

68820

VARIOUS

JLR

#132

CONTRACT NO. 68820				
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	*	VARIOUS	9	1
* D4 PROTECTIVE SHIELDING 2008				

8-1-08 Letting, Item 132

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

VARIOUS ROUTES
 SECTION D4 Protective Shielding 2008
 C-94-077-08
 VARIOUS COUNTIES

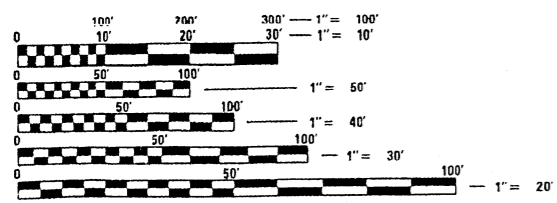
99.5%
2-10-09

INDEX OF SHEETS:

1. COVER SHEET
2. COMMITMENTS & GENERAL NOTES
3. SUMMARY OF QUANTITIES
4. CROSS SECTIONS
5. SCHEDULE OF QUANTITIES
- 6-8. TRAFFIC CONTROL PLAN
9. PERMANENT PROTECTIVE SHIELD

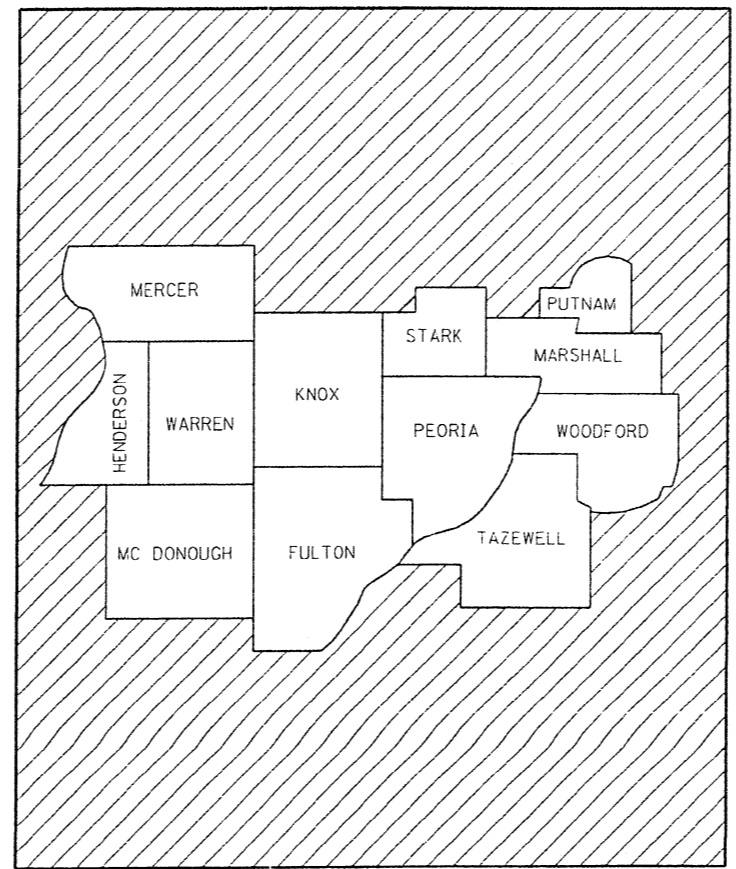
STANDARDS:

- 701001-01 701201-02 701901
 701006-02 701406-04
 701400-02 701601-05



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
 1-800-892-0123



LOCATION MAP



LOCATION OF SECTION INDICATED THIS: -

PERMANENT PROTECTIVE SHIELDING FOR VARIOUS STRUCTURES IN VARIOUS COUNTIES IN DISTRICT 4.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED **MARCH 2008**

DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
May 9, 2008
 Eric E. Harn/D

ENGINEER OF DESIGN AND ENVIRONMENT
May 9, 2008
 Christine M. Reed/D

DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

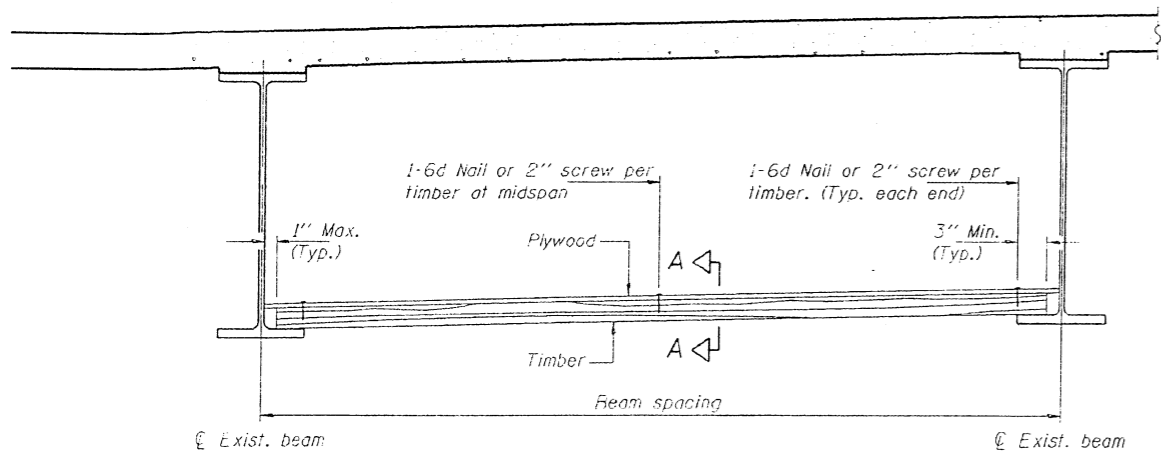
PRINTED BY THE AUTHORITY
 OF THE STATE OF ILLINOIS

CLARK JONES
(309) 671-3452

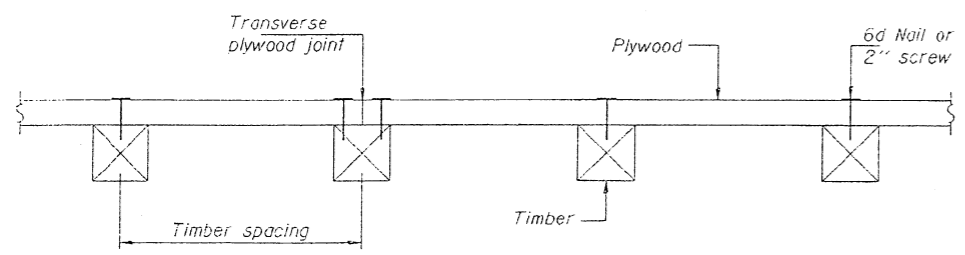
048-0035

PROJECT ENGINEER: JLR
PHONE: (309)

F.A. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	VARIOUS	VARIOUS	9	9
STA.	TO STA.			
FED. ROAD DIST. NO. 4	ILLINOIS FED. AID PROJECT			



STEEL BEAMS



SECTION A-A

TIMBER SPACING

Beam Spacing (ft.)	Timber Sizes (in.)		
	4" x 4" with min. Fb=775 psi Fv=135 psi	4" x 6" with min. Fb=775 psi Fv=135 psi	6" x 6" with min. Fb=575 psi Fv=125 psi
	Maximum Timber Spacing (in.)		
4.5	16	16	16
4.75	16	16	16
5.0	16	16	16
5.25	16	16	16
5.5	16	16	16
5.75	16	16	16
6.0	16	16	16
6.25	12	16	16
6.5	12	16	16
6.75	12	16	16
7.0	8	16	16
7.25	8	16	16
7.5	8	16	16
7.75	8	16	16
8.0	8	12	16
8.25	8	12	16
8.5	6	12	12
8.75	6	12	12
9.0	6	8	12

Notes:

Timber sizes shown are nominal sizes. Rough sawn timber of the dimensions shown will also be considered acceptable.
 The minimum Fb and Fv values shown are the tabulated design values given in the National Design Specification for Wood Construction for No. 2 Spruce-Pine-Fir without adjustment factors applied. Better grades or other species with equal or higher allowable stresses will also be considered acceptable.
 The timber spacings shown have been determined using allowable stresses with all adjustment factors necessary for the anticipated service conditions.
 All timber shall be treated.
 Plywood shall be 5/8" Exterior type plywood.
 Plywood shall be placed such that the face grain is perpendicular to the timber supports. When less than a full sheet (4' width) of plywood is used, the width of the strip used shall not be less than 2'.
 Transverse plywood joints shall be supported by timbers.
 When 4" x 6" timbers are used, they shall be placed such that the wide face is horizontal and the narrow face is vertical.
 Design load = 200 psf.

BILL OF MATERIAL

Item	Unit	Total
Protective Shield (Permanent)	Sq. Yd.	4502

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION PERMANENT PROTECTIVE SHIELD SCALE: VERT. HORIZ. DATE: 03-06-2008 DRAWN BY: CEJ CHECKED BY:
NAME	DATE	

05-03-07

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PH# 309-671-3454

DESIGN BY: CHRIS EVERS PH# 309-671-3477 PROJECT ENGINEER: JOHN ABBOTT

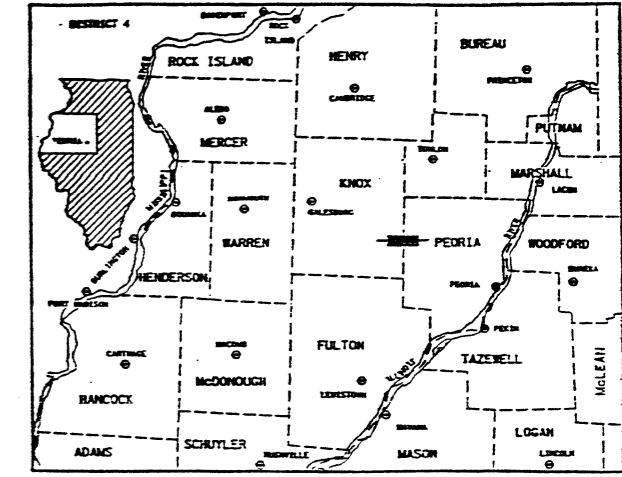
048-0035

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

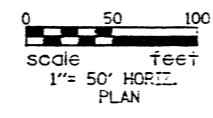
F.A.I. ROUTE 74
 SECTION (48-29HB-1)I,
 (48-30HB)I, (48-30B)I,
 (48-30B)I-1, (72-30HB-1)I
 PROJECT IM - 74 - 3 (56) 62
 PEORIA & KNOX COUNTIES
 C-94-007-93

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74		PEORIA & KNOX	53	1
F. M. A. REG. 4 ILLINOIS PROJECT				

* (48-29HB-1)I, (48-30HB)I, (48-30B)I,
D-94-048-93 (48-30B)I-1, (72-30HB-1)I



#	STA. FROM BK. OF ABUT. TO BK. OF ABUT.	S.J.L.
1	STA. 48+71.0 TO STA. 51 + 16.5	048-0025
2	STA. 683+22.7 TO STA. 684+42.45	048-0054
3	STA. 683+46.7 TO STA. 684+65.45	048-0055
4	STA. 48+96.32 TO STA. 51+13.75	048-0053
5	STA. 48+95.75 TO STA. 51+13.75	072-0032



LIST OF STANDARDS

2113-2	2300-3	2316-13	2336-4	2394
2230-16	2302-6	2324-8	2341-5	2396
2262-4	2307-7	2326-3	2362-3	2397-1
2298-9	2314-6	2327-11	2370-1	2419
2299-13	2315-8		2383-3	2425
				2438

DESIGN DESIGNATION

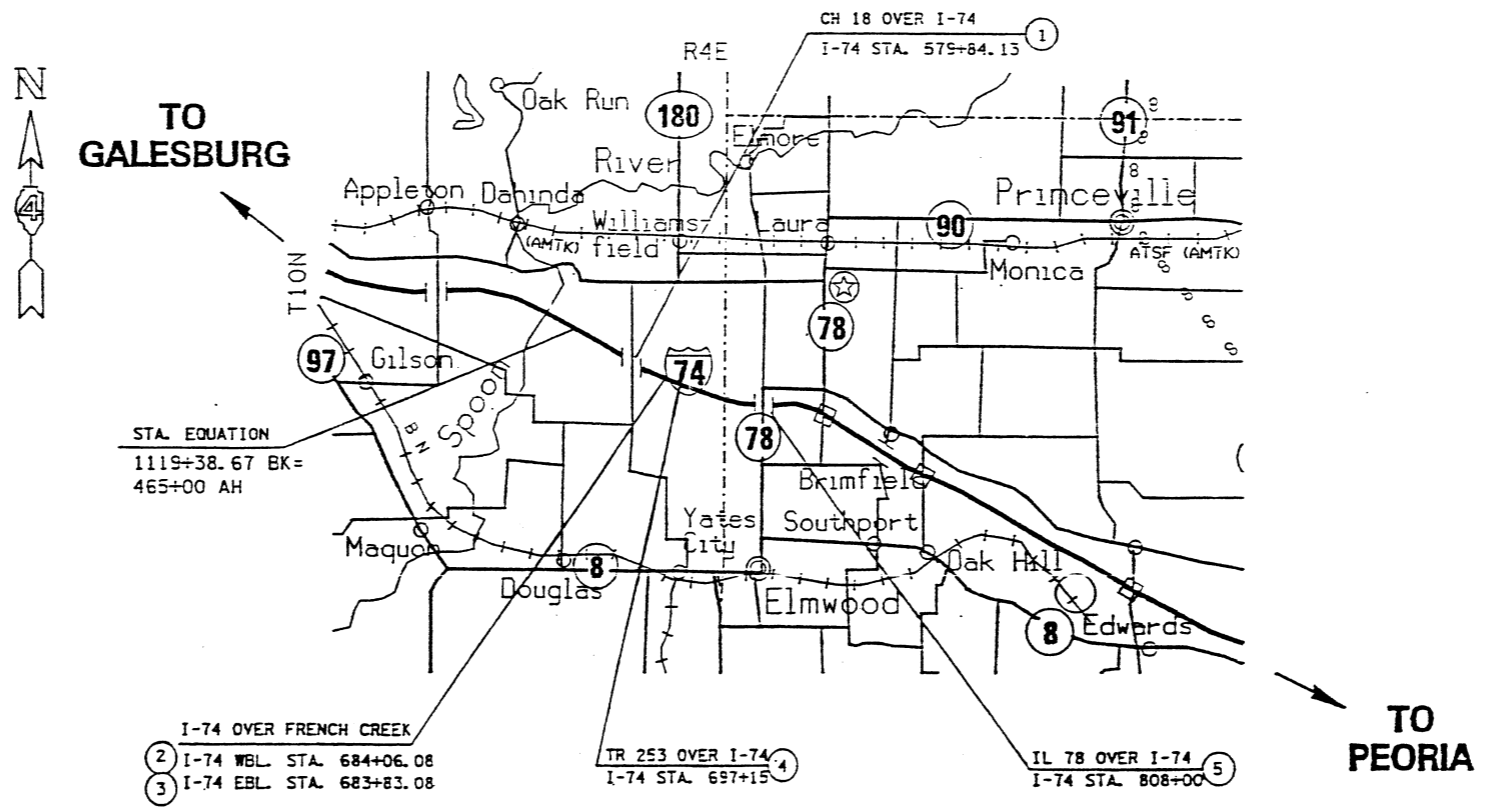
FAI 74 (I-74) INTERSTATE
 DESIGN SPEED - 70 M.P.H.
 POSTED SPEED - 65 M.P.H.

HIGHWAY CLASSIFICATION

CLASSIFICATION - INTERSTATE
 ADT - 10,400 , % TRUCKS = 25
 CLASS I TRUCK ROUTE

CATALOG NO. 030096-02

CONTRACT NO. 88456



Graphic Scale in Miles
 GROSS LENGTH OF IMPROVEMENT = 118.75 FEET = .0225 MILES
 NET LENGTH OF IMPROVEMENT = 118.75 FEET = .0225 MILES

LOCATION OF SECTION INDICATED THUS: [Symbol]

TOTAL SHEETS = 53

DESCRIPTION OF WORK

THIS PROJECT INCLUDES THE REHABILITATION OF FIVE STRUCTURES ON INTERSTATE 74 FROM 3 MILES WEST OF, TO 0.2 MILES EAST OF THE PEORIA/KNOX COUNTY LINE. REHABILITATION INCLUDES PATCHING, EXPANSION JOINT REPAIRS, SLOPEWALL REPAIRS, WATERPROOF MEMBRANE SYSTEM & BITUMINOUS OVERLAY REMOVAL & REPLACEMENT, GUARDRAIL UPGRADING, DECK REPAIRS, & EROSION REPAIRS.

SIGNATURE BLOCK ON PG. 2

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED 12/20/93 TO 93
D.E. Robinson
 EXAMINED _____ TO _____
 PASSED JAN 28 1994 TO 94
Steve Hault
 APPROVED JAN 28 1994 TO 94
Ralph C. Weber



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	PEORIA & KNOX	53	2

*(48-29HB-1)|, (48-30HB)|, (48-30B)|, (48-30B)|-1, & (72-30HB-1)|

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42, OR M-53 GRADE 60. PRIOR TO POURING, THE NEW CONCRETE FOR THE DECK, ALL LOOSE RUST, LOOSE MILL SCALE, LOOSE PAINT AND ALL OTHER FOREIGN MATERIAL SHALL BE REMOVED FROM THE EMBEDDED PORTIONS OF FLANGES OF STRINGERS (GIRDERS). THE REMOVAL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SSPC SURFACE PREPARATION SPECIFICATIONS SP3 FOR POWER TOOL CLEANING OR SP2 FOR HAND TOOL CLEANING.

ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO CLASSIFICATION M-270 GR 36 & SHALL BE PAINTED WITH SHOP/FIELD COATS OF THE INORGANIC - ZINC/ACRYLIC/ACRYLIC PAINT SYSTEM. THE COLOR OF THE FINISH COAT ON THESE BRIDGES SHALL BE INTERSTATE GREEN TO MATCH MUNSELL COLOR STANDARD 7.5G 4/8.

CONCRETE REMOVAL AND REPLACEMENT AS SHOWN IN ALL EXPANSION DETAILS, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD AS CONCRETE REMOVAL AND CLASS X CONCRETE. THE WORK, MATERIAL, AND EQUIPMENT INVOLVED IN SAW CUTTING SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID FOR CONCRETE REMOVAL.

PRIOR TO REPLACING THE BITUMINOUS CONCRETE SURFACE COURSE ON THE APPROACH SLAB PAVEMENT, THE CONCRETE SHALL BE PRIMED AS SPECIFIED IN ARTICLE 406.06 OF THE STANDARD SPECIFICATIONS. THE WORK, EQUIPMENT, AND MATERIAL INVOLVED IN APPLYING THE PRIME COAT WILL NOT BE MEASURED SEPARATELY FOR PAYMENT, BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE PER TON FOR BITUMINOUS CONCRETE SURFACE COURSE, MIX D, CLASS I AND MIX C, CLASS I.

REMOVAL OF EXISTING NEOPRENE EXPANSION JOINTS, PREFORMED JOINT SEAL MATERIAL AND STRUCTURAL STEEL USED FOR BLOCK - OUT OF PREFORMED JOINT SEAL SHALL NOT BE MEASURED OR PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO CONCRETE REMOVAL. ANY REUSABLE PIECES OF THE EXISTING NEOPRENE EXPANSION JOINT, MATERIAL SHALL, AT THE DISCRETION OF THE ENGINEER, BECOME PROPERTY OF THE STATE.

ALL DEBRIS SHALL BE REMOVED FROM THE TOP OF THE ABUTMENTS, PIERS, BEARING SEATS, AND BELOW THE BRIDGE AT THE REPAIR LOCATIONS AND DISPOSED OF BY THE CONTRACTOR. COST INCIDENTAL TO CONTRACT.

THE CONTRACTOR SHALL CLEAR THE CLOSED LANE OF ALL OBJECTS AND MATERIALS AT THE END OF EACH DAY'S OPERATIONS. 3/4 INCH MINIMUM THICK STEEL PLATES SHALL BE PLACED OVER ALL THE EXCAVATED HOLES WITHIN 6' OF THE EDGE OF PAVEMENT DURING NON-WORKING HOURS IN ORDER TO ELIMINATE TRAFFIC HAZARDS. THE WORK WILL NOT BE MEASURED SEPARATELY FOR PAYMENT, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR NEOPRENE EXPANSION JOINT.

EXISTING NAME PLATES THAT INTERFERE WITH PROPOSED CONSTRUCTION SHALL BE REMOVED AND REINSTALLED IN ACCORDANCE WITH STANDARD 2113. COST INCIDENTAL TO CLASS X CONCRETE.

A FRESH OIL SIGN SHALL BE USED WHEN PRIME IS APPLIED TO PAVEMENT AND SHALL REMAIN UNTIL NO TRACKING OCCURS. INSTALL A MINIMUM OF 500' PRECEDING START OF PRIME. COST SHALL BE INCLUDED WITH TRAFFIC CONTROL STANDARD 2315.

ENGINEER'S FIELD OFFICE TYPE A -- ADD THE FOLLOWING TO THE LIST OF ARTICLE 646.02 OF THE STANDARD SPECIFICATIONS:

1. DESKTOP DRY PROCESS OFFICE COPIER (INCLUDING MAINTENANCE AND OPERATING SUPPLIES CAPABLE OF COPYING FIELD BOOKS).
2. TELEPHONE ANSWERING MACHINE FOR EXCLUSIVE USE BY THE ENGINEER.

ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OF ANCHORAGE SYSTEM. COST INCIDENTAL TO "CONCRETE REMOVAL".

BITUMINOUS SURFACE REMOVAL -- BUTT JOINTS SHALL NOT BE MILLED MORE THAN THREE DAYS PRIOR TO PLACEMENT OF THE BITUMINOUS SURFACE COURSE.

PAVEMENT SMOOTHNESS TESTER: THE CONTRACTOR SHALL FURNISH A 10 FOOT STRAIGHT EDGE FOR TESTING THE SMOOTHNESS OF THE SURFACE. THE STRAIGHTEDGE SHALL CONSIST OF A METAL I-BEAM MOUNTED BETWEEN 2 WHEELS SPACED 10 FEET BETWEEN THE AXLES. SCRATCHER BOLTS, WHICH CAN BE EASILY AND ACCURATELY ADJUSTED, SHALL BE SET AT THE QUARTER, HALF AND THREE - QUARTER POINTS BETWEEN THE AXLE. A HANDLE SUITABLE FOR PUSHING AND GUIDING SHALL BE ATTACHED TO THE STRAIGHTEDGE. THE STRAIGHTEDGE SHALL MEET THE APPROVAL OF THE ENGINEER. THE COST OF FURNISHING A 10 FOOT STRAIGHTEDGE AND PROVIDING FOR ITS JOBSITE TRANSPORTATION WILL BE CONSIDERED AS INCLUDED IN THE COST OF THE VARIOUS ITEMS INVOLVED.

PAVEMENT STATION NUMBERS: THE CONTRACTOR SHALL FURNISH A SET OF NUMBERS FOR THE PURPOSE OF IMPRINTING THE PAVEMENT STATIONS IN THE BITUMINOUS SURFACE COURSE. THE SET OF PAVEMENT STATION NUMBERS SHALL CONSIST OF THE NUMBERS ZERO (0) THROUGH NINE (9) AND SHALL ALSO INCLUDE A PLUS (+) MARKER. THE NUMBERS SHALL BE MADE OF 3/4 INCH WIDE BY 5/8 INCH THICK METAL AND SHALL BE APPROXIMATELY 5 INCHES IN HEIGHT.

THE CONTRACTOR SHALL ALSO FURNISH ALL LABOR REQUIRED TO INSTALL THE PAVEMENT NUMBERS AT LOCATIONS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT WILL BE CONSIDERED AS INCLUDED AS PART OF THE UNIT COST FOR BITUMINOUS SURFACE COURSE. THE NUMBERS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

JACKING AND CRIBBING SHALL BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING BRIDGE RAISING OPERATIONS.

ALL NEW FASTENERS SHALL BE HIGH STRENGTH BOLTS. HOLES SHALL BE SUBPUNCHED OR SUBDRILLED 11/16 INCH DIAMETER AND REAMED IN THE FIELD TO 13/16 INCH DIAMETER FOR 3/4 INCH DIAMETER HIGH STRENGTH BOLTS (EXCEPT AS NOTED ON THE PLANS) AFTER NEW STRUCTURAL STEEL SECTIONS ARE PROPERLY FITTED INTO POSITION.

TRAFFIC CONTROL SHALL BE DETERMINED BY THE DISTRICT.

FOR STRUCTURE NOS. 048-0035, 048-0053 AND 072-0032: CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXISTING STRUCTURAL STEEL WITHIN 5 FEET OF EITHER SIDE OF EXPANSION JOINTS SHALL BE CLEANED AND PAINTED BY METHOD 1. ALL REMAINING EXISTING STRUCTURAL STEEL SHALL BE CLEANED BY METHOD 2. THE LEAD AND CHROMATE FREE ALKYD PAINT SYSTEM SHALL BE USED FOR PAINTING OF EXISTING STRUCTURAL STEEL. THE PRIME AND INTERMEDIATE COATS SHALL BE APPLIED AS SPECIFIED IN THE SPECIAL PROVISION FOLLOWED BY ONE COMPLETE FINAL FINISH COAT OVER ALL STEEL SURFACES. THE COLOR OF THE FINAL FINISH COAT SHALL BE INTERSTATE GREEN, MUNSELL NO. 7.5G 4/8.

FOR STRUCTURE NOS. 048-0054 AND 048-0055: CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXISTING STRUCTURAL STEEL WITHIN 5 FEET OF EITHER SIDE OF EXPANSION JOINTS SHALL BE CLEANED AND PAINTED BY METHOD 1. ALL REMAINING EXISTING STRUCTURAL STEEL SHALL BE CLEANED BY METHOD 2. THE LEAD AND CHROMATE FREE ALKYD PAINT SYSTEM SHALL BE USED FOR PAINTING OF EXISTING STRUCTURAL STEEL. THE PRIME AND INTERMEDIATE COATS SHALL BE APPLIED AS SPECIFIED IN THE SPECIAL PROVISION, FOLLOWED BY A SPOT FINAL FINISH COAT OVER ALL NEWLY PRIMED STEEL SURFACES. THE COLOR OF THE FINAL FINISH COAT SHALL BE INTERSTATE GREEN, MUNSELL NO. 7.5G 4/8.

SUBMITTED 12-20-93
 DIST. ENGR. OF PROGRAM DEVELOPMENT
 EXAMINED 12-20-93
 DIST. ENGR. OF PROJECT IMPLEMENTATION
 EXAMINED 12/20/93
 DIST. ENGR. OF OPERATIONS
 REVIEWED FOR CORRELATION WITH APPROVED DESIGN REPORT AND ENVIRONMENTAL ASSESSMENT
 DATE 12-20-93
 DIST. STUDIES & PLANS ENGINEER
 Entire section inspected and approved as to policy.
 DATE 12/20/93 D. E. Livingston
 DISTRICT ENGINEER

GENERAL NOTES
 FAI ROUTE 74
 SECTION (48-29HB-1)|, (48-30HB)|,
 (48-30B)1, (48-30B)|-1, & (72-30HB-1)|
 PEORIA & KNOX COUNTIES

SECTION	COUNTY	DATE	BY
74	..	53	3
STA.	TO STA.		

SUMMARY OF QUANTITIES

90% Fed 10% State

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		PEORIA COUNTY SFTY 2D	KNOX COUNTY SFTY 2D
21501200	AGGREGATE SHOULDERS, TYPE B	TON	196	196	
40600820	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE D, CLASS I, TYPE 1	TON	86		86
40600840	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE C, CLASS I, TYPE 2	TON	80	80	
50102400	CONCRETE REMOVAL	CU YD	37.7	8.4	29.3
50300130	PREFORMED JOINT SEAL 4"	LIN FT	65	65	
50300160	NEOPRENE EXPANSION JOINT 4"	LIN FT	165		165
50300310	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	14		14
50300320	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	26	12	14
50300400	CONCRETE HEADWALL FOR PIPE DRAINS	EACH	16		16
50400300	CLASS X CONCRETE	CU YD	37.7	8.4	29.3
50700400	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	8868	3694	5174
50700705	JACK AND REMOVE EXISTING BEARINGS	EACH	40	12	28
50701000	JACK AND REPOSITION BEARINGS	EACH	5		5
50900600	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1		1
50900700	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1		1
50900800	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM	1		1
50900900	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM	1		1
50901000	CLEANING AND PAINTING STEEL BRIDGE NO. 5	L SUM	1	1	
51200200	REINFORCEMENT BARS, EPOXY COATED	POUND	5020	1680	3340
60100825	STONE DUMPED RIPRAP, CLASS B3	TON	3		3
60708100	PIPE UNDERDRAINS 4" (SPECIAL)	LIN FT	168		168
61602900	CONCRETE GUTTER, TYPE B (MODIFIED)	LIN FT	40	40	
61700036	BITUMINOUS SURFACE REMOVAL - BUTT JOINT	SO YD	160	160	
61700400	GUTTER REMOVAL	LIN FT	40	40	
61701410	BITUMINOUS SHOULDER REMOVAL AND REPLACEMENT	SO YD	90		90
61701600	BRIDGE WEARING SURFACE REMOVAL	SO YD	1026		1026
61704400	PAVEMENT REMOVAL (SPECIAL)	SO YD	136		136
61704800	SLOPE WALL REMOVAL	SO YD	45	45	
61800100	SLOPE WALL 4 INCH	SO YD	45	45	
62800035	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	12	4	8

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		PEORIA COUNTY SFTY 2D	KNOX COUNTY SFTY 2D
62800085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4		4
62800105	TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	8	4	4
63300710	STEEL PLATE BEAM GUARD RAIL REMOVAL, TYPE A	LIN FT	4324	2937	1387
63304345	TERMINAL SECTION REMOVAL, SINGLE RAIL	EACH	12	4	8
63304700	TRAFFIC BARRIER TERMINAL REMOVAL, TYPE 5	EACH	4		4
63400310	ERECTING STEEL PLATE BEAM GUARD RAIL, TYPE A	LIN FT	4300	2925	1375
64600400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	2	4
64800900	TRAFFIC CONTROL AND PROTECTION, STANDARD 2309 (SPECIAL)	EACH	3	1	2
64800205	TRAFFIC CONTROL AND PROTECTION, STANDARD 2316	EACH	2		2
64800700	TRAFFIC CONTROL AND PROTECTION, STANDARD 2315	L SUM	1	0.5	0.5
XZ191050	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 1/2"	SO YD	778		778
Z0015595	DECK DRAIN EXTENSIONS	EACH	20	4	16
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SO YD	46	1	45
Z0016200	DECK SLAB REPAIR (PARTIAL)	SO YD	422	316	106
Z0016900	DIAPHRAGM REMOVAL AND REPLACEMENT	EACH	10	10	
Z0077500	WATERPROOFING MEMBRANE SYSTEM	SO YD	1843	823	1026
* T5020200	PAINT PAVEMENT MARKING - LINE 4"	LIN FT	1232	1232	
* T5150200	EPOXY PAVEMENT MARKING - LINE 4"	LIN FT	476		476
* T5150400	EPOXY PAVEMENT MARKING - LINE 6"	LIN FT	60		60
T5170200	TEMPORARY PAVEMENT MARKING - LINE 4"	LIN FT	1708	1232	476
T5170400	TEMPORARY PAVEMENT MARKING - LINE 6"	LIN FT	60		60
T5171000	SHORT-TERM PAVEMENT MARKING	LIN FT	86	62	24
TX000620	CHANGEABLE MESSAGE SIGN	CAL MO	12	6	6
X0300499	CELLULAR TELEPHONE	CAL MO	6	2	4
X0301280	PLUG EXISTING DRAINS	EACH	16		16
X0321249	DOUBLE EXPANSION JOINT, 4"	SO YD	136		136
Z0006200	BRIDGE DECK SCARIFICATION	SQ YD	66		66

* SPECIALTY ITEM

L.S. SHEET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	**	53	3A
STA.		TO STA.		
P.L. ROAD DIST. NO. 1		P.L. ROAD PROJECT		

SUMMARY OF QUANTITIES

90% FED 10% STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		PEORIA COUNTY SFTY 2D	KNOX COUNTY SFTY 2D
X5090901	BLASTING RESIDUE CONTAINMENT AND DISPOSAL BRIDGE NO. 1	L SUM	1		1
X5090902	BLASTING RESIDUE CONTAINMENT AND DISPOSAL BRIDGE NO. 2	L SUM	1		1
X5090903	BLASTING RESIDUE CONTAINMENT AND DISPOSAL BRIDGE NO. 3	L SUM	1		1
X5090904	BLASTING RESIDUE CONTAINMENT AND DISPOSAL BRIDGE NO. 4	L SUM	1		1
X5090905	BLASTING RESIDUE CONTAINMENT AND DISPOSAL BRIDGE NO. 5	L SUM	1	1	
X5091001	POWER TOOL CLEANING RESIDUE CONTAINMENT AND DISPOSAL NO. 1	L SUM	1		1
X5091002	POWER TOOL CLEANING RESIDUE CONTAINMENT AND DISPOSAL NO. 2	L SUM	1		1
X5091003	POWER TOOL CLEANING RESIDUE CONTAINMENT AND DISPOSAL NO. 3	L SUM	1		1
X5091004	POWER TOOL CLEANING RESIDUE CONTAINMENT AND DISPOSAL NO. 4	L SUM	1		1
X5091005	POWER TOOL CLEANING RESIDUE CONTAINMENT AND DISPOSAL NO. 5	L SUM	1	1	

90% FED 10% STATE

SUMMARY OF QUANTITIES				TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT	TOTAL QUANTITIES			

DECK SLAB REPAIR (PARTIAL)	
YATES CITY BLACKTOP (CH 18) OVER I-74	45.1
I-74 WEST BOUND OVER FRENCH CREEK	20.8
I-74 EAST BOUND OVER FRENCH CREEK	39.6
IL 78 OVER I-74	316.4
	421.9 SQ YD

DECK SLAB REPAIR (FULL-DEPTH, TYPE I)	
I-74 WEST BOUND OVER FRENCH CREEK	12.5
I-74 EAST BOUND OVER FRENCH CREEK	30.3
IL 78 OVER I-74	1.0
YATES CITY BLACKTOP (CH18) OVER I-74	2.4
	46.2 SQ YD

DECK DRAIN EXTENSION	
I-74 WEST BOUND OVER FRENCH CREEK	6
I-74 EAST BOUND OVER FRENCH CREEK	10
IL 78 OVER I-74	4
	20 EACH

TRAFFIC CONTROL & PROTECTION STD. 2309 (SPECIAL)	
YATES CITY BLACKTOP (CH 18) OVER I-74	1
TR 253 OVER I-74	1
IL 78 OVER I-74	1
	3 EACH

TRAFFIC CONTROL & PROTECTION STD. 2315	
YATES CITY BLACKTOP (CH 18) OVER I-74	0.5
IL 78 OVER I-74	0.5
	1.0 L SUM

TRAFFIC CONTROL & PROTECTION STD. 2316	
I-74 WEST BOUND OVER FRENCH CREEK	1
I-74 EAST BOUND OVER FRENCH CREEK	1
	2 EACH

AGGREGATE SHOULDERS, TYPE B	
IL 78 OVER I-74	196
	196 TON

WATERPROOF MEMBRANE SYSTEM	
I-74 WEST BOUND OVER FRENCH CREEK	513
I-74 EAST BOUND OVER FRENCH CREEK	513
IL 78 OVER I-74	823
	1849 SQ YD

ELASTOMERIC BEARING ASSEMBLY	
I-74 WEST BOUND OVER FRENCH CREEK	14
I-74 EAST BOUND OVER FRENCH CREEK	14
IL 78 OVER I-74	12
	40 EACH

DOUBLE EXPANSION JOINT, 4"	
I-74 WEST BOUND OVER FRENCH CREEK	68
I-74 EAST BOUND OVER FRENCH CREEK	68
	136 SQ YD

PAVEMENT REMOVAL (SPECIAL)	
I-74 WEST BOUND OVER FRENCH CREEK	68
I-74 EAST BOUND OVER FRENCH CREEK	68
	136 SQ YD

SLOPE WALL REMOVAL	
IL 78 OVER I-74	45
	45 SQ YD

SLOPE WALL REPLACEMENT, 4"	
IL 78 OVER I-74	45
	45 SQ YD

* THESE QUANTITIES APPLY FOR EACH PAY ITEM.

