

16487

04-22-2016 LETTING ITEM 077

VARIOUS

F.A. RTE.	SECTION	COUNTY	TOTAL SHP.	SHEET NO.
VARIOUS	DIST 8 MITIGATION 2016-1	VARIOUS	16	1
		ILLINOIS	CONTRACT NO. 76H87	

76487

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

**PROPOSED
 HIGHWAY PLANS**

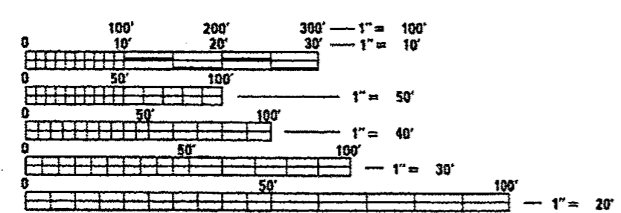
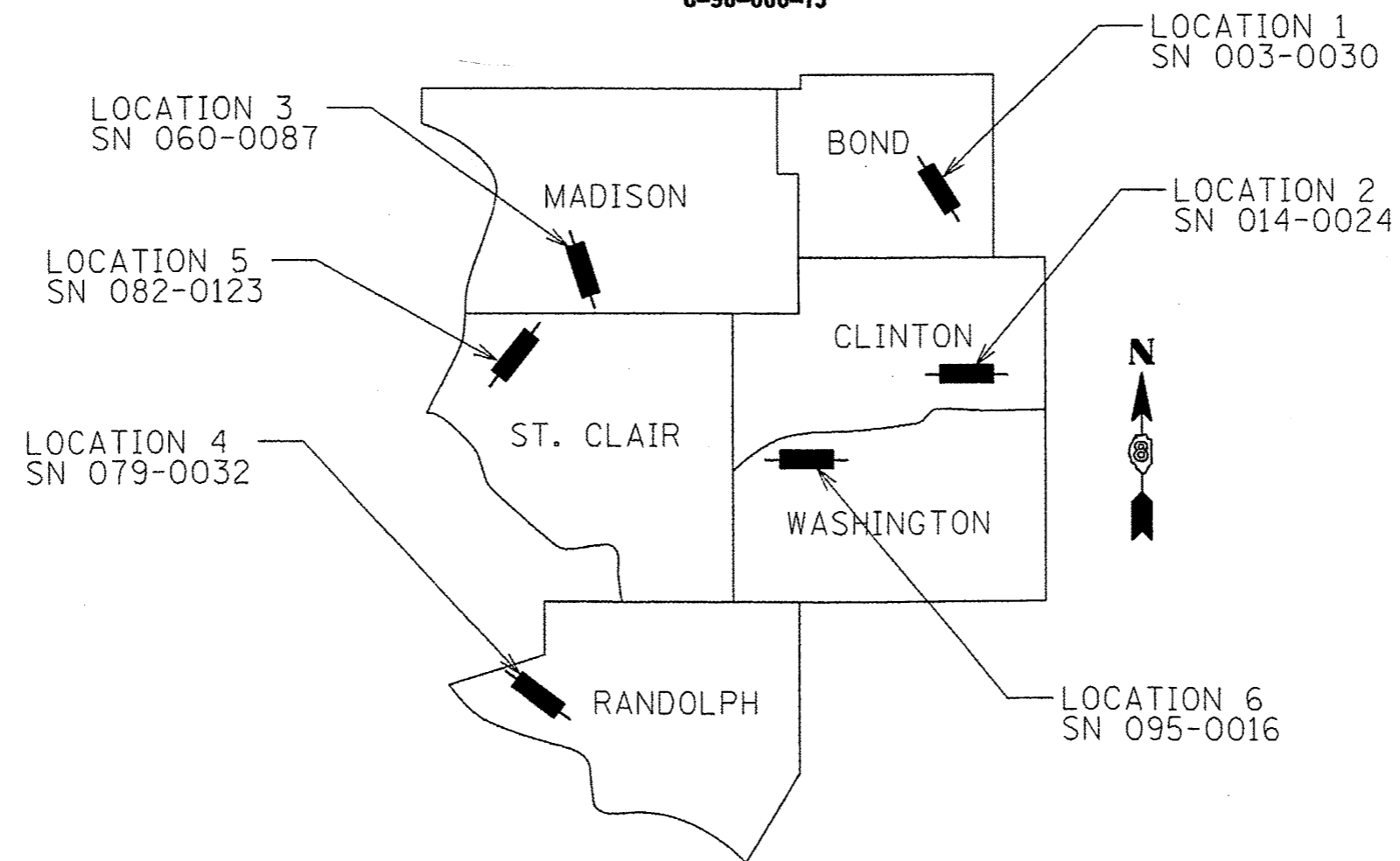
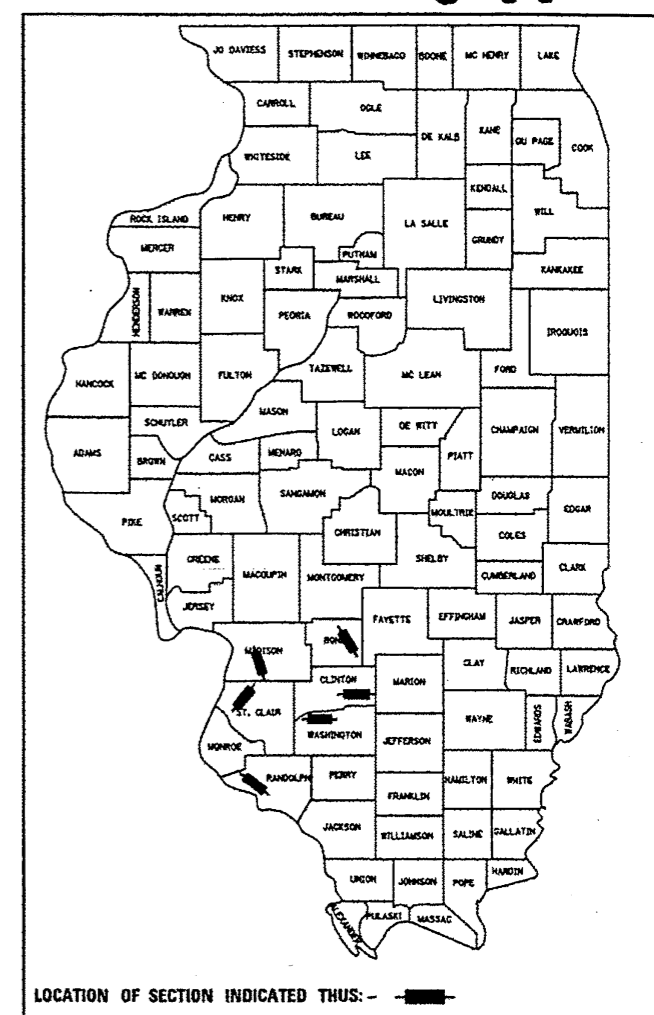
VARIOUS ROUTE
 SECTION DIST 8 SCOUR MITIGATION 2016-1

SCOUR MITIGATION
 VARIOUS COUNTY

C-98-060-15

FOR INDEX OF SHEETS, SEE SHEET NO. 2

100%
11-26-2016



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: HERVE' GELIN (618) 346-3179
 PROJECT MANAGER: BILLIE OWEN (618) 346-3329

GROSS LENGTH = 734.10 FT. = 0.139 MILE
 NET LENGTH = 734.10 FT. = 0.139 MILE

CONTRACT NO. 76H87 079-0032

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED Feb 5 20 16
Jeffrey Z. [Signature]
 DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER

March 13 20 16
Naureen M. A. [Signature] P.E.
 ENGINEER OF DESIGN AND ENVIRONMENT

