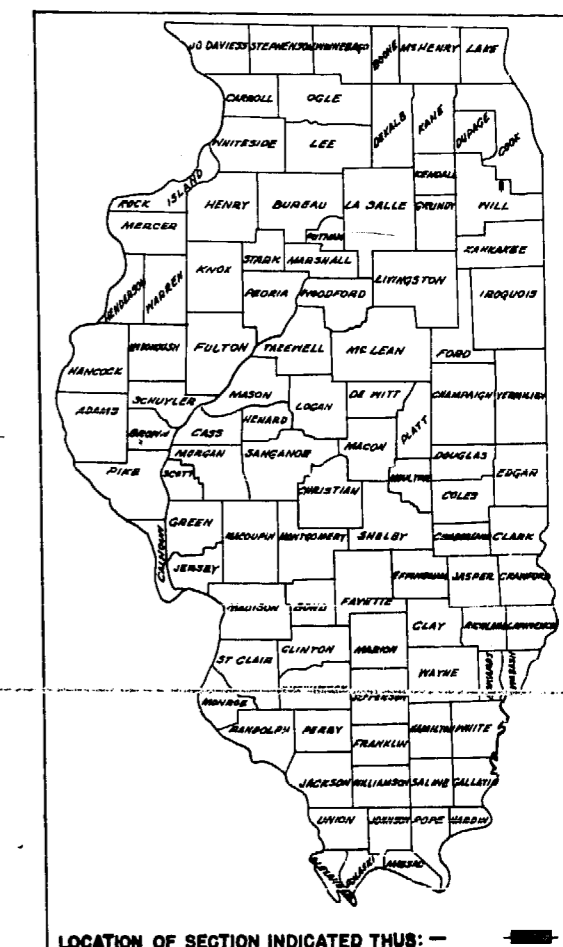


STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	99-5 HB-4	WILL	51	1

FED. ROAD DIST. NO. 7 ILLINOIS PROJECT I-80-4(64)143

P-91-110-00



SCALES
 PLAN 1 INCH = 100' & 1 INCH = 50'
 PROFILE HOR. 1 INCH = 100' & 1 INCH = 50'
 PROFILE VERT. 1 INCH = 10' & 1 INCH = 5'
 CROSS-SECTIONS 1 INCH = 5' VERT.
 CROSS-SECTIONS 1 INCH = 10' HOR.

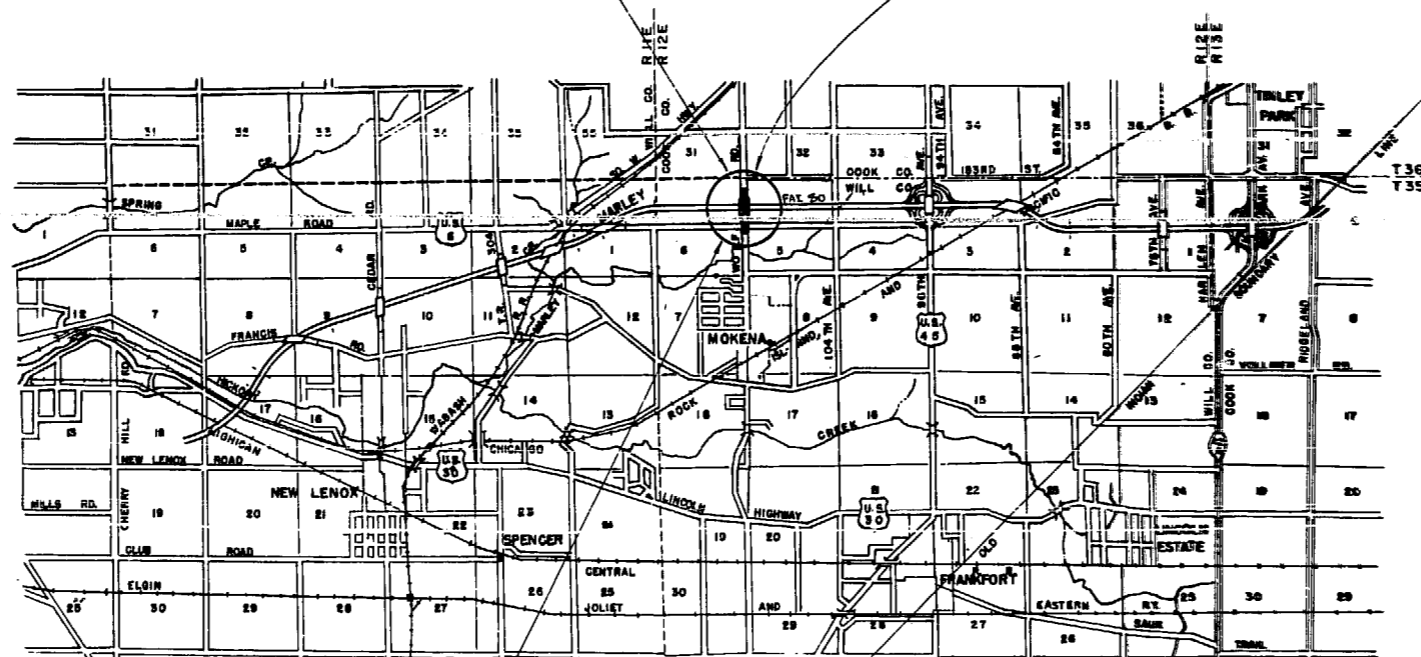
F.A.I. ROUTE 80
WILL COUNTY

SECTION 99-5 HB-4
PROJECT I-80-4(64)143

C 91-275-64

SECTION 99-5 HB-4 INCLUDES
 A 4 Span Continuous W-F beam grade separation
 Structure (carrying C.H.S. Route 2A (Wolf Road)
 over F.A.I. Route 80) on R.C. solid Piers and Pile
 Bent Abutments, 4 spans; 2 at 67'-3", 2 at 42'-6"
 Roadway with 2'-0" Safety walks at
 Station 42+00+0.75

WOLF ROAD C.H.S. 2A
 BEGIN CONSTRUCTION
 STA. 42+00



WOLF ROAD C.H.S. 2A
 END CONSTRUCTION
 STA. 63+00

PROTECT LENGTH = 0.00 FT. = 0.00 MILE
 IMPROVEMENT LENGTH 2,098.00 L.F. = 0.397 Miles
 Scale: 1" = 5000'

APPROVED
 FOR STRUCTURAL ADEQUACY ONLY
W.E. Bannerman C-11-L2
 Engineer of Bridge & Traffic Structures

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
 DIVISION OF HIGHWAYS

SUBMITTED APRIL 27 1962
R. H. Hitterman
 DISTRICT ENGINEER

EXAMINED FEBRUARY 25 1965
W. H. Van Cannel
 ENGINEER OF ROAD PLANS & CONTRACTS

PASSED FEBRUARY 25 1965
J. P. ...
 ENGINEER OF DESIGN

APPROVED FEBRUARY 25 1965
...
 CHIEF HIGHWAY ENGINEER

APPROVED FEBRUARY 25 1965
...
 DIRECTOR

INDEX OF SHEETS - SEE SHEET NO. 5
 SUMMARY OF QUANTITIES - SEE SHEET NO. 6

THESE PLANS PREPARED
 BY
Chas. W. Cole & Son
 Engineers & Architects
 South Bend, Indiana

DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS

APPROVED _____
 DIVISION ENGINEER

DATE _____

CONTRACT NO. 22988

James E. Hausmann
 REGISTERED STRUCTURAL ENGINEER STATE OF ILLINOIS NO. 81-2547

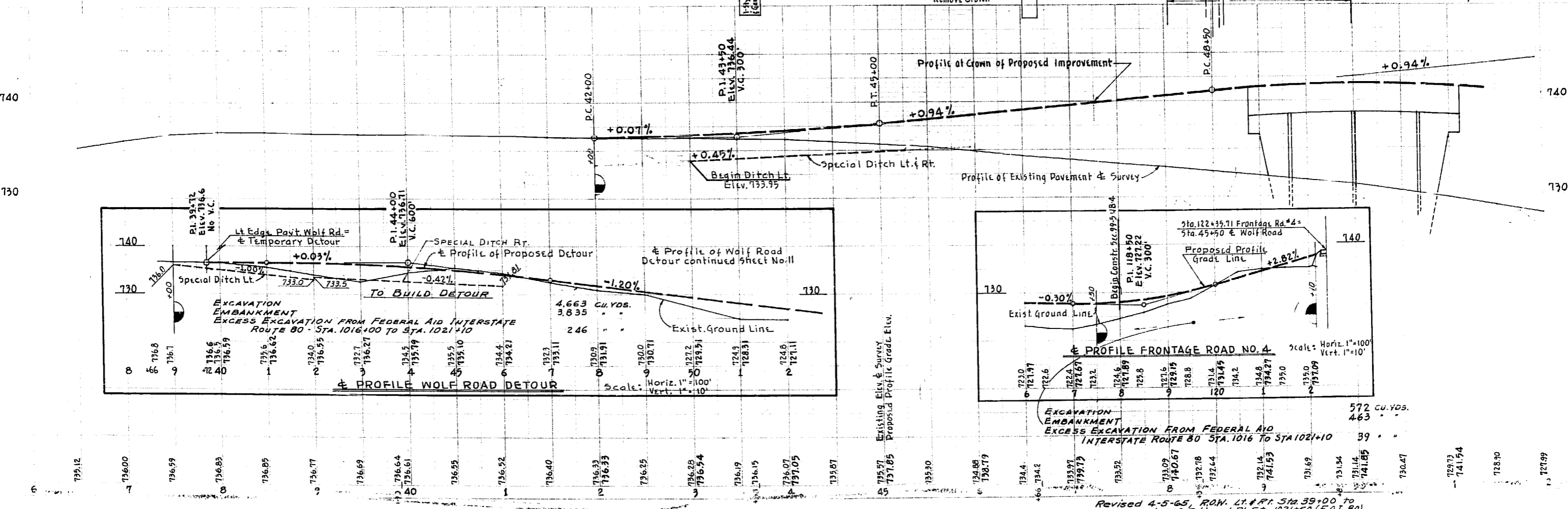
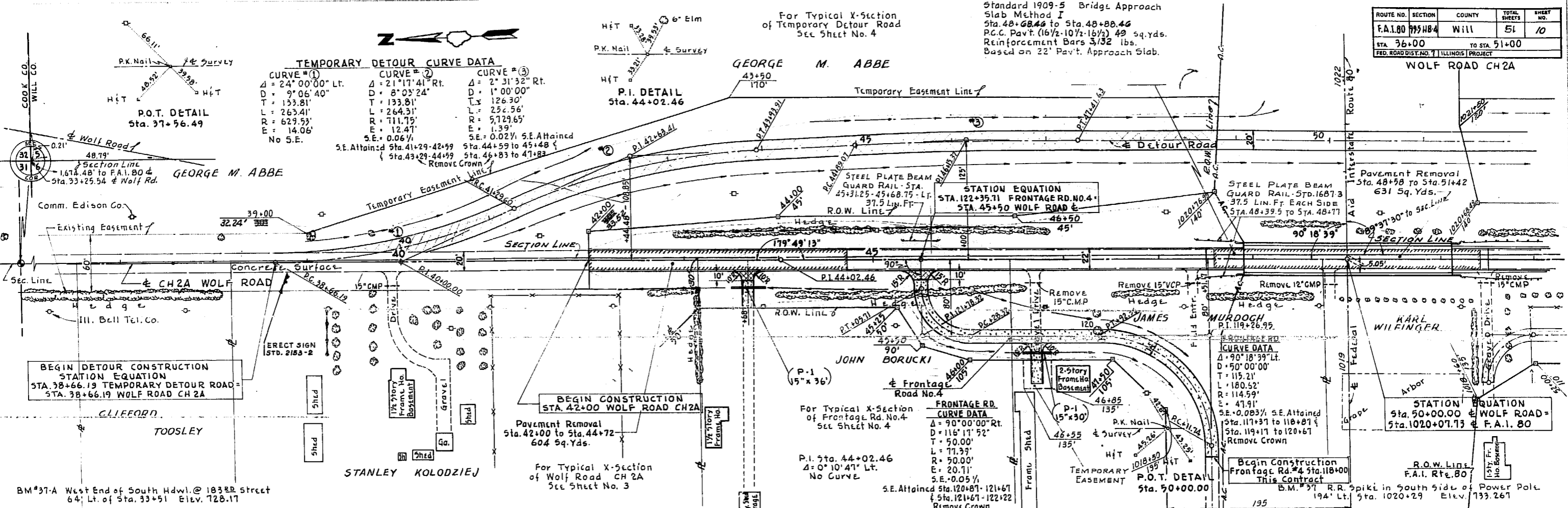
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	795 HB-4	Will	51	10

TO STA. 51+00
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT

Standard 1909-5 Bridge Approach
Slab Method I
Sta. 48+68.46 to Sta. 48+88.46
P.C.C. Pavt. (16 1/2-10 1/2-16 1/2) 49 sq. yds.
Reinforcement Bars 3/32 lbs.
Based on 22' Pavt. Approach Slab.

TEMPORARY DETOUR CURVE DATA

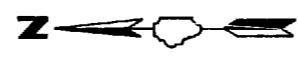
CURVE #	DELTA	PI	PC	PT	LC	LC	SE
1	24° 00' 00" Lt.	44+02.46	43+50	44+54	119' 49' 13"	179' 49' 13"	0.07%
2	21° 17' 41" Rt.	44+02.46	44+00	44+04	179' 49' 13"	119' 49' 13"	0.06%
3	2° 31' 32" Rt.	44+02.46	44+00	44+04	179' 49' 13"	119' 49' 13"	0.02%



Revised 4-5-65, R.O.W. Lt. # Pt. Sta. 39+00 to Sta. 43+15 (Wolf Rd.) and Pt. Sta. 1021+50 (F.A.I. 80)

STATION EQUATION
Sta. 50+00.00 @ WOLF ROAD =
Sta. 1020+07.13 @ F.A.I. 80

Standard 1909-5 Bridge Approach
Slab Method I
Sta. 51+11.55 to Sta. 51+31.65
R.C.C. Pav't. (16 1/2 - 10 1/2 - 16 1/2) 49 sq.yds.
Reinforcement Bars 3/32 lbs.
Based on 22' Pav't. Approach Slab



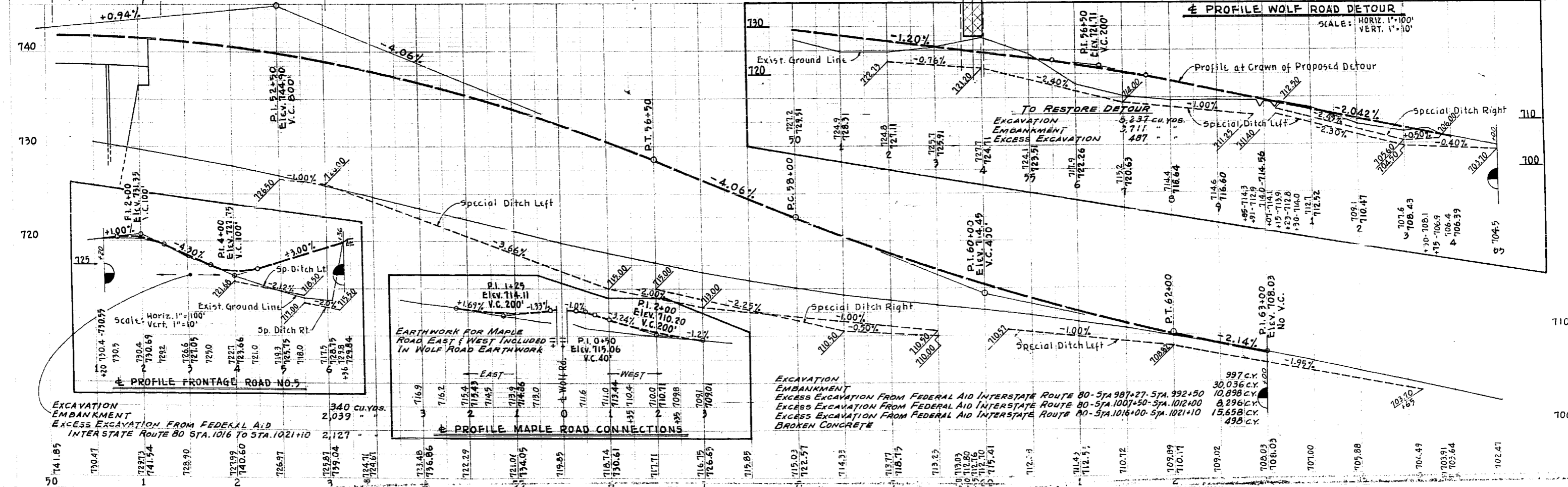
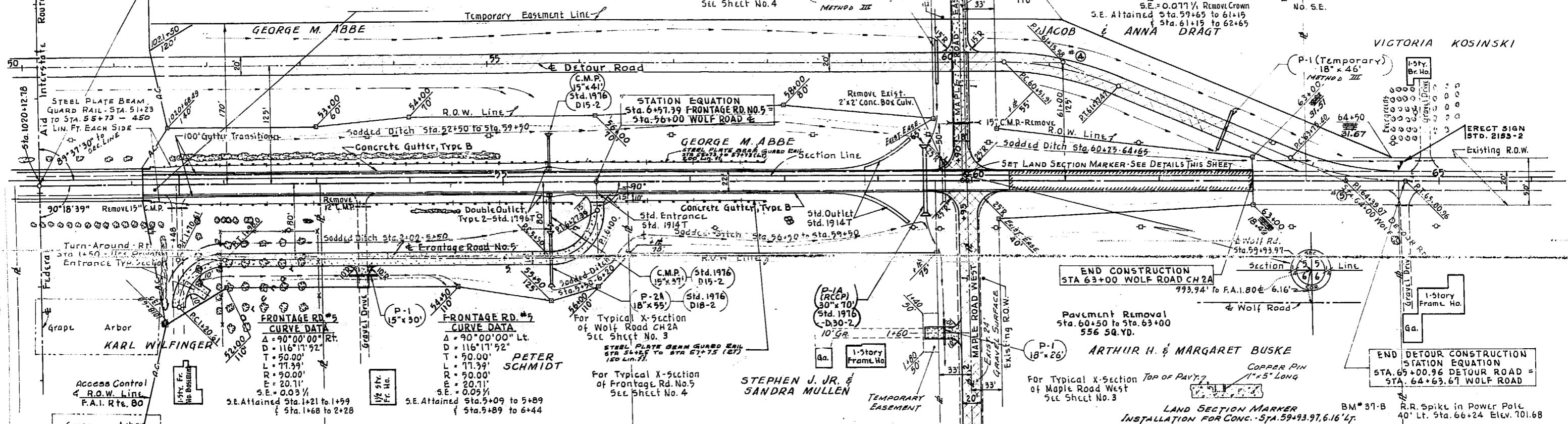
For Typical X-Section
of Wolf Road Detour
(P-1 (Temporary)
24' x 44'
METHOD III

TEMPORARY DETOUR CURVE DATA

CURVE # 4
Δ = 22° 36' Rt.
D = 18" 00'
T = 63.61'
L = 125.56'
R = 318.64'
S.E. = 0.077% Remove Crown
S.E. Attained Sta. 59+65 to 61+15
Sta. 61+15 to 62+65
No. S.E.