DIAPHRAGM REMOVAL AND REPLACEMENT	
IL 78 OVER I-74	10
	10 EACH

BRIDGE WEARING SURFACE REMOVAL	
I-74 WEST BOUND OVER FRENCH CREEK	513
I-74 EAST BOUND OVER FRENCH CREEK	513
	1026 SQ YD

BIT. CONC. SURF. CSE., MIX D, CL I, 1 1/2"	
I-74 WEST BOUND OVER FRENCH CREEK	43
I-74 EAST BOUND OVER FRENCH CREEK	43
	86 TON

CLASS X CONCRETE	
I-74 WEST BOUND OVER FRENCH CREEK	14.9
I-74 EAST BOUND OVER FRENCH CREEK	14.4
IL 78 OVER I-74	8.4
	37.7 CU. YDS.

CONCRETE REMOVAL	
I-74 WEST BOUND OVER FRENCH CREEK	14.9
I-74 EAST BOUND OVER FRENCH CREEK	14.4
IL 78 OVER I-74	8.4
	37.7 CU.YDS

PERFORMED JOINT SEAL, 4"	
IL 78 OVER I-74	65
	65 LIN FT

NEOPRENE EXPANSION JOINT, 4"	
I-74 WEST BOUND OVER FRENCH CREEK	82.5
I-74 EAST BOUND OVER FRENCH CREEK	82.5
	165 LIN FT

REINFORCEMENT BARS, EPOXY COATED	
I-74 WEST BOUND OVER FRENCH CREEK	1670
I-74 EAST BOUND OVER FRENCH CREEK	1670
IL 78 OVER I-74	1680
	5020 LBS

BIT. CONC. SURF. CSE., MIX C, CL I, 1 1/2"	
IL 78 OVER I-74	80
	80 TON

GUTTER REMOVAL	
IL 78 OVER I-74	40
	40 LIN FT

CONCRETE GUTTER, TYPE B (MODIFIED)	
IL 78 OVER I-74	40
	40 LIN FT

CRACK FILLING	
YATES CITY BLACKTOP (CH 18) OVER I-74	160
I-74 WEST BOUND OVER FRENCH CREEK	1000
I-74 EAST BOUND OVER FRENCH CREEK	1000
TR 253 OVER I-74	125
IL 78 OVER I-74	150
	2435 LIN FT

STONE DUMPED RIPRAP, CLASS B3	
YATES CITY BLACKTOP (CH 18) OVER I-74	1.5
TR 253 OVER I-74	1.5
	3 TON

LOCATION	4" YELLOW		4" WHITE	
	LN FT	LN FT	LN FT	LN FT
IL 78 OVER I-74	616		616	
TOTALS	616		616	

* EPOXY & TEMPORARY PAVEMENT MARKING

LOCATION	4" YELLOW		4" WHITE		6" WHITE	
	LN FT	LN FT	LN FT	LN FT	LN FT	LN FT
I-74 WESTBOUND OVER FRENCH CREEK	119		119		30	
I-74 EASTBOUND OVER FRENCH CREEK	119		119		30	
TOTALS	238		238		60	

ERECTING STEEL PLATE BEAM GUARDRAIL, TYPE A	
YATES CITY BLACKTOP (CH 18) OVER I-74	925
TR 253 OVER I-74	450
IL 78 OVER I-74	2925
	4300 LIN FT

TRAFFIC BARRIER TERMINAL TYPE 1	
YATES CITY BLACKTOP (CH 18) OVER I-74	4
TR 253 OVER I-74	4
IL 78 OVER I-74	4
	12 EACH

TRAFFIC BARRIER TERMINAL TYPE 6	
YATES CITY BLACKTOP (CH 18) OVER I-74	4
	4 EACH

TRAFFIC BARRIER TERMINAL TYPE 10	
IL 78 OVER I-74	4
TR 253 OVER I-74	4
	8 EACH

CLEANING & PAINTING STEEL BRIDGE #1	
S.N. 048-0035	1
	1 L SUM

CLEANING & PAINTING STEEL BRIDGE #2	
S.N. 048-0054	1
	1 L SUM

CLEANING & PAINTING STEEL BRIDGE #3	
S.N. 048-0055	1
	1 L SUM

CLEANING & PAINTING STEEL BRIDGE #4	
S.N. 048-0053	1
	1 L SUM

CLEANING & PAINTING STEEL BRIDGE #5	
S.N. 072 - 0032	1
	1 L SUM

CELLULAR TELEPHONE	
I-74 STRUCTURES	6
	6 CAL MO

JACK AND REMOVE EXISTING BEARINGS	
IL 78 OVER I-74	12
I-74 WEST BOUND OVER FRENCH CREEK	14
I-74 EAST BOUND OVER FRENCH CREEK	14
	40 EACH

SLOPEWALL SLURRY PUMPING	
YATES CITY BLACKTOP (CH 18) OVER I-74	12
I-74 WEST BOUND OVER FRENCH CREEK	39
I-74 EAST BOUND OVER FRENCH CREEK	2
TR 253 OVER I-74	12
IL 78 OVER I-74	17
	82 CU YD

STEEL PLATE BEAM GUARDRAIL REMOVAL, TYPE A	
YATES CITY BLACKTOP (CH 18) OVER I-74	925
TR 253 OVER I-74	462
IL 78 OVER I-74	2937
	4324 LIN FT

PIPE UNDERDRAINS 4" (SPECIAL)	
FRENCH CREEK STRUCTURES	168
	168 LIN FT

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	PEORIA & KNOX	53	4

* (48-29HB-1), (48-30HB), (48-30B), (48-30B)-1, & (72-30HB-1)

ENGINEER FIELD OFFICE, TYPE A	
I-74 STRUCTURES	6
	6 CAL MO

FURNISH & ERECT STRUCTURAL STEEL	
I-74 WEST BOUND OVER FRENCH CREEK	2587
I-74 EAST BOUND OVER FRENCH CREEK	2587
IL 78 OVER I-74	3694
	8868 LBS

BRIDGE DECK OVERLAY 1/2"	
YATES CITY BLACKTOP (CH 18) OVER I-74	778
	778 SQ YD

JACK & REPOSITION BEARINGS	
TR 253 OVER I-74	5
	5 EACH

PLUG EXISTING DRAINS	
I-74 WEST BOUND OVER FRENCH CREEK	8
I-74 EAST BOUND OVER FRENCH CREEK	8
	16 EACH

PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT	
YATES CITY BLACKTOP (CH 18) OVER I-74	19.8
	19.8 SQ YD

CONCRETE HEADWALL FOR PIPE DRAIN	
I-74 WEST BOUND OVER FRENCH CREEK	8
I-74 EAST BOUND OVER FRENCH CREEK	8
	16 EACH

TERMINAL SECTION REMOVAL, SINGLE RAIL	
YATES CITY BLACKTOP (CH 18) OVER I-74	4
TR 253 OVER I-74	4
IL 78 OVER I-74	4
	12 EACH

BITUMINOUS SHOULDER REMOVAL & REPLACEMENT	
I-74 WEST BOUND OVER FRENCH CREEK	45
I-74 EAST BOUND OVER FRENCH CREEK	45
	90 SQ YD

TRAFFIC BARRIER TERMINAL REMOVAL, TYPE 5	
YATES CITY BLACKTOP (CH 18) OVER I-74	4
	4 EACH

BRIDGE DECK SCARIFICATION (1/2")	
IL 78 OVER I-74	
	66.2 SQ. YD.

SHORT - TERM PAVEMENT MARKING	
I-74 WESTBOUND OVER FRENCH CREEK	12
I-74 EASTBOUND OVER FRENCH CREEK	12
IL 78 OVER I-74	62
	86 LIN FT

CHANGEABLE MESSAGE SIGN	
I-74 STRUCTURES: 2 SIGNS FOR 6	
CALENDAR MONTHS EACH	12
	12 CAL MO

QUANTITIES NOT OTHERWISE SHOWN
FAI ROUTE 74
SECTION (48-29HB-1), (48-30HB),
(48-30B)1, (48-30B)-1, & (72-30HB-1)
PEORIA & KNOX COUNTIES

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	PEORIA & KNOX	53	4A

* (48-29HB-1)I, (48-30HB)I, (48-30B)I, (48-30B)I-1, & (72-30HB-1)I

POWER TOOL CLEANING RESIDUE
CONTAINMENT AND DISPOSAL NO. 1
S.N. 048-0035 | 1
| 1 L SUM

POWER TOOL CLEANING RESIDUE
CONTAINMENT AND DISPOSAL NO. 2
S.N. 048-0054 | 1
| 1 L SUM

POWER TOOL CLEANING RESIDUE
CONTAINMENT AND DISPOSAL NO. 3
S.N. 048-0055 | 1
| 1 L SUM

POWER TOOL CLEANING RESIDUE
CONTAINMENT AND DISPOSAL NO. 4
S.N. 048-0053 | 1
| 1 L SUM

POWER TOOL CLEANING RESIDUE
CONTAINMENT AND DISPOSAL NO. 5
S.N. 072-0032 | 1
| 1 L SUM

BLASTING RESIDUE CONTAINMENT
AND DISPOSAL BRIDGE NO. 1
S.N. 048-0035 | 1
| 1 L SUM

BLASTING RESIDUE CONTAINMENT
AND DISPOSAL BRIDGE NO. 2
S.N. 048-0054 | 1
| 1 L SUM

BLASTING RESIDUE CONTAINMENT
AND DISPOSAL BRIDGE NO. 3
S.N. 048-0055 | 1
| 1 L SUM

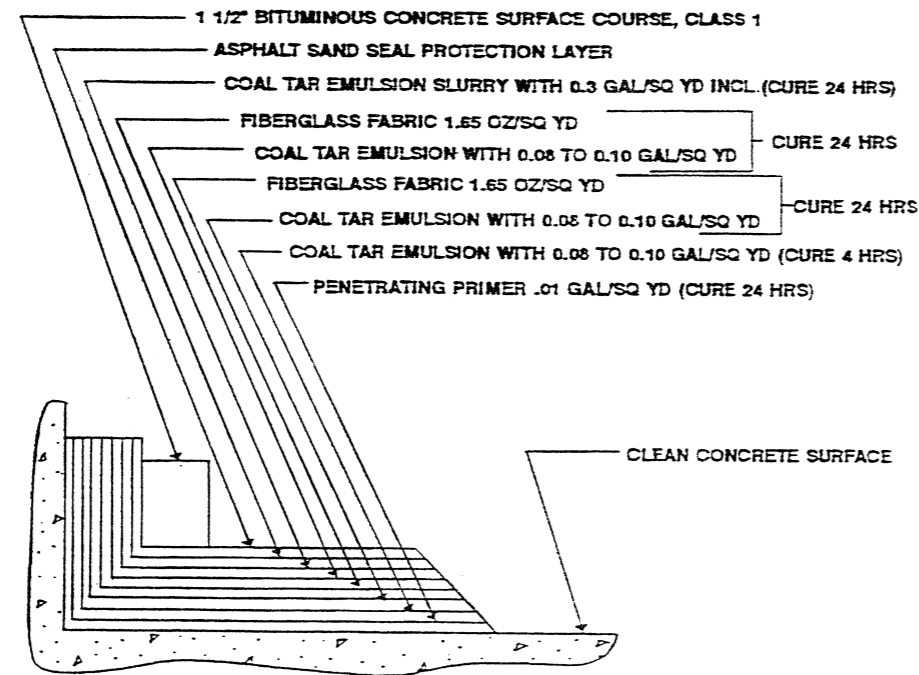
BLASTING RESIDUE CONTAINMENT
AND DISPOSAL BRIDGE NO. 4
S.N. 048-0053 | 1
| 1 L SUM

BLASTING RESIDUE CONTAINMENT
AND DISPOSAL BRIDGE NO. 5
S.N. 072-0032 | 1
| 1 L SUM

QUANTITIES NOT OTHERWISE SHOWN
FAI ROUTE 74
SECTION (48-29HB-1)I, (48-30HB)I,
(48-30B)1, (48-30B)I-1, & (72-30HB-1)I
PEORIA & KNOX COUNTIES

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	PEORIA & KNOX	5	5

* (48-29HB-1)I, (48-30HB)I, (48-30B)I, (48-30B)I-1, & (72-30HB-1)I



TO BE PAID FOR AS: WATERPROOFING MEMBRANE SYSTEM

WATERPROOF MEMBRANE SYSTEM

IL 78 OVER I-74	823
	823 SQ YD

BIT. CONC. SURF. CSE., MIX C, CL I, 1 1/2"

IL 78 OVER I-74	69
TAPER NORTH & SOUTH	11
	80 TON

WATERPROOF MEMBRANE SYSTEM

I-74 WEST BOUND OVER FRENCH CREEK	513
I-74 EAST BOUND OVER FRENCH CREEK	513
	1026 SQ YD

BRIDGE WEARING SURFACE REMOVAL

I-74 WEST BOUND OVER FRENCH CREEK	513
I-74 EAST BOUND OVER FRENCH CREEK	513
	1026 SQ YD

BIT. CONC. SURF. CSE., MIX D, CL I, 1 1/2"

I-74 WEST BOUND OVER FRENCH CREEK	43
I-74 EAST BOUND OVER FRENCH CREEK	43
	86 TON

PROPOSED WATERPROOF MEMBRANE SYSTEM
 FAI ROUTE 74
 SECTION (48-30B)I, (48-30B)I-1,
 & (72-30HB-1)I
 PEORIA & KNOX COUNTIES

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74		PEORIA & KNOX	53	6

*(48-29HB-1)I, (48-30HB)I, (48-30B)I, (48-30B)I-1, & (72-30HB-1)I

SHEET 1 OF 6

*** DECK SLAB REPAIR - FULL	
YATES CITY BLACKTOP (CH 18) OVER I-74	2.4
	2.4 SQ YD

*** DECK SLAB REPAIR - PARTIAL	
YATES CITY BLACKTOP (CH 18) OVER I-74	45.1
	45.1 SQ YD

STEEL PLATE BEAM GUARDRAIL REMOVAL, TYPE A	
SOUTHEAST	300
SOUTHWEST	312.5
NORTHEAST	162.5
NORTHWEST	150
	925 LIN FT

TERMINAL SECTION REMOVAL, SINGLE RAIL	
SOUTHEAST	1
SOUTHWEST	1
NORTHEAST	1
NORTHWEST	1
	4 EACH

TRAFFIC BARRIER TERMINAL REMOVAL, TYPE 5	
SOUTHEAST	1
SOUTHWEST	1
NORTHEAST	1
NORTHWEST	1
	4 EACH

ERECTING STEEL PLATE BEAM GUARDRAIL, TYPE A	
SOUTHEAST	300
SOUTHWEST	312.5
NORTHEAST	162.5
NORTHWEST	150
	925 LIN FT

TRAFFIC BARRIER TERMINAL, TYPE 6	
SOUTHEAST CORNER OF STRUCTURE	1
SOUTHWEST CORNER OF STRUCTURE	1
NORTHEAST CORNER OF STRUCTURE	1
NORTHWEST CORNER OF STRUCTURE	1
	4 EACH

TRAFFIC BARRIER TERMINAL, TYPE 1	
SOUTHEAST CORNER OF STRUCTURE	1
SOUTHWEST CORNER OF STRUCTURE	1
NORTHEAST CORNER OF STRUCTURE	1
NORTHWEST CORNER OF STRUCTURE	1
	4 EACH

SLOPEWALL SLURRY PUMPING	
BETWEEN NORTH SLOPEWALL & ABUTMENT	1
BETWEEN SOUTH SLOPEWALL & ABUTMENT	1
VOIDS UNDER NORTH & SOUTH SLOPEWALL	10
	ESTIMATED QUANTITY 12 CU YD

BLASTING RESIDUE CONTAINMENT AND DISPOSAL BRIDGE # 1	
YATES CITY BLACKTOP (CH 18) OVER I-74	1
	1 L SUM

POWER TOOL CLEANING RESIDUE CONTAINMENT AND DISPOSAL # 1	
YATES CITY BLACKTOP (CH 18) OVER I-74	1
	1 L SUM

TRAFFIC CONTROL & PROTECTION STD. 2309 (SPECIAL)	
YATES CITY BLACKTOP (CH 18) OVER I-74	1
	1 EACH

TRAFFIC CONTROL & PROTECTION STD. 2315	
YATES CITY BLACKTOP (CH 18) OVER I-74	0.5
	0.5 L SUM

CRACK FILLING	
NORTH SLOPEWALL	80
SOUTH SLOPEWALL	80
	ESTIMATED QUANTITY 160 LIN FT

CLEANING & PAINTING STEEL BRIDGE #1	
S.N. 048-0035	1
	1 L SUM

** BRIDGE DECK OVERLAY 1/2"	
YATES CITY BLACKTOP (CH 18) OVER I-74	778
	778 SQ YD

STONE DUMPED RIPRAP CLASS B3	
YATES CITY BLACKTOP (CH 18) OVER I-74	1.5
	1.5 TON

BRIDGE DECK SCARIFICATION (1/2")	
YATES CITY BLACKTOP (CH 18) OVER I-74	
NORTH ABUTMENT	33.1
SOUTH ABUTMENT	33.1
	66.2 SQ. YD.

** SEE SPECIAL PROVISIONS.

*** QUANTITY INCLUDES 10% FOR SPRING BREAKUP.

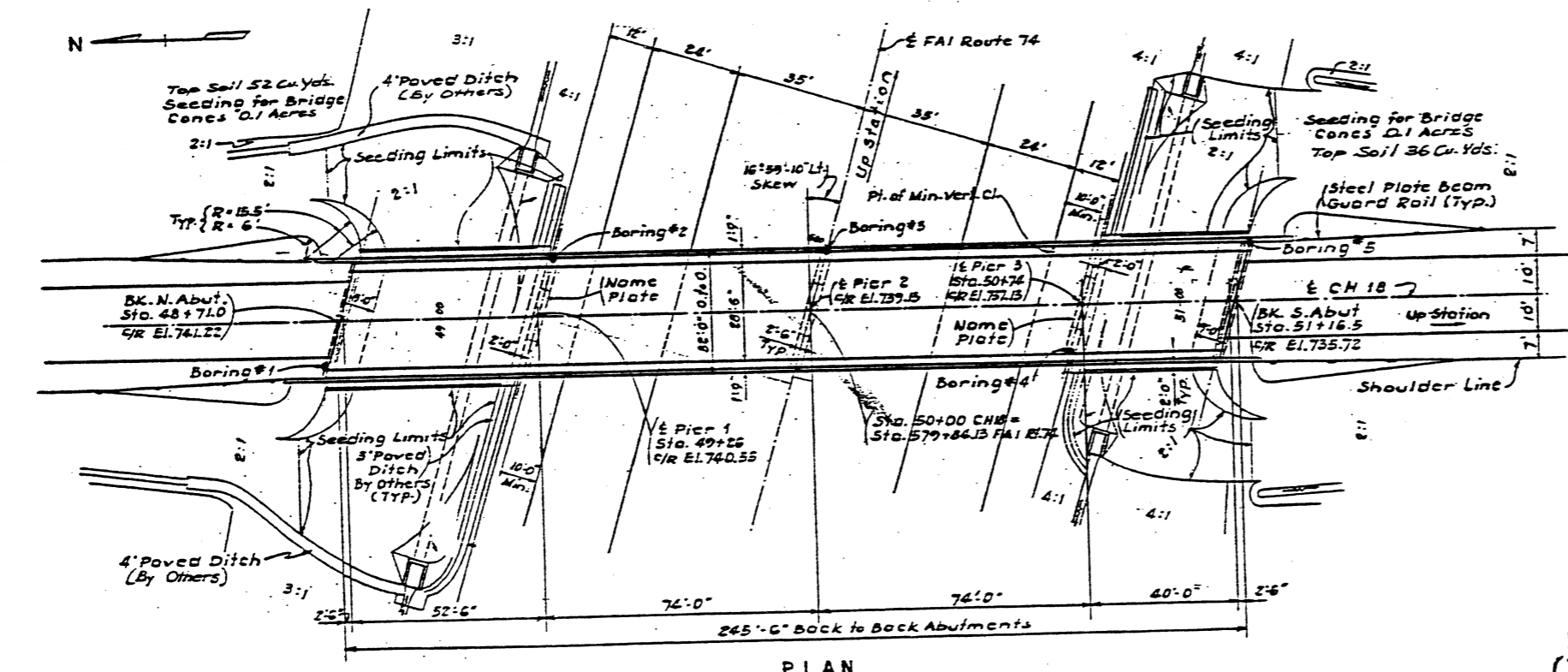
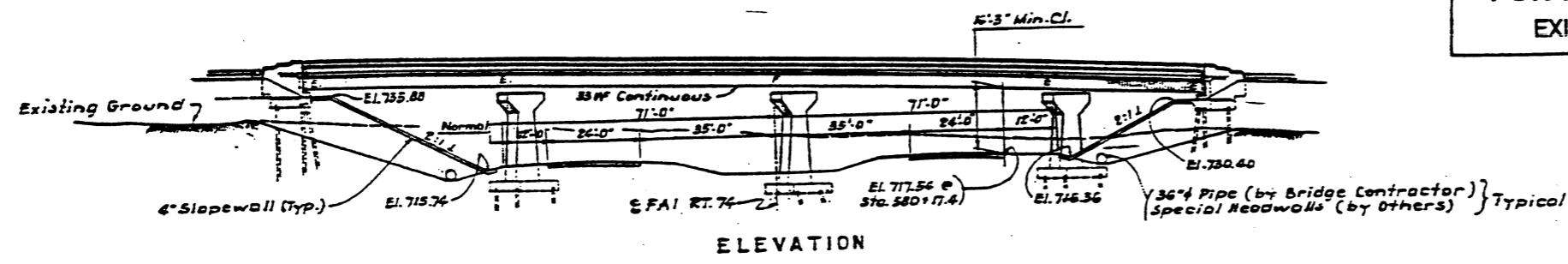
BRIDGE GENERAL NOTES &
SUMMARY OF BRIDGE QUANTITIES
FAI ROUTE 74
(48-29HB-1)I KNOX COUNTY
S.N. 048-0035
YATES CITY BLACKTOP OVER I-74

**FOR INFORMATION ONLY
EXISTING BRIDGE PLANS**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74		PEORIA & KNOX	53	7

*(48-29HB-1), (48-30HB), (48-30B), (48-30B)-1, & (72-30HB-1)

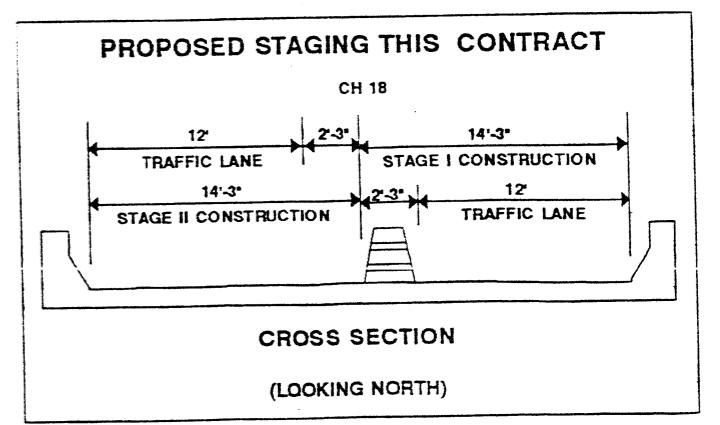
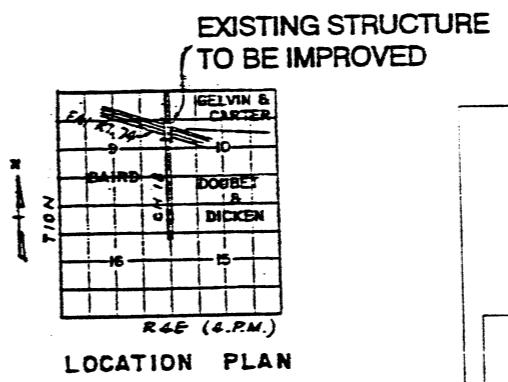
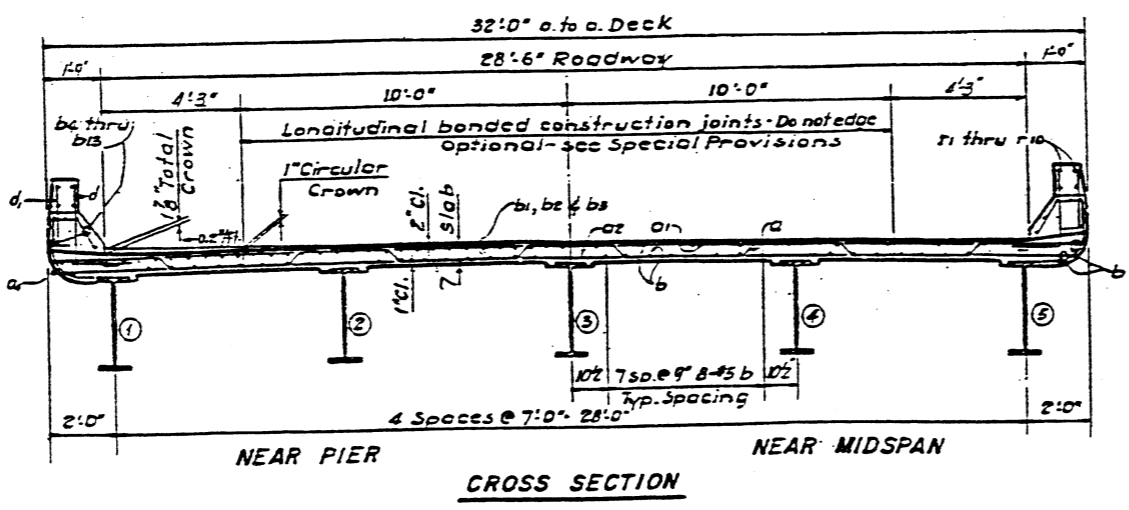
SHEET 2 OF 6



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
Q	215	#5	32'-6"	┌┐
Q1	231	#5	31'-5"	—
Q2	231	#5	30'-7"	—
Q3	6	#5	26'-2"	—
Q4	484	#4	5'-6"	○
b	392	#5	35'-8"	—
b1	42	#6	20'-0"	—
b2	42	#6	23'-6"	—
b3	42	#6	21'-0"	—
b4	24	#6	22'-5"	—
b5	12	#6	8'-10"	—
b6	12	#6	8'-8"	—
b7	24	#6	27'-5"	—
b8	12	#6	10'-7"	—
b9	12	#6	10'-2"	—
b10	24	#6	28'-2"	—
b11	12	#6	7'-4"	—
b12	12	#6	10'-4"	—
b5	12	#6	29'-9"	—
d	484	#6	4'-8"	┌┐
d1	484	#4	2'-6"	—
x	68	#6	5'-0"	┌┐
Reinforcement Bars				Lbs. 51,900
Structural Steel				Lbs. 194,280
Class X Concrete				Cu. Yds. 224.2

* Includes 6710 lbs. for bearing assemblies & 760 lbs. for expansion devices.
 † Includes 142 Cu. Yds. in parapets.



