

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**PROPOSED**  
**HIGHWAY PLANS**

FOR INDEX OF SHEETS, SEE SHEET NO. 2

**FAI ROUTE 57**  
**SECTION D7 BRIDGE PAINTING 2010-1**

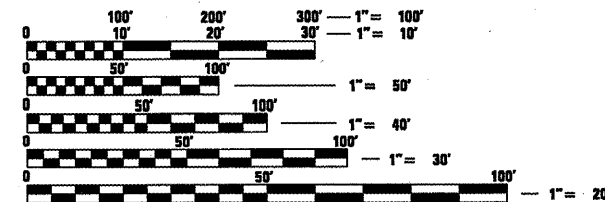
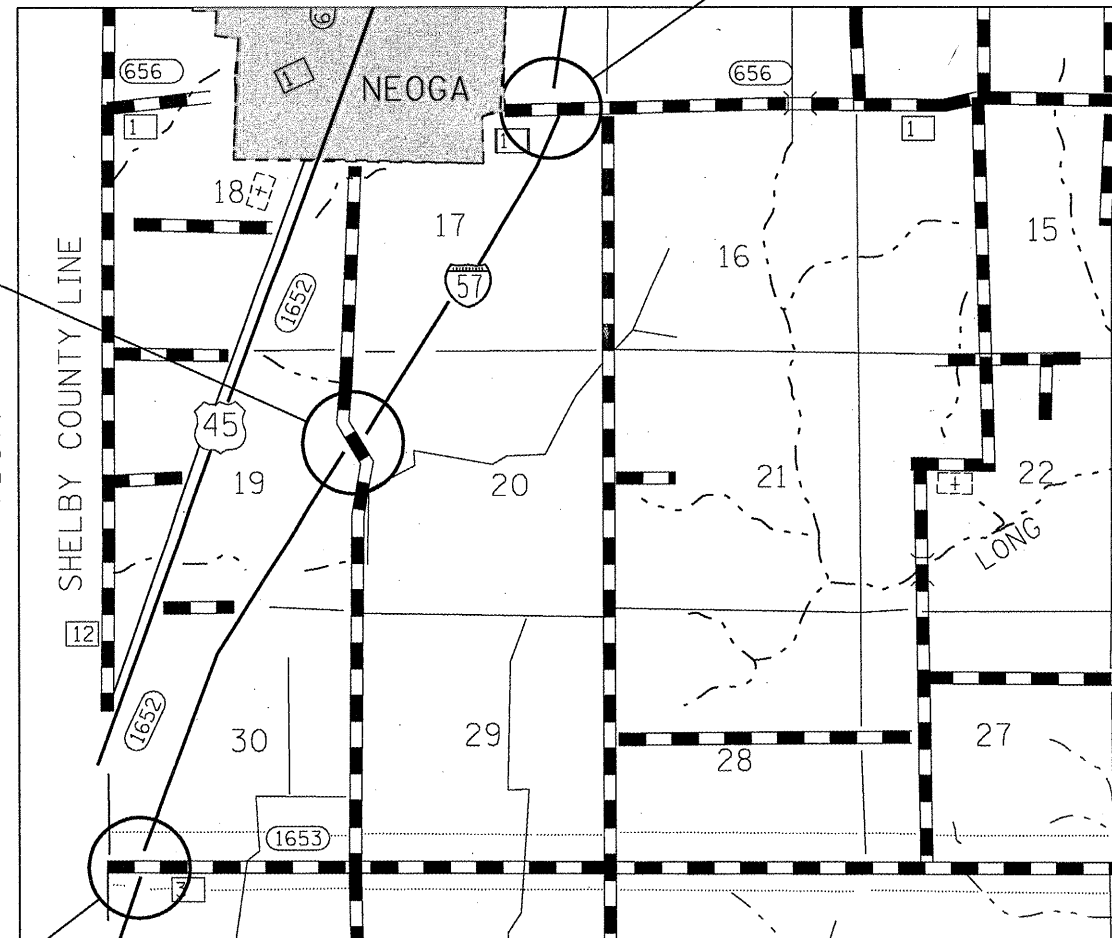
**BRIDGE PAINTING**  
**CUMBERLAND COUNTY**

**C-97-114-09**

**LOCATION #3**  
**SN 018-0015**

**LOCATION #2**  
**SN 018-0032**

**LOCATION #1**  
**SN 018-0055**



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  
 OR 811

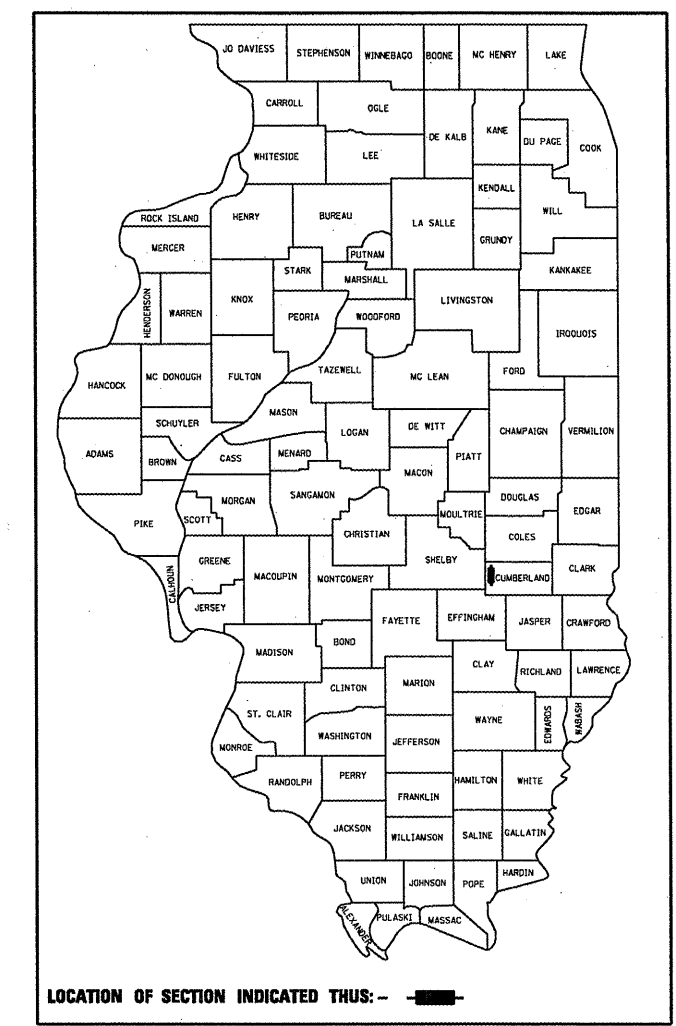
**PROJECT ENGINEER: TOM RONAN**  
**PROJECT MANAGER: KEVIN BRADY**

**CONTRACT NO. 74401**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57		CUMBERLAND	12	1
		ILLINOIS	CONTRACT NO. 74401	

• D7 BRIDGE PAINTING 2010-1

D-97-058-09



**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**

SUBMITTED *October 28, 2009*

*Roger L. Dinkell*  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

*December 4, 2009*  
*Charles J. Ingersoll*  
 ENGINEER OF DESIGN AND ENVIRONMENT

*December 4, 2009*  
*Christine M. Reed*  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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**OF THE STATE OF ILLINOIS**

## INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX OF SHEETS, GENERAL NOTES, LOCATION DESCRIPTIONS
3	SUMMARY OF QUANTITIES
4-12	EXISTING STRUCTURE PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 12:

STANDARD 701001-02	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701006-03	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701101-02	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701106-02	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701400-04	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701402-07	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701901-01	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES

## GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2007; THE SUPPLEMENTAL SPECIFICATIONS AND THE RECURRING SPECIAL PROVISIONS FOR MAINTENANCE BRIDGE CLEANING AND THE SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

THE PROPOSED PROJECT IS LOCATED AT 3 LOCATIONS ON I-57 IN CUMBERLAND COUNTY.

THE WORK INCLUDED IN THIS SECTION CONSISTS OF CLEANING AND PAINTING BRIDGES AT 3 LOCATIONS AS SPECIFIED IN THE PLANS AND SPECIAL PROVISIONS.

THE STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED AS SPECIFIED IN THE SPECIAL PROVISIONS.

ALL DECK DRAINS SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U.

ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THEIR OWN EXPENSE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ALL TRASH AND PAINTING DEBRIS, EXCLUDING WASTE BARRELS OR ROLL-OFF DUMPSTERS, SHALL BE REMOVED BEFORE BEGINNING WORK AT ANOTHER LOCATION. ONLY STRUCTURAL STEEL IS TO BE PAINTED. ALL OTHER SURFACES WILL BE PROTECTED FROM BEING PAINTED. ALL PAINT AND OVERSPRAY WILL BE REMOVED AT THE CONTRACTOR'S EXPENSE.

THE SSPC OP1 AND OP2 PAINTING CONTRACTOR CERTIFICATION WILL BE REQUIRED FOR THIS PROJECT.

## BRIDGE INFORMATION & LOCATIONS

### LOCATION #1

ROUTE: FAI 57  
 MARKED: I-57  
 SECTION: 18-1HB-1  
 STATION: 5836+11.38  
 STRUCTURE NUMBER: 018-0055

TYPE OF BRIDGE: Wide Flange I Beams-4 Spans (5 Beams)  
 LOCATION: 0.25 Miles Northeast of the Shelby County Line  
 FEATURE CARRIED/SPANNED: CH 3 over I-57

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, including beams, bearings and diaphragms, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

One air monitor shall be used at this location.

### LOCATION #2

ROUTE: FAI 57  
 MARKED: I-57  
 SECTION: 18-1HB-2  
 STATION: 5934+05.73  
 STRUCTURE NUMBER: 018-0032

TYPE OF BRIDGE: Wide Flange I Beams-4 Spans (5 Beams)  
 LOCATION: 1 Mile South of Neoga  
 FEATURE CARRIED/SPANNED: TR 10 over I-57

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1 FOR ALL BEAMS.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, including beams, bearings and diaphragms, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

No air monitors will be required at this location.

### LOCATION #3

ROUTE: FAI 57  
 MARKED: I 57  
 SECTION: 18-1HB-3  
 STATION: 6016+85.95  
 STRUCTURE NUMBER: 018-0015

TYPE OF BRIDGE: Wide Flange I Beams-4 Spans (5 Beams)  
 LOCATION: 0.25 Miles East of Neoga  
 FEATURE CARRIED/SPANNED: FAS 656 over I-57

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1 FOR ALL BEAMS.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, including beams, bearings and diaphragms, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

One air monitor shall be used at this location.