CURVE # 5
Δ = 22° 36' Lt.
D = 18" 00'
T = 63.61'
L = 125.56'
R = 318.64'
No. S.E.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	795H84	Will	51	11
STA. 50+00 TO STA. 66+00				
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT				
WOLF ROAD CH 2A				



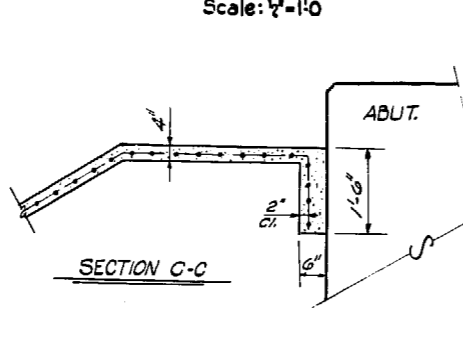
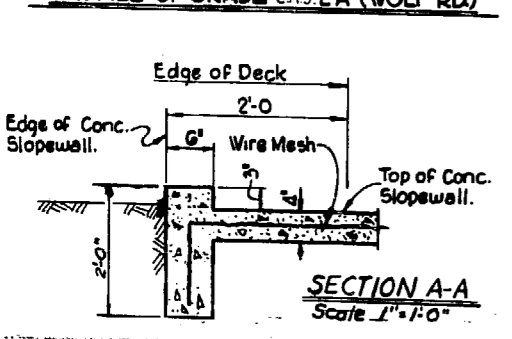
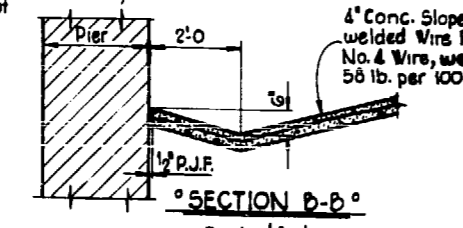
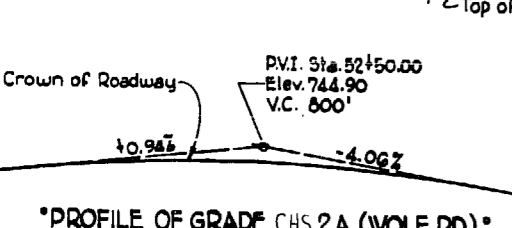
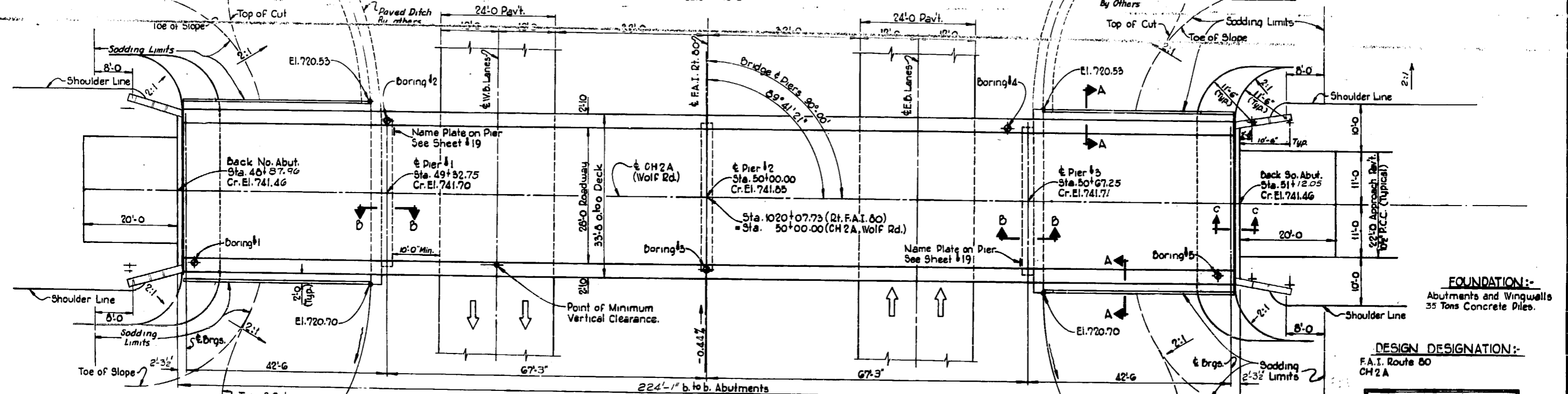
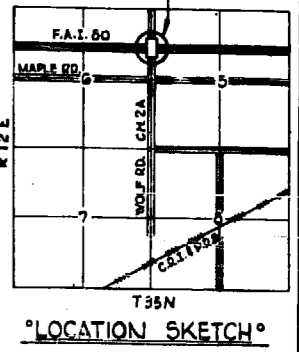
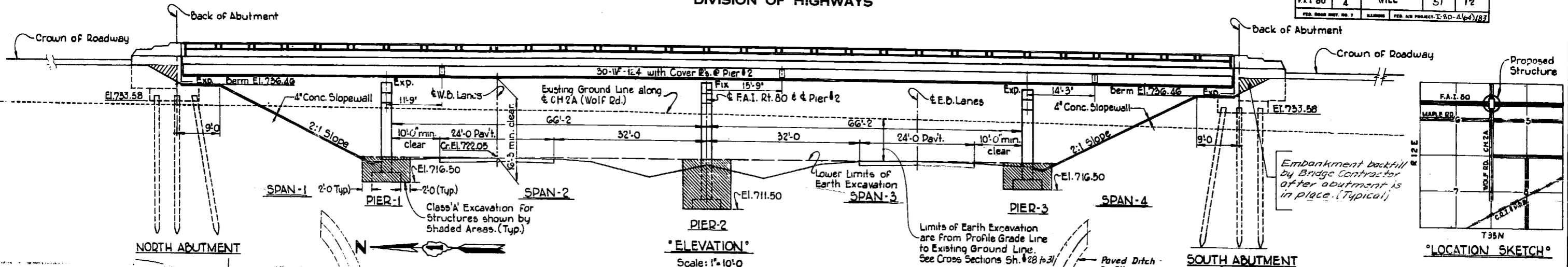
Revised app. pav't. from Method II to Method I, changed quantities - R.C.C. Pav't. 195.6 to 98 sq.yds, Rein. Bar. 13,878 to 9,264 lb., of Stations of App. pav't. 10-13-64 L.D.W.

Revised 4-5-65, R.O.W. Lt. @ Rt. Sta. 63+00 and Lt. Sta. 64+50 (Wolf Rd.); R.O.W. Rt. Sta. 1021+50 (F.A.I. 80)

B.M. 437 - R.R. Spike in South Side of Power Pole
 194' Lt. of Sta. 1020+29 Elev. 733.267
 No Existing Structure.

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

DRAWING NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	99-5 HB 4	WILL	51	12
FED. ROAD DIST. NO. 7	ALABAMA	FED. AID PROJECT: I-50-A(4)183		



"PLAN"
 Scale: 1"=10'-0"

"SHEET INDEX BRIDGE PLANS"

SHEET No.	ITEM
12	General Plan and Elevation.
13	Boring Data.
14	Superstructure.
15	Structural Steel Details.
16	Scred Data.
17	Handrail Details.
18	North and South Abutments.
19	Piers 1 & 3.
20	Pier 2.
21	Abutment Piles.

SUMMARY OF QUANTITIES - STRUCTURE ITEMS ONLY

ITEM	UNIT	SUPER.	SUB.	TOTAL
* Class 'A' Excavation for Structures.	Cu.Yd.		370.210	370.210
			216.9	443.3
Class 'X' Concrete.	Cu.Yd.	226.4	203.8	430.2
Furnishing and Erecting Structural Steel.	Lb.	201,980		201,980
Aluminum Handrail	Ln.Ft.	441		441
Reinforcement Bars.	Lb.	42,470	23,230	65,700
			24,730	67,200
Driving Concrete Piles.	Ln.Ft.		420	420
Furnishing Concrete Piles.	Ln.Ft.		420	420
Test Piles, Concrete.	Each		1	1
Name Plates.	Each		2	2
Slopewall.	Sq.Yd.		435	435
Bridge Seat Sealant	L.S.		1	1
Sodding	Sq.Yd.			260
Protective Coat	Sq.Yd.	875		875

DESIGN DESIGNATION:
 F.A.I. Route 80
 CH 2 A

STATION 1020+07.75
 BUILT 1965 BY
 STATE OF ILLINOIS
 FAI RT. 80 SECTION 99-5 HB 4
 FA. PROJECT 99-5 HB 4 (64)183
 Loading HS 20

LETTERING FOR NAMEPLATE
 See Standard 2115-1

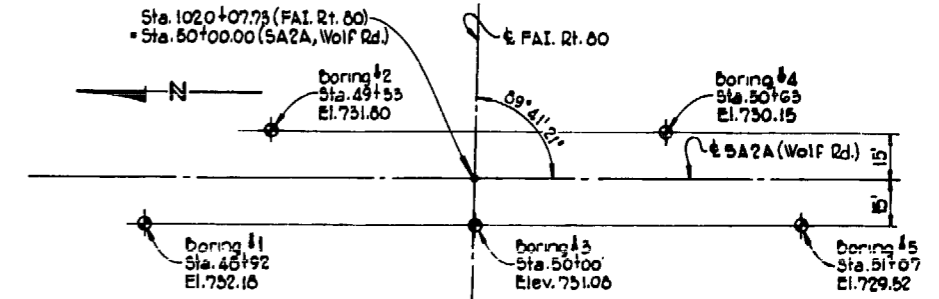
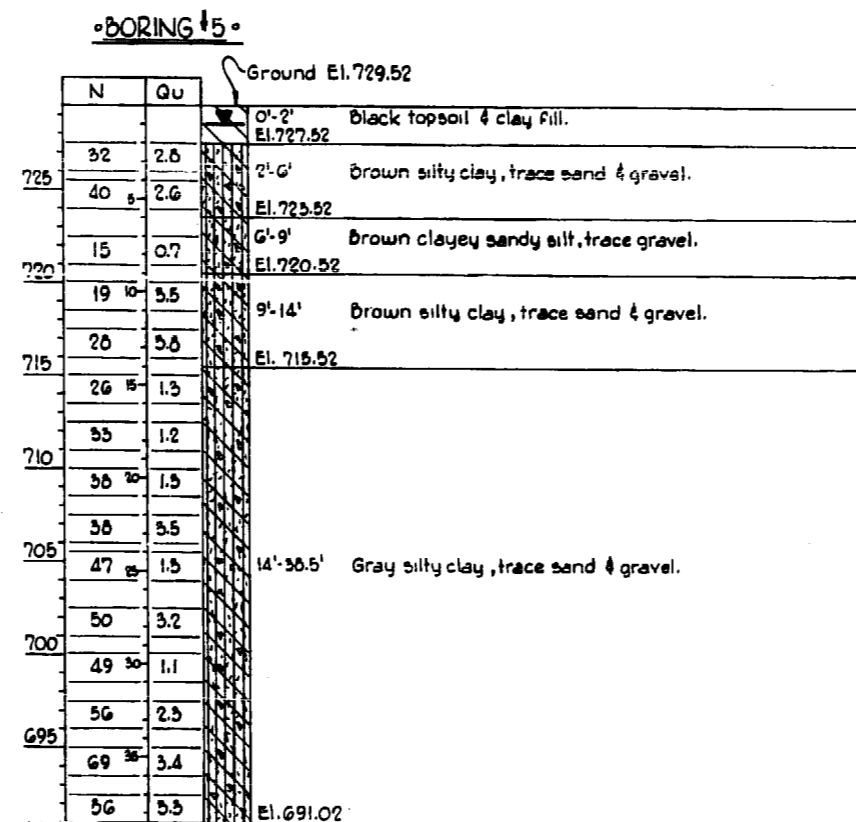
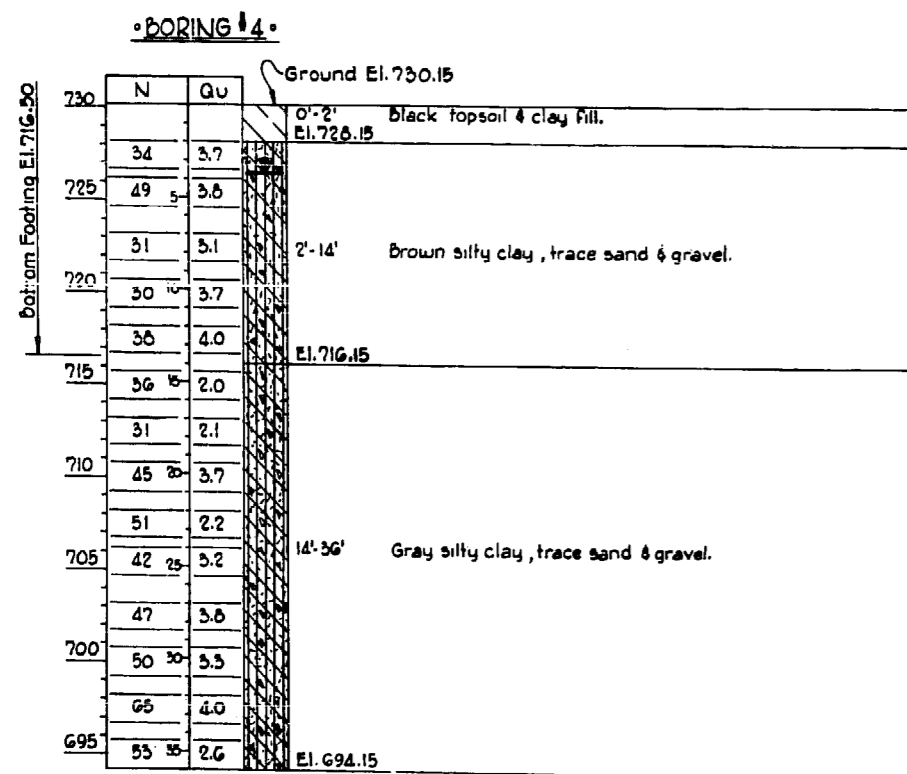
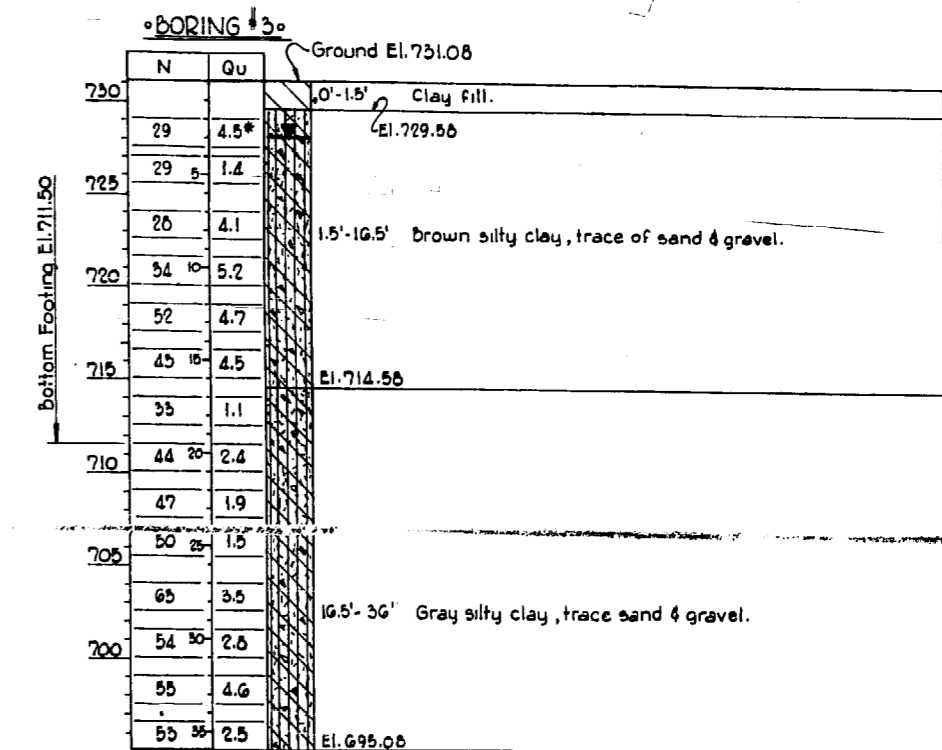
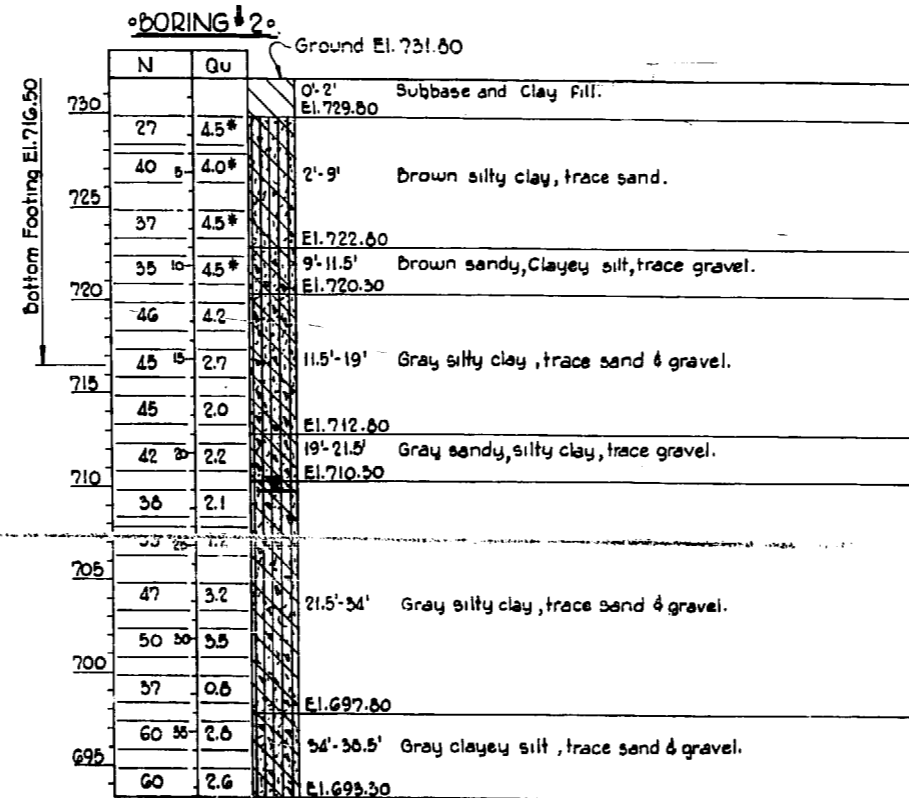
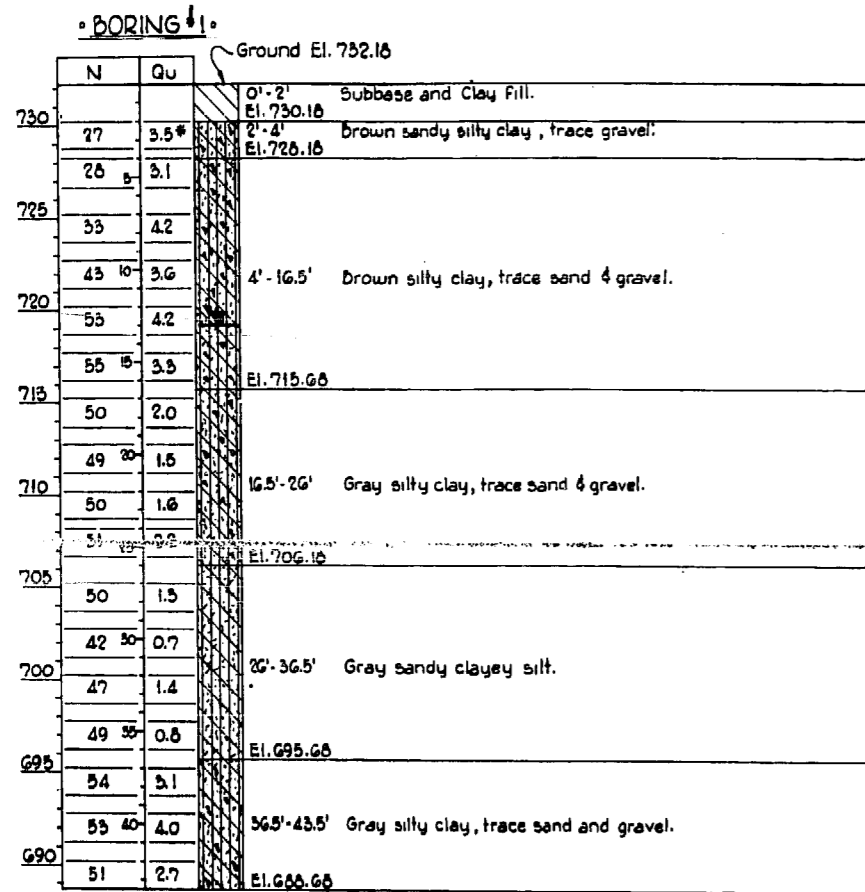
DESIGN STRESSES:
 Fc = 1,400 psi. Superstr. & Substructure.
 Fm = 75 psi. Footing.
 Fb = 20,000 psi. Reinforcing.
 Fst = 20,000 psi. Structural Steel. (A-36)
 n = 10
 Loading HS-20
 Max. Footing Pressure = 2.5 Tons/Sq. Ft.
 for Piers

