FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	48-30B	KNOX	32	1
F.A.S. ROAD DIST. NO. 7	ILLINOIS	PROJECT	I-74-3(21)65	

P94-007-63



LOCATION OF SECTION INDICATED THUS:—

INDEX TO PLAN SHEETS ON SHEET 3
SUMMARY OF QUANTITIES ON SHEET 3

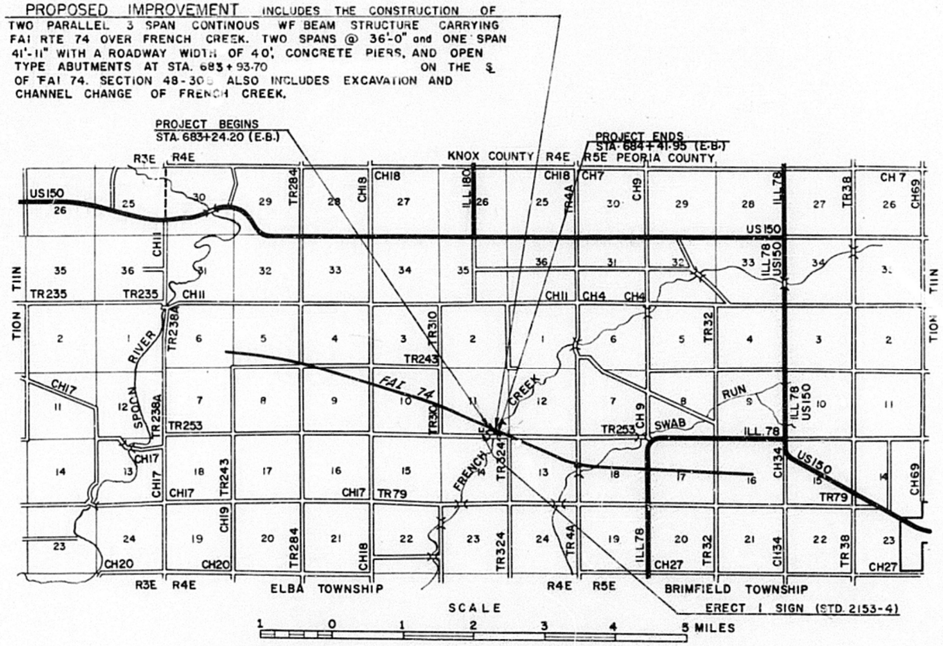
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

SCALES			
	PLAN	1 INCH	100 FT.
	PROFILE, HOR.	1 INCH	100 FT.
	PROFILE, VERT.	1 INCH	10 FT.
	CROSS-SECT., HOR.	1 INCH	10 FT.
	CROSS-SECT, VERT.	1 INCH	5 FT.

F.A.I. ROUTE 74 SECTION 48-30B
PROJECT I-74-3(21) 65
KNOX COUNTY

C-94-023-65

PROPOSED IMPROVEMENT INCLUDES THE CONSTRUCTION OF TWO PARALLEL 3 SPAN CONTINOUS WF BEAM STRUCTURE CARRYING FAI RTE 74 OVER FRENCH CREEK. TWO SPANS @ 36'-0" and ONE SPAN 41'-11" WITH A ROADWAY WIDTH OF 40', CONCRETE PIERS, AND OPEN TYPE ABUTMENTS AT STA. 683+93.70 ON THE ℄ OF FAI 74, SECTION 48-30B. ALSO INCLUDES EXCAVATION AND CHANNEL CHANGE OF FRENCH CREEK.



LENGTH of PROJECT 4117.75 Feet = 0.022 Miles

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

SUBMITTED 11-23-1966
J.E. Holland
DISTRICT ENGINEER

EXAMINED 12-20-1966
A. Alan Ausdall
ENGINEER OF ROAD PLANS AND CONTRACTS

RECD 12-20-1966
W.E. Bauman
ENGINEER OF DESIGN

APPROVED 12-20-1966
CHIEF HIGHWAY ENGINEER

APPROVED 12-20-1966
Francis D. Berry
DIRECTOR

THESE PLANS PREPARED BY
BARSTOW & MULLIGAN
CONSULTING ENGINEERS
LAFAYETTE, INDIANA
Robert D. Mulligan

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

CONTRACT NO. 24960
COUNTY KNOX SECTION 48-30B F.A.I. ROUTE 74

Revised 11-7-66

INDEX

SHEET NO.	BRIDGE SHEET NO.	TITLE
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3		SUMMARY OF QUANTITIES INDEX
4		PLAN & PROFILE
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6	2	TOP OF SLAB ELEVATIONS (NORTH BRIDGE)
7	3	TOP OF SLAB ELEVATIONS (SOUTH BRIDGE)
8	4	SUPERSTRUCTURE
9	5	STRUCTURAL STEEL
10, 10A	6, 6A	ALUMINUM HANDRAIL
11	7	W. ABUT. S. BRIDGE AND E. ABUT. N. BRIDGE
12	8	E. ABUT. S. BRIDGE AND W. ABUT. N. BRIDGE
13	9	PIERS 1 & 2 NORTH BRIDGE
14	10	PIERS 1 & 2 SOUTH BRIDGE
15-16	11-12	BORING DATA
17		DETAILS - BRIDGE CONE SURCHARGING, END POST DETAIL
18-20		CROSS SECTIONS - FRENCH CREEK
21-26		CROSS SECTIONS - ROADWAY
27		STANDARD NUMBER 1686-3 STANDARD SYMBOLS
28		STANDARD NUMBER 2113-1 NAME PLATES
29		STANDARD NUMBER 2153-4 SIGN FOR INTERSTATE SYSTEM PROJECT
30		STANDARD NUMBER 1744-1 RIGHT OF WAY MARKERS
31		STANDARD NUMBER 2169-2 WOVEN WIRE FENCE
32		STANDARD NUMBER 2114 FLAGMEN TRAFFIC CONTROL SIGN

NOTE:

ONE (1) SIGN CONFORMING TO STANDARD 2153-4 SHALL BE ERECTED AT THE LOCATION SHOWN ON SHEET NO. 1

WHENEVER IN THESE PLANS REFERENCE IS MADE TO THE "STANDARD SPECIFICATIONS" IT IS UNDERSTOOD TO INCLUDE THE "SUPPLEMENTAL SPECIFICATIONS" EFFECTIVE JANUARY 3, 1966.

QUANTITIES NOT LISTED ELSEWHERE

TREE REMOVAL, ACRES 0.8 ACRES

RT. LT. 681+45 - 684+20

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	STRUCTURES	ROADWAY
				STATION 683+94.58	
	CONSTRUCTION TYPE CODE			X031	
010005	TREE REMOVAL, ACRES	ACRE	0.8	0.8	
011001	EARTH EXCAVATION	CU YD	25,030	25,030	
012001	CHANNEL EXCAVATION	CU YD	3,473	3,473	
019001	POROUS GRANULAR EMBANKMENT	CU YD	3,399	3,399	
050001	CLASS A EXCAVATION FOR STRUCTURE	CU YD	10	10	
050002	CLASS B EXCAVATION FOR STRUCTURE	CU YD	697	697	
052002	CLASS A CONCRETE	CU YD	415.4	415.4	
052003	CLASS X CONCRETE	CU YD	424.3	424.3	
052021	PROTECTIVE COAT	SQ YD	1,230	1,230	
054001	FURNISHING & ERECTING STRUCTURAL STEEL	POUND	186,020	186,020	
059001	REINFORCEMENT BARS	POUND	96,810	96,810	
060027	FURNISHING STEEL PILES 8BP36	LIN FT	924	924	
060036	TEST PILE STEEL 8BP36	EACH	2	2	
060037	DRIVING STEEL PILES	LIN FT	924	924	
061001	NAME PLATES	EACH	2	2	
083003	SLOPE WALL 6 INCH	SQ YD	2050	2050	
104001	FURNISHING & ERECTING POW MARKERS	EACH	8	8	
Z00004	ALUMINUM HANDRAIL	LIN FT	462	462	
Z01023	BRIDGE SEAT SEALANT	L SUM	1	1	
Z01028	WOVEN WIRE FENCE	LIN FT	3121	3121	
Z01398	ENGINEERS FIELD OFFICE TYPE A	EACH	1	1	
Z01159	REMOVAL OF BUILDINGS, GROUP 1	LUMP SUM	1	1	

HIGHWAY CLASSIFICATION

1001 - 1 - 70 MPH - 1987

MAXIMUM GRADE	3.00%
LENGTH OF MAXIMUM GRADE	1450 FT
MINIMUM STOPPING SIGHT DISTANCE	>1000 FT
MINIMUM HOROZONTAL RADIUS	TANGENT

SUBMITTED Nov 23, 1966 [signature] CHIEF, CIVIL ENGR.

EXAMINED Nov 23, 1966 [signature] CIVIL ENGR.

EXAMINED Nov 23, 1966 [signature] CIVIL ENGR.

EXAMINED 11/23/66 [signature] CIVIL ENGR.

Entire section inspected and approved as to policy.

DATE 11-23-66 [signature] DISTRICT ENGINEER

INDEX

SHEET NO.	BRIDGE SHEET NO.	TITLE
1		TITLE SHEET
2		TYPICAL SECTION (STANDARD 8288)
3		SUMMARY OF QUANTITIES INDEX
4		PLAN & PROFILE
5	1	GENERAL PLAN & ELEVATION
6	2	TOP OF SLAB ELEVATIONS (NORTH BRIDGE)
7	3	TOP OF SLAB ELEVATIONS (SOUTH BRIDGE)
8	4	SUPERSTRUCTURE
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11	7	W. ABUT. S. BRIDGE AND E. ABUT. N. BRIDGE
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13	9	PIERS 1 & 2 NORTH BRIDGE
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15-16	11-12	BORING DATA
17		DETAILS - BRIDGE CONE SURCHARGING, END POST DETAIL
18-20		CROSS SECTIONS - FRENCH CREEK
21-26		CROSS SECTIONS - ROADWAY
27		STANDARD NUMBER 1606-B STANDARD SYMBOLS
28		STANDARD NUMBER 2113-B NAME PLATES
29		STANDARD NUMBER 2153-A SIGN FOR INTERSTATE SYSTEM PROJECT
30		STANDARD NUMBER 1744-1 RIGHT OF WAY MARKERS
31		STANDARD NUMBER 2169-2 WOVEN WIRE FENCE
32		STANDARD NUMBER 211& FLAGMEN TRAFFIC CONTROL SIGN

3A, 9A, 11A & 12A As Built

NOTE:

ONE(1) SIGN CONFORMING TO STANDARD 2153-4 SHALL BE ERECTED AT THE LOCATION SHOWN ON SHEET NO. 1

WHENEVER IN THESE PLANS REFERENCE IS MADE TO THE "STANDARD SPECIFICATIONS" IT IS UNDERSTOOD TO INCLUDE THE "SUPPLEMENTAL SPECIFICATIONS" EFFECTIVE JANUARY 3, 1966.

QUANTITIES NOT LISTED ELSEWHERE

TREE REMOVAL, ACRES 0.8 ACRES

RT. LT. 681+45 - 684+20

SUMMARY OF QUANTITIES

FED. ROAD DIST. NO.	STATE	COUNTY	TOTAL SHEETS	SHEET NO.
FEI 76	45-308	KNOX	32	34

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	STRUCTURES	ROADWAY	
				STATION 683+94.58		
	CONSTRUCTION TYPE CODE			K031		
660005	TREE REMOVAL, ACRES	ACRE	0.8	0.8		
011001	EARTH EXCAVATION	CU YD	25,030	25,030		
012001	CHANNEL EXCAVATION	CU YD	3,473	3,473		
019001	POROUS GRANULAR EMBANKMENT	CU YD	3,399	3,399		
050001	CLASS A EXCAVATION FOR STRUCTURE	CU YD	10	10		
050002	CLASS B EXCAVATION FOR STRUCTURE	CU YD	697	697		
052002	CLASS A CONCRETE	CU YD	415.4	415.4		
052003	CLASS X CONCRETE	CU YD	484.3	484.3		
052021	PROTECTIVE COAT	SQ YD	1,230	1,230		
054001	FURNISHING & ERECTING STRUCTURAL STEEL	POUND	186,020	186,020		
059001	REINFORCEMENT BARS	POUND	96,810	96,810		
060027	FURNISHING STEEL PILES BBP36	LIN FT	924	924		
060036	TEST PILE STEEL BBP36	EACH	2	2		
060037	DRIVING STEEL PILES	LIN FT	924	924		
061001	NAME PLATES	EACH	2	2		
083003	SLOPE WALL 6 INCH	SQ YD	2050	2050		
104001	FURNISHING & ERECTING ROW MARKERS	EACH	8	8		
200004	ALUMINUM HANDRAIL	LIN FT	462	462		
201023	BRIDGE SEAT SEALANT	L SUM	1	1		
201026	WOVEN WIRE FENCE	LIN FT	3121	3121		
201398	ENGINEERS FIELD OFFICE TYPE A	EACH	1	1		
201199	REMOVAL OF BUILDINGS, GROUP 1	LUMP SUM	1	1		

HIGHWAY CLASSIFICATION

TCCT - 1 - 70 NHI - 1967

MAXIMUM GRADE	3.00%
LENGTH OF MAXIMUM GRADE	1450 FT
MINIMUM STOPPING SIGHT DISTANCE	>1000 FT
MINIMUM HORIZONTAL RADIUS	TANGENT

SUBMITTED Nov 23, 1966
Otis Sewell
DIST. ENGR.

EXAMINED Nov. 23, 1966
G. T. Peterson
DIST. CONST. ENGR.

EXAMINED Nov. 22, 1966
R. E. Anderson
DIST. MAINT. ENGR.

EXAMINED 11/22/66
V. F. Brown
DIST. TRAFFIC ENGR.

Entire section inspected and approved as to policy

DATE 11-23-66 J. E. Volland
DIRECT. PUBLIC ROADS

P.A.P.	DOC.	COUNTY	TOTAL SHEETS	SHEET NO.
14	48 308	KNOX	32	4
STA. 660+00	TO STA. 690+00			
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT	FAI-74-5 (165)	

Sod Ditch 880 S.Y.
Lt. Sta. 662+70 to Sta. 666+00 (By Others)

Paved Ditch (6') 160 L.F.
Lt. Sta. 660+90 to Sta. 661+60 (By Others)

Paved Ditch (3') 120 L.F.
Lt. Sta. 661+60 to Sta. 662+70 (By Others)

Paved Ditch (3') 170 L.F.
Lt. Sta. 666+00 to Sta. 667+60 (By Others)

BYRON L. BAIRD

P.O.T. Sta. 665+71.56 Iron Rod

SOD DITCH 190 S.Y.
Rt. STA. 660+00 TO STA. 661+90 (By Others)

PAVED DITCH (3') 230 LF (By Others)

LAWRENCE S. & EVELYN D. GRAVES

Pipe Culvert, Type 5A (RCCP Class III) 54" 458 L.F.
R.C. Headwalls, Std. 1998 (D54-2) Lt. (see Sh. 21) 1 Req'd.
Energy Dissipator Rt. see Sh. 20 for Details 1 Req'd.
Class X Concrete (Headwalls) 41.4 C.Y.
Reinforcement Bars 3510 Lbs.
Sta. 662+10, 55° Skew R.A (By Others)

STRUCTURE 48-308 BRIDGE APPROACHES (STD. 2138), METHOD II, 4 REQ'D.

P.C. CONCRETE PAVEMENT 16½"-12"-16½"	458.2 SQ. YDS.
REINFORCEMENT BARS	30950 LBS.
PILE CAPS (4 REQ'D)	
CLASS X CONCRETE	6.9 CU. YDS.
REINFORCEMENT BARS (By Others)	2385 LBS.

Pipe Culvert, Type 4A (RCCP Class III) 36" 236 L.F.

RC Headwalls, Std. 1976 (D36-2)	2 Req'd.
Class X Concrete (Headwalls)	3.5 C.Y.
Reinforcement Bars	100 Lbs.

Sta. 667+52
Construct Inlet & Outlet Ditches (By Others)

Sod Ditch 1440 S.Y.
Lt. Sta. 667+60 to Sta. 681+90 (By Others)

℄ Left Pavement

SURVEY LINE FAI 74

℄ Right Pavement

6 S.Y. Rip Rap

Begin Fence

Sod Ditch 720 S.Y.
Rt. Sta. 674+00 to Sta. 681+20 (By Others)

SEC. 11 T.10N. R4E. 4P.M.

Pipe Culvert, Type 2A (RCCP Class II) 24" 96 L.F.

R.C. Headwalls, Std. 1976 (D24-2)	2 Req'd.
Class X Concrete (Headwalls)	2.0 C.Y.
Reinforcement Bars	70 Lbs.

Sta. 669+00 (By Others)

WOVEN WIRE FENCE
Lt. & Rt. = 3121 Lin. Ft.
Woven Wire Fence Quantities include between Lt. & Rt. Bridges

Sta. 662+25 to Sta. 677+85 (By Others)
Earth Excavation = 86,585 Cu. Yds.
Earth Embankment = 40,176 Cu. Yds.
Overhaul 1000 = 1,000 C.Y.S.

P.O.T. Sta. 678+72.93 Iron Rod

ALBERT L. DOUBET

STEEL PLATE BEAM GUARD RAIL (By Others)

PROJECT BEGINS STA. 655+24.20

PROJECT ENDS STA. 687+41.98

SEC. 40-308 BUILDING REMOVAL GROUP 1 (SEE SPECIAL PROVISIONS) / LUMP SUM

Begin Fence

Paved Ditch (3') 130 L.F.
Lt. Sta. 681+90 to Sta. 683+10 (By Others)

Paved Ditch (3') 50 LF
Rt. Sta. 681+20 to Sta. 681+50 (By Others)

SOD DITCH 110 S.Y.
Lt. Sta. 682+00 to Sta. 683+08 (By Others)

Pipe Culvert, Type 2A (RCCP Class II) 24" 102 L.F.

R.C. Headwalls, Std. 1976 (D24-2)	2 Req'd.
Class X Concrete (Headwalls)	2.0 C.Y.
Reinforcement Bars	70 Lbs.

Sta. 682+30 (By Others)

RIGHT OF WAY MARKERS 8 EACH (THIS SHEET)

CHANNEL CHANGE C-1 CURVE DATA
PT = 48+92.57
Δ = 17°0'
D = 22°0'
R = 260.62'
T = 38.92'
L = 77.27
E = 2.89'
PC = STA. 48+53.65
PT = STA. 49+30.92

STA. 683+93.70 (℄ FAI 74) = STA. 50+00 (℄ CHANNEL)

P.O.T. STA. 689+34.08 Iron Rod

Sod Ditch 220 S.Y. (By Others)

End Fence

PILES FOR BRIDGE APPROACH (BY OTHERS)
Sod Ditch-Median 280 S.Y.
6' Wide, Sta. 685+30 to Sta. 690+00 (By Others)

6 S.Y. Rip Rap

SEC. 14 T.10N. R.4E. 4P.M.

℄ FRONTAGE RD. 'B'

RODERIC W. & MARQUERITE CHANDLER, JOHN A. & DELORES HIMEGARNER, & J.I. & JESSIE HIMEGARNER

Pipe Culvert, Type 2A (RCCP Class II) 24" 84 L.F.

R.C. Headwalls, Std. 1976 (D24-2)	2 Req'd.
Class X Concrete (Headwalls)	2.0 C.Y.
Reinforcement Bars	70 Lbs.

Sta. 685+60
Turn up header of Lt. headwall to form drop box (By Others)

Balance Point Sta. 662+25

-2.80%

FL. 656.4

FL. 651.69

Profile of Existing Ground along Survey Line

Profile Grade along ℄ Pavement

℄ CREEK

30° (TAI RT. ANGLE) VANES AT CONNECTIONS TO EXISTING CHANNEL

TYPICAL SECTION FRENCH CREEK

BALANCE POINT Sta. 677+45

Excavation to Grading Template in this area to be used for cones for Structure 48-308 (See Cross Sections)

Limits of Embankment to Grading Template constructed by Bridge Contractor, see Cross Sections

BALANCE POINT Sta. 687+30

Sta. 677+85 to Sta. 687+90 (By Others)
Earth Excavation = 33,894 Cu. Yds.
Earth Embankment = 29,218 Cu. Yds.

Sta. 677+90 to 685+98
* EARTH EXCAVATION = 25,030 CU. YDS.
CHANNEL EXCAVATION (to be wasted SEE SPECIAL PROVISIONS) = 3,473 CU. YDS.
EMBANKMENT = 18,302 CU. YDS.
CONE SURCHARGE = 2,400 CU. YDS.
*Includes 3399 Cu. Yds of unsuitable material of which 999 Cu. Yds. may be used in the EMBANKMENT (See SPEC. PROV.)

