INDEX OF SHEETS

1	TITLE PAGE AND SUMMARY OF QUANTITIES						
2	SPECIAL BRIDGE DESIGN	STA.	46+50	SHEET NO.	1	OF	2
3	"	"	"	"	"	"	2
4	"	"	"	"	"	"	3
5	"	"	83+48	"	"	"	1
6	"	"	"	"	"	"	2
7	"	"	"	"	"	"	3
8	"	"	"	"	"	"	4
9	"	"	"	"	"	"	5
10	"	"	"	"	"	"	6
11	"	"	102+91.9	"	"	"	1
12	"	"	"	"	"	"	2
13	"	"	"	"	"	"	3
14	"	"	"	"	"	"	4
15	"	"	"	"	"	"	5
16	STANDARD 803						

ROUTE 42, SECTION 112, COOK COUNTY

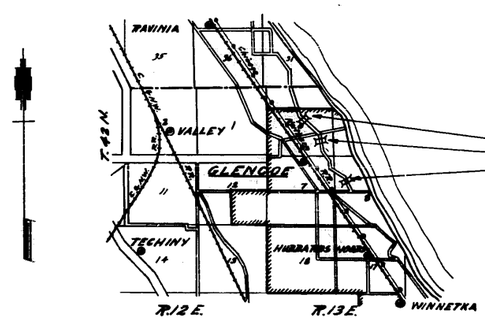
A BRIDGE KNOWN AS "HAWTHORNE BRIDGE," 1 R.C. GIRDER WITH ALL STONE FACING SPAN 1 @ 50 FT. A POINT IN GLENCOE ON SHERIDAN ROAD NEAR THE CENTER OF SW¼ OF NW¼ SEC. 8, T42 N, R13E, OF 3RD PM.
" " " "NEWHALL BRIDGE," 1 " " " " " " 3 @ 40 FT. " " " " " " " " OF THE SE¼ SEC. 6, T42 N, R13E, OF 3RD PM.
" " " "STONE BRIDGE" 1 " " " " " " 3 @ 60 FT. " " " " " " " " SW. COR. OF NE¼ SEC. 6, T42 N, R13E, OF 3RD PM.

SUMMARY OF QUANTITIES

892E3	C.Y.	CLASS A CONCRETE
380 790	LBS.	REINFORCING STEEL
3080	LBS.	STRUCTURAL STEEL (EXPANSION)
771.2	C.Y.	BUFF BEDFORD STONE MASONRY
16		SWITCH & PULL BOXES
3		NAME PLATES
1050	LIN. FEET	1" PIPE CONDUIT
150	LIN. FEET	6" FIELD TILE

SUMMARY OF CONCRETE

			CLASS A. CONC.	
/ SPECIAL BRIDGE DESIGN	STA.	46+50	612.9	CU.YDS. /
/ " " "	"	83+48	887.0	" " /
/ " " "	"	102+91.9	1422.4	" " /
		TOTAL	29223	" " /



SECTION 112 INCLUDES
1 R.C. DECK GIRDER BRIDGE WITH STONE ARCH FACING SPANS 3@40' STA 102+91.9
/ " " " " " " " " " 3@40' " 83+48
/ " " " " " " " " " 1@50' " 46+50

LAYOUT
SCALE 1 INCH = 1 MILE.

42 COOK 112 16 1

S.H. I.B.2

F.A.P. 102 Sec. 811-2

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
SUBMITTED: April 13 1929
G.N. Lamb
EXAMINED: May 9 1929
PASSED: May 13 1929
APPROVED: May 13 1929
SUPERSEDED: [illegible]
APPROVED: [illegible]