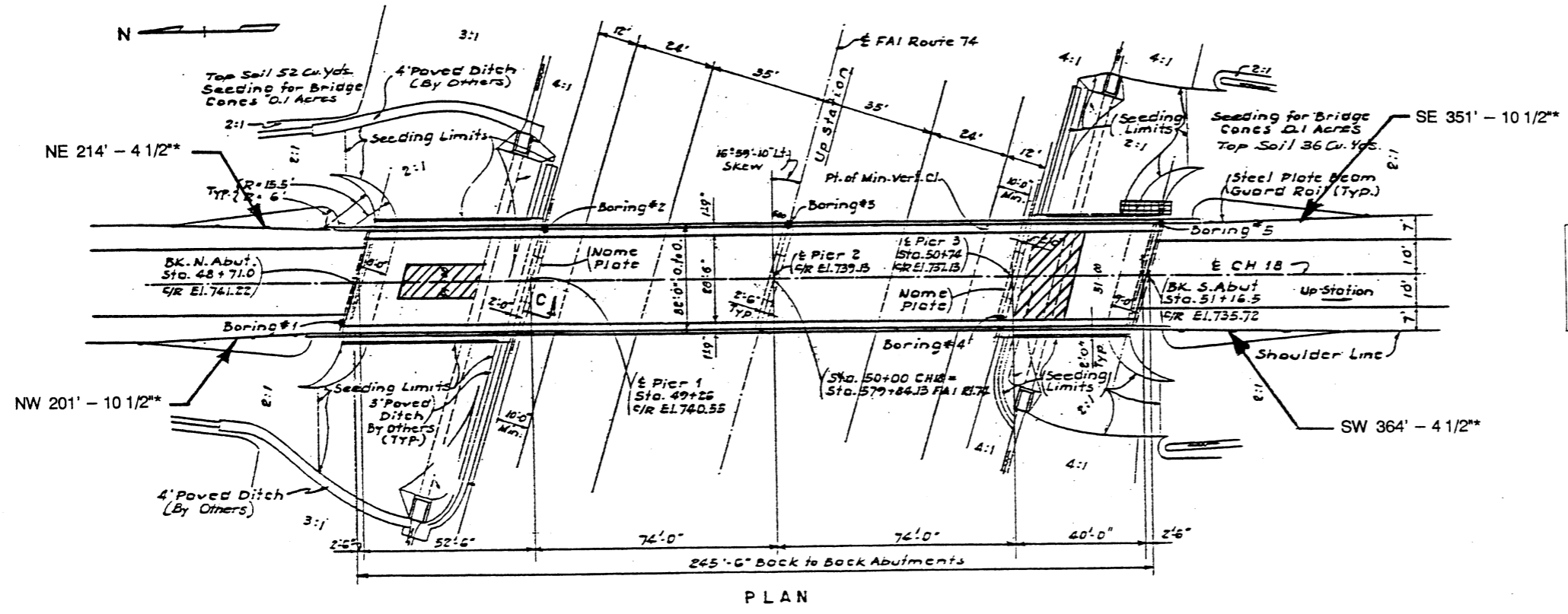
**GENERAL PLAN
 FAI ROUTE 74
 (48-29HB-1) KNOX COUNTY
 S.N. 048-0035
 YATES CITY BLACKTOP OVER I-74**

PROPOSED BRIDGE DECK REPAIRS GENERAL PLAN

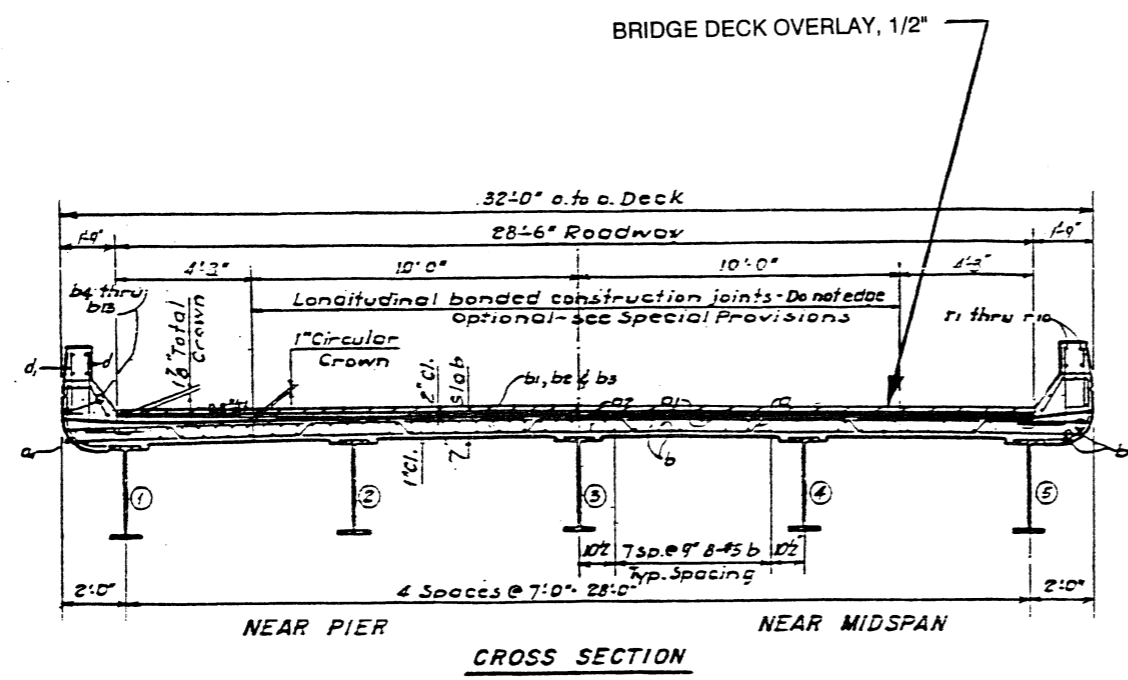
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74		PEORIA & KNOX	6	8

* (48-29HB-1), (48-30HB), (48-30B)-1, & (72-30HB-1)

SHEET 3 OF 6



* THE LENGTHS INCLUDE:
 (1) ERECTING STEEL PLATE BEAM GUARDRAIL, TYPE A
 (2) TBT, TYPE 6 (LENGTH = 26' - 10 1/2")
 (3) TBT, TYPE 1 (LENGTH = 25' - 0")

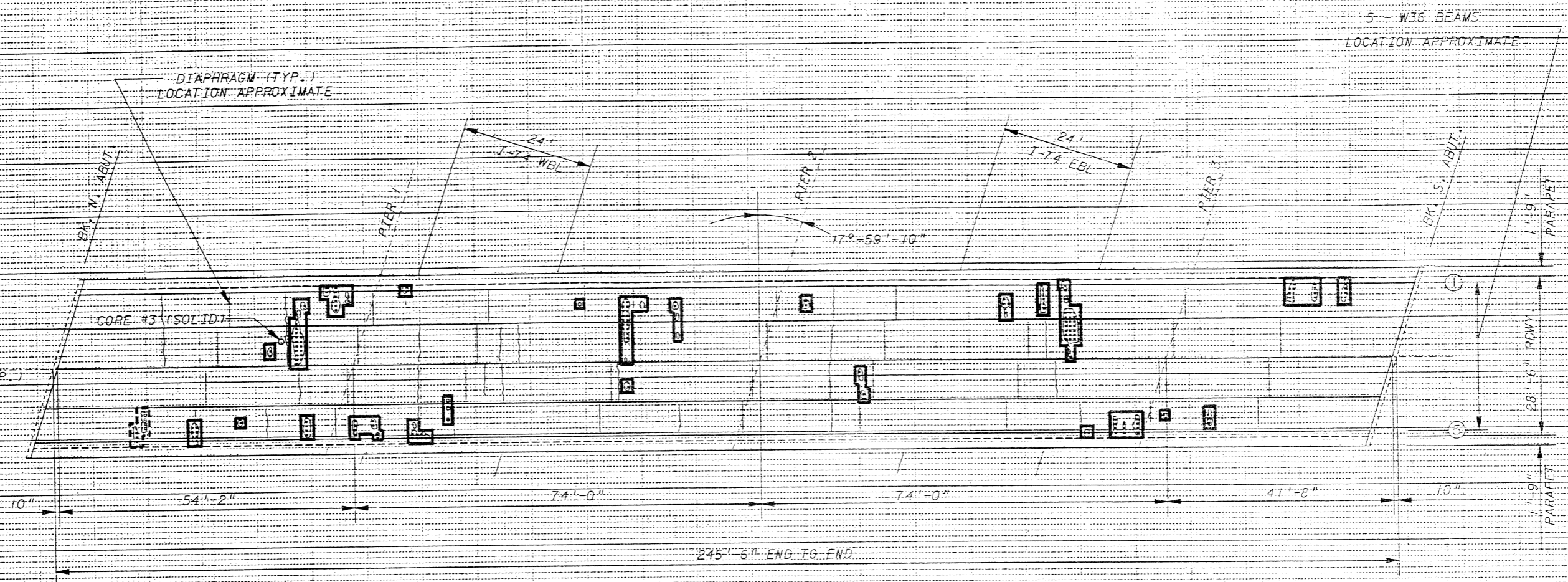


PROPOSED IMPROVEMENTS FOR S.N. 048-0035 (YATES CITY BLACKTOP)	SHEET NUMBER FOR DETAILS
PROPOSED SLOPEWALL SLURRY PUMPING	11
PROPOSED EROSION REPAIR	11
PROPOSED DECK REHABILITATION AREAS	9
PROPOSED CONCRETE OVERLAY, 1/2"	10
PROPOSED GUARDRAIL IMPROVEMENTS	8

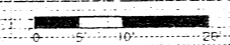
GENERAL PLAN
 FAI ROUTE 74
 (48-29HB-1) KNOX COUNTY
 S.N. 048-0035
 YATES CITY BLACKTOP OVER I-74

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74		PEORIA & KNOX	5	9
(48-29HB-1), (48-30HB), (48-30B), (48-30B)-1, & (72-30HB-1)				

SHEET 4 OF 6



PLAN
PROPOSED DECK REHABILITATION AREAS



THE AREAS DESIGNATED ON THE PLANS AS FULL DEPTH & PARTIAL DEPTH PATCHING WERE TAKEN FROM THERMOGRAPHIC SURVEY. THE AREAS ARE SHOWN TO SCALE AND ARE IN THE GENERAL AREA OF PATCHING TO BE COMPLETED. LIMITS TO BE PATCHED ARE TO BE DETERMINED BY THE RESIDENT ENGINEER.

STRUCTURE NO. 048-0035

FIELD OBSERVATIONS SUMMARY			TOPSIDE		UNDERSIDE		LEGEND	
ITEM	UNIT	QUANT.	%	QUANT.	%	DECK TOPSIDE	DECK UNDERSIDE	
TOTAL AREA	SF	6949		7856		DELAMINATION	CRACK	
AREA IN SHADE	SF	0		N/A		SPALL	DELAMINATION	
AREA INSPECTED	SF	6949		7856		DEBOND	SPALL	
CRACKS	LF	N/A		155		ASPHALT PATCH	EXPOSED REINF.	
DELAMINATION	SF	111	1.6	4	<0.1	CONCRETE PATCH		
SPALL	SF	0	0	0	0	SUBSURFACE PATCH		
DEBOND	SF	0	0			AREA IN SHADE		
ASPHALT PATCH	SF	0	0					
CONCRETE PATCH	SF	0	0					
SUBSURFACE PATCH	SF	0	0					
REHAB. AREA PARTIAL DEPTH	SF	369	5.3					
REHAB. AREA FULL DEPTH	SF	20	0.3					

TOPSIDE INSPECTION DATE: 11/93
UNDERSIDE INSPECTION DATE: 11/93

RUST ENVIRONMENT & INFRASTRUCTURE

PROJECT NUMBER 70257 DATE PLOTTED 12/11/93
RUST FILE NAME 4835-93.DGN

INSPECTED BY: HS
CHECKED BY: PF
DRAWN BY: EZ JCL
CHECKED BY: HS

ILLINOIS DEPARTMENT OF TRANSPORTATION
CH 18 YATES CITY BKTP. OVER I-74
KNOX COUNTY
(48-29HB-1)
PROPOSED DECK REHABILITATION AREAS

S.N. 048-0035

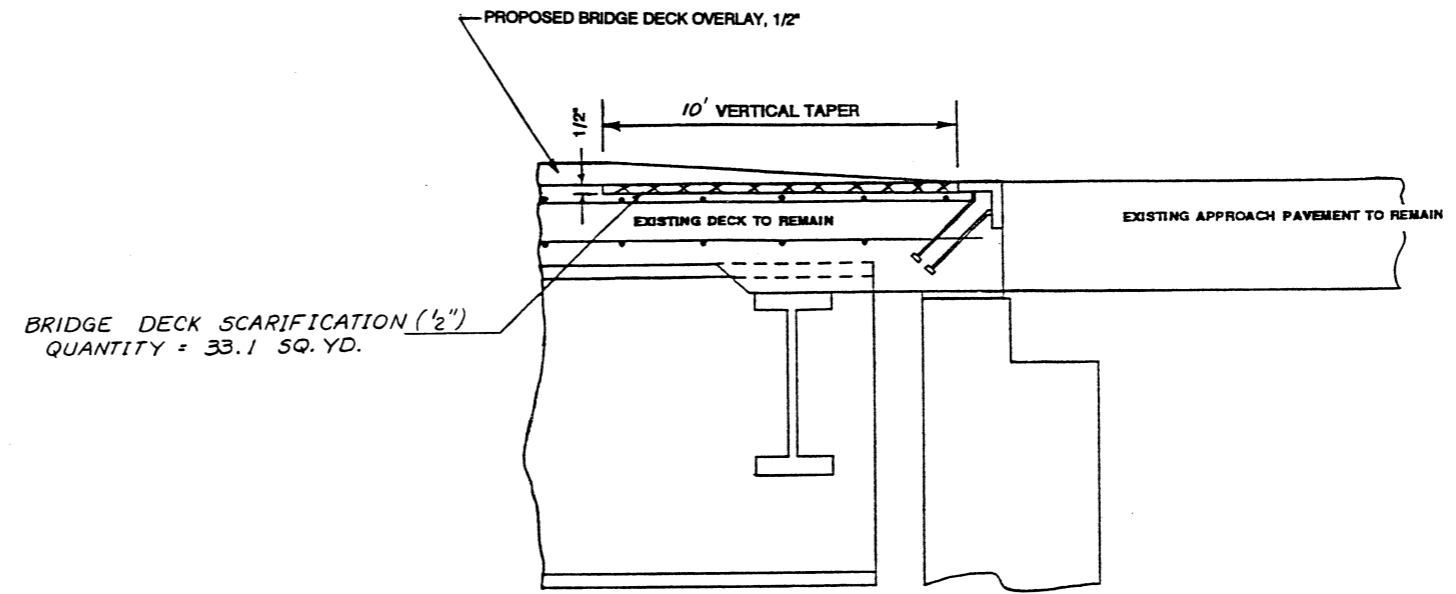
REVISED 1-7-94

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	PEORIA & KNOX	53	10

* (48-29HB-1), (48-30HB), (48-30B), (48-30B)-1, & (72-30HB-1)

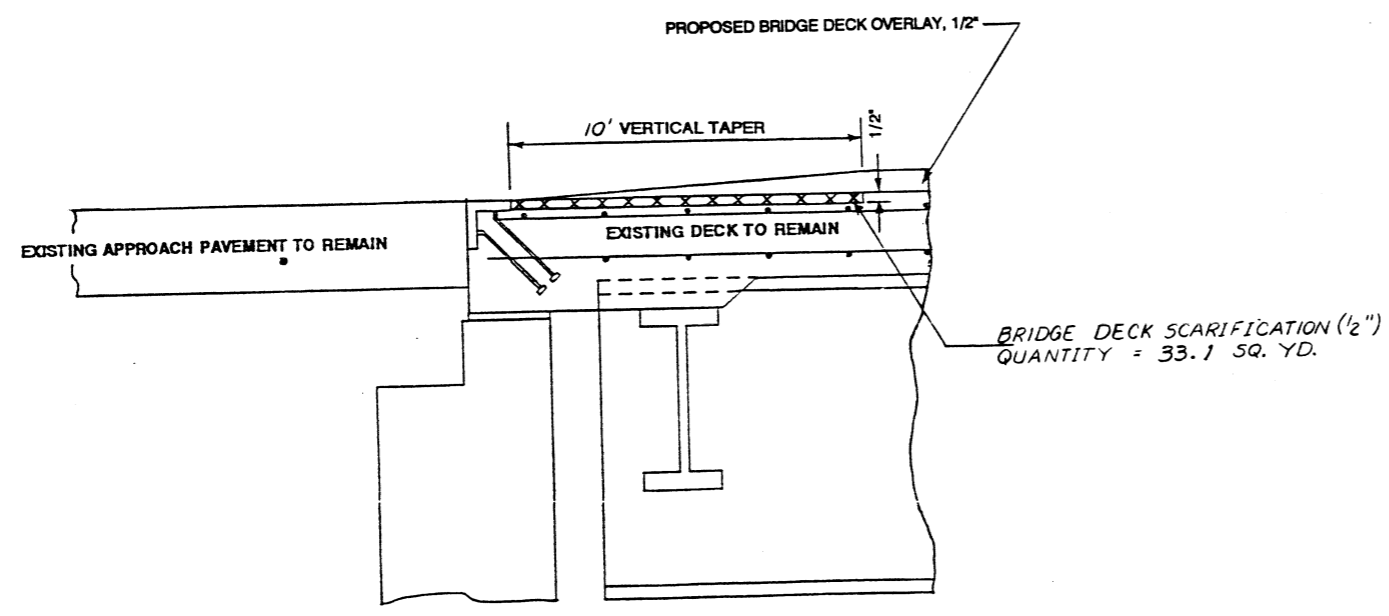
STRUCTURAL STEEL BAR STOCK AND DAM NOT
REQUIRED ON YATES CITY BLACKTOP (CH 16)
EXPANSION JOINTS

SHEET 5 OF 6



BRIDGE DECK SCARIFICATION (1/2")
QUANTITY = 33.1 SQ. YD.

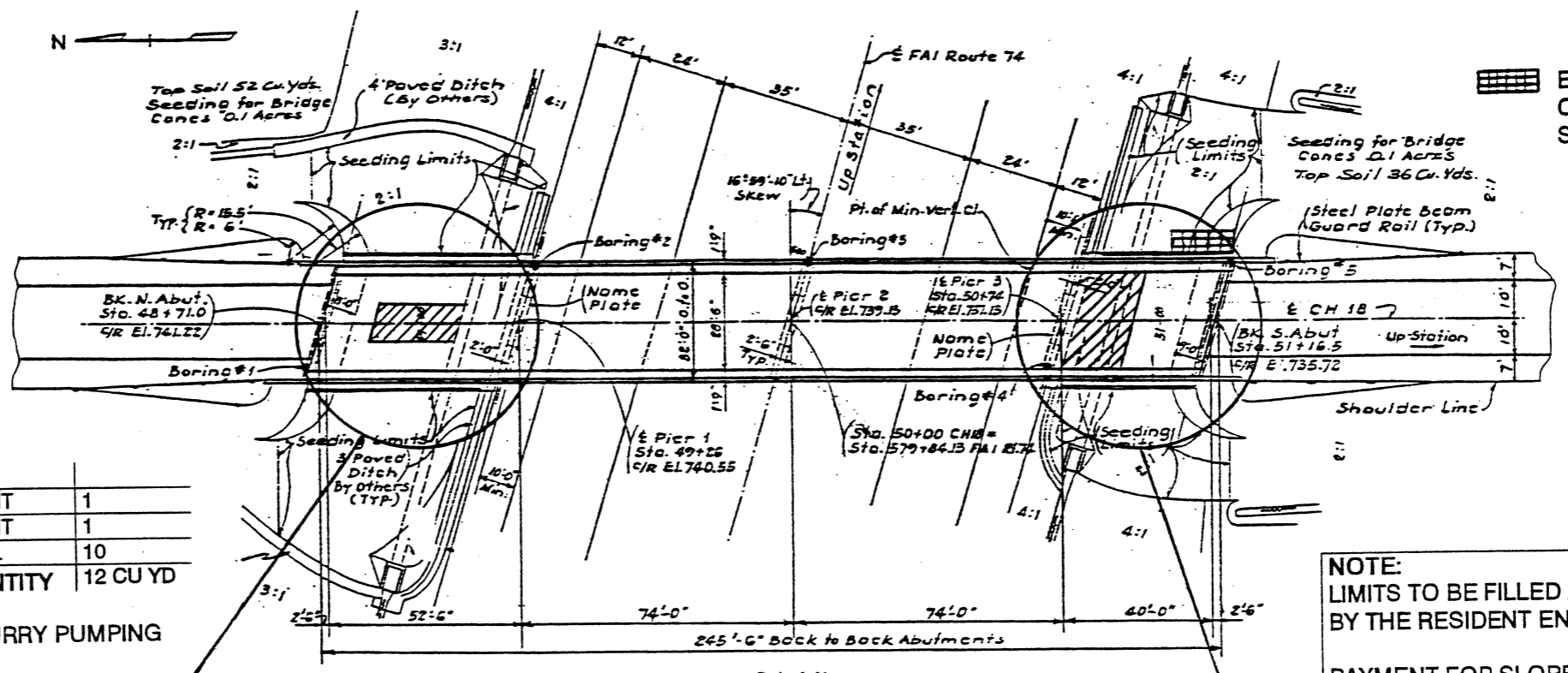
PROPOSED



BRIDGE DECK SCARIFICATION (1/2")
QUANTITY = 33.1 SQ. YD.

PROPOSED

EXPANSION JOINT DETAIL
FAI ROUTE 74
(48-29HB-1) KNOX COUNTY
S.N. 048-0035
YATES CITY BLACKTOP OVER I-74



EROSION ON NORTH EAST CORNER OF STRUCTURE TO BE FILLED WITH STONE DUMPED RIP RAP CLASS B3

SLOPEWALL SLURRY PUMPING

BETWEEN NORTH SLOPEWALL & ABUTMENT	1
BETWEEN SOUTH SLOPEWALL & ABUTMENT	1
VOID UNDER NORTH & SOUTH SLOPEWALL	10
ESTIMATED QUANTITY	12 CU YD

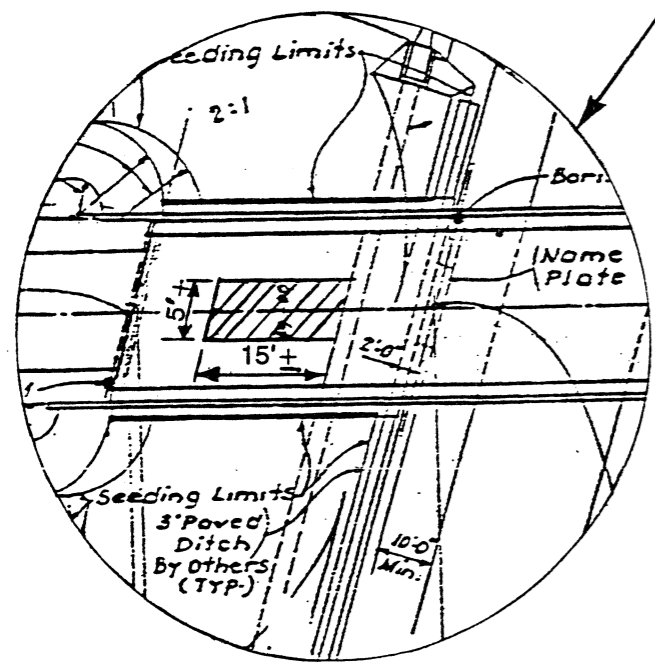
PROPOSED SLOPEWALL SLURRY PUMPING

NOTE:
LIMITS TO BE FILLED ARE TO BE DETERMINED BY THE RESIDENT ENGINEER.

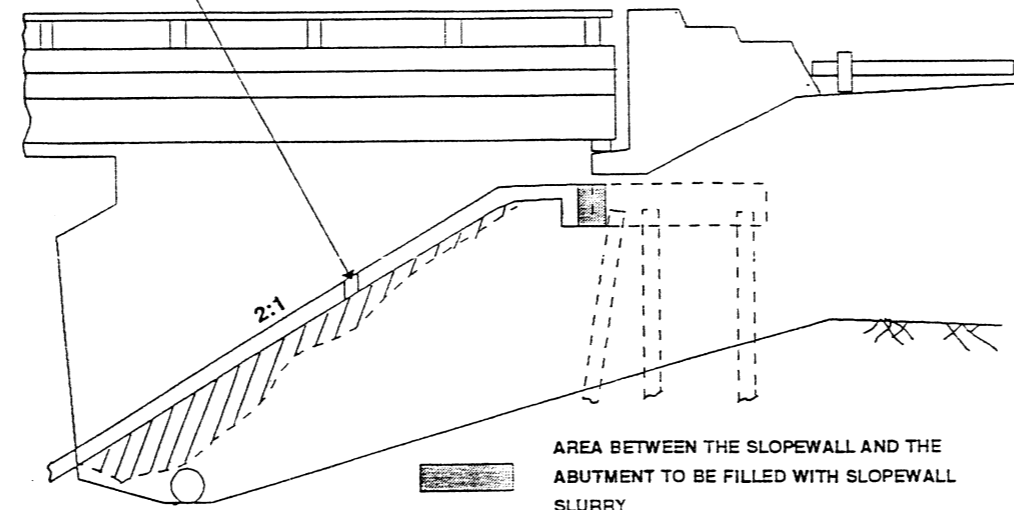
PAYMENT FOR SLOPEWALL SLURRY PUMPING WILL BE IN ACCORDANCE WITH ARTICLE 109.04 - SEE SPECIAL PROVISIONS.

PLAN
NOT TO SCALE

HOLES DRILLED AT 4' MIN. C-C TO ALLOW FOR SLOPEWALL SLURRY PUMPING. NUMBER AND LOCATION WILL BE DIRECTED BY THE RESIDENT ENGINEER. PAYMENT FOR DRILLING HOLES WILL BE IN ACCORDANCE WITH ARTICLE 109.04 - SEE SPECIAL PROVISIONS.

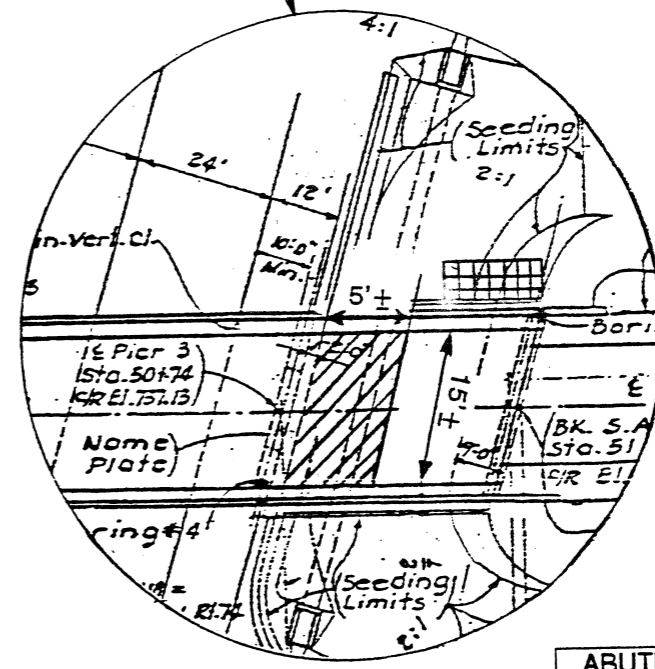


NORTH SLOPEWALL



AREA BETWEEN THE SLOPEWALL AND THE ABUTMENT TO BE FILLED WITH SLOPEWALL SLURRY

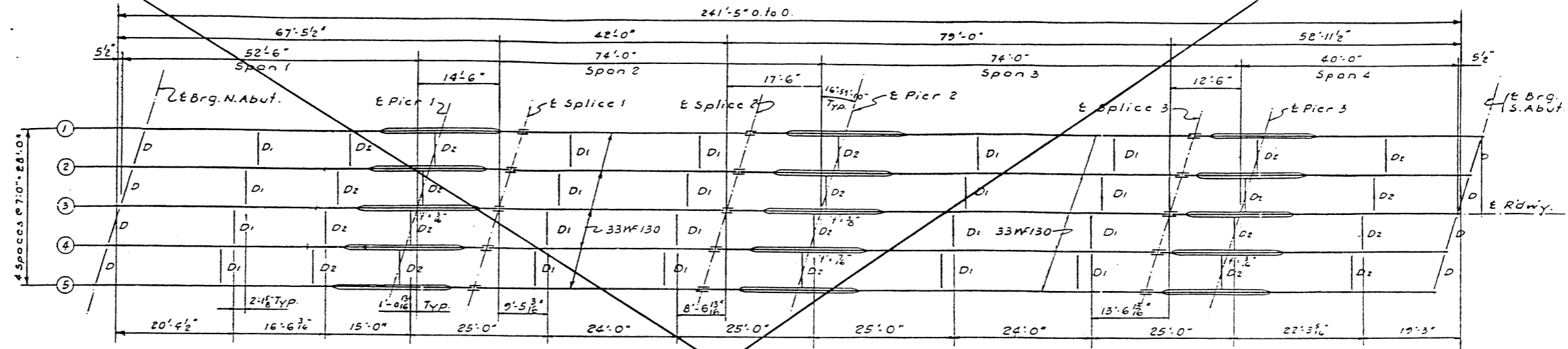
VOIDS UNDER THE SLOPEWALL TO BE FILLED BY SLOPEWALL SLURRY PUMPING



SOUTH SLOPEWALL

ABUTMENT & SLOPE WALL REPAIR DETAIL
FAI ROUTE 74
(48-29HB-1) KNOX COUNTY
S.N. 048-0035
YATES CITY BLACKTOP OVER I-74

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	PEORIA & KNOX	63	12
* (48-29HB-1), (48-30HB), (48-30B), (48-30B)-1, & (72-30HB-1)				



FRAMING PLAN
048-0035

STEP 1 - CLEAN & PAINT ALL BOTTOM SURFACES FROM N. ABUT. TO S. ABUT.
INCLUDING 48 DIAPHRAGMS & (10) ABUT. BRGS. 1459 SF.

STEP 2 - THEN LOW PRESSURE WASH (800 - 1500 PSI.) UNCLEANED SURFACES AND
APPLY 2 COATS OF PAINT (9121 SF.)

NOTE:
THE PAINTING IS TO BE DONE BY
THE SP3 PAINT SYSTEM. SEE
SPECIAL PROVISIONS

STRUCTURAL STEEL PAINTING DETAIL
FAI ROUTE 74
(48-29HB-1) KNOX COUNTY
S.N. 048-0035
YATES CITY BLACKTOP (CH 18) OVER I-74

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
74	*	**	53	51
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		SHEETS

Joint Size	"C" at 50°F	"D" at 50°F
2"	2"	1 1/2" Min.
2 1/2"	2 1/2"	1 3/4" Min.
4"	3"	2 1/2" Min.

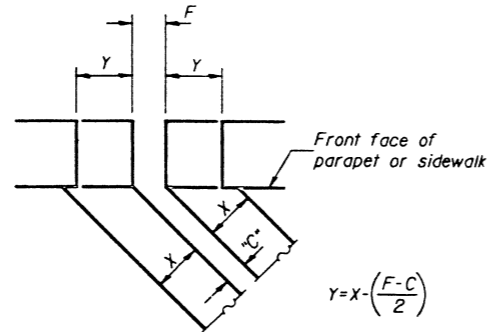
INSTALLATION NOTES

- 1 Install sponge mandrels into positions shown to form flap convolution.
- 2 Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
- 3 Install continuous seal in roadway.
- 4 Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

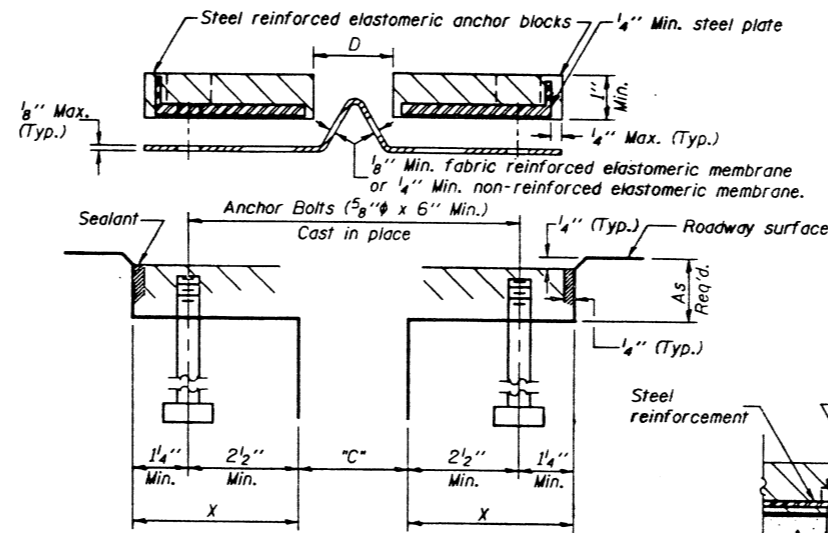
SKREW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews. For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of 1/2" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.



