

STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.72	74-68 HB-1	PIATT	36	24
FED. ROAD DIST. NO.7	ILLINOIS	FED. AID PROJECT		

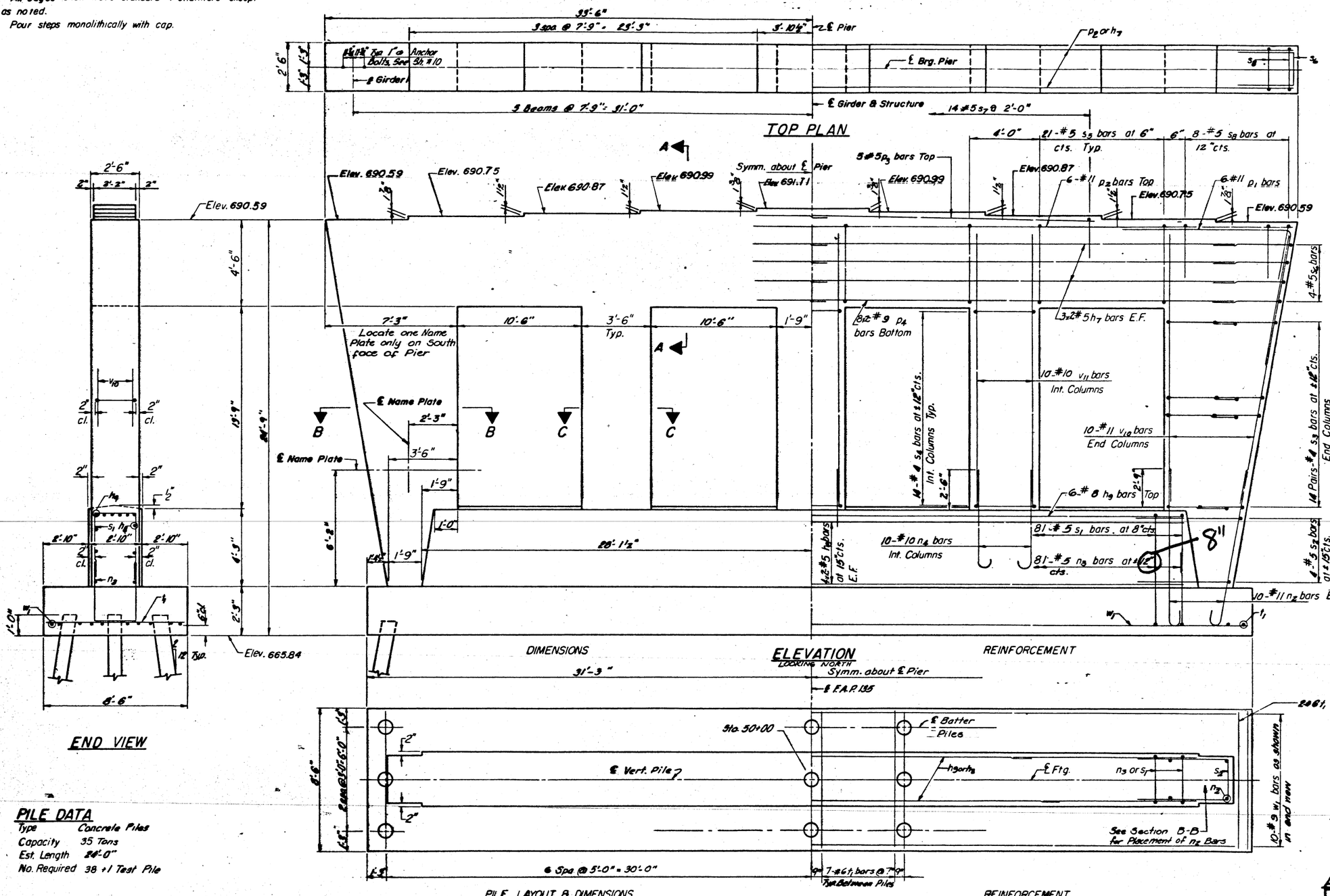
SHEET NO. 12
SHEETS 14

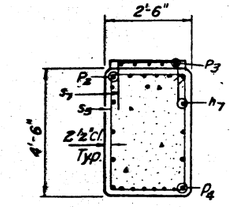
NOTES:

Space reinforcement in cap to miss anchor bolts.

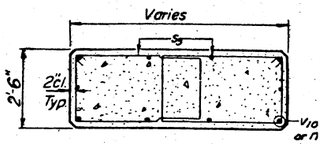
All edges shall have standard 3/4" chamfers except as noted.