• D7 BRIDGE PAINTING 2010-1

FILE NAME =	USER NAME = swartzrw	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS GENERAL NOTES &amp; LOCATIONS</b>	F.A.I. RTE. 57	SECTION •	COUNTY CUMBERLAND	TOTAL SHEETS 12	SHEET NO. 2
ct:\pwork\FWIDOT\SWARTZRW\d0146845\074401-sht-index.dgn		DRAWN -	REVISED -							
PLOT SCALE = 48.0000' / IN.		CHECKED -	REVISED -							
PLOT DATE = 9/23/2009		DATE -	REVISED -							
						SCALE: NA		SHEET NO. 1 OF 1 SHEETS		STA. TO STA.
						ILLINOIS FED. AID PROJECT CONTRACT NO. 74401				

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION
CODE NO	ITEM	UNIT		TYPE CODE
				SFTY-2A
50600600	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1
50600700	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1	1
50600800	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM	1	1
50606400	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1	1
67100100	MOBILIZATION	L SUM	1	1
70100805	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	L SUM	1	1

• D7 BRIDGE PAINTING 2010-1

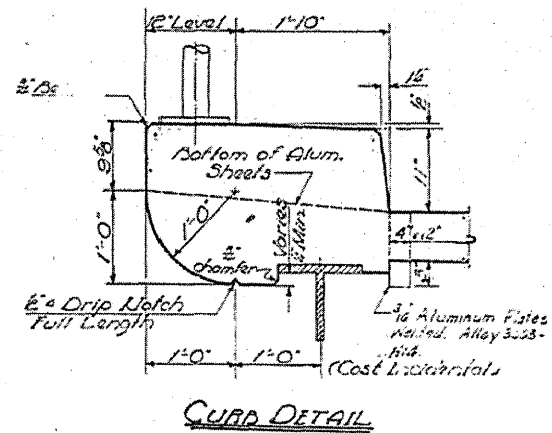
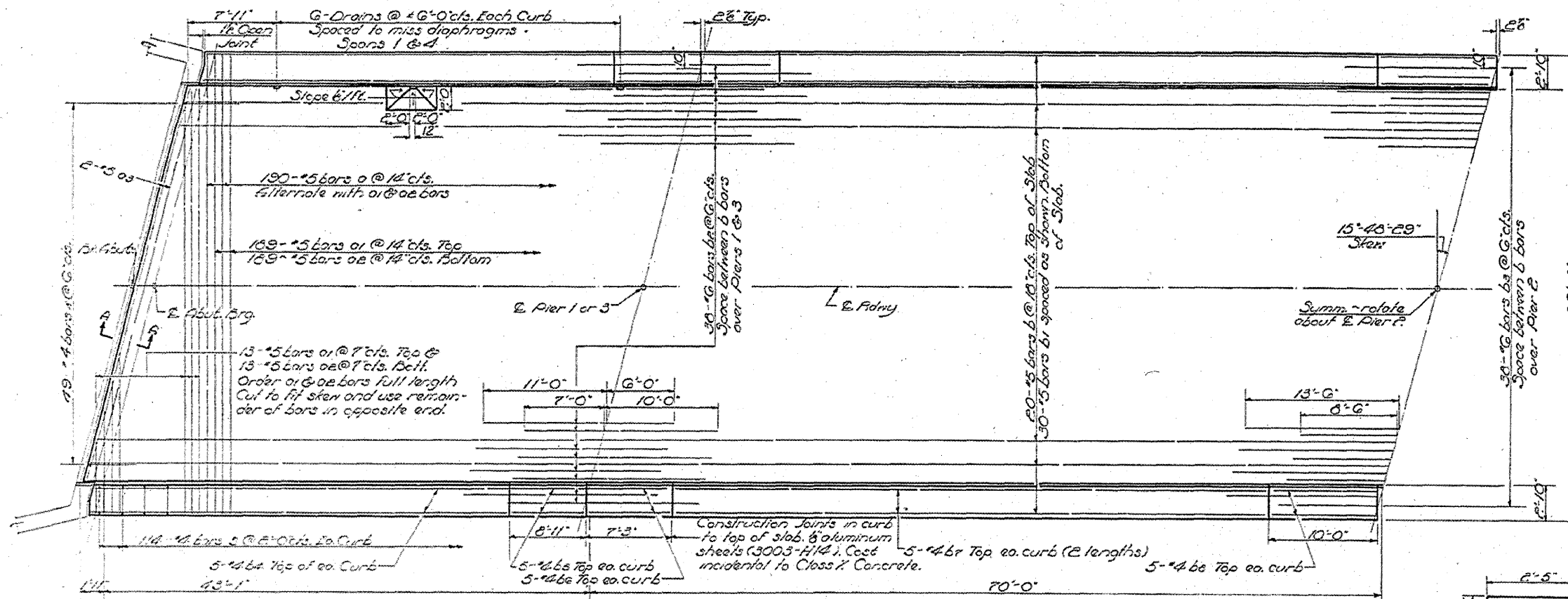
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ca\pvt_work\FWIDOT\SWARTZRW\d0146845\074401-shr-soq.dgn	PLOT SCALE = 48.0000 ' / IN.	DRAWN -	REVISED -			57	*	CUMBERLAND	12	3	
PLOT DATE = 9/23/2009	DATE -	CHECKED -	REVISED -			CONTRACT NO. 74401					
						SCALE: NA	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	[ILLINOIS] FED. AID PROJECT	



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

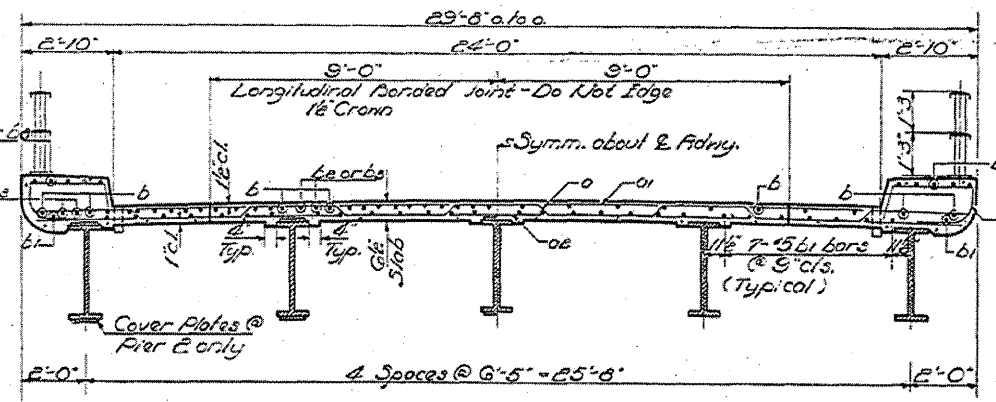
ROUTE NO.	SECTION	QUANTITY	TOTAL SHEETS	SHEET NO.
74401	12	5	10 SHEETS	2

74401



HALF PLAN

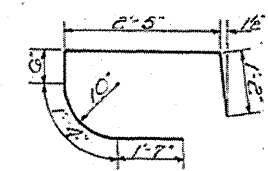
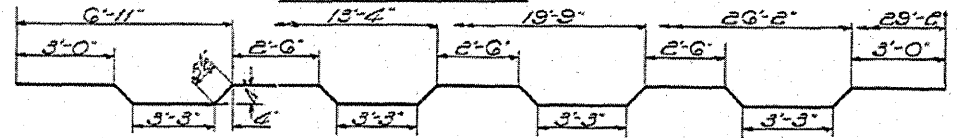
**METHOD OF DETERMINING FILLET HEIGHTS 1"**  
After all Structural Steel has been erected, elevations of the top flanges of the beams shall be taken at the stations shown in Sheet 9. These elevations subtracted from the Theoretical Cross Elevations Adjusted for Dead Load Collector, shown on Sheet 9, minus floor thickness equals the fillet heights above top of beams.



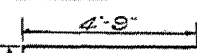
SECTION NEAR PIERS

SECTION NEAR SPAN

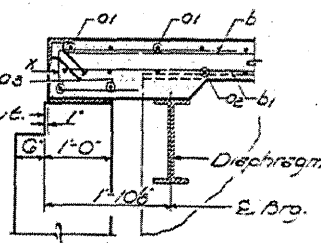
CROSS SECTION



BAR 3



BAR 4



SECTION A-A

(Partial View)  
@ Pt. Ls. to Abut.

BILL OF MATERIALS

Bar No.	Size	Length	Quantity
0	180	30'-6"	
01	200	15'	
02	200	15'	
03	4	15'	
1	180	15'	
11	210	15'	
12	15	17'-0"	
13	30	15'	
14	20	15'	
15	20	15'	
16	20	15'	
17	20	15'	
18	20	15'	
19	20	15'	
2	30	15'	
3	210	15'	
4	210	15'	
5	210	15'	

Class X Concrete Cur. vol. 13.5  
Structural Steel 1.15  
Reinforcement Bars 1.15

SUPERSTRUCTURE  
E.A. RT. 57 - SEC. 16 - 1115  
CUMBERLAND COUNTY  
STA. 5036+11.39

LOCATION 1

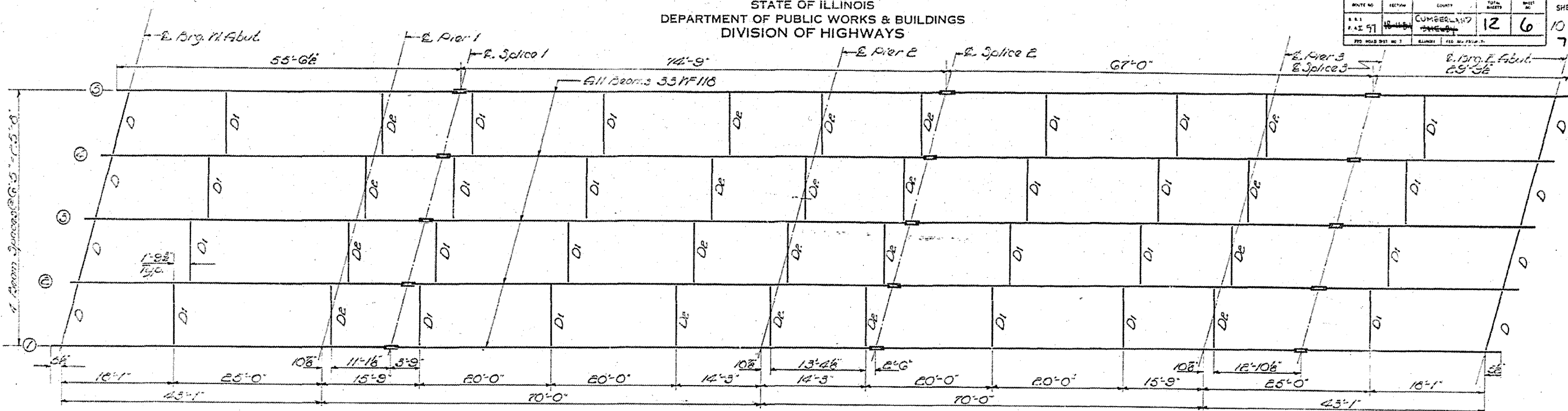
DESIGNED *Morris E. Gaudin*  
CHECKED *Walter Perry*  
DRAWN *M.E.G.*  
CHECKED *W.F.P.*