GENERAL PLAN & ELEVATION
CHS 2A (WOLF ROAD) OVER
FAI RT. 80-SEC. 99-5 HB 4
PROJECT I-80-A (64)183
WILL COUNTY - STA. 1020+07.75

Revised App. Part from Method II to Method I, revised handrail, changed Bk. Abut. Sta. (Elev.), added SEC C-C, changed abut. & wings. Quantities changed - Class 'X' Conc. 425.0 to 430.2 cu. yds., Rein. Bars 61,594 to 64,700 lb., Metal Handrail 442 to Aluminum Handrail 441 ln. ft., Furnishing & Driving Conc. Piles 310 to 420 ln. ft., Slopewall 420 to 435 Sq. yds., Added Item Bridge Seat Sealant (L.S.) 1, and removed Crewed Piles 200 ln. ft. 10-13-64 L.D.W. Quantity change Rein. Bars 66,700 to 65,700 11-17-64 LT
 added note "** Applied at Abutments" 11/15

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
P.A.I. 60	99-5H	WILL	51	13
PER. ROAD DIST. DIV. 7		ILLINOIS PER. AIR PROJECT		



•BORING LOCATIONS FOR STRUCTURE 99-5 HD 4•

NOTES:-

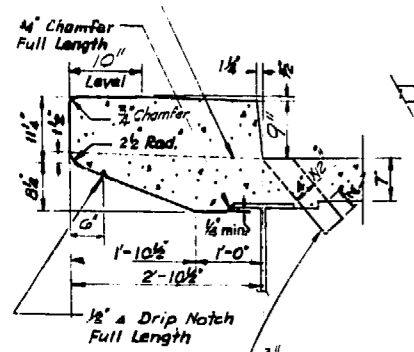
- N = Penetration Resistance in Blows per Foot.
- Standard Penetration Test 140 Lb. weight, 30 inch drop.
- Spit Spoon = 1 1/2" inside diameter, 2" outside diameter.
- Qu = Unconfined Compression Strength in Tons per square foot.
- * Denotes strength was based on pocket penetrometer measurements - Maximum range of penetrometer = 4.5
- See Art. 2.3 of the 1958 Specifications for Road and Bridge Construction regarding Subsurface Boring Data.
- ☒ Ground Water Table.

•BORING DATA•
CH 2A (WOLF ROAD) OVER
FA.I.R.T. 60-SEC. 99-5 HD 4
PROJECT 1-60-4 (64) 183
WILL COUNTY - STA. 1020+07.75

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

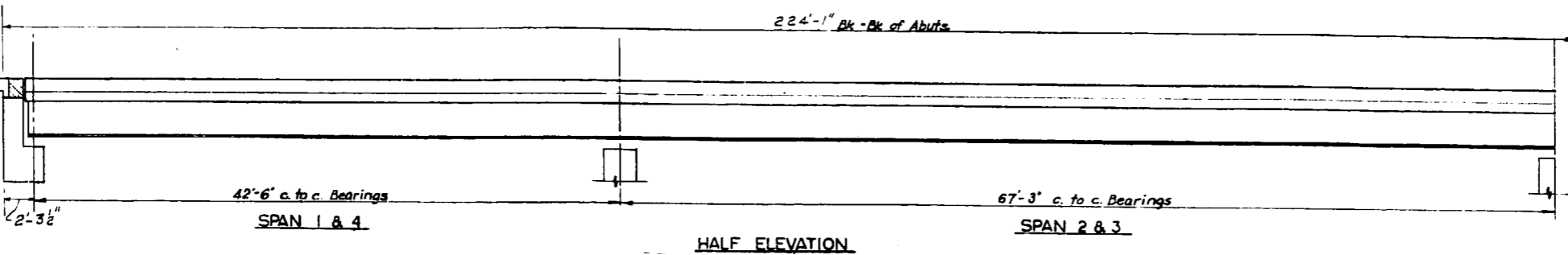
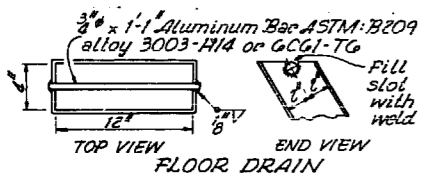
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
99-5HB	-4	Will County	51	14
F.A.I. 80				
ILLINOIS FED. AID PROJECT 80				

Bottom Edge of 1/8" thick Aluminum Sheet ASTM B209 alloy 3003-H14 Cost to be incidental



3/16" thick Aluminum Plates Welded ASTM B209 alloy 3003-H14 or 6061-T6 Cost to be incidental.

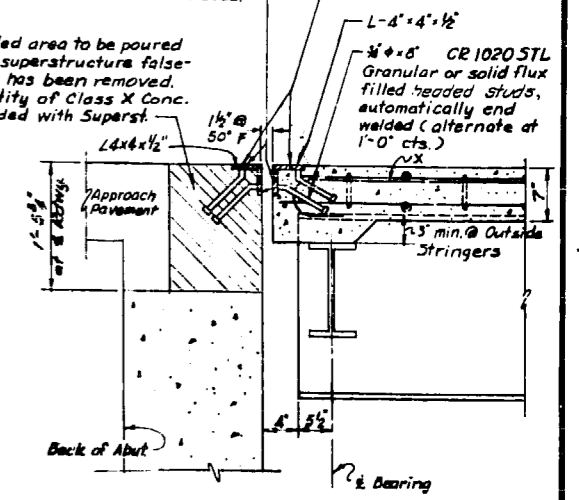
CURB DETAIL



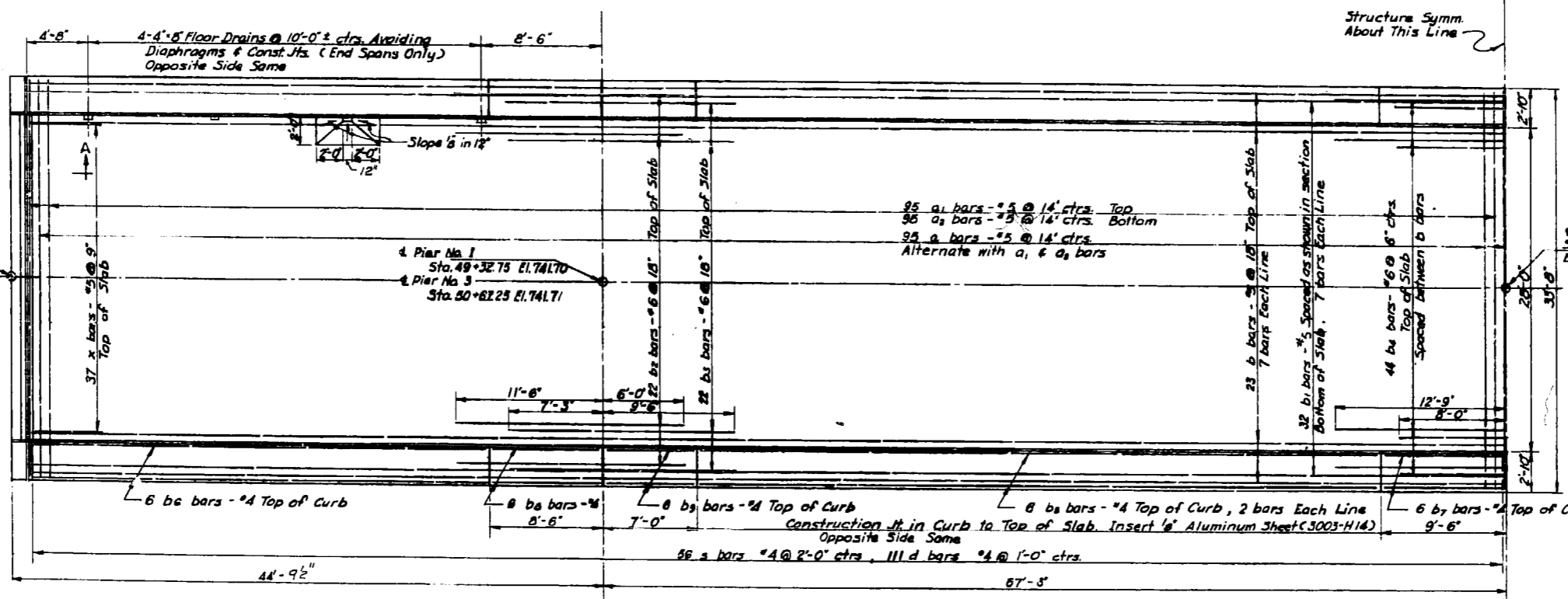
HALF ELEVATION

7/8" hole at 12" ctrs. for 3/8" bolts. All bolts shall be burned, sawed or clipped off flush with back of angles after forms are removed.

Shaded area to be poured after superstructure falsework has been removed. Quantity of Class X Conc. included with Superst.



SECTION A-A
RDWY. EXPANSION GUARD



HALF PLAN

Bk. N. Abut. Sta. 48+3.796 El. 741.46
Bk. S. Abut. Sta. 51+2.05 El. 741.46

Pier No. 1 Sta. 49+32.75 El. 741.70
Pier No. 3 Sta. 50+82.25 El. 741.71

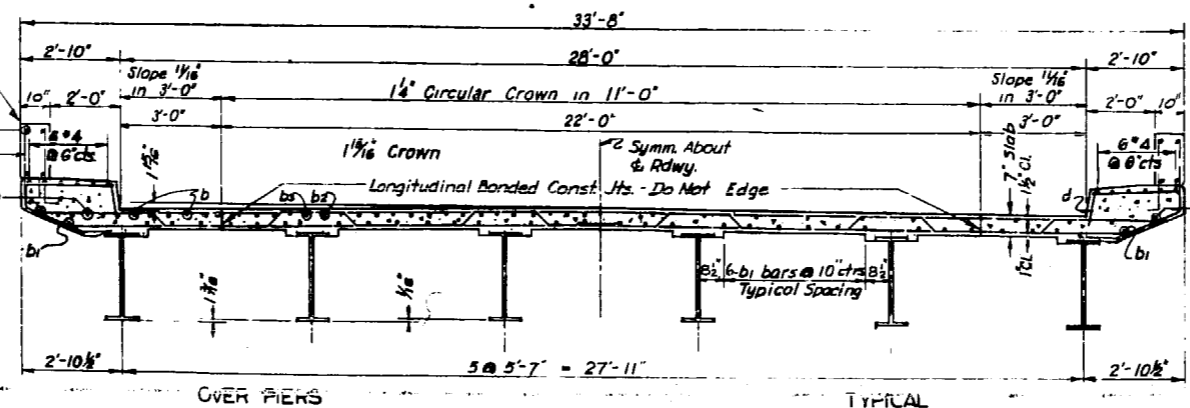
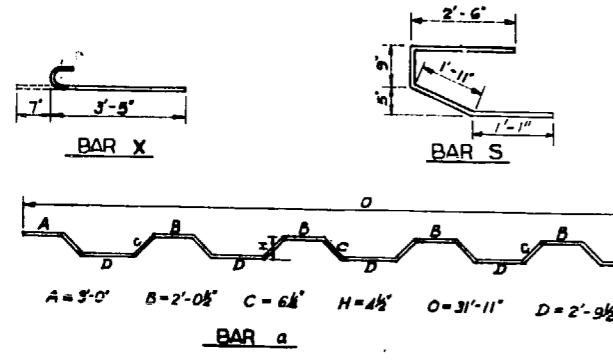
Pier No. 2 Sta. 50+00 El. 741.85

BILL OF MATERIALS

Bar	No.	Size	Length	Shape
a1	189	#5	33'-5"	~
a2	180	#5	31'-11"	~
a3	180	#5	30'-9"	~
b1	161	#5	32'-5"	~
b2	224	#5	32'-9"	~
b3	44	#6	17'-6"	~
b4	44	#6	16'-9"	~
b5	44	#6	20'-6"	~
b6	48	#4	25'-10"	~
b7	24	#4	34'-4"	~
b8	24	#4	9'-2"	~
b9	24	#4	6'-2"	~
c	442	#4	1'-0"	~
d	222	#4	6'-3"	~
s	74	#5	4'-0"	~
**Reinforcement Bars				Lb. 38,750
**Class X Concrete				Cu. Yd. 208.0
**Structural Steel				Lb. 801,980
Name Plate				Ea. 2

**Weight of Rocking, Bearing Plates, Load Plates and Anchor Bolts included as Structural Steel.
**Does not include reinf. and concrete in parapet handrail - See sheet N#17

NOTE: For parapet and rail details and quantities see sheet N#17



CROSS SECTION LOOKING SOUTH

METHOD OF DETERMINING FILLET HEIGHT 't'
After all Structural Steel has been erected elevations of the top flanges of the beams shall be taken at intervals not to exceed 10 Ft. From these elevations subtract the increment of deflections for these points, determined from the D. L. Deflection Diagram. The Elevations so obtained subtracted from the theoretical grade elevations, minus floor thickness, equals the fillet heights above top of beam.

DESIGN STRESSES

f_s = 20,000 psi. Structural Steel
f_s = 20,000 psi. Reinforcement
f_c = 1,400 psi. Superstructure
f_c = 1,400 psi. Substructure
n = 10

SUPERSTRUCTURE
C.H. RT. 2A. (WOLF RD.) OVER
F.A.I. 80 - SEC. 99-5HB-4
WILL COUNTY
STA. 1020+07.73

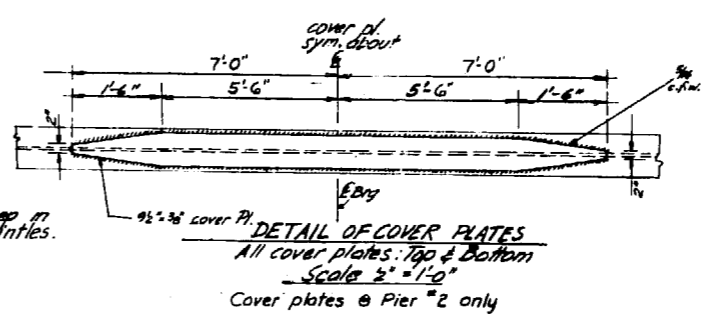
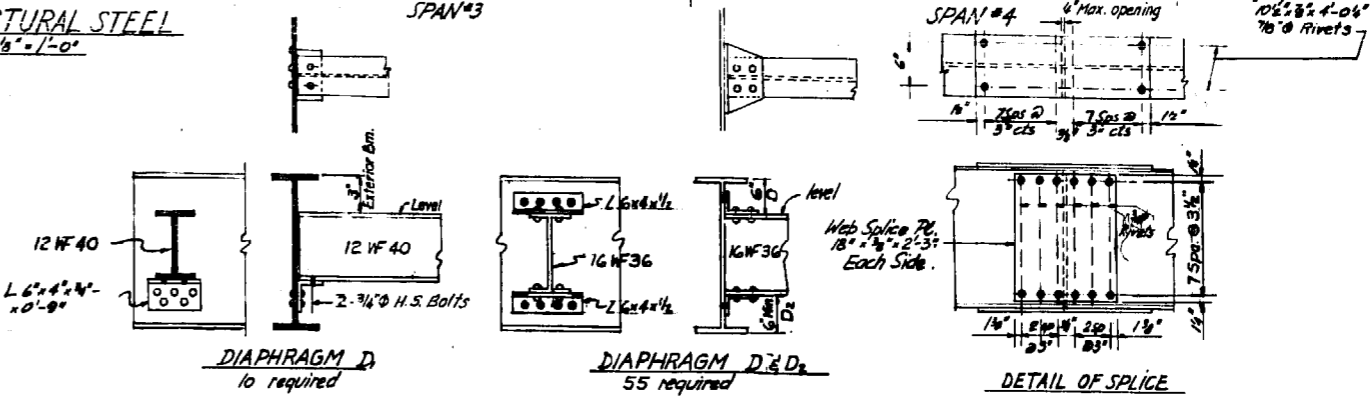
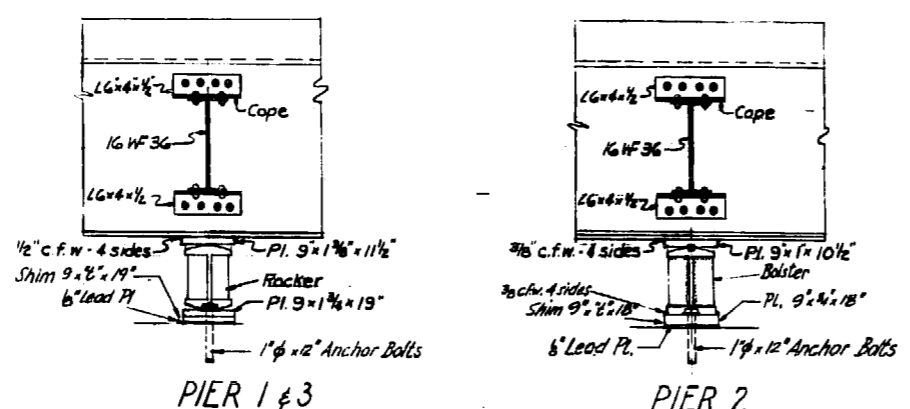
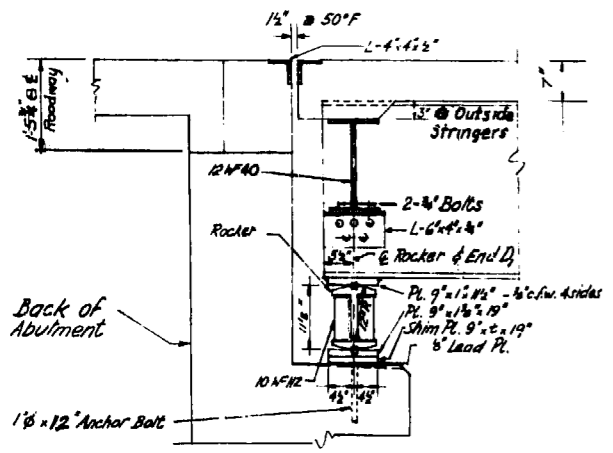
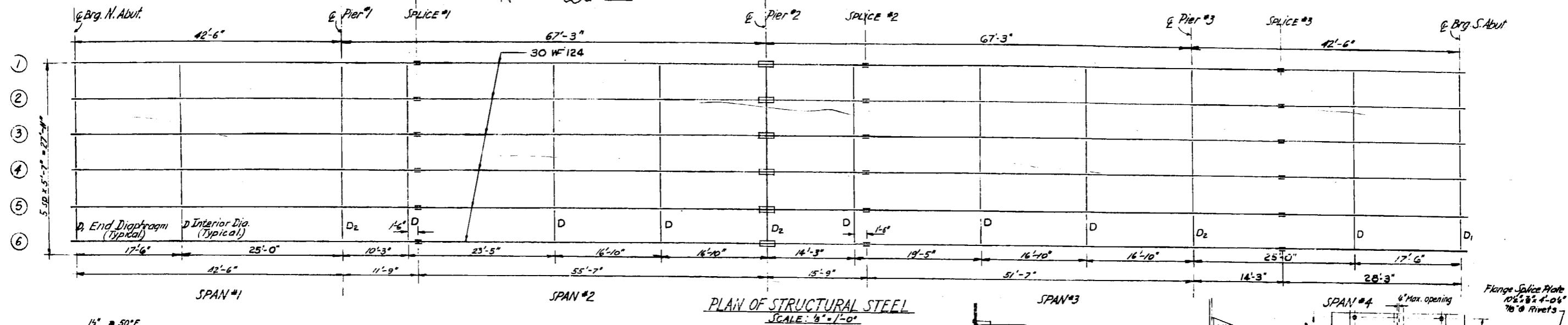
added Floor drain detail

Added parapet rail, changed Bk. Abut. Sta. f.e.l. 10-13-64 L.R.W.