Pour steps monolithically with cap.

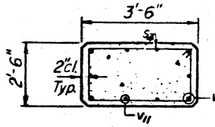




SECTION A-A



SECTION B-B



SECTION C-C

BILL OF MATERIAL

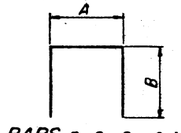
Bar	No.	Size	Length	Shape
h_7	12	#5	30'-3"	—
h_8	16	#5	28'-0"	—
h_9	6	#8	54'-0"	—
n_2	20	#11	10'-4"	⊃
n_3	81	#5	11'-0"	⊔
n_4	30	#10	6'-7"	⊃
p_1	12	#11	15'-6"	⊓
p_2	6	#11	64'-0"	—
p_3	10	#5	15'-9"	—
p_4	16	#9	30'-0"	—
s_1	81	#5	8'-6"	□
s_2	8	#5	11'-2"	□
s_3	56	#4	11'-9"	□
s_4	42	#4	11'-5"	□
s_5	84	#5	12'-5"	□
s_6	8	#5	12'-4"	□
s_7	14	#5	4'-11"	□
s_8	16	#5	8'-9"	□
t_1	88	#6	8'-8"	—
v_{10}	20	#11	16'-9"	—
v_{11}	30	#10	16'-9"	—
w_9	10	#9	62'-0"	—
Class X Concrete			Cu. Yds.	125.8
Reinforcement Bars			Lbs.	19520
Test Pile Concrete			Each	1
Concrete Piles			Lin. Ft.	912

PILE DATA

Type Concrete Piles
Capacity 35 Tons
Est. Length 26'-0"
No. Required 38 +1 Test Pile

DESIGNED	S.T.
CHECKED	K.S.Y.
DRAWN	M.M.P. 8-8-72
CHECKED	K.S.Y.

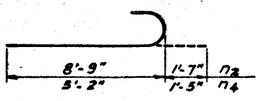
P-14 11-18-69



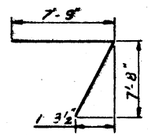
BARS n_3, s_1, s_2, s_6, s_7 & s_8

A&B DIMENSIONS

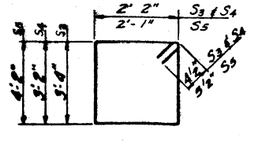
Bar	A	B
n_3	2'-6"	4'-3"
s_1	2'-6"	3'-0"
s_2	2'-8"	4'-6"
s_6	2'-8"	5'-1"
s_7	1'-11"	1'-6"
s_8	2'-1"	3'-4"



BAR n_2 & n_4



BAR p_1



BARS s_3, s_4 & s_5

PIER DETAILS
F.A.I.-72 SEC. 74-68-HB-1
PIATT COUNTY
STA. 1359+51.04 (F.A.I.-72)

STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I-72	74-68 HB-1	PIATT	36	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 13
SHEETS 14

BRIDGE FOUNDATION BORING LOG

PROJECT I-72-2(10)40
ROUTE FAI-72
SEC. 74-68 HB-1
COUNTY PIATT
I-72 Boring No. 3, Station 1360+25, Offset 100' RT

BRIDGE RELOCATED TR 99 OVER FAI-72
STA. 1360+55
Date 10/6/71
Bored By BAKER
Checked By CMK

Surface Water El. —
Groundwater El. at Completion DRY
After — Hours

Elevation		N	Qu t/s.f.		W (%)
Ground Surface	668.3	0			
STIFF DARK BROWN SILTY CLAY	663.8				
LOOSE DARK BROWN SAND LOAM	661.8	-5	6	B 1.2	17
HARD BROWN CLAY TILL	656.3	-10	16	B 6.0	13
		-15	27	B 6.6	11
VERY STIFF TO HARD GRAY BROWN CLAY LOAM	649.8	-20	21	B 3.9	12
			19	B 3.9	13
VERY STIFF DARK BROWN SILTY CLAY LOAM (SOIL ZONE)	647.8		12	B 5.4	14
VERY STIFF GRAY GREEN CLAY			13	B 2.9	22
			11	B 2.1	20
STIFF GRAY GREEN CLAY	642.3	-25	10	B 1.8	17
VERY STIFF TO HARD GRAY CLAY LOAM			11	B 2.9	14
		-30	14	B 3.1	14
SAND LENS			11	B 2.3	14
		-35	10	B 2.7	14
LIMIT OF BORING	628.3	-40	24	B 5.2	12
		-45			