5.00 %

L = 1200

E.H.W. 651.0

F.L. 646.5

P.V.C. (644.80)
P.V.I. (645.40)
P.V.T. (646.00)
P.V.C. (644.80)
P.V.I. (645.40)
P.V.T. (646.00)
P.V.C. (644.50)
P.V.I. (645.50)
P.V.T. (646.50)

| | | |

P.A.P.	DOC.	COUNTY	TOTAL SHEETS	SHEET NO.
14	48 308	KNOX	32	4
STA. 660+00	TO STA. 690+00			
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT	FAI-74-5 (165)	

Sod Ditch 880 S.Y.
Lt. Sta. 662+70 to Sta. 666+00 (By Others)

Paved Ditch (6') 160 L.F.
Lt. Sta. 660+90 to Sta. 661+60 (By Others)

Paved Ditch (3') 120 L.F.
Lt. Sta. 661+60 to Sta. 662+70 (By Others)

Paved Ditch (3') 170 L.F.
Lt. Sta. 666+00 to Sta. 667+60 (By Others)

BYRON L. BAIRD

P.O.T. Sta. 665+71.56 Iron Rod

SOD DITCH 190 S.Y.
Rt. STA. 660+00 TO STA. 661+90 (By Others)

PAVED DITCH (3') 230 LF (By Others)

LAWRENCE S. & EVELYN D. GRAVES

Pipe Culvert, Type 5A (RCCP Class III) 54" 458 L.F.
R.C. Headwalls, Std. 1998 (D54-2) Lt. (see Sh. 21) 1 Req'd.
Energy Dissipator Rt. see Sh. 20 for Details 1 Req'd.
Class X Concrete (Headwalls) 41.4 C.Y.
Reinforcement Bars 3510 Lbs.
Sta. 662+10, 55° Skew R.A (By Others)

STRUCTURE 48-308 BRIDGE APPROACHES (STD. 2138), METHOD II, 4 REQ'D.

P.C. CONCRETE PAVEMENT 16½"-12"-16½"	458.2 SQ. YDS.
REINFORCEMENT BARS	30950 LBS.
PILE CAPS (4 REQ'D)	
CLASS X CONCRETE	6.9 CU. YDS.
REINFORCEMENT BARS (By Others)	2385 LBS.

Pipe Culvert, Type 4A (RCCP Class III) 36" 236 L.F.

RC Headwalls, Std. 1976 (D36-2)	2 Req'd.
Class X Concrete (Headwalls)	3.5 C.Y.
Reinforcement Bars	100 Lbs.

Sta. 667+52
Construct Inlet & Outlet Ditches (By Others)

Sod Ditch 1440 S.Y.
Lt. Sta. 667+60 to Sta. 681+90 (By Others)

℄ Left Pavement

SURVEY LINE FAI 74

℄ Right Pavement

6 S.Y. Rip Rap

Begin Fence

Sod Ditch 720 S.Y.
Rt. Sta. 674+00 to Sta. 681+20 (By Others)

SEC. 11 T.10N. R4E. 4P.M.

Pipe Culvert, Type 2A (RCCP Class II) 24" 96 L.F.

R.C. Headwalls, Std. 1976 (D24-2)	2 Req'd.
Class X Concrete (Headwalls)	2.0 C.Y.
Reinforcement Bars	70 Lbs.

Sta. 669+00 (By Others)

WOVEN WIRE FENCE
Lt. & Rt. = 3121 Lin. Ft.
Woven Wire Fence Quantities include between Lt. & Rt. Bridges

Sta. 662+25 to Sta. 677+85 (By Others)
Earth Excavation = 86,585 Cu. Yds.
Earth Embankment = 40,176 Cu. Yds.
Overhaul 1000 = 1,000 C.Y.S.

P.O.T. Sta. 678+72.93 Iron Rod

ALBERT L. DOUBET

STEEL PLATE BEAM GUARD RAIL (By Others)

PROJECT BEGINS STA. 655+24.20

PROJECT ENDS STA. 687+41.98

SEC. 40-308 BUILDING REMOVAL GROUP 1 (SEE SPECIAL PROVISIONS) / LUMP SUM

Begin Fence

Paved Ditch (3') 130 L.F.
Lt. Sta. 681+90 to Sta. 683+10 (By Others)

Paved Ditch (3') 50 LF
Rt. Sta. 681+20 to Sta. 681+50 (By Others)

SOD DITCH 110 S.Y.
Lt. Sta. 682+00 to Sta. 683+08 (By Others)

Pipe Culvert, Type 2A (RCCP Class II) 24" 102 L.F.

R.C. Headwalls, Std. 1976 (D24-2)	2 Req'd.
Class X Concrete (Headwalls)	2.0 C.Y.
Reinforcement Bars	70 Lbs.

Sta. 682+30 (By Others)

RIGHT OF WAY MARKERS 8 EACH (THIS SHEET)

CHANNEL CHANGE C-1 CURVE DATA
PT = 48+92.57
Δ = 17°0'
D = 22°0'
R = 260.62'
T = 38.92'
L = 77.27
E = 2.89'
PC = STA. 48+53.65
PT = STA. 49+30.92

STA. 683+93.70 (℄ FAI 74) = STA. 50+00 (℄ CHANNEL)

P.O.T. STA. 689+34.08 Iron Rod

Sod Ditch 220 S.Y. (By Others)

End Fence

PILES FOR BRIDGE APPROACH (BY OTHERS)
Sod Ditch-Median 280 S.Y.
6' Wide, Sta. 685+30 to Sta. 690+00 (By Others)

6 S.Y. Rip Rap

SEC. 14 T.10N. R.4E. 4P.M.

℄ FRONTAGE RD. 'B'

RODERIC W. & MARQUERITE CHANDLER, JOHN A. & DELORES HIMEGARNER, & J.I. & JESSIE HIMEGARNER

Pipe Culvert, Type 2A (RCCP Class II) 24" 84 L.F.

R.C. Headwalls, Std. 1976 (D24-2)	2 Req'd.
Class X Concrete (Headwalls)	2.0 C.Y.
Reinforcement Bars	70 Lbs.

Sta. 685+60
Turn up header of Lt. headwall to form drop box (By Others)

Balance Point Sta. 662+25

-2.80%

FL. 656.4

FL. 651.69

Profile of Existing Ground along Survey Line

Profile Grade along ℄ Pavement

℄ CREEK

30° (TAI RT. ANGLE) VANES AT CONNECTIONS TO EXISTING CHANNEL

TYPICAL SECTION FRENCH CREEK

BALANCE POINT Sta. 677+45

Excavation to Grading Template in this area to be used for cones for Structure 48-308 (See Cross Sections)

Limits of Embankment to Grading Template constructed by Bridge Contractor, see Cross Sections

BALANCE POINT Sta. 687+30

Sta. 677+85 to Sta. 687+90 (By Others)
Earth Excavation = 33,894 Cu. Yds.
Earth Embankment = 29,218 Cu. Yds.

Sta. 677+90 to 685+98
* EARTH EXCAVATION = 25,030 CU. YDS.
CHANNEL EXCAVATION (to be wasted SEE SPECIAL PROVISIONS) = 3,473 CU. YDS.
EMBANKMENT = 18,302 CU. YDS.
CONE SURCHARGE = 2,400 CU. YDS.
*Includes 3399 Cu. Yds of unsuitable material of which 999 Cu. Yds. may be used in the EMBANKMENT (See SPEC. PROV.)

5.00 %

L = 1200

E.H.W. 651.0

F.L. 646.5

P.V.C. (644.80)
P.V.I. (645.40)
P.V.T. (646.00)
P.V.C. (644.80)
P.V.I. (645.40)
P.V.T. (646.00)
P.V.C. (644.50)
P.V.I. (645.50)
P.V.T. (646.50)

| | | |

B.M.: Swab U.S.G.S. BM. ¼ mile East of intersection of T.R. 324 & T.R. 253 El. 699.238

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

DIVISION NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	48-30B	KNOX	32	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT: I-74-3(21)65		

SHEET NO. 1
12 SHEETS

FIELD WELDING OF CONSTRUCTION ACCESSORIES TO THE BOTTOM FLANGES OR FOR A DISTANCE OF ¼ OF THE SPAN EACH WAY FROM PIER SUPPORTS ON THE TOP FLANGES OF BEAMS OR GIRDERS WILL NOT BE PERMITTED. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

GENERAL NOTES

Coarse aggregate to be used in parapet handrails and end post must be free of chert, flint, limonite, lignite and soft sandstone.

The concrete floor slab shall be finished in accordance with Art. 51.19 of the Standard Specifications.

Slope Wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58 # per 100 Sq. Ft.

Layout of slope walls may be varied to suit ground conditions in the field as directed by the Engineer.

All reinforcement bars shall be lapped 20 diameters unless otherwise shown.

All structural steel shall conform to A.S.T.M. Designation A-36. Rivets ⅝" ϕ, Open Holes ¹³/₁₆" ϕ, unless otherwise noted.

Anchor bolts shall be set before fastening diaphragms over supports.

Exposed surfaces of the expansion devices, inaccessable after erection, shall receive two shop coats of red lead paint. All other surfaces shall be given one shop coat of red lead paint. Anchor studs shall not be painted.

Expansion devices are included in the quantity of structural steel. Est. weight = 4530 Lbs.

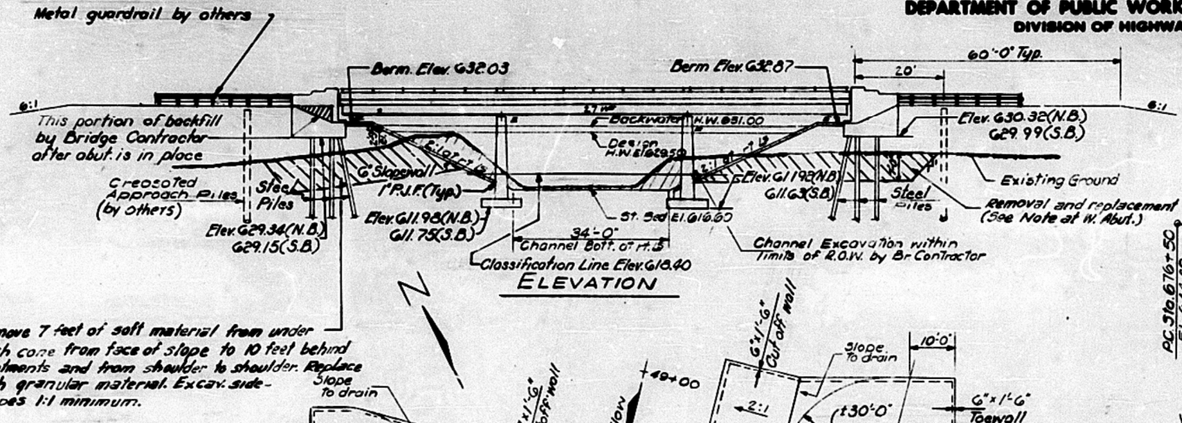
Except as otherwise provided, all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Article 561 to 565 inclusive of the Standard Specifications.

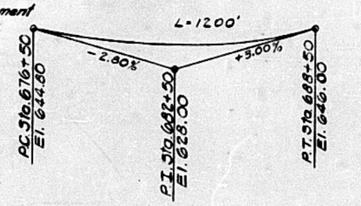
The Contractor shall drive two (2) steel test piles, one at the East Abutment (North Bridge) and one at the West Abutment (South Bridge), each in a permanent location, as directed by the Engineer before ordering the remainder of the piles.

Piles shall be driven to refusal.

PERMANENT FORMS WILL NOT BE PERMITTED IN FORMING THE CONCRETE DECK.

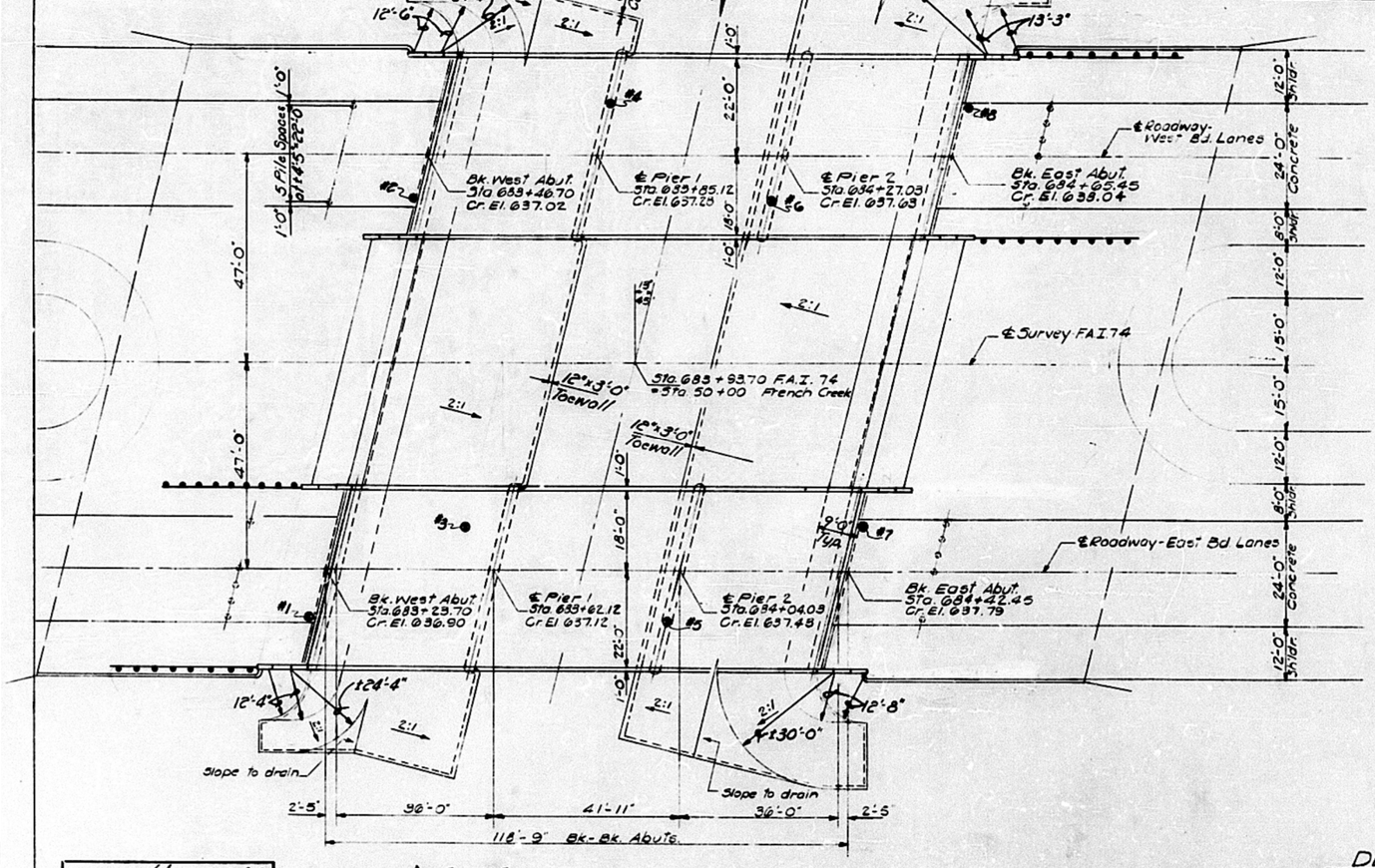
EXCAVATION FOR PORTIONS OF STRUCTURES IN THE EMBANKMENTS SHALL NOT BE CLASSIFIED.



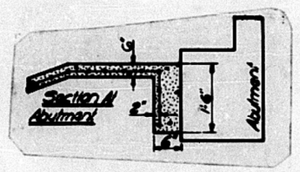


VERTICAL CURVE - F.A.I. 74

Remove 7 feet of soft material from under each cone from face of slope to 10 feet behind abutments and from shoulder to shoulder. Replace with granular material. Excav. side-slopes 1:1 minimum.



PLAN



STA. 683+93.70
BUILT 196 BY
STATE OF ILLINOIS
F.A.I. RT. 74 SEC. 48-30B
FA PROJ. I-74-3(21)
LOADING HS20 & ALT.

NAME PLATE
See Std 2113-1

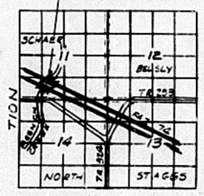
TOTAL BILL OF MATERIAL

	Items	Unit	Super	Sub	Total
*	Class A Excavation for Structure	Cu. Yds.			10
*	Class B Excavation for Structure	Cu. Yds.			697
	Class A Concrete	Cu. Yds.		415.4	415.4
	Class X Concrete	Cu. Yds.	260.5	163.8	424.3
	Protective Coat	Sq. Yds.	1230		1230
	Structural Steel	Lbs.	186020		186020
	Aluminum Handrail	Lin. Ft.	462		462
	Reinforcement Bars	Lbs.	66630	30,180	96810
	Steel Piles (BBP36)	Lin. Ft.		924	924
	Test Piles Steel (BBP36)	Ea.		2	2
	Name Plates	Ea.	2		2
	Slope Wall (6")	Sq. Yds.			2050
**	Bridge Seat Sealant	Lump Sum		1	1
	Porous Granular Embankment	Cu. Yds.			3399

*Includes slopewall excavation
**At abutment only

WATERWAY INFORMATION

Drainage Area: ---------- 15,100 Acres
Character: ----- Rolling, Wooded, Cultivated
Required Opening: ---(50 Yr. Fl)--- 720 Sq. Ft.
Present Opening: ----------
Proposed Opening: ---------- 720 Sq. Ft.
Low Water Elev. 617.4



LOCATION SKETCH

DESIGN STRESSES

fc = 1400 psi. (Super. & Sub.)
fs = 20,000 psi. (Reinf.)
fs = 20,000 psi. (Struct.)
Vc = 75 psi. (Ftgs.)
n = 10
℄ Δ = 5/1000

LOADING HS20-44 & ALT.

DESIGNED	John W Clark Jr.	
CHECKED	Tai-Ying Chu	
DRAWN	J.A.S.	
CHECKED	Tai-Ying Chu	
EXAMINED	Carl Tummann	Aug. 5 1965
PASSED	H. J. Olten	
APPROVED	V. E. Platt	

Rev. 13 Dec. 66 J.W.C. Abutment wing made parallel to roadway. Quantity of class X conc. changed from 413.7 to 424.3 cu. yds. Quantity of reinforcement bars changed from 95090 to 96810 lbs.

Rev. 12-15-66 Deleted Quantities for Approach piles.

GENERAL PLAN & ELEVATION
F.A. PROJ. I-74-3(21)65
FRENCH CREEK
F.A.I. RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+93.70

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

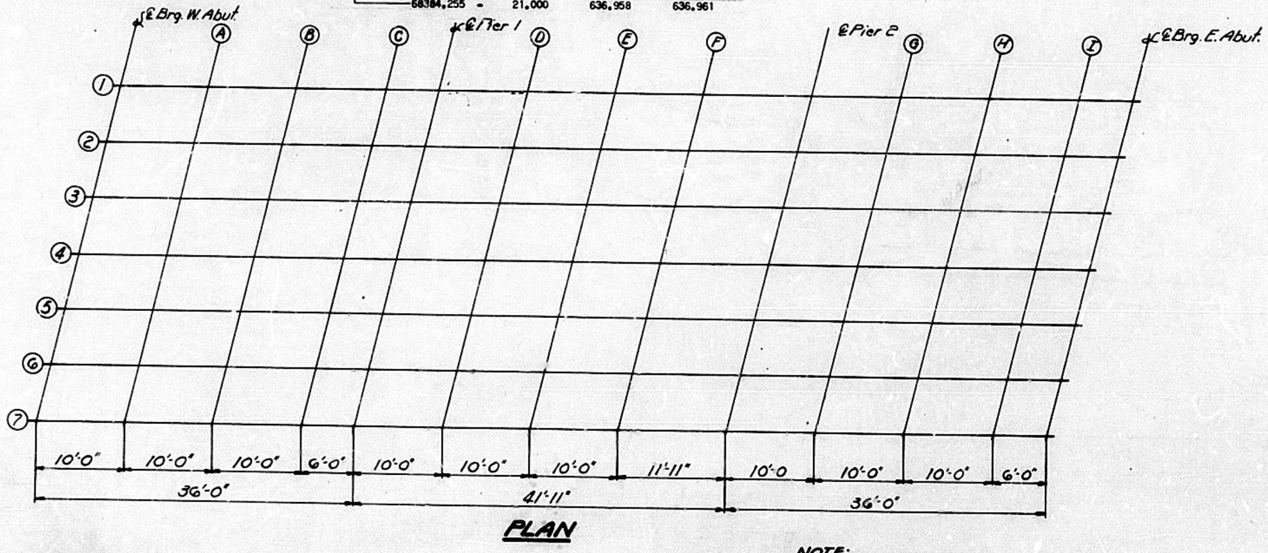
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U.S. F.A.I. 74	48-30B	KNOX	32	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2
12 SHEETS

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68342.540	17.000	636.770	636.770
	68344.090	10.666	636.909	636.909
	68345.640	4.333	637.000	637.000
	68346.700	.000	637.023	637.023
	68347.189 -	2.000	637.022	637.022
	68348.739 -	8.333	636.974	636.974
	68350.289 -	14.666	636.863	636.863
	68351.839 -	21.000	636.740	636.740
℄ Brg. W. Abut.	7 68344.957	17.000	636.784	636.784
	6 68346.507	10.666	636.923	636.923
	5 68348.056	4.333	637.014	637.014
	68349.117	.000	637.037	637.037
	4 68349.606 -	2.000	637.036	637.036
	3 68351.156 -	8.333	636.988	636.988
	2 68352.706 -	14.666	636.877	636.877
	1 68354.255 -	21.000	636.755	636.755
A	68354.957	17.000	636.842	636.853
	68356.507	10.666	636.982	636.993
	68358.056	4.333	637.074	637.085
	68359.117	.000	637.097	637.108
	68359.606 -	2.000	637.096	637.107
	68361.156 -	8.333	637.049	637.060
	68362.706 -	14.666	636.939	636.950
	68364.255 -	21.000	636.818	636.829
B	68364.957	17.000	636.905	636.919
	68366.507	10.666	637.046	637.059
	68368.056	4.333	637.139	637.152
	68369.117	.000	637.162	637.175
	68369.606 -	2.000	637.162	637.175
	68371.156 -	8.333	637.116	637.129
	68372.706 -	14.666	637.006	637.019
	68374.255 -	21.000	636.885	636.896
C	68374.957	17.000	636.973	636.977
	68376.507	10.666	637.115	637.118
	68378.056	4.333	637.208	637.212
	68379.117	.000	637.232	637.235
	68379.606 -	2.000	637.232	637.236
	68381.156 -	8.333	637.187	637.190
	68382.706 -	14.666	637.078	637.081
	68384.255 -	21.000	636.958	636.961