Revised for Slab steel
WOLFRO
Checked by DJK

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

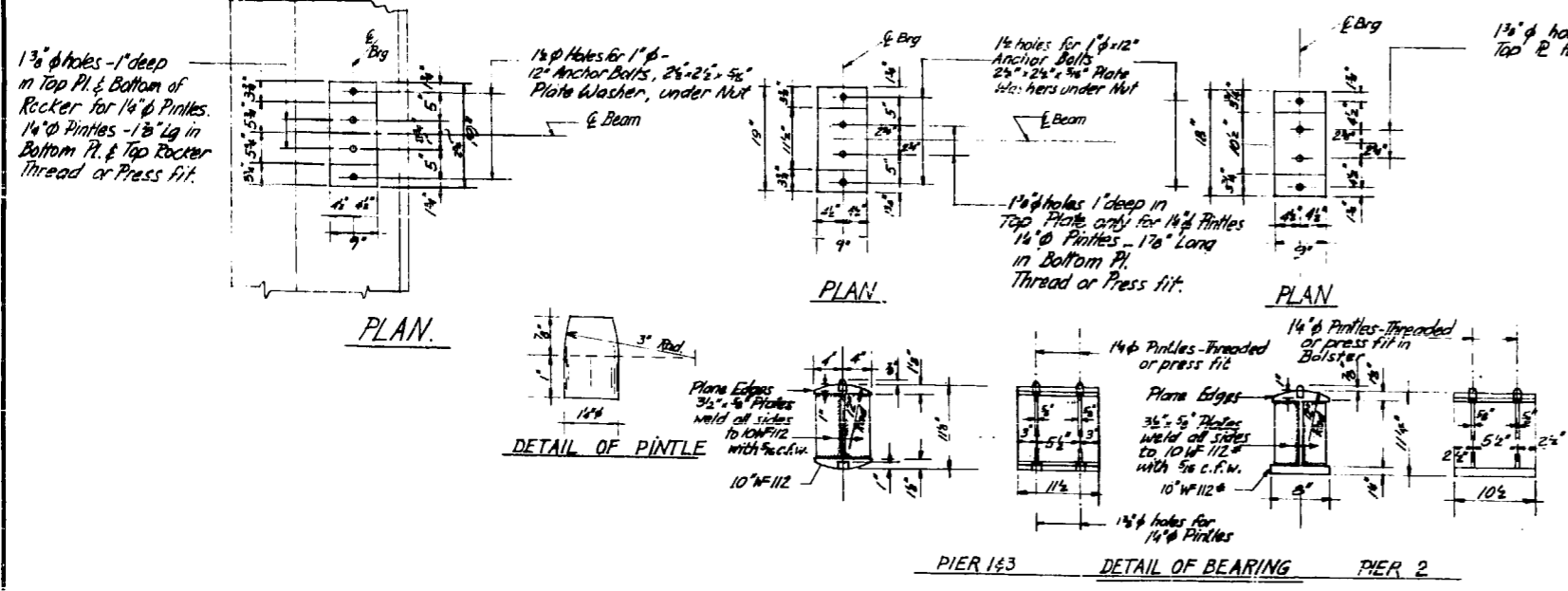
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
A.S.L. P.A.1 80	99-5HB 4	WILL	51	15
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	



ELEVATION TOP OF BEAMS

Location	Beam #1 & #6	#2 & #5	#3 & #4
E North Abut.	740.724	740.829	740.877
E Pier #1	740.807	740.987	741.041
E Splice #1	740.933	741.033	741.086
E Pier #2	741.004	741.103	741.157
E Splice #2	741.023	741.123	741.177
E Pier #3	740.868	740.967	741.021
E Splice #3	740.825	740.925	740.978
E South Abut.	740.729	740.829	740.883

Note: Elevation Top of Beam does not include Dead Load Deflection. Elevation Top of Beam is always Top of Beam Flange, does not include Top Cover or Top Flange Splice Plates - if any.



* STRUCTURAL STEEL

A-36	201,700*
Lead Pl's	280*
Total Structural Steel	201,980*

* Note: All Steel A-36

TABLE OF MOMENTS & REACTIONS

	M @ A Sp. A	M @ Pier 1	M @ Sp. B	M @ Pier 2	R @ N. Abut.	R @ Pier 1	R @ Pier 2
	Ft Kips	Ft Kips	Ft Kips	Ft Kips	Kips	Kips	Kips
D. L.	72.0	223.6	146.0	326.8	10.6	44.6	53.2
L. L.	211.2	212.6	281.8	269.1	35.0	43.0	39.2
Imp.	63.4	-57.5	73.3	-70.1	10.5	12.0	10.2
Total	346.6	495.7	501.1	666.2	56.1	99.6	102.6

TABLE OF 1/2" DIMENSIONS (SHIM THICKNESS)

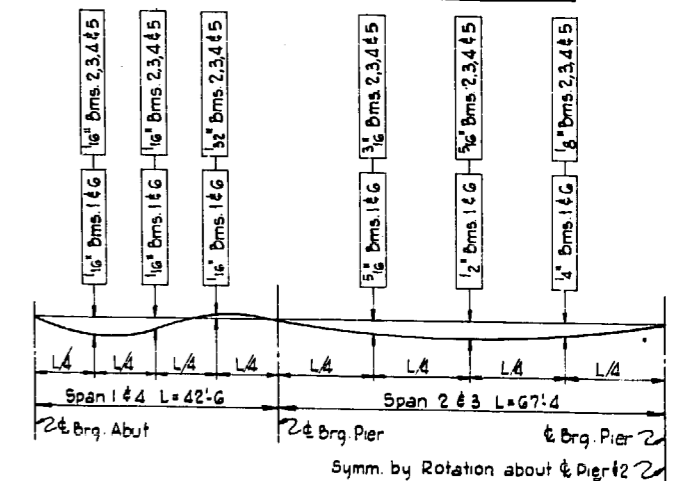
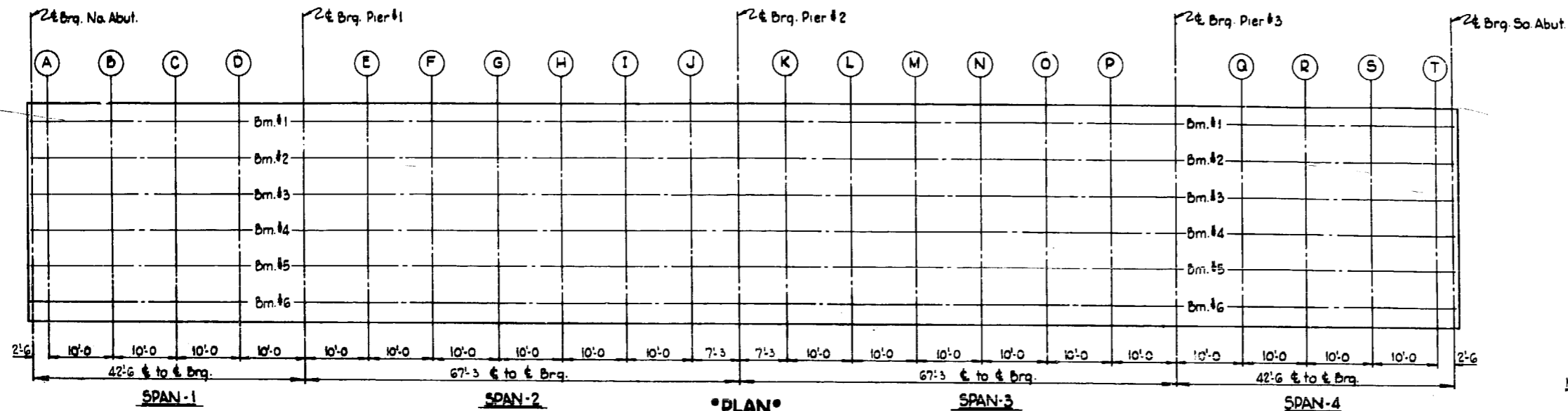
Location	Beam #1	#2	#3	#4	#5	#6
North Abut.	0	0	3/8"	5/8"	0	0
E Pier #1	0	0	5/8"	5/8"	0	0
E Pier #2	0	0	5/8"	5/8"	0	0
E Pier #3	0	0	5/8"	5/8"	0	0
South Abut.	0	0	3/8"	3/8"	0	0

STRUCTURAL STEEL (DETAILS)
CH 2A (WOLF Rd) over
FAI R.C. 80 - Sec. 99-5HB-4
WILL COUNTY
Sta: 1020 + 07.73

revised note under Diaphragm D, 1/2" x 1/2" H.S. bolts 3/16" AS

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
99-5HB	A	WILL	51	16
F.A.I. BO				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



Note: The above deflections are not for use in the field if the Engineer is working from the Theoretical Grade Elevations Adjusted for Dead Load Deflection.

SPAN-1

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adjusted for Dead Load Deflection
C Brg. North Abut.	1 & 6	4890.250	13.958	741.306
	2 & 5	4890.250	8.375	741.406
	3 & 4	4890.250	2.792	741.460
A	1 & 6	4892.750	13.958	741.324
	2 & 5	4892.750	8.375	741.423
	3 & 4	4892.750	2.792	741.478
B	1 & 6	4902.750	13.958	741.366
	2 & 5	4902.750	8.375	741.481
	3 & 4	4902.750	2.792	741.545
C	1 & 6	4912.750	13.958	741.446
	2 & 5	4912.750	8.375	741.585
	3 & 4	4912.750	2.792	741.599
D	1 & 6	4922.750	13.958	741.497
	2 & 5	4922.750	8.375	741.597
	3 & 4	4922.750	2.792	741.651
E Brg. Pier #1	1 & 6	4932.750	13.958	741.543
	2 & 5	4932.750	8.375	741.643
	3 & 4	4932.750	2.792	741.696

SPAN-2

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adjusted for Dead Load Deflection
E	1 & 6	4942.750	13.958	741.582
	2 & 5	4942.750	8.375	741.682
	3 & 4	4942.750	2.792	741.736
F	1 & 6	4952.750	13.958	741.615
	2 & 5	4952.750	8.375	741.715
	3 & 4	4952.750	2.792	741.768
G	1 & 6	4962.750	13.958	741.642
	2 & 5	4962.750	8.375	741.741
	3 & 4	4962.750	2.792	741.795
H	1 & 6	4972.750	13.958	741.662
	2 & 5	4972.750	8.375	741.762
	3 & 4	4972.750	2.792	741.816
I	1 & 6	4982.750	13.958	741.676
	2 & 5	4982.750	8.375	741.776
	3 & 4	4982.750	2.792	741.830
J	1 & 6	4992.750	13.958	741.684
	2 & 5	4992.750	8.375	741.784
	3 & 4	4992.750	2.792	741.838
E Brg. Pier #2	1 & 6	5000.000	13.958	741.686
	2 & 5	5000.000	8.375	741.786
	3 & 4	5000.000	2.792	741.840

SPAN-3

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adjusted for Dead Load Deflection
K	1 & 6	5007.250	13.958	741.685
	2 & 5	5007.250	8.375	741.784
	3 & 4	5007.250	2.792	741.838
L	1 & 6	5017.250	13.958	741.677
	2 & 5	5017.250	8.375	741.777
	3 & 4	5017.250	2.792	741.831
M	1 & 6	5027.250	13.958	741.664
	2 & 5	5027.250	8.375	741.763
	3 & 4	5027.250	2.792	741.817
N	1 & 6	5037.250	13.958	741.644
	2 & 5	5037.250	8.375	741.743
	3 & 4	5037.250	2.792	741.797
O	1 & 6	5047.250	13.958	741.617
	2 & 5	5047.250	8.375	741.717
	3 & 4	5047.250	2.792	741.771
P	1 & 6	5057.250	13.958	741.585
	2 & 5	5057.250	8.375	741.685
	3 & 4	5057.250	2.792	741.738
E Brg. Pier #3	1 & 6	5067.250	13.958	741.546
	2 & 5	5067.250	8.375	741.646
	3 & 4	5067.250	2.792	741.700

SPAN-4

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elev. Adjusted for Dead Load Deflection
Q	1 & 6	5077.250	13.958	741.501
	2 & 5	5077.250	8.375	741.601
	3 & 4	5077.250	2.792	741.655
R	1 & 6	5087.250	13.958	741.450
	2 & 5	5087.250	8.375	741.550
	3 & 4	5087.250	2.792	741.604
S	1 & 6	5097.250	13.958	741.393
	2 & 5	5097.250	8.375	741.492
	3 & 4	5097.250	2.792	741.546
T	1 & 6	5107.250	13.958	741.329
	2 & 5	5107.250	8.375	741.429
	3 & 4	5107.250	2.792	741.482
C Brg. South Abut.	1 & 6	5109.750	13.958	741.312
	2 & 5	5109.750	8.375	741.412
	3 & 4	5109.750	2.792	741.465

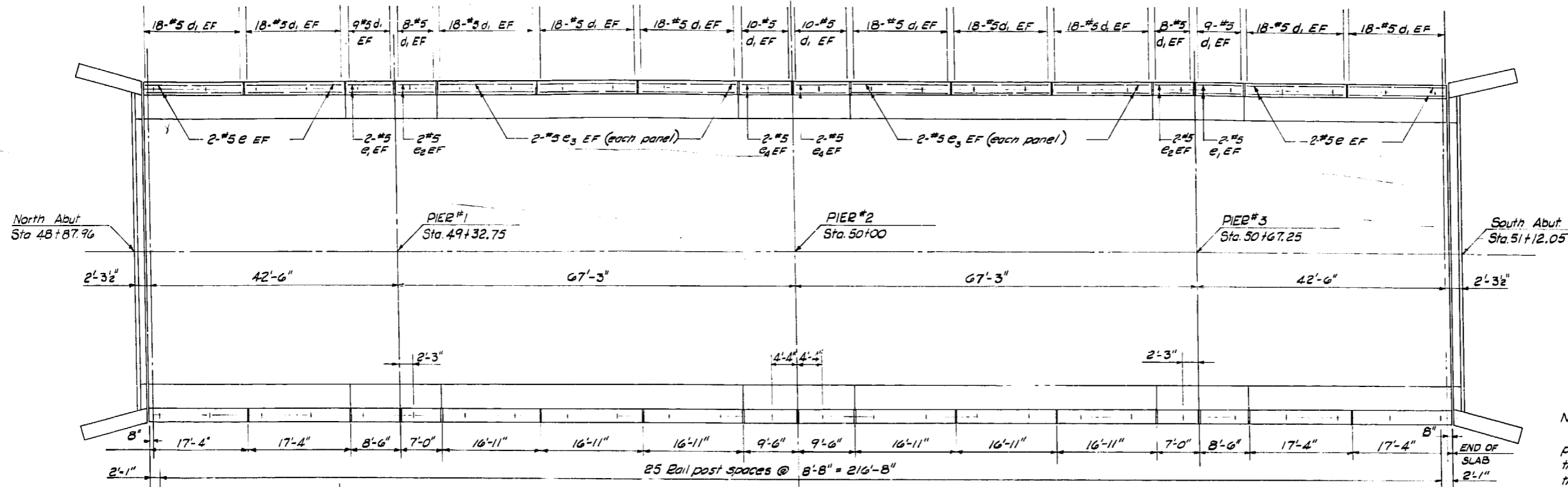
*** SCREED DATA ***
C.H. 2A (WOLF ROAD) OVER
F.A.I. RT.-80-SEC.-99-5HB4
PROJECT I-80-4 (64)143
WILL COUNTY, STA. 102+07.75