MARCH 14 1962  
EXAMINED *W.E. Baumann*  
PASSED  
APPROVED

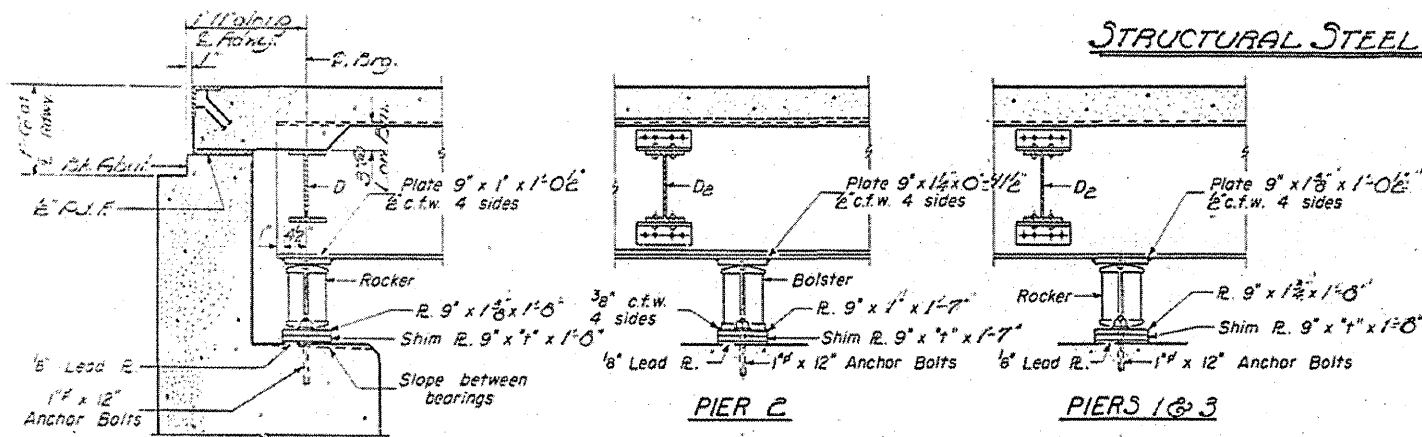
NOTES: 1. HALF PLAN - SEE SHEET 12 FOR DIMENSIONS AND REINFORCEMENT. 2. MATERIAL QUANTITIES LISTED IN THIS SHEET ARE BASED ON THE WEIGHT OF REINFORCEMENT BARS LISTED IN THE BILL OF MATERIALS. 3. CURB DETAIL - CHECKED FROM THE DRAWING. 4. SEE SHEET 12 FOR DIMENSIONS AND REINFORCEMENT.

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
11	1139	CUMBERLAND	12	6
SHEET NO. 3				
10 SHEETS				
74401				



**STRUCTURAL STEEL LAYOUT**

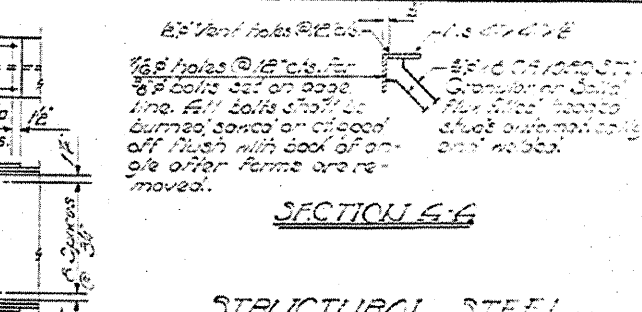
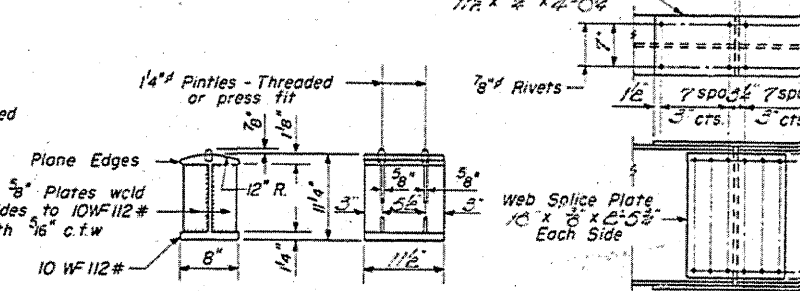
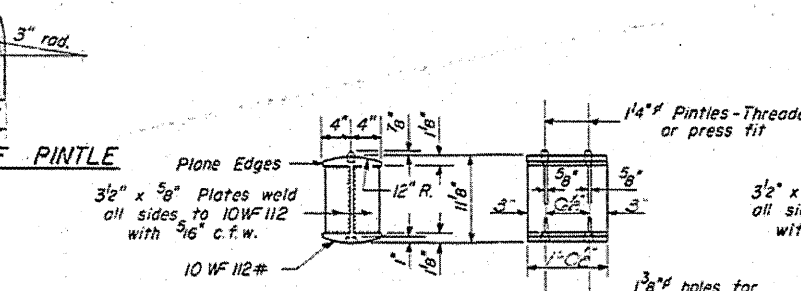
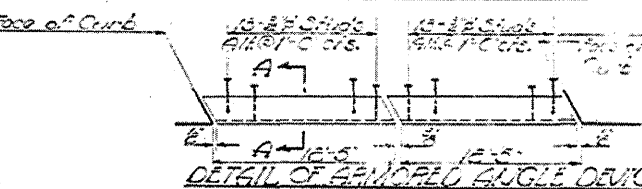
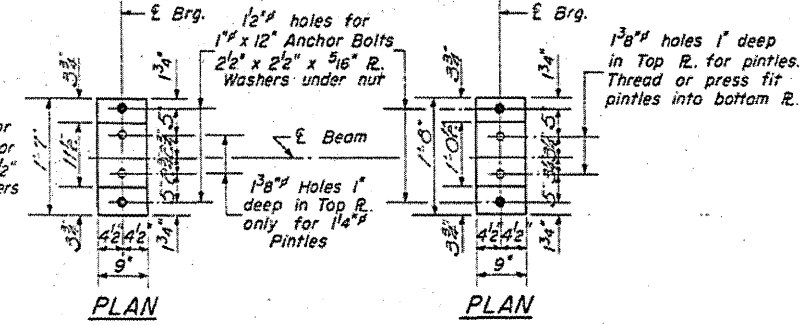
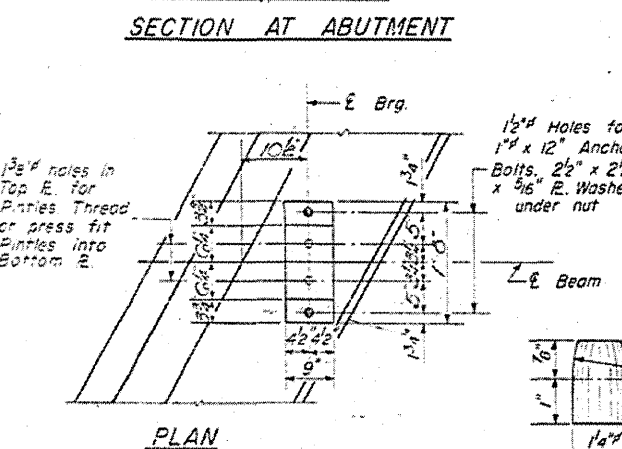
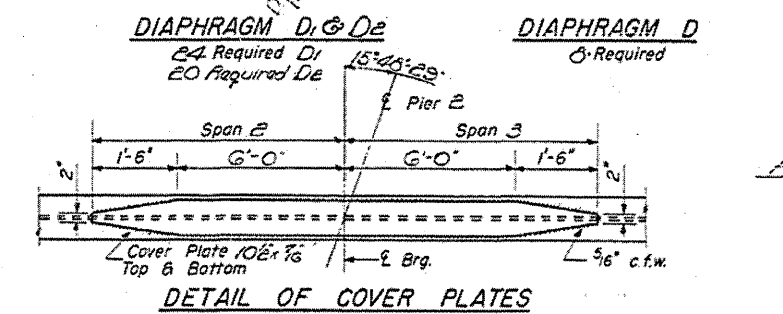
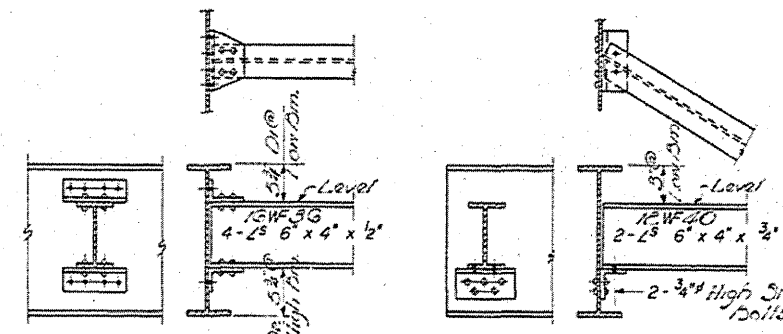


**ELEVATIONS OF TOP OF BEAMS**

Span	Abutment	Pier 1	Pier 2	Pier 3	Abutment
1	67'-0"	70'-0"	70'-0"	70'-0"	67'-0"
2	70'-0"	70'-0"	70'-0"	70'-0"	70'-0"
3	70'-0"	70'-0"	70'-0"	70'-0"	70'-0"
4	70'-0"	70'-0"	70'-0"	70'-0"	70'-0"
5	70'-0"	70'-0"	70'-0"	70'-0"	70'-0"

**7" DIMENSIONS**

Span	Abutment	Pier 1	Pier 2	Pier 3	Abutment
1	67'-0"	70'-0"	70'-0"	70'-0"	67'-0"
2	70'-0"	70'-0"	70'-0"	70'-0"	70'-0"
3	70'-0"	70'-0"	70'-0"	70'-0"	70'-0"
4	70'-0"	70'-0"	70'-0"	70'-0"	70'-0"
5	70'-0"	70'-0"	70'-0"	70'-0"	70'-0"



DESIGNED *Miss E. Sander*  
CHECKED *Walter Perry*  
EXAMINED *W.E. Bauman*  
APPROVED *W.E. Bauman*

MARCH 14 1962

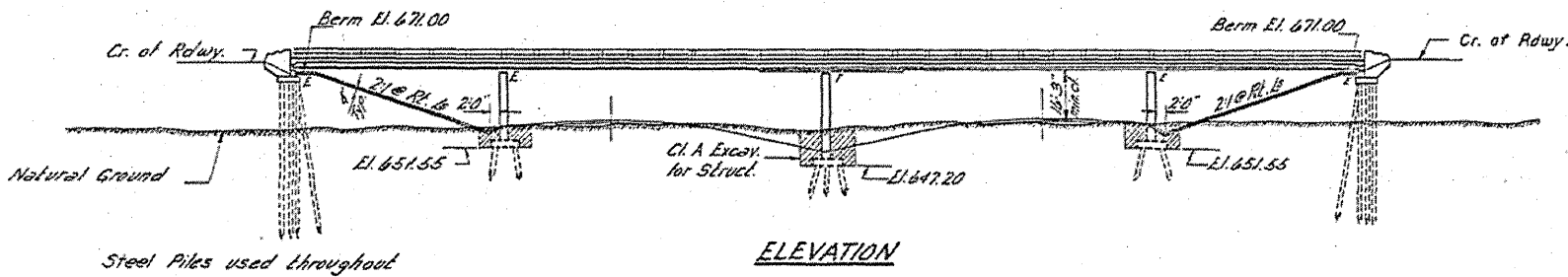
**STRUCTURAL STEEL**  
FALL R. 57 - SEC. 15 - 1139-1  
CUMBERLAND COUNTY  
STA. 5836 + 11.39