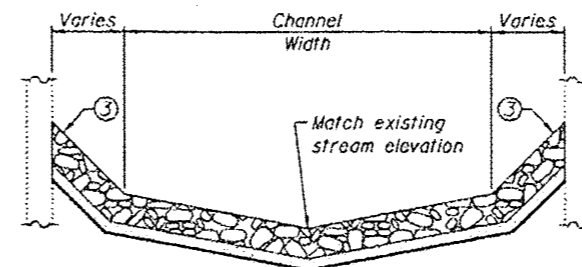
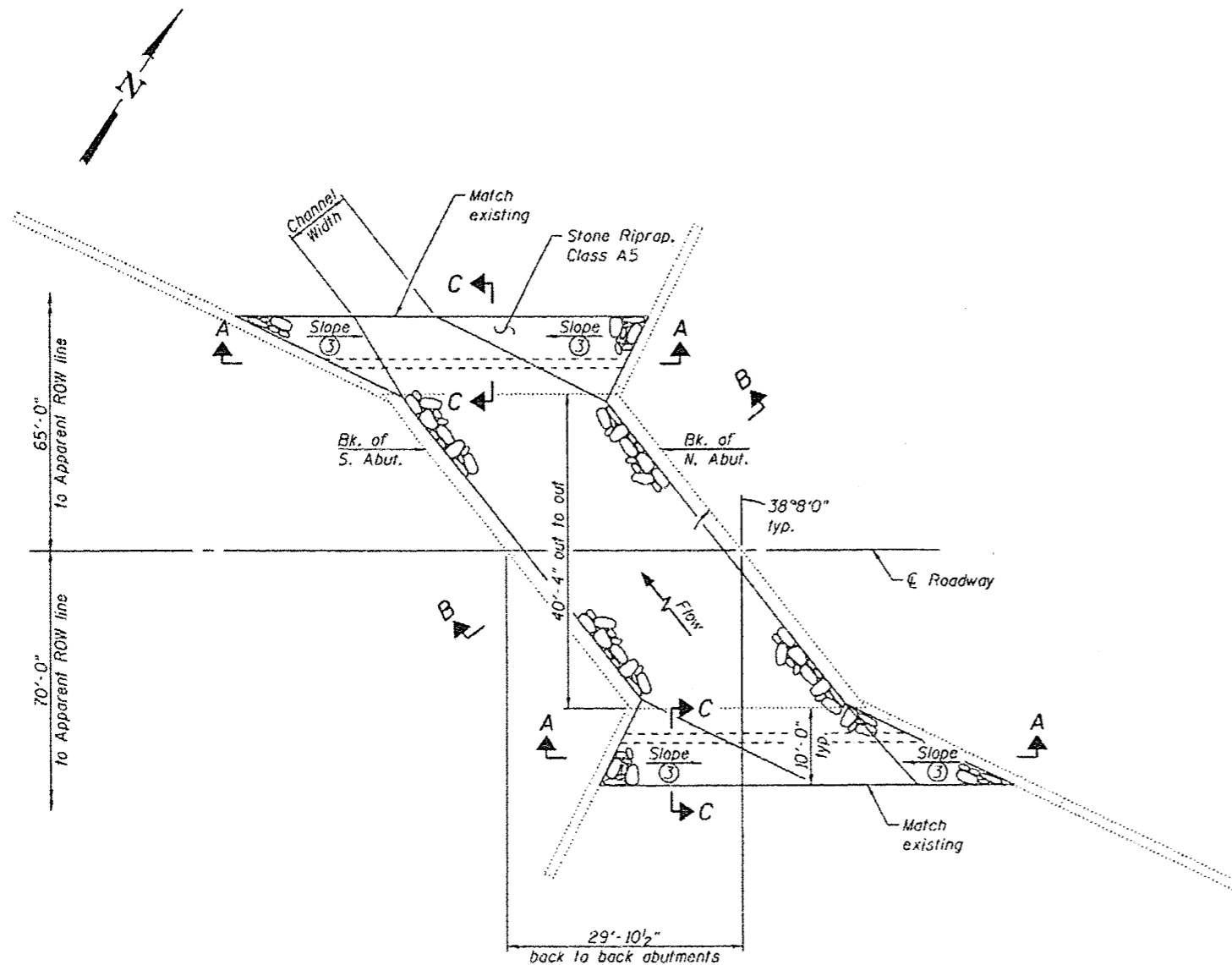
March 13 20 16
Omer Osman [Signature] P.E.
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
 OF THE STATE OF ILLINOIS

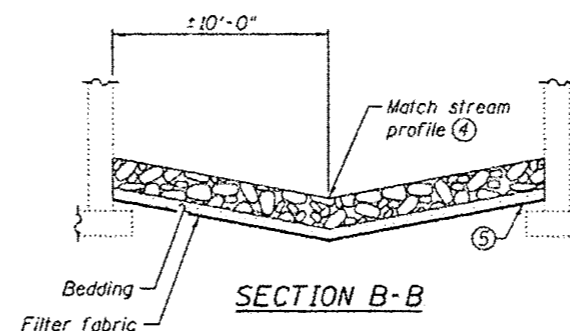
Existing Structure: S.N. 079-0032 consists of a single span concrete slab superstructure supported on concrete closed abutments with spread footings founded on timber piles.

Notes:

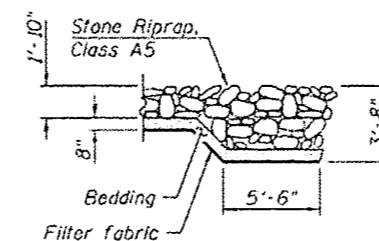
- ① The Contractor shall field verify existing dimensions, details, and conditions affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
- ② Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. Slope protection system shall be placed in a manner that does not reduce the total waterway opening.
- ③ Grade channel bank to a slope that will provide a stable base for riprap as directed by the Engineer. Cost included in Channel Excavation.
- ④ Grade streambed so that the top of the Stone Riprap approximately matches the existing stream profile as directed by the Engineer. Cost included in Channel Excavation.
- ⑤ At the abutment face, the filter fabric shall not be lower than the top of footing.
- ⑥ Additional excavation and reshaping of channel and bank may be required to facilitate proper placement of Stone Riprap as directed by the Engineer.
- ⑦ Channel Excavation shall include the cost of removing and disposing of existing riprap, brick, block, rubble, or other material as encountered.
- ⑧ Contractor to locate existing underground utilities. Where existing underground utilities conflict with riprap placement, the Contractor shall adjust the layout as directed by the Engineer.
- ⑨ Elevation view shown as of February 4, 2014. Actual conditions may vary.
- ⑩ Estimated quantities. Actual quantities to be determined in the field.



SECTION A-A



SECTION B-B



SECTION C-C



ELEVATION VIEW ⑨
(Looking East)

TOTAL BILL OF MATERIAL ⑩

CODE NO.	ITEM	UNIT	TOTAL
20300100	Channel Excavation	Cu. Yd.	40
28200109	Stone Riprap, Class A5	Sq. Yd.	225
28200200	Filter Fabric	Sq. Yd.	225

IL ROUTE 155 OVER STREAM IN PRAIRIE DU ROCHER
STRUCTURE NO. 079-0032

DATE: 11/3/2015
 EXPIRATION: 11/30/2015

GATES ASSOCIATES
 ENGINEERS & ARCHITECTS
 11400 E. 111th Street, Suite 100
 Chicago, IL 60642
 Tel: 708.353.1700
 Fax: 708.353.1702
 www.gatesassociates.com

USER NAME	DESIGNED - MAG	REVISOR
	CHECKED - JAD	REVISION
PLOT SCALE	DRAWN - MAG	REVISION
PLOT DATE	CHECKED - JAD	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
LOCATION 4

SHEET NO. 4 OF 5 SHEETS

*DIST 8 SCOUR MITIGATION 2016-1

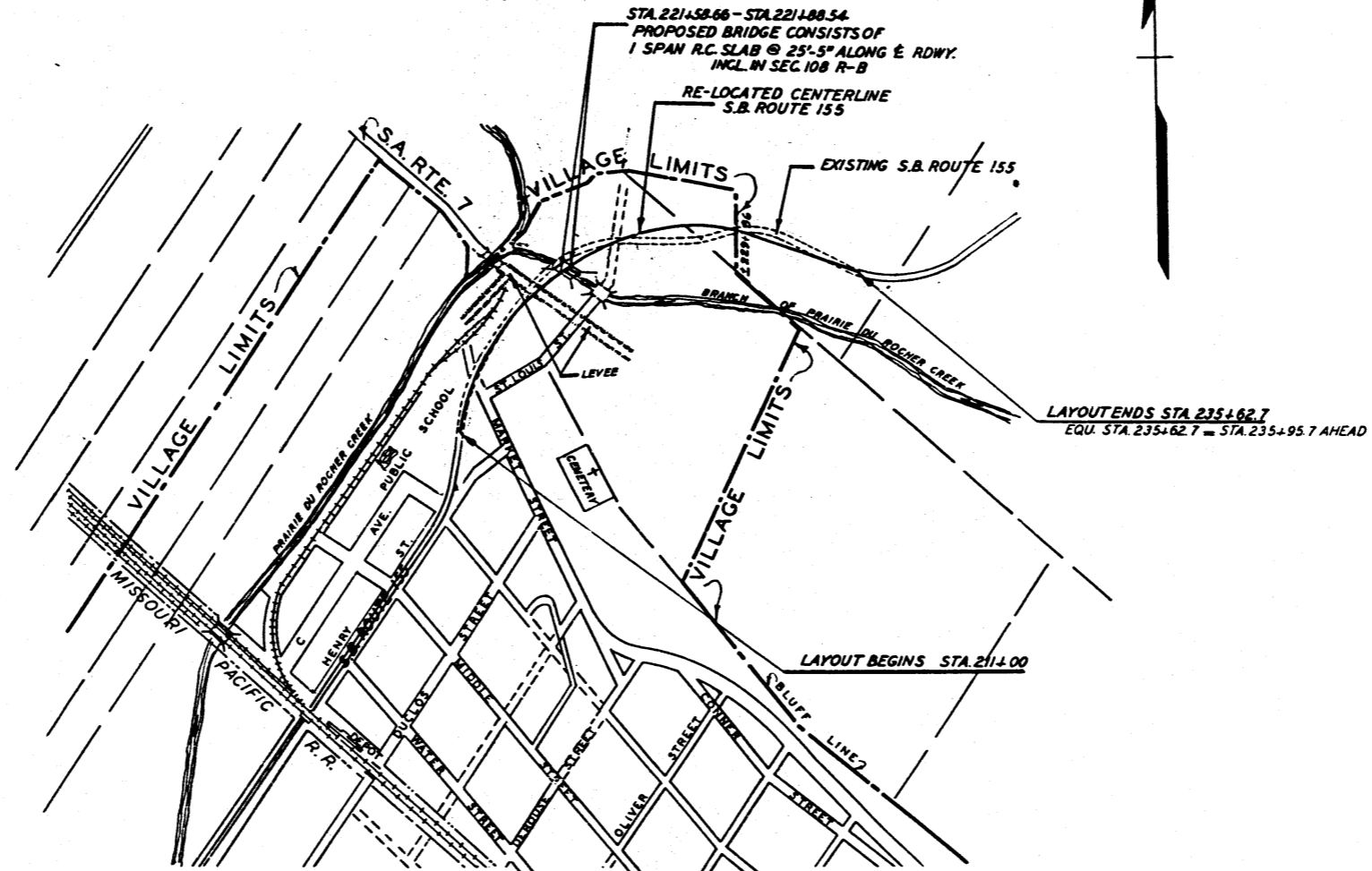
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	-	VARIOUS	16	14
			CONTRACT NO. 76H87	
ILLINOISIFIED AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
STATE BOND ISSUE HIGHWAY