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

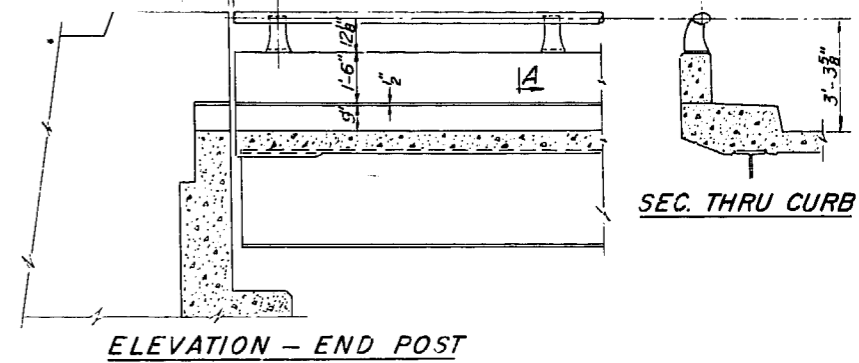
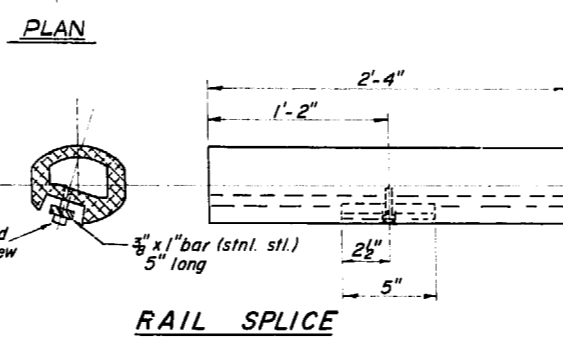
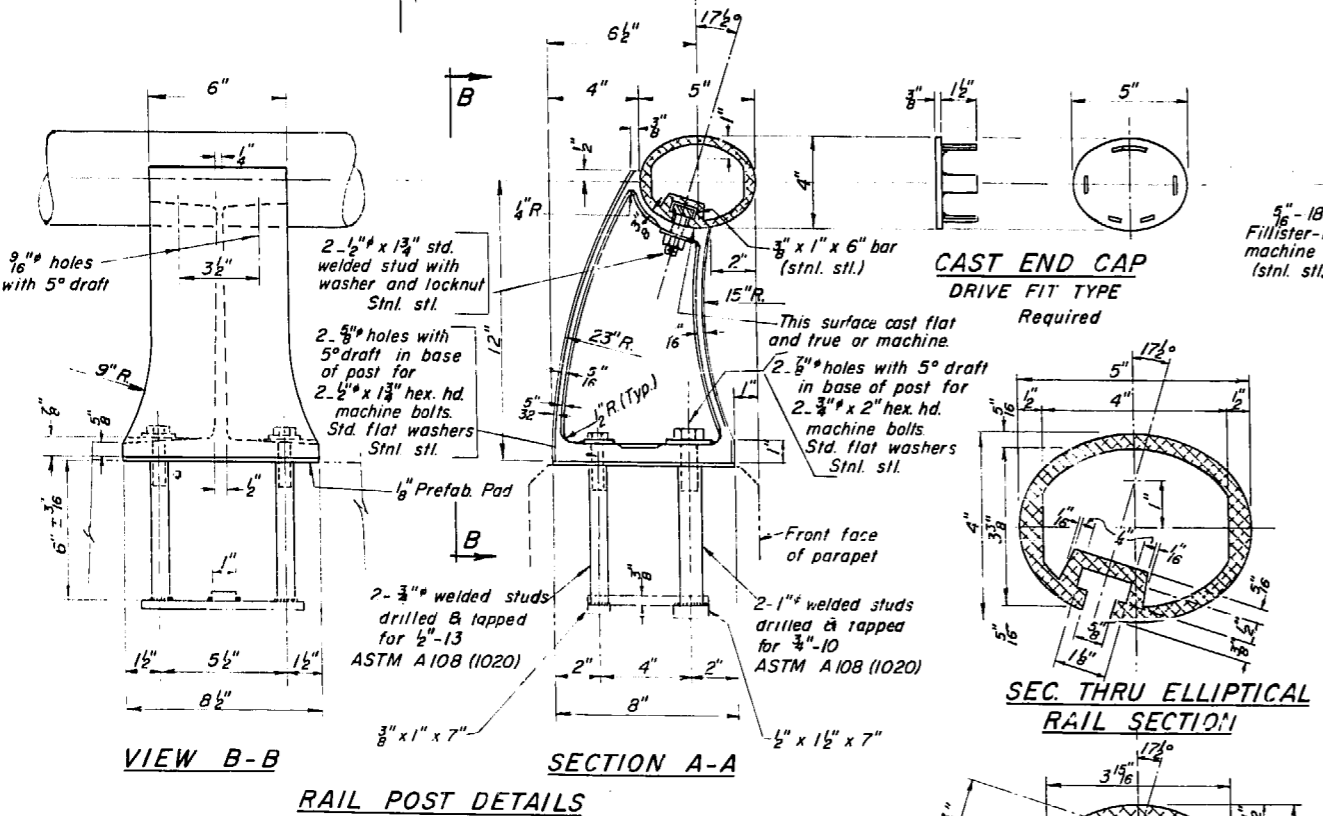
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
99-5B	5HB-4	WILL	51	17	17
FED. ROAD DIST. NO. 7					

BILL OF REINFORCEMENT

BAR	N ^o	SIZE	LENGTH	SHAPE
d ₁	672	#5	3'-3"	—
e	32	#5	17'-0"	—
e ₁	16	#5	8'-2"	—
e ₂	16	#5	6'-8"	—
e ₃	48	#5	16'-7"	—
e ₄	16	#5	9'-2"	—



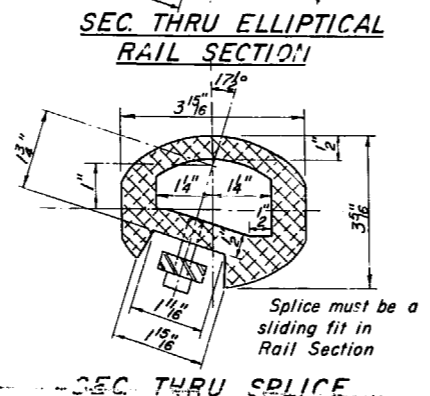
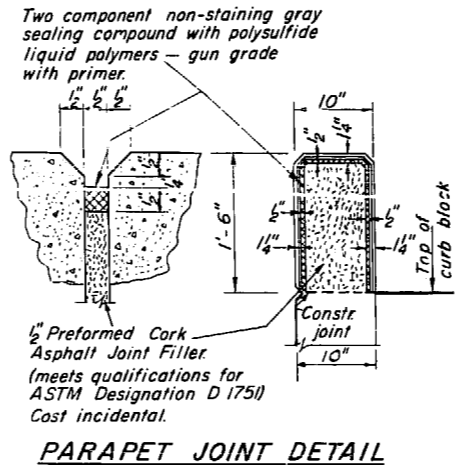
NOTE:
Place 2-#5 d₁ bars at each handrail post on the inside (road side) face of the parapet. 104-d₁ bars included in the BILL OF REINFORCEMENT this sheet.



NOTES:
All Posts shall be normal to parapet.
All Aluminum Alloy Extruded Rail shall conform to ASTM specification B-235 alloy 6061-T6, or 6062-T6, and shall extend a minimum of 2 panel lengths (attached to minimum of 3 posts) except at ends or at open joints where a minimum of 1 panel length is required. All joints in railing must be spliced per detail.
See Special Provisions for following Material Specifications:
Cast Aluminum Alloy Bridge Post— Alloy 341-T4.
Stainless Steel Welded Stud Bolts, Washers, and Locknuts
For material composition of Prefabricated Pad, see Article 54.9(f), (Bearing and Anchorage), of the Standard Specifications.
METHOD OF MEASUREMENT: Aluminum handrail shall be measured in lineal feet. The length paid for shall be the over all length along the top longitudinal railing member thru all posts and gaps.
BASIS OF PAYMENT: Aluminum handrail shall be paid for at the contract unit price per lineal foot for ALUMINUM HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation, and erection.
Cost of rail splice, end caps, and hardware to be incidental to item ALUMINUM HANDRAIL.

BILL OF MATERIAL

Item	Unit	Quantity
ALUMINUM HANDRAIL	Lin. Ft.	4.41
CLASS X CONCRETE	cu. yds.	2.3-4
REINFORCEMENT BARS	LB.	3,720



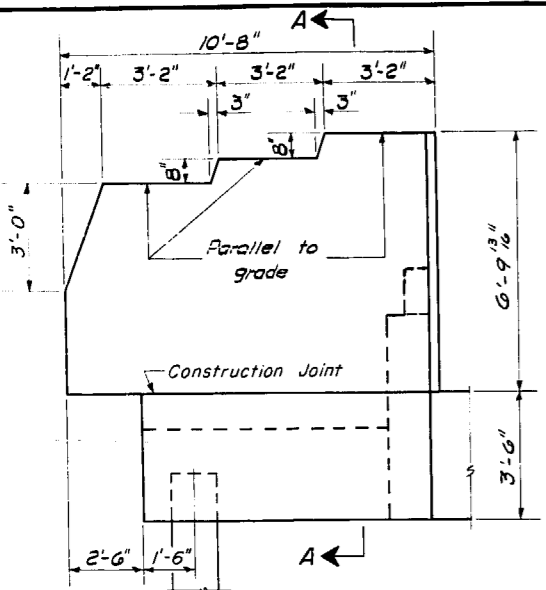
DESIGNED	19
CHECKED	EXAMINED
DRAWN Wm. M. Best	PASSED
CHECKED	APPROVED

ALUMINUM HANDRAIL
PROJECT I-80-4 (64)143
G.H. Rt. 2A (WOLF ROAD) OVER I-80
SECTION 99-5HB-4
WILL COUNTY
STATION 1020+07.73

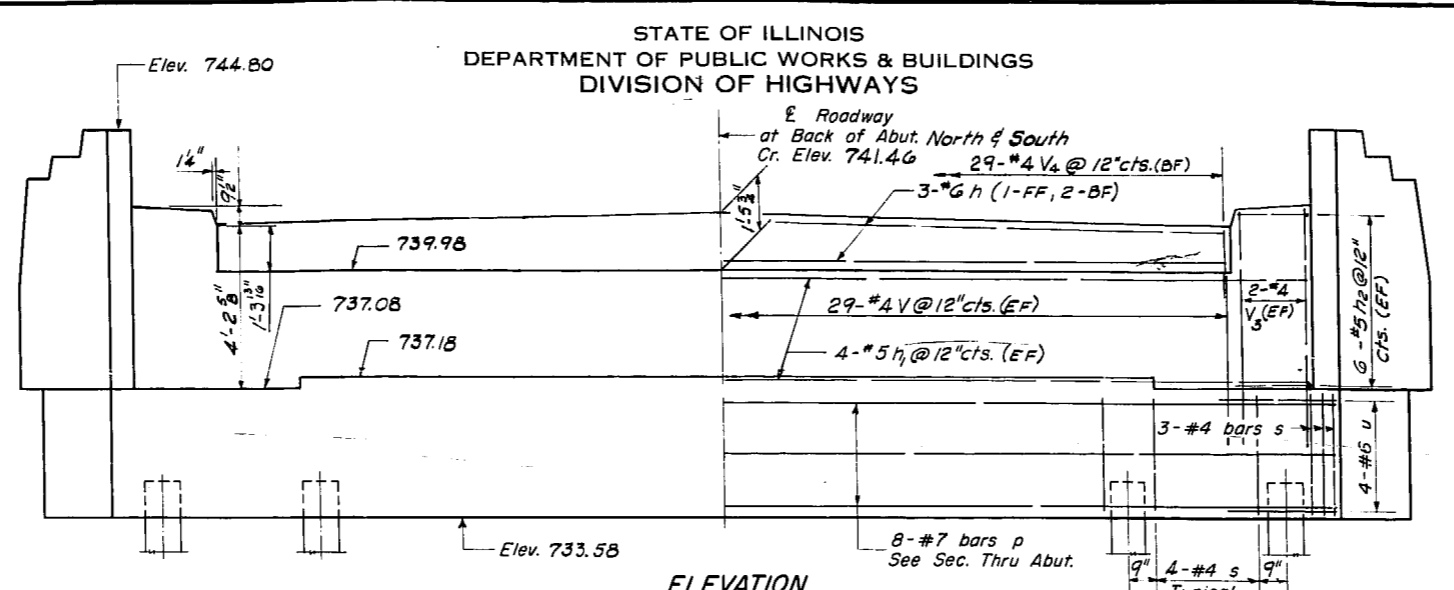
H-17 Dv. 13-28-64

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

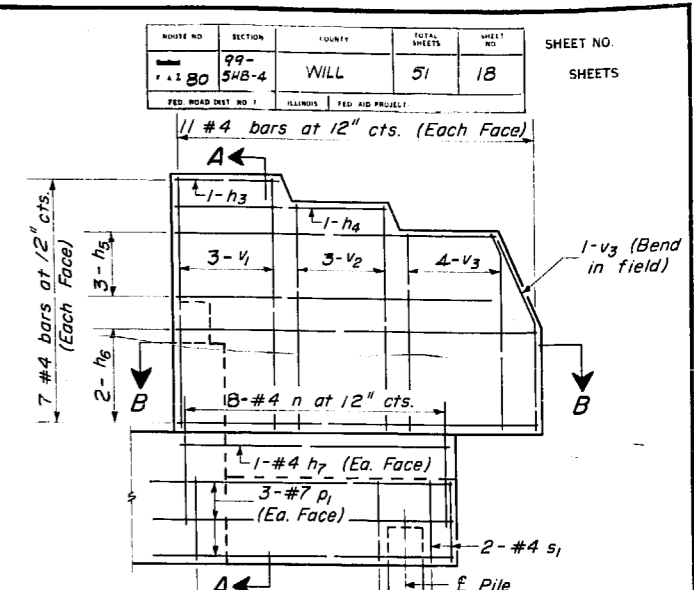
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
99-54B-4	WILL	51	18		