LOCATION 1

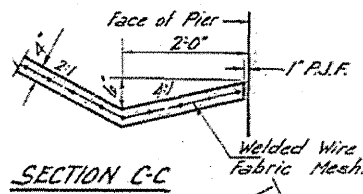
B.M. - USCGS BM 494 H. A. Sta. 5926+39  
 Conc. Men. Brass Cap. Walk Azimuth  
 Elev. 654.497

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

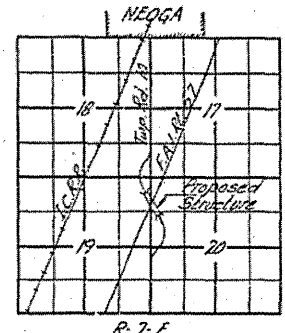
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. OF SHEETS
12	7	CUMBERLAND	12	7	10
74401					



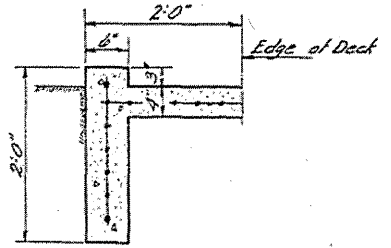
ELEVATION



SECTION C-C



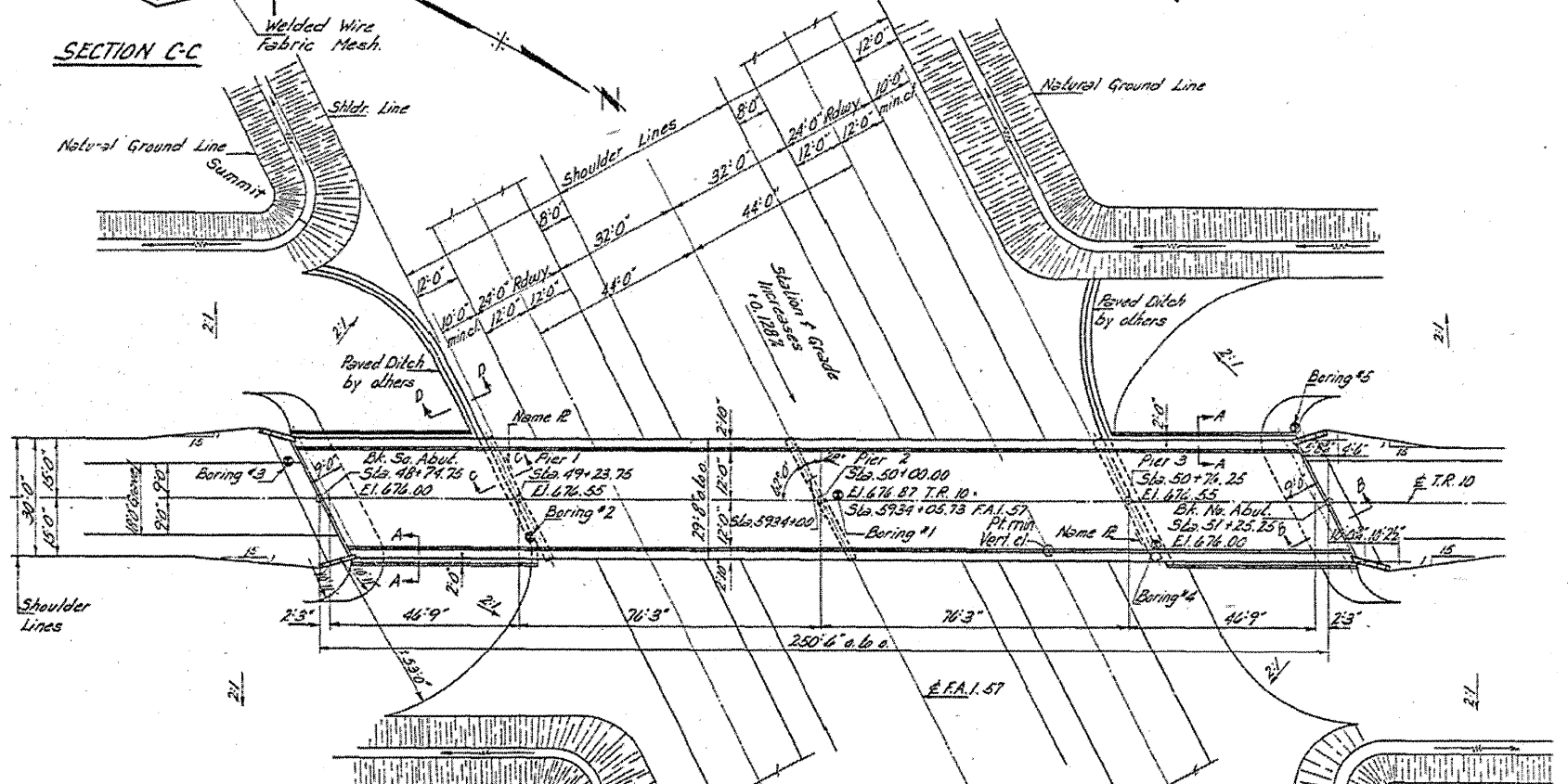
LOCATION SKETCH



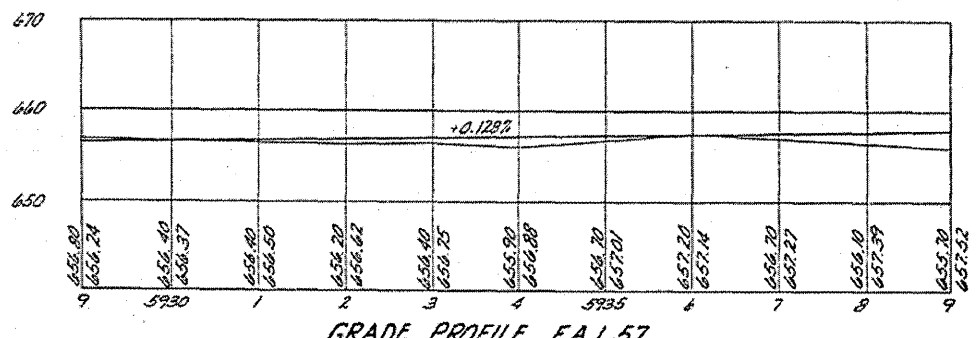
SECTION A-A

GENERAL NOTES

Class X Concrete shall be used throughout.  
 Coarse aggregate which is to be used in end posts must be absolutely free of chert, flint, limonite, lignite and soft sandstone.  
 The concrete floor slab shall be finished in accordance with Article 51.19 of the Standard Specifications.  
 Permanent forms will not be permitted in forming the concrete floor.  
 Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, #4 wires, weighing 58# per 100 sq.ft.  
 Rivets 3/4" open holes 1/2" unless noted.  
 Structural Steel for longitudinal beams, cover plates and splice plates shall conform to A.S.T.M. Designation A36.  
 Anchor bolts shall be set before riving diaphragms over supports.  
 All bolsters, rockers, bearing plates, shim plates, lead plates, pintles and anchor bolts shall be fabricated and set in accordance with Article 51.15 of the Standard Specifications and are included in quantity of Structural Steel, Est. Wt. 6580#.  
 Except as otherwise provided all Structural Steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Articles 56.1 to 56.5 inclusive of the Standard Specifications.  
 Backs of armor angles at the end of slab shall be given two shop coats of red lead paint.  
 All paint shall be furnished and applied by the Contractor.  
 The Contractor shall drive two steel test piles in permanent locations, one at the South Abutment and one at Pier 2, as directed by the Engineer before ordering the remaining piles.



PLAN

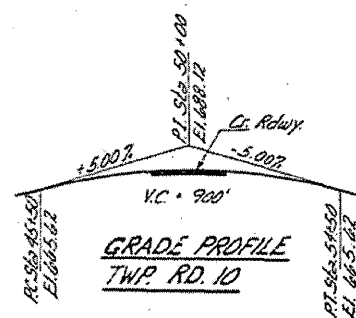


GRADE PROFILE F.A.I. 57

TOTAL BILL OF MATERIAL

Item	Super	Sub	Total
* Class A Excav. for Structure	Cu. Yds.	200	200
Class X Concrete	Cu. Yds.	211.1	222.6
Furnishing & Erecting Structural Steel	Lbs.	177,900	177,900
Furnishing & Erecting Metal Handrail	Lin. Ft.	496	496
Reinforcement Bars	Lbs.	41,630	16,640
Steel Piles (8 B.P. 36)	Lin. Ft.	1,222	1,222
Test Piles (8 B.P. 36)	Each	2	2
Name Plates	Each	2	2
Slope Wall	Sq. Yds.		430
Protective Coat	Sq. Yds.	877	877

\* Includes excavation for slope wall



GRADE PROFILE TWP. RD. 10

DESIGN STRESSES

1/2" 1,400 p.s.i. Super  
 1/2" 75 p.s.i. footing  
 1/2" 20,000 p.s.i. Reinf.  
 1/2" 20,000 p.s.i. Struct. (A-36)  
 n=10

LOADING HIS-512-44

1/2" Defl. 1/400 (Non-composite)  
 1/2" Defl. 1/1200 (Composite)

CURVE DATA  
 P.I. Sta. 44+26 Pk. Sta. 55+74  
 Δ = 88° 26' 51"  
 D = 8° 13' 00"  
 R = 497.91  
 T = 314.00  
 L = 589.62  
 E = 67.38  
 S.E. 0.08274  
 S.E. Attained 260'

STA. 5934+05.73  
 BUILT 196 BY  
 STATE OF ILLINOIS  
 F.A.I. RT. 57 SEC. 18-118-2  
 F.A. PROJ. 1-57-4 (45)  
 LOADING HIS-512  
 NAME PLATE  
 See Std. 2113

DESIGNED Tsarung  
 CHECKED W. H. Baumann  
 DRAWN T. M. G. P. Lawler  
 APRIL 17 1962  
 EXAMINED W. H. Baumann  
 PASSED  
 APPROVED

GENERAL PLAN & ELEVATION  
 PROJ. 1-57-4 (45) 115  
 TWP. ROAD 10 OVER  
 F.A.I. RT. 57 SEC. 18-118-2  
 CUMBERLAND COUNTY  
 STA. 5934+05.73