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. Pier 1	7 68380.957	17.000	637.016	637.016
	6 68382.507	10.666	637.158	637.158
	5 68384.056	4.333	637.252	637.252
	68385.117	.000	637.276	637.276
	4 68385.606 -	2.000	637.277	637.277
	3 68387.156 -	8.333	637.231	637.231
	2 68388.706 -	14.666	637.123	637.123
	1 68390.255 -	21.000	637.003	637.003
D	68390.957	17.000	637.092	637.097
	68392.507	10.666	637.235	637.239
	68394.056	4.333	637.329	637.334
	68395.117	.000	637.354	637.359
	68395.606 -	2.000	637.354	637.359
	68397.156 -	8.333	637.310	637.315
	68398.706 -	14.666	637.203	637.208
	68400.255 -	21.000	637.084	637.089
E	68400.957	17.000	637.173	637.183
	68402.507	10.666	637.316	637.326
	68404.056	4.333	637.411	637.421
	68405.117	.000	637.437	637.447
	68405.606 -	2.000	637.437	637.447
	68407.156 -	8.333	637.394	637.404
	68408.706 -	14.666	637.287	637.297
	68410.255 -	21.000	637.169	637.179
F	68410.957	17.000	637.258	637.264
	68412.507	10.666	637.402	637.408
	68414.056	4.333	637.498	637.504
	68415.117	.000	637.524	637.530
	68415.606 -	2.000	637.525	637.531
	68417.156 -	8.333	637.482	637.488
	68418.706 -	14.666	637.376	637.382
	68420.255 -	21.000	637.259	637.264

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. Pier 2	7 68422.873	17.000	637.386	637.386
	6 68424.423	10.666	637.511	637.511
	5 68425.973	4.333	637.608	637.608
	68427.033	.000	637.634	637.634
	4 68427.523 -	2.000	637.636	637.636
	3 68429.072 -	8.333	637.594	637.594
	2 68430.622 -	14.666	637.489	637.489
	1 68432.172 -	21.000	637.372	637.372
G	68432.873	17.000	637.462	637.468
	68434.423	10.666	637.608	637.614
	68435.973	4.333	637.705	637.712
	68437.033	.000	637.732	637.739
	68437.523 -	2.000	637.734	637.740
	68439.072 -	8.333	637.693	637.699
	68440.622 -	14.666	637.588	637.595
	68442.172 -	21.000	637.472	637.479
H	68442.873	17.000	637.563	637.577
	68444.423	10.666	637.709	637.724
	68445.973	4.333	637.808	637.822
	68447.033	.000	637.835	637.850
	68447.523 -	2.000	637.837	637.851
	68449.072 -	8.333	637.797	637.811
	68450.622 -	14.666	637.693	637.707
	68452.172 -	21.000	637.578	637.592
I	68452.873	17.000	637.669	637.675
	68454.423	10.666	637.816	637.823
	68455.973	4.333	637.915	637.922
	68457.033	.000	637.943	637.950
	68457.523 -	2.000	637.945	637.952
	68459.072 -	8.333	637.905	637.912
	68460.622 -	14.666	637.802	637.809
	68462.172 -	21.000	637.688	637.695
℄ Brg. E. Abut.	68458.873	17.000	637.734	637.734
	68460.423	10.666	637.882	637.882
	68461.973	4.333	637.982	637.982
	68463.033	.000	638.010	638.010
	68463.523 -	2.000	638.012	638.012
	68465.072 -	8.333	637.973	637.973
	68466.622 -	14.666	637.870	637.870
	68468.172 -	21.000	637.756	637.756
Bk. E. Abut.	68461.290	17.000	637.761	637.761
	68462.840	10.666	637.909	637.909
	68464.390	4.333	638.009	638.009
	68465.450	.000	638.037	638.037
	68465.939 -	2.000	638.039	638.039
	68467.489 -	8.333	638.000	638.000
	68469.039 -	14.666	637.898	637.898
	68470.589 -	21.000	637.784	637.784



PLAN

NOTE:
This Plan to be used with North & South Bridges

DESIGNED	John W Clark Jr
CHECKED	Tai-Jang Ch
DRAWN	J.C.
CHECKED	Tai-Jang Ch

AUG. 5 1965

EXAMINED C.E. Thurmond
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED R. J. Alton
CHIEF ENGINEER OF DESIGN

APPROVED V.G. Kraft
CHIEF ASSISTANT ENGINEER

TOP OF SLAB ELEVATIONS
NORTH BRIDGE
F.A.I.RT.74 SEC.48-30B
KNOX COUNTY
STA. 683+93.70

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	48-30B	KNOX	32	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 3
12 SHEETS

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68318.561	21.000	636.570	636.570
	68320.111	14.666	636.708	636.708
	68321.661	8.333	636.835	636.835
	68323.211	2.000	636.898	636.898
	68323.700	.000	636.905	636.905
	68324.760 -	4.333	636.894	636.894
	68326.310 -	10.666	636.818	636.818
	68327.860 -	17.000	636.695	636.695
℄ Brg. W.Abut.	7 68320.978	21.000	636.581	636.581
	6 68322.528	14.666	636.719	636.719
	5 68324.078	8.333	636.846	636.846
	4 68325.627	2.000	636.910	636.910
	68326.117	.000	636.916	636.916
	3 68327.177 -	4.333	636.905	636.905
	2 68328.727 -	10.666	636.830	636.830
	1 68330.277 -	17.000	636.707	636.707
(A)	68330.978	21.000	636.627	636.638
	68332.528	14.666	636.767	636.778
	68334.078	8.333	636.895	636.906
	68335.627	2.000	636.959	636.970
	68336.117	.000	636.965	636.976
	68337.177 -	4.333	636.955	636.966
	68338.727 -	10.666	636.880	636.891
	68340.277 -	17.000	636.758	636.769
(B)	68340.978	21.000	636.679	636.692
	68342.528	14.666	636.819	636.832
	68344.078	8.333	636.948	636.961
	68345.627	2.000	637.013	637.026
	68346.117	.000	637.019	637.033
	68347.177 -	4.333	637.009	637.022
	68348.727 -	10.666	636.936	636.949
	68350.277 -	17.000	636.814	636.828
(C)	68350.978	21.000	636.735	636.739
	68352.528	14.666	636.876	636.880
	68354.078	8.333	637.006	637.009
	68355.627	2.000	637.072	637.075
	68356.117	.000	637.078	637.082
	68357.177 -	4.333	637.068	637.072
	68358.727 -	10.666	636.996	636.999
	68360.277 -	17.000	636.875	636.879

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. Pier 1	7 68356.978	21.000	636.771	636.771
	6 68358.528	14.666	636.913	636.913
	5 68360.078	8.333	637.043	637.043
	4 68361.627	2.000	637.109	637.109
	68362.117	.000	637.116	637.116
	3 68363.177 -	4.333	637.106	637.106
	2 68364.727 -	10.666	637.034	637.034
	1 68366.277 -	17.000	636.914	636.914
(D)	68366.978	21.000	636.835	636.840
	68368.528	14.666	636.978	636.983
	68370.078	8.333	637.108	637.113
	68371.627	2.000	637.176	637.181
	68372.117	.000	637.183	637.187
	68373.177 -	4.333	637.174	637.179
	68374.727 -	10.666	637.102	637.107
	68376.277 -	17.000	636.983	636.988
(E)	68376.978	21.000	636.904	636.914
	68378.528	14.666	637.047	637.057
	68380.078	8.333	637.179	637.189
	68381.627	2.000	637.247	637.257
	68382.117	.000	637.254	637.264
	68383.177 -	4.333	637.246	637.255
	68384.727 -	10.666	637.175	637.185
	68386.277 -	17.000	637.056	637.066
(F)	68386.978	21.000	636.978	636.984
	68388.528	14.666	637.122	637.128
	68390.078	8.333	637.254	637.260
	68391.627	2.000	637.323	637.329
	68392.117	.000	637.330	637.336
	68393.177 -	4.333	637.322	637.328
	68394.727 -	10.666	637.252	637.258
	68396.277 -	17.000	637.134	637.140

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. Pier 2	7 68398.895	21.000	637.072	637.072
	6 68400.444	14.666	637.217	637.217
	5 68401.994	8.333	637.350	637.350
	4 68403.544	2.000	637.420	637.420
	68404.033	.000	637.427	637.427
	3 68405.094 -	4.333	637.420	637.420
	2 68406.643 -	10.666	637.351	637.351
	1 68408.193 -	17.000	637.234	637.234
(G)	68408.895	21.000	637.157	637.163
	68410.444	14.666	637.302	637.308
	68411.994	8.333	637.436	637.442
	68413.544	2.000	637.506	637.513
	68414.033	.000	637.514	637.521
	68415.094 -	4.333	637.507	637.514
	68416.643 -	10.666	637.439	637.445
	68418.193 -	17.000	637.323	637.329
(H)	68418.895	21.000	637.246	637.261
	68420.444	14.666	637.392	637.407
	68421.994	8.333	637.527	637.541
	68423.544	2.000	637.598	637.612
	68424.033	.000	637.606	637.620
	68425.094 -	4.333	637.600	637.614
	68426.643 -	10.666	637.532	637.546
	68428.193 -	17.000	637.417	637.431
(I)	68428.895	21.000	637.340	637.347
	68430.444	14.666	637.487	637.494
	68431.994	8.333	637.622	637.629
	68433.544	2.000	637.694	637.701
	68434.033	.000	637.703	637.709
	68435.094 -	4.333	637.697	637.704
	68436.643 -	10.666	637.630	637.637
	68438.193 -	17.000	637.515	637.522
℄ Brg. E.Abut.	68434.895	21.000	637.399	637.399
	68436.444	14.666	637.546	637.546
	68437.994	8.333	637.682	637.682
	68439.544	2.000	637.754	637.754
	68440.033	.000	637.763	637.763
	68441.094 -	4.333	637.757	637.757
	68442.643 -	10.666	637.691	637.691
	68444.193 -	17.000	637.577	637.577
Bk. E. Abut.	68437.311	21.000	637.423	637.423
	68438.861	14.666	637.570	637.570
	68440.411	8.333	637.706	637.706
	68441.961	2.000	637.779	637.779
	68442.450	.000	637.788	637.788
	68443.510 -	4.333	637.782	637.782
	68445.060 -	10.666	637.716	637.716
	68446.610 -	17.000	637.602	637.602

DESIGNED John W Clark Jr.
CHECKED Tai Ying Ch
DRAWN J.C.
CHECKED Tai Ying Ch

EXAMINED A. E. Hammond — AUG. 5 1965
ENGINEER OF BRIDGE AND ROUTE LOCATION
PASSED H. J. Alton
ENGINEER OF DESIGN
APPROVED V. E. Stapp
CHIEF HIGHWAY ENGINEER

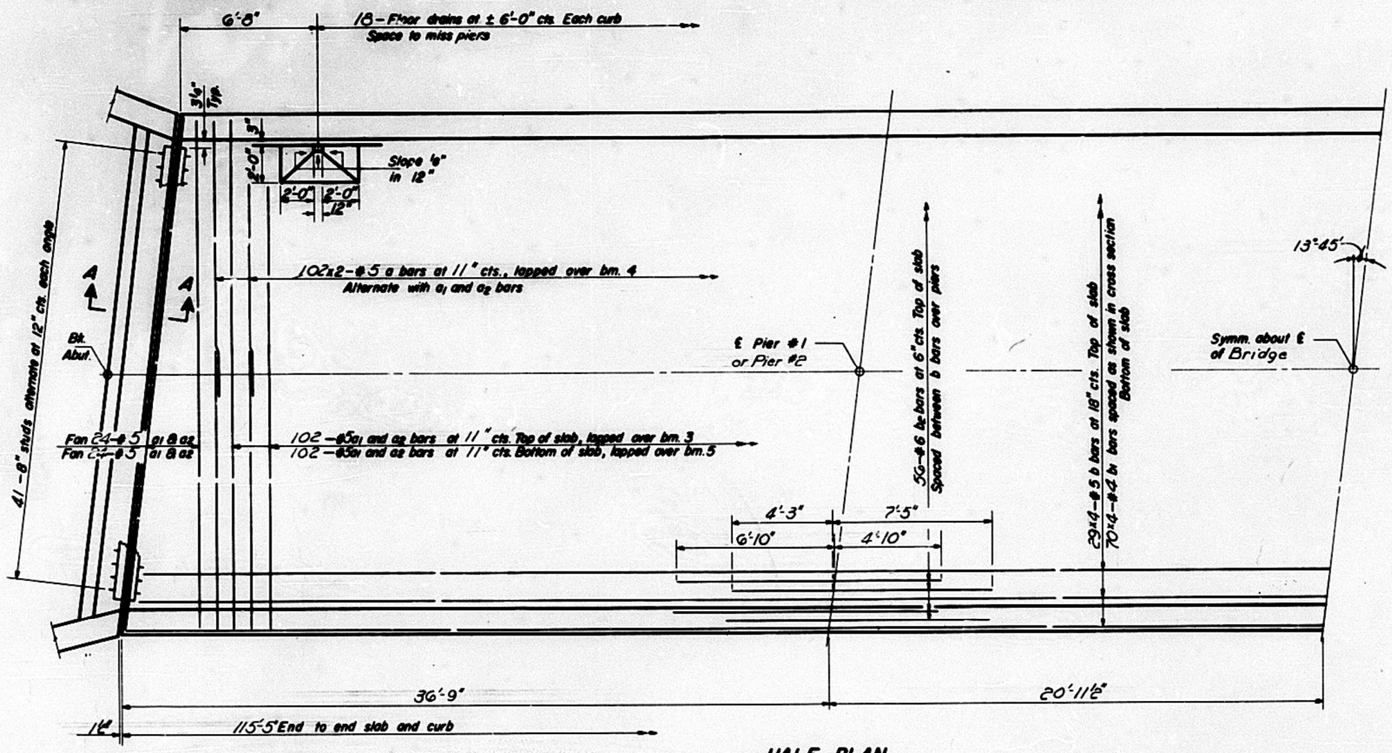
TOP OF SLAB ELEVATION
SOUTH BRIDGE
F.A.I.RT.74 SEC.48-30B
KNOX COUNTY
STA.683+93.70

Note:
Bars indicated thus 20 #3-@5 ctr. indicates 20 lines of bars with 3 lengths per line.
Min. bar laps = 20 dia.

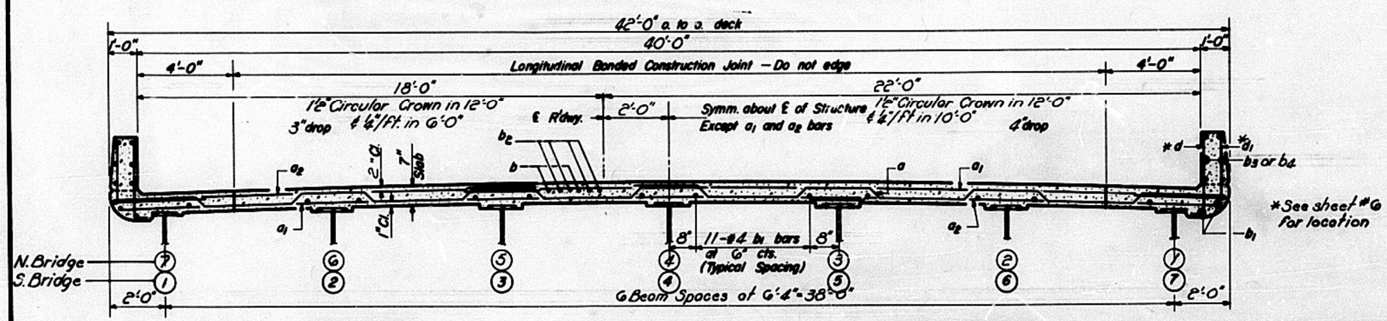
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	48-30B	KNOX	32	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
12 SHEETS



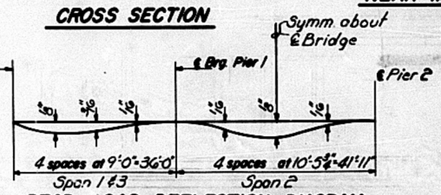
HALF PLAN



NEAR PIERS

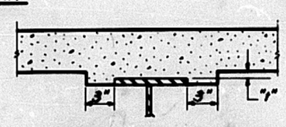
NEAR MIDSPAN

CROSS SECTION



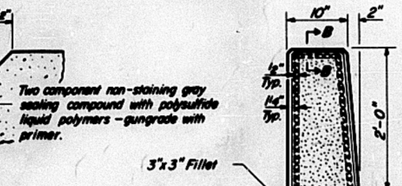
DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only)

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 on sheet # 2 or 3

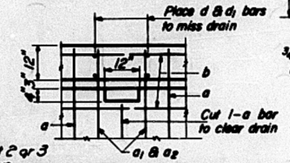


STANDARD FILLET DETAIL

To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheet 2 or 3 These elevations subtracted from the "Grade Elevations Adjusted for Dead Load Deflections" shown on sheet 2 or 3 minus slab thickness equals the fillet heights "f" above top of beams.

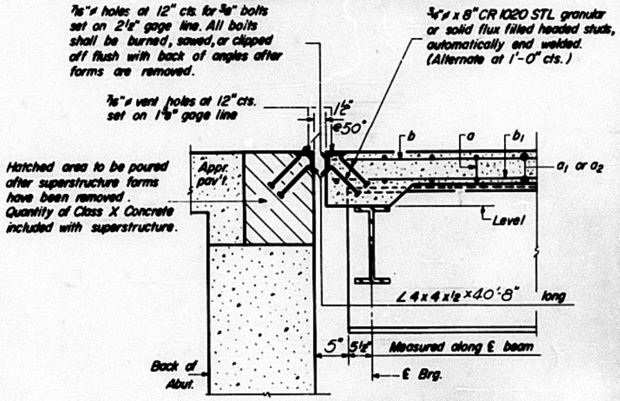


SECTION B-B



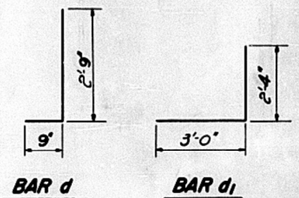
TYP. DETAIL AT DRAIN

PARAPET DETAIL

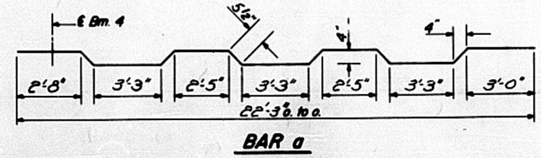


SECTION A-A





BAR d BAR d1



BAR a

TWO SUPERSTRUCTURES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	408	#5	23'-0"	
a1	600	#5	28'-0"	
a2	600	#5	15'-3"	
b	232	#5	29'-8"	
b1	360	#4	29'-8"	
b2	224	#6	11'-6"	
b3	96	#5	18'-0"	
b4	48	#5	20'-8"	
d	592	#5	3'-6"	
d1	464	#5	5'-4"	
Class X Concrete			Cu. Yd.	260.5
Reinforcement Bars			Lbs.	66630
Structural Steel			Lbs.	18600 *

* Weight of bearing assemblies with lead plates and anchor bolts are included as structural steel.
Est. Weight = 13,620 lbs.

SUPERSTRUCTURE
F.A.I. RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+93.70

DESIGNED	John W. Clark Jr.	
CHECKED	Tai-Jong Ch	
DRAWN	D.L. Bremer	
CHECKED	Tai-Jong Ch	

Aug. 5 1965
EXAMINED
PASSED
APPROVED

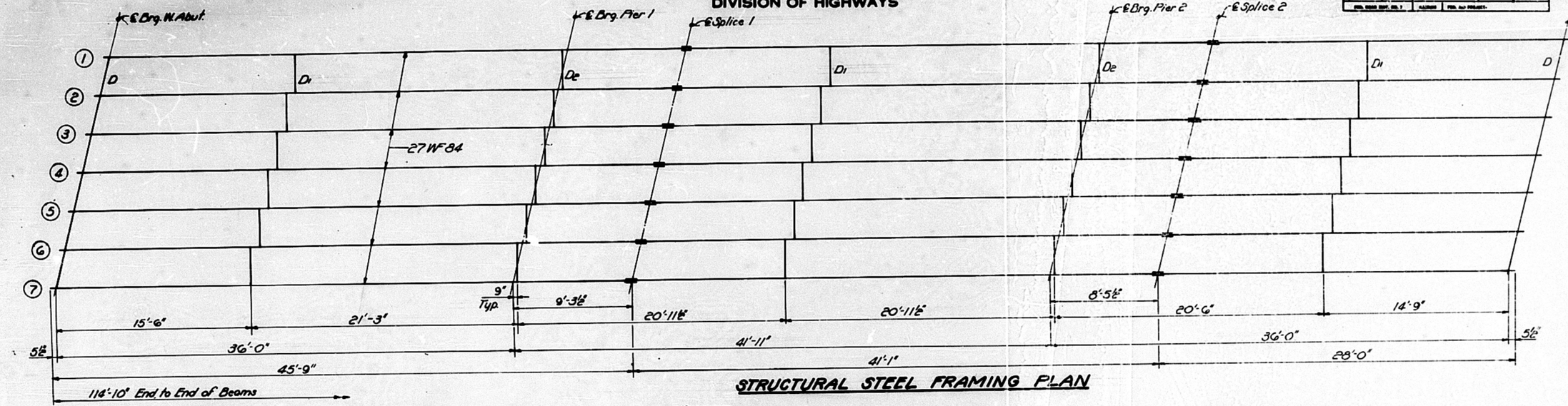
I-7-L (≦ 15°) 11-15-62

Rev 13 Dec 66 JWC slab reinforcement changed to show 2" clearance Reinforcement bars from. 65530 to 66630 lbs.