BOND ISSUE ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
155	108 R-1 108 R-B	RANDOLPH	39	1
FED ROAD DIST NO. 7	ILLINOIS	PROJECT		

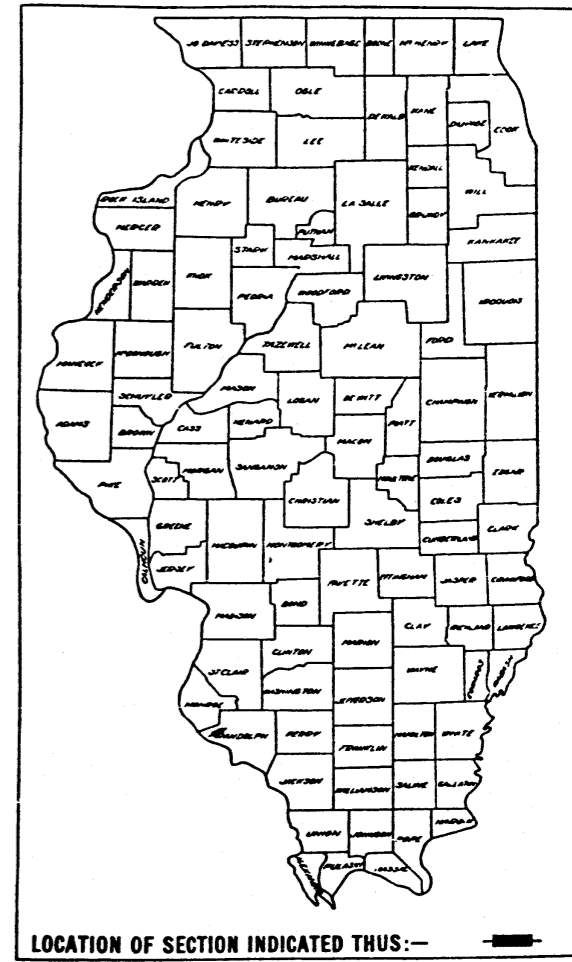
SCALES
 PLAN 1 INCH = 50 FT.
 PROFILE HOR. 1 INCH = 50 FT.
 PROFILE VERT. 1 INCH = 5 FT.
 CROSS-SECTIONS 1 INCH = 8 FT.

S.B.I. ROUTE 155 SEC. 108 R-1, 108 R-B
 RANDOLPH COUNTY



PRAIRIE DU ROCHER
 T. 5S. R. 9W. 3PM.

LAYOUT
 SCALE: 1 INCH = 400 FEET
 NET LENGTH = 2434.1 LIN. FT. = 0.4610 MILE SEC. 108 R-1
 NET LENGTH = 28.8 LIN. FT. = 0.0054 MILE SEC. 108 R-B
 NET LENGTH = 2462.7 LIN. FT. = 0.4564 MILE ENTIRE PROJECT



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

SUBMITTED Dec 24 1956
John D. McLeod
 DISTRICT ENGINEER

EXAMINED January 15 1957
Richard Brown
 ENGINEER OF ROAD PLANS AND CONTRACTS

PASSED January 15 1957
Effie
 CHIEF ENGINEER

APPROVED January 15 1957
W. B. Bartlett
 CHIEF ENGINEER

APPROVED January 15 1957
Ed Roentgen
 DIRECTOR

DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL

DATE

DISTRICT ENGINEER

APPROVED

DATE

DIVISION ENGINEER

079-0032

079-0032

SBI 155

Reel 9-26

221+73.6

RFD 1-10-56
 CES 1-11-56

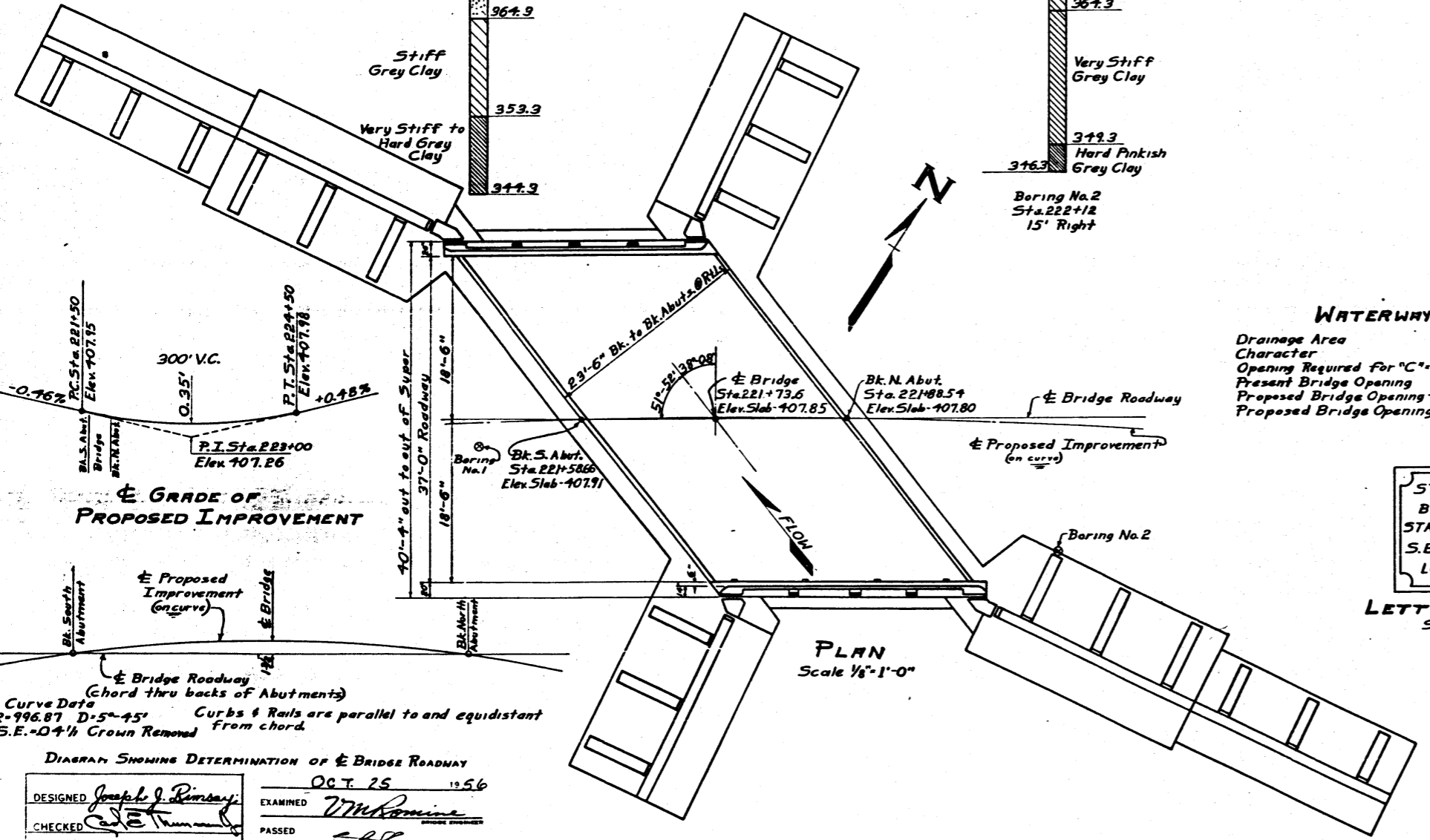
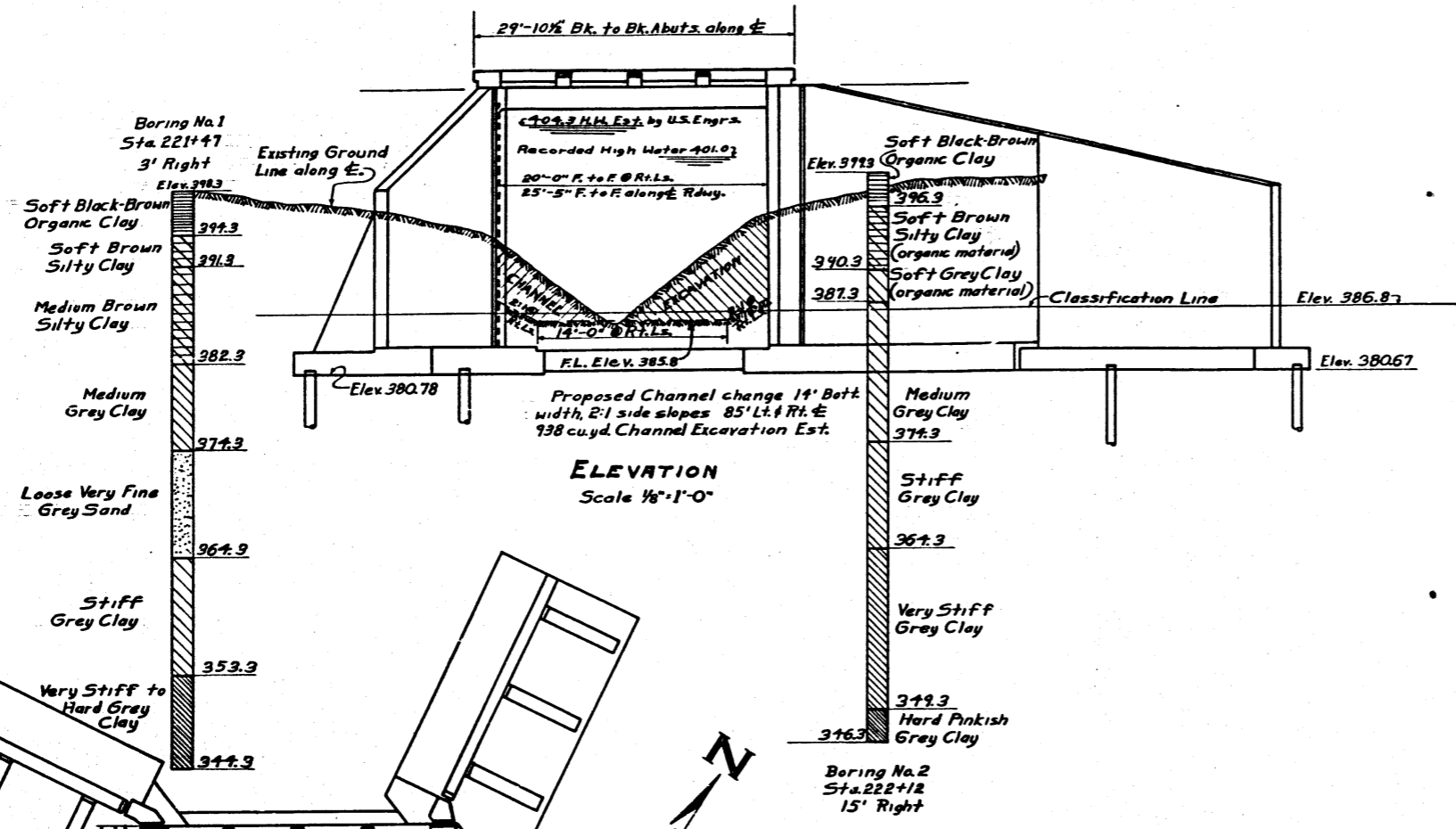
B.M. Cut Top W. Headwall - S.R. Culvert 55' Lt. Sta. 222+57 Elev. 399.70
 EXISTING STRUCTURES: - LT. 12'x10'x48'-10" R.C. Box Culvert.
 Rt. 16' Span Concrete Slab Bridge; To be removed by Bridge Contractor
 as directed by and in sequence determined by the Engineer. No salvage.