LOCATION 2

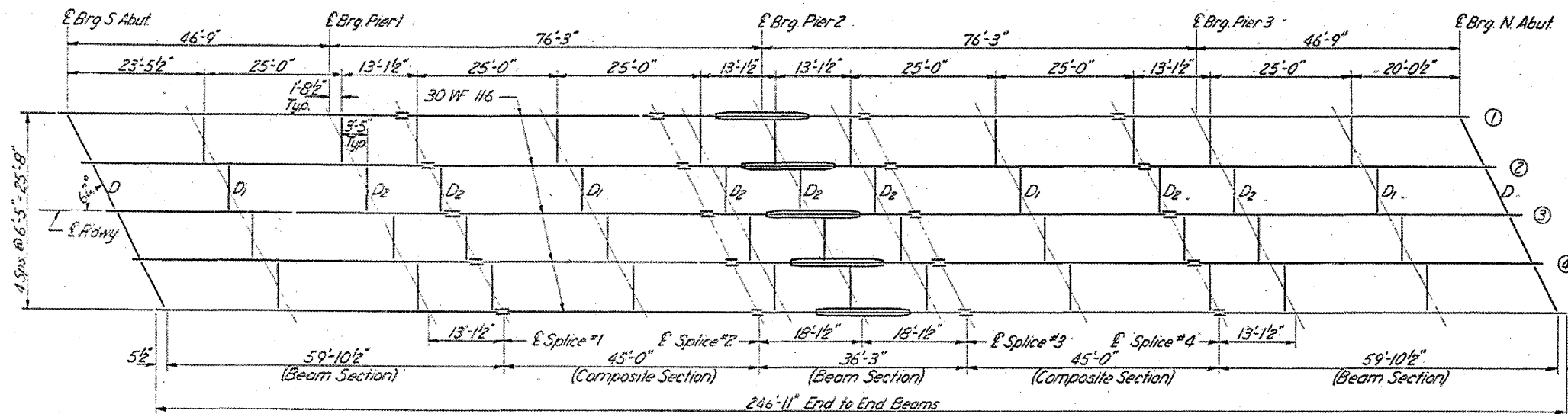
Revised 10/6/57 - 60-foot storm back of the backs of abutments removed. Drainage directions revised. S.E. attained from 260' to 260'.  
 177,900 lbs. Reinforcement Bars from 58,490 lbs. to 58,290 lbs.



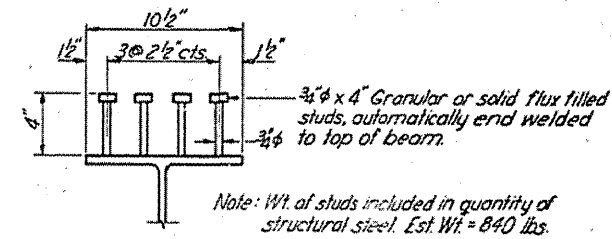


STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
DIVISION OF HIGHWAYS

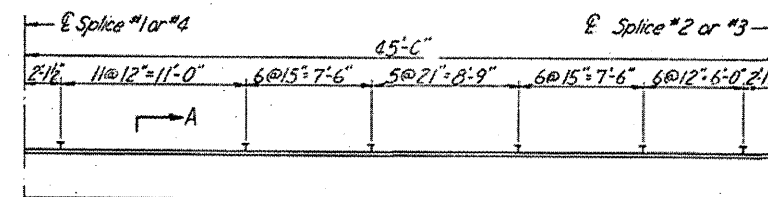
ROUTE NO. I-2-R	SECTION 18-118-2	COUNTY CUMBERLAND	TOTAL SHEETS 12	SHEET NO. 9	SHEET NO. 4 10 SHEETS 74401
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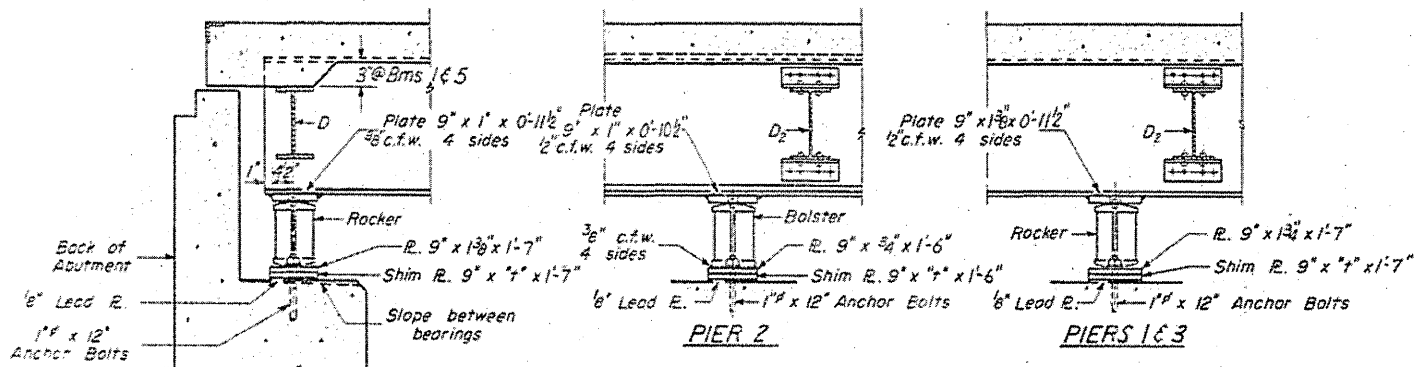
STEEL FRAMING PLAN



SECTION A-A



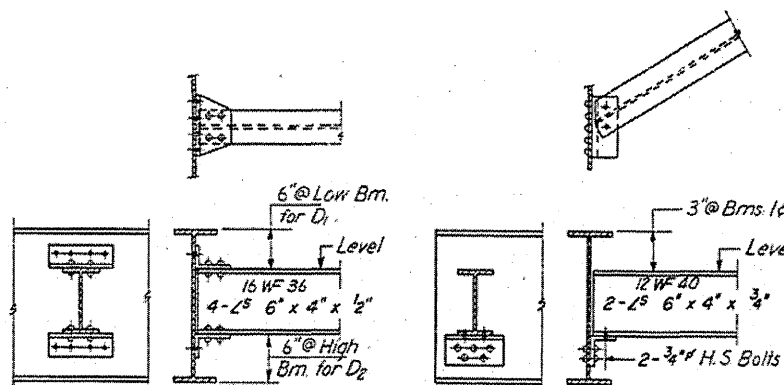
SPACING OF SHEAR CONNECTORS



SECTION AT ABUTMENT

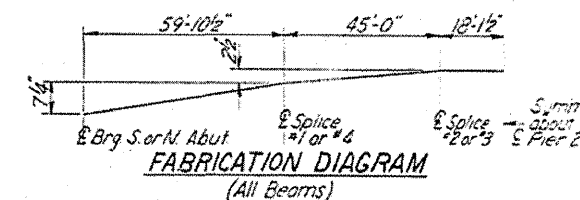
PIER 2

PIERS 1 & 3



DIAPHRAGM D1 & D2

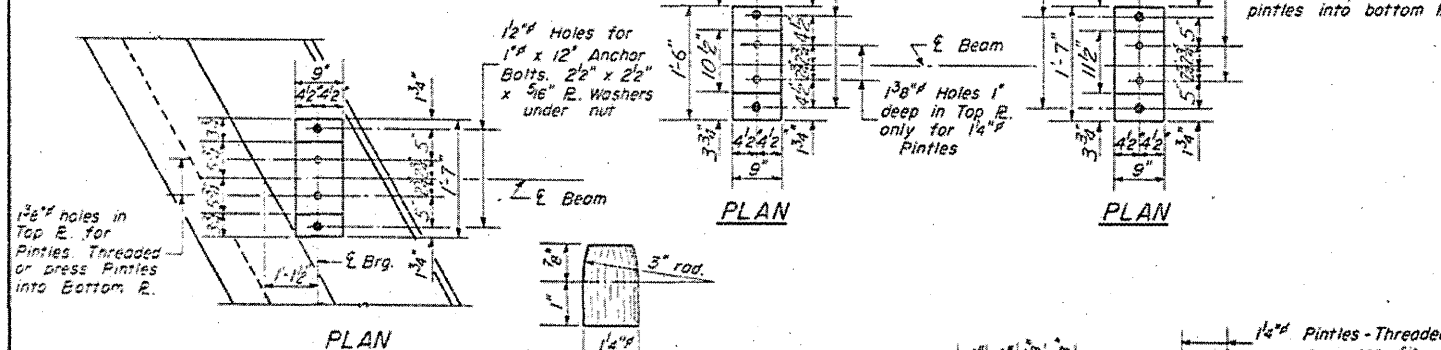
DIAPHRAGM D



FABRICATION DIAGRAM  
(All Beams)

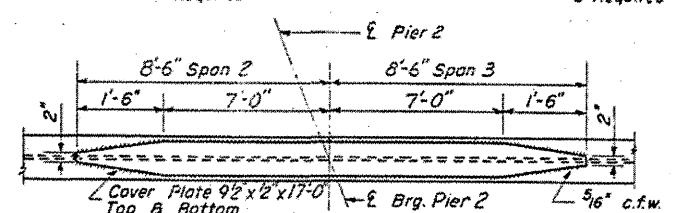
ELEVATION TOP OF WF  
(For Fabrication Only)

Beam No.	E Brg. S. or N. Abut.	E Brg. Pier 1 or 3	E Splice #1 or #4	E Splice #2 or #3	E Brg. Pier 2
1 & 5	675.28	675.75	675.88	676.09	676.09
2 & 4	675.42	675.89	676.02	676.23	676.23
3	675.50	675.97	676.10	676.31	676.31

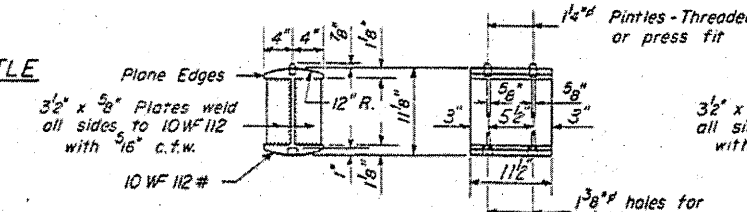


PLAN

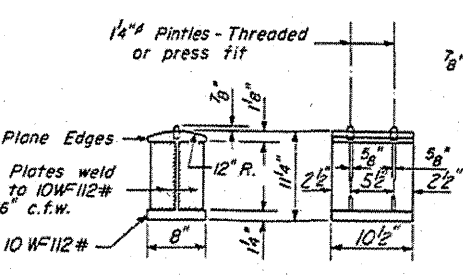
DETAIL OF PINTLE



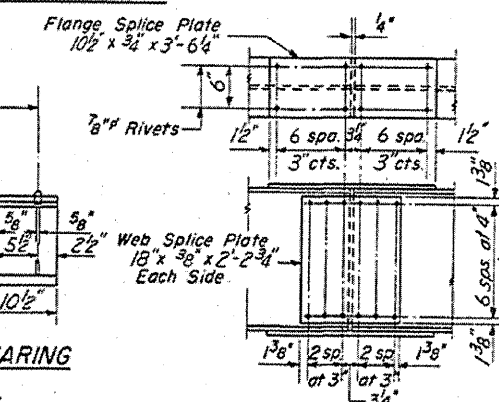
DETAIL OF COVER PLATES



DETAIL OF BEARING  
AT PIERS 1, 3 & ABUTS.  
20 Req'd



DETAIL OF BEARING  
AT PIER 2  
5 Req'd



DETAIL OF SPLICE

TABLE OF "T" DIMENSIONS

Beam No.	1	2	3	4	5
T	0	0	1	0	0

STRUCTURAL STEEL  
F.A.I. RT. 57 SEC. 18-118-2  
CUMBERLAND COUNTY  
STA. 5934 +05.73

DESIGNED: T. M. Young  
CHECKED: W. R. Sausman  
DRAWN: W. R. Sausman  
APPROVED: R. L. Bantel  
APRIL 17 1962