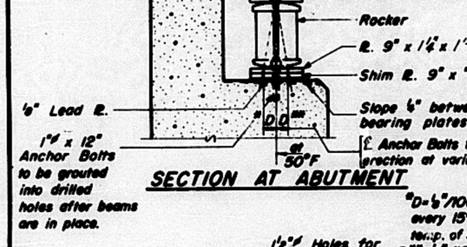
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	48-30B	KNOX	32	9

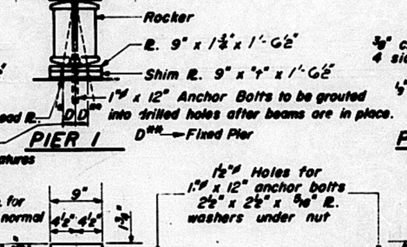
SHEET NO. 5
12 SHEETS



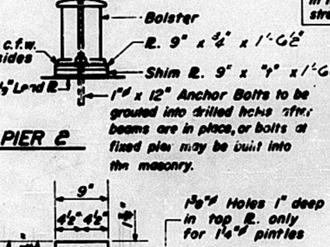
STRUCTURAL STEEL FRAMING PLAN



SECTION AT ABUTMENT

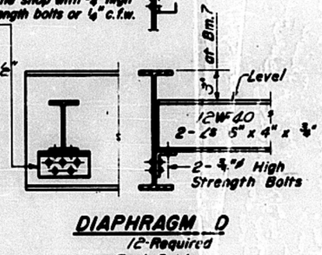


PIER 1

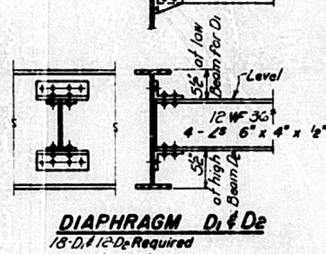


PIER 2

In lieu of shop rivets, angles may be attached in the shop with ⅜" high strength bolts or ⅛" c.f.w.



DIAPHRAGM D
12 Required
Each Bridge



DIAPHRAGM D1 & D2
18-D1 & 12-D2 Required
Each Bridge

MOMENTS				REACTION	
	.4 Sp.1	Pier 1	.5 Sp.2	Abut.	Pier
D.L.	83.69	-135.72	61.04	12.20	38.42
L.L.	183.71	-138.99	172.42	28.83	37.21
I.	55.11	-41.68	51.73	8.65	11.16
Total	322.51	-316.33	285.19	49.68	86.79

Moments are in Ft-kips - Reaction are in kips

ELEVATION TOP OF WF

NORTH BRIDGE

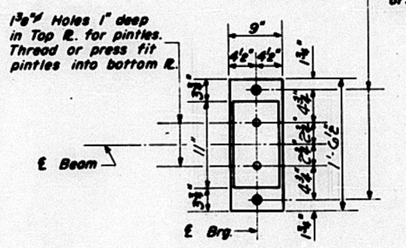
	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6	Bm. 7
℄ Brg. W. Abut.	636.79	636.32	636.43	636.47	636.44	635.34	636.19
℄ Brg. Pier 1	636.41	636.54	636.65	636.69	636.66	636.56	636.41
℄ Splice 1	636.47	636.60	636.71	636.75	636.72	636.62	636.47
℄ Brg. Pier 2	636.76	636.89	637.00	637.04	637.01	636.91	636.76
℄ Splice 2	636.84	636.97	637.08	637.12	637.09	636.99	636.84
℄ Brg. E. Abut.	637.17	637.30	637.41	637.45	637.42	637.32	637.17

SOUTH BRIDGE

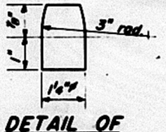
	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6	Bm. 7
℄ Brg. W. Abut.	636.14	636.27	636.34	636.35	636.28	636.14	636.00
℄ Brg. Pier 1	636.32	636.45	636.52	636.53	636.46	636.32	636.18
℄ Splice 1	636.36	636.49	636.56	636.57	636.50	636.36	636.22
℄ Brg. Pier 2	636.61	636.74	636.81	636.82	636.75	636.61	636.47
℄ Splice 2	636.68	636.81	636.88	636.89	636.82	636.68	636.54
℄ Brg. E. Abut.	636.98	637.11	637.18	637.19	637.12	636.98	636.84

TABLE OF "f" VALUES

	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6	Bm. 7
All Abuts. & Piers	0"	0"	0"	6"	8"	0"	0"



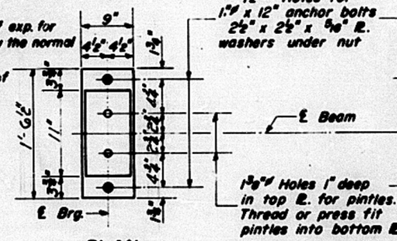
PLAN



DETAIL OF PINTLE

*D = ⅛"/100 ft. of exp. for every 15° below the normal temp. of 50°F.
D** = ⅜"/100 ft. of exp. for every 15° above the normal temp. of 50°F.

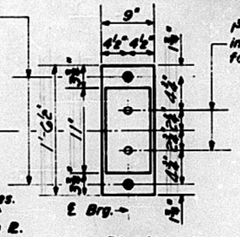
1½" Holes for 1" x 12" anchor bolts. 2½" x 2½" x ⅝" ℄. washers under nut



PLAN

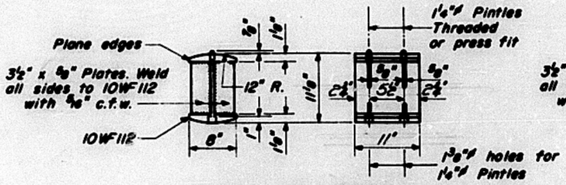
1½" Holes for 1" x 12" anchor bolts 2½" x 2½" x ⅝" ℄. washers under nut

1⅜" Holes 1" deep in top ℄. for pintles. Thread or press fit pintles into bottom ℄.

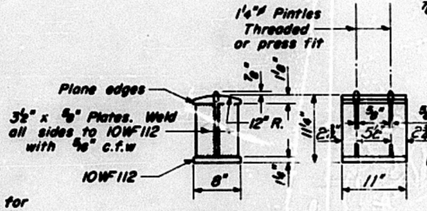


PLAN

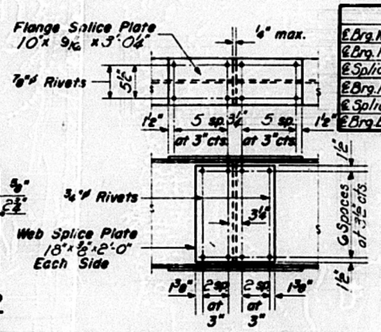
1⅜" Holes 1" deep in top ℄. only for 1⅛" pintles



DETAIL OF ROCKER AT ABUTS. & PIER 1



DETAIL OF BOLSTER AT PIER 2



DETAIL OF SPLICE

DESIGNED John W Clark Jr.
CHECKED Tai Sing Ch
P.G. Barnett DRAWN W. A. Sessemen Jr.
CHECKED Tai Sing Ch

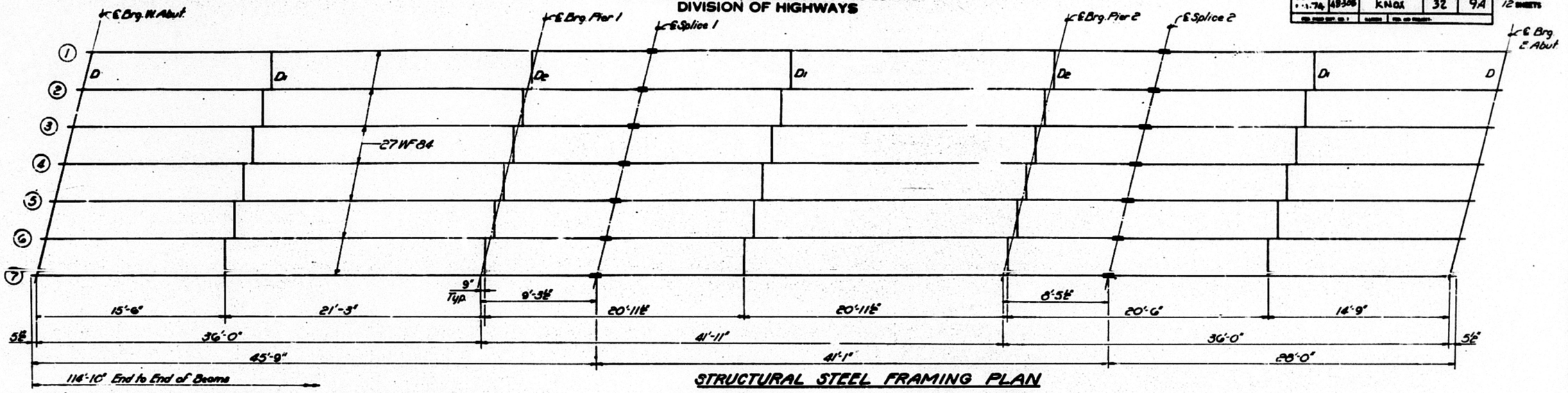
EXAMINED Aug. 5 1965 Alf Thuman
PASSED H. J. Alton
APPROVED V. E. Shaff

I-2 7-2-62 Rev. 11-9-62 Rev. 8-16-63 Rev. 12-10-63

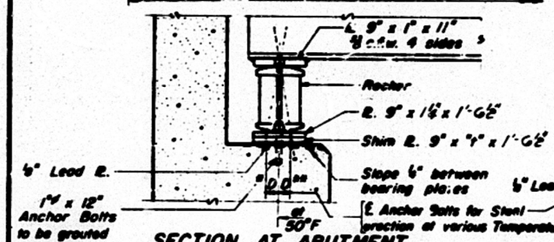
STRUCTURAL STEEL
F.A.I.RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+93.70

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

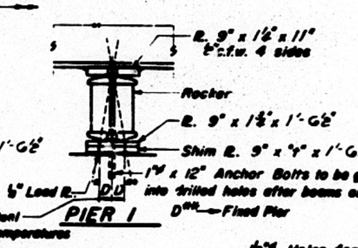
				SHEET NO. 5
F.A.I. 74	48-30B	KNOX	32	94
				12 SHEETS



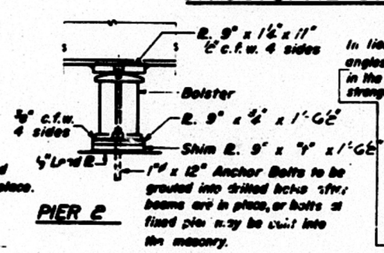
STRUCTURAL STEEL FRAMING PLAN



SECTION AT ABUTMENT

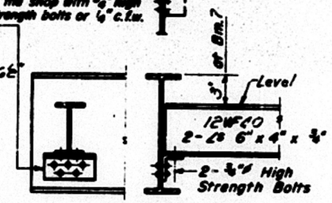


PIER 1

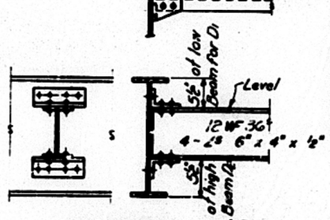


PIER 2

In lieu of shop rivets, angles may be attached in the shop with ¾" high strength bolts or ½" c.f.w.



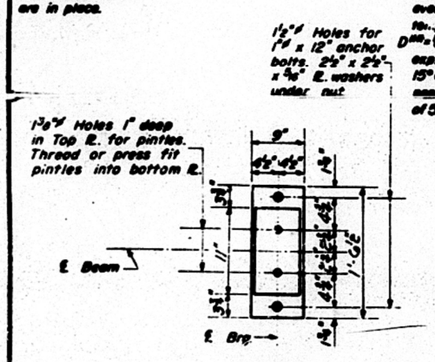
DIAPHRAGM D
12 Required
Each Bridge



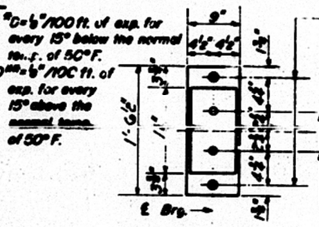
DIAPHRAGM D1 & De
18 D1 & 12 De Required
Each Bridge

MOMENTS				REACTION	
	.4 Sp.1	Pier 1	.5 Sp.2	Abut.	Pier
D.L.	83.69	-135.72	61.06	12.20	38.42
L.L.	163.71	-188.93	172.42	68.83	37.21
I.	55.11	-41.68	51.73	8.65	11.16
Total	322.51	-376.33	285.19	89.68	86.79

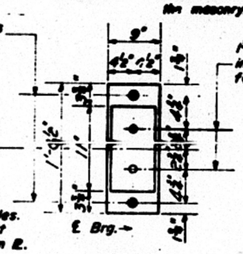
Moments are in Ft-kips - Reaction are in kips



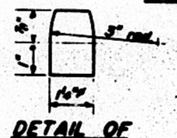
PLAN



PLAN



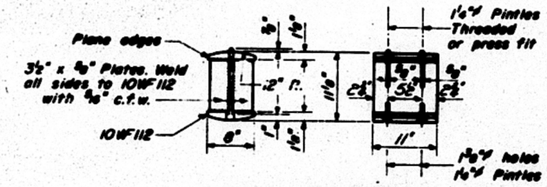
PLAN



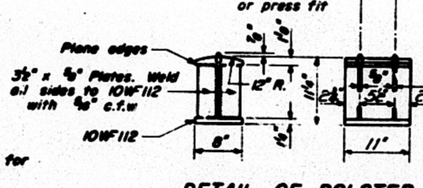
DETAIL OF PINTLE

TABLE OF "f" VALUES

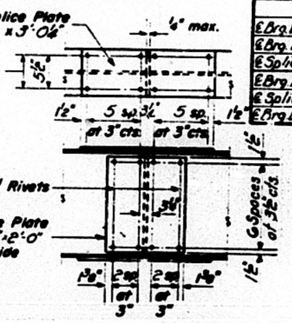
	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6	Bm. 7
All Abuts & Piers	0"	0"	0"	6"	6"	0"	0"
No. Br. All Abuts & Piers	0"	0"	0"	12"	18"	0"	0"
So. Br. All Abuts & Piers	0"	0"	0"	18"	0"	0"	0"



DETAIL OF ROCKER AT ABUTS. & PIER 1



DETAIL OF BOLSTER AT PIER 2



DETAIL OF SPLICE

ELEVATION TOP OF WF
NORTH BRIDGE

636.34

	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6	Bm. 7
℄ Brg. W. Abut	636.19	636.32	636.43	636.47	636.44	635.34	636.19
℄ Brg. Pier 1	636.41	636.54	636.65	636.69	636.66	636.36	636.41
℄ Splice 1	636.47	636.60	636.71	636.75	636.72	636.42	636.47
℄ Brg. Pier 2	636.76	636.89	637.00	637.04	637.01	636.91	636.76
℄ Splice 2	636.84	636.97	637.08	637.12	637.09	636.99	636.84
℄ Brg. E. Abut	637.17	637.30	637.41	637.45	637.42	637.32	637.17

SOUTH BRIDGE

	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6	Bm. 7
℄ Brg. W Abut.	636.14	636.27	636.34	636.35	636.28	636.14	636.00
℄ Brg. Pier 1	636.32	636.45	636.52	636.53	636.46	636.32	636.18
℄ Splice 1	636.39	636.49	636.56	636.57	636.50	636.36	636.22
℄ Brg. Pier 2	636.61	636.74	636.81	636.82	636.75	636.61	636.47
℄ Splice 2	636.68	636.81	636.88	636.89	636.82	636.68	636.54
℄ Brg. E Abut.	636.98	637.11	637.18	637.19	637.12	636.98	636.84

DESIGNED	John W. Clark Jr.	EXAMINED	Aug. 5 1965
CHECKED	Tai Hsu Chi	PASSED	H. J. Alter
P.G. Bernett	W. A. Sessoms Jr.	APPROVED	V. E. Hart
DRAWN			
CHECKED	Tai Hsu Chi		

I-2 7-2-62 Rev 11-9-62 Rev. 8-16-63 Rev. 12-10-63

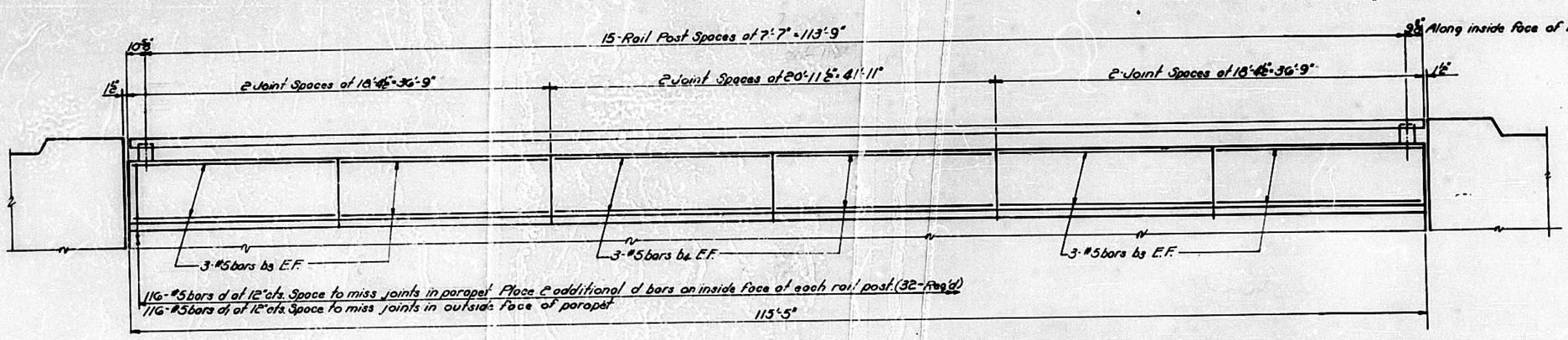
AS BUILT
STRUCTURAL STEEL
F.A.I. RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+33.70

Rev. 4-27-67 J.W.C. Table of "t" Values changed as shown. No. Br. & Brg West Abut. Bm. 6 Elev. changed from 635.34 to 636.34 As Built

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

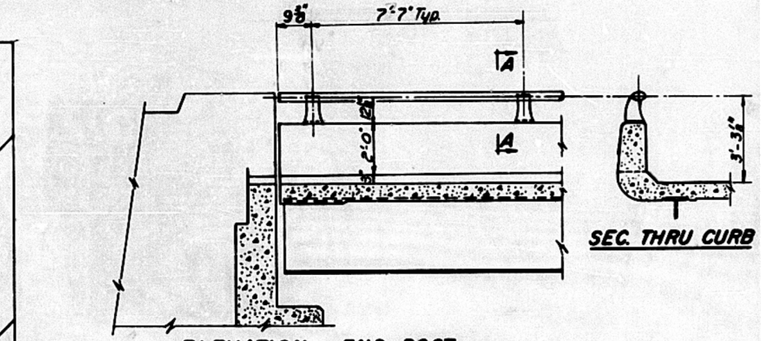
		COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-74	48-30B	KNOX	32	10
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

SHEET NO. 6
12 SHEETS



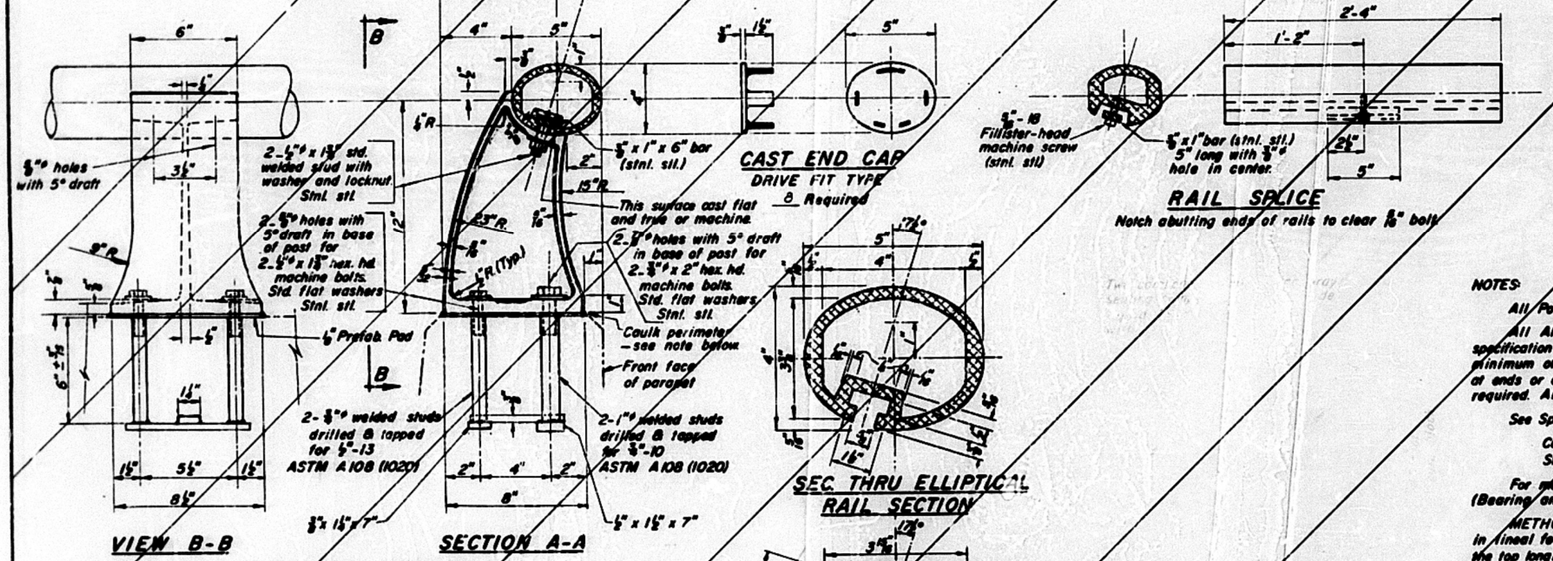
ELEVATION

N. Elevation shown S. similar by rotation
Each bridge



SEC. THRU CURB

ELEVATION – END POST



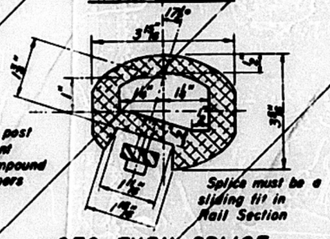
VIEW B-B

SECTION A-A

CAST END CAP
DRIVE FIT TYPE
8 Required

RAIL POST DETAILS

SEC. THRU ELLIPTICAL RAIL SECTION



Splice must be a sliding fit in Rail Section

SEC. THRU SPLICE

RAIL SPLICE
Notch abutting ends of rails to clear ⅝" bolt

DESIGNED	John W Clark	
CHECKED	Tai-Sup Ch	
DRAWN	Wm M. Beal	
CHECKED	Tai-Sup Ch	
EXAMINED	Carl Thurmond	Aug. 5 1965
PASSED	H. J. Alter	
APPROVED	Wm Stratton	

R-17 Dwn 5-28-64, Rev. 1-20-65

Note:
Seal perimeter of base of post to parapet with two component non-staining grey sealing compound with polysulfide liquid polymers —gun grade with primer.