BRIDGE FOUNDATION BORING LOG

PROJECT I-72-2(10)40
ROUTE FAI-72
SEC. 74-68 HB-1
COUNTY PIATT
I-72 Boring No. 2, Station 1360+90, Offset 100' LT

BRIDGE RELOCATED TR 99 OVER FAI-72
STA. 1360+55
Date 10/6/71
Bored By BAKER
Checked By CMK

Surface Water El. —
Groundwater El. at Completion 664.5
After — Hours

Elevation		N	Qu t/s.f.		W (%)
Ground Surface	670.7	0			
STIFF BLACK SILTY CLAY	669.2				
STIFF BROWN MOTTLED SILTY CLAY	665.2	-5	9	E 1.5	20
LOOSE COARSE BROWN SANDY CLAY LOAM FREE WATER	652.7		6	—	—
LOOSE TO MEDIUM COARSE BROWN SAND WITH SOME GRAVEL	647.7	-10	5	—	—
			11	—	—
		-15	24	—	—
VERY STIFF TO HARD GRAY BROWN CLAY LOAM TILL	643.2	-20	17	3.1B	13
			20	4.1B	14
HARD GRAY BROWN CLAY LOAM TILL	645.2	-25	16	E 5.2	14
HARD DARK GRAY SILTY CLAY LOAM (SOIL ZONE)	642.7		24	B 4.1	14
VERY STIFF GRAY GREEN MOTTLED SILTY CLAY	639.7	-30	16	B 2.9	25
HARD GRAY CLAY LOAM TILL			23	B 6.2	12
		-35	28	B 6.2	12
LIMIT OF BORING	630.7	-40	28	B 6.2	12
		-45			

BRIDGE FOUNDATION BORING LOG

PROJECT I-72-2(10)40
ROUTE FAI-72
SEC. 74-68 HB-1
COUNTY PIATT
I-72 Boring No. 1, Station 1360 + 55, Offset Centerline

BRIDGE RELOCATED TR 99 OVER FAI-72
STA. 1360+55
Date 10/5/71
Bored By BAKER
Checked By CMK

Surface Water El. —
Groundwater El. at Completion WASH BORING
After — Hours

Elevation		N	Qu t/s.f.		W (%)
Ground Surface	670.3	0			
STIFF BLACK SILTY CLAY	668.8				
STIFF BROWN MOTTLED SILTY CLAY	666.3				
STIFF RED BROWN SANDY CLAY LOAM	664.3	-5	8	E 1.0	—
SOFT BROWN CLAY LOAM	661.3		3	B 0.5	23
		-10	21	B 6.2	12
HARD GRAY BROWN CLAY LOAM TILL		-15	27	B 9.3	10
			21	B 7.4	11
SAND LENS			22	B 7.8	12
STIFF DARK BROWN ORGANIC SILTY CLAY LOAM (SOIL ZONE)	650.0	-20	18	B 7.0	13
	648.3				
HARD TO VERY STIFF DARK GRAY TO GRAY, BROWN, GREEN MOTTLED CLAY	640.0		20	B 4.1	21
		-25	17	B 4.5	18
			17	B 4.1	19
GRAY CLAY LOAM TILL	638.8	-30	13	B 2.3	27
MEDIUM FINE GRAY SAND FREE WATER			16	—	—
LIMIT OF BORING	634.8	-35			
		-40			
		-45			

STRUCTURE LOCATED NE 1/4, SEC. 11 T. 18 N., R.5E. of THE 3RD. P.M.

LEGEND

N — STANDARD PENETRATION TEST — BLOWS PER FOOT TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140 lb. HAMMER FALLING 30".
Qu — UNCONFINED COMPRESSIVE STRENGTH — t/sf
W — WATER CONTENT PERCENTAGE OF OVEN DRY WEIGHT — %