I-2-R Re-drawn 9-23-59

Revised 3/6/63: Wt. of studs from 420" to 640"

LOCATION 2

B.M. USC #65 B.M. Disc. in East End of S.W. Headwall of  
P.C. Box Culvert Sta. 61+92 S.A.R.I. Elev. 658.27

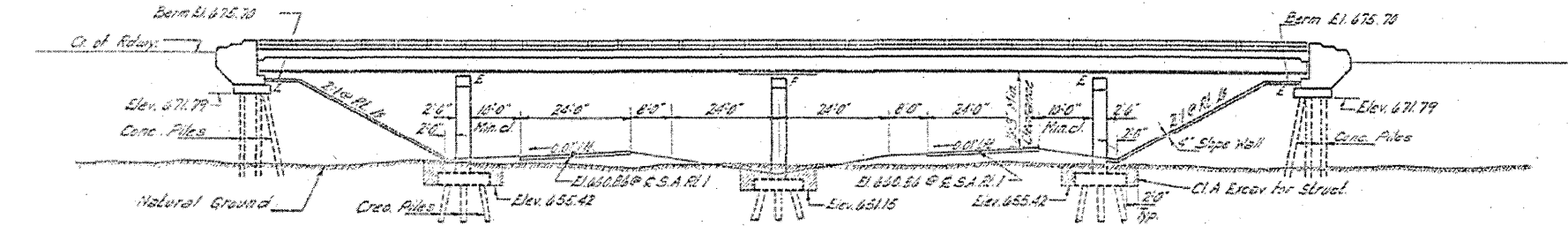
STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
DIVISION OF HIGHWAYS

PROJECT NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 57		Cumberland	12 10	11 SHEETS

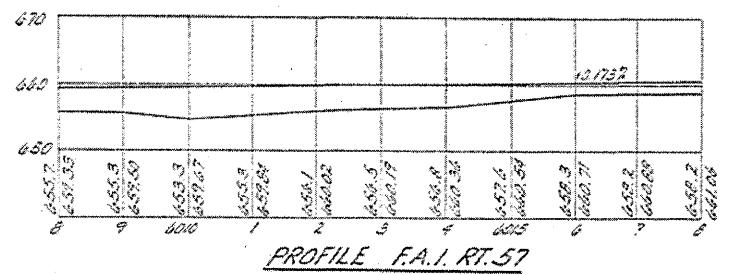
GENERAL NOTES 74401

Class X Concrete shall be used throughout.  
Coarse aggregate which is to be used in end coats must be absolutely free of dirt, lint, lumps, lumps and soft materials.  
The concrete floor slab shall be finished in accordance with Article 5119 of the Standard Specifications. Permanent forms will not be permitted in forming the concrete floor.  
Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, #4 wires, weighing 28# per 100 sq ft.  
Rivets 1/2", open holes 1/2", unless noted.  
All Structural Steel shall conform to A.S.T.M. A-36 Specifications for Structural Steel.  
Anchor Bolts shall be set before riveting diaphragms over supports.  
All bolsters, rollers, bearing plates, shim plates, lead plates, pinches, and anchor bolts shall be fabricated and set in accordance with Article 5115 of the Standard Specifications and are included in quantity of Structural Steel. Est. Wt. 10,400.  
Except as otherwise provided all Structural Steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Articles 55.1 to 55.5 inclusive of the Standard Specifications.  
All paint shall be furnished and applied by the Contractor.  
Concrete piles through embankment shall be driven in prepared holes in accordance with Article 60.9(a) of the Standard Specifications.  
The Contractor shall drive one concrete test pile at the West Abutment in a permanent location and one timber test pile in the vicinity of Pier 2 as directed by the Engineer before ordering the remaining piles.  
Beaks of other angles at the end of slab shall be given two shop coats of red lead paint.

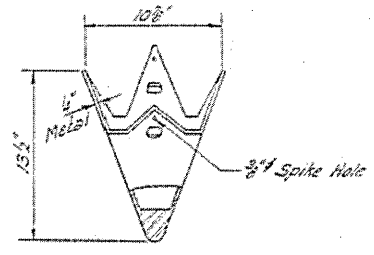
All excavation required for the construction of the slope wall shall be incidental to the contract unit price for Slope Wall 4".



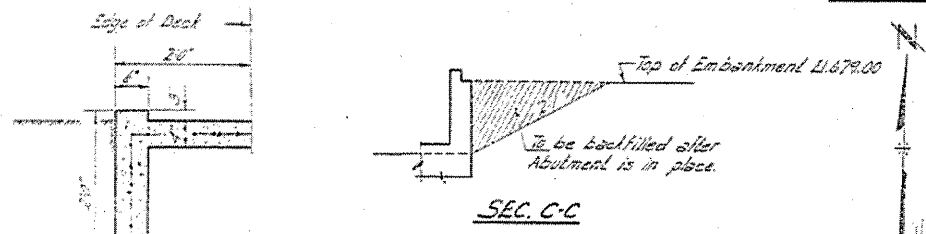
ELEVATION



PROFILE F.A.I. RT. 57

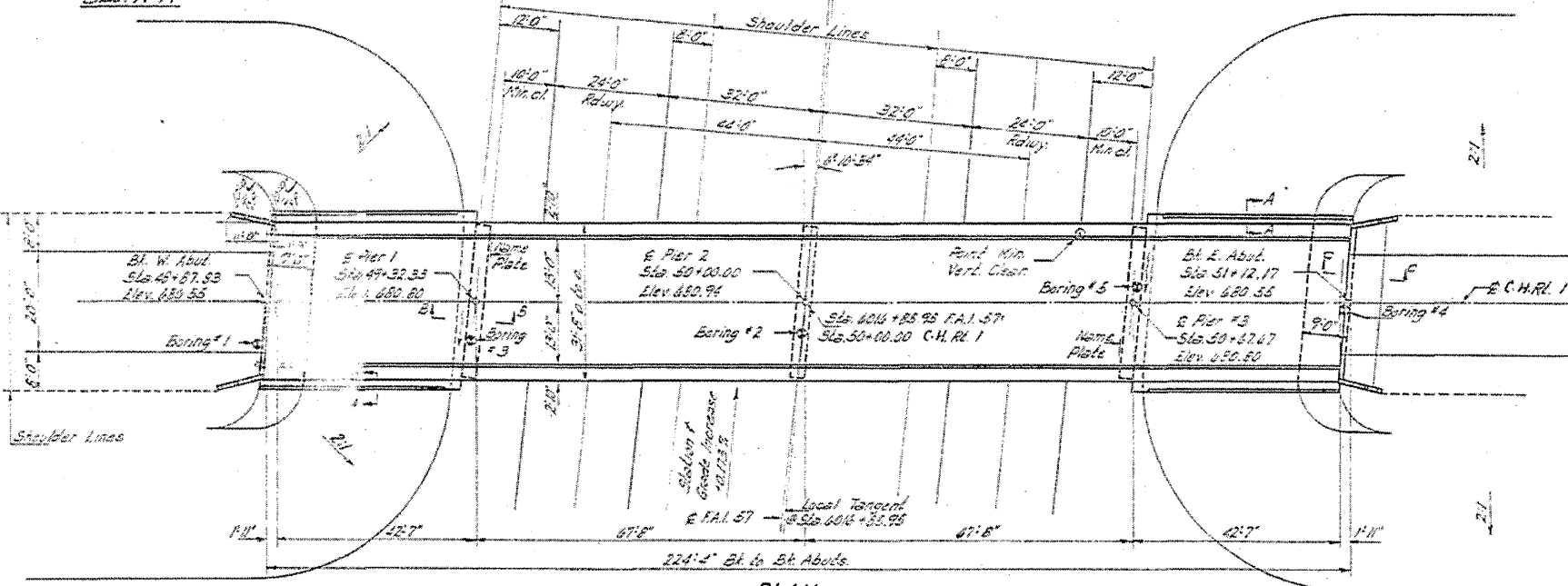


METAL SHOE  
for Cross-tied Piles

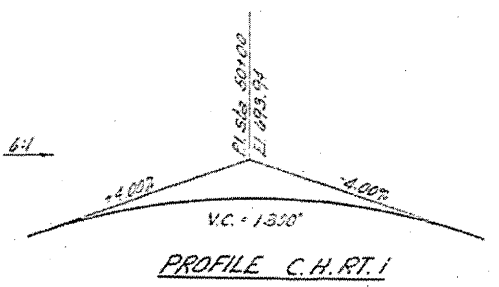


SEC. C-C

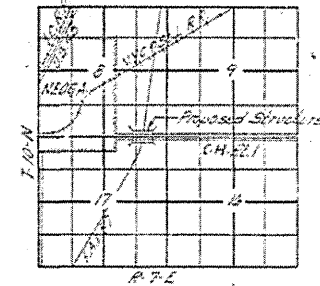
SEC. A-A



PLAN



PROFILE C.H. RT. 1



LOCATION SKETCH

TOTAL BILL OF MATERIAL

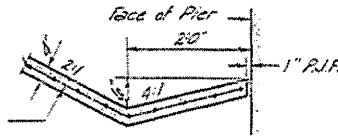
Item	Super	Sub	Total
Class X Excav for Structs.	Cu. Yds. 160		160
Class X Concrete	Cu. Yds. 192.1	216.7	408.8
Furnishing & Erecting Structural Steel	Lbs. 142,350		142,350
Furnishing & Erecting Metal Handrail	Lin. Ft. 444		444
Reinforcement Bars	Lbs. 41,850	15,740	57,590
Cross-tied Piles (Up to 20')	Lin. Ft. 876		876
Test Piles (Timber)	Each	1	1
Metal Shoes	Each	5	5
Concrete Piles	Lin. Ft. 679		679
Test Piles (Concrete)	Each	1	1
Name Plates	Each	2	2
Slope Wall (4")	Sq. Yds. 410		410
Protective Coat	Sq. Yds. 535		535

STA. 6016 + 85.95  
BUILT BY  
STATE OF ILLINOIS  
F.A.I. RT. 57 SEC. 18-114B-3  
F.A. PROJ. I-57-4(20)  
LOADING HIS-512

NAME PLATE  
See Sld. 213

CURVE DATA (F.A.I. 57)