NOTES:

All Posts shall be normal to parapet.

All Aluminum Alloy Extruded Rail shall conform to ASTM specification B-235 alloy 6063-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 A344-T4.
Stainless Steel Welded Stud Bolts, Washers, and Locknuts.

For material composition of Prefabricated Pad, see Article 14.9(1), (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.

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.

TWO BRIDGES
BILL OF MATERIAL

Item	Unit	Quantity
ALUMINUM HANDRAIL	Lin. Ft.	4GP

Quantity of Class X Concrete and Reinforcement Bars included on Superstructure sheet. See sheet #4.

Note:
See sheet 6a for Aluminum Handrail Detail.

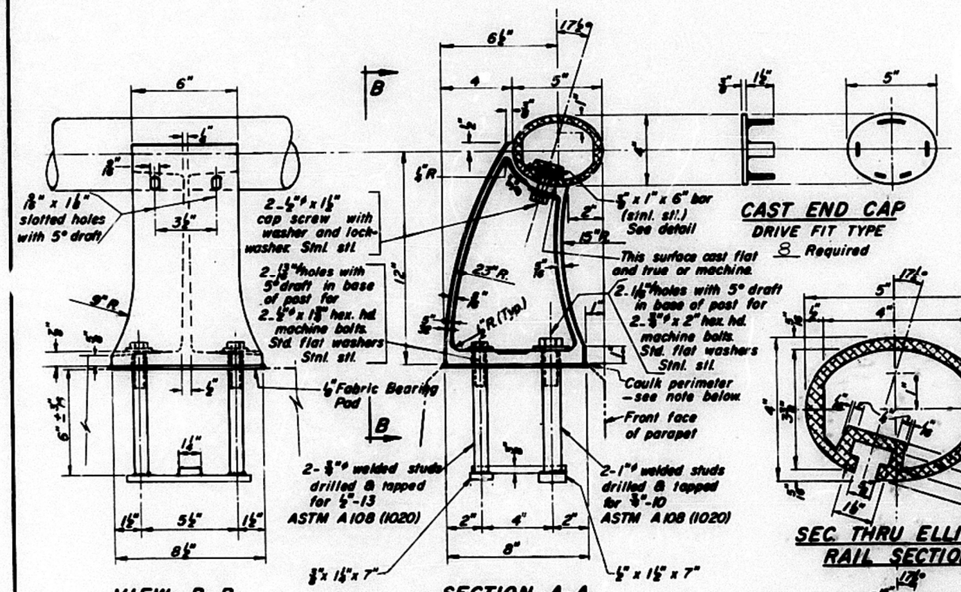
ALUMINUM HANDRAIL
F.A.I. Rt. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+93.7

Rev. 13 Dec. 66 JWC Rail Detail deleted. sheet 6a added.

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	48-30B	KNOX	32	10A
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 6A
12 SHEETS



VIEW B-B

SECTION A-A

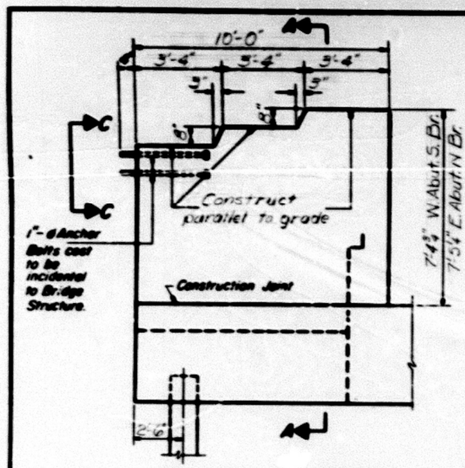
RAIL POST DETAILS

CAST END CAP
DRIVE FIT TYPE
8 Required

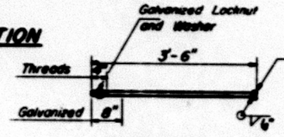
17½°
5"
4"
3½"
1"
1½"
1½"
1½

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

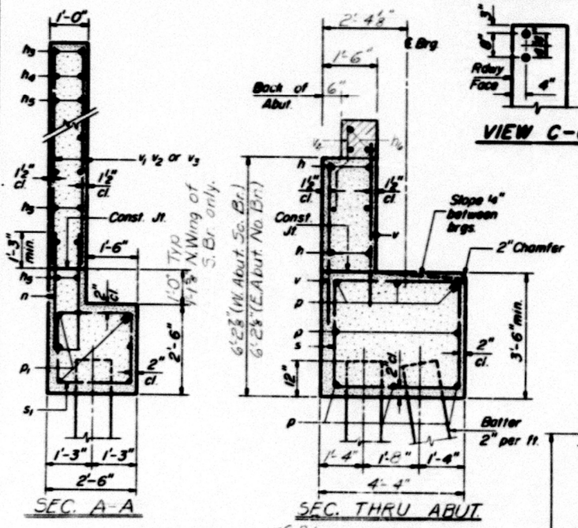
F.A.I. 74	48 (30B)	KNOX	32	11	SHEET NO. 11 OF 12 SHEETS

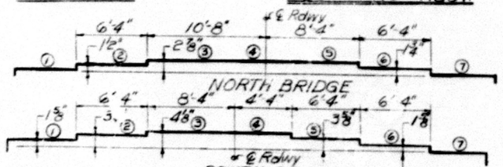


WING WALL ELEVATION

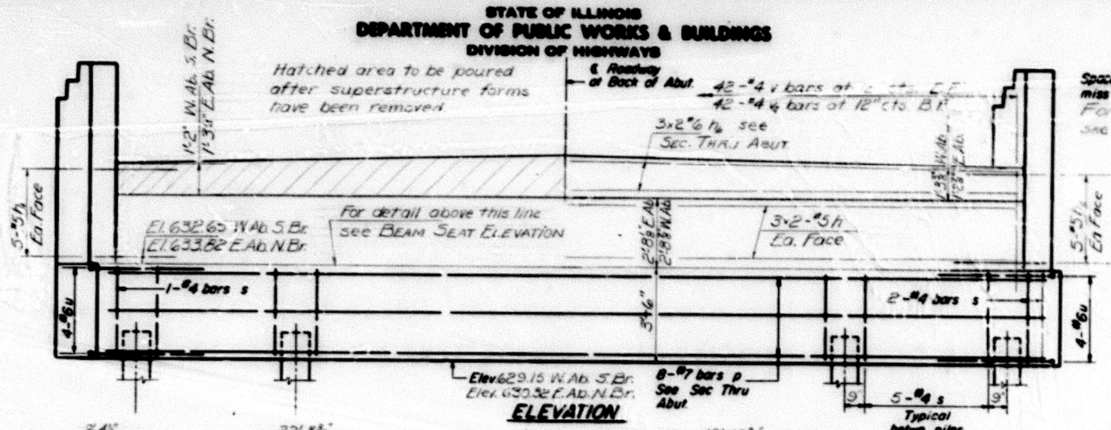


1" ø ANCHOR BOLT

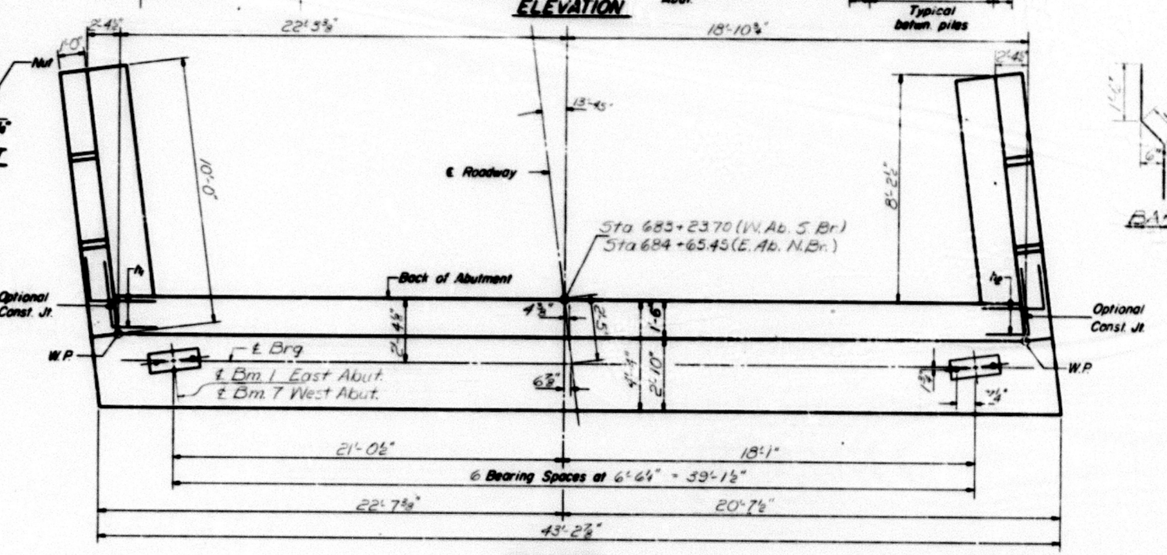




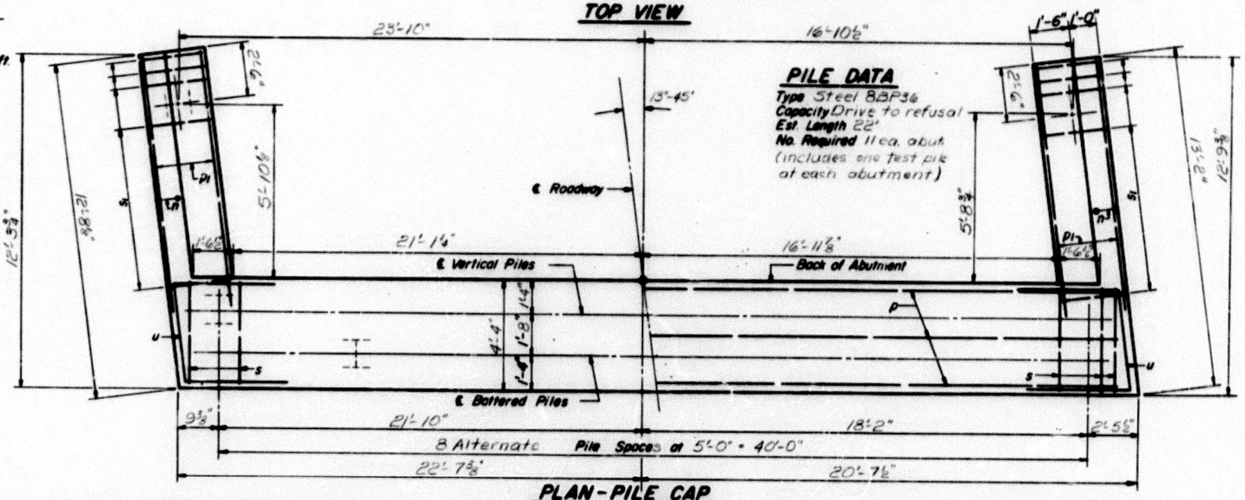
BEAM SEAT ELEVATION



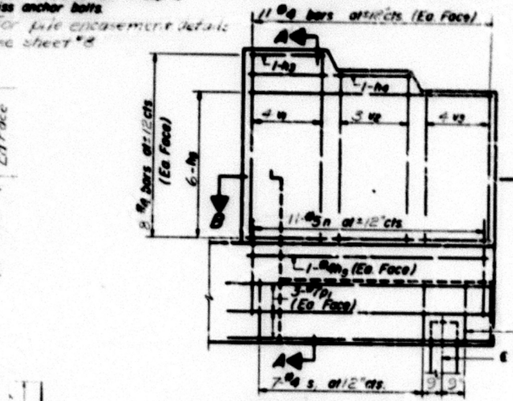
ELEVATION



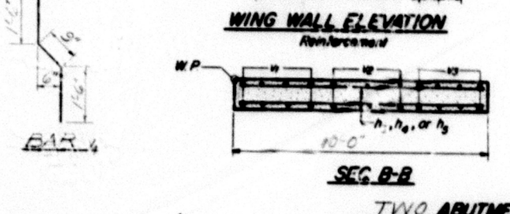
TOP VIEW



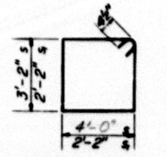
PLAN-PILE CAP



WING WALL ELEVATION
Reinforcement



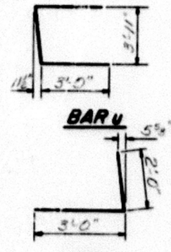
SEC. B-B



BAR s & s1



BAR n



BAR u

BAR h2



BAR h1

TWO ABUTMENTS
BILL OF MATERIAL

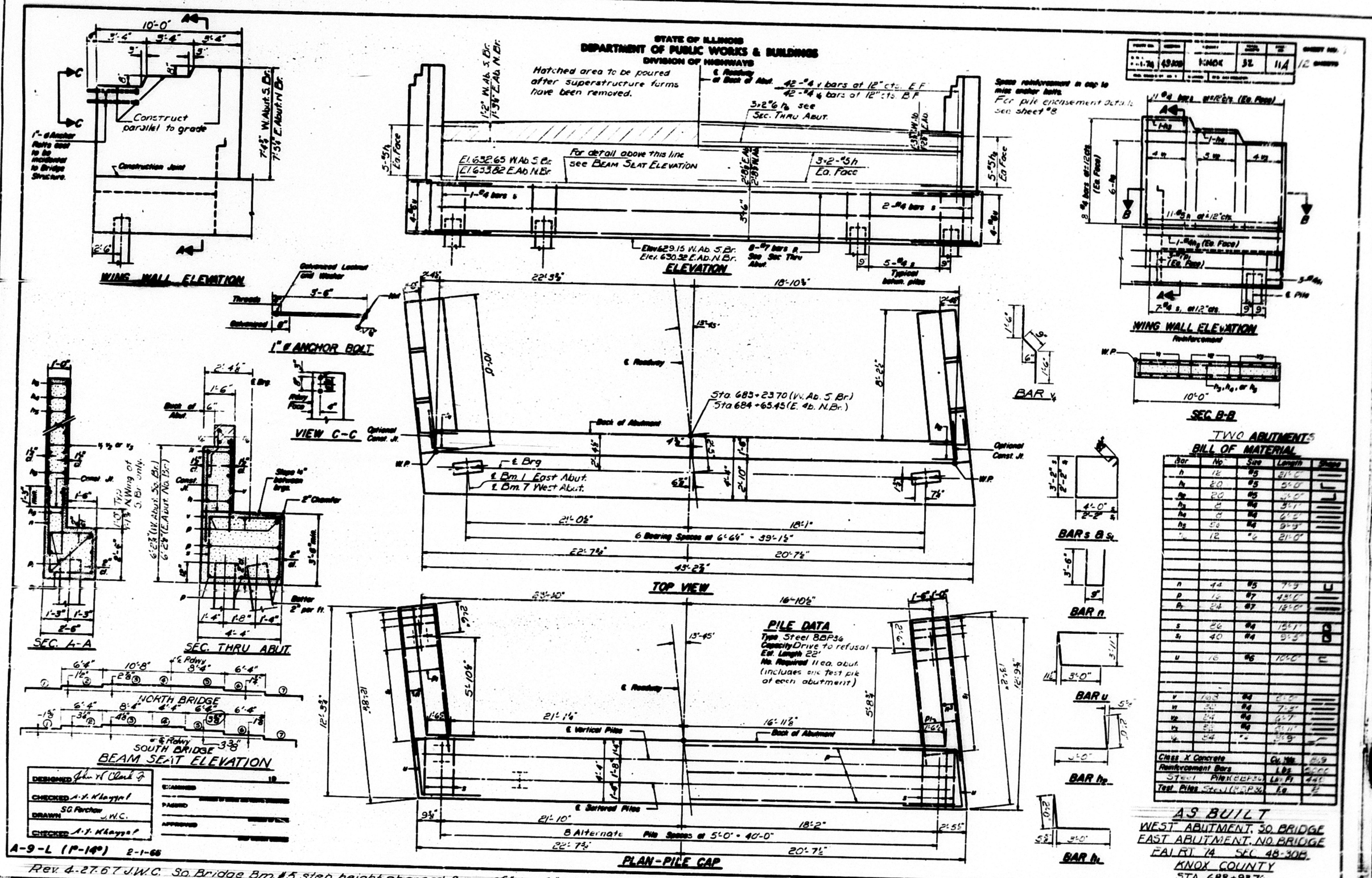
Bar	No.	Size	Length	Shape
h	18	#5	21'-0"	
h1	10	#5	5'-0"	
h2	20	#5	9'-0"	
h3	8	#4	3'-1"	
h4	8	#4	6'-8"	
h5	34	#4	9'-3"	
n	12	#6	21'-0"	
n	44	#5	7'-9"	
p	16	#7	43'-0"	
p1	24	#7	18'-0"	
s	26	#4	18'-1"	
s1	40	#4	9'-3"	
u	16	#6	10'-0"	
v	168	#4	6'-0"	
w	32	#4	7'-3"	
w2	64	#4	6'-7"	
w3	32	#4	6'-11"	
x	84	#4	3'-9"	
Class X Concrete			Cu. Yds.	349
Reinforcement Bars			Lbs.	8000
Steel Piles (BBP36)			Lin. Ft.	440
Test Piles Steel (BBP36)			Ea.	2

WEST ABUTMENT, SO. BRIDGE
EAST ABUTMENT, NO. BRIDGE
F.A.I. RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 684+93.70

DESIGNED	John W. Clark '69	
CHECKED	A.Y. Khayyat	
DRAWN	S.G. Ferchaw	J.W.C.
CHECKED	A.Y. Khayyat	

EXAMINED
PASSED
APPROVED
19

A-9-L (1°-14°) 2-1-66



TWO ABUTMENTS

BILL OF MATERIAL

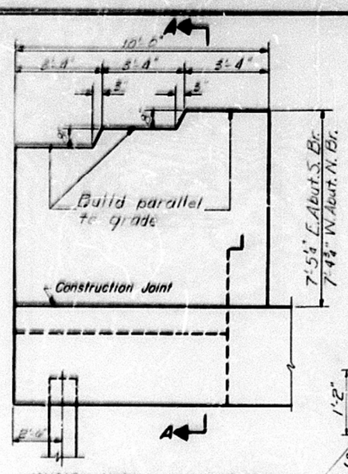
Bar	No.	Size	Length	Shape
h	12	#5	21'-0"	
h1	20	#5	5'-0"	
h2	20	#5	5'-0"	
h3	8	#4	3'-1"	
h4	8	#4	6'-2"	
h5	56	#4	9'-9"	
h6	12	#6	21'-0"	
n	44	#5	7'-9"	
p	16	#7	43'-0"	
p1	24	#7	12'-0"	
s	86	#4	15'-1"	
s1	40	#4	9'-5"	
u	16	#6	10'-0"	
v	168	#4	8'-0"	
v1	32	#4	7'-3"	
v2	24	#4	6'-7"	
v3	32	#4	5'-11"	
v4	84	#4	3'-9"	
Class X Concrete			Cu. Yds.	819
Reinforcement Bars			Lbs.	5000
Steel Piles (8BP36)			Lin. Ft.	440
Test Piles Steel (8BP36)			Ea.	12

AS BUILT
WEST ABUTMENT, SO. BRIDGE
EAST ABUTMENT, NO. BRIDGE
FAI RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+93.70

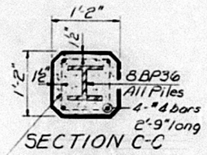
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	48-30B	KNOX	32	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 8
12 SHEETS

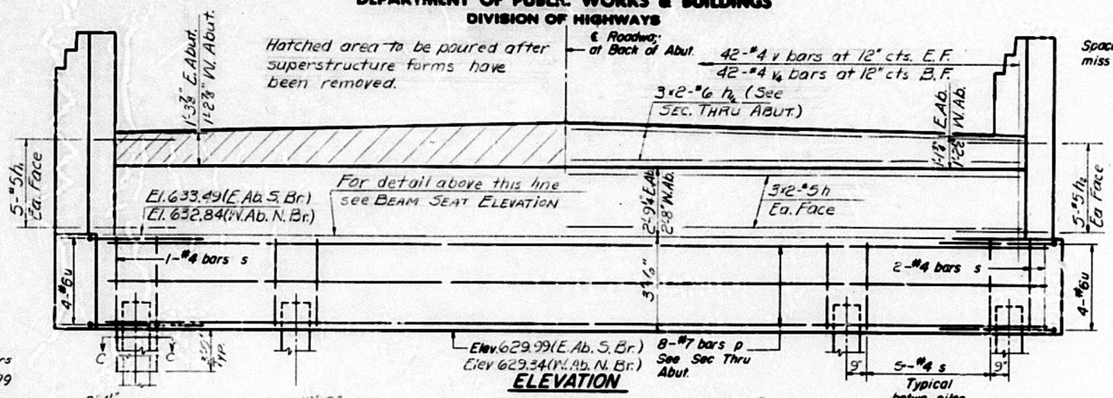


WING WALL ELEVATION



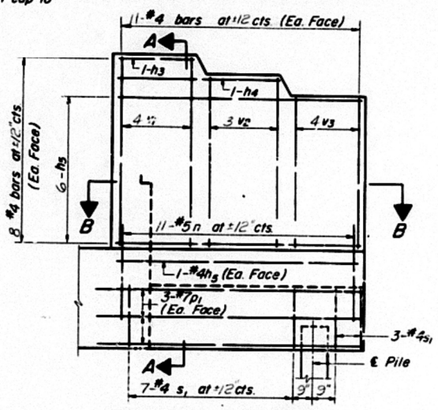
SECTION C-C

#4 gage W.W. fabric 6"x6" mesh, Wf 58# per 100 sq. ft. Cost of Class X Conc. Encasement shall be included in cost of furnishing piles.