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

BOND ISSUE ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	108 R-1 108 R-B	Randolph	39	11
FED. ROAD DIST. NO. 7		MAJOR	FED. AID PROJECT	

GENERAL NOTES

Class X Concrete shall be used thruout except as noted.
 Handrail Concrete shall be used in Posts and Rails.
 Concrete floor slab shall be finished in accordance with Art. 51.18(a) of the Standard Specifications.
 Concrete floor slab shall be poured in one continuous operation on either side of the center joint.
 The falsework shall not be removed from beneath the superstructure on one side of the center joint until the floor slab on the other side of the center joint has been poured.
 The curbs shall be poured monolithically with the slab.
 The Handrail shall not be poured until after the falsework has been removed.
 Refer to Art. 50.10 of the Standard Specifications for placing of backfill.
 Contractor shall drive one test pile in permanent pile location as directed by the engineer before ordering remainder of the piles.
 Boring data are shown on the plans only as a guide to bidders in estimating soil conditions which may be encountered in the work.
 The Bridge Contractor shall excavate the channel, to the lines and grades as shown on the plans, and as directed by the Engineer.
 Back of Abutments and Wingwalls shall be waterproofed.



WATERWAY INFORMATION

Drainage Area 550 Acres
 Character Hilly
 Opening Required for "C"-1.5 (Talbot) 170 Sq. Ft.
 Present Bridge Opening 1205 Sq. Ft.
 Proposed Bridge Opening - Below recorded H.W. 244 Sq. Ft.
 Proposed Bridge Opening - Below U.S. Eng. Est. H.W. 360 Sq. Ft.

STATION 221+73.6
 BUILT 195 BY
 STATE OF ILLINOIS
 S.B.I. RT. 155 SEC. 108 R-B
 LOADING H20-S16

LETTERING FOR NAME PLATE
 See Standard 2113

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Handrail Concrete	CU.Yd.	1.4		1.4
Class X Concrete	CU.Yd.	68.0	587.7	655.7
Reinforcement Bars	Lbs.	13690	52080	65770
Name Plate	Each	1		1
Untreated Piles (30 ft. long)	Lin. Ft.		6570	6570
Test Piles	Each		1	1
Channel Excavation	Cu. Yd.			938
Class A Excavation for Structures	Cu. Yd.			1328
Class B Excavation for Structures	Cu. Yd.			882
Removal of Existing Structures	Each			2

STRESSES
 fs = 20,000 #/sq.
 fc = 1200 #/sq. Super.
 fc = 800 #/sq. Sub.
 n = 10

BRIDGE OVER
 BRANCH OF PRAIRIE DU ROCHER CREEK
 S.B.I. RT. 155 SECTION 108 R-B
 RANDOLPH COUNTY
 STATION 221+73.6

Design Loading: -H20-S16-44

DIAGRAM SHOWING DETERMINATION OF BRIDGE ROADWAY
 OCT. 25 1956

DESIGNED Joseph J. Rimsay	EXAMINED [Signature]
CHECKED [Signature]	PASSED [Signature]
DRAWN J.J. Rimsay C.M. Pulley	APPROVED [Signature]
CHECKED [Signature]	

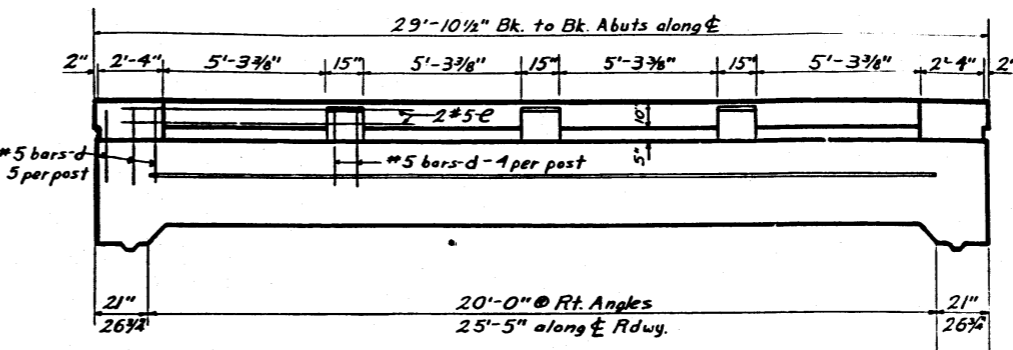
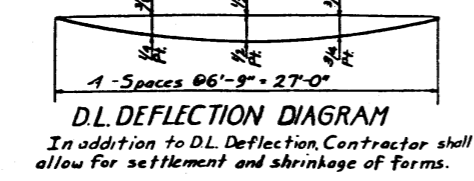
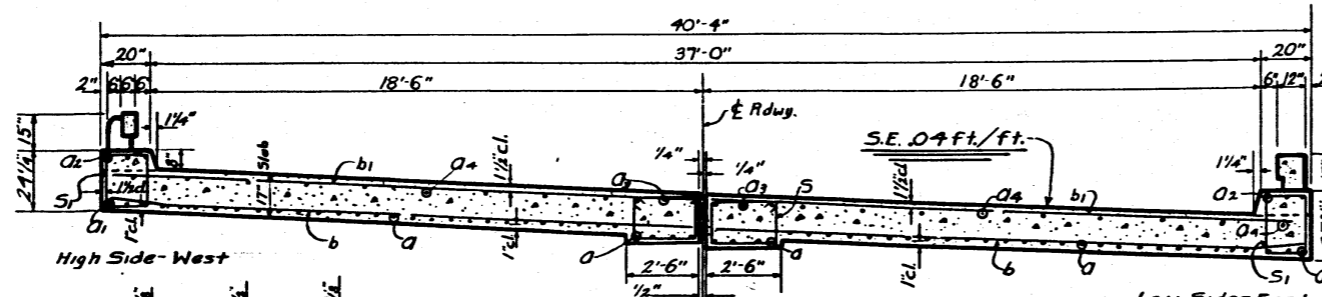
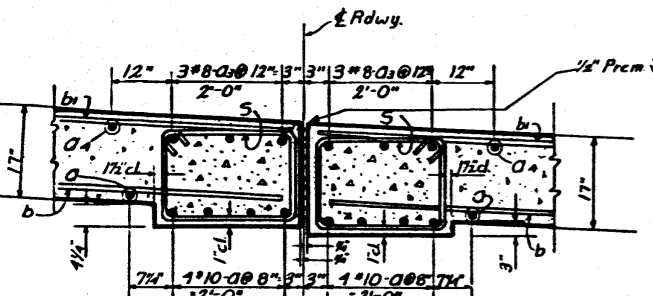
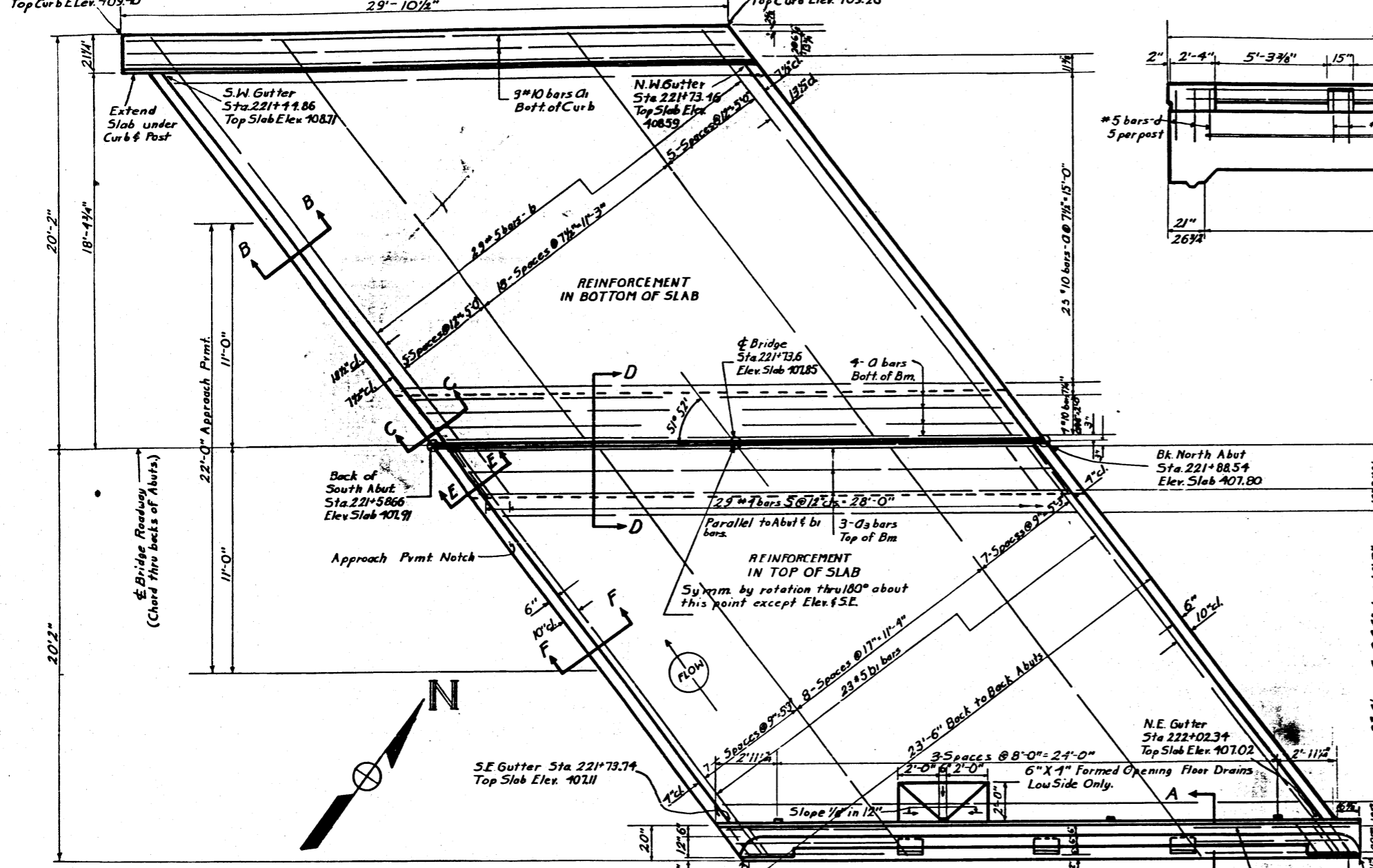
S.W. Corner
Sta 221+42.83
Top Curb Elev. 409.40