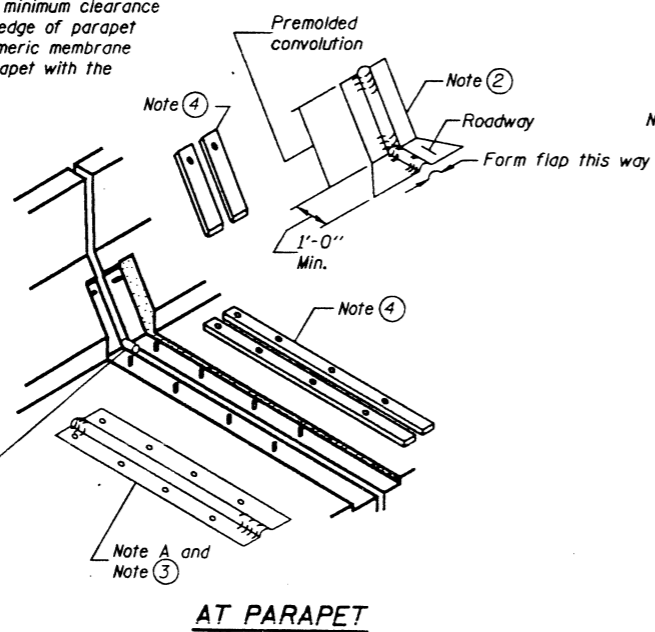
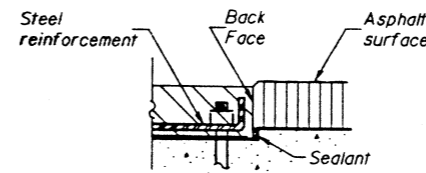
FORMING BLOCKOUT SKETCH

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

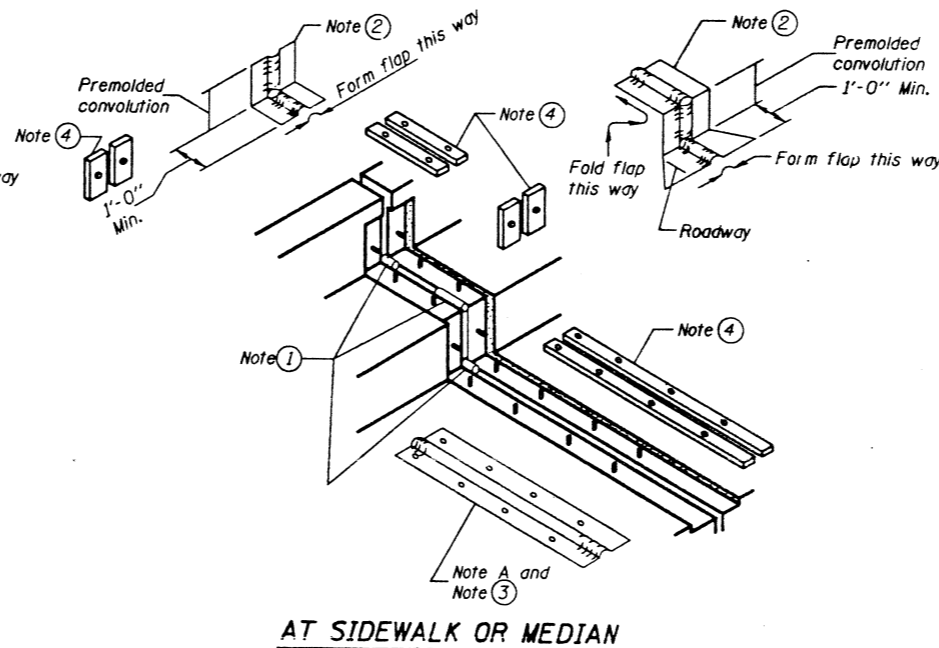


CROSS SECTION

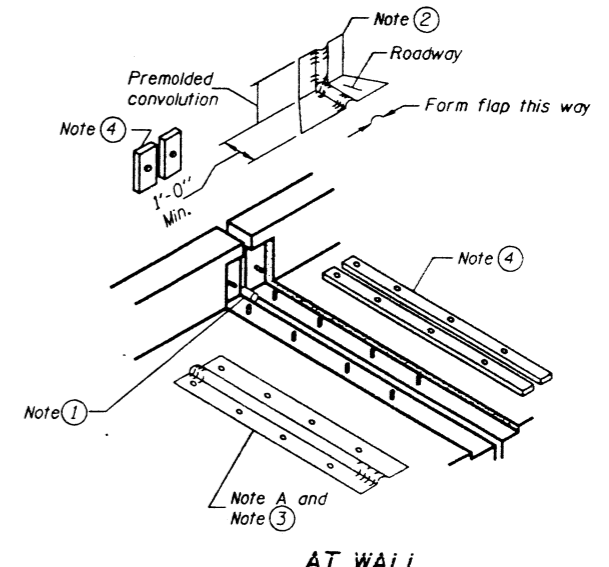
ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE



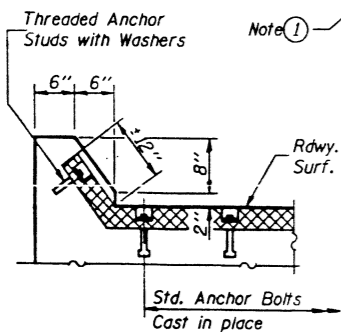
AT PARAPET



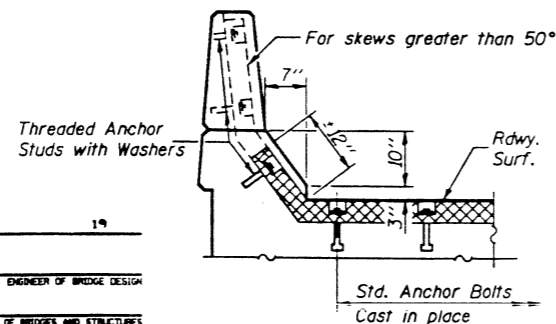
AT SIDEWALK OR MEDIAN



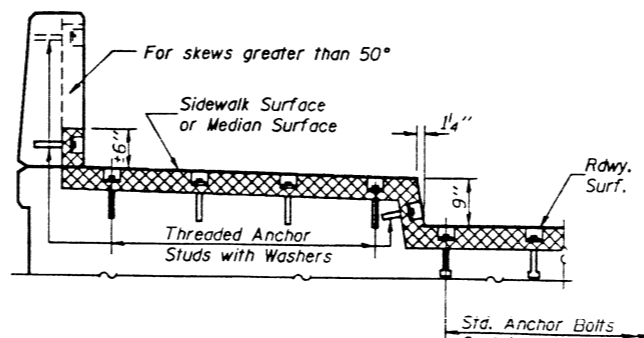
AT WALL



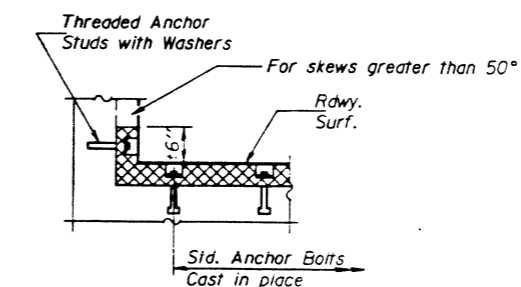
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN TYPICAL END TREATMENTS



AT WALL

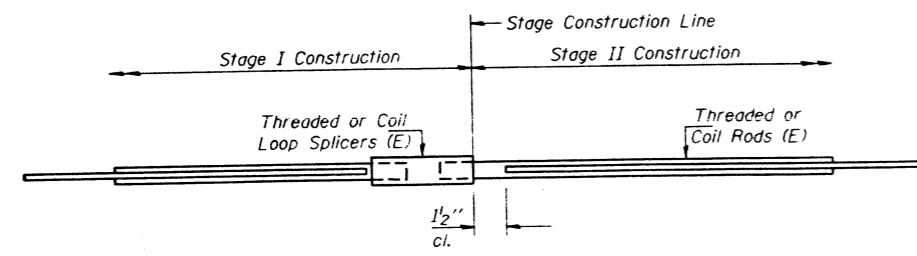
CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINTS
For 2", 2 1/2" and 4" Movement

DESIGNED	EXAMINED
CHECKED	PASSED
DRAWN	APPROVED
CHECKED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	DATE
FAI 74	*	PEORIA & KNOX	53	52 A
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

* (48-294B-D1), (48-304B1), (48-30B1), (48-30B1)-1 & (72-304B-D1)



SPLICER DETAIL

Cost incidental to "Reinforcement Bars, Epoxy Coated".

NO. OF SPLICERS REQUIRED

S.N.	BAR	#5(E)	#6(E)
048-0054		16	4
048-0055		16	4
072-0032		22	4

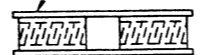
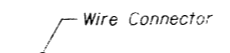
The diameter of this part of Splicer is the same as the diameter of the bar spliced.

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

ROLLED THREAD DOWEL BAR



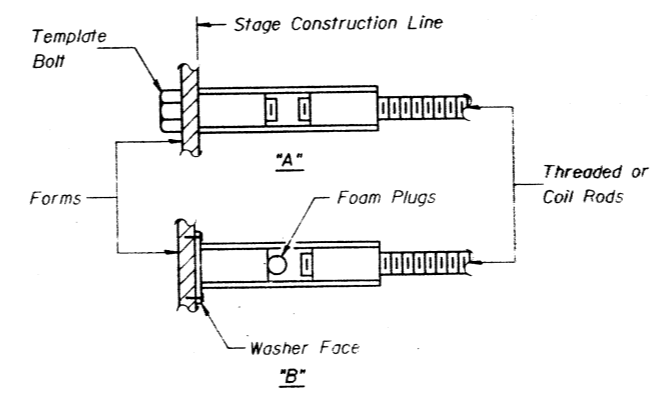
**** ONE PIECE**



WELDED SECTIONS

SPLICER ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

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

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the splicer rods.
 Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with the requirements for reinforcement bars.
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

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

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

Typical Splicer (Coupler) Assembly Sizes:

Location	Bar Lap / Splicer Size	Minimum Capacity	Minimum Pull-out Strength
In Slabs	#5 bar lap with 3/4" Splicer (Coupler) x 2'-0" Splicer Rods	23.0 kips-tension	9.2 kips-tension
	#6 bar lap with 7/8" Splicer (Coupler) x 2'-7" Splicer Rods	33.1 kips-tension	13.3 kips-tension
In Sub-Structure	#7 bar lap with 1" Splicer (Coupler) x 3'-5" Splicer Rods	45.1 kips-tension	18.0 kips-tension
	#8 bar lap with 1 1/8" Splicer (Coupler) x 4'-6" Splicer Rods	58.9 kips-tension	23.6 kips-tension

BAR SPLICER (COUPLER) DETAILS AT STAGE CONSTRUCTION

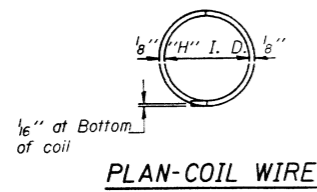
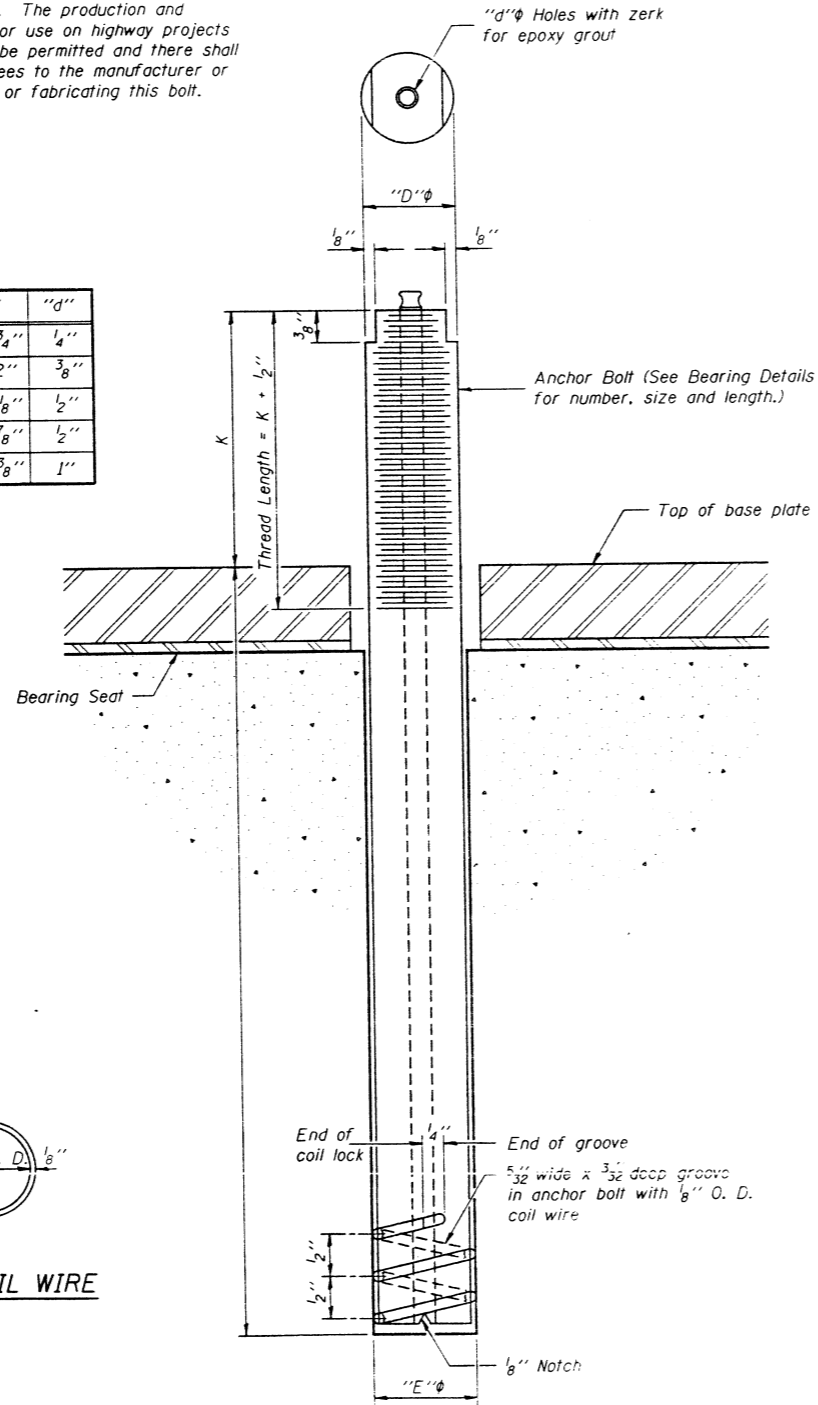
DESIGNED	
CHECKED	
DRAWN	DH
CHECKED	

19
 EXAMINED *Joseph E. Adams*
 ENGINEER OF STRUCTURAL SERVICES
 PASSED
 ENGINEER OF BRIDGES AND STRUCTURES

F.L. PTL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	**	53	53
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

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

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



ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.
 The coil wire shall be made of any suitable soft steel wire.
 The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.
 The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

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

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.
 The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
 1. A threaded rod stud with nut and washer conforming to ASTM A307.
 2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

GENERAL NOTES

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

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**ANCHOR BOLT DETAILS
 FOR BEARINGS**

SCALE: _____ DRAWN BY _____
 DATE _____ CHECKED BY _____

STATE OF ILLINOIS

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS

DIVISION OF HIGHWAYS

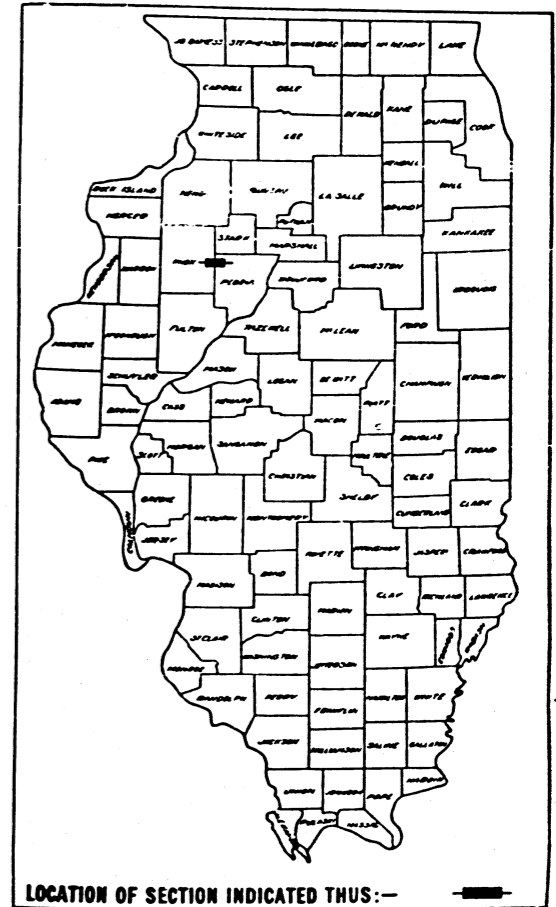
PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	48-29HB-1	KNOX	40	1
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT 1-74-3 (23) 63				

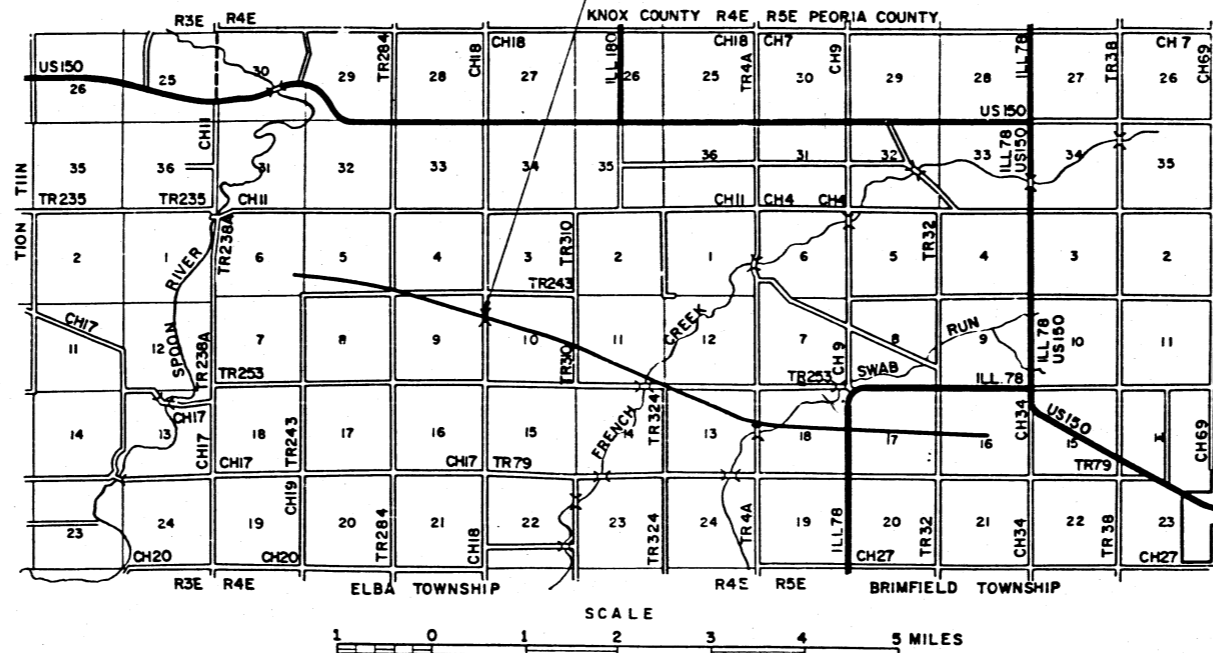
P-94-007-63

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 48-29HB-1
 PROJECT 1-74-3 (23) 63
 KNOX COUNTY
 C-94-009-65



STRUCTURE 48-29HB-1
 STA. 579+84.13 F.A.I.-74
 INCLUDES A 4 SPAN WF-BEAM GRADE SEPARATION
 CARRYING CH-18 OVER FAI-74 ON CONCRETE
 BENT ABUTMENTS AND R.C. PIERS ON TIMBER
 PILES. (1 SPAN @ 52'-6", 2 SPANS @ 74'-0" &
 1 SPAN @ 40'-0") AND THE RECONSTRUCTION OF
 0.224 MILES OF APPROACH ROADWAY ADJACENT
 TO THE STRUCTURE



LENGTH OF IMPROVEMENT AND PROJECT
 FAI PROJECT 1-74-3 (23) 63 = 0.000 FT. = 0.000 MILES

DESIGNED Dec. 29, 1966
Elio Suro
 EXAMINED Dec. 30, 1966
A. J. Lammiman
 EXAMINED Dec. 29, 1966
R. E. Anderson
 EXAMINED
 Entire section inspected and approved as to policy
 DATE 12-30-66 *J. S. Hubert* DISTRICT ENGINEER

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

SUBMITTED *12-30-66*
 EXAMINED *1-17-67*
 PASSED *1-17-67*
 APPROVED *1-17-67*
Francis J. Sullivan DISTRICT ENGINEER

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

DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS

APPROVED _____
 DIVISION ENGINEER DATE

REEL 4-69
 579+84.13
 48-29HB-1

INDEX TO PLAN SHEETS ON SHEET NO. 3

REVISED SET 7-28-67

CONTRACT NO. 24988

COUNTY: KNOX SECTION 48-29 HB-1 F.A.I. ROUTE 74

048-0035



SUMMARY OF QUANTITIES

P. A. L.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
7A	48 29HB-1	KNOX	40	3
REV. QUANT. DIST. NO. 7 ILLINOIS PROJECT				

CODE NUMBER	ITEM	UNIT	TOTAL QUANTITY	ROADWAY	BRIDGE
				FAI 74 SEC. 48-29HB-1 STA. 44+00 TO STA. 58+25	FAI 74 SEC. 48-29HB-1 STA. 48+71.0 TO STA. 51+16.5
	LOCATION				
	CONSTRUCTION TYPE CODE				
010001	TREE REMOVAL (6 TO 15 INCH DIAMETER)	IN. DIA.	21	21	
010002	TREE REMOVAL (OVER 15 INCH DIAMETER)	IN. DIA.	335	335	
				4251	X 731
011001	EARTH EXCAVATION	CU. YD.	21,668	21,668	
020001	TRENCH BACKFILL	CU. YD.	100	100	
027001	TOP SOIL	CU. YD.	428	428	
029001	GRAVEL OR CRUSHED STONE BASE COURSE, TYPE A	TON	1340	1340	
036001	GRAVEL OR CRUSHED STONE SURFACE COURSE TYPE-A	TON	1854	1854	
044001	BITUMINOUS MATERIAL (PRIME COAT)	GALLON	1092	1092	
044002	COVER COAT MIX COMPLETE	TON	372	372	
050001	CLASS A EXCAVATION FOR STRUCTURES	CU. YD.	220	220	
052003	CLASS X CONCRETE	CU. YD.	462.7	462.7	
052021	PROTECTIVE COAT	SQ. YD.	1000	1000	
054001	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	194280	194280	
058034	PIPE CULVERT TYPE 2A, 36"	LIN. FT.	196	196	
058199	PIPE CULVERT TYPE 1, 15"	LIN. FT.	68	68	
058572	PIPE CULVERT TYPE 2, 18" (TEMPORARY)	LIN. FT.	84	84	
058605	PIPE CULVERT TYPE 2, 36" (TEMPORARY)	LIN. FT.	50	50	
058763	PIPE CULVERT TYPE 2, 12" (TEMPORARY)	LIN. FT.	48	48	
059001	REINFORCEMENT BARS	POUND	77,040	77,040	
060005	FURNISHING CREOSOTED PILES 20.1' TO 38'	LIN. FT.	1745	1745	
060007	TEST PILE (TIMBER)	EACH	1	1	
060008	DRIVING TIMBER PILES	LIN. FT.	1745	1745	
060043	DRIVING CONCRETE PILES	LIN. FT.	935	935	
060044	FURNISHING CONCRETE PILES	LIN. FT.	935	935	
060047	TEST PILE CONCRETE	EACH	1	1	
061001	NAME PLATES	EACH	2	2	
066421	STORM SEWER SPECIAL	LIN. FT.	150	150	
083002	SLOPE WALL 4 INCH	SQ. YD.	378	378	
094001	STEEL PLATE BEAM GUARD RAIL	LIN. FT.	1025	1025	
101002	GRAVEL OR CRUSHED STONE	TON	456	456	
101006	SALVAGED AGGREGATE	CU. YDS.	57	57	
101007	STOCK PILING SALVAGED AGGREGATE	CU. YDS.	582	582	
102001	CALCIUM CHLORIDE APPLIED	TON	14	14	
104001	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	30	30	
110001	TEMPORARY SEEDING	ACRE	0.9	0.9	
110004	COMPLETE SEEDING	ACRE	0.9	0.9	
110005	FERTILIZER NUTRIENTS	TON	0.1	0.1	
111002	STRAW FOR ASPHALT-COATED MULCH	TON	3.6	3.6	
111003	EMULSIFIED ASPHALT	GAL.	360	360	
112001	SODDING	SQ. YD.	1930	1930	
200004	ALUMINUM HANDRAIL	LIN. FT.	484	484	
200125	FURNISHING AND ERECTING DRAINAGE MARKERS	EACH	2	2	
200351	PERMANENT SURVEY MARKERS - TYPE II	EACH	3	3	
201002	EXPLORATION TRENCH, 52 INCH DEPTH	LIN. FT.	100	100	
201028	WOVEN WIRE FENCE	LIN. FT.	4175	4175	
201398	ENGINEER'S FIELD OFFICE, TYPE A	EACH	1		

* NON-PARTICIPATING

STATION	LENGTH FROM TO FT	GRAVEL OR CRUSHED STONE SHOULDERS - TYPE B *		GR OR CR STONE BASE COURSE - TYPE A B *		BITUMINOUS CONCRETE B-5			
		LENGTH (STA) 3' WIDE	WEIGHT TON	WIDTH FT	WEIGHT TON	PRIME COAT **		COVER COAT	
						WIDTH FT	VOLUME GAL	THICK IN	WEIGHT TON
44+00 - 45+50	150	1.5	11	21.67 AVE	145	21 AVE	132	2.5	45
45+50 - 48+71.0	321.0	3.2	22	22.67	310	22	205	2.5	101
48+71.0 - 51+16.5	245.5	BRIDGE OMISSION							
51+16.5 - 56+75	558.5	5.6	39	22.67	601	22	512	2.5	176
56+75 - 58+25	150	1.5	11	21.67 AVE	145	21 AVE	117	2.5	45
PRIVATE DRIVEWAYS STA. 45+35 & 57+80								2.0	5
TOTALS			87		1340		1092		372

* 7 TON/STA (BOTH SIDES) TO BE CONSTRUCTED FROM SALVAGED AGGREGATE - 57 CU. YDS. ** 0.375 GALS/SQ. YD.

INDEX OF SHEETS

- 1 COVER SHEET
- 2 TYPICAL SECTIONS
- 3 SUMMARY OF QUANTITIES AND INDEX OF SHEETS
- 4 QUANTITIES NOT SHOWN ELSEWHERE ON PLANS
PLAN AND PROFILE CH 18 IMPROVEMENT, STA. 44+00 TO STA. 58+25
PLAN AND PROFILE CH 18 DETOUR (TEMPORARY), STA. 143+95 TO STA. 162+25
- 5 E 6 PLAN AND PROFILE FAI-74 MAIN LINE STA. 540+00 TO STA. 600+00
- 7 DETAILS- TOP SOIL PLACEMENT, SODDED DITCH, END POST DETAIL & TYPICAL RURAL ENTRANCES
- 8 GENERAL PLAN AND ELEVATION
- 9 SUPERSTRUCTURE
- 10 STRUCTURAL STEEL
- 11 SCREED ELEVATIONS
- 12 ALUMINUM HANDRAIL AND PARAPET
- 13 ABUTMENTS
- 14 PIER 1
- 15 PIER 2
- 16 PIER 3
- 17 E 18 BORINGS
- 19 PILE DETAILS
- 20 TO 23 CROSS SECTIONS CH 18 IMPROVEMENT STA. 43+00 TO STA. 58+00
- 24 CROSS SECTIONS CH 18 DETOUR STA. 147+00 TO STA. 158+00
- 25 TO 28 CROSS SECTIONS FAI-74 MAIN LINE STA. 571+00 TO STA. 583+00
- 29 STANDARD 1686-3 SYMBOLS AND ABBREVIATIONS
- 30 STANDARD 1744-1 RIGHT-OF-WAY MARKERS
- 30A STANDARD 1999-1 DRAINAGE MARKERS
- 31 STANDARD 2113-1 NAME PLATE FOR BRIDGES
- 32 STANDARD 2114 FLAGMAN TRAFFIC CONTROL SIGN
- 33 STANDARD 2135 PERMANENT SURVEY MARKERS
- 34 STD. 2153-5 SIGN FOR INTERSTATE SYSTEM PROJECT
- 35 STD. 2169-2 WOVEN WIRE FENCE
- 36 STD. 2208-2 BARRICADES
- 37 STD. 2209-1 TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES
- 38 STD. 2230-1 STEEL PLATE BEAM GUARD RAIL
- 39 STD. 2231-1 TYPICAL APPLICATIONS OF STEEL PLATE BEAM GUARD RAIL
- 40 STD. 2235 ROADWAY FOR DUAL 24' P.C.C. PAVT.

HIGHWAY CLASSIFICATION CH 18 IMPROVEMENT SEC. 48-29 HB-1	
245ADT-M-50 (CURRENT)	
MAXIMUM GRADE	5.0%
LENGTH OF MAXIMUM GRADE	497.5
MINIMUM STOPPING SIGHT DISTANCE	360'
MINIMUM HORIZONTAL RADIUS	TANGENT

NOTE:
TWO (2) SIGNS CONFORMING TO STANDARD 2153-5 SHALL BE ERECTED AT THE LOCATIONS SHOWN ON SHEET NO. 4.
WHENEVER IN THESE PLANS REFERENCE IS MADE TO THE "STANDARD SPECIFICATIONS" IT IS UNDERSTOOD TO INCLUDE THE "SUPPLEMENTAL SPECIFICATIONS" EFFECTIVE JAN. 3, 1966.

REV. QUANT. CL. A EXC. 200 TO 220 CU. YDS.; CREO. PILES FUR. & DRIV. 1770 TO 1745 LIN. FT.; SLOPE WALL 420 TO 378 SQ. YDS.; SODDING 2,720 TO 1,930 SQ. YDS. CEM. 1-20-67
REV. 7-27-67 CL. X CONC. 476.7 TO 462.7
REV. BORS 73,440 TO 77,040



B.M.#4
 R.R. spike in 20" maple
 Sta. 579+22, 320' Left, El. 737.894

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48	KNOX	40	8
SHEET NO. 1 12 SHEETS				

GENERAL NOTES:

The concrete slab shall be finished in accordance with Article 51.19 of the Standard Specifications.
 Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 sq. ft.
 All reinforcement bars shall be lapped 20 diameters unless otherwise shown.
 Coarse aggregate to be used in parapet and end posts shall be free of chert, flint, limonite, lignite and soft sandstone.
 Rivets 3/4", Open Holes 3/8" unless otherwise noted.
 Anchor bolts shall be set before riveting diaphragms over supports.
 The exposed surfaces of the expansion guard shall be given two shop coats of red lead paint, the contact surfaces shall be given one coat of red lead paint. Anchor studs shall not be painted.
 Expansion guards are included in the quantity of structural steel. Est. wt. 760 lbs.
 Except as otherwise provided, all structural steel shall receive one shop coat of red lead paint and two field coats of Paint. See Special Provisions.

PERMANENT FORMS WILL NOT BE PERMITTED IN FORMING THE CONCRETE DECK.
 The Contractor shall drive one concrete test pile in a permanent location at North abutment and one timber test pile in a permanent location at Pier 3 as directed by the Engineer before ordering the remainder of piles.