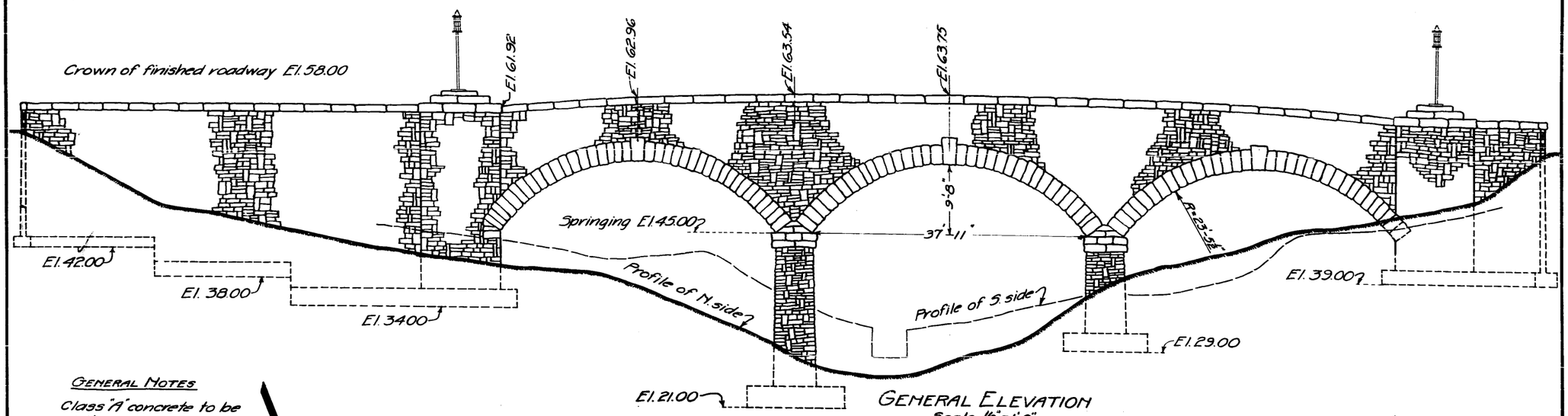
COOK 112 42

B.M. - East bolt on hydrant Sheridan and Beach Road. El. 82.38.

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

BOND ISSUE ROUTE NO.	COUNTY	SEC.	TOTAL SHEETS	SHEET NO.
42	Cook	112	16	5

SHEET NO. 1 OF 6 SHEETS



GENERAL ELEVATION
Scale 1/8" = 1'-0"

GENERAL NOTES

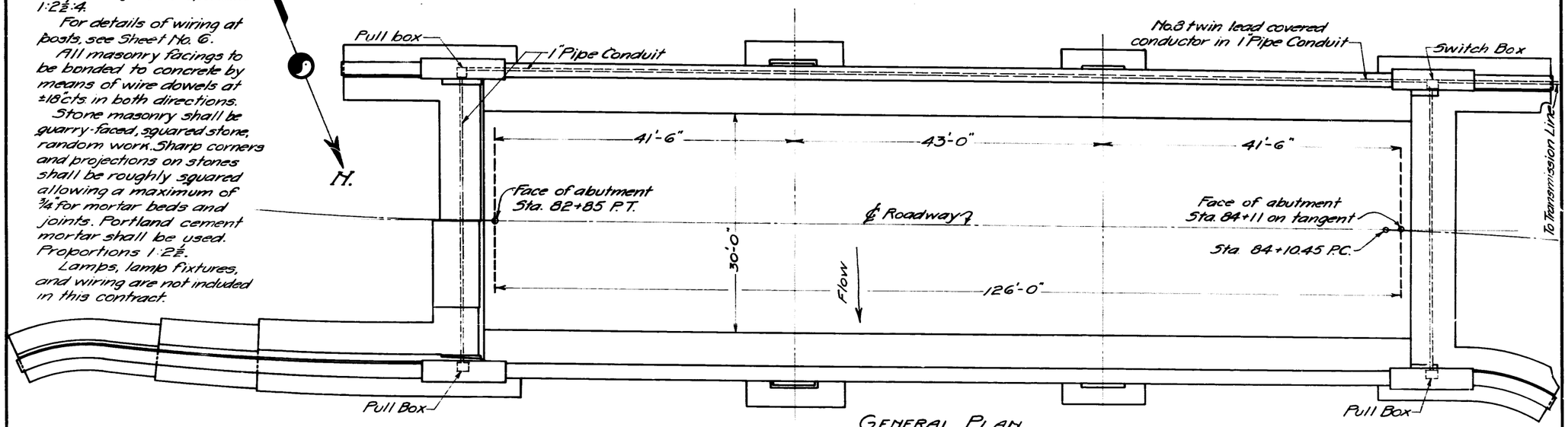
Class "A" concrete to be used throughout. Proportions 1:2½:4.