TYPE FAILURE:
B — BULGE
S — SHEAR
E — ESTIMATED VALVE
P — PENETROMETER

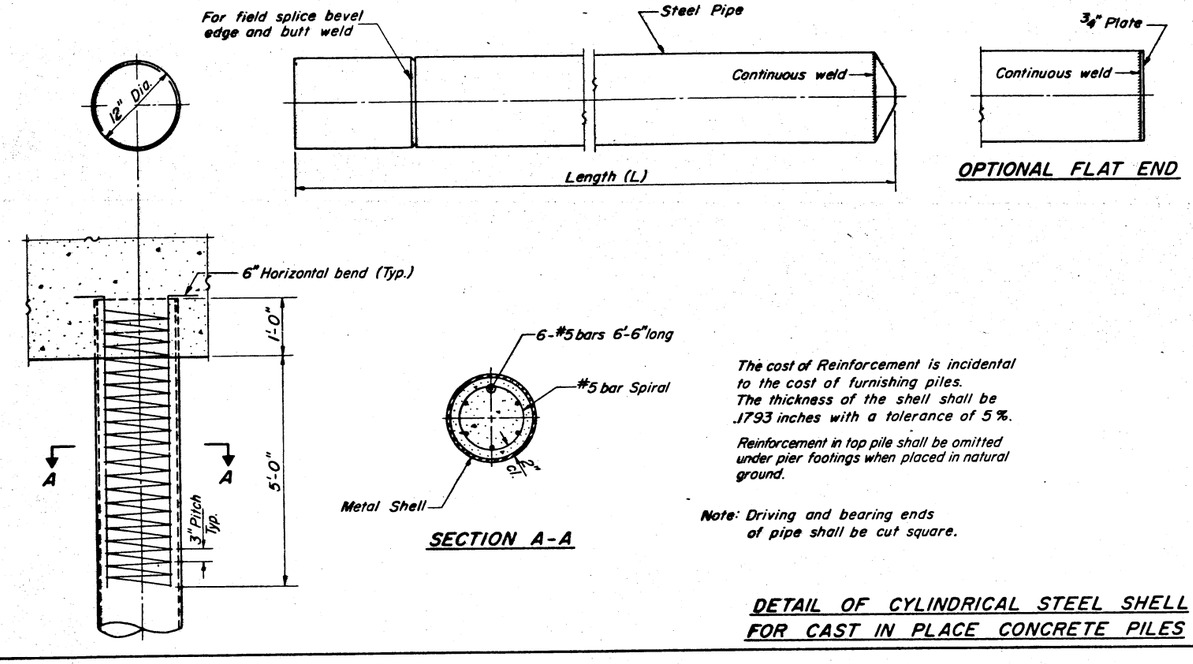
DESIGNED
CHECKED
DRAWN
CHECKED

BORING DATA
F.A.I. 72 SEC. 74-68-HBI
PIATT COUNTY
STA. 1359+51.04 (F.A.I.-72)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 72	74-68 HB-1	Piatt	36	26
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
14 SHEETS



OPTIONAL FLAT END

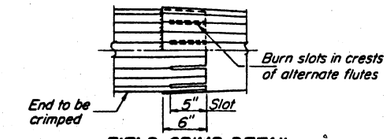
SECTION A-A

The cost of Reinforcement is incidental to the cost of furnishing piles.
The thickness of the shell shall be .1793 inches with a tolerance of 5%.

Reinforcement in top pile shall be omitted under pier footings when placed in natural ground.

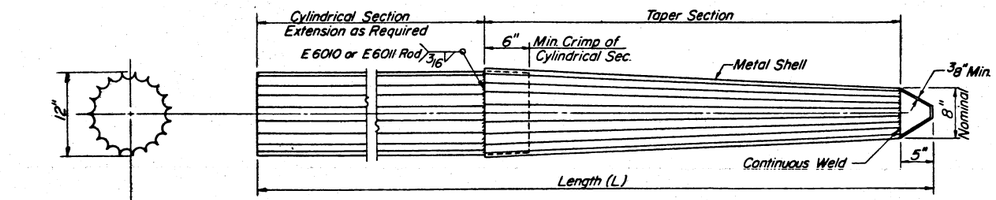
Note: Driving and bearing ends of pipe shall be cut square.

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



FIELD CRIMP DETAIL

Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.