DESIGN STRESSES

$f_c = 1400$ psi Superf. Sub.
 $f_v = 75$ psi Figs.
 $f_s = 20000$ psi Reinf.
 $f_s = 20000$ psi Struct. (A-36)
 $n = 10$

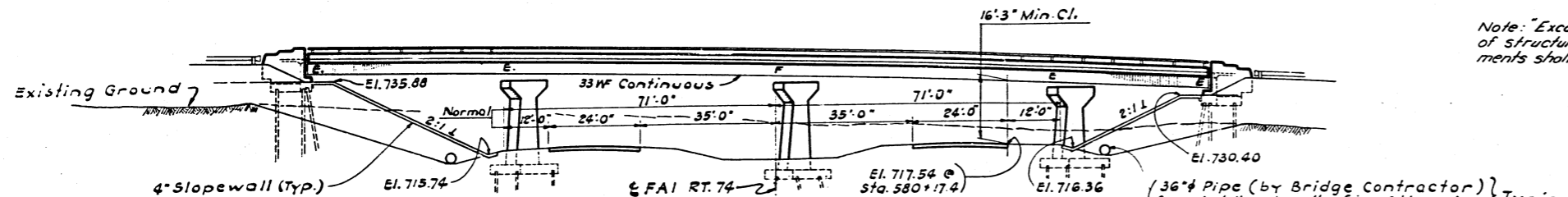
Loading HS 15-44 (Allowable LL $A = \frac{L}{1000}$)

HIGHWAY CLASSIFICATION

F.A.I. Route 74
 971-T-70 - 1986
 County Highway 18
 245 (ADT) - 50 (current)

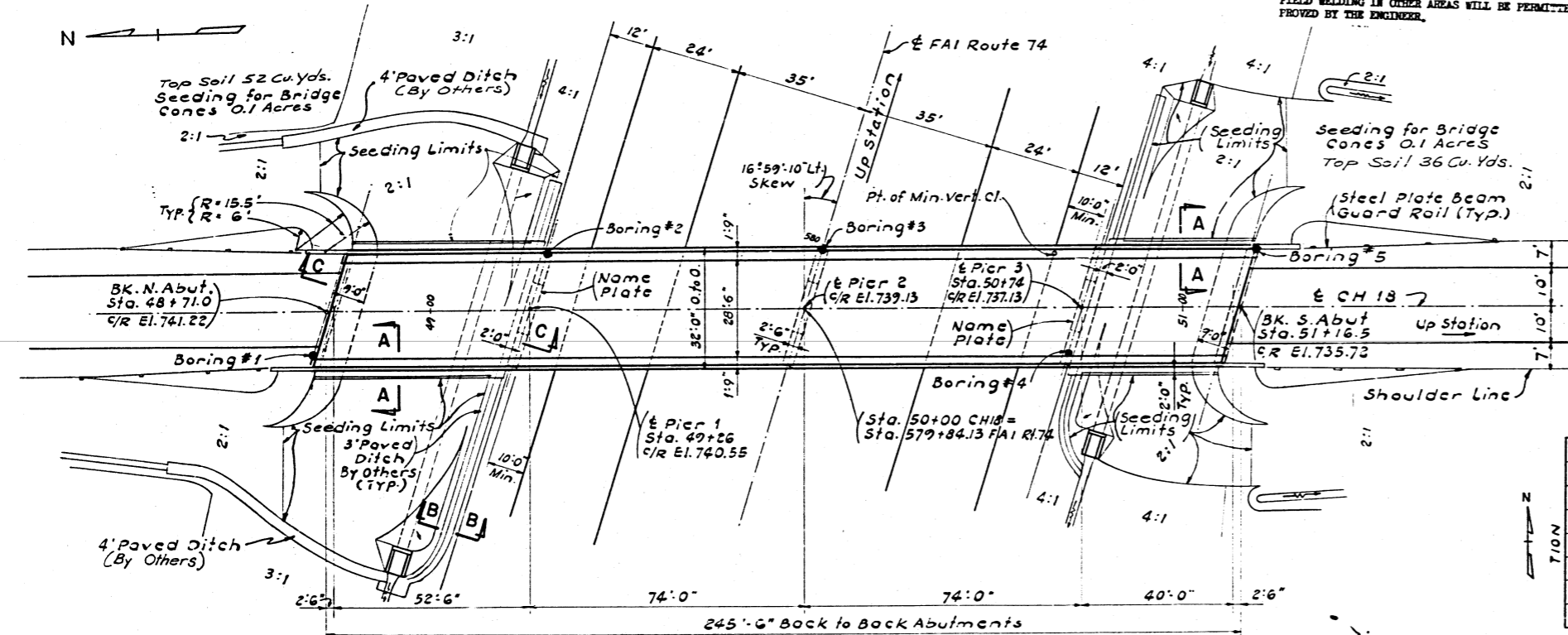
APPROVED

FOR STRUCTURAL ADEQUACY
Paul E. Thompson Jr.
 ENGINEER OF BRIDGE & STRUCTURES

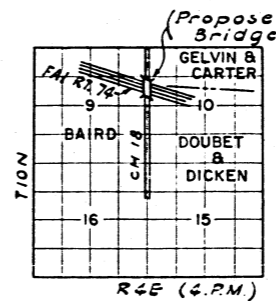


ELEVATION
 Scale: 1" = 20'

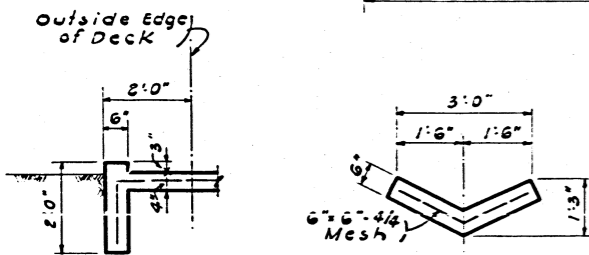
FIELD WELDING OF CONSTRUCTION ACCESSORIES TO THE BOTTOM FLANGES OR FOR A DISTANCE OF 1/4 OF THE SPAN EACH WAY FROM PIER SUPPORTS ON THE TOP FLANGES OF BEAMS OR GIRDERS WILL NOT BE PERMITTED. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.



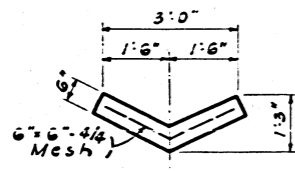
PLAN
 Scale: 1" = 20'



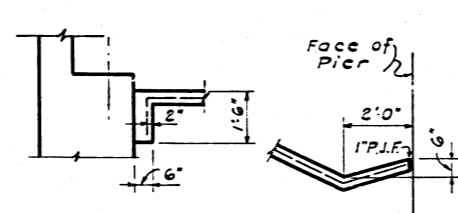
LOCATION PLAN



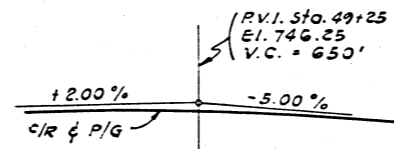
SECTION A-A



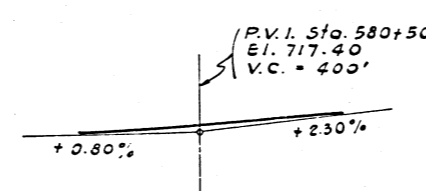
SECTION B-B



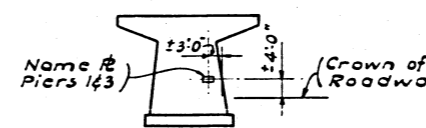
SECTION C-C



V.C. DATA - CH 18



V.C. DATA - FAI RT. 74



PIER TYPE (P-2)

STATION 579+84.13
 BUILT 196 BY
 STATE OF ILLINOIS
 FAI. RT. 74 SEC. 48-29HB-1
 FA PROJ. I 74-3(23)
 LOADING HS 15

NAME PLATE LETTERING
 Locate on Piers 1 & 3 see
 Std. 2113-1

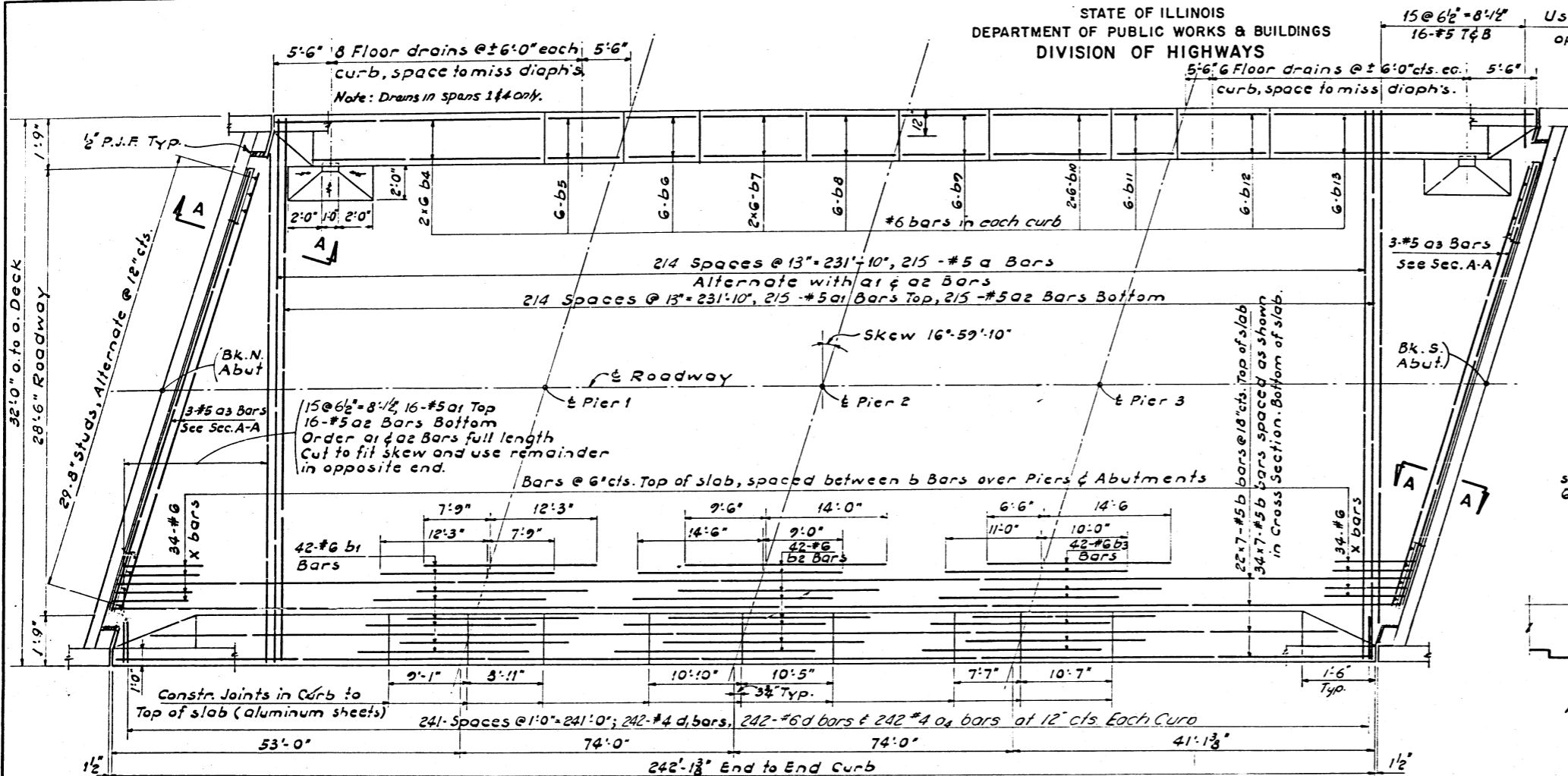
BILL OF MATERIAL - Bridge only				
ITEM	UNIT	SUB.	SUPER.	TOTAL
Class A Excavation - Structures	Cu.Yds.	220		220
Class X Concrete	Cu.Yds.	238.5	224.2	462.7
Structural Steel (F & E)	Pound		194,280	194,280
Aluminum Handrail (F & E)	Lin.Ft.		484	484
Reinforcement Bars	Pound	23,160	53,880	77,040
Crested Piles 20.1' to 38' (Furnished)	Lin.Ft.	1,745		1,745
Driving Timber Piles	Lin.Ft.	1,745		1,745
Test Piles (Timber)	Each	1		1
Concrete Piles (Furnished)	Lin.Ft.	935		935
Driving Concrete Piles	Lin.Ft.	935		935
Test Piles (Concrete)	Each	1		1
Name Plates	Each	2		2
Slope Wall 4'	Sq.Yd.	378		378
Protective coat	Sq.Yd.	20	980	1000

GENERAL PLAN & ELEVATION

PROJ. - I-74-3(23) 63
 CH. 18 OVER F.A.I. RT. 74
 F.A.I. RT. 74 SEC. 48-29HB-1
 KNOX COUNTY
 STA. 50+00 CH 18
 STA. 579+84.13 FAI RT 74

Rev. Class X Conc. from 464.6 Cu.Yds. to 476.7 Cu.Yds. Reinf. from 77,480# to 73,440# 11-2-66 N.R.F.
 Rev. Cl X Conc. Sub from 235.1 to 238.5 Cu.Yds. Super from 241.6 to 224.2 Cu.Yds. Total from 476.7 to 462.7 Cu.Yds.
 Reinf. Super. from 50,280# to 53,880# Total from 73,440# to 77,040# 7-25-67 FS.

REV. CL A EXC. 200 TO 220; FUR & DRIVING TIM. PILES 1770 TO 1745;
 SLOPE WALL 420 TO 378; DEDUCTED SODDING; ADDED SEEDING
 AND TOP SOIL; REV. L&S PARA. DE GEN. NOTES; HIGHWAY CL. 253 (ADT)
 TO 245 (ADT); REV. ELEV. DRAWN BY REM. 60" TYP. & CONST. SLOPE;
 REM. NOTE VERIFYING DIMENSIONS. CEM. 1-20-67

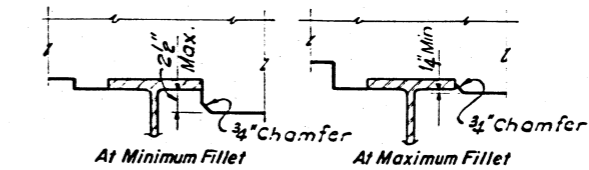


PLAN

Note: Bars indicated thus:
20 x 3-#5 etc. indicate 20 lines of bars with 3 lengths per line
Min. bar lap = 20 dia.



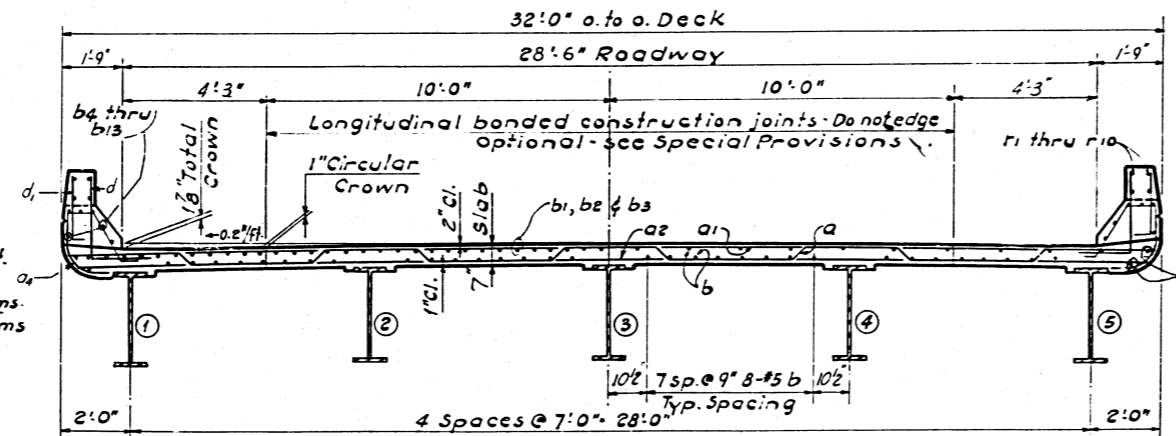
FLOOR DRAIN



DETAIL 'A'

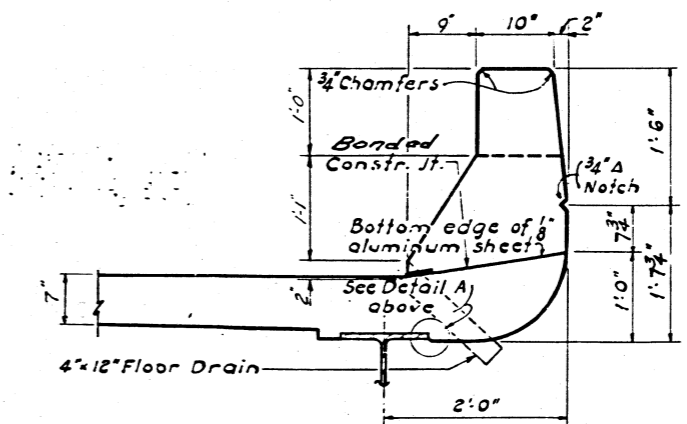
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	215	#5	32'-6"	U
a1	231	#5	31'-5"	—
a2	231	#5	30'-7"	—
a3	6	#5	26'-9"	—
a4	484	#4	5'-6"	U
b	392	#5	35'-8"	—
b1	42	#6	20'-0"	—
b2	42	#6	23'-6"	—
b3	42	#6	21'-0"	—
b4	24	#6	22'-5"	—
b5	12	#6	8'-10"	—
b6	12	#6	8'-8"	—
b7	24	#6	27'-5"	—
b8	12	#6	10'-7"	—
b9	12	#6	10'-2"	—
b10	24	#6	28'-4"	—
b11	12	#6	7'-4"	—
b12	12	#6	10'-4"	—
b13	12	#6	29'-9"	—
d	484	#6	4'-8"	U
d1	484	#4	2'-6"	U
x	68	#6	5'-0"	C
Reinforcement Bars		Lbs	51,900	
*Structural Steel		Lbs.	194,280	
+ Class X Concrete		Cu. Yds.	224.2	



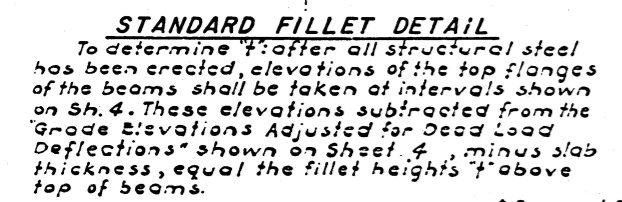
NEAR PIER NEAR MIDSPAN

CROSS SECTION

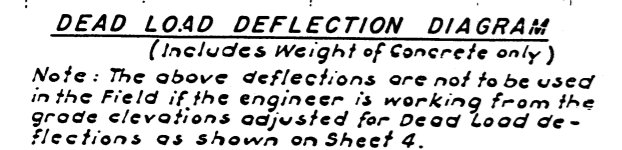


CURB DETAIL

Cost of Aluminum Drains and Sheets shall be incidental to Class X Concrete

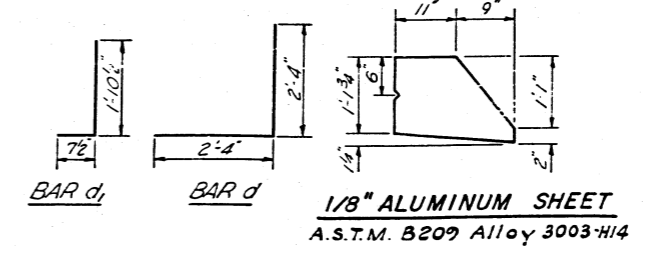
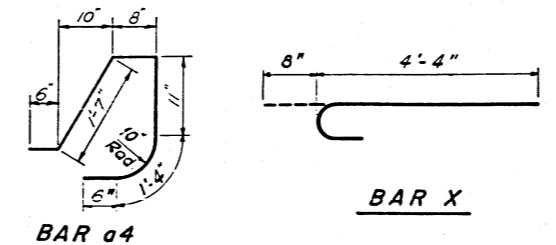
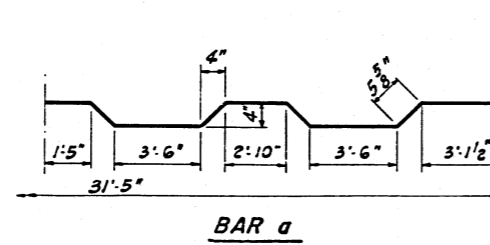


STANDARD FILLET DETAIL



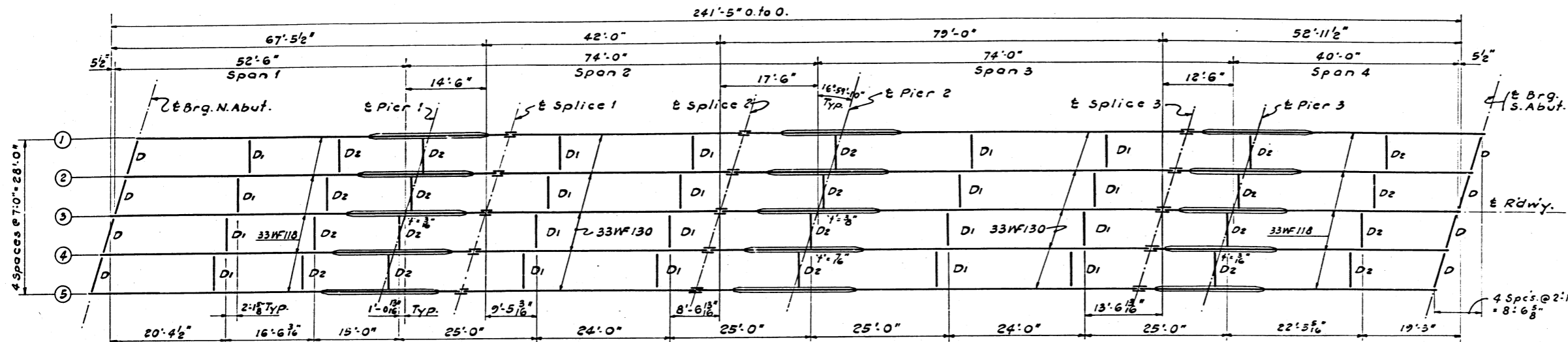
DEAD LOAD DEFLECTION DIAGRAM

DESIGNED	M.D.R.	EXAMINED	
CHECKED	L.K.	PASSED	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
DRAWN	J.H.	APPROVED	ENGINEER OF DESIGN
CHECKED	L.K.		CHIEF HIGHWAY ENGINEER



* Includes 6710 lbs. for bearing assemblies & 760 lbs. for expansion devices.
+ Includes 14.2 cu. yds. in parapets.

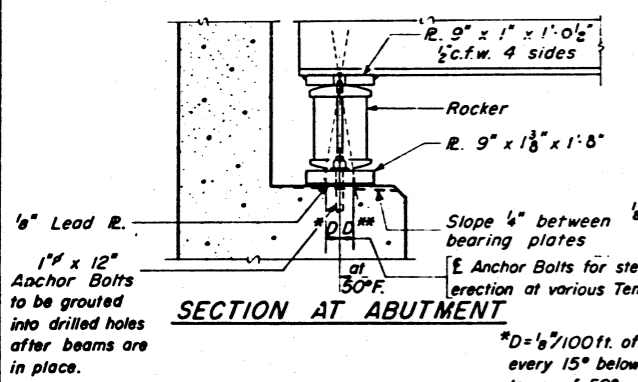
SUPERSTRUCTURE
C.H. 18 OVER F.A.I. RT. 74
F.A.I. RT. 74 SEC. 48-29 HB-1
KNOX COUNTY
STA. 50 + 00 CH 18
STA. 579 + 84.13 FAI RT 74



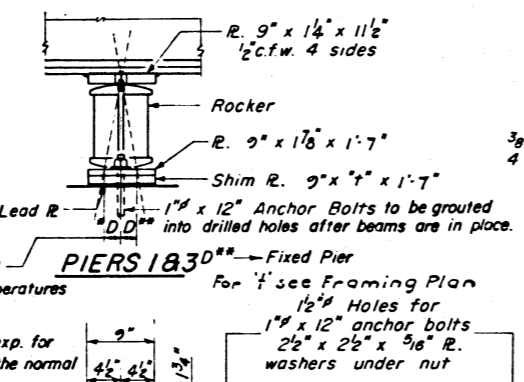
FRAMING PLAN

Note: Where 'r' is not shown, no shim is required.

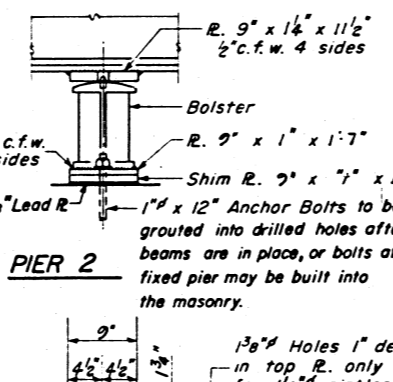
	Point	D.L.	L.L.	Imp.	Design Total
MOMENTS	.4 Sp.1	161	256	72	489
	Pier 1	222	259	60	720
	.5 Sp.2	202	297	75	574
	Pier 2	504	305	77	886
REACTIONS	.5 Sp.3	229	290	73	592
	Pier 3	340	242	67	649
	.4 Sp.4	47	177	53	277
	N.Abut.	17.7	27.0	7.6	52.3
	Pier 1	66.2	35.8	9.5	111.5
	Pier 2	74.1	38.2	9.6	121.9
	Pier 3	60.4	34.4	9.5	104.3
	S.Abut.	10.6	25.2	7.6	43.4



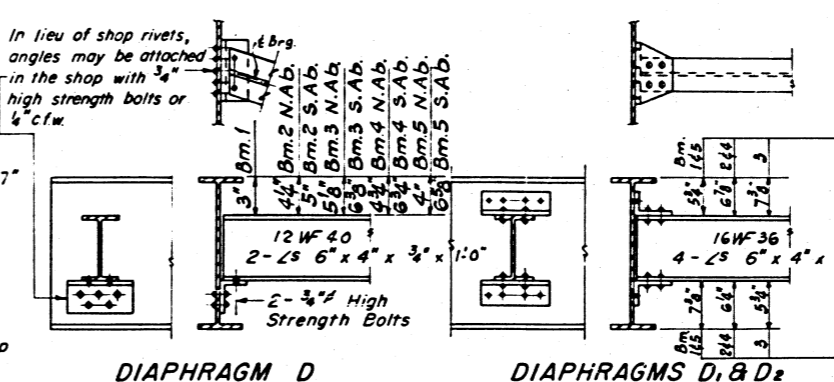
SECTION AT ABUTMENT



PIERS 1&3

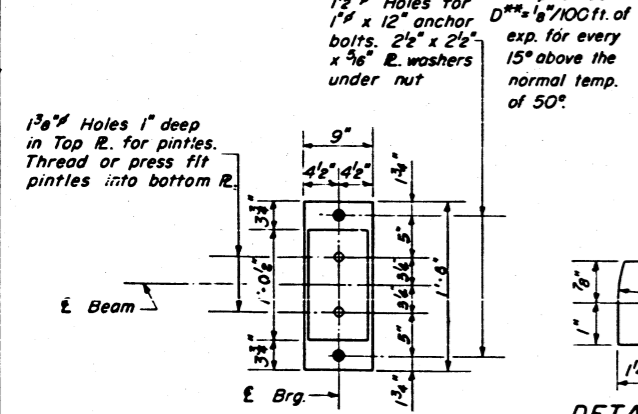


PIER 2

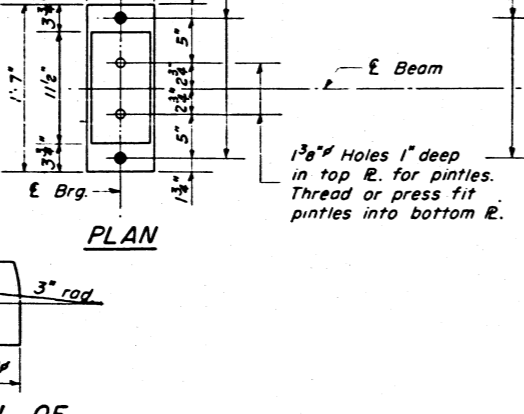


DIAPHRAGM D

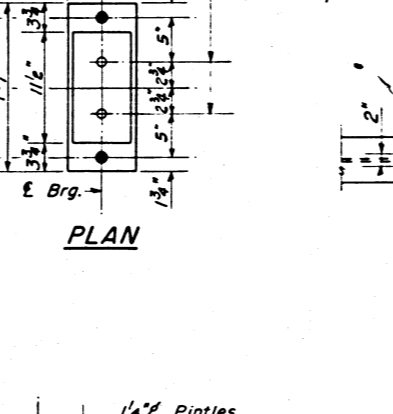
DIAPHRAGMS D1 & D2



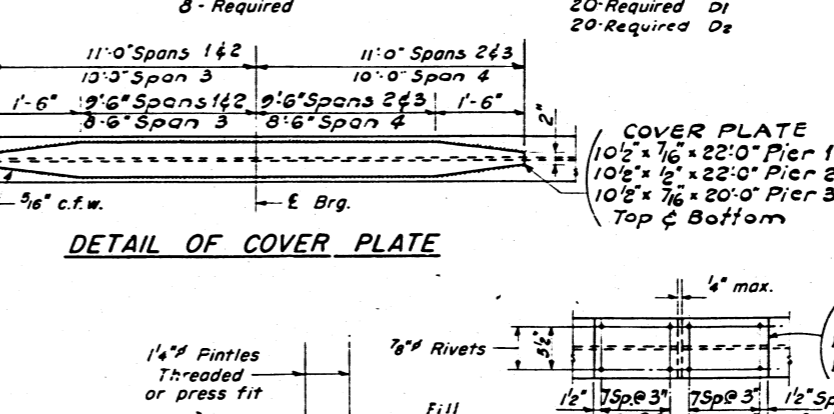
PLAN



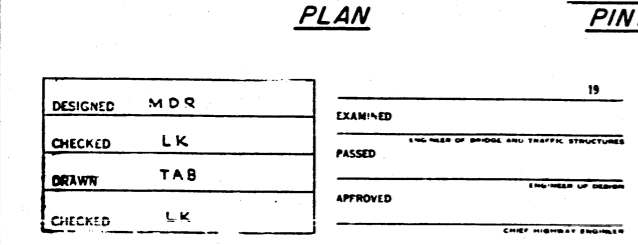
PLAN



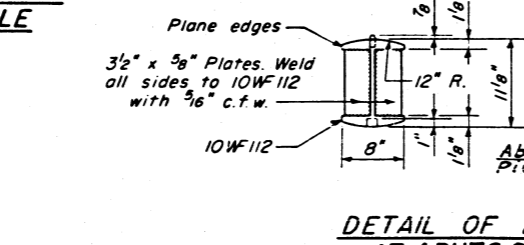
PLAN



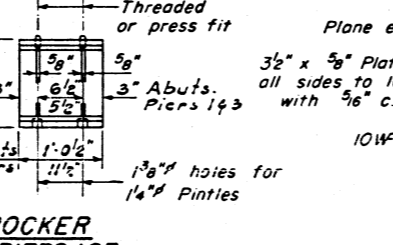
DETAIL OF COVER PLATE



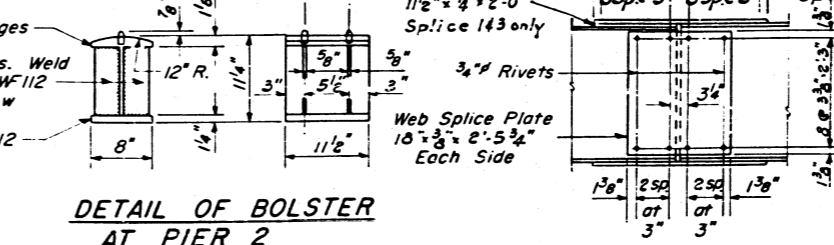
DETAIL OF PINTLE



DETAIL OF ROCKER AT ABUTS. & PIERS 1&3



DETAIL OF BOLSTER AT PIER 2



DETAIL OF SPLICE

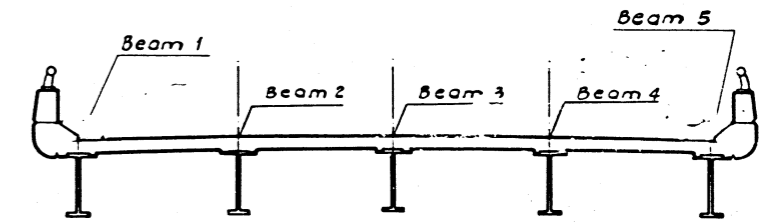
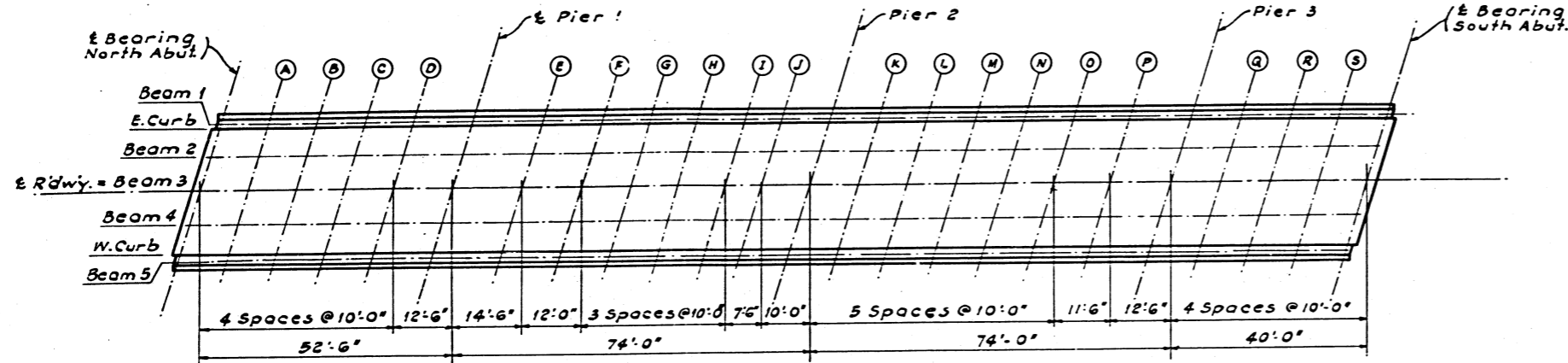
	Bm.1	Bm.2	Bm.3	Bm.4	Bm.5
Brig. N. Abut.	740.44	740.54	740.61	742.58	740.52
Brig. Pier 1	739.68	739.80	739.88	739.87	739.81
Spl. 1 (North)	739.47	739.59	739.68	739.67	739.62
Spl. 1 (South)	739.49	739.62	739.70	739.69	739.64
Spl. 2	738.67	738.80	738.89	738.89	738.85
Brig. Pier 2	738.22	738.35	738.45	738.45	738.42
Spl. 3 (North)	736.63	736.78	736.89	736.91	736.89
Spl. 3 (South)	736.61	736.76	736.87	736.89	736.87
Brig. Pier 3	736.21	736.37	736.48	736.50	736.48
Brig. S. Abut.	734.94	735.10	735.22	735.25	735.24

STRUCTURAL STEEL
C.H. 18 OVER F.A.I. RT 74
F.A.I. RT. 74 SEC. 48-29 HB-1
KNOX COUNTY
STA. 579+84.13

DESIGNED	M.D.R.	EXAMINED	
CHECKED	L.K.	PASSED	
DRAWN	TAB	APPROVED	
CHECKED	L.K.		