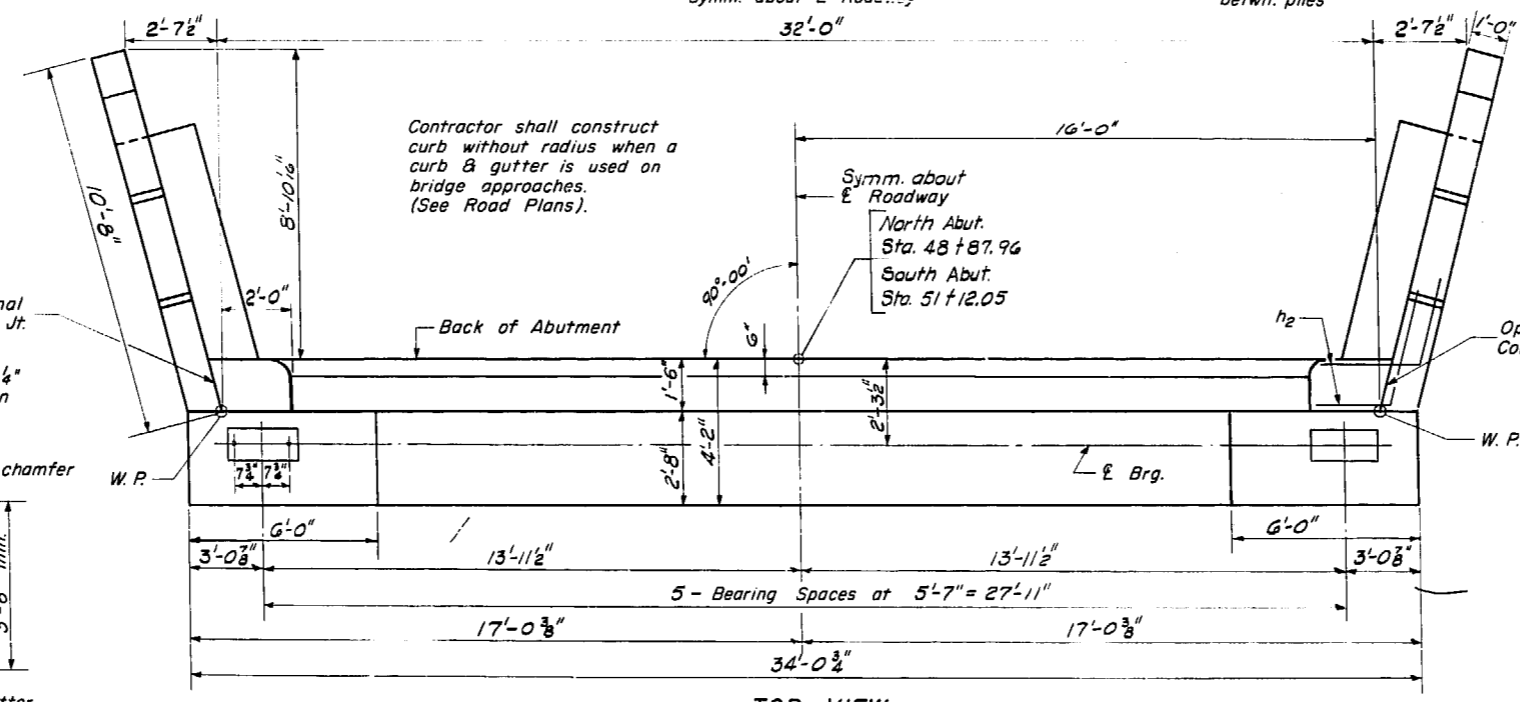
WING WALL ELEVATION
Dimensions



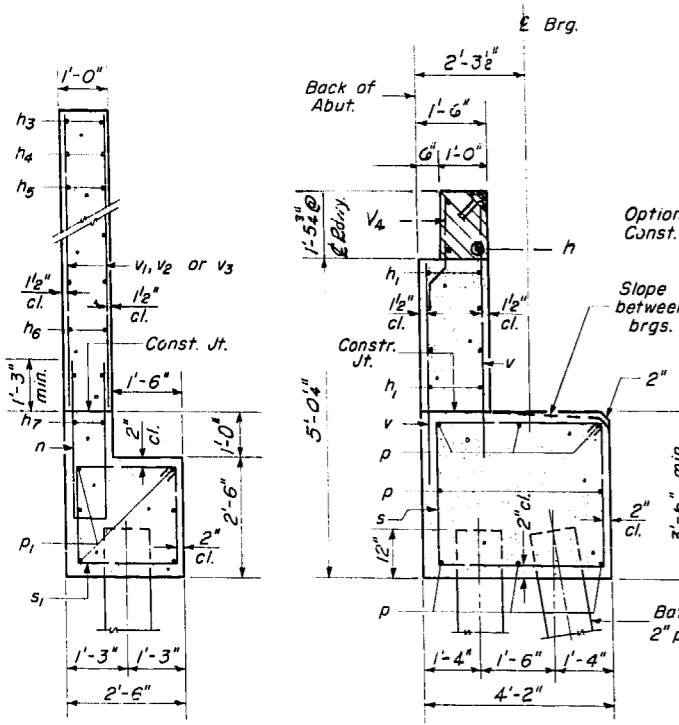
ELEVATION
Symm. about E Roadway



WING WALL ELEVATION
Reinforcement

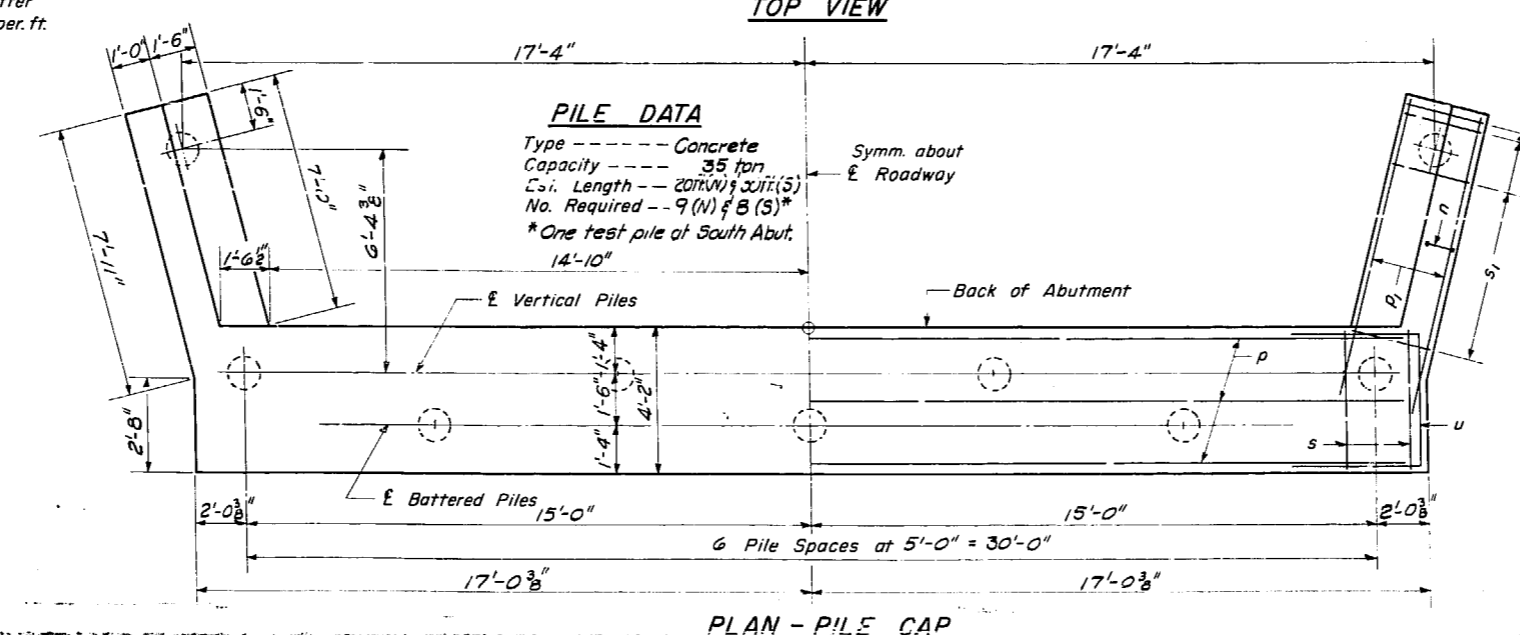


TOP VIEW



SEC. A-A

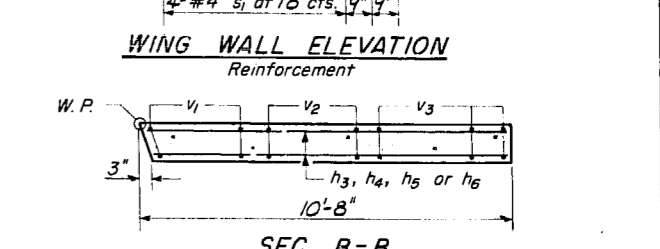
SEC. THRU ABUT.



PLAN - PILE CAP

PILE DATA

Type --- Concrete
Capacity --- 35 ton
Csi. Length --- 20ft (N) & 30ft (S)
No. Required --- 9 (N) & 8 (S)*
* One test pile at South Abut.
14'-10"



SEC. B-B

TWO (2) ABUTMENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	12	#6	15'-0"	
h1	32	#5	17'-0"	
h2	48	#5	5'-0"	
h3	8	#4	2'-8"	
h4	8	#4	5'-10"	
h5	24	#4	9'-0"	
h6	16	#4	10'-2"	
h7	8	#4	8'-0"	
n	32	#4	7'-9"	
p	16	#7	33'-8"	
p1	24	#7	9'-0"	
s	60	#4	14'-9"	
s1	24	#4	9'-5"	
u	16	#6	11'-3"	
v	116	#4	5'-0"	
v1	24	#4	7'-6"	
v2	24	#4	6'-10"	
v3	56	#4	6'-3"	
v4	58	#4	3'-9"	

Class X Concrete
Reinforcement Bars
Concrete Piles
Test Piles

Cu. Yds. 64.8
Lbs. 5,150
Lin. Ft. 420
Ea. 1

NORTH AND SOUTH ABUTMENTS

PROJECT I-80-4 (64)143
CH. RT. 2A (WOLF ROAD) OVER FA. ROUTE 80
SECTION 99-54B-4
WILL COUNTY
STATION 1020+03.33

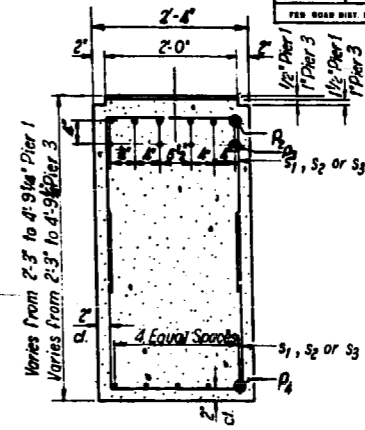
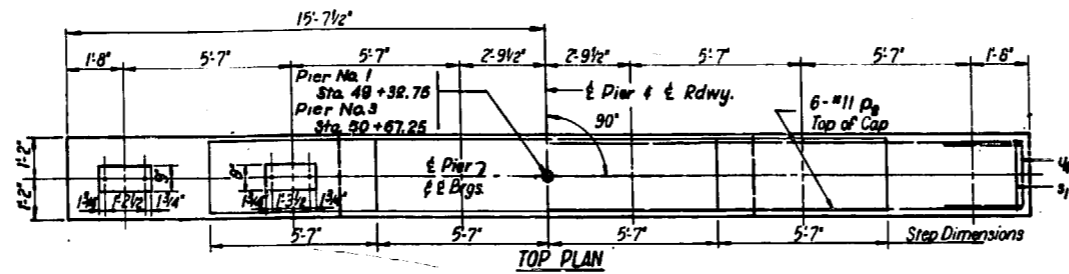
DESIGNED	19
CHECKED	
DRAWN	W. A. Sausaman Jr.
CHECKED	

EXAMINED	
PASSED	
APPROVED	

NEW SHEET Quantities changes - Class X Conc. 747 to 64.8 cu. yds., Reinf. Bars 4,580 to 5,150 lb., Conc. Piles 510 to 420 lin. ft., & Test Pile same (1) 10-13-64 L.D.W.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

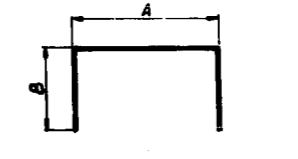
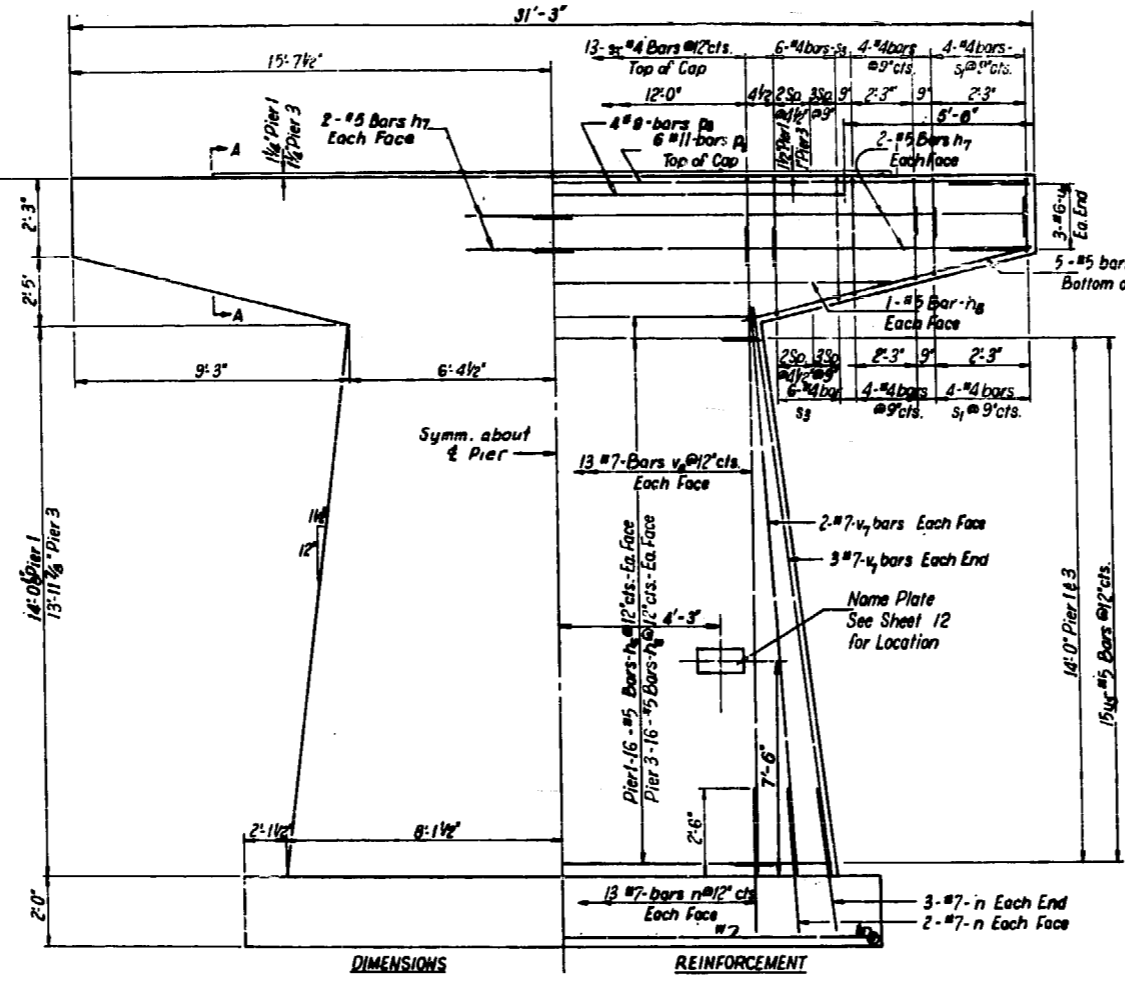
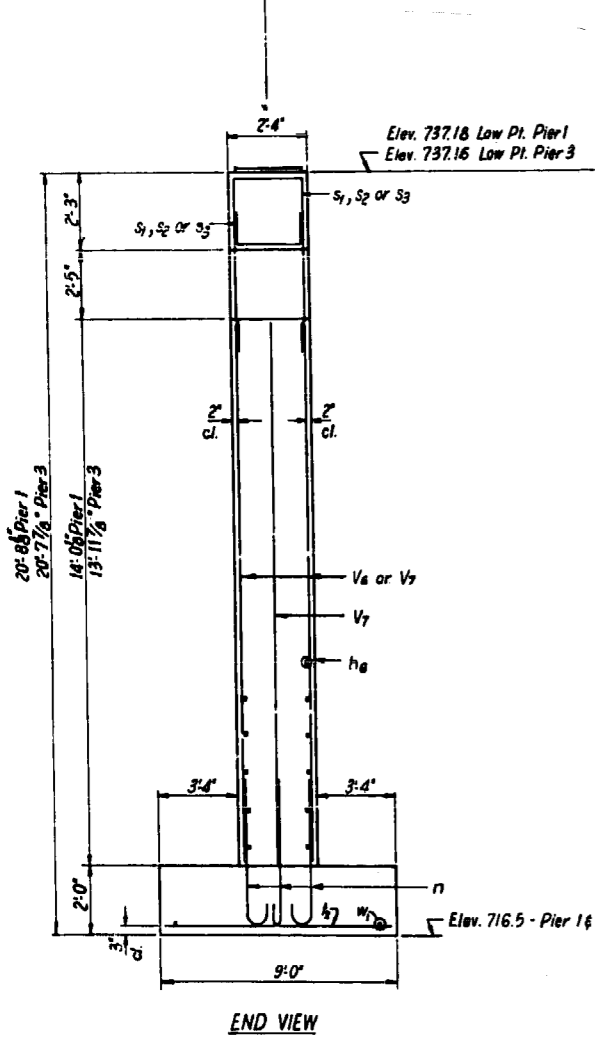
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	99-5NB-4	WILL	51	19
FEB ROAD DIST. NO. 7		ILLINOIS	FEB HIGH PROJECT	



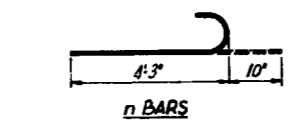
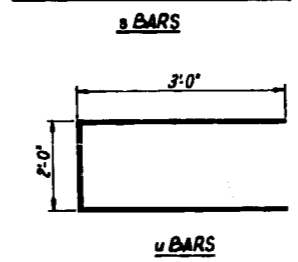
Note: All edges shall have standard 3/4" chamfers except footings.

Pier 1 - Sta 49+32.75
Cr. El. 741.70
Pier 3 - Sta 50+67.25
Cr. El. 741.71

Elev. 737.16 Low Pt. Pier 1
Elev. 737.16 Low Pt. Pier 3

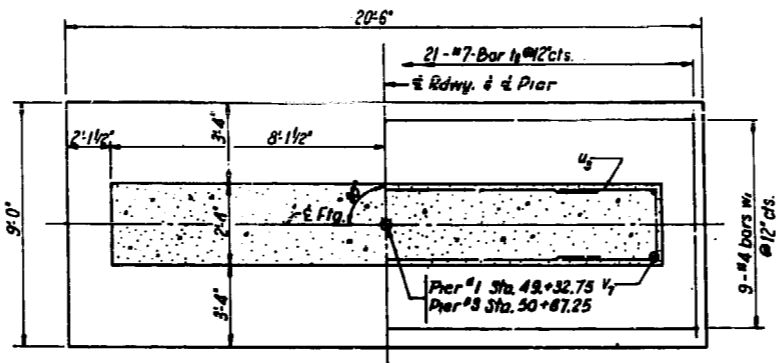


Bar	A	B
s1	2'-0"	1'-10"
s2	2'-0"	2'-1"
s3	2'-0"	2'-7"



PIER 1 & 3
BILL OF MATERIALS - 2 PIERS

Bar	No.	Size	Length	Shape
h8	64	5	12'-5"	—
h7	16	5	16'-3"	—
h6	4	5	15'-3"	—
n	80	7	5-1	—
p2	12	11	30'-10"	—
p3	8	9	20'-3"	—
p4	20	5	10'-9"	—
s1	32	4	5-8	—
s2	74	4	6-2	—
s3	42	7	8-6	—
u8	60	5	8-0	—
u4	12	6	8-0	—
v6	52	7	16-9	—
v7	28	7	14-6	—
w1	18	4	20-6	—
Class 'X' Concrete			84.2	Cu.Yd.
Reinforcement Bars			9570	Lb.

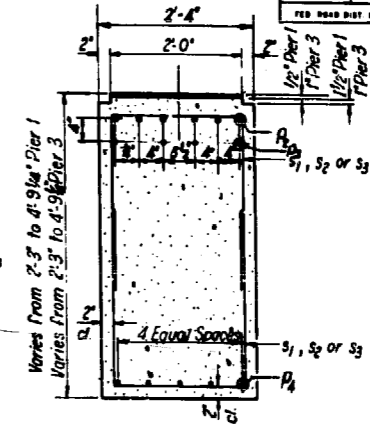
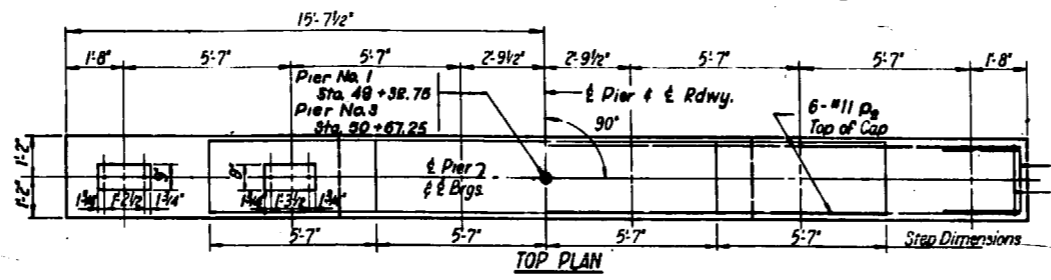


AS AWARDED

PIER 1 & 3
C.H. RT. 2A (WOLF RD) OVER
EAT. RT. 80 - SEC. 99-5NB-4
WILL COUNTY
STA. 1020+07.73

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

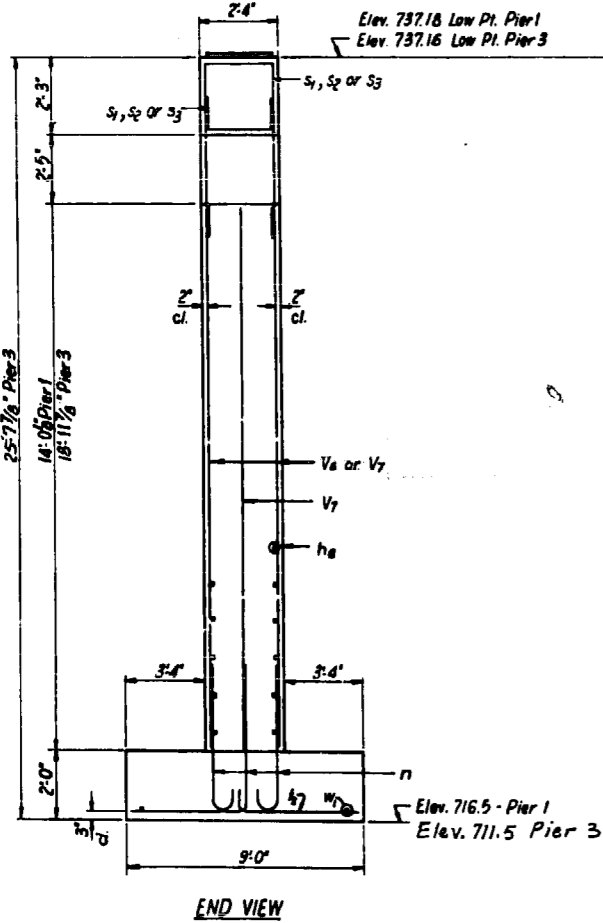
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
99	5ND-4	WILL	51	19
FED. ROAD DIST. NO. 7 ILLINOIS FOR AIR PROJECT				