N.W. Corner
Sta. 221+72.71
Top Curb Elev. 409.26

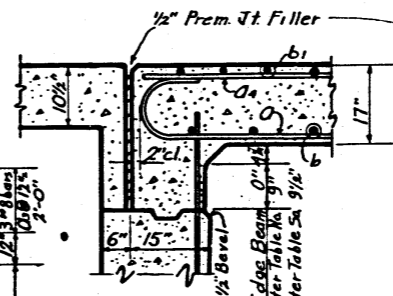
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

For details of Handrail
See Std. 2070-R Type 3-B

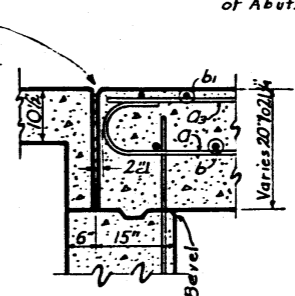
ROAD DISTRICT NO. 1	SECTION	TOTAL SHEETS	SHEET NO.
155	108R-10E-F-B	39	12
ILLINOIS		FED. AID PROJECT	



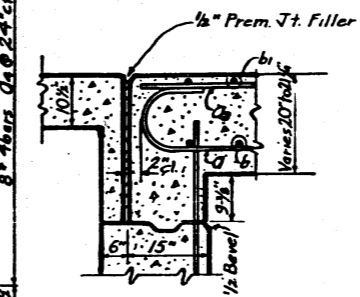
ELEVATION



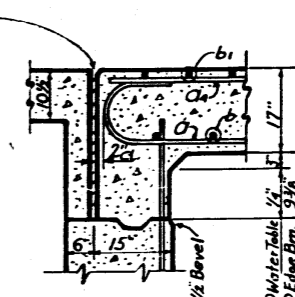
SECTION B-B



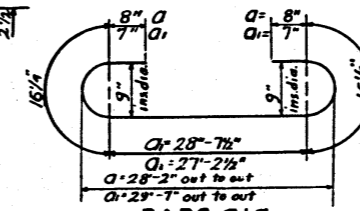
SECTION C-C



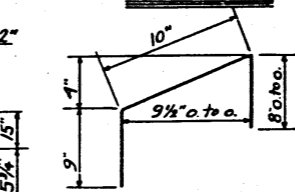
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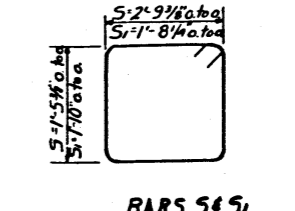
SECTION F-F



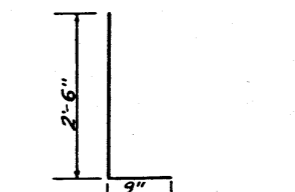
BARS a1 & a2



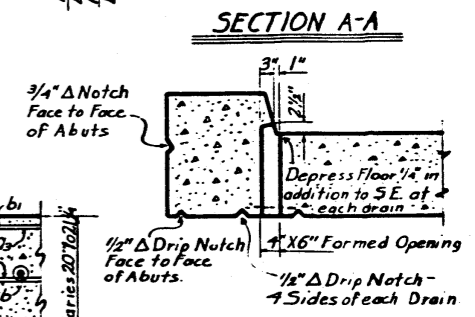
BAR F



BARS S1 & S2



BAR d



SECTION A-A

FLOOR DRAIN DETAIL
LOW SIDE ONLY

BILL OF MATERIAL-SUPER

BAR	NO.	SIZE	LENGTH	SHAPE
a	58	#10	3'-3"	()
a1	6	#10	32'-6"	()
a2	6	#8	29'-6"	()
a3	6	#8	28'-0"	()
a4	18	#4	28'-0"	()
b	58	#5	25'-0"	()
b1	16	#5	25'-0"	()
d	44	#5	3'-3"	()
e	8	#5	27'-9"	()
f	20	#4	2'-3"	()
s	58	#4	9'-3"	()
s1	60	#4	7'-9"	()

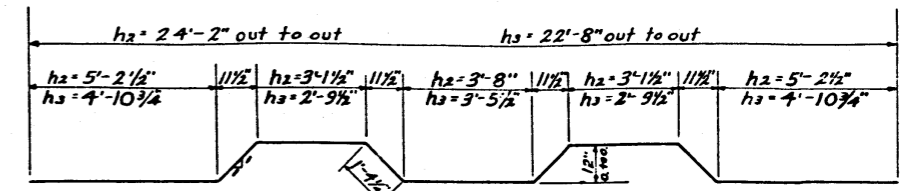
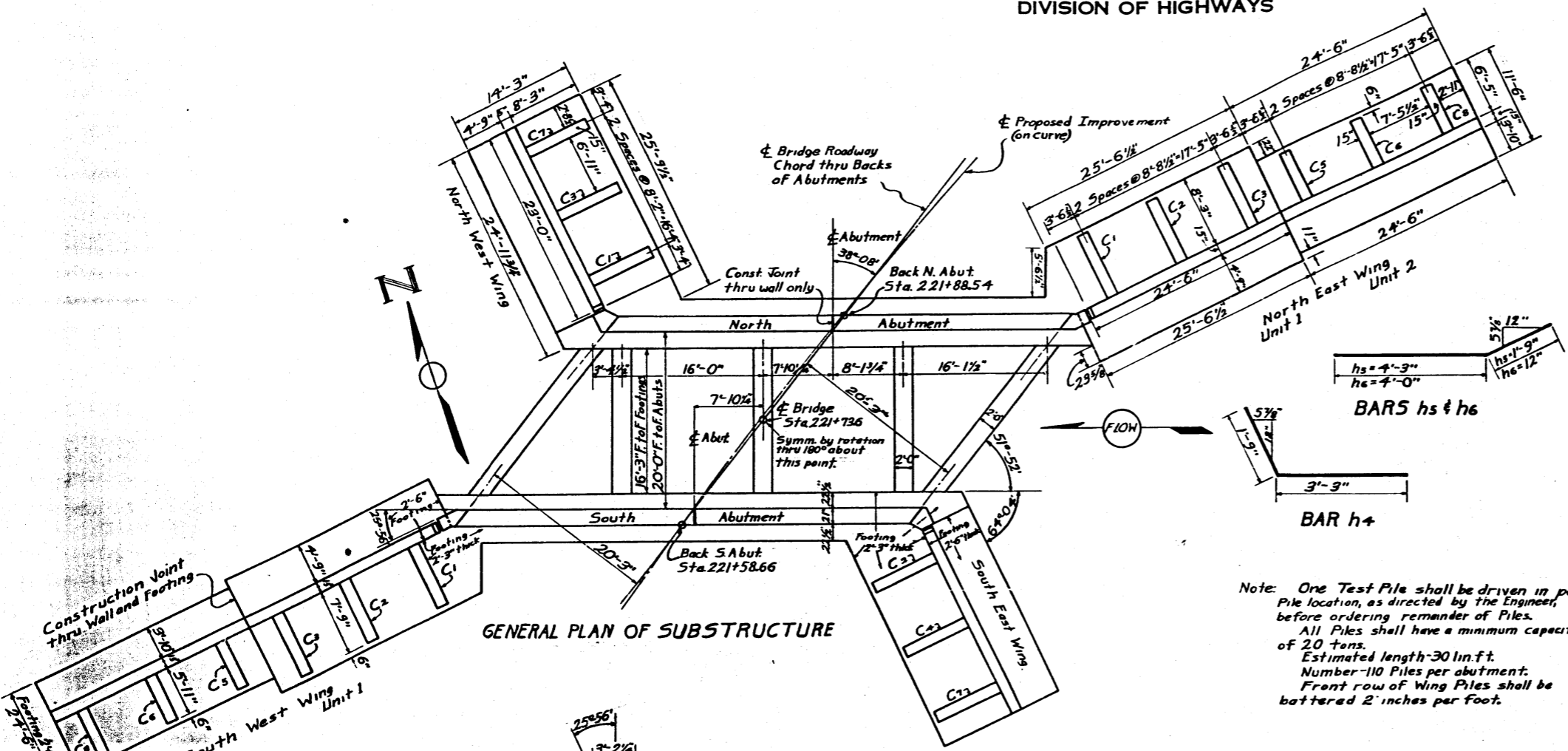
Handrail Concrete	Cu Yds.	1.4
Class X Concrete	Cu Yds.	68.0
* Reinforcement Bars	Lbs.	13,690
Name Plate	Ea.	One