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

ROUTE NO.	STATION	COUNTY	TOTAL LENGTH	SHEET NO.	SHEET NO. 4 12 SHEETS
72	48+29	KNOX	40'	11	



CROSS SECTION

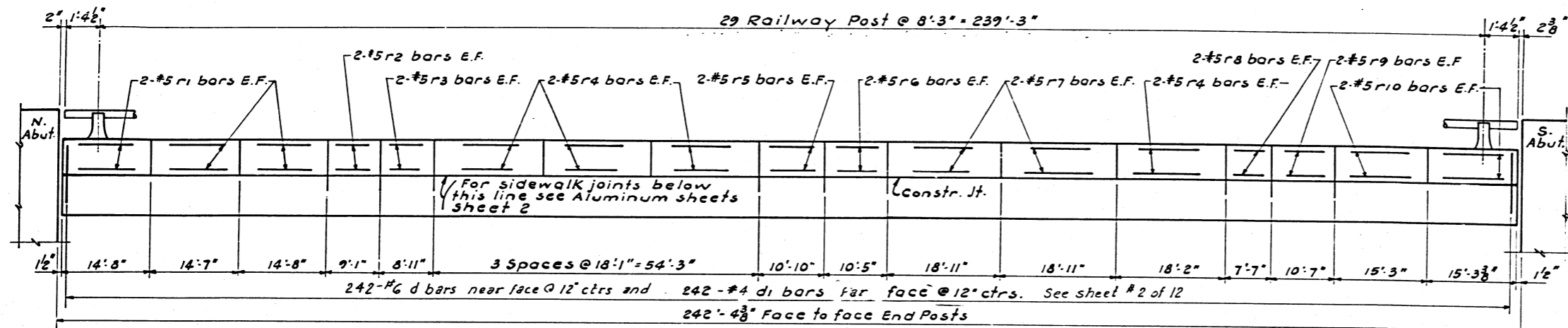
PLAN

	Cent. N. Abut.	A	B	C	D	Cent. Pier 1	E-Splice 1	F	G	H	I-Splice 2	J	Cent. Pier 2	K	L	M	N	O	P-Splice 3	Cent. Pier 3	Q
STATION	48+77.47	48+87.47	48+97.47	49+07.47	49+17.47	49+29.97	49+44.47	49+56.47	49+66.47	49+76.47	49+86.47	49+93.97	50+03.97	50+13.97	50+23.97	50+33.97	50+43.97	50+53.97	50+65.47	50+77.97	50+87.97
E. CURB TOP OF SLAB ELEVATION	741.020	740.918	740.801	740.675	740.538	740.353	740.116	739.904	739.714	739.515	739.303	739.138	738.909	738.668	738.417	738.155	737.882	737.599	737.267	736.875	736.554
E. CURB TOP OF SLAB ELEV. + DEFLECTION	741.020	740.938	740.829	740.697	740.548	740.353	740.137	739.953	739.769	739.565	739.333	739.147	738.909	738.678	738.460	738.220	737.952	737.659	737.285	736.875	736.558
BEAM 2 STATION	48+75.64	48+85.64	48+95.64	49+05.64	49+15.64	49+28.14	49+42.64	49+54.64	49+64.64	49+74.64	49+84.64	49+92.14	50+02.14	50+12.14	50+22.14	50+32.14	50+42.14	50+52.14	50+63.64	50+76.14	50+86.14
BEAM 2 TOP OF SLAB ELEVATION	741.130	741.028	740.915	740.791	740.656	740.473	740.239	740.029	739.841	739.643	739.434	739.271	739.043	738.805	738.555	738.296	738.025	737.742	737.406	737.024	736.706
BEAM 2 TOP OF SLAB ELEV. + DEFLECTION	741.130	741.045	740.936	740.808	740.664	740.473	740.255	740.066	739.883	739.681	739.457	739.277	739.043	738.812	738.588	738.344	738.078	737.789	737.429	737.024	736.707
BEAM 3 STATION	48+73.50	48+83.50	48+93.50	49+03.50	49+13.50	49+26.00	49+40.50	49+52.50	49+62.50	49+72.50	49+82.50	49+90.00	50+00.00	50+10.00	50+20.00	50+30.00	50+40.00	50+50.00	50+61.50	50+74.00	50+84.00
BEAM 3 TOP OF SLAB ELEVATION	741.192	741.092	740.981	740.860	740.728	740.547	740.317	740.109	739.924	739.729	739.522	739.360	739.135	738.906	738.652	738.394	738.126	737.846	737.512	737.132	736.816
BEAM 3 TOP OF SLAB ELEV. + DEFLECTION	741.192	741.109	741.002	740.876	740.735	740.547	740.333	740.147	739.966	739.766	739.544	739.367	739.135	738.906	738.684	738.443	738.178	737.891	737.534	737.132	736.818
BEAM 4 STATION	48+71.36	48+81.36	48+91.36	49+01.36	49+11.36	49+23.86	49+38.36	49+50.36	49+60.36	49+70.36	49+80.36	49+87.86	49+97.86	50+07.86	50+17.86	50+27.86	50+37.86	50+47.86	50+59.36	50+71.86	50+81.86
BEAM 4 TOP OF SLAB ELEVATION	741.172	741.074	740.966	740.847	740.717	740.539	740.312	740.107	739.924	739.731	739.526	739.366	739.143	738.917	738.665	738.409	738.143	737.866	737.535	737.158	736.844
BEAM 4 TOP OF SLAB ELEV. + DEFLECTION	741.172	741.091	740.987	740.865	740.724	740.539	740.328	740.144	739.966	739.768	739.579	739.373	739.143	738.917	738.697	738.458	738.196	737.912	737.557	737.158	736.846
W. CURB STATION	48+69.55	48+79.55	48+89.55	48+99.55	49+09.55	49+22.05	49+36.55	49+48.55	49+58.55	49+68.55	49+78.55	49+86.05	49+96.05	50+06.05	50+16.05	50+26.05	50+36.05	50+46.05	50+57.55	50+70.05	50+80.05
W. CURB TOP OF SLAB ELEVATION	741.096	741.001	740.895	740.777	740.648	740.474	740.250	740.047	739.867	739.676	739.473	739.315	739.094	738.862	738.619	738.366	738.101	737.827	737.497	737.123	736.811
W. CURB TOP OF SLAB ELEV. + DEFLECTION	741.096	741.023	740.923	740.799	740.659	740.474	740.272	740.097	739.922	739.726	739.503	739.323	739.094	738.871	738.662	738.431	738.171	737.887	737.526	737.123	736.813
BEAM 1 STATION	48+77.78	48+87.78	48+97.78	49+07.78	49+17.78	49+30.28	49+44.78	49+56.78	49+66.78	49+76.78	49+86.78	49+94.28	50+04.28	50+14.28	50+24.28	50+34.28	50+44.28	50+54.28	50+65.78	50+78.28	50+88.28
BEAM 1 TOP OF SLAB ELEVATION	741.000	740.896	740.781	740.654	740.517	740.332	740.094	739.882	739.692	739.492	739.280	739.115	738.885	738.644	738.393	738.130	737.857	737.574	737.234	736.849	736.528
BEAM 1 TOP OF SLAB ELEV. + DEFLECTION	741.000	740.918	740.809	740.676	740.527	740.332	740.115	739.931	739.747	739.542	739.310	739.124	738.885	738.654	738.436	738.195	737.927	737.634	737.263	736.849	736.530
BEAM 5 STATION	48+69.22	48+79.22	48+89.22	48+99.22	49+09.22	49+21.72	49+36.22	49+48.22	49+58.22	49+68.22	49+78.22	49+85.72	49+95.72	50+05.72	50+15.72	50+25.72	50+35.72	50+45.72	50+57.22	50+69.72	50+79.72
BEAM 5 TOP OF SLAB ELEVATION	741.085	740.987	740.881	740.763	740.637	740.461	740.237	740.035	739.855	739.665	739.462	739.304	739.074	738.852	738.609	738.356	738.092	737.818	737.488	737.115	736.803
BEAM 5 TOP OF SLAB ELEV. + DEFLECTION	741.085	741.009	740.909	740.785	740.646	740.461	740.259	740.085	739.910	739.715	739.492	739.312	739.074	738.874	738.661	738.421	738.162	737.878	737.517	737.115	736.805

	R	S	Cent. S. Abut.
	50+97.97	51+07.97	51+17.97
	736.223	735.882	735.529
	736.226	735.883	735.529
	50+96.14	51+06.14	51+16.14
	736.377	736.037	735.686
	736.378	736.038	735.686
	50+94.00	51+04.00	51+14.00
	736.490	736.152	735.804
	736.491	736.153	735.804
	50+91.86	51+01.86	51+11.86
	736.520	736.185	735.839
	736.522	736.186	735.839
	50+90.03	51+00.03	51+10.03
	736.489	736.156	735.811
	736.491	736.157	735.811
	50+98.28	51+08.28	51+18.28
	736.196	735.855	735.502
	736.199	735.856	735.502
	50+89.72	50+99.72	50+09.72
	736.481	736.149	735.804
	736.483	736.150	735.804

DESIGNED	JH	19
CHECKED	LK	EXAMINED
DRAWN	TAB	PASSED
CHECKED	LK	APPROVED

SCREED ELEVATIONS
C.H. 18 OVER F.A.I. RT. 74
F.A.I. RT. 74 SEC. 48-29 H.B. 1
KNOX COUNTY
STA. 579+84.13

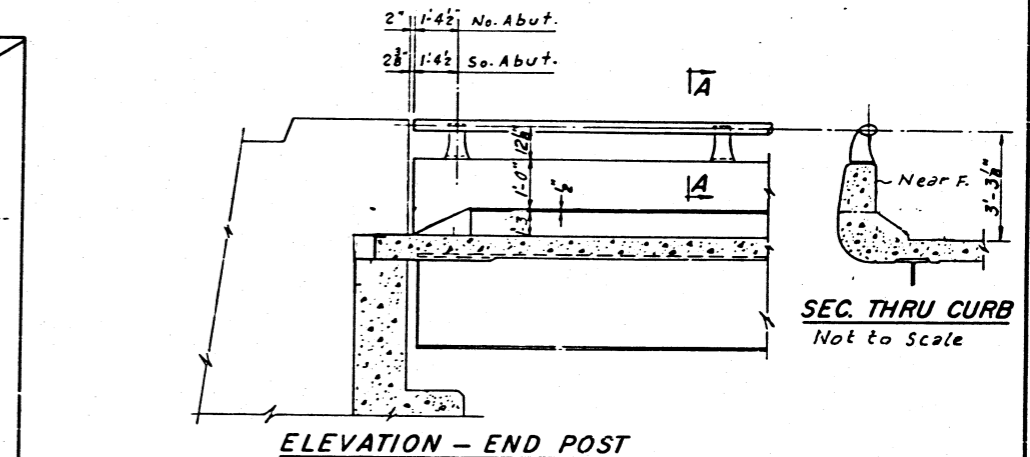
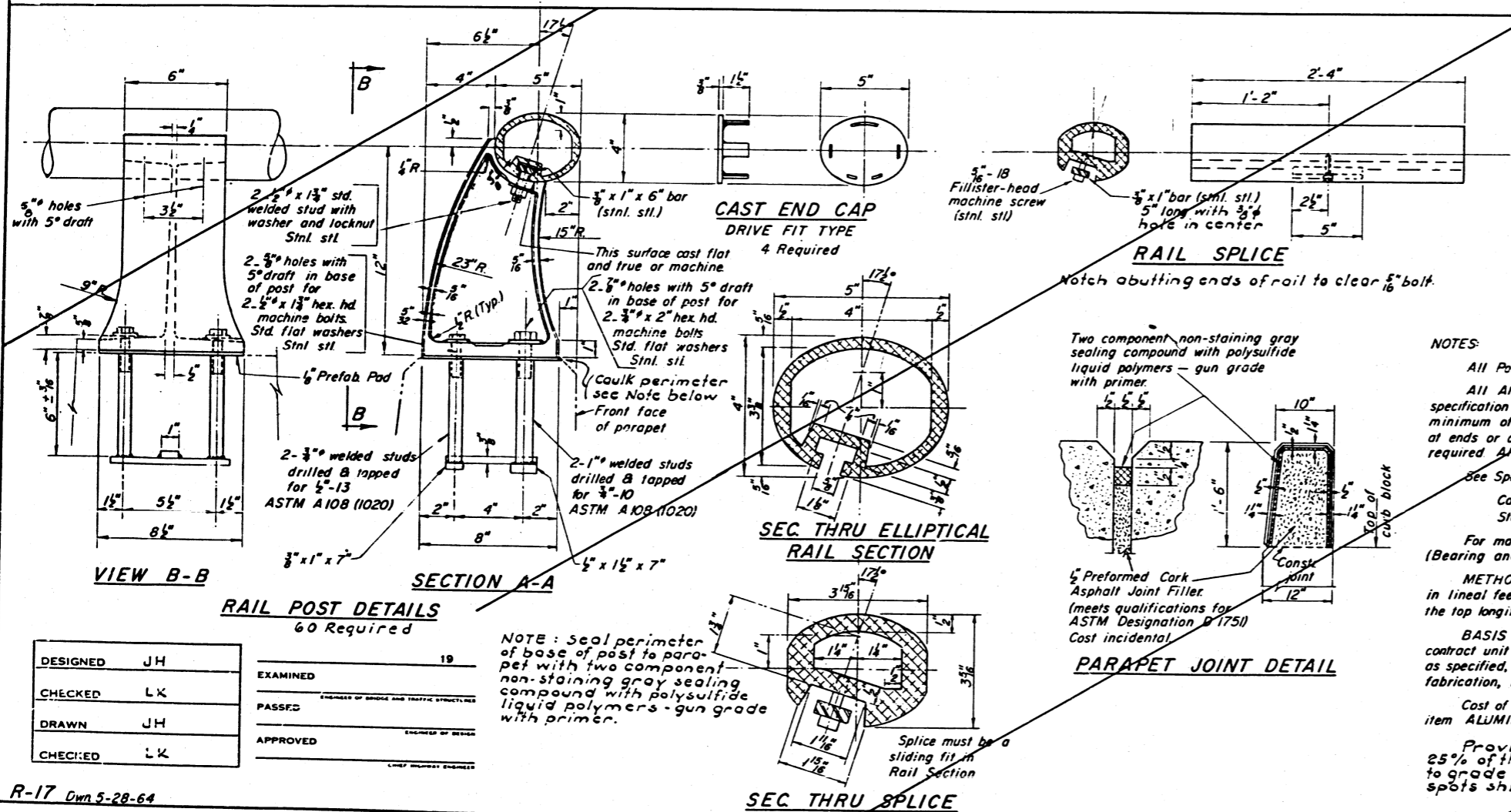


ELEVATION OF WEST PARAPET
East Parapet similar but opposite hand

Note: For Rail Details see Sheet No. 5A of 12.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Aluminum Handrail	Lin. Ft.	484
Bar	No.	Size Length Shape
r1	24	#5 14'-4"
r2	5	#5 3'-10"
r3	8	#5 8'-8"
r4	32	#5 17'-10"
r5	8	#5 10'-7"
r6	8	#5 10'-2"
r7	16	#5 18'-8"
r8	8	#5 7'-4"
r9	8	#5 10'-4"
r10	16	#5 15'-0"
Reinforcement Bars	Lbs.	1980



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 344-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.
- Provide 1-1/8" and 2-1/8" Aluminum Shims for 25% of the posts. Rail element shall be parallel to grade: high spots shall be ground and low spots shimmed.

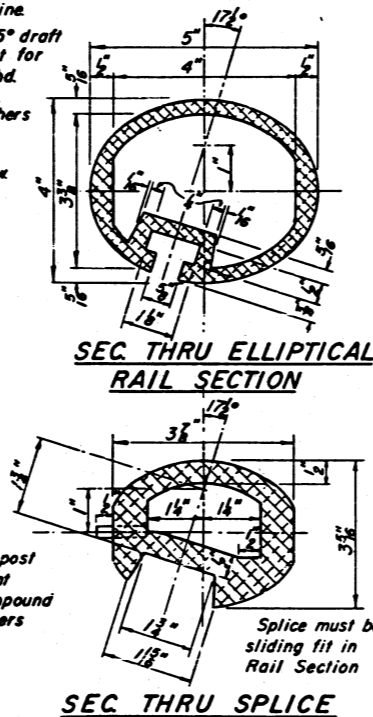
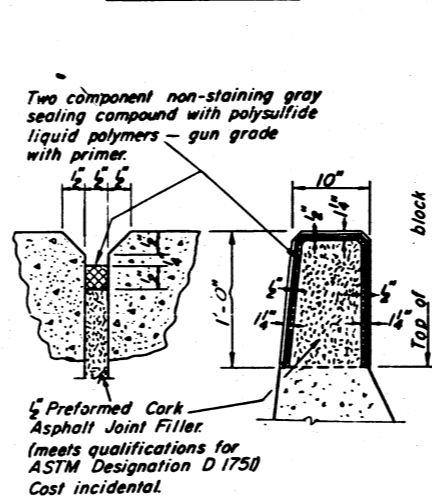
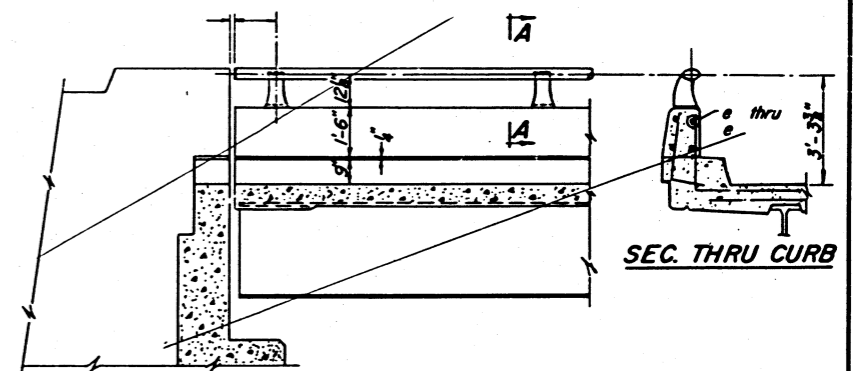
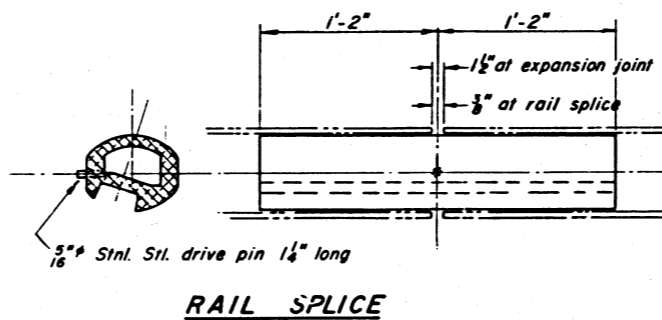
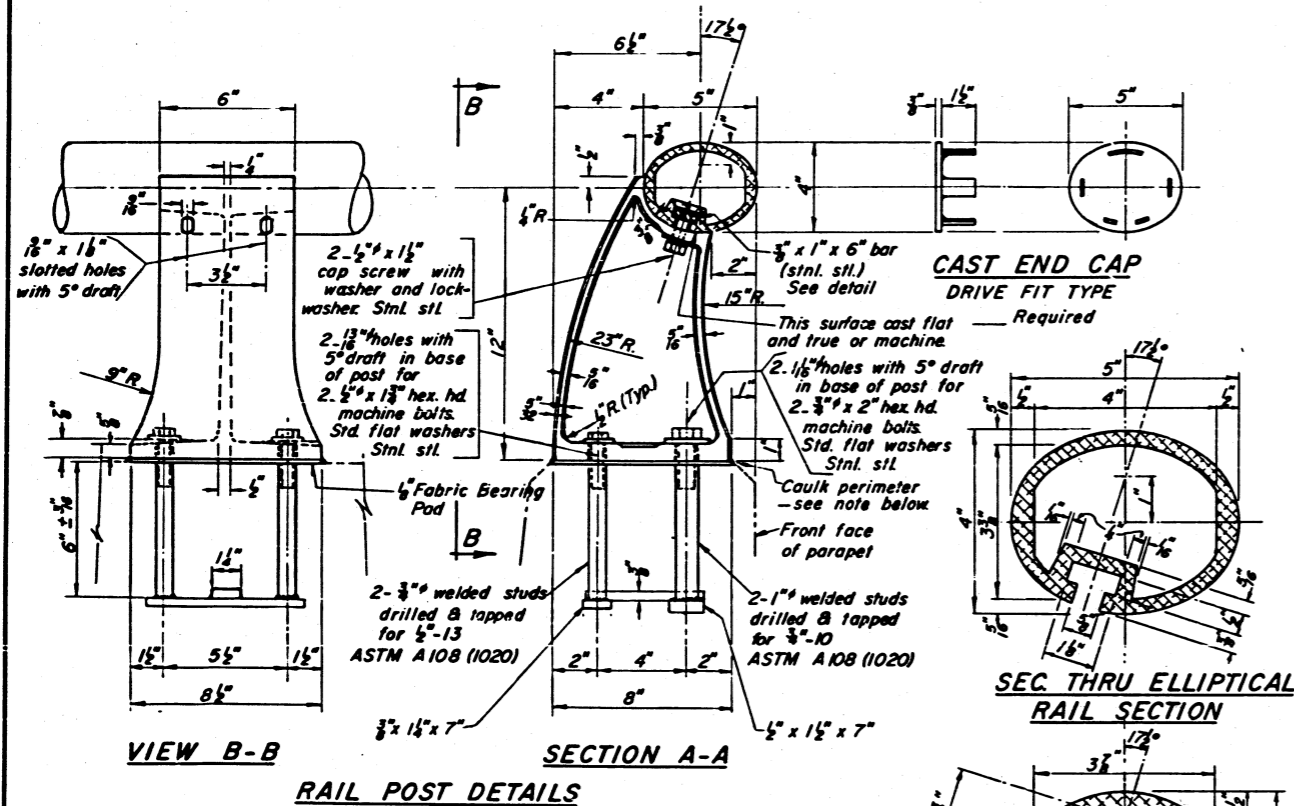
DESIGNED	JH	19
CHECKED	LK	
DRAWN	JH	
CHECKED	LK	

R-17 Dwn 5-28-64

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

ALUMINUM HANDRAIL & PARAPET
C.H. 18 OVER F.A.I. RT. 74
F.A.I. RT. 74 SEC. 48-29 HB-1
KNOX COUNTY
STA. 579 + 84.13

NOTE
For parapet elevation see sheet # 5 of 12



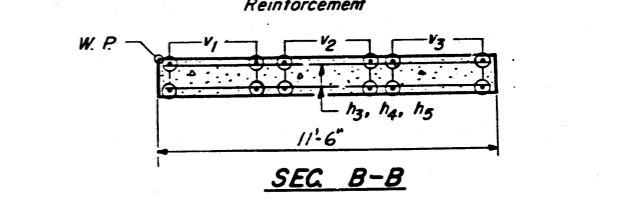
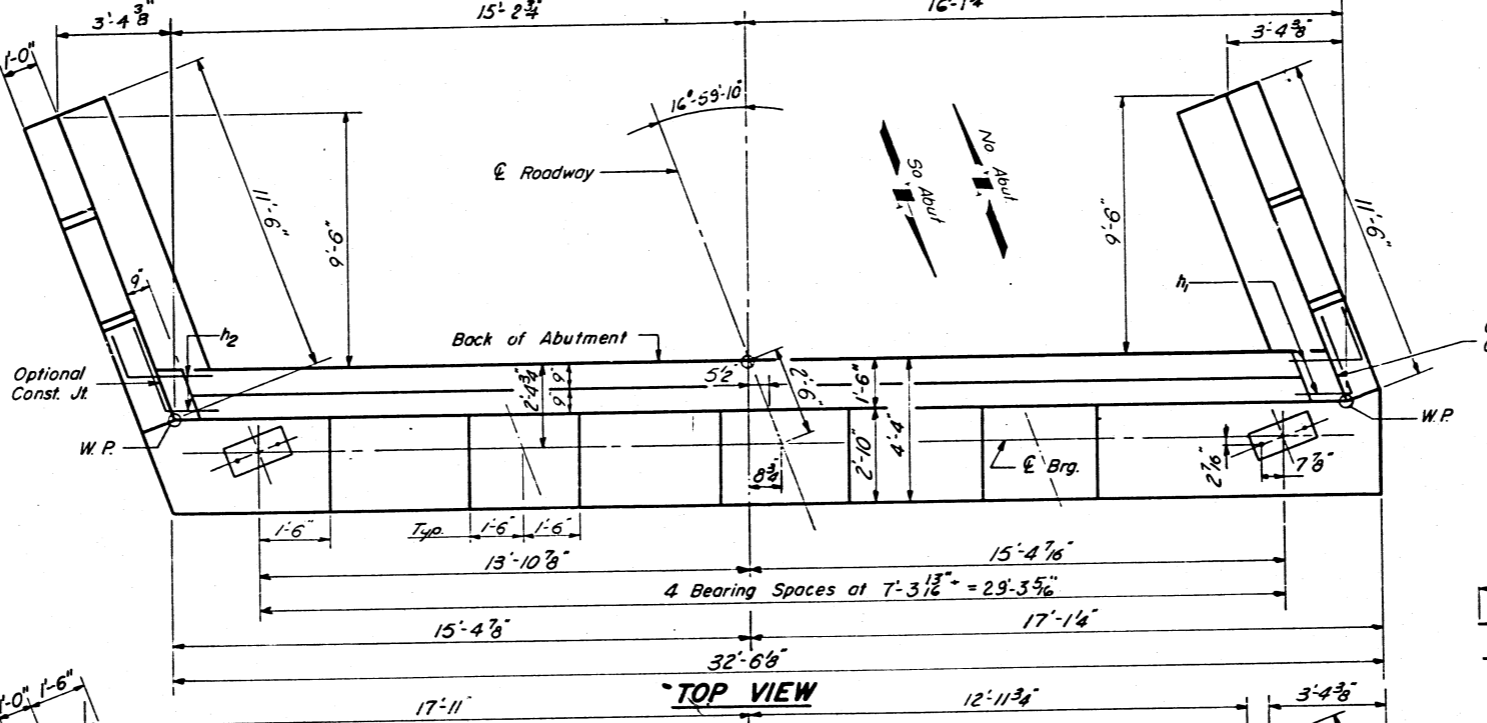
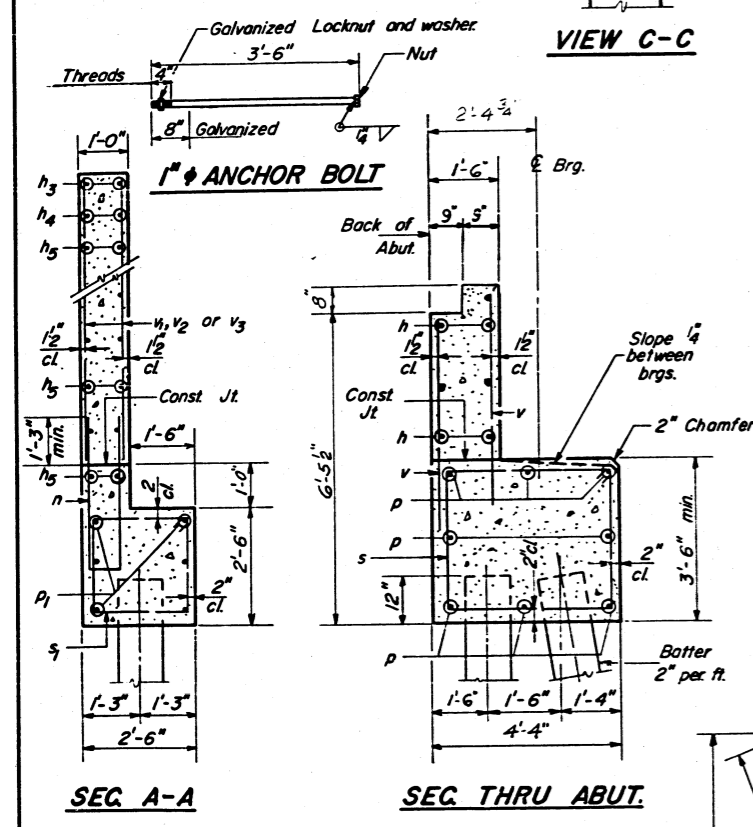
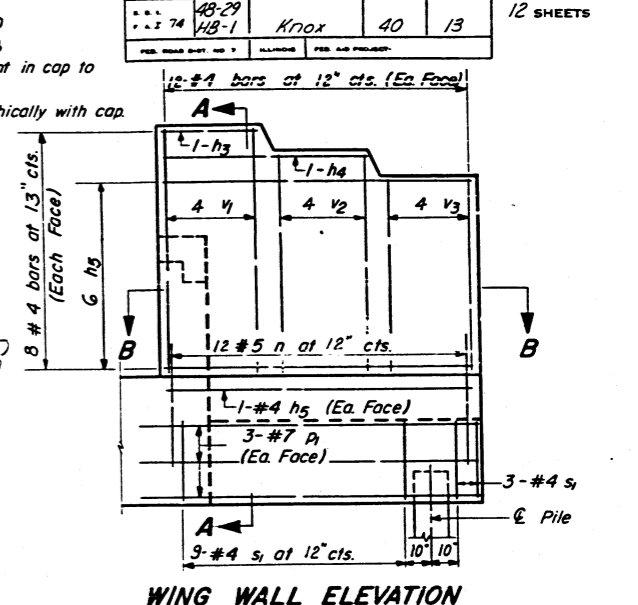
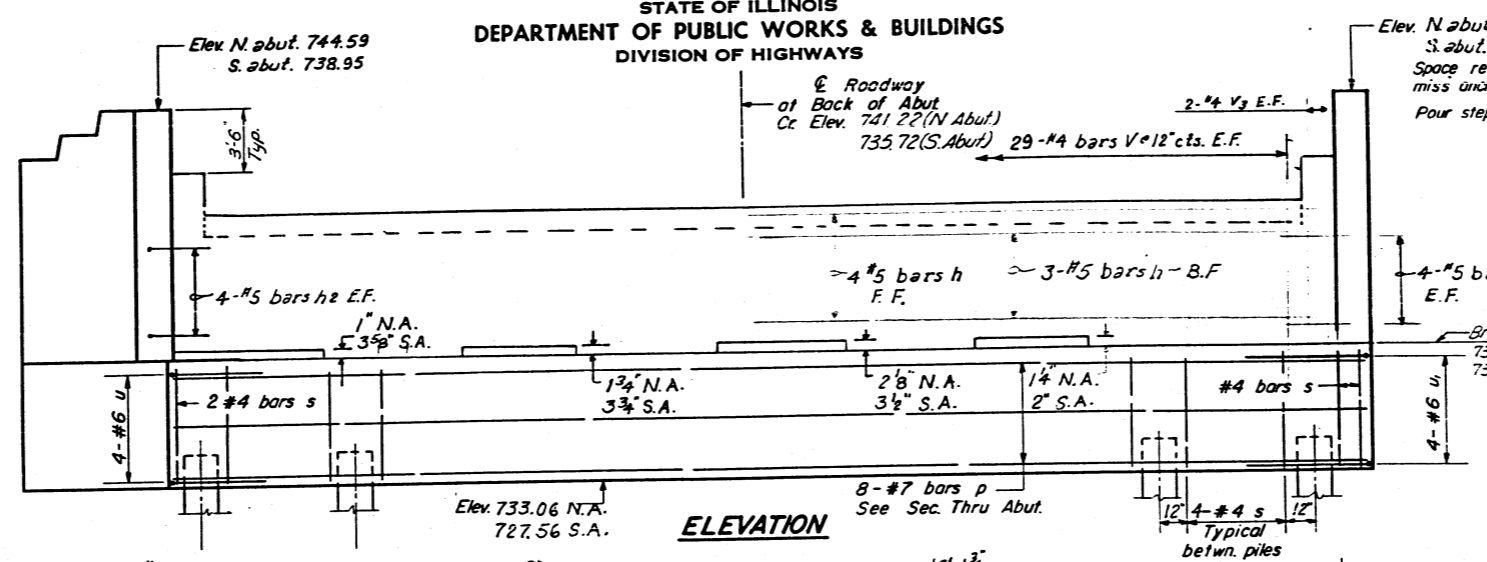
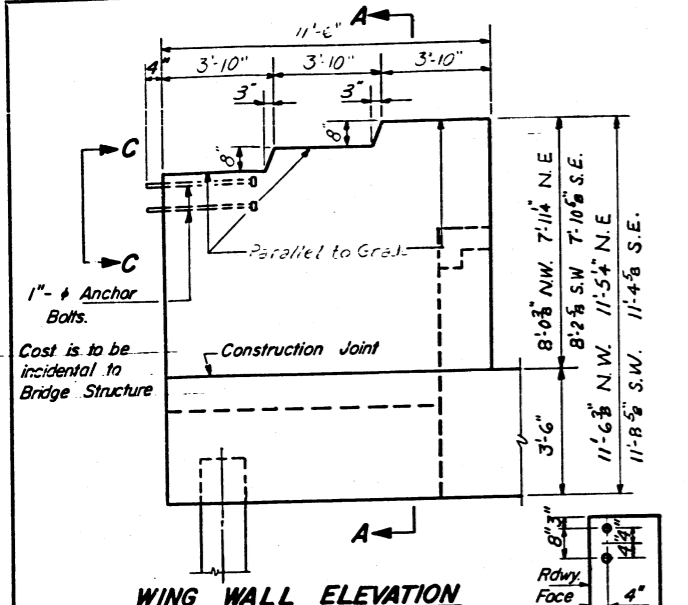
NOTES:
All Posts shall be normal to parapet.
All Aluminum Alloy Extruded Rail shall conform to ASTM specification B-221 alloy 6061-T6 and shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.
All joints in rail shall be spliced per detail.
See Special Provisions for following Material Specifications:
Cast Aluminum Alloy Bridge Post—Alloy A344-T4.
Stainless Steel Bars, Cap Screws, Washers and Lockwashers.
Fabric Bearing Pad.
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- 1/8" 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.