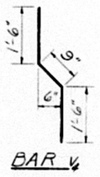


ELEVATION

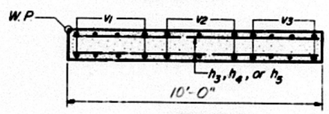
Space reinforcement in cap to miss anchor bolts.



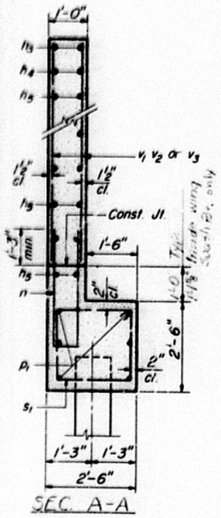
WING WALL ELEVATION
Reinforcement



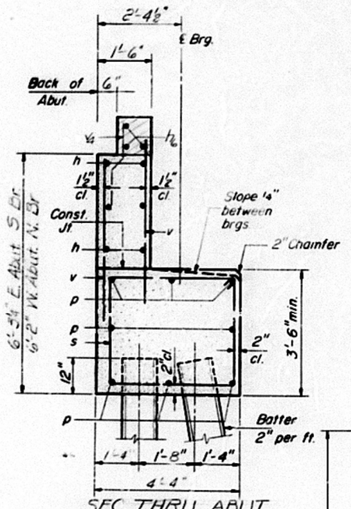
BAR v₄



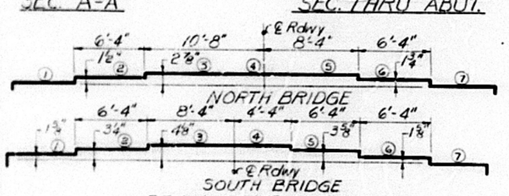
SEC. B-B



SEC. A-A



SEC. THRU ABUT.

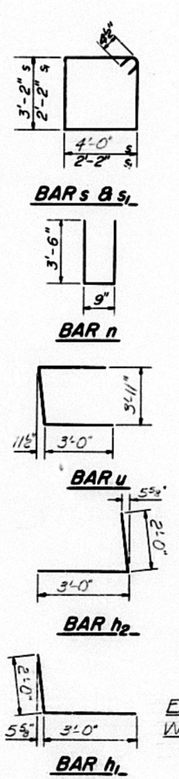


BEAM SEAT ELEVATION

TOP VIEW

PLAN-PILE CAP

PILE DATA
Type: Steel 8BP36
Capacity Drive to refusal
Est. Length 22 ft.
No. Required 11 ea. abut



BAR s & s1
BAR n
BAR u
BAR h2
BAR h1

TWO ABUTMENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	12	#5	21'-0"	
h1	20	#5	5'-0"	
h2	20	#5	5'-0"	
h3	8	#4	3'-1"	
h4	8	#4	6'-5"	
h5	56	#4	9'-9"	
h6	12	#6	21'-0"	
n	44	#5	7'-9"	
p	16	#7	43'-0"	
p1	24	#7	12'-0"	
s	86	#4	15'-1"	
s1	40	#4	9'-5"	
u	16	#6	10'-0"	
v	168	#4	3'-0"	
v1	32	#4	7'-3"	
v2	24	#4	6'-7"	
v3	32	#4	5'-11"	
v4	84	#4	3'-9"	
Class X Concrete			Cu. Yds.	81.9
Reinforcement Bars			Lbs.	5000
Steel Piles (8BP36)			Lin. Ft.	484

EAST ABUTMENT, SO. BRIDGE
WEST ABUTMENT, NO. BRIDGE
F.A.I. RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+93.70

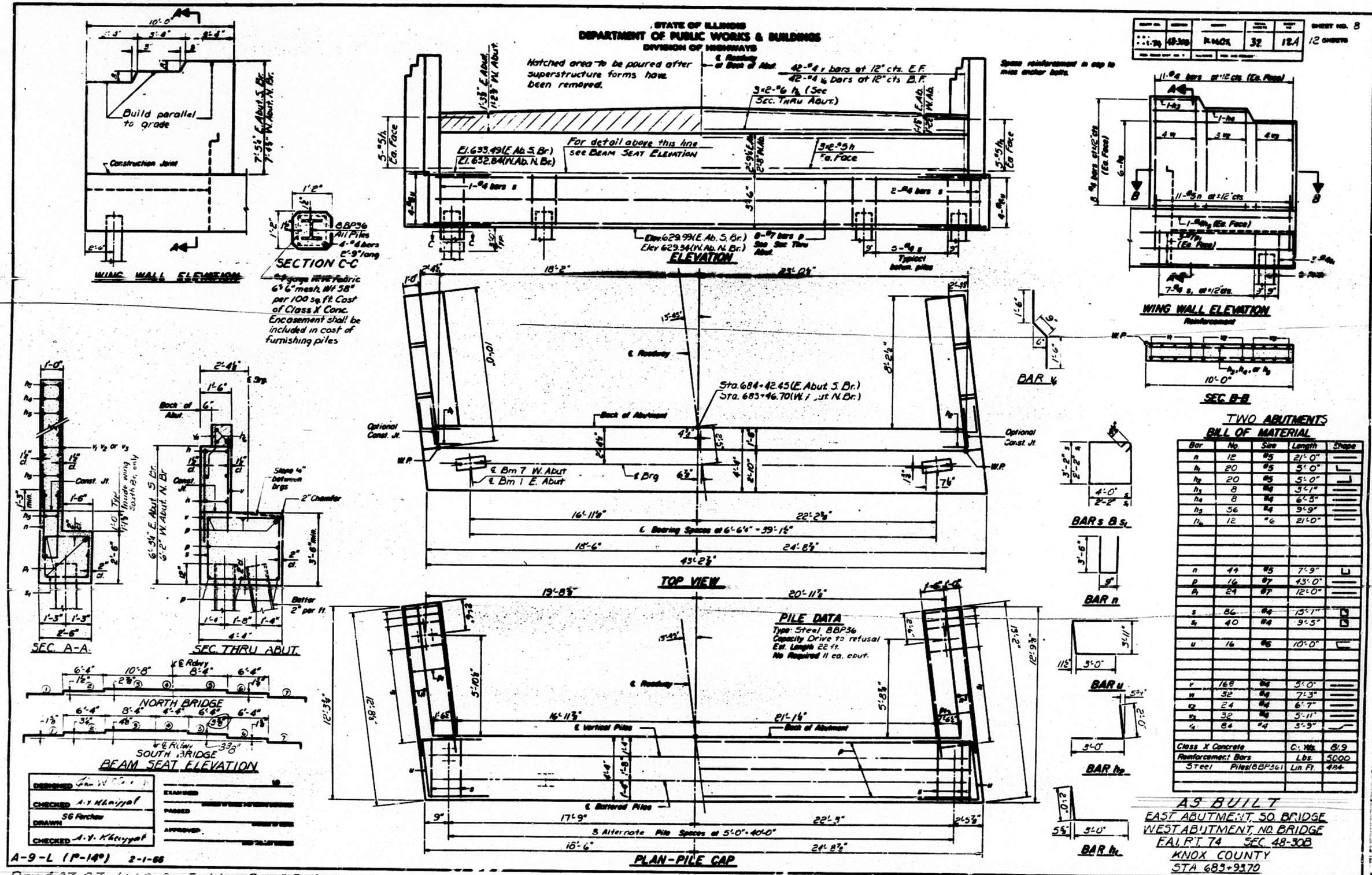
DESIGNED	Kha. W. Chan	19
CHECKED	A.V. Khanyat	EXAMINED
DRAWN	S.G. Ferchow	PASSED
CHECKED	A.V. Khanyat	APPROVED

ENGINEER OF BRIDGE AND TRAFFIC INVESTIGATIONS
ENGINEER OF DESIGN
CHIEF HIGHWAY ENGINEER

A-9-L (1°-14°) 2-1-66

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

	48-308	KNOX	32	12A	SHEET NO. 8 / 12 SHEETS



TWO ABUTMENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
n	12	#5	21'-0"	
h₁	20	#5	5'-0"	
h₂	20	#5	5'-0"	
h₃	8	#4	3'-1"	
h₄	8	#4	6'-5"	
h₅	56	#4	9'-9"	
h₆	12	#6	21'-0"	
n	44	#5	7'-9"	
p	16	#7	43'-0"	
p₁	24	#7	12'-0"	
s	86	#4	15'-1"	
s₁	40	#4	9'-5"	
u	16	#6	10'-0"	
v	168	#4	5'-0"	
v₁	32	#4	7'-3"	
v₂	24	#4	6'-7"	
v₃	32	#4	5'-11"	
v₄	84	#4	3'-9"	
Class X Concrete			Cu. Yds.	81.9
Reinforcement Bars			Lbs.	5000
Steel Piles (8BP36)			Lin. Ft.	484

DESIGNED	[illegible]
CHECKED	A. Y. Khayyat
DRAWN	SG Forchow
CHECKED	A. Y. Khayyat

EXAMINED
PASSED
APPROVED

A-9-L (1°-14°) 2-1-66

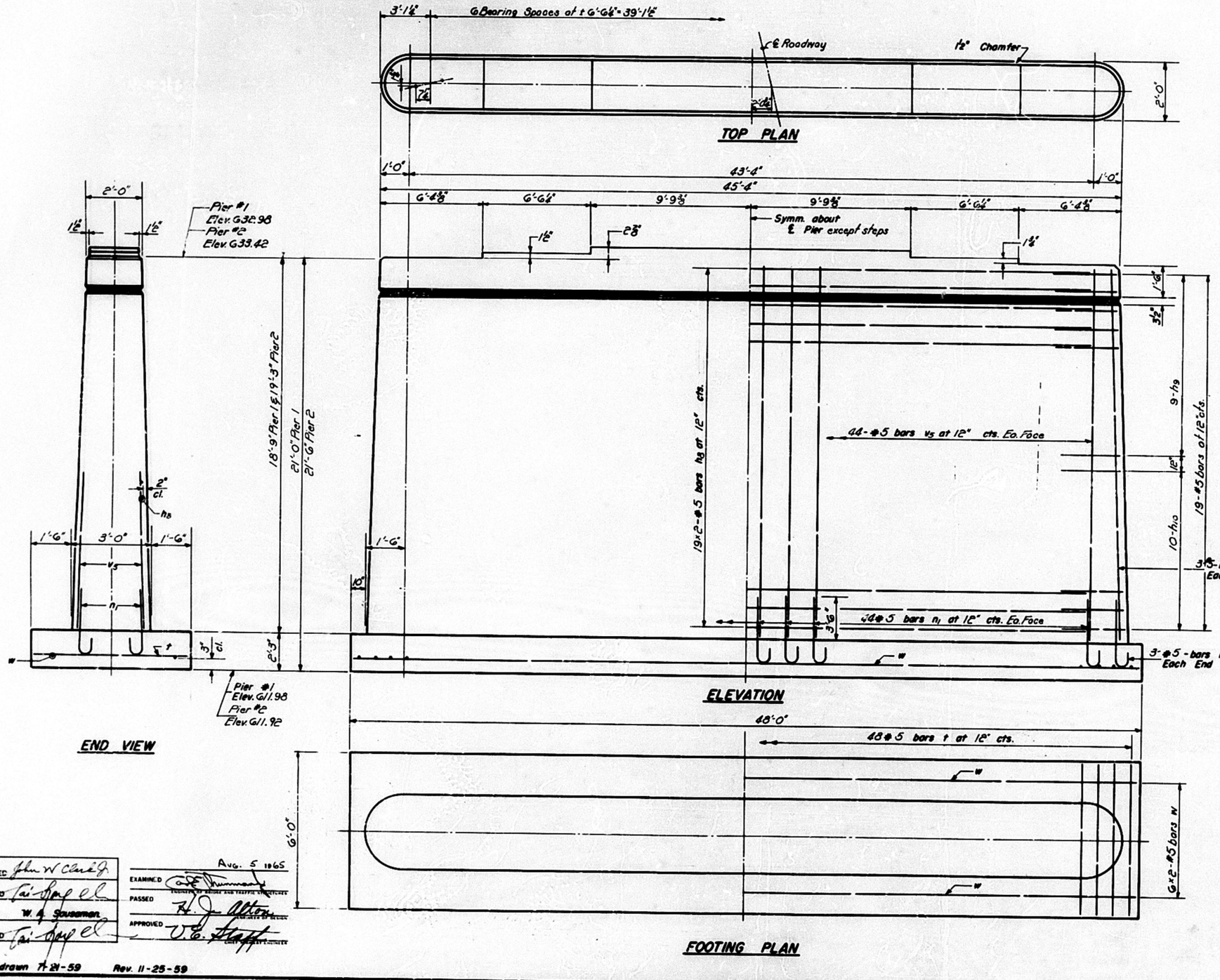
AS BUILT
EAST ABUTMENT, SO. BRIDGE
WEST ABUTMENT, NO. BRIDGE
F.A.I. RT. 74 SEC. 48-30B
KNOX COUNTY
STA 683+93.70

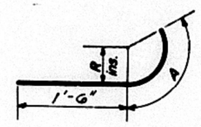
Rev. 4-27-67 J.W.C. So. Bridge Bm. #5 step height changed from 3⅝" to 3⅜" as built

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I. 74	48308	KNOX	32	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

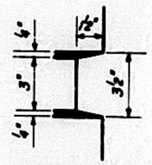
SHEET NO. 9
12 SHEETS



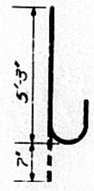


Bar	R	A
h_9	10"	2'-0"
h_{10}	1'-2"	2'-6"

DETAIL OF BARS



NOTCH DETAIL



BAR n.

TWO PIERS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_8	152	#5	82'-2"	
h_9	72	#5	3'-6"	
h_{10}	80	#5	4'-0"	
n_1	188	#5	5'-10"	
t	96	#5	5'-9"	
v_s	188	#5	18'-7"	
w	24	#5	24'-6"	
Class A Concrete			Cu. Yds.	807.7
Reinforcement Bars			Lbs.	10090

DESIGNED	John W Clark Jr.
CHECKED	Tai Appel
DRAWN	W. A. Sausaman
CHECKED	Tai Appel
EXAMINED	Aug. 5 1965 C. E. Thurmond, Engineer of Bridge and Traffic Structures
PASSED	H. J. Alton, Engineer of Design
APPROVED	V. E. Hoff, Chief Engineer

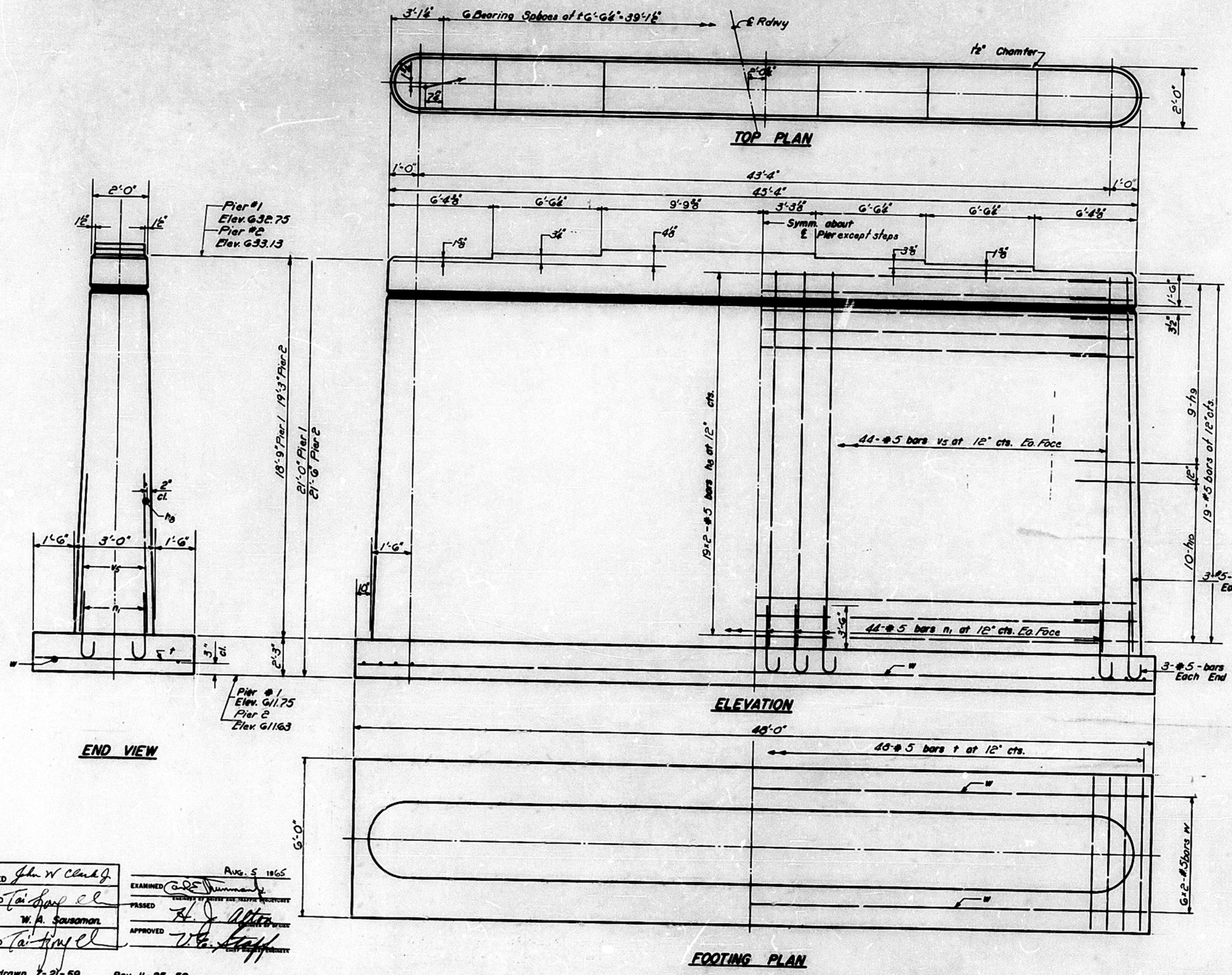
P-1 Re-drawn 7-21-59 Rev. 11-25-59

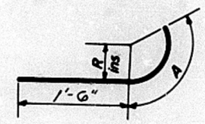
PIERS 1 & 2
NORTH BRIDGE
F.A.I. RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+93.70

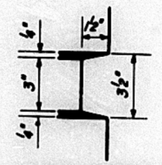
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.I.-74	48-30B	KNOX	32	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10
12 SHEETS



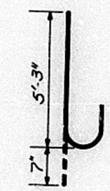




NOTCH DETAIL

Bar	R	A
h9	10"	2'-0"
h10	1'-2"	2'-6"

DETAIL OF BARS
h



BAR n1

TWO PIERS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h8	152	#5	22'-2"	
h9	72	#5	3'-6"	
h10	80	#5	4'-0"	
n1	188	#5	5'-10"	
t	96	#5	5'-9"	
v5	188	#5	18'-7"	
w	24	#5	24'-6"	
Class A Concrete			Cu. Yds.	207.7
Reinforcement Bars			Lbs.	10090

DESIGNED	John W Clark Jr.
CHECKED	Tai Long Ell
DRAWN	W. A. Sausaman
CHECKED	Tai Long Ell

Aug. 5 1965
EXAMINED Carl E. Thunman Jr. ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED H. J. Alton ENGINEER OF DESIGN
APPROVED V. E. Staff CHIEF HIGHWAY ENGINEER

P-1 Re-drawn 7-21-59 Rev. 11-25-59

PIERS 1 & 2
SOUTH BRIDGE
F.A.I. RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+93.70

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

WRITE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	48-30B	KNOX	32	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 11
12 SHEETS