P.I. Sta. 6005 + 30.16  
L = 53' 02" 19"  
D = 1' 00" 00"  
R = 5729.65'  
T = 1699.30'  
L = 3303.86'  
E = 246.68'  
S.E. = 0.0111%  
attained in 100'



SEC. B-B

DESIGN STRESSES

1c = 1400 p.s.i. Super T Sub  
1c = 75 p.s.i. Reinf.  
1s = 20,000 p.s.i. Reinf.  
1s = 20,000 p.s.i. Struct. (A-36)  
n = 10

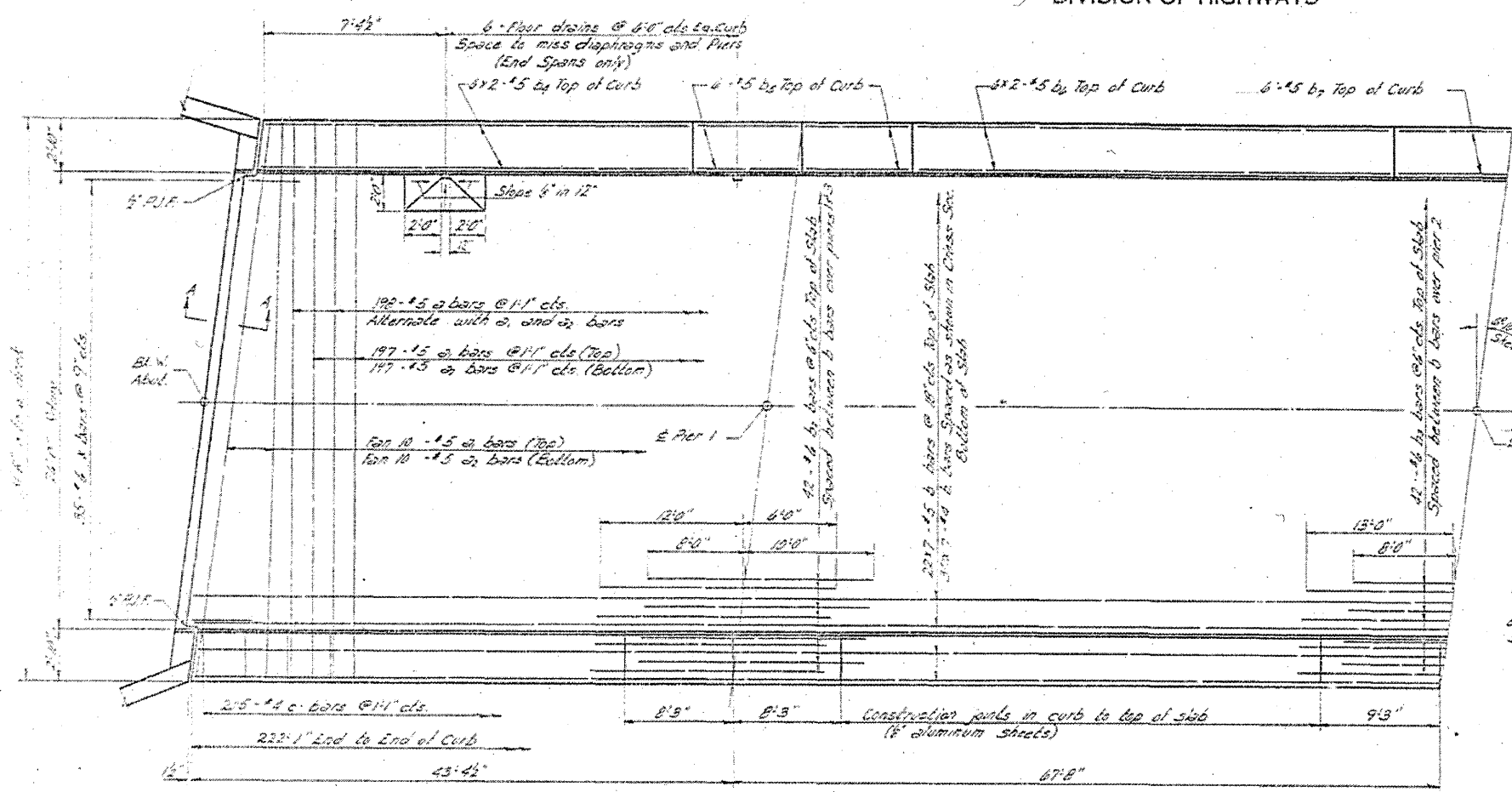
LOADING HIS-512-44

2 x 4" Flange (Composite)  
1 1/2" Flange (Non-composite)

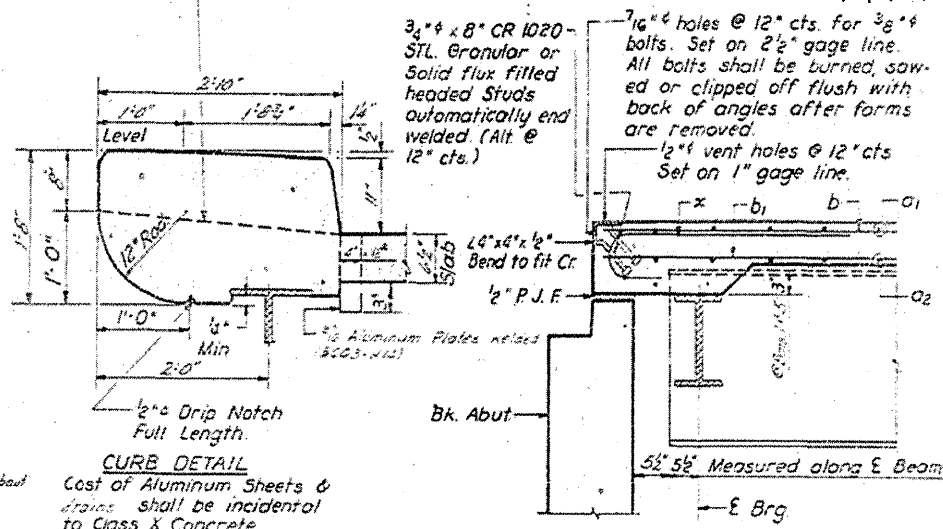
DESIGNED	T. M. Long	EXAMINED	DEC 8 1921
CHECKED	Alvaham B. Cook	PASSED	[Signature]
DRAWN	P. Lawler	APPROVED	[Signature]
CHECKED	A. R. E.		

GENERAL PLAN & ELEVATION  
PROJ. I-57-4 (26) 176  
C.H. RT. 1 OVER  
F.A.I. RT. 57 SEC. 18-114B-3  
CUMBERLAND COUNTY  
STA. 6016 + 85.95

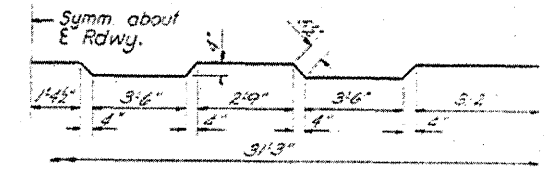
LOCATION 3



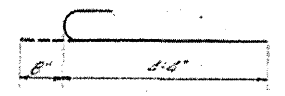
HALF PLAN



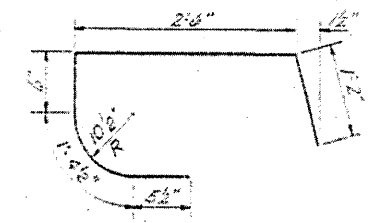
SECTION A-A



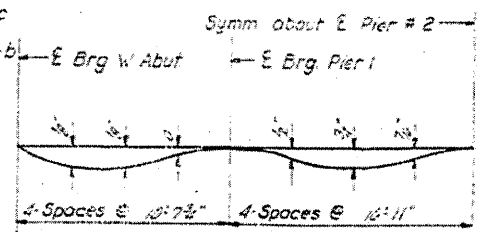
BAR - O



BAR - X



BAR - C



DEAD LOAD DEFLECTION DIAGRAM  
(Includes Weight of Concrete only. All Beams)

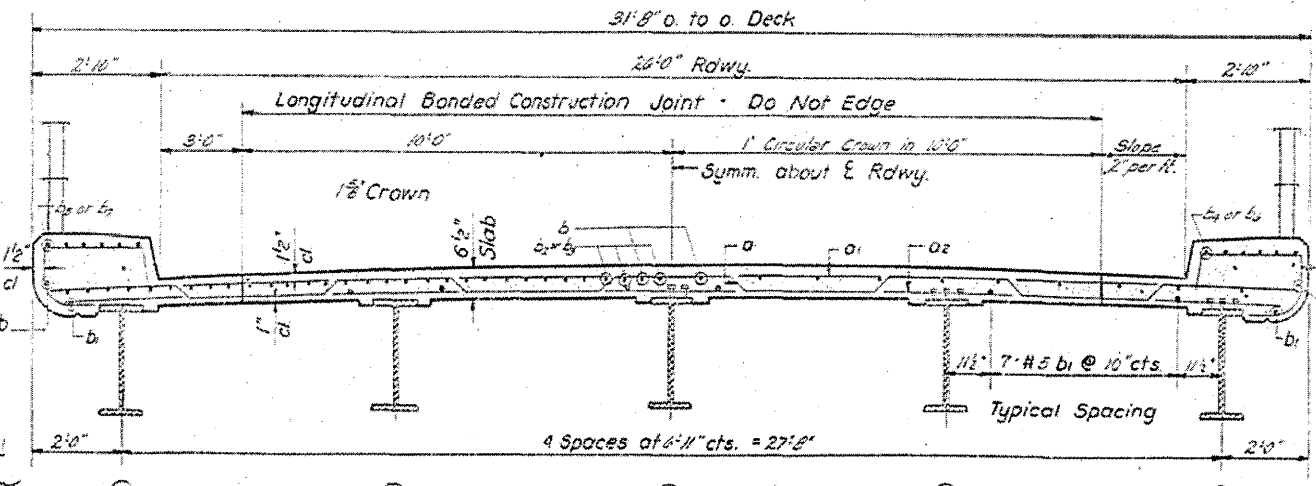
Note: The above deflections are not for use in the field if the Engineer is working from the grade elevations adjusted for Dead Load Deflections as shown on Sheet # 5.

BILL OF MATERIAL

Bar	No.	Size	Length	Splice
a	1	#5	33'	
a1	1	#5	33'	
a2	2	#5	33'	
b	1	#5	33'	
b1	1	#5	33'	
b2	1	#5	33'	
b3	1	#5	33'	
b4	1	#5	33'	
b5	1	#5	33'	
b6	1	#5	33'	
b7	1	#5	33'	
c	1	#5	33'	
x	1	#5	33'	

Class X Concrete  
Reinforcement Bars  
Structural Steel  
Weight of bearing assembly with lead plates, & anchor bolts included as Structural Steel  
Est. Wt. 200 lbs  
SUPERSTRUCTURE  
FA.I.RT.57 SEC. 8-1-55  
CUMBERLAND CO. ILL.  
STA. 6014 + 55.95

**STANDARD FILLET DETAIL**  
To determine "f" After all Structural Steel has been erected, elevations of the flanges of the beams shall be taken at intervals shown on sheet # 5. These elevations, subtracted from the "Grade Elevations Adjusted for Dead Load Deflections," shown on Sheet # 5, minus slab thickness, equals the fillet height "f" above top of beams.