PARAPETS & RAILS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e		#5		
e1		#5		
e2		#5		
e3		#5		
e4		#5		
		Class X Concrete		Cu. Yds.
		Reinforcement Bars		Lbs
		Aluminum Handrail		Lin. Ft.

ALUMINUM HANDRAIL
C.H. 18 OVER F.A.I. ROUTE 74
SECTION 4B-29 HB-1
KNOX COUNTY
STATION 579+ B4.13

DESIGNED	19	Note:
CHECKED		Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers - gun grade with primer.
DRAWN	M. Best	
CHECKED	J.M.J.	
APPROVED		



TWO ABUTMENTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	14	#5	31'-0"	—
h ₁	16	#5	4'-6"	⌋
h ₂	16	#5	4'-6"	⌋
h ₃	8	#4	3'-7"	—
h ₄	8	#4	7'-5"	—
h ₅	56	#4	11'-2"	—
n	48	#5	7'-9"	⌋
p	16	#7	32'-3"	—
p ₁	12	#7	11'-3"	—
s	56	#4	15'-2"	□
s ₁	48	#4	9'-6"	□
u	8	#6	10'-0"	⌋
u ₁	8	#6	9'-0"	⌋
v	116	#4	5'-0"	—
v ₁	32	#4	7'-9"	—
v ₂	32	#4	7'-0"	—
v ₃	48	#4	6'-3"	—
Class X Concrete		Cu. Yds.	72.8	
Reinforcement Bars		Lbs.	4,810	
Concrete Piles		Lin. Ft.	935	
Test Piles "Concrete"		Ea.	1	

DESIGNED Fred Stone

CHECKED Larry Wanless

DRAWN J. SCHNELLER

CHECKED J.M.J.

EXAMINED

PASSED

APPROVED

PILE DATA
Type Concrete
Capacity 35 Tons
Est Length 55 Ft
No. Required 17 + 1 Test Pile @ No. Abut.
E. Roadway

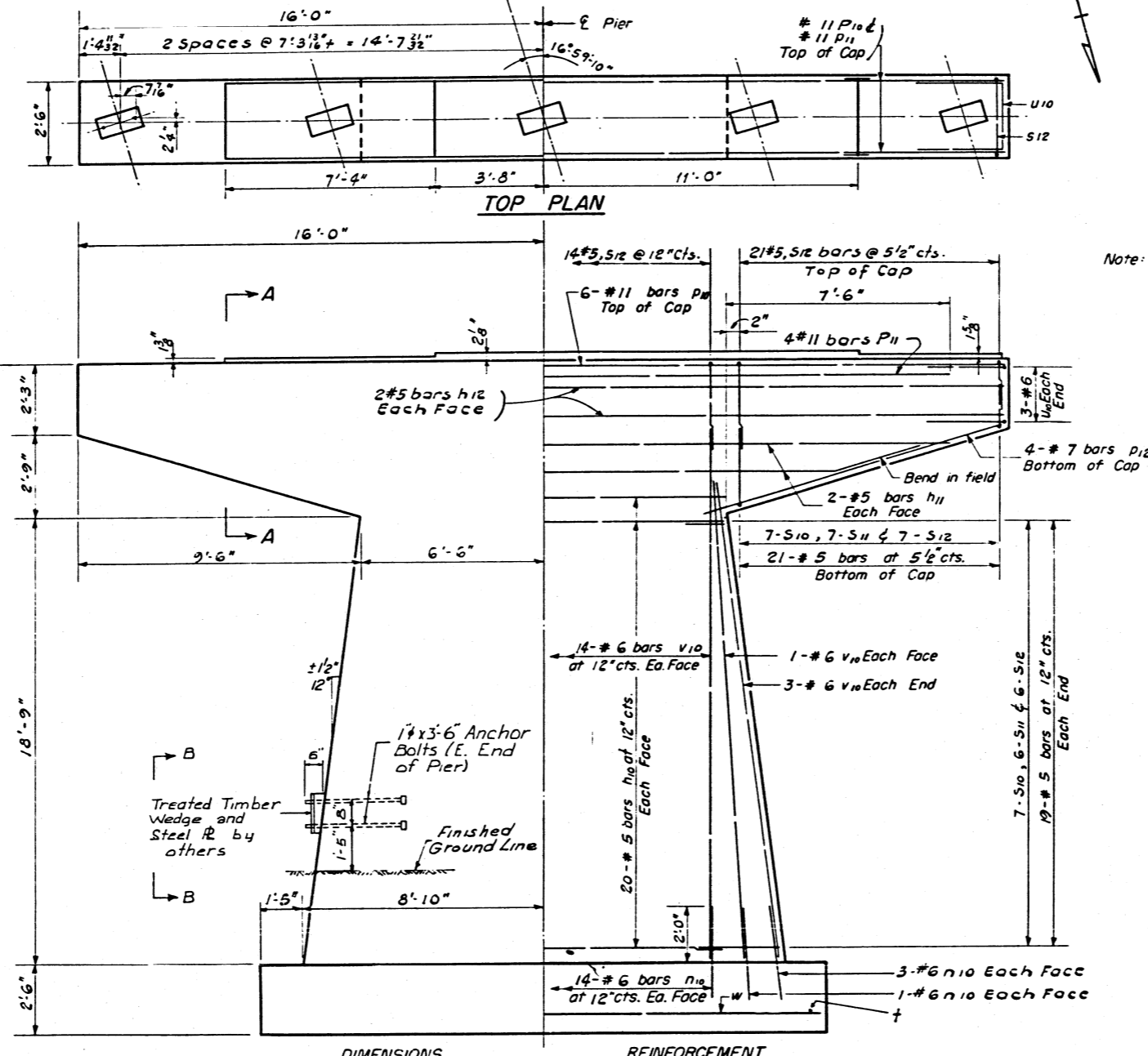
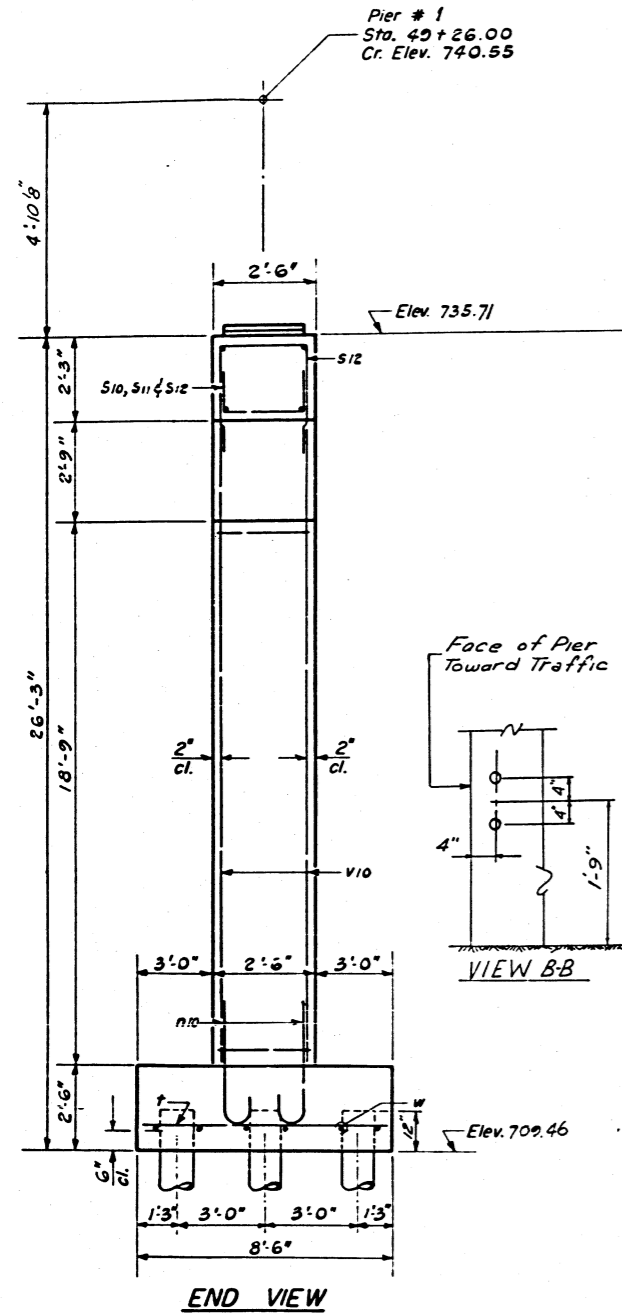
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2-174	48	KNOX	40	14
F.A.I. RT. 74		KNOX COUNTY		SHEET NO. 7
REV. ROAD DIST. MAP 7		REVISIONS FOR AM. PROJECT		12 SHEETS

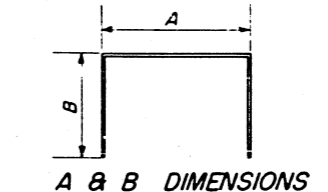
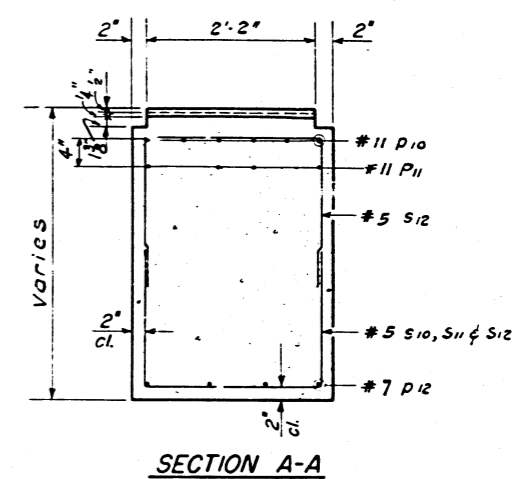
PILE DATA

Type: Creosoted Timber
Capacity: 21 Tons
Est. Length 25'
No. Req'd.: 21

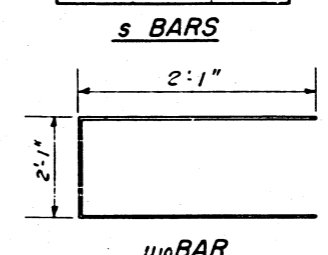
Pier # 1
Sta. 49+26.00
Cr. Elev. 740.55



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



Bar	A	B
s10	2'-2"	3'-8"
s11	2'-2"	2'-10"
s12	2'-2"	1'-11"

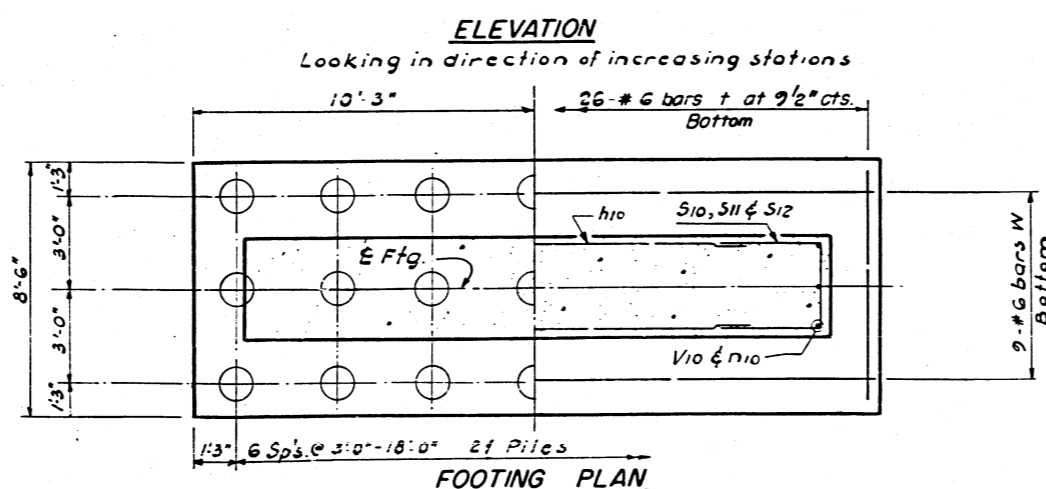


**PIER 1
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h10	40	#5	12'-6"	—
h11	4	#5	24'-0"	—
h12	4	#5	31'-6"	—
n10	38	#6	4'-8"	⌋
p10	6	#11	31'-6"	—
p11	4	#11	28'-0"	—
p12	8	#7	11'-6"	—
s10	28	#5	9'-6"	⌋
s11	26	#5	7'-10"	⌋
s12	82	#5	6'-0"	⌋
t	26	#6	8'-0"	—
u10	6	#6	6'-3"	⌋
v10	38	#6	22'-9"	—
w	9	#6	20'-0"	—
Class X Concrete			Cu. Yds.	55.2
Reinforcement Bars			Lbs.	5,780
Creosoted Piles			Lin. Ft.	525

PIER 1
C.H. 18 OVER F.A.I. RT. 74
F.A.I. RT. 74 SEC. 48-29 H.B.1
KNOX COUNTY
STA. 579+84.13

DESIGNED	LK	EXAMINED	
CHECKED	JGH	PASSED	
DRAWN	TAB	APPROVED	
CHECKED	LK		



Note: Space t and w bars in footings to miss piles. (Typical)

P-2 Re-drawn 7-17-59 Rev. 11-25-59

Rev. Guardrail Anchor Bolts added to East End of Pier 1-6-67 APH - Deleted 7-26-67 Added on again KHW 8-2-67

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

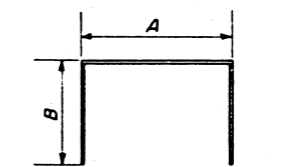
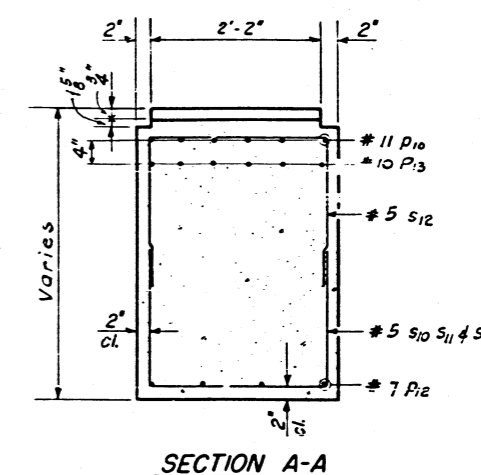
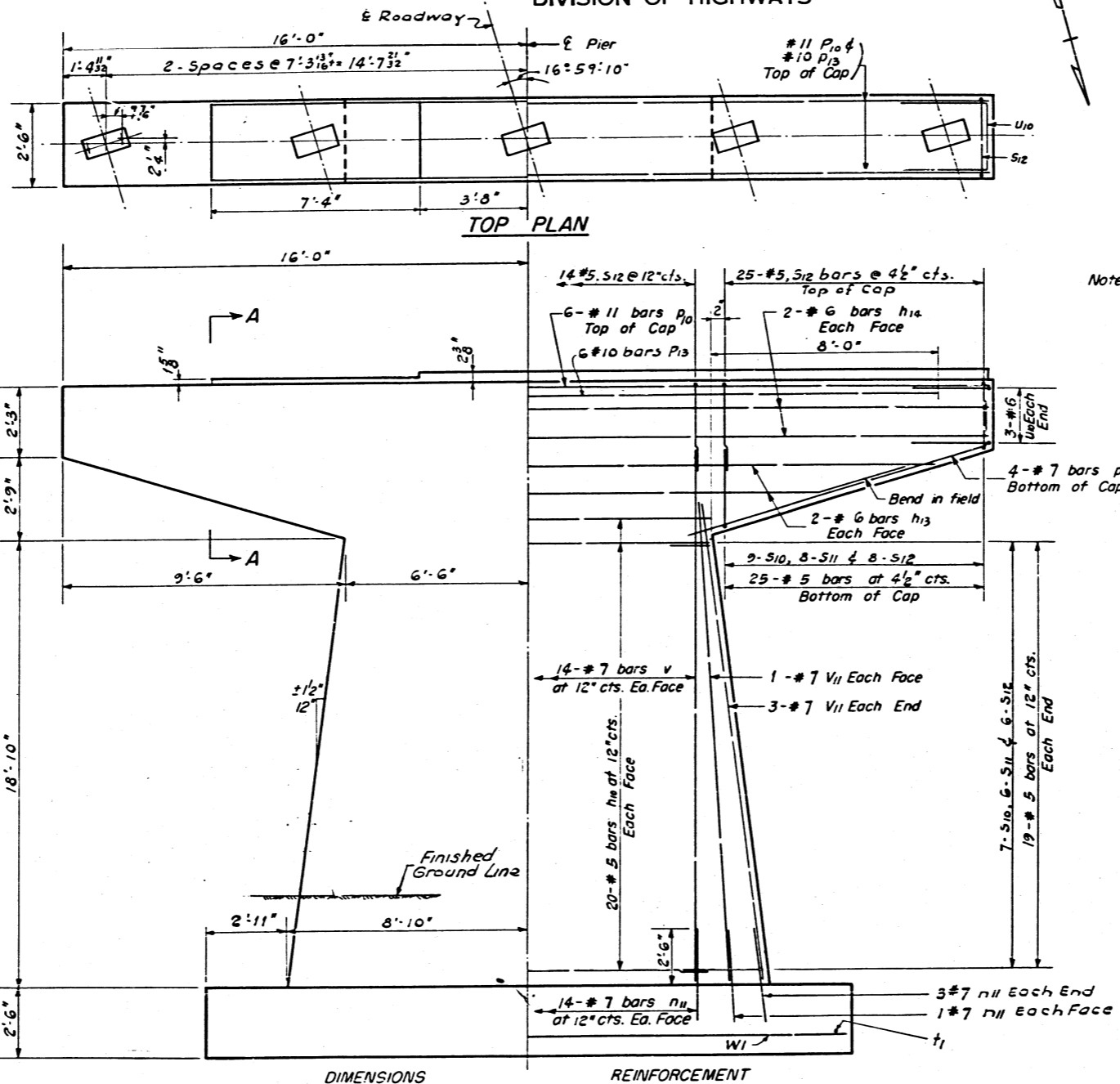
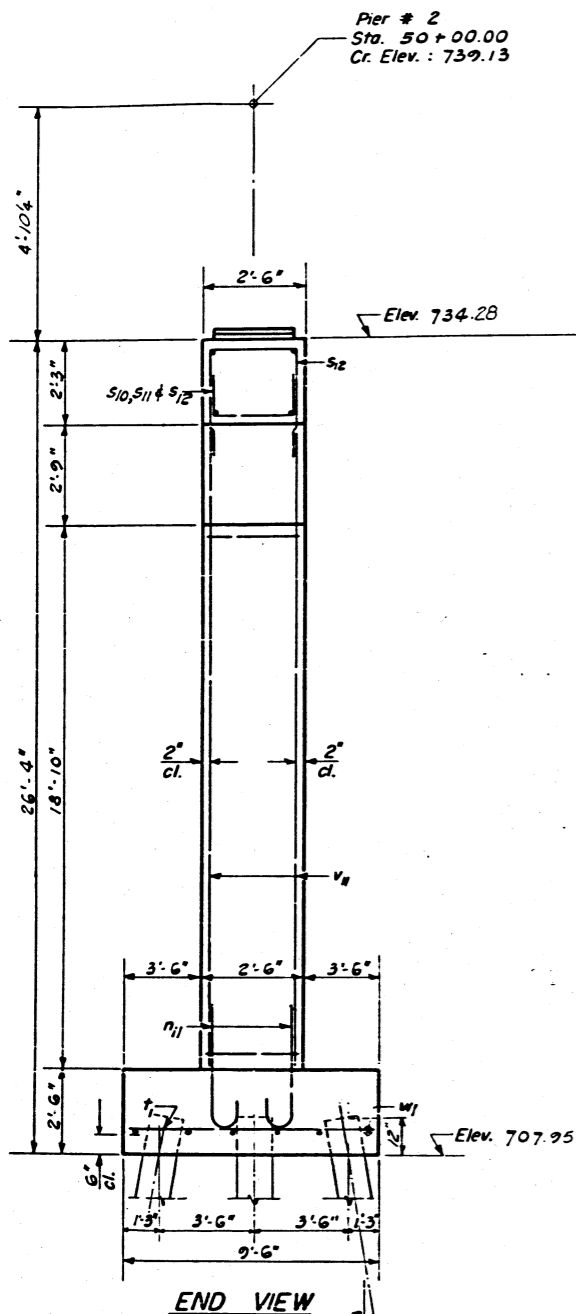
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-74	48	KNOX	40	15
F.A. 29 HB-1		ILLINOIS FED. AID PROJECT		

SHEET NO. 8
12 SHEETS

PILE DATA

Type: Creosoted Timber
Capacity: 22 Tons
Est. Length 30'
No. Req'd: 24

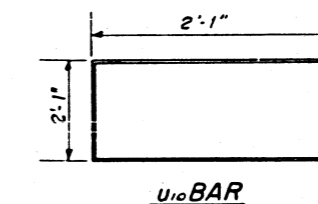
Pier # 2
Sta. 50+00.00
Cr. Elev.: 739.13



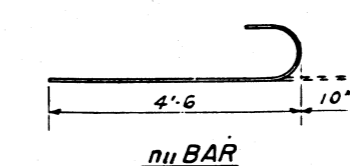
A & B DIMENSIONS

Bar	A	B
s10	2'-2"	3'-8"
s11	2'-2"	2'-10"
s12	2'-2"	1'-11"

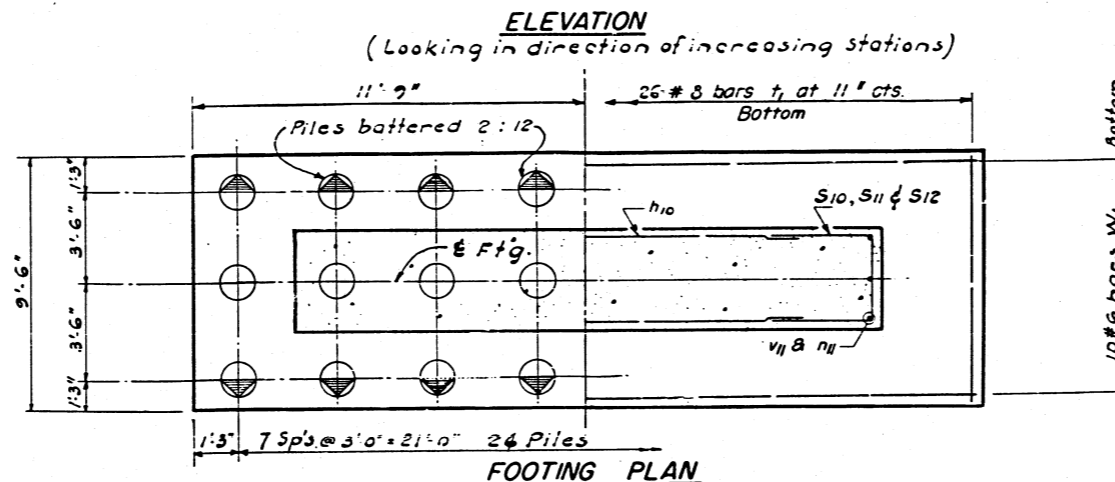
s BARS



u10 BAR



v11 BAR



FOOTING PLAN

**PIER 2
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h10	40	#5	12'-6"	—
h13	4	#6	24'-0"	—
h14	4	#6	31'-6"	—
n11	38	#7	5'-4"	U
p10	6	#11	31'-6"	—
p12	8	#7	11'-6"	—
p13	6	#10	29'-0"	—
s10	32	#5	9'-6"	□
s11	28	#5	7'-10"	□
s12	92	#5	6'-0"	□
t1	26	#8	9'-0"	—
u10	6	#6	6'-3"	U
v11	38	#7	22'-10"	—
w1	10	#6	23'-0"	—
Class X Concrete		Cu. Yds.	59.8	
Reinforcement Bars		Lbs.	7,130	
Creosoted Piles		Lin. Ft.	720	

PIER 2
C.H. 18 OVER F.A.I. RT. 74
F.A.I. RT. 74 SEC. 48-29 HB-1
KNOX COUNTY
STA. 579+84.13

DESIGNED	L.K.	EXAMINED	19
CHECKED	J.C.H.	PASSED	
DRAWN	T.A.B.	APPROVED	
CHECKED	L.K.		