1/2" Plate
8" Nominal
Continuous Weld

OPTIONAL FLAT END

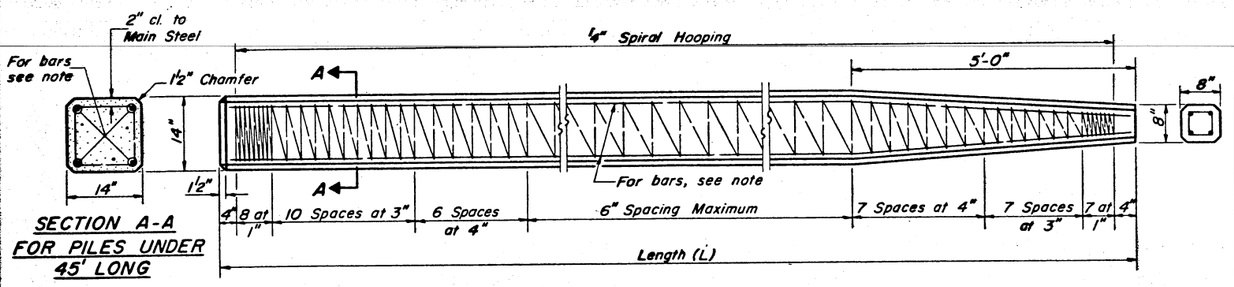
SECTION A-A

ALLOWABLE TAPER SECTIONS
10' Length - Taper 1" in 2'-6"
17' Length - Taper 1" in 4'-0"
25' Length - Taper 1" in 7'-0"
30' Length - Taper 1" in 7'-0"

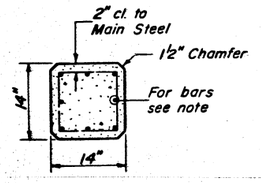
The cost of Reinforcement is incidental to the cost of furnishing piles.
The thickness of the shell shall be .1793 inches with a tolerance of 5%.

Reinforcement in top of pile shall be omitted under pier footings when placed in natural ground.

DETAIL OF TAPERED METAL SHELL FOR CAST IN PLACE CONCRETE PILES



SECTION A-A FOR PILES UNDER 45' LONG

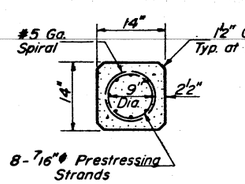


SECTION A-A FOR PILES 45' OR MORE

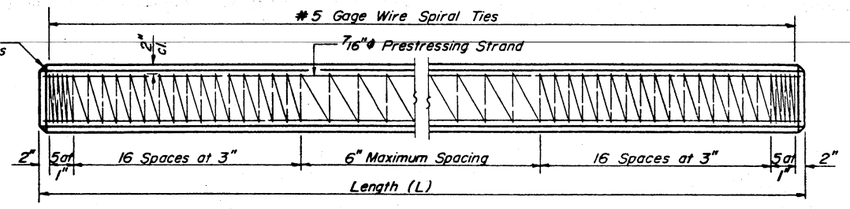
Note: For 14" Piles 45' long or more use 8-#8 bars 4 for the full length and 4 to the point of bevel. For 14" Piles under 45' long use 4-#9 bars full length.

Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L from each end.
For Piles longer than 45', use three slings placed at a distance of 0.12 L from each end and at mid-point of pile.

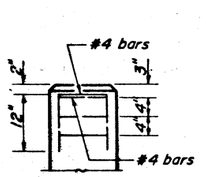
DETAIL OF PRECAST CONCRETE PILES



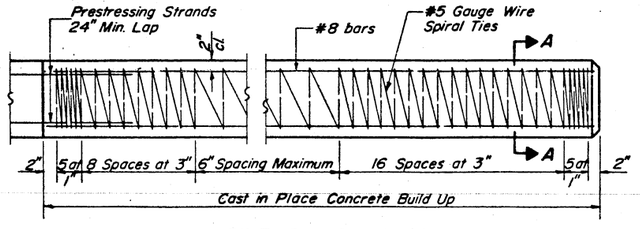
SECTION THRU PILE



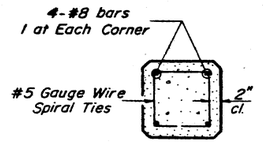
PILE PLAN



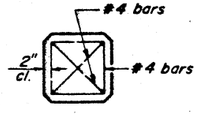
ELEVATION
(End Reinforcement)



PILE BUILD UP



SECTION A-A



PLAN
(End Reinforcement)

DESIGN STRESSES
fc' = 5,000 psi.
fci' = 4,000 psi.
fs' = 268,000 psi. (31,000 lbs.)
fsi' = 188,000 psi. (21,700 lbs.)

Note: Prestressing steel shall be non-galvanized extra high strength stress-relieved 7 wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.1155 square inch.

Handling: For pile lengths up to 65', use two slings placed at a distance of 0.21L from each end. For piles longer than 65', use three slings placed at a distance of 0.12 L from each end at midpoint of pile.

DETAIL OF PRECAST PRESTRESSED CONCRETE PILES

PILE DETAILS
F.A.I. 72 SEC. 74-68-HB-1
PIATT COUNTY
STA 1359+51.04 (F.A.I.-72)