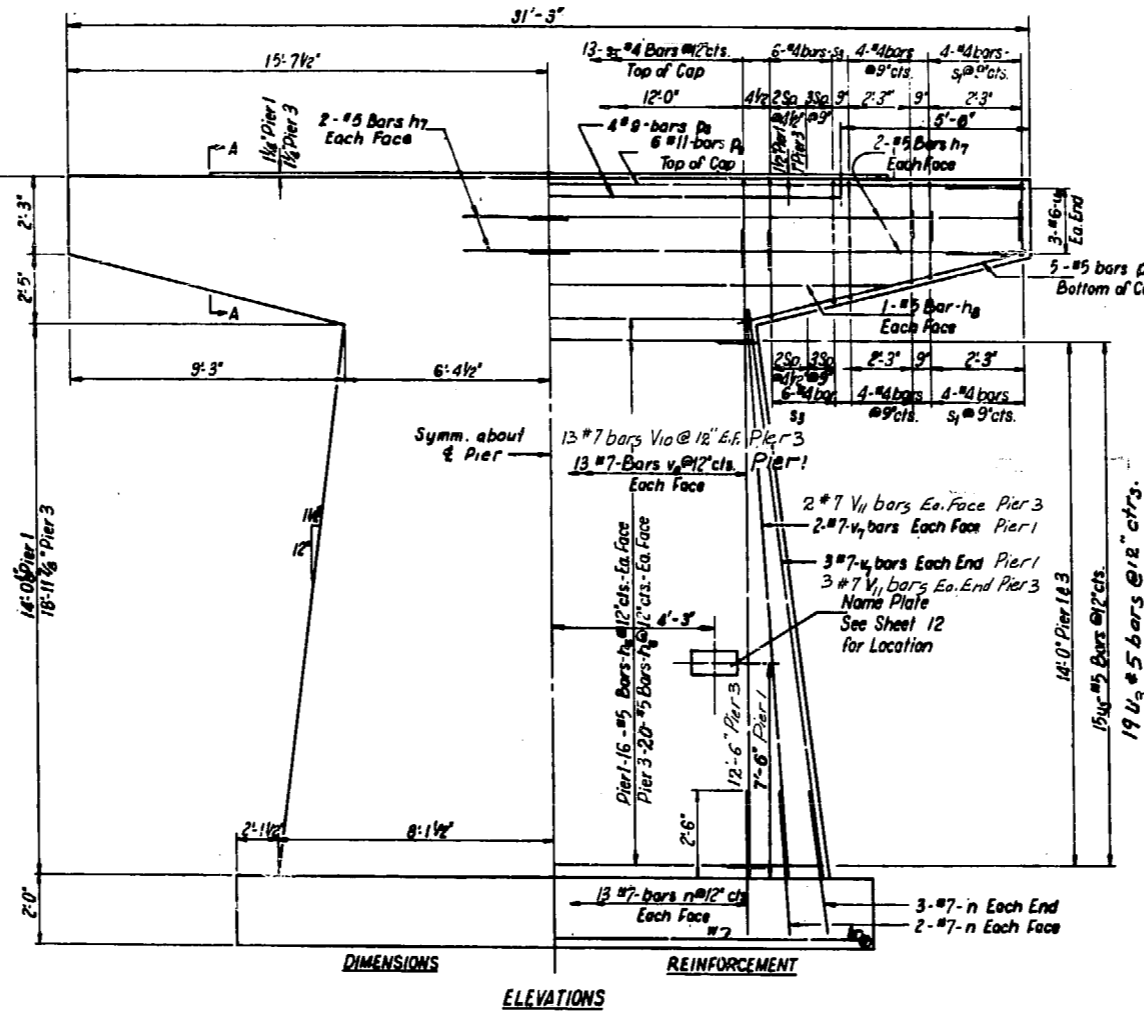
Note: All edges shall have standard 3/4" chamfers except footings.

SECTION A-A

Pier 1 - Sta 49+32.75
Cr. El. 741.70
Pier 3 - Sta 50+67.25
Cr. El. 741.71



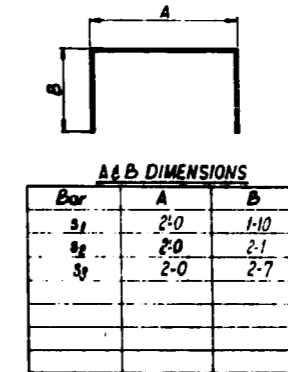
END VIEW



DIMENSIONS

ELEVATIONS

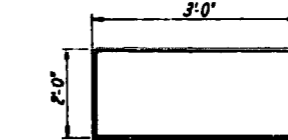
REINFORCEMENT



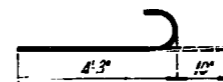
A & B DIMENSIONS

Bar	A	B
s1	2'-0"	1'-10"
s2	2'-0"	2'-1"
s3	2'-0"	2'-7"

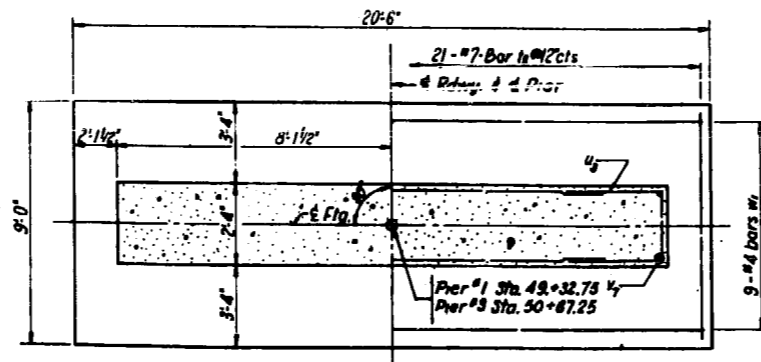
s BARS



u BARS



n BARS



FOOTING PLAN

AS BUILT

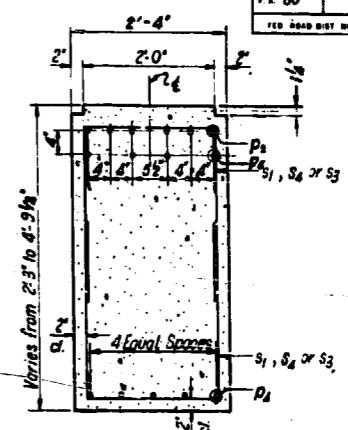
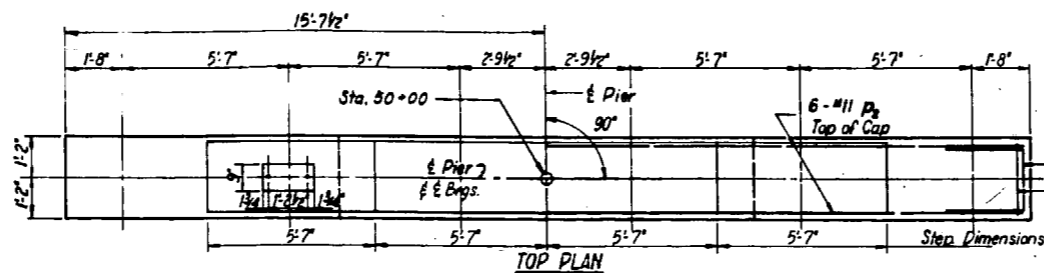
PIER 1 & 3
BILL OF MATERIALS - 2 PIERS

Bar	No.	Size	Length	Shape
h8	72	5	12'-5"	—
h7	16	5	16'-3"	—
h6	4	5	15'-9"	—
n	80	7	5-1	—
pa	12	11	30'-10"	—
pb	8	9	20'-3"	—
pc	20	5	10'-9"	—
sd	32	4	5-8	□
se	32	4	6-2	□
sf	74	4	7-2	□
sg	42	7	8-6	—
uh	68	5	8-0	□
ui	12	6	8-0	□
vk	26	7	16'-9"	—
vl	14	7	14'-6"	—
w1	18	4	20'-2"	—
V10	26	7	21'-9"	—
V11	14	7	19'-6"	—
Class X Concrete			90.2	Cu Yd.
Reinforcement Bars			10,140	Lb.

PIER 1 & 3
C.H. RT. 2A (WOLF RD) OVER
EAT. RT. 60 - SEC. 99-5ND-4
WILL COUNTY
STA. 1020+07.73

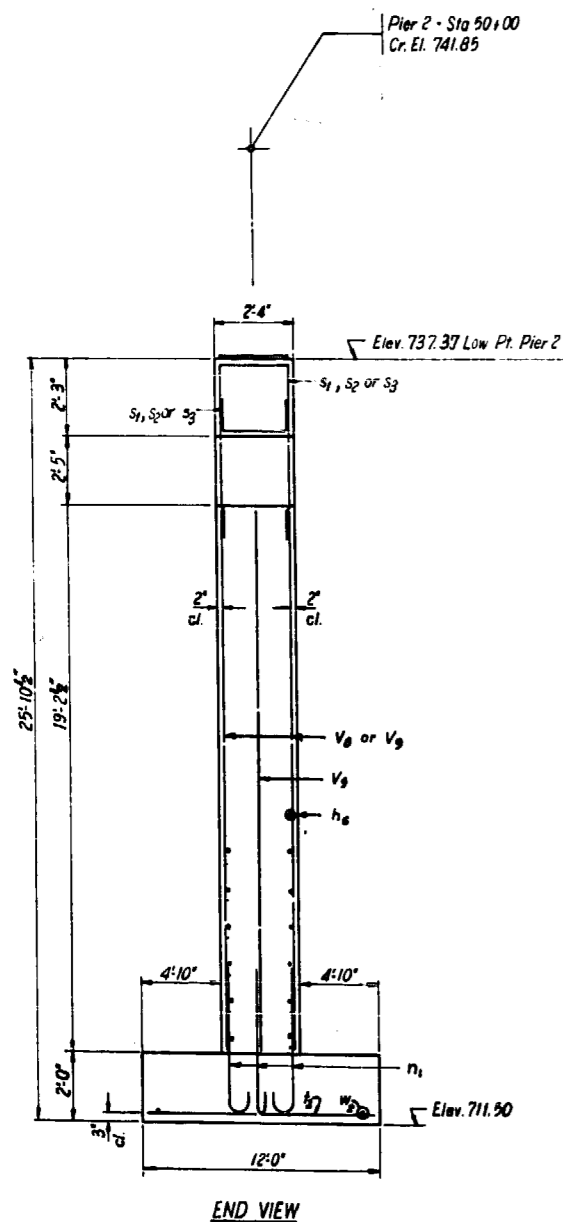
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	99-5HB-4	WILL	51	20
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT

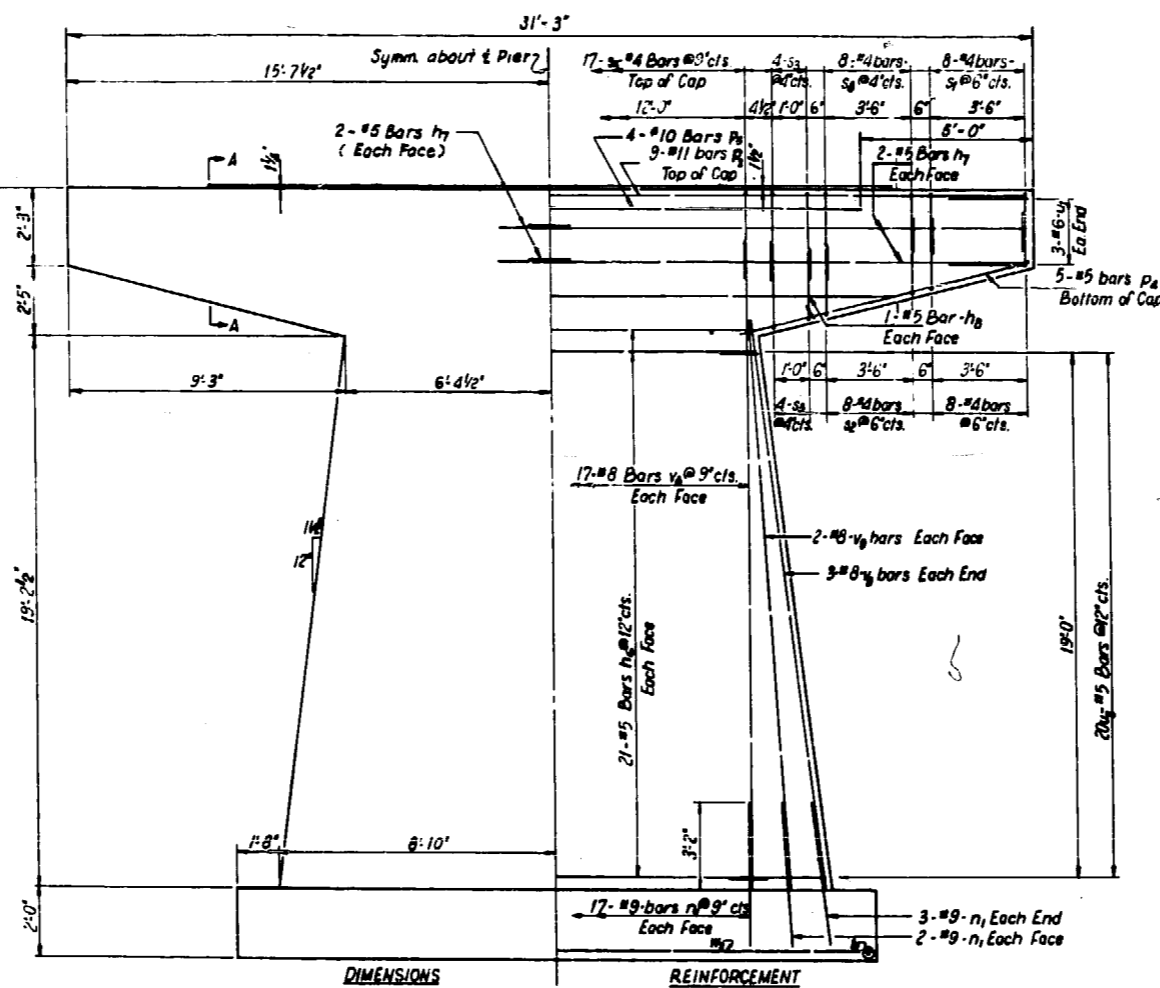


Note: All edges shall have standard 3/4" chamfers except footings.

SECTION A-A

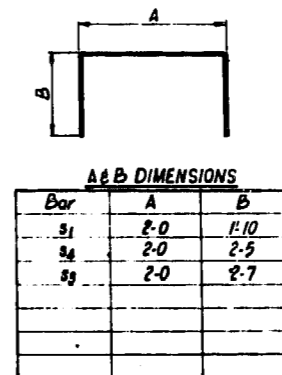


END VIEW

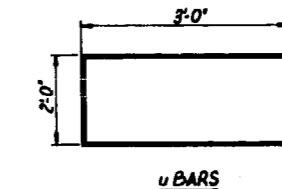


ELEVATIONS

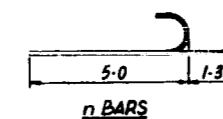
FOOTING PLAN



a BARS



u BARS



n BARS

PIER 2
BILL OF MATERIALS

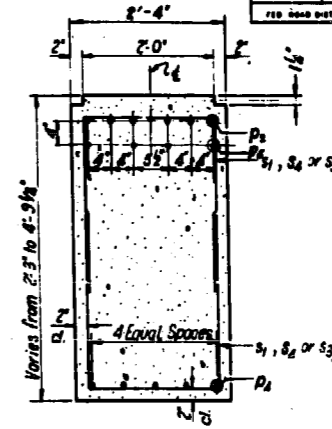
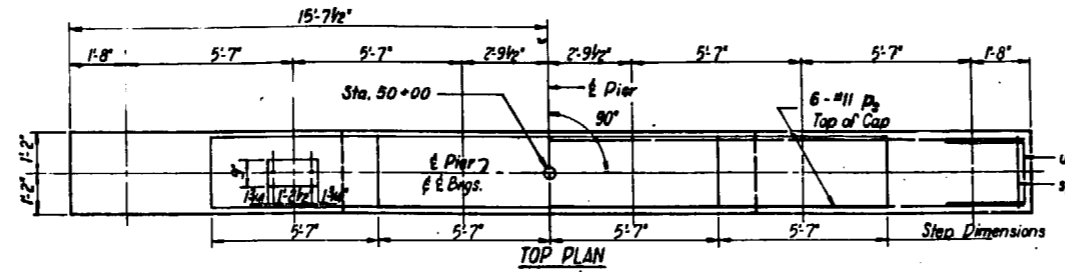
Bar	No.	Size	Length	Shape
h ₆	42	5	12'-5"	—
n ₁	8	5	16'-3"	—
h ₈	2	5	15'-3"	—
n ₁	48	9	6'-3"	—
p ₂	8	11	30'-10"	—
p ₃	4	10	21'-3"	—
p ₄	10	5	10'-9"	—
s ₁	32	4	5'-8"	—
s ₂	32	4	6'-10"	—
s ₃	33	4	7'-2"	—
h ₈	28	9	11'-6"	—
u ₁	40	5	8'-0"	—
u ₂	6	6	8'-0"	—
v ₂	34	8	22'-0"	—
v ₃	14	8	19'-9"	—
w ₂	12	6	20'-6"	—
Class X Concrete			74.8	CU. YD.
Reinforcement Bars			8510	Lb.