* Note: All bars shall be round ASTM A305-49. The size number is the number of 1/8 inches in the nominal diameter.

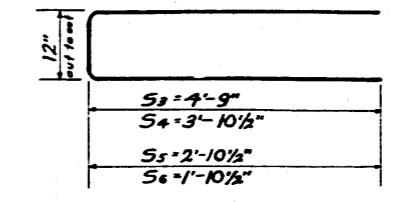
BRIDGE OVER
BRANCH OF PRAIRIE DE ROCHER CREEK
S.B.I. RT 155- SEC. 108R-B
RANDOLPH CO.
STATION 221+73.6

DESIGNED	Joseph J. Pinsky	EXAMINED	W. Rossini
CHECKED	Ernest H. Kroon	PASSED	E. J. Stewart
DRAWN	E. H. Kroon, C. W. Pilly	APPROVED	P. P. Benthley
CHECKED	E. H. Kroon, J. R. C. E. T.		

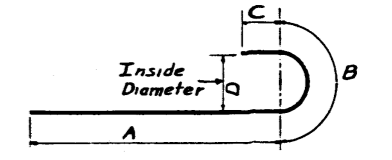
OCT 25 1954



BARS h_2 & h_3

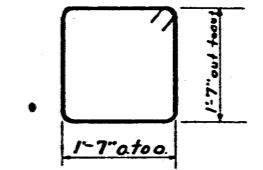


BARS S_3 to S_6 incl.



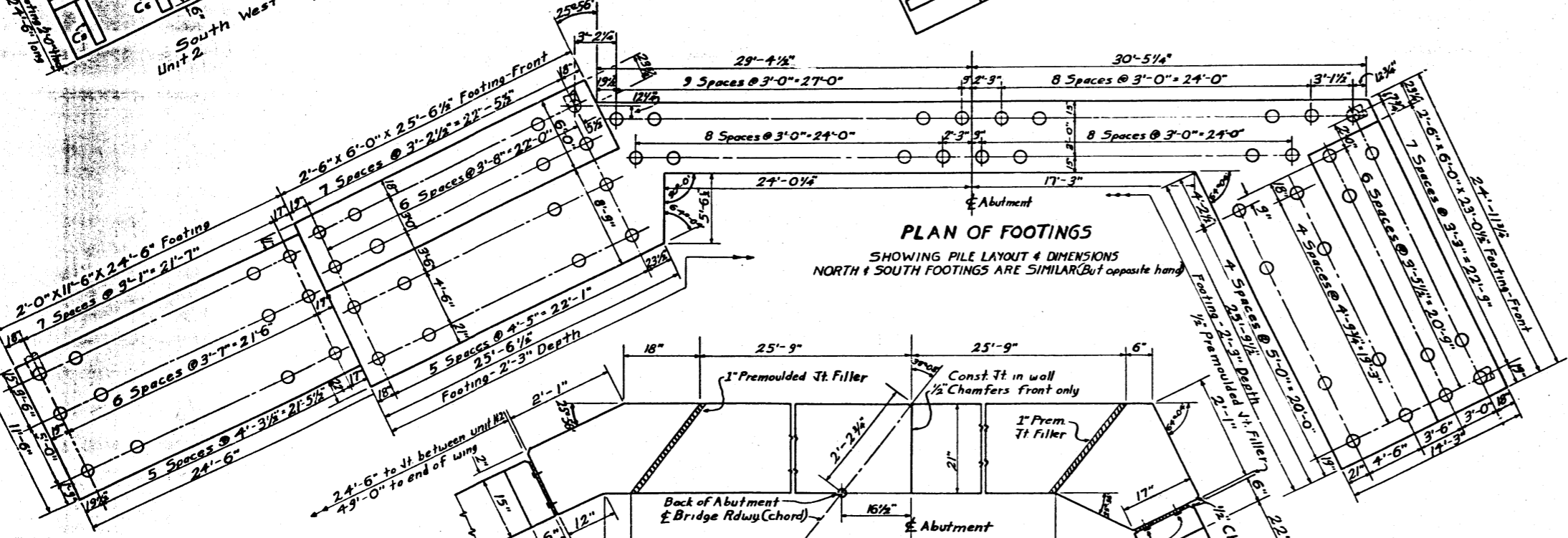
BAR SIZE	A	B	C	D	Total length	
G	#10	4'-0"	16"	8"	9"	6'-0"
G1	#9	7'-0"	14"	7"	8"	8'-9"
N	#9	3'-0"	14"	7"	8"	4'-9"
M	#7	3'-0"	13"	5"	7"	4'-6"
t1	#8	10'-8"	14"	5"	8"	12'-3"

BARS G-G1-N-M & t1



BAR S_2

Note: One Test Pile shall be driven in permanent Pile location, as directed by the Engineer, before ordering remainder of Piles. All Piles shall have a minimum capacity of 20 tons. Estimated length-30 in. ft. Number-10 Piles per abutment. Front row of Wing Piles shall be battered 2' inches per foot.



PLAN OF ABUTMENT WALL & CORNERS SHOWING DIMENSIONS

DESIGNED: Joseph J. Rimsy
CHECKED: C.E. T...
DRAWN: J.J. Rimsy
CHECKED: C.E. T...
OCT. 25 1956
EXAMINED: W.H. Rimsy
PASSED: C.E. T...
APPROVED: D.P. Rimsy

TOTAL BILL OF MATERIAL - SUBSTRUCTURE

BAR	NO.	SIZE	LENGTH	SHAPE	BAR	NO.	SIZE	LENGTH	SHAPE
G	48	#10	6'-0"	U	t	112	#4	5'-3"	U
G1	30	#9	8'-9"	U	t1	200	#8	1'-7"	U
G2	24	#9	9'-0"	U	t2	124	#5	5/8"	U
G3	24	#9	12'-0"	U	t3	124	#5	5/8"	U
G4	8	#7	8'-0"	U	V	63	#9	1'-0"	U
G5	16	#7	11'-6"	U	V1	75	#9	1'-0"	U
G6	12	#7	14'-0"	U	V2	15	#5	5/8"	U
h	178	#4	24'-0"	U	V3	27	#5	5/8"	U
h1	52	#4	22'-6"	U	V4	34	#5	5/8"	U
h2	32	#4	25'-9"	U	V5	32	#5	7/8"	U
h3	18	#4	24'-3"	U	V6	48	#5	5/8"	U
h4	45	#4	5'-0"	U	V7	39	#5	5/8"	U
h5	90	#4	6'-0"	U	V8	39	#5	5/8"	U
h6	45	#4	5'-0"	U	V9	40	#5	5/8"	U
M	142	#5	3'-0"	U	V10	36	#5	5/8"	U
N	96	#9	4'-9"	U	V11	36	#5	5/8"	U
N1	108	#7	4'-6"	U	V12	36	#5	5/8"	U
N2	136	#8	3'-6"	U	V13	14	#5	5/8"	U
P	24	#6	15'-6"	U	W	16	#5	5/8"	U
P1	18	#6	20'-3"	U	W1	24	#5	5/8"	U
P2	40	#6	4'-0"	U	W2	28	#4	1/2"	U
S2	88	#4	7'-0"	U	W3	28	#7	7/8"	U
S3	128	#4	10'-6"	U	W4	72	#7	7/8"	U
S4	160	#4	8'-9"	U	Z	120	#5	5/8"	U
S5	128	#4	6'-9"	U					
S6	104	#4	4'-9"	U					