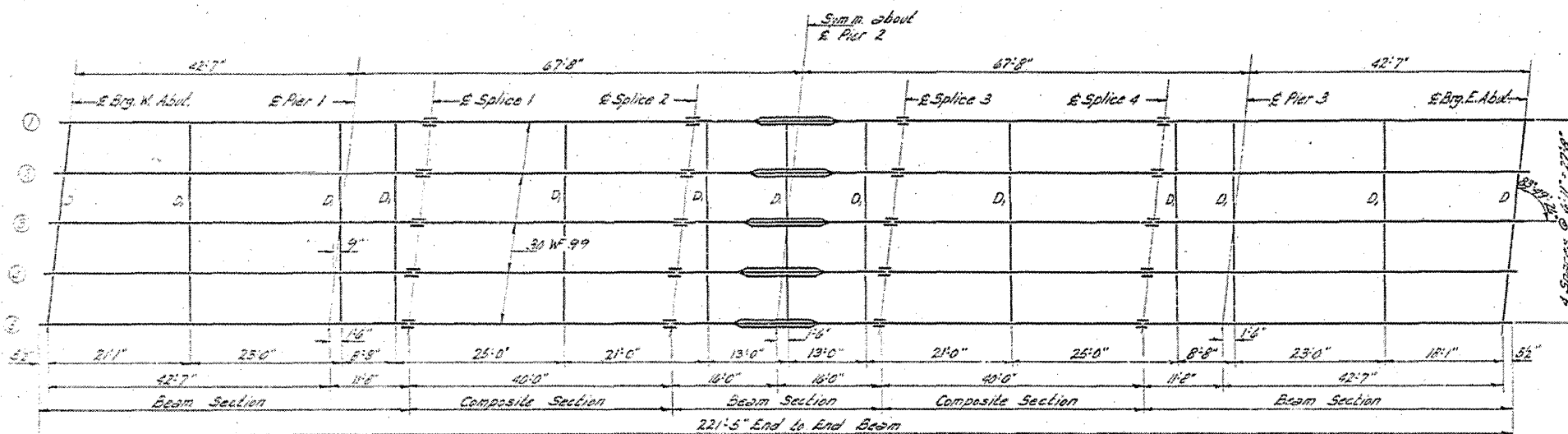
CROSS SECTION

DESIGNED: M. J. Putnam  
CHECKED: J. Putnam  
DRAWN BY: J. Putnam  
APPROVED: H. E. Benemann  
DATE: 11-1-57

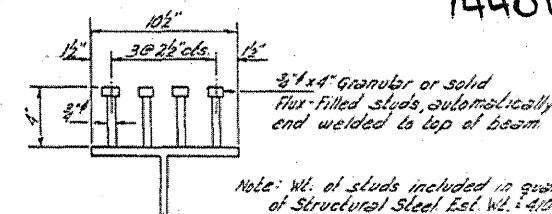
LOCATION 3

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

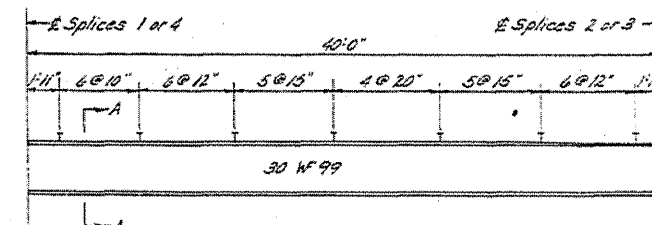
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
1-1 X 57	440-3	CUMBERLAND	1212	11 SHEETS
74401				



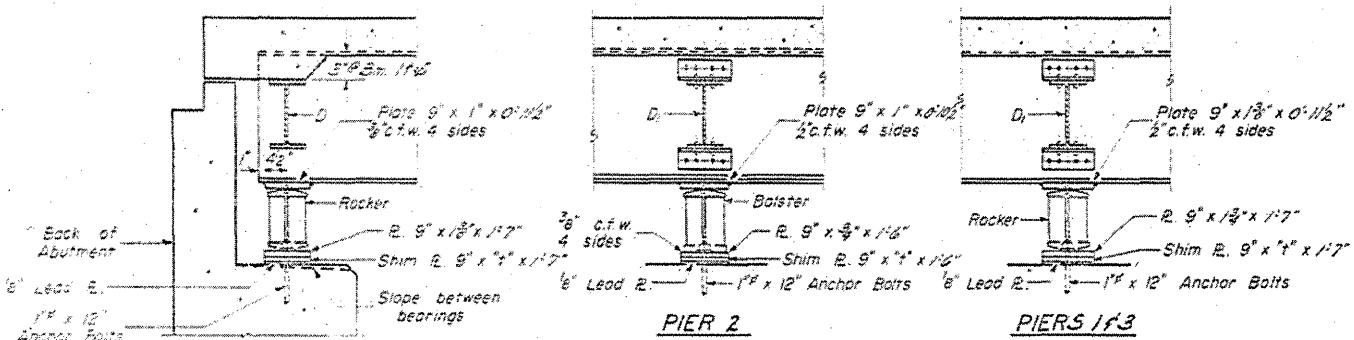
STEEL FRAMING PLAN



SECTION A-A



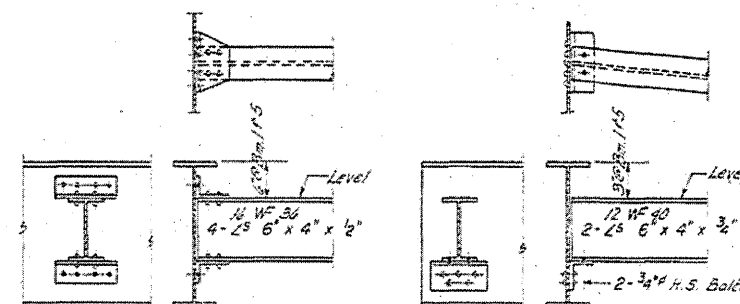
SPACING OF SHEAR CONNECTORS



SECTION AT ABUTMENT

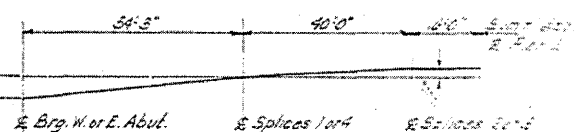
PIER 2

PIERS 1 & 3



DIAPHRAGM D  
44 Required

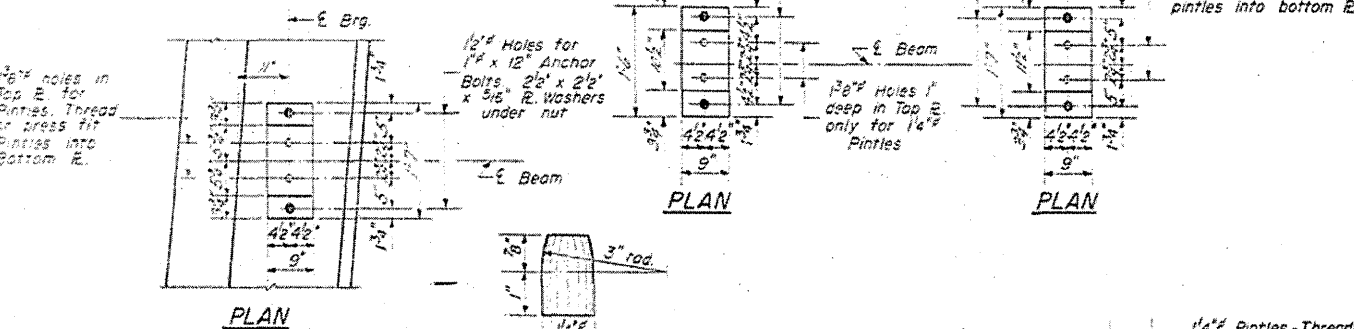
DIAPHRAGM D  
8 Required



FABRICATION DIAGRAM  
(All Beams)

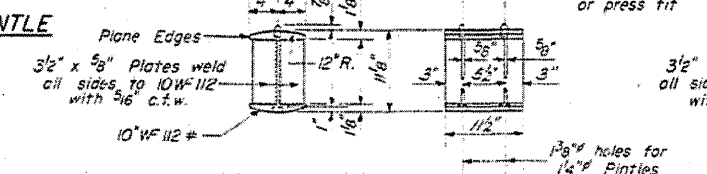
ELEVATION TOP OF BEAMS  
(For Fabrication Only)

Beams	E. Brg. W. Abut.	E. Brg. Pier 1	E. Brg. Splice 1	E. Brg. Splice 2	E. Brg. Pier 2	E. Brg. Splice 3	E. Brg. Splice 4	E. Brg. Pier 3	E. Brg. W. Abut.
1 & 5	679.89	680.09	680.15	680.24	680.24	680.24	680.24	680.24	680.24
2 & 4	680.00	680.20	680.26	680.35	680.35	680.35	680.35	680.35	680.35
3	680.04	680.24	680.30	680.39	680.39	680.39	680.39	680.39	680.39

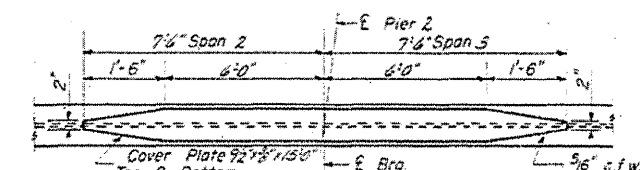


PLAN

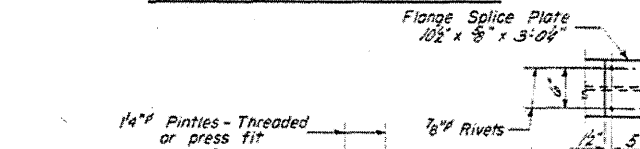
DETAIL OF PINTLE



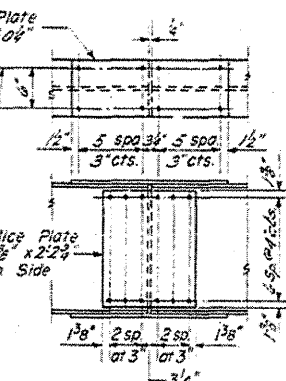
DETAIL OF BEARING  
AT PIERS 1 & 3 ABUTS  
20 Reqd.



DETAIL OF COVER PLATES



DETAIL OF BEARING  
AT PIER 2  
5 Reqd.



DETAIL OF SPLICE

TABLE OF 'I' DIMENSIONS

Beams	1	2	3	4	5
'I'	0	0	2	0	0

STRUCTURAL STEEL  
FA 1 RT 57 SEC. 15: THE E  
CUMBERLAND COUNTY  
STA. 6016 + 85.95

LOCATION 3