AS AWARDED

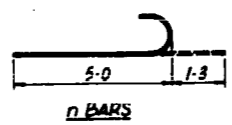
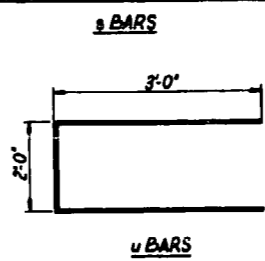
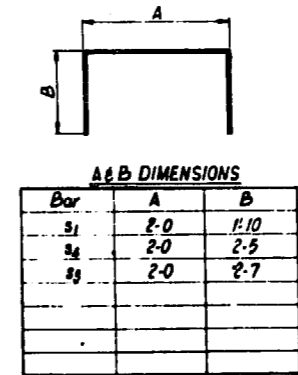
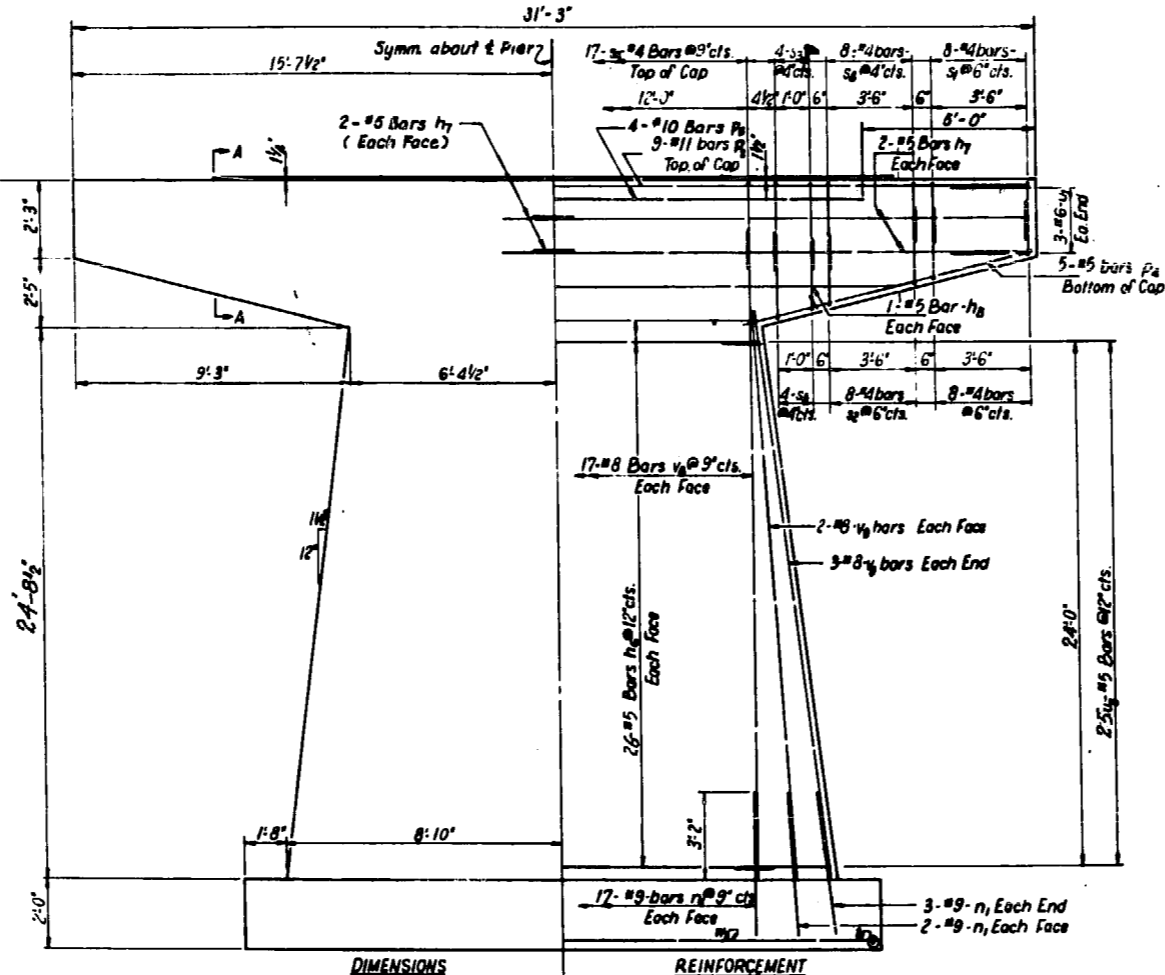
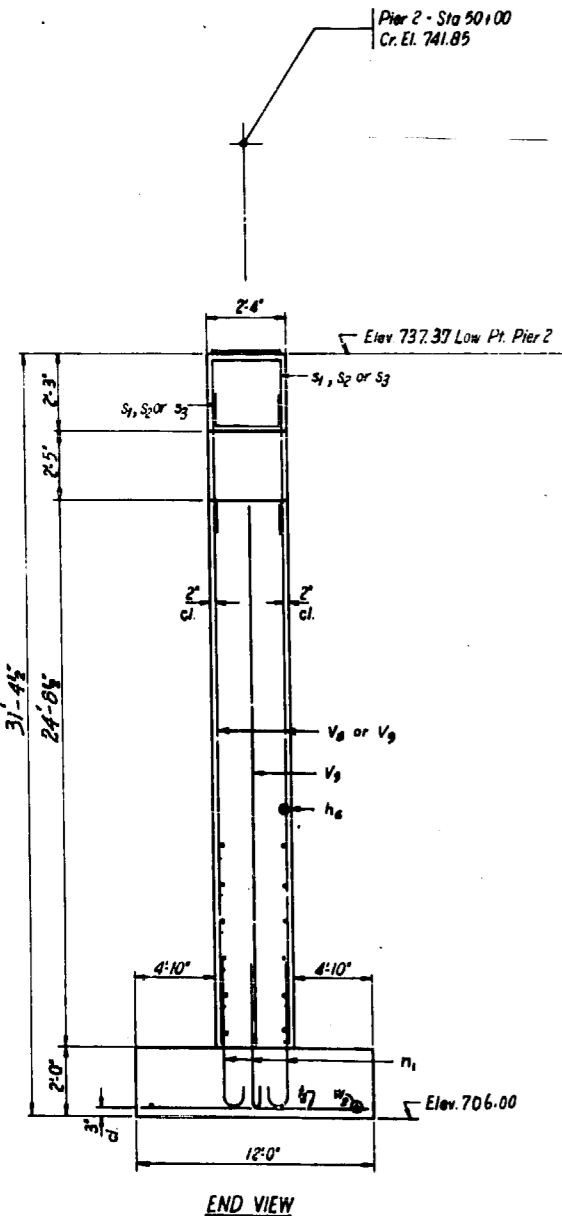
PIER 2
C.H. RT. 2A (WOLF RD.) OVER
F.A.I. RT. 80 - SEC. 99-5HB-4
WILL COUNTY
STA. 1020+07.73

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	99-54B-4	WILL	51	20
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT.				

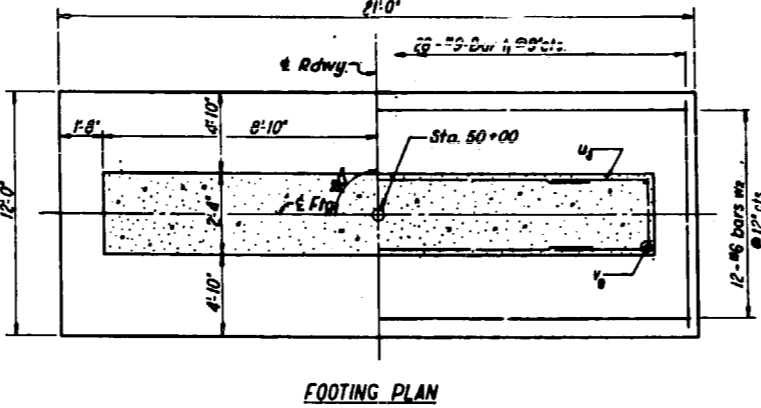


Note: All edges shall have standard 3/4" chamfers except footings.



PIER 2
BILL OF MATERIALS

Bar	No.	Size	Length	Shape
h6	52	5	12'-5	—
h7	6	5	16'-3	—
h9	2	5	15'-3	—
n1	48	9	6'-3	—
Pz	8	11	30'-10	—
Pz	4	10	27'-3	—
Pz	10	5	10'-9	—
s1	32	4	5'-8	—
s9	32	4	6'-10	—
s1	33	4	7'-2	—
s9	28	9	11'-6	—
u1	50	5	8'-0	—
u6	6	6	8'-0	—
v6	34	8	27'-6	—
v9	14	8	25'-3	—
w9	12	6	20'-6	—
Class X Concrete			619	Cu.Yd.
Reinforcement Bars			9,440	Lb.

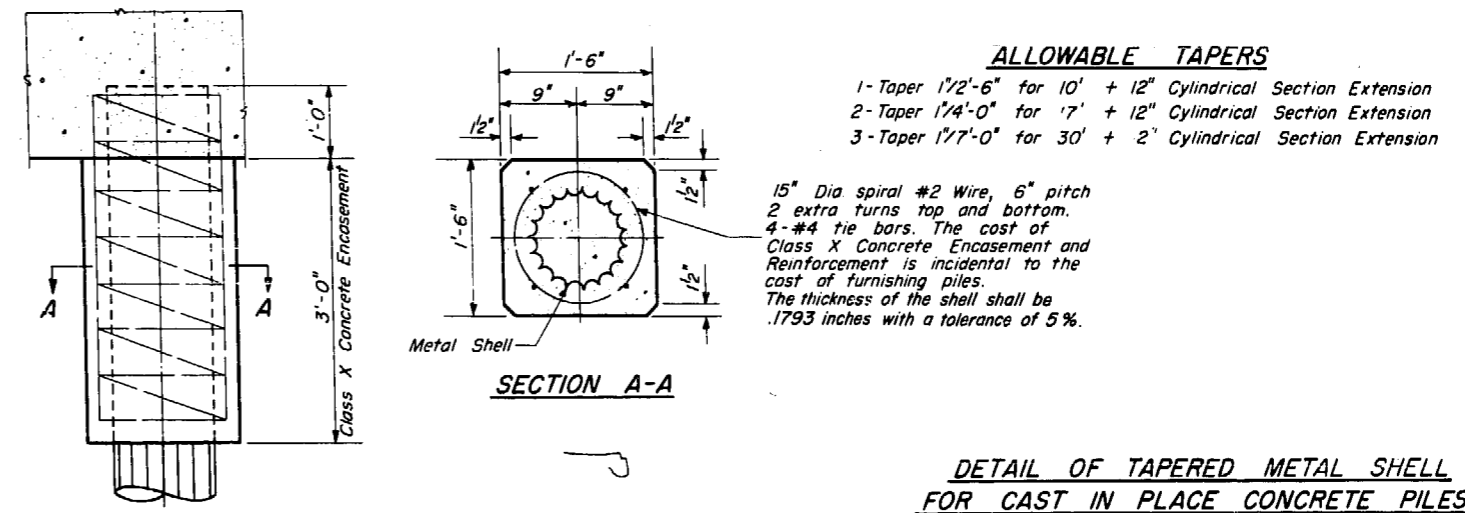
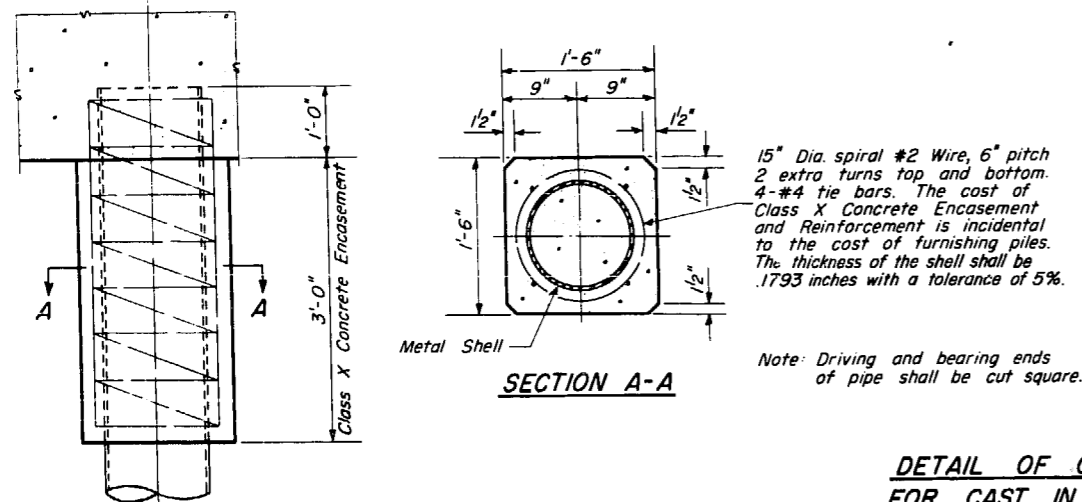
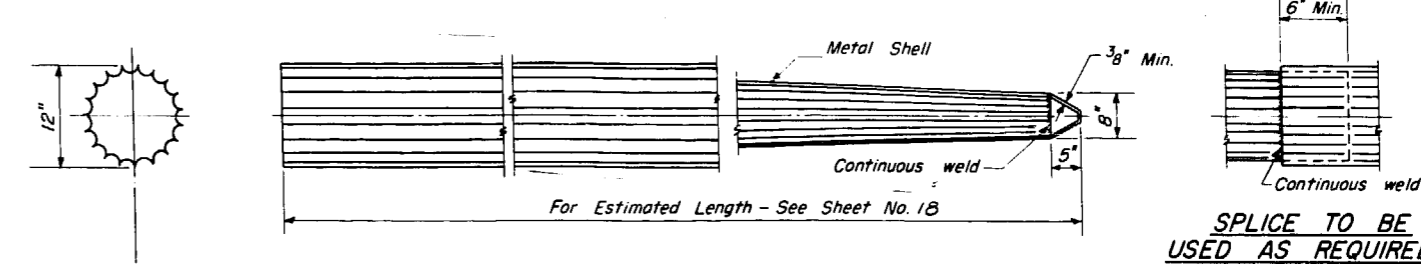
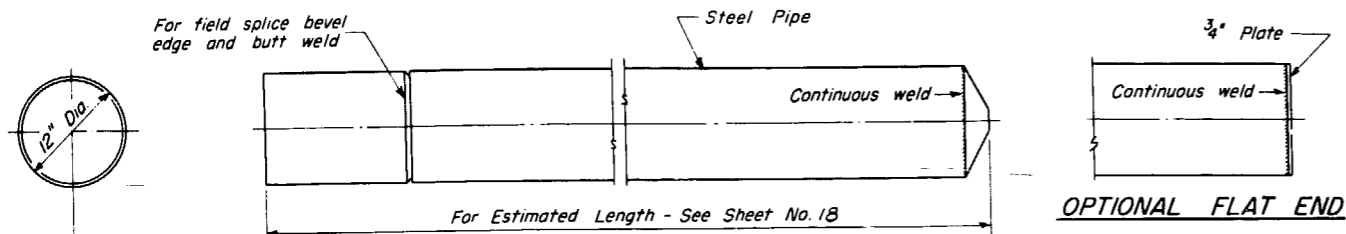


AS BUILT

PIER 2
C.H. RT. 2A (WOLF RD.) OVER
F.A.I. RT. 80 - SEC. 99-54B-4
WILL COUNTY
STA. 1020+07.73

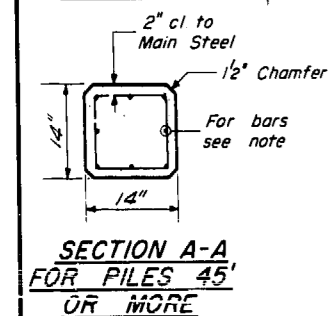
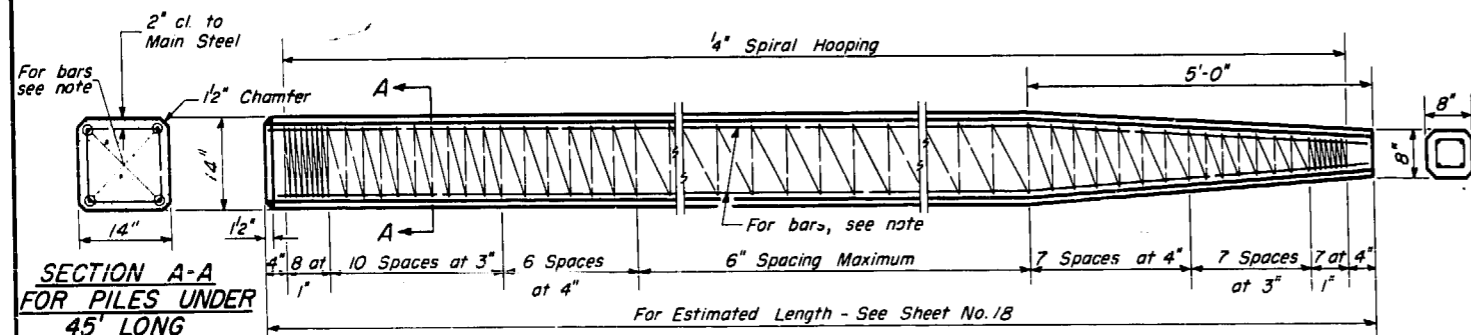
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
99-51	5HB-4	WILL	51	81	
F.A.T. 80		ILLINOIS		FED. AID PROJECT	



DETAIL OF CYLINDRICAL STEEL SHELL
FOR CAST IN PLACE CONCRETE PILES

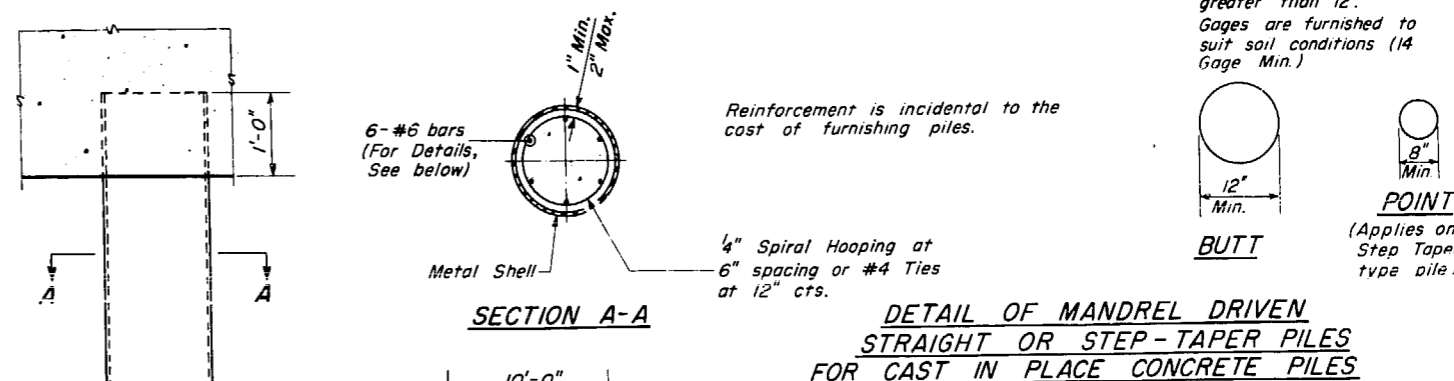
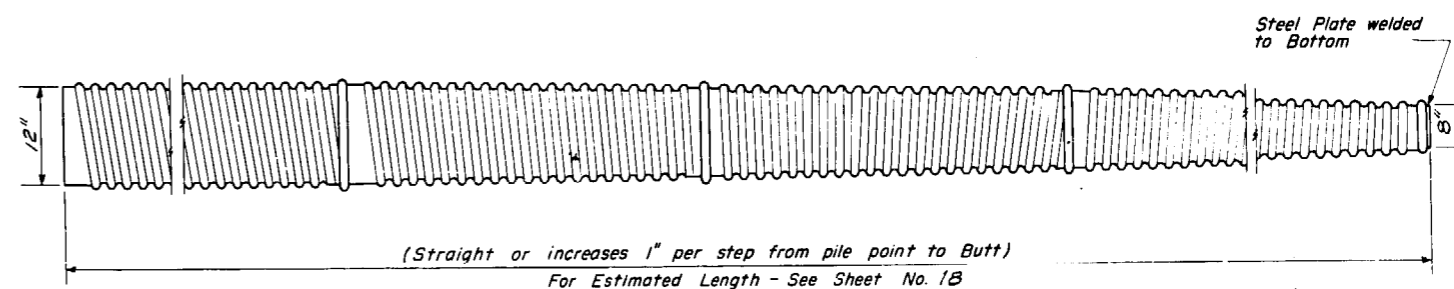
DETAIL OF TAPERED METAL SHELL
FOR CAST IN PLACE CONCRETE PILES



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 the 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.

*L = Over all length of pile to be handled.



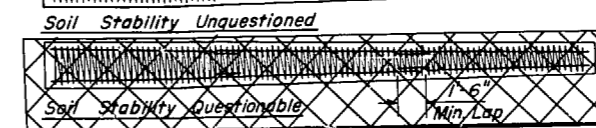
At least 1/4 of the length of pile shall have a Butt diameter equal to or greater than 12".
Gages are furnished to suit soil conditions (14 Gage Min.)

Reinforcement is incidental to the cost of furnishing piles.

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

DESIGNED	19
CHECKED	EXAMINED
P.G. Barmett	ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
DRAWN W.A. Sausaman	PASSED
CHECKED	ENGINEER OF DESIGN
	APPROVED
	CHIEF HIGHWAY ENGINEER

DETAIL OF PRECAST CONCRETE PILES



PROJECT I-80-4 (64)A3
C.H.#2A (WOLF ROAD) OVER FA I Route 80
SECTION 99-5HB-4
WILL COUNTY
STATION 1020+07.73