Class X Concrete	cu yds.	587.7
* Reinforcement Bars	lbs.	52080
Untreated Piles (30'-lb)	lin. ft.	6570
Test Piles	Each	ONE

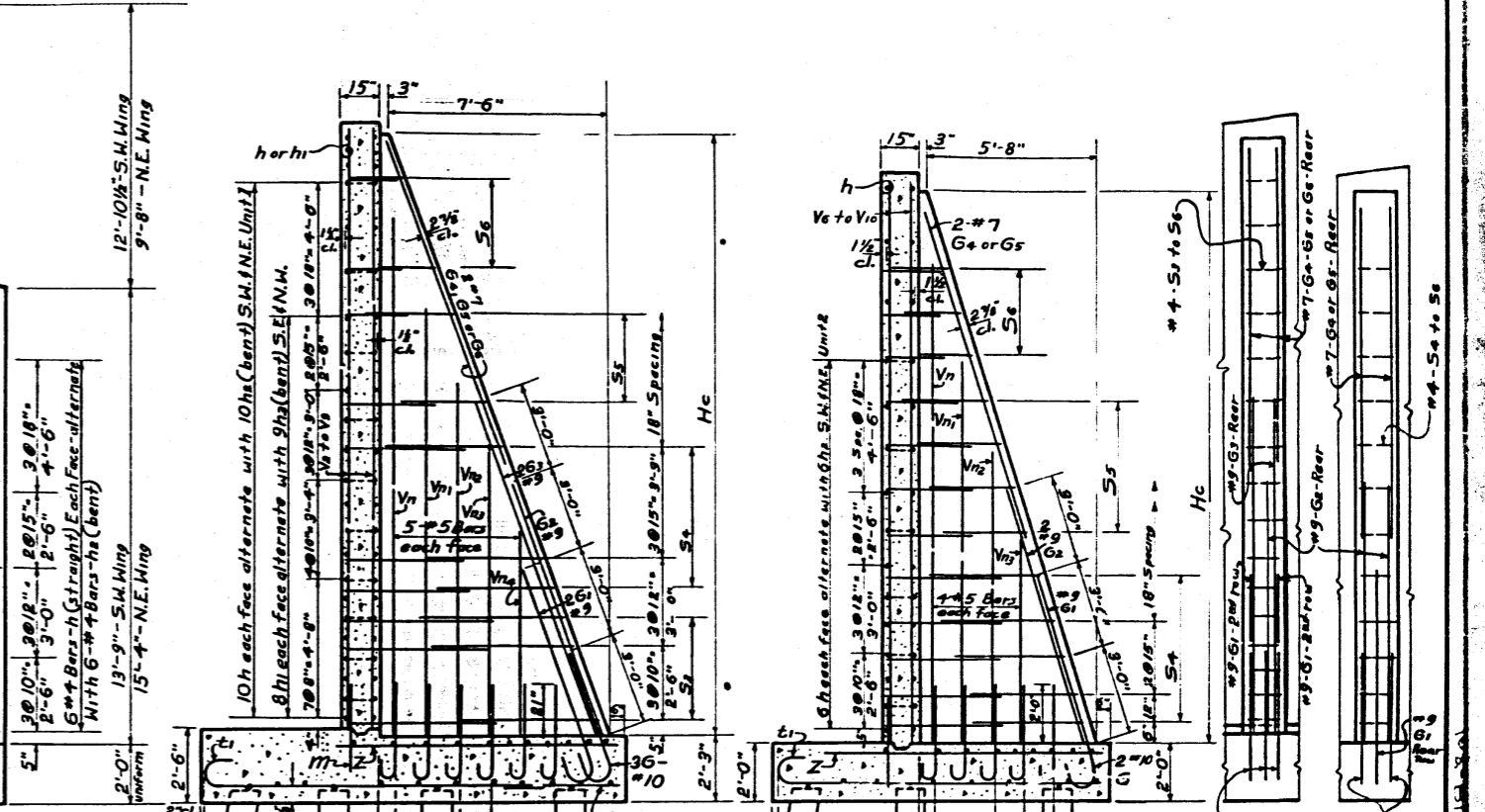
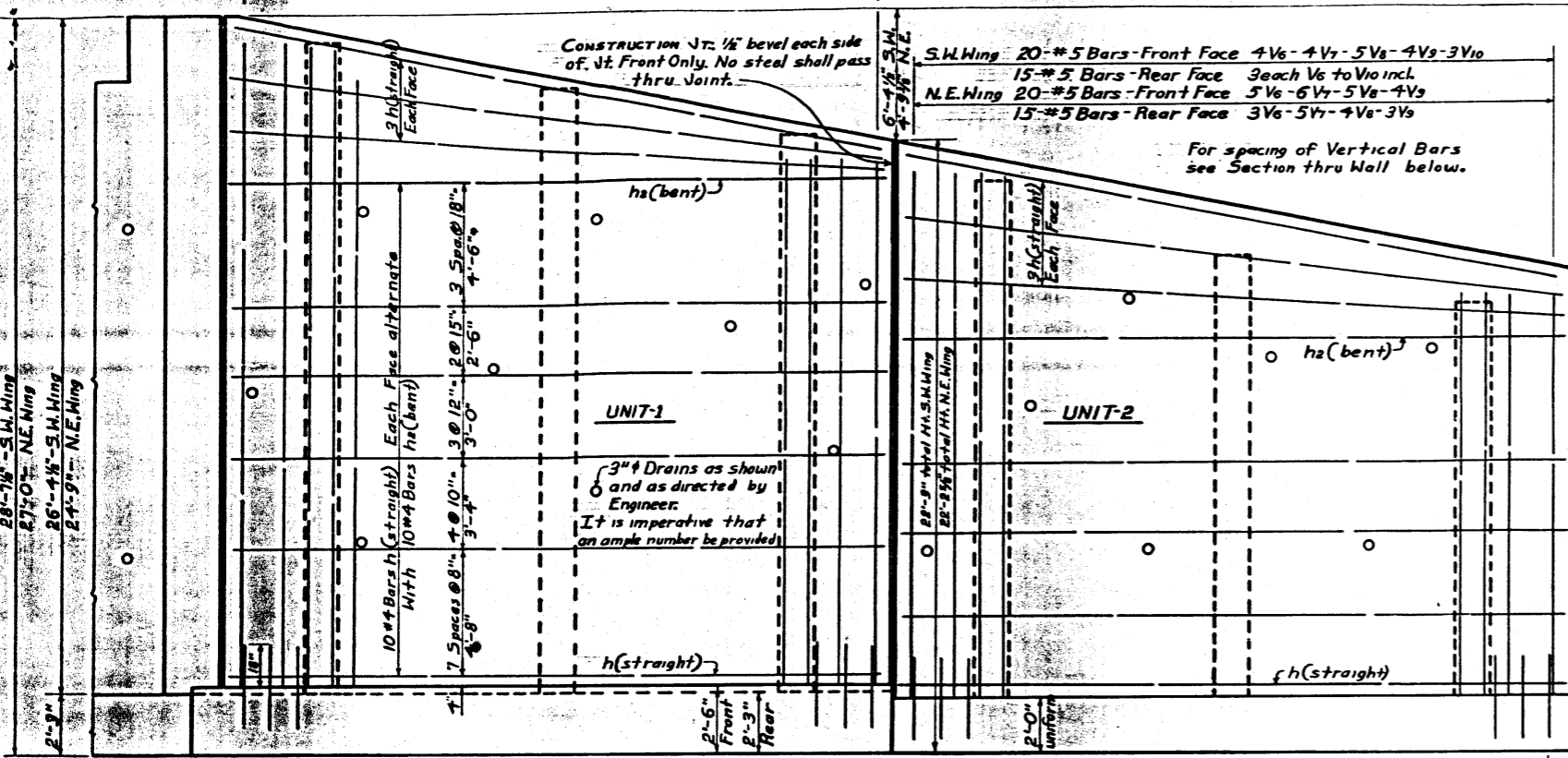
*Note: All bars shall be round ASTM A305-49. The size number is the number of 1/8 inches in the nominal diameter.

BRIDGE OVER
BRANCH OF PRAIRIE DU ROCHER CREEK
S.B.I. RT. 155 SEC. 108 R-B
RANDOLPH CO.
STATION 221+73.6

Note: For heights of Counterforts, number of S₃ to S₆ bars in each, identification of V_n, V_{n1} etc. see table below.