COUNTY Knox
Boring No. 1
Station 683+35
Offset 60' Rt. ℄ along ℄ Pier #1

Surface Water El. —
Groundwater El. at Completion 618.4
After 24 Hours 619.4

Elevation	N	Qu t/s.f.	w (%)
Ground Surface 623.4	0		
Medium Brown Silty CLAY LOAM	5	0.8 B	29
	-5		
	4	0.6 B	-
616.4			
Loose Brown Angular Well graded SAND (Traces of Gravel)	7	-	-
	-10		
	5	-	-
611.4			
Hard Gray Shaley CLAY	100/1"	3.9 B	16
	-15		
	50/2"	-	-
End of Boring 604.9	100/4"	-	16
	-20		
	-25		
	-30		
	-35		
	-40		
	-45		

COUNTY Knox
Boring No. 2
Station 683+35
Offset 38'Rt. ℄ along ℄ Pier #1

Surface Water El. —
Groundwater El. at Completion 618.3
After 20 Hours 619.3

Elevation	N	Qu t/s.f.	w (%)
Ground Surface 625.3	0		
Very Soft Brown Silty CLAY LOAM	5	0.0 B	-
620.8			
Soft Brown Silty CLAY LOAM	-5		
	5	0.4 B	-
618.3			
Loose Brown Angular Wellgraded SAND (Traces of Gravel)	9	-	-
615.8			
Medium Brown SAND (Traces of Gravel)	-10		
	12	-	-
613.3			
Hard Gray Shaley CLAY	100/4"	2.3 B	-
	-15		
	50/2"	-	-
End of Boring 606.8	100/4"	-	-
Note: Moisture contents Comparable to Boring #1	-20		
	-25		
	-30		
	-35		
	-40		
	-45		

COUNTY Knox
Boring No. 3
Station 683+64
Offset 38'Rt. ℄ along Pier #1

Surface Water El. —
Groundwater El. at Completion 619.1
After — Hours

Elevation	N	Qu t/s.f.	w (%)
Ground Surface 626.1	0		
Soft Brown Silty CLAY LOAM	10	0.5 B	5 -
	-5		
	7	0.6 B	-
619.1			
Loose Brown Angular, Well Graded SAND (Traces of Gravel)	10	-	-
	-10		
	6	-	-
614.1			
Hard Gray Shaley CLAY	50/4"	-	-
	-15		
	50/4"	-	-
607.6	100/4"	-	-
Note: Boring could not be obtained on line of Pier #1, All material throughout area of borings was consistent. Moisture contents on this boring comparable to Boring #1	-20		
	-25		
	-30		
	-35		
	-40		
	-45		

COUNTY Knox
Boring No. 4
Station 683+74
Offset 60'Lt. ℄ along Pier #1

Surface Water El. —
Groundwater El. at Completion 617.4
After — Hours

Elevation	N	Qu t/s.f.	w (%)
Ground Surface 625.4	0		
Medium Brown Silty CLAY LOAM	8	0.7 B	-
	-5		
	5	0.8 B	-
618.4			
Very Soft Gray Sandy LOAM	2	0.2 B	-
616.9			
Medium Brown Angular, Well Graded SAND (Traces of Gravel)	-10		
	14	-	-
613.4			
Hard Gray Shaley CLAY	100/4"	-	-
	-15		
	50/2"	-	-
End of Boring 606.9	100/4"	-	-
Note: Moisture contents comparable to Boring #6.	-20		
	-25		
	-30		
	-35		
	-40		
	-45		

DESIGNED John W Clark Jr. — EXAMINED Carl Hammarberg
CHECKED Tai Sung Chi — PASSED A. J. Alton
DRAWN — APPROVED V. E. Staff
CHECKED Tai Sung Chi — AUG. 5 1965

N = Standard Penetration Test - Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140# hammer falling 30".

Qu = Unconfined Compressive Strength - t/sf

w = Water Content - percentage of oven dry weight - %

Type failure
B = Bulge Failure
S = Shear Failure
E = Estimated Value

BORING DATA
F.A.I. RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+93.70

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	48308	KNOX	32	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 12
12 SHEETS

COUNTY Knox — Boring No. 5 — Station 681+15.5 — Offset 60'Rt. ℄ along Pier #2

Surface Water El. —
Groundwater El. at Completion 618.8
After 22 Hours 618.8

Elevation	Description	N	Qu t/s.f.	w (%)
626.8	Ground Surface			
	Stiff Brown Silty CLAY LOAM	7	3.0 B	-
619.8				
	Very Soft Brown Sandy LOAM	4	0.0 B	-
617.3				
	Loose Brown Angular, Well Graded SAND (Traces of Gravel)	4	-	-
		-	-	-
612.3				
	Hard Gray Shaley CLAY	100/4"	-	-
		50/3"	-	-
605.8	End of Boring	50/2"	-	-
	Note: Moisture contents comparable to Boring #6.			

COUNTY Knox — Boring No. 6 — Station 681+15.5 — Offset 38'Lt. ℄ along Pier #2

Surface Water El. —
Groundwater El. at Completion 619.1
After 32 Hours 619.1

Elevation	Description	N	Qu t/s.f.	w (%)
625.1	Ground Surface			
	Stiff Brown Silty CLAY LOAM	6	1.2 B	27
621.6				
	Very Soft Brown Silty CLAY LOAM	6	0.0 B	-
618.1				
	Very Soft Brown Sandy LOAM	4	0.0 B	-
615.6				
	Loose Brown Angular well graded SAND (traces of Gravel)	5	-	27
613.1				
	Hard Gray Shaley CLAY	100/4"	-	11
		50/3"	-	-
		100/5"	20*	-
		50/3"	-	-
601.6	Hard Gray Shaley CLAY	50/4"	-	14
	End of Boring			

COUNTY Knox — Boring No. 7 — Station 684+54 — Offset 36'Rt. ℄ along E. Abut.

Surface Water El. —
Groundwater El. at Completion 618.9
After 66 Hours 618.9

Elevation	Description	N	Qu t/s.f.	w (%)
626.9	Ground Surface			
	Very Soft Brown Silty CLAY LOAM	6	0.1 B	-
619.9				
	Very Soft Brown Sandy LOAM	2	0.0 B	-
617.4				
	Loose Brown Angular, Well graded SAND (Traces of Gravel)	4	-	-
		9	-	-
612.4				
	Hard Gray Shaley CLAY	100/5"	-	-
		50/3"	-	-
		100/4"	-	-
605.9	End of Boring			
	Note: Moisture contents comparable to Boring #6.			

COUNTY Knox — Boring No. 8 — Station 684+54 — Offset 60'Lt. ℄ along E. Abut.

Surface Water El. —
Groundwater El. at Completion 618.9
After 69 Hours 618.9

Elevation	Description	N	Qu t/s.f.	w (%)
626.9	Ground Surface			
	Soft Brown Silty CLAYLOAM	6	0.6 B	24
619.9				
	Very Soft Brown Sandy LOAM	3	0.0 B	-
617.4				
	Medium Brown Angular, well graded SAND (Traces of Gravel)	11	-	16
		22	-	-
612.4				
	Hard Gray Shaley CLAY	100/4"	-	11
		50/3"	-	-
		50/3"	-	-
605.9	End of Boring			

DESIGNED John W Clark Jr.
CHECKED Tai Sup Ch
DRAWN
CHECKED Tai Sup Ch

AUG. 5 1965
EXAMINED C.E. Emmerich
PASSED R.D. Stratton
APPROVED V.A. Hoffstot

N – Standard Penetration Test – Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140# hammer falling 30".

Qu – Unconfined Compressive Strength – t/sf

w – Water Content – percentage of oven dry weight – %

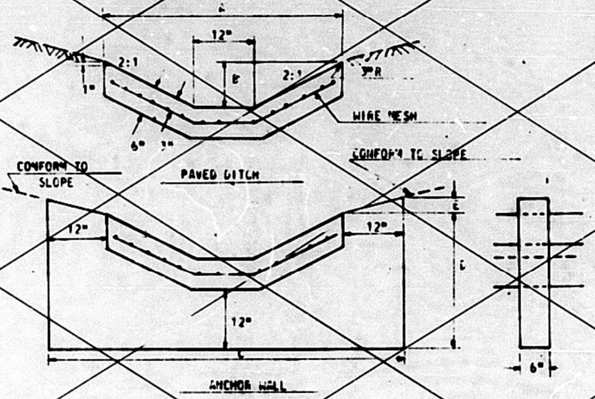
Type failure:
B – Bulge Failure
S – Shear Failure
E – Estimated Value

BORING DATA
F.A.I. RT. 74 SEC. 48-30B
KNOX COUNTY
STA. 683+93.70

F.A.I. RTE. 74 Sec. 48-30B Knox Co. Dist. 4

F.A.	SEC.	COUNTY	SHEET	SHEET
74	48-308	KNOX	32	17

FED. ROAD DIST. NO. 1 | ILLINOIS | PROJECT 2-74-3( )65



ANCHOR WALLS SHALL BE BUILT (1) AT THE BEGINNING AND END OF EACH SERIES (2) AT BOTH ENDS OF EACH ENTRANCE CULVERT WHERE PAVED DITCH IS LOCATED AND AT INTERVALS OF NOT MORE THAN 100 LINEAL FEET ALONG PAVED DITCH.

WHEN A PAVED DITCH IS SHOWN ON THE PLANS ADJACENT TO AN ENTRANCE CULVERT THE LAST 5 FEET ON THE UPSTREAM END SHALL BE SHAPED TO FIT THE CULVERT TO INSURE DRAINAGE THRU THE CULVERT.

ANCHOR WALLS AND WIRE MESH SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PAVED DITCH AND NO EXTRA COMPENSATION WILL BE ALLOWED.

WIRE MESH TO BE USED SHOULD HAVE A WEIGHT OF AT LEAST 50 POUNDS PER 100 SQ FEET.

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAL FOOT FOR 4' PAVED DITCH , 5' PAVED DITCH , MEASURED ALONG FLOW LINE.

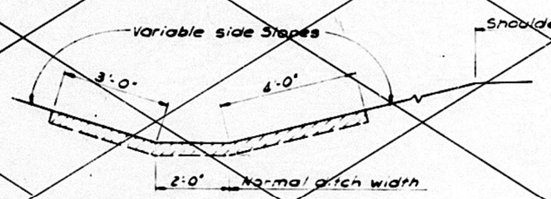
DESIGN	A	B	C	D	E 2:1	E 3:1	E 4:1
4'	4'-0"	0'-9"	6'-0"	2'-3"	0'-6"	0'-4"	0'-3"
5'	5'-0"	1'-0"	7'-0"	2'-6"	0'-6"	0'-4"	0'-3"

STA.	LOC.	S.Y.	REM.

NOTES

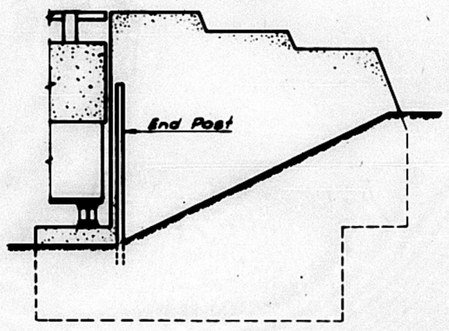
At the ends of culverts, where side ditches are sodded sodding shall be placed from the ditch to the cut-off wall and wing walls of culvert.

All listed ditches have a normal bottom width (2) ft except as noted.

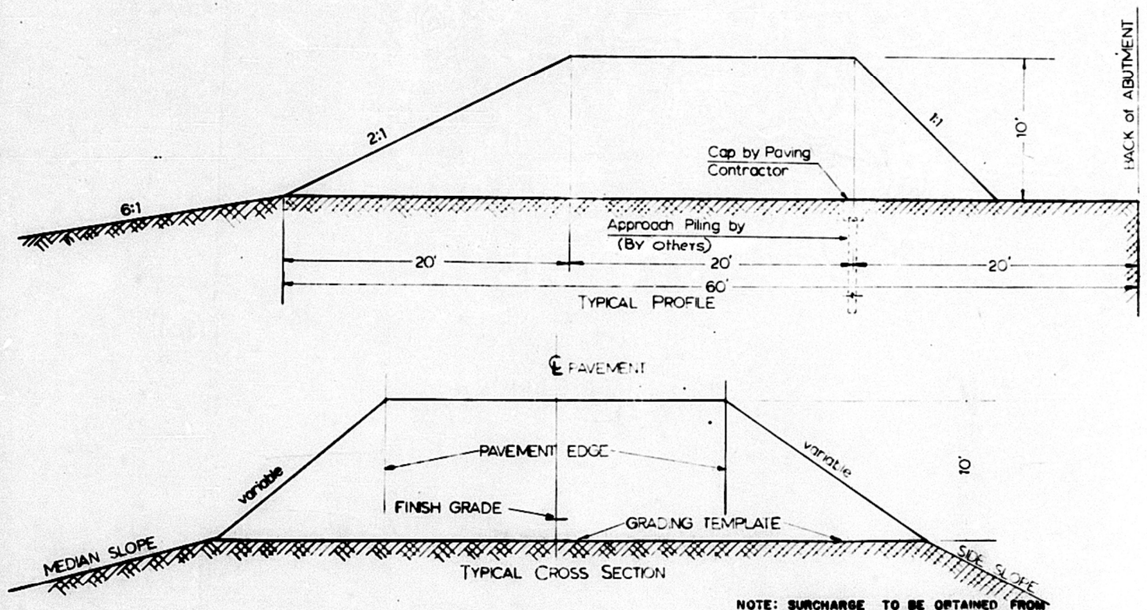


SODDED DITCH

Note: Place End Post as close as possible to wing wall



END POST DETAIL

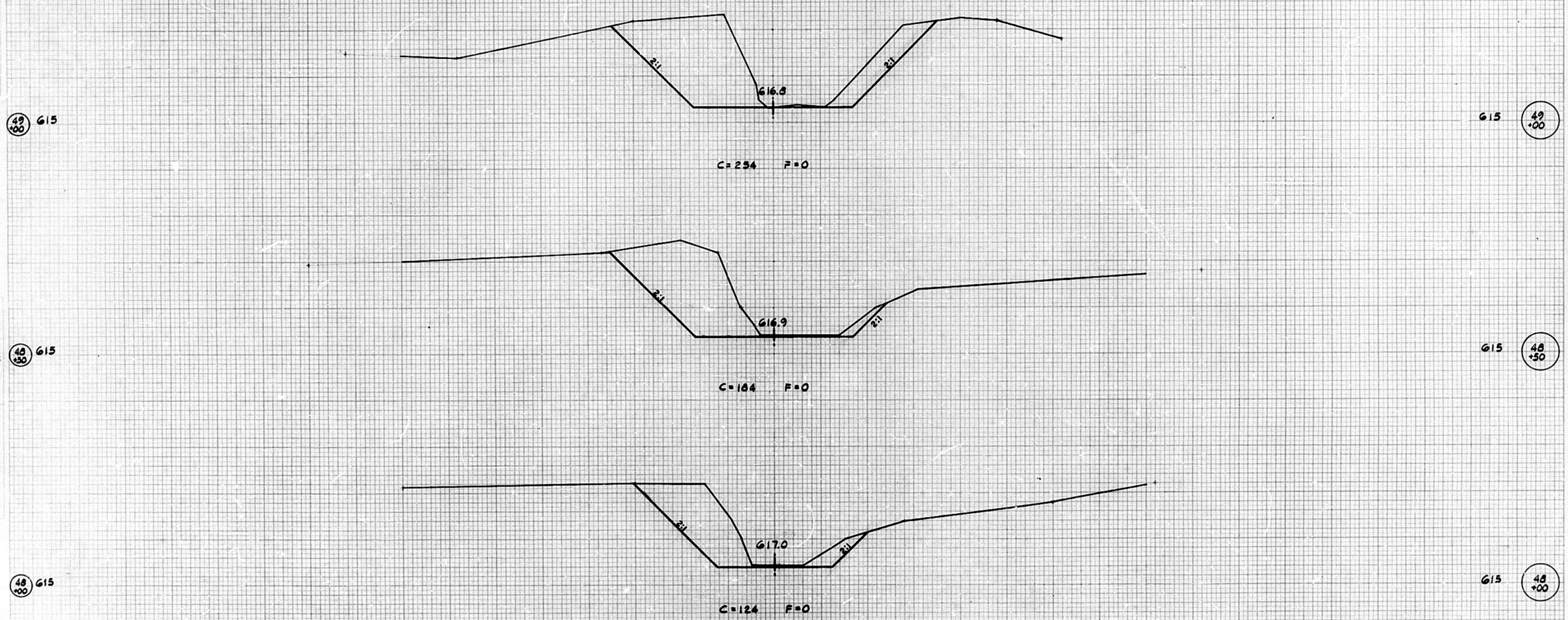


NOTE: SURCHARGE TO BE OBTAINED FROM UNSUITABLE EARTH EXCAVATION.
EMBANKMENT = 2400 CU. YDS.
(600 CU. YDS. per CONE)

CONE SURCHARGE

P.&I.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	48 308	KNOX	32	18
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT I-74-3 ( ) 65		