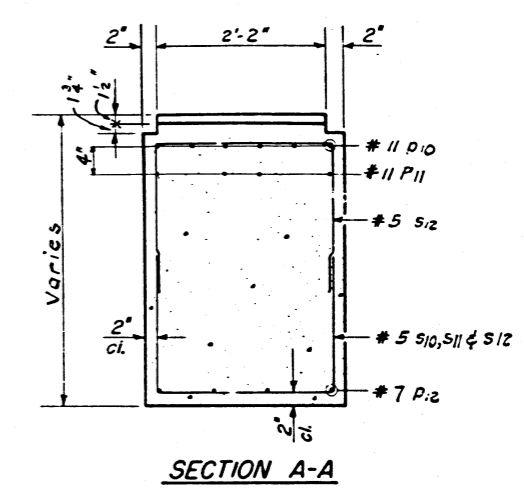
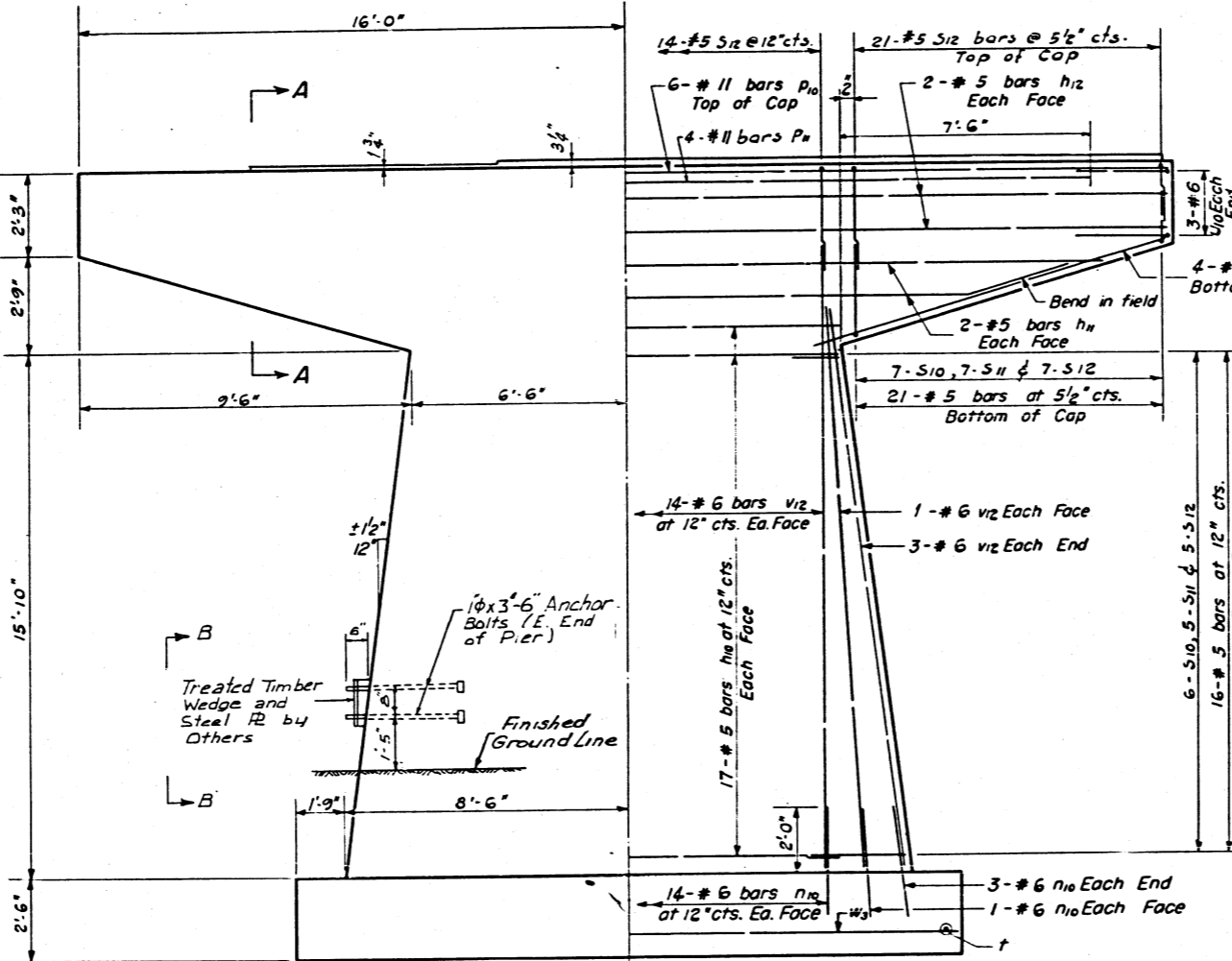
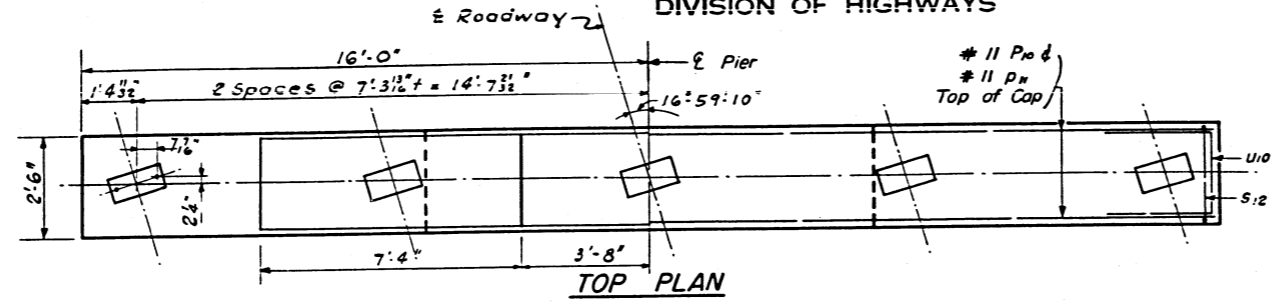
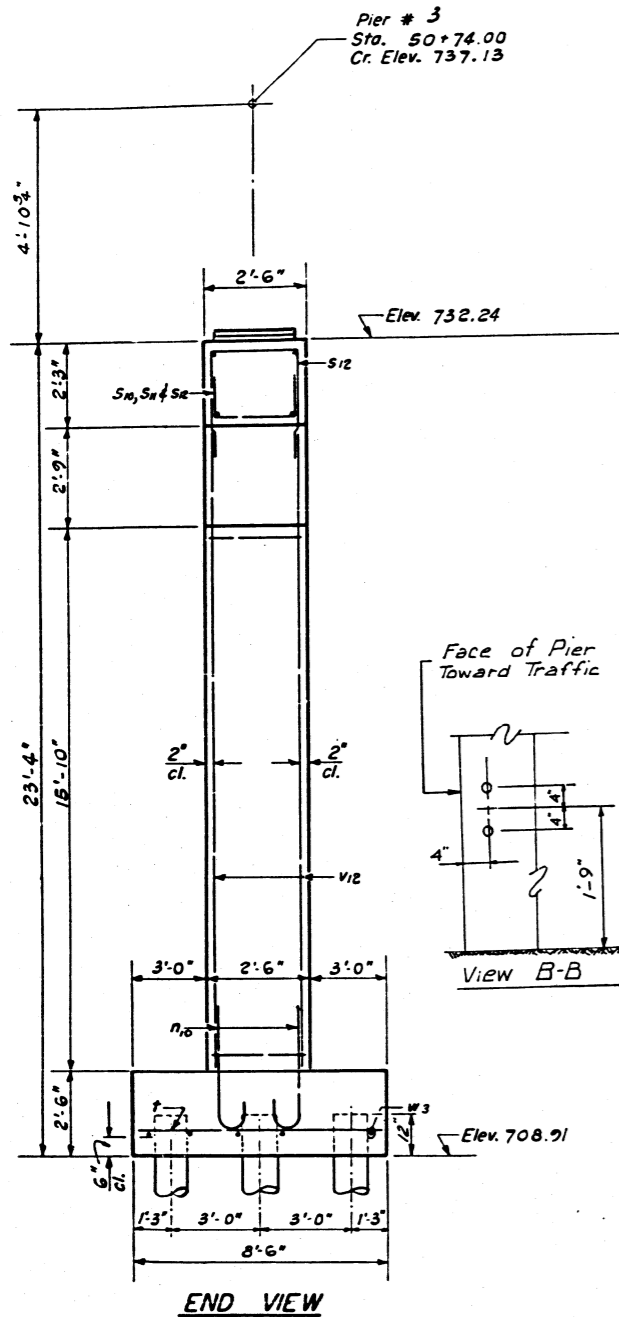
P-2 Re-drawn 7-11-59 Rev. 11-25-59

Rev. Guardrail Anchor Bolts added to each end of pier 1-6-67 APH ~ Deleted 7-26-67

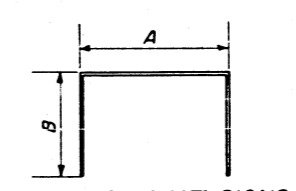
PILE DATA

Type: Creosoted Timber
Capacity: 20 Tons
Est. Length 25'
No. Req'd.: 20 + 1 Test Pile

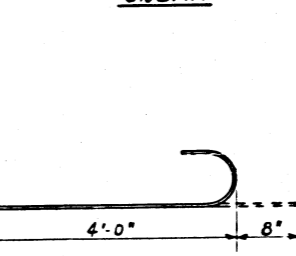
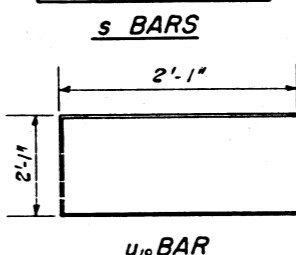
Pier # 3
Sta. 50+74.00
Cr. Elev. 737.13



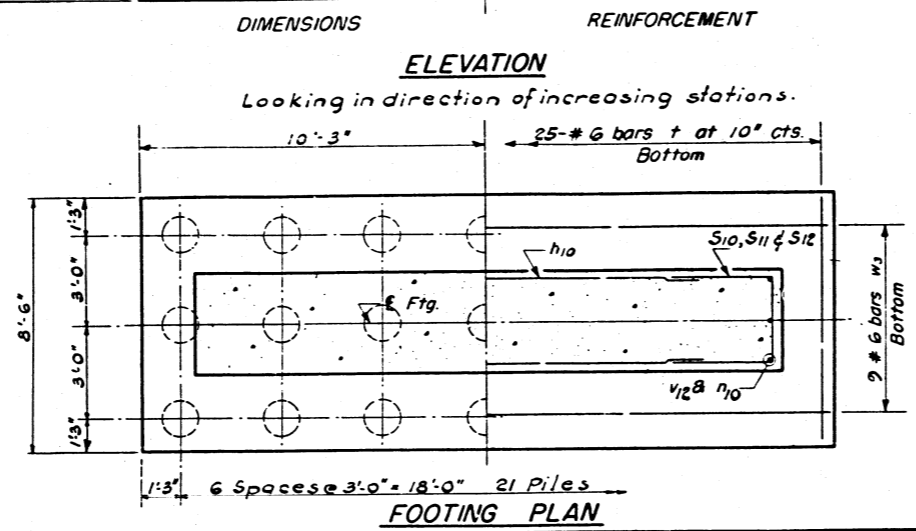
Note: All edges shall have standard 3/4" chamfers except footings.



Bar	A	B
S ₁₀	2'-2"	3'-8"
S ₁₁	2'-2"	2'-10"
S ₁₂	2'-2"	1'-11"



Bar	No.	Size	Length	Shape
h ₁₀	34	#5	12'-6"	—
h ₁₁	4	#5	24'-0"	—
h ₁₂	4	#5	31'-6"	—
n ₁₀	38	#6	4'-8"	U
p ₁₀	6	#11	31'-6"	—
p ₁₁	4	#11	28'-0"	—
p ₁₂	8	#7	11'-6"	—
s ₁₀	26	#5	9'-6"	U
s ₁₁	24	#5	7'-10"	U
s ₁₂	80	#5	6'-0"	U
t	25	#6	8'-0"	—
u ₁₀	6	#6	6'-3"	U
v ₁₂	38	#6	19'-10"	—
w ₃	9	#6	20'-0"	—
Class X Concrete		Cu. Yds.	50.7	
Reinforcement Bars		Lbs.	5,440	
Creosoted Piles		Lin. Ft.	500	
Test Pile		Each	1	



DESIGNED	LK	EXAMINED	
CHECKED	JGH	PASSED	
DRAWN	TAB	APPROVED	
CHECKED	LK		

P-2 Re-drawn 7-17-59 Rev. 11-25-59

Rev. Guardrail Anchor Bolts added to W. End of Pier 1-6-67 APH - Deleted 7-26-67 Added on again KHW 8-2-67

REV. CREOSOTED PILES 525' TO 500'
1-20-67 CEM

PIER 3
C.H. 18 OVER F.A.I. RT. 74
F.A.I. RT. 74 SEC. 48-29 HB-1
KNOX COUNTY
STA. 579 + 84.13

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

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	24HB-1	KNOX	40	17

SHEET NO 10
12 SHEETS

BRIDGE FOUNDATION BORING LOG

PROJECT: 1-74-3(5)61 BRIDGE County Highway 18 over Date: 10-2-64
ROUTE: F.A.I. 74 F.A.I. Route 74 Bored By: Alvin E. Meine
SEC: 48-29HB-1 STA: 578+84 F.A.I. Route 74 Checked By:

County	Boring No.	Station	Offset	Ground Surface	Elevation	Surface Water El.	Groundwater El. at Completion	Groundwater El. After 18 Hours	Soil Description	Penetration	Moisture Content (%)	Unconfined Compressive Strength (t/s)
Knox	1	48+71	12' Rt. of Along No.	728.60	728.60	703.6	718.6		Stiff Light Brown Sandy CLAY LOAM	23	1.2	19
						704.6			Stiff Light Brown Silty LOAM	16	2.4	21
					724.6	702.1			Stiff Gray CLAY LOAM (Till)	12	2.0	16
									Medium Soft Light Brown and Light Gray Silty LOAM	7	0.9	23
									Medium Brown Silty CLAY LOAM	7	1.6	23
									Stiff Brown Silty CLAY	6	1.3	21
									Very Stiff Brown CLAY	15	2.0	22
									Stiff Light Brown CLAY LOAM	8	1.3	22
									Very Stiff Light Brown CLAY LOAM	9	1.2	22
									Stiff Gray CLAY LOAM (Till)	10	1.9	21
									Stiff Gray CLAY LOAM (Till)	12	1.8	17
									Stiff Gray CLAY LOAM (Till)	13	1.6	17
									EST. TIP OF PILES NO. ABUT, EL. 679.1	18	1.0	
									Medium Gray Poorly Graded Angular SAND	18	1.0	
									Stiff Gray Silty LOAM (Trace Organic)	16	1.8	29
									Medium Gray Sandy Gravelly LOAM	21		
									Very Stiff Gray Sandy Gravelly CLAY LOAM	28	2.4	
									End of Boring	28	2.0	

County	Boring No.	Station	Offset	Ground Surface	Elevation	Surface Water El.	Groundwater El. at Completion	Groundwater El. After 18 Hours	Soil Description	Penetration	Moisture Content (%)	Unconfined Compressive Strength (t/s)
Knox	2	49+26	15' Lt. of Along Pier #1	724.90	724.90	693.4	704.9		Medium Dark Brown Silty CLAY	15	2.3	
						700.9			Very Stiff Brown and Gray CLAY LOAM	21	2.9	
						698.4			Very stiff Gray CLAY LOAM (Till)	14	2.9	
									Soft Light Brown and Light Gray Silty LOAM	7	0.5	
									Stiff Brown Silty CLAY	8	1.3	
									Stiff Brown CLAY	11	2.0	
									EST. TIP OF PILES PIER #1, EL. 685.0	15	1.6	
									Very Stiff Light Brown CLAY LOAM	11	2.1	
									Very Stiff Gray CLAY LOAM (Till)	16	3.4	
									Medium Gray Well Graded Angular SAND and GRAVEL	27	2.4	
									Medium Gray SILT	17		
									Medium Brown and Gray Organic Silty LOAM	29	2.1	
									Medium Gray Sandy LOAM (Trace of Gravel and Thin Layers of Silty Loam)	22	2.0	
									Hard Gray Sandy CLAY LOAM (Layers of Silty LOAM)	50	4.4	
									Hard Gray Silty LOAM	67		
									Very Dense Gray Sandy Gravelly LOAM	55		
									End of Boring	55		

County	Boring No.	Station	Offset	Ground Surface	Elevation	Surface Water El.	Groundwater El. at Completion	Groundwater El. After 18 Hours	Soil Description	Penetration	Moisture Content (%)	Unconfined Compressive Strength (t/s)
Knox	3	50+00	15' Lt. of Along Pier #2	722.20	722.20	699.2	705.7		Stiff Light Brown CLAY LOAM	16	2.0	
						698.2			Stiff Gray CLAY LOAM (Till)	15	1.6	
						693.2			Very Stiff Gray CLAY LOAM (Till) (Thin Sand Layers)	14	2.6	
						690.7			Hard Gray CLAY LOAM (Till) (Layers of Silt)	17	4.0	
						688.2			Very Stiff Gray CLAY LOAM (Till)	13	2.6	
									EST. TIP OF PILES PIER #2, EL. 678.5	13	2.8	
									Stiff Brown CLAY	7	1.4	
									Medium Light Brown Silty CLAY LOAM	11	1.8	
									Stiff Light Brown CLAY LOAM	37	1.1	
									Medium Gray Well Graded Angular SAND and GRAVEL	20		
									Medium Brown and Gray Organic Silty LOAM	23	0.2	
									Very Stiff Gray CLAY LOAM (Till)	16	2.1	
									Very Stiff Gray CLAY (Till)	26	2.6	
									Hard Gray CLAY LOAM (Till)	72	5.5	
									End of Boring	57	5.4	

DESIGNED	19
CHECKED	
DRAWN	
CHECKED	

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/s
w - Water Content - percentage of oven dry weight - %
Type failure: B - Bulge Failure, S - Shear Failure, E - Estimated Value

BORINGS
C.H. 18 OVER F.A.I. RT. 74
F.A.I. RT. 74 SEC. 48-29HB-1
KNOX COUNTY
STA. 578 + 84.13

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

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
74	24 MB-1	KNOX	40	18
SHEET NO. 11				12 SHEETS

BRIDGE FOUNDATION BORING LOG

PROJECT I-74-3(5)61 BRIDGE County Highway 18 Date 10-7-64
 ROUTE F.A.I. 74 over F.A.I. Route 74 Bored By Alvin E. Moine
 SEC 48-29HB-1 STA. 579+84 F.A.I. Route 74 Checked By

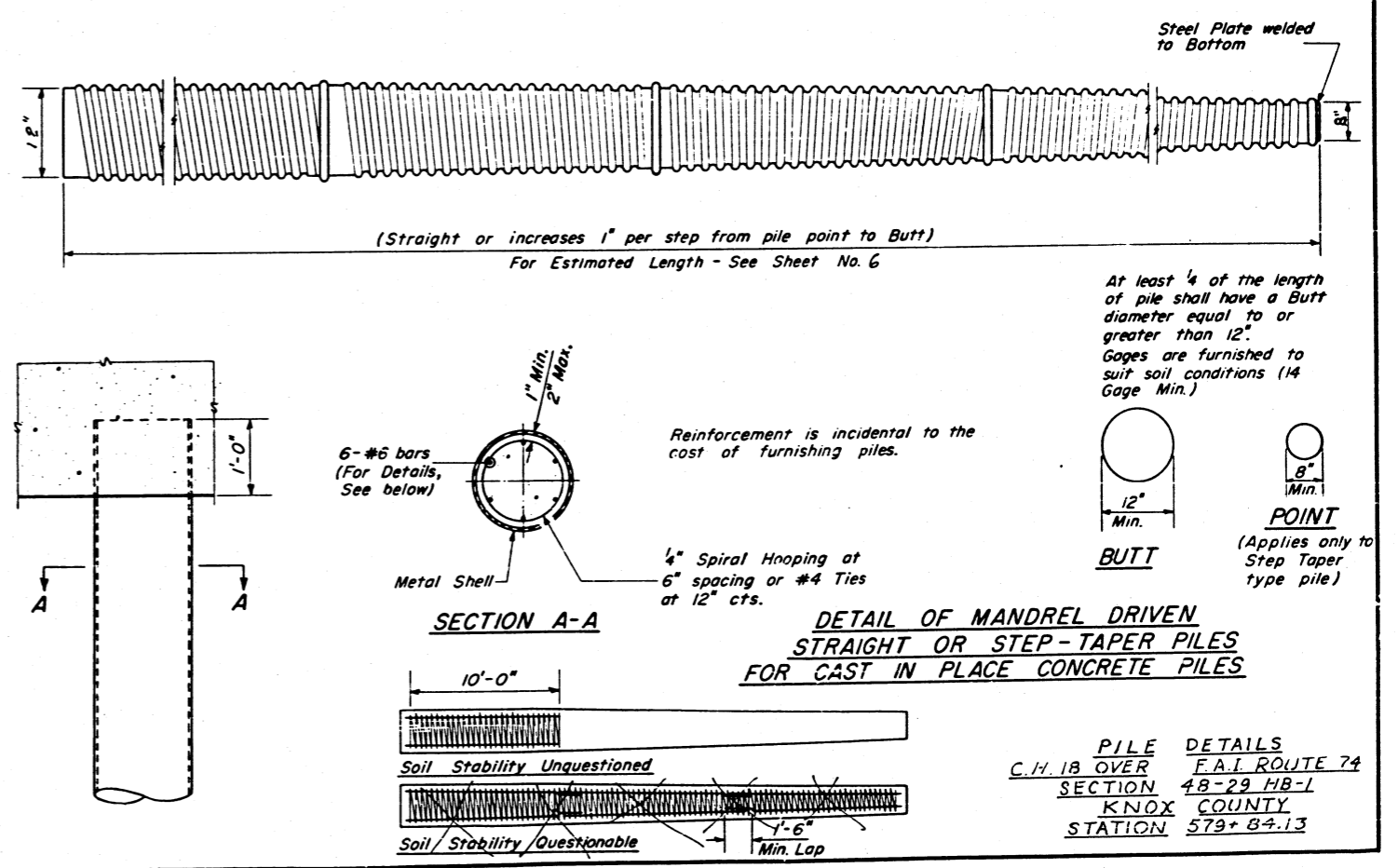
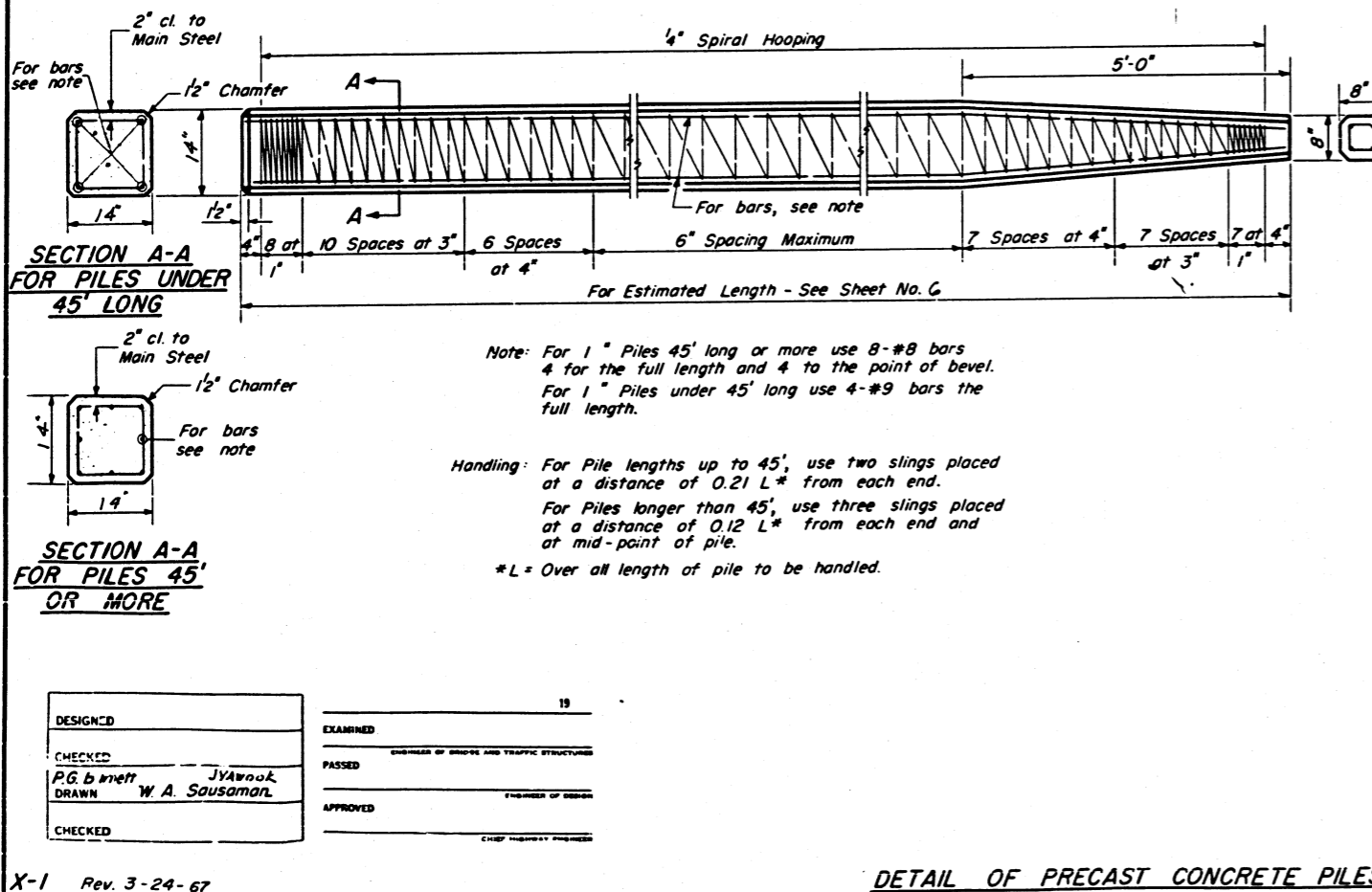
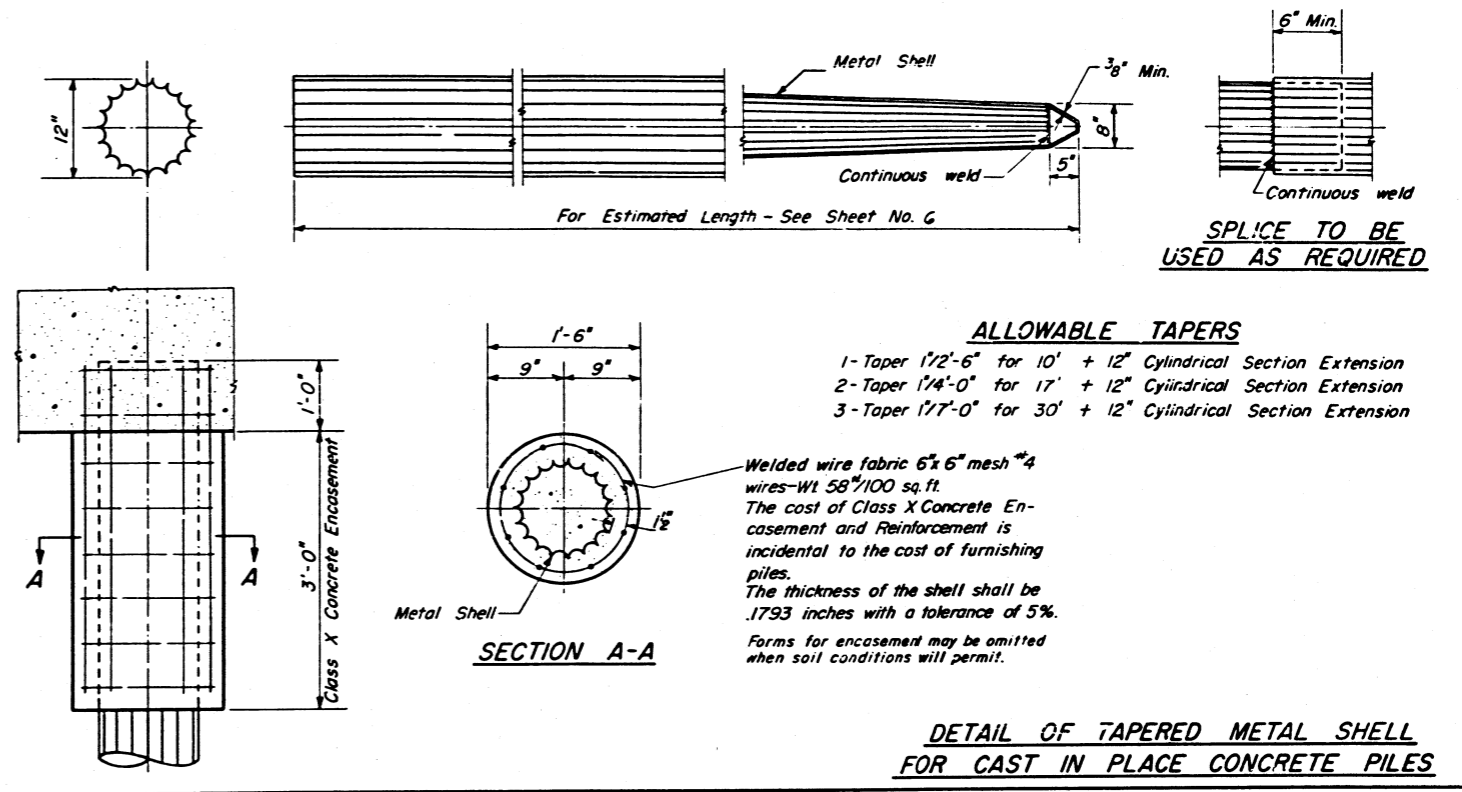
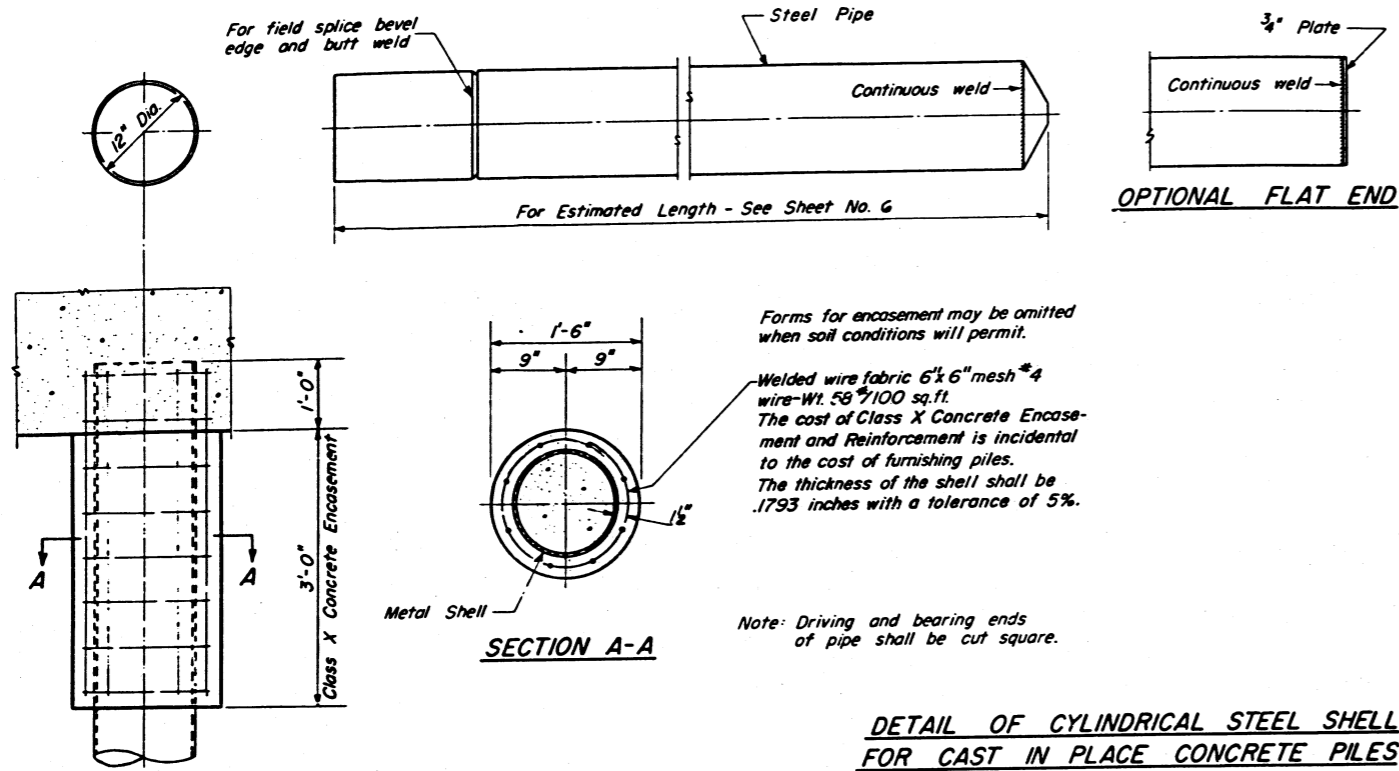
Elevation	Z	Qu / f. / s	w (%)	Surface Water El.	Groundwater El. at Completion	After 24 Hours	Elevation	Z	Qu / f. / s	w (%)	Soil Description
711.20					699.3						Stiff Light Brown and Light Gray Silty CLAY LOAM
	8	1.2 B									
	6	1.4 B									
711.8											Very Stiff Brown and Gray CLAY LOAM
	6	1.2 B									
712.3											Very Stiff Gray CLAY LOAM (Till)
	6	1.4 B									
708.8											EST. TIP OF PILES PIER #3, EL. 684.57
	9	1.4 S									
704.8											Dense Gray Poorly Graded Angular SAND
	9	1.3 S									
702.3											Very Stiff Gray CLAY (Till)
	3	0.8 S									
											Very Dense Gray Well Graded Angular SAND and GRAVEL
											Hard Gray CLAY LOAM (Till) (Layers of Silt)
											Very Dense Gray Sandy Gravely CLAY LOAM
											End of Boring

Elevation	Z	Qu / f. / s	w (%)	Surface Water El.	Groundwater El. at Completion	After 24 Hours	Elevation	Z	Qu / f. / s	w (%)	Soil Description
718.10					698.1						Stiff Light Brown and Light Gray Silty CLAY LOAM
	7	1.6 B									
711.1											Very Stiff Gray CLAY LOAM (Till)
	7	1.6 B									
	6	1.0 B									Stiff Light Brown and Light Gray Silty CLAY LOAM
709.1											EST. TIP OF PILES SO. ABUT. EL. 673.67
	6	1.0 B									
706.6											Medium Gray Poorly Graded Angular SAND
	10	2.0 B									
704.1											Very Stiff Gray CLAY (Till)
	14	2.4 B									
701.6											EST. TIP OF PILES SO. ABUT. EL. 673.67
	7	1.8 S									
	14	2.1 S									Hard Gray Sandy CLAY LOAM (Till)
											Very Stiff Gray CLAY (Till)
											Hard Gray CLAY LOAM (Till)
											End of Boring

DESIGNED	EXAMINED
CHECKED	PASSED
DRAWN	APPROVED
RECHECKED	

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
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BORINGS
 C.H. 18 OVER F.A.I. RT. 74
 F.A.I. RT. 74 SEC. 48-29 HB-1
 KNOX COUNTY
 STA. 579 + 84.13



DESIGNED	19
CHECKED	EXAMINED
PG. Bennett	J. A. Wank
DRAWN	W. A. Sausaman
CHECKED	APPROVED