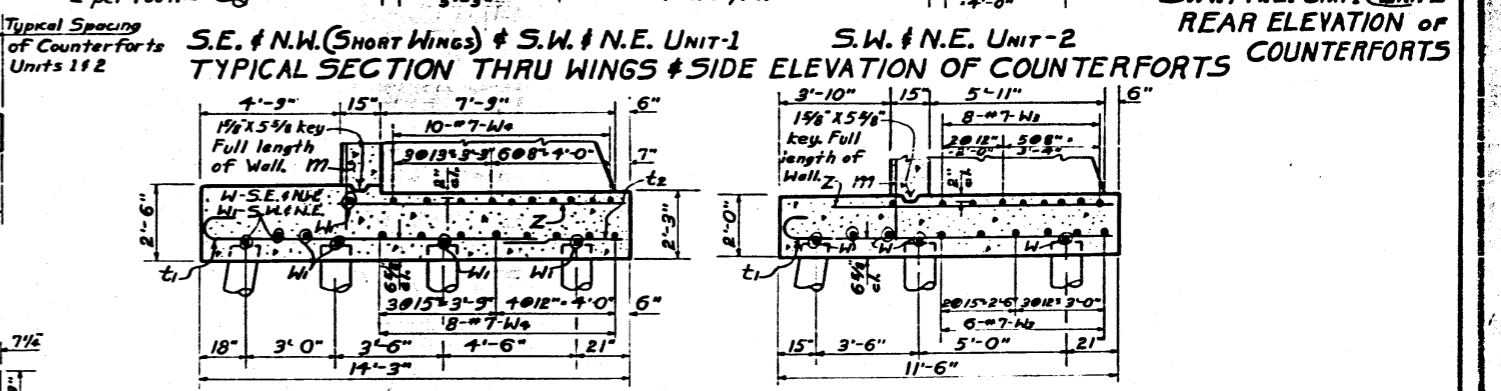
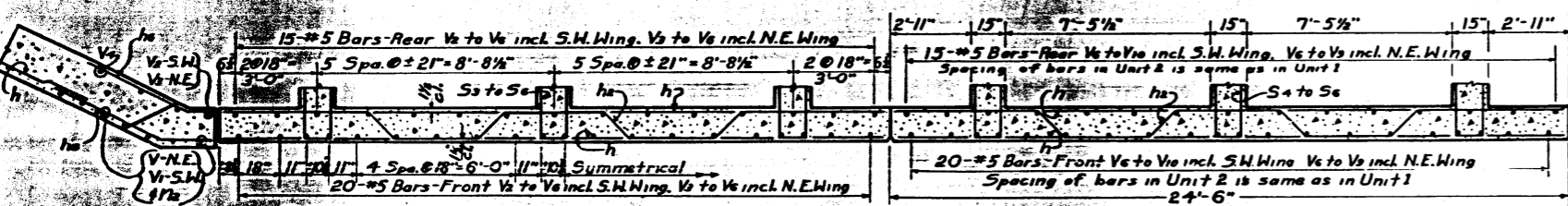
ROAD ISSUE ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	108R-B	Randolph	39	15
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

S.W. Wing 20-#5 Bars-Front Face 4V₆-4V₇-5V₈-4V₉ & 3V₆
15-#5 Bars-Rear Face 3each V₆ to V₆ incl.
N.E. Wing 20-#5 Bars-Front Face 4V₃-5V₄-6V₅ & 4V₃
15-#5 Bars-Rear Face 3V₆ & 4each V₆ to V₆ incl.

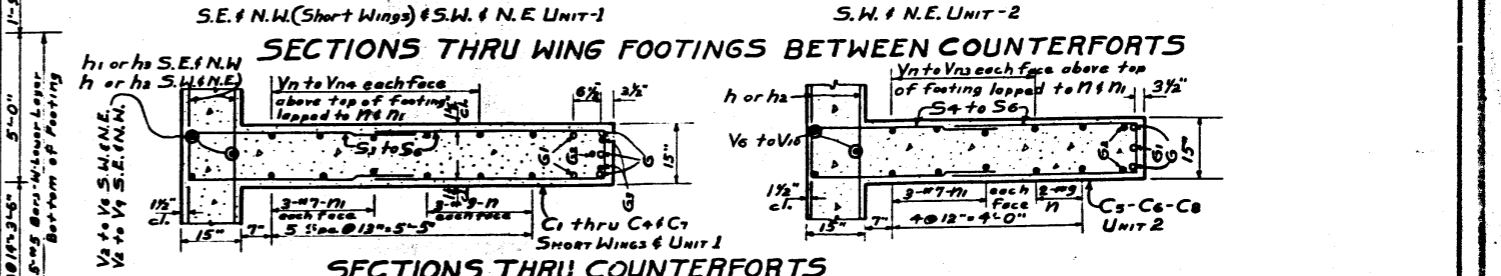


ELEVATION S.W. & N.E. WINGS
Showing Reinforcement Bars in Wing Walls

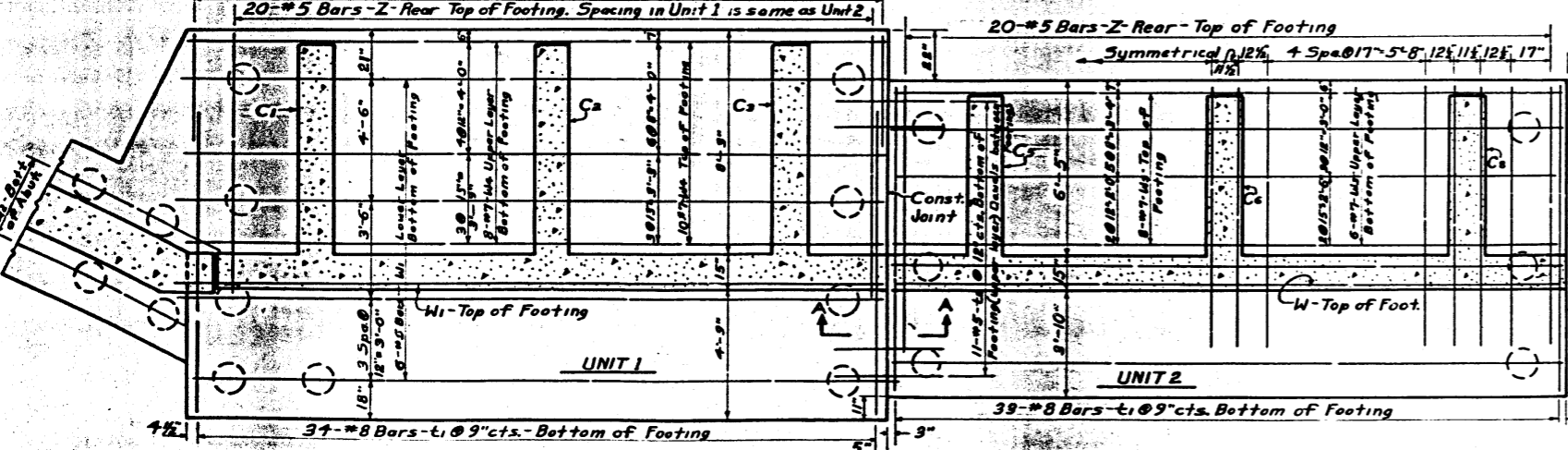
SE & NW (SHORT WINGS) & SW & NE UNIT-1
TYPICAL SECTION THRU WINGS & SIDE ELEVATION OF COUNTERFORTS
S.W. & N.E. UNIT-2
REAR ELEVATION OF COUNTERFORTS



SECTION THRU VERTICAL STEM-S.W. & N.E. WINGS
Showing Reinforcement Bars in Walls

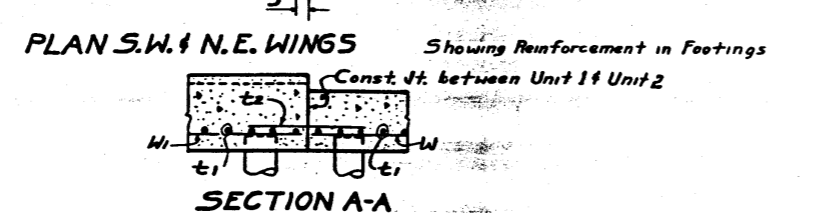


SECTIONS THRU WING FOOTINGS BETWEEN COUNTERFORTS
SECTIONS THRU COUNTERFORTS



C'fort Number	Height to Top of Footing	Depth of C'fort to top of Footing	Total Number Bars in each C'fort												2 each per C'fort Identification of					
			G ₁	G ₂	G ₃	G ₄	G ₅	G ₆	S ₃	S ₄	S ₅	S ₆	V ₆	V ₇	V ₈	V ₉	V ₁₀	V ₁₁	V ₁₂	
C ₁	23'-9"	7'-9"	3	2	1	2			2	12	10	8	6	V ₆	V ₇	V ₈	V ₉	V ₁₀	V ₁₁	V ₁₂
C ₂	22'-0"	7'-9"	3	2	1	2			2	12	8	8	6	V ₆	V ₇	V ₈	V ₉	V ₁₀	V ₁₁	V ₁₂
C ₃	20'-3"	7'-9"	3	2	1	2	2			10	10	6	6	V ₆	V ₇	V ₈	V ₉	V ₁₀	V ₁₁	V ₁₂
C ₄	18'-9"	7'-9"	3	2	1	2	2			10	8	6	6	V ₆	V ₇	V ₈	V ₉	V ₁₀	V ₁₁	V ₁₂
C ₅	18'-9"	5'-11"	2	1	2		2			10	8	6	6	V ₆	V ₇	V ₈	V ₉	V ₁₀	V ₁₁	V ₁₂
C ₆	16'-0"	5'-11"	2	1	2		2			8	8	6	4	V ₆	V ₇	V ₈	V ₉	V ₁₀	V ₁₁	V ₁₂
C ₇	16'-0"	7'-9"	3	2	1	2	2			8	6	4	4	V ₆	V ₇	V ₈	V ₉	V ₁₀	V ₁₁	V ₁₂
C ₈	14'-3"	5'-11"	2	1	2		2			8	6	6	6	V ₆	V ₇	V ₈	V ₉	V ₁₀	V ₁₁	V ₁₂

DESIGNED Joseph J. Rimsay
CHECKED E. P. Benthoney
DRAWN J. J. Rimsay
OCT. 25 1956
EXAMINED M. P. Rimsay
PASSED E. P. Benthoney
APPROVED E. P. Benthoney



BRIDGE OVER
BRANCH OF PRAIRIE DUROCHER CREEK
S.B.I. Rt. 155 SECTION 108R-B
RANDOLPH COUNTY
STATION 221+73.6