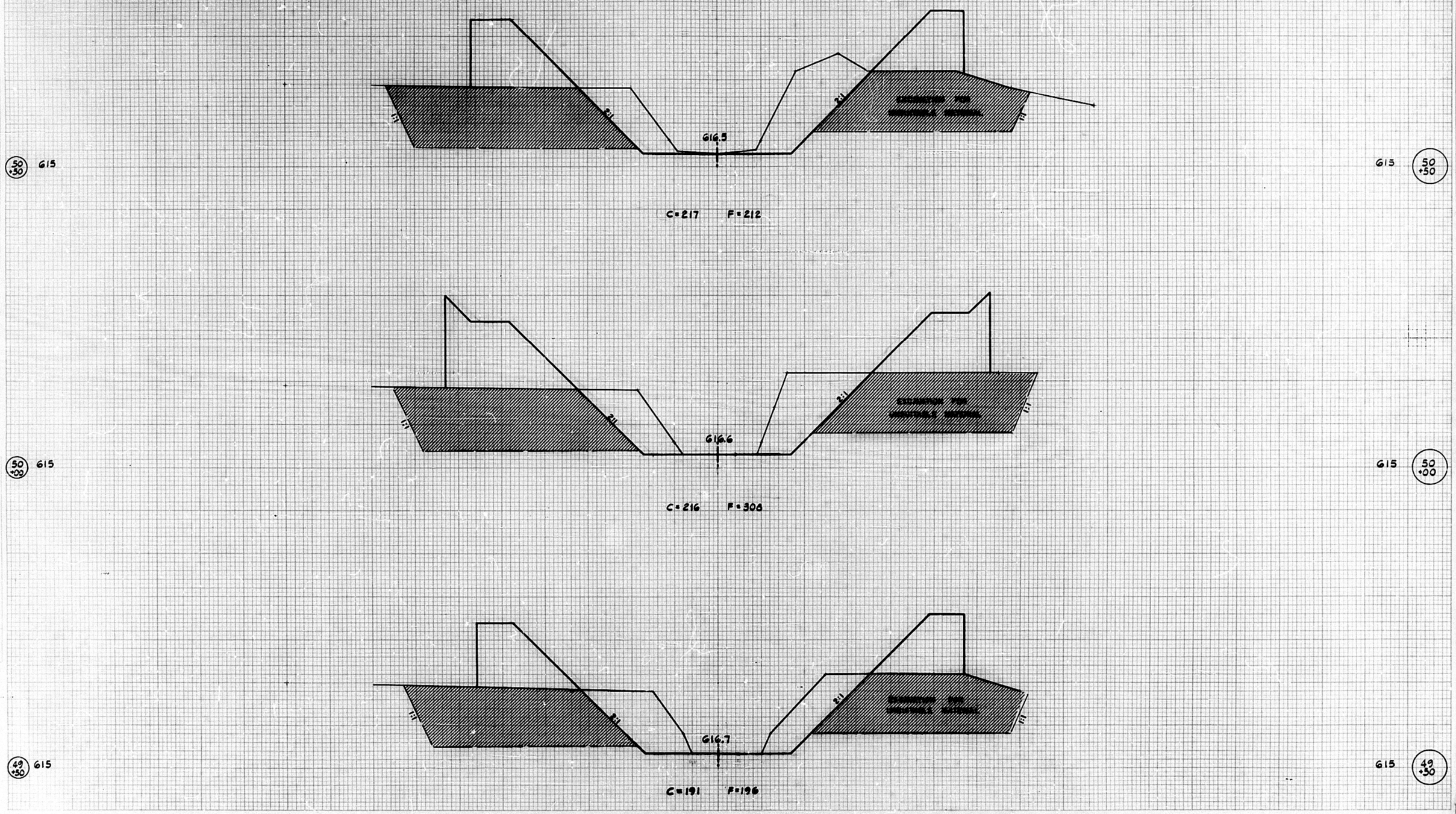
STA. 48+00 TO STA. 49+00
FRENCH CREEK



ZERO SECTION STA. 47+35

F.A.L.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	48 30 E	KNOX	32	19

STA. 49+50 TO STA. 50+50
FRENCH CREEK

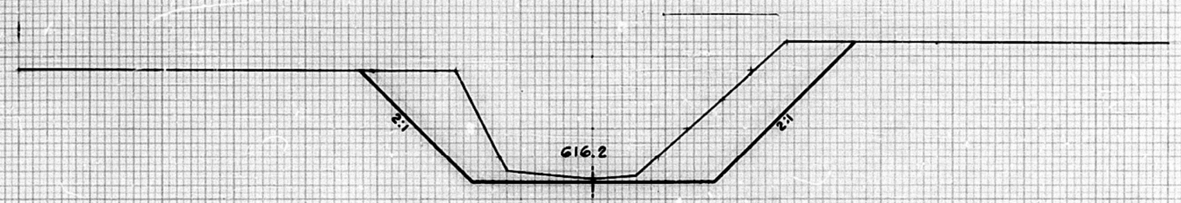


F.A.I.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	48 308	KNOX	32	20

FED. ROAD DIST. NO. 7 | ILLINOIS | PROJECT S-74-3( )65

STA. 51+00 TO STA. 52+00
FRENCH CREEK

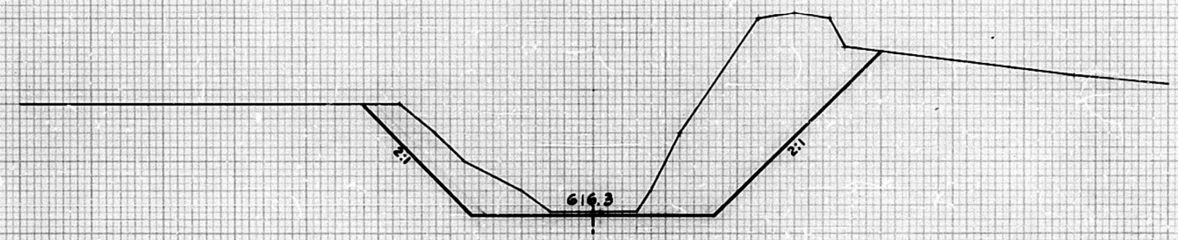
ZERO SECTION STA 53+00



52 +00 615

615 52 +00

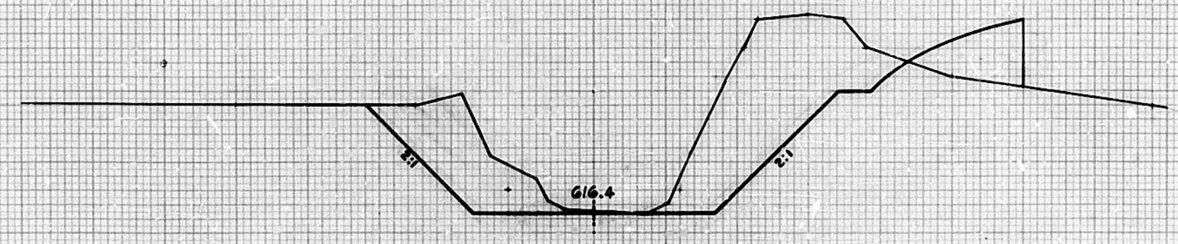
C=200 F=0



51 +50 615

615 51 +50

C=204 F=0



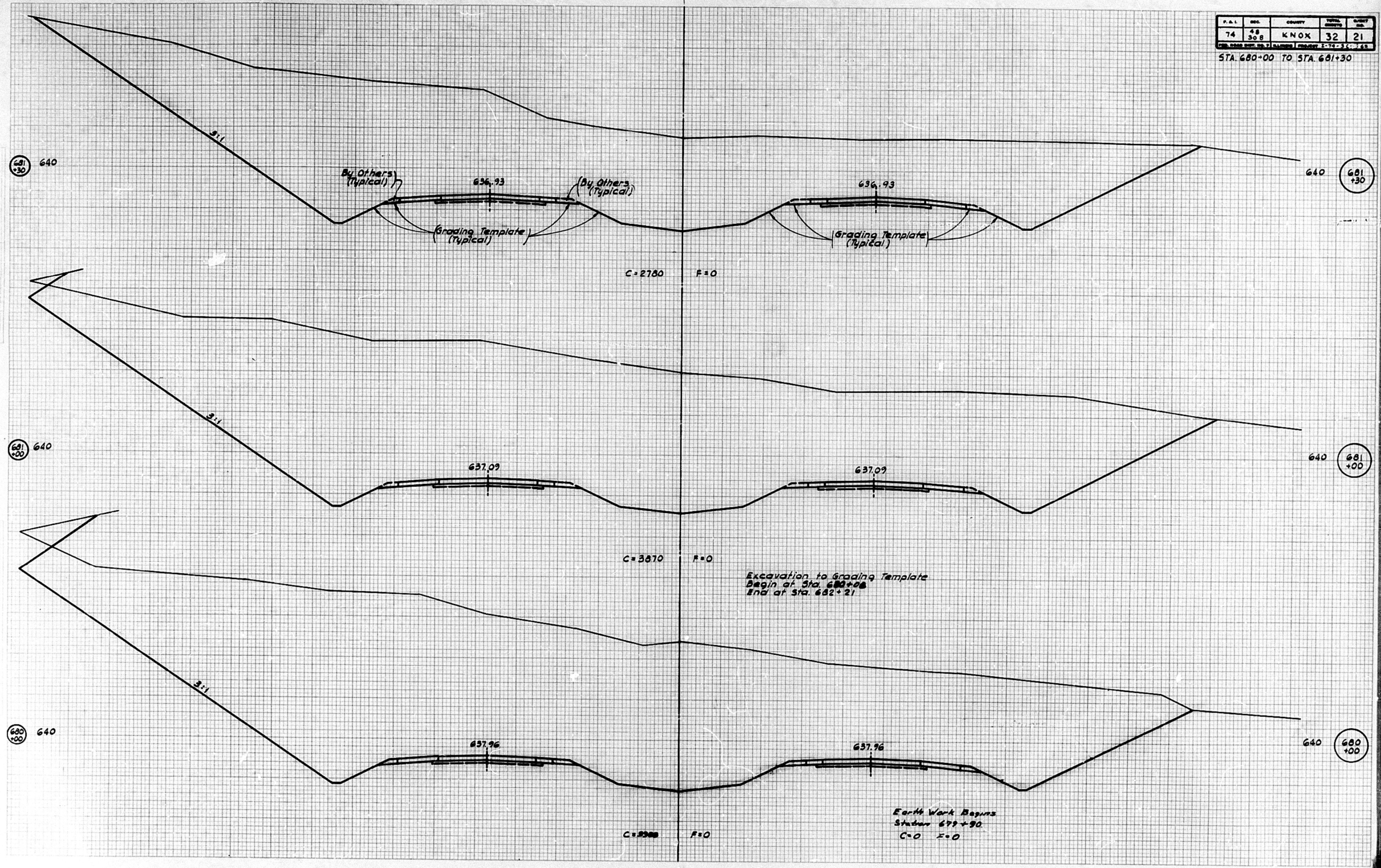
51 +00 615

615 51 +00

C=204 F=40

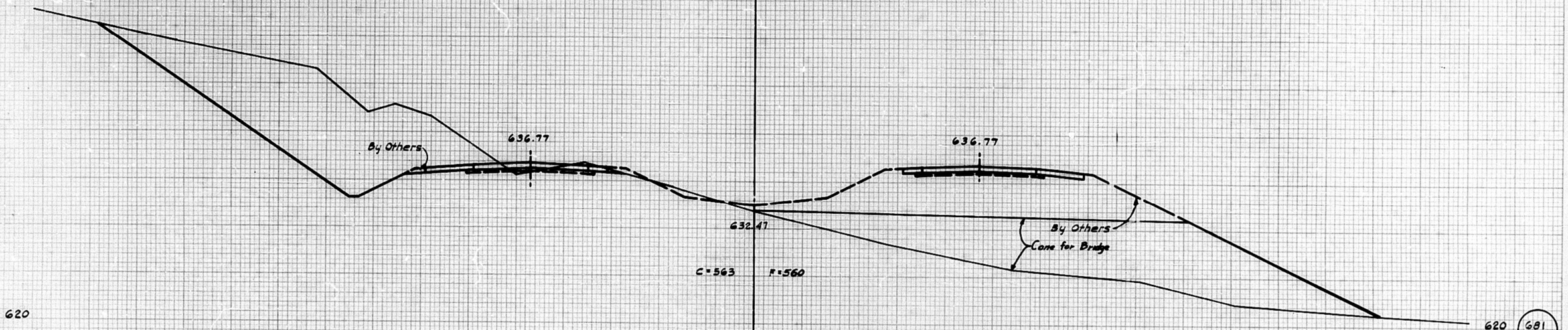
F. A. I.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	48 308	KNOX	32	21

STA. 680+00 TO STA. 681+30

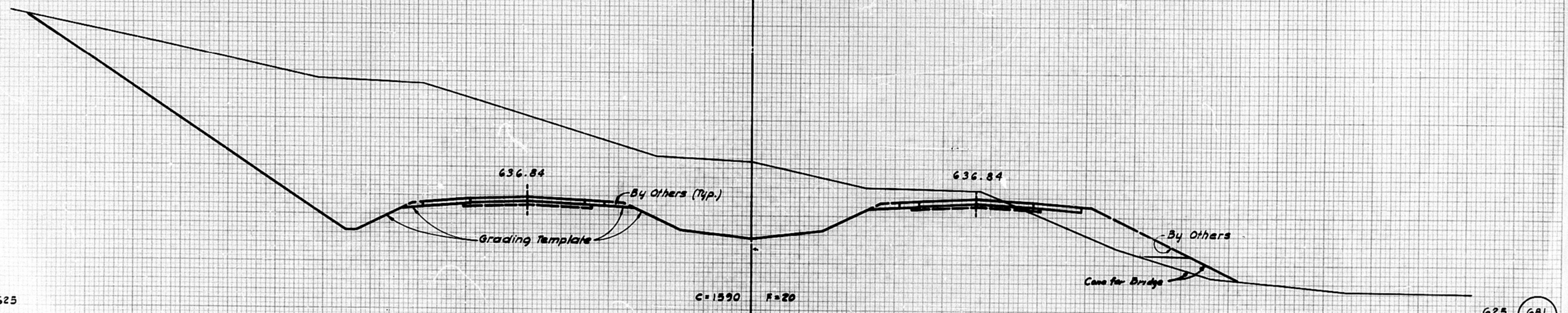


F. A. I.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	4B 30B	KNOX	32	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	X-74-3( )G5	

STA. 681+50 TO STA. 681+73



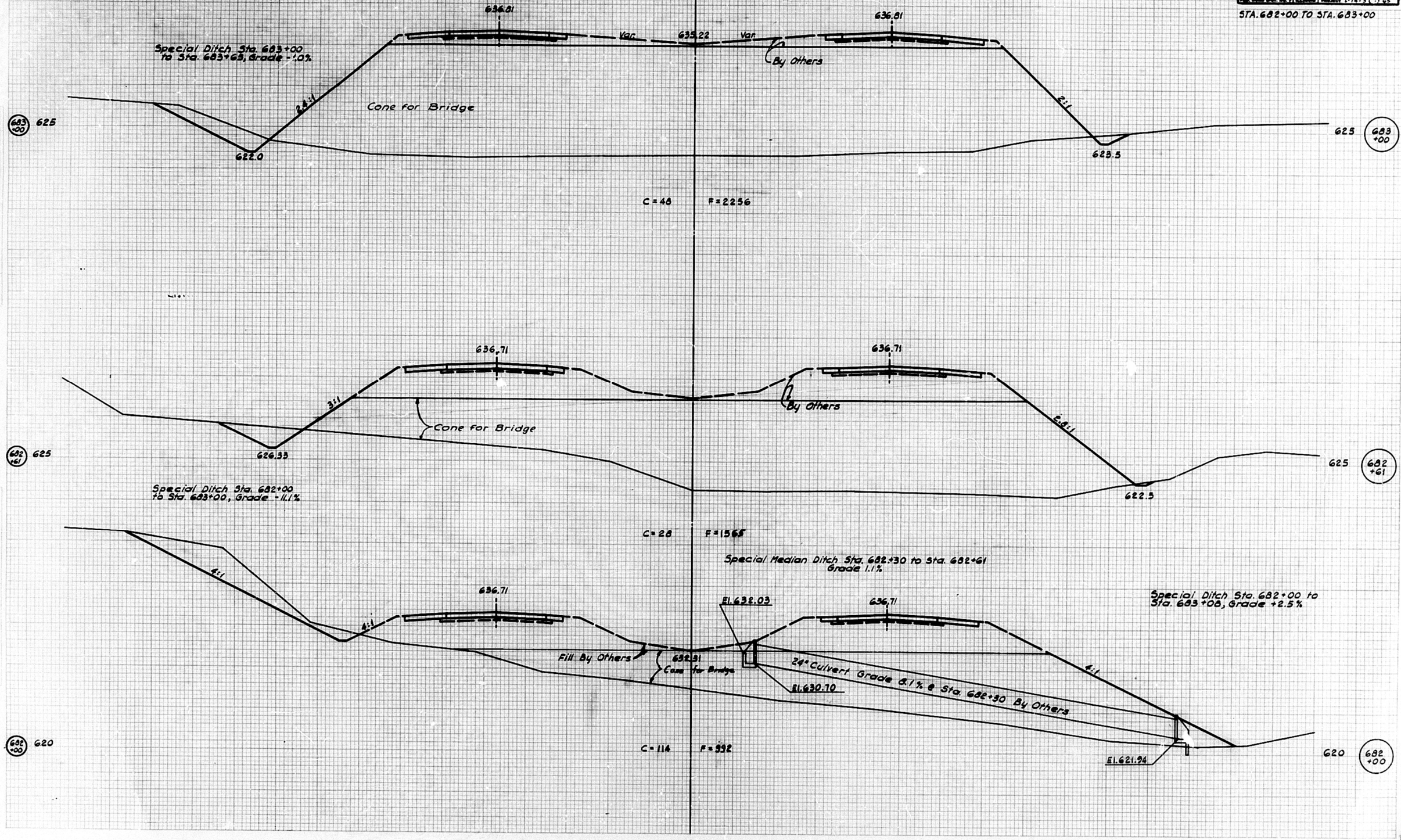
Special Median ditch
Sta. 681+50 to Sta. 682+30
Grade - 0.6%



F. A. I.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	48 308	KNOX	32	23

FED. ROAD DIST. NO. 9 | ILLINOIS | PROJECT F-74-3( ) 65

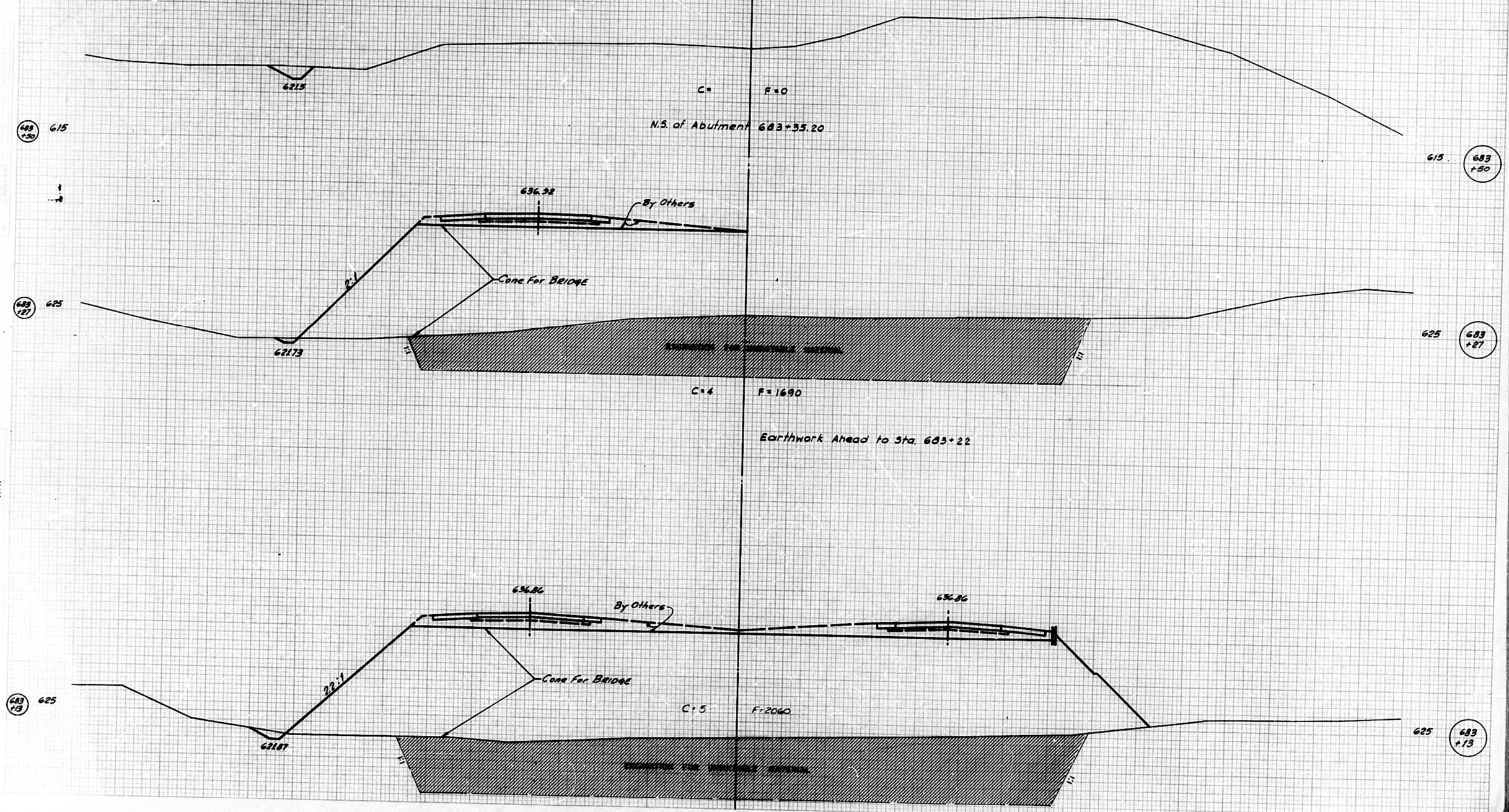
STA. 682+00 TO STA. 683+00



P.A.I.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	48 308	KNOX	32	24

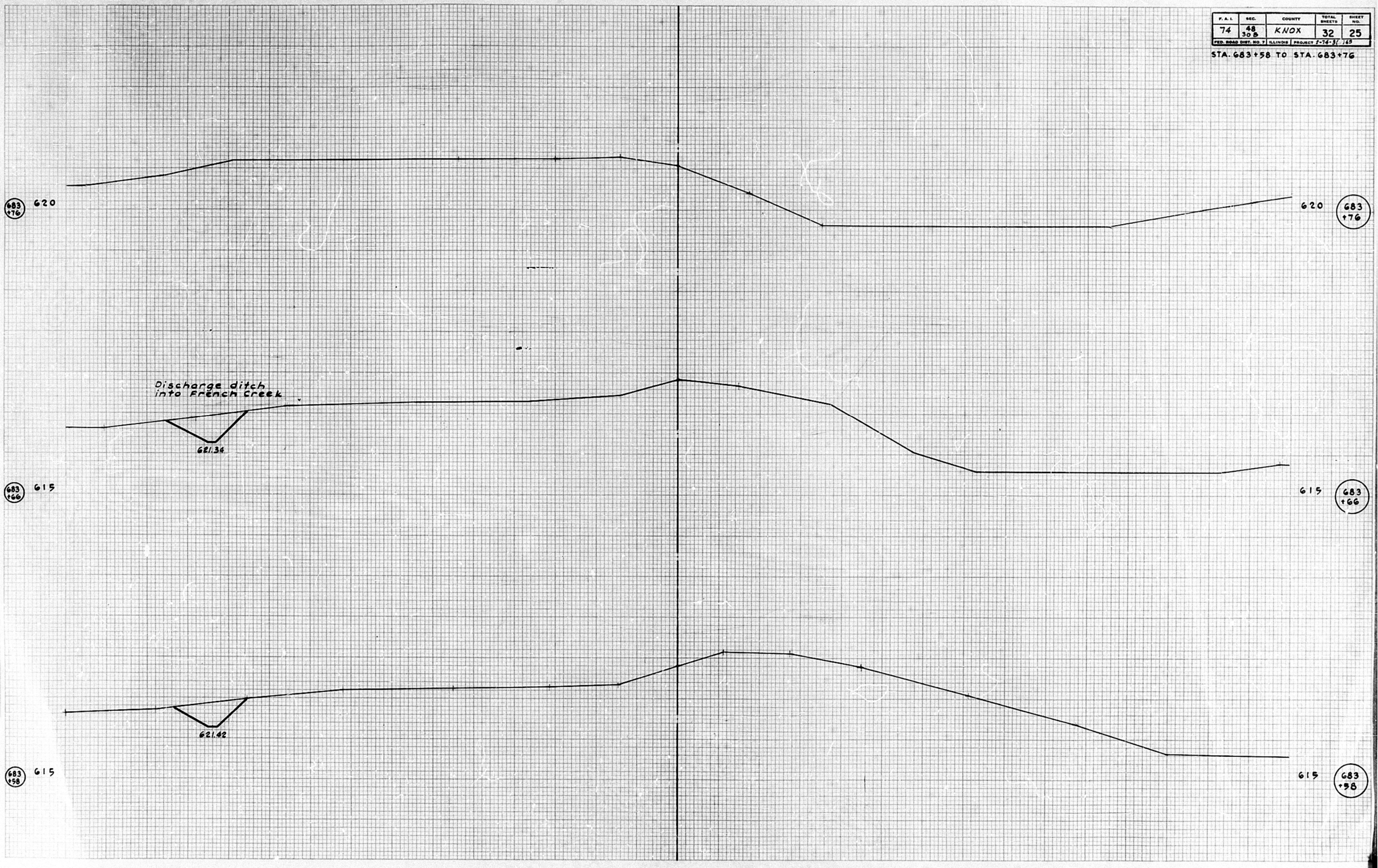
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT I-74-3 (...) 45

STA. 683+13 To STA. 683+50



F. A. I.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	48 30 B	KNOX	32	25
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT F-74-3( )65		

STA. 683+58 TO STA. 683+76



F.A.I.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	48 30B	KNOX	32	26

FED. ROAD DIST. NO. 7 | ILLINOIS | PROJECT 3-74-3 ( ) 65

STA 684+12 To STA 686+00