For details of wiring at posts, see Sheet No. 6.

All masonry facings to be bonded to concrete by means of wire dowels at ±18" cts. in both directions.

Stone masonry shall be quarry-faced, squared stone, random work. Sharp corners and projections on stones shall be roughly squared allowing a maximum of ¾" for mortar beds and joints. Portland cement mortar shall be used. Proportions 1:2½.

Lamps, lamp fixtures, and wiring are not included in this contract.



GENERAL PLAN

TOTAL BILL OF MATERIAL

Superstructure		Totals	
Concrete - Class "A" - cu. yds.	298.9	Concrete - Class A - cu. yds.	887.0
Reinforcing Steel - lbs.	69180	Reinforcing Steel - lbs.	110,710
Rockers and Plates - lbs.	2950	Rockers and Plates - lbs.	2950
Expansion Devices - lbs.	1540	Expansion Devices - lbs.	1540
Abutments		Stone Masonry - cu. yds.	264
Concrete Class A - cu. yds.	337.3	1" Pipe Conduit - lin. ft.	280
Reinforcing Steel - lbs.	19490	Pull Boxes.	3
Piers		Switch Box	1
Concrete Class A - cu. yds.	2506		
Reinforcing Steel - lbs.	22040		

STANDARD	COMPUTED	H. V. Leitch
	CHECKED	C. C. Wood
	DRAWN	H. V. L.
	CHECKED	C. C. W.
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED March 13, 1923
A. T. Burrows
BRIDGE ENGINEER

PASSED
ENGINEER OF DESIGN

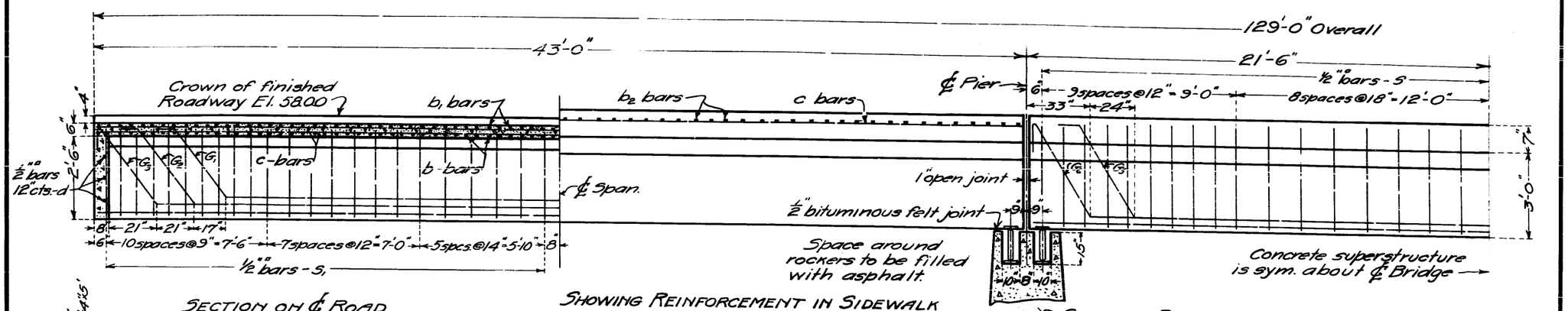
APPROVED
CHIEF HIGHWAY ENGINEER

NEWHALL BRIDGE
STATION 83+48
STATE BOND ISSUE ROUTE-42
SECTION-112 COOK CO.

BOND ISSUE ROUTE NO.	COUNTY	SEC.	TOTAL SHEETS	SHEET NO.
42	COOK	112	16	6

Sheet No. 2
6 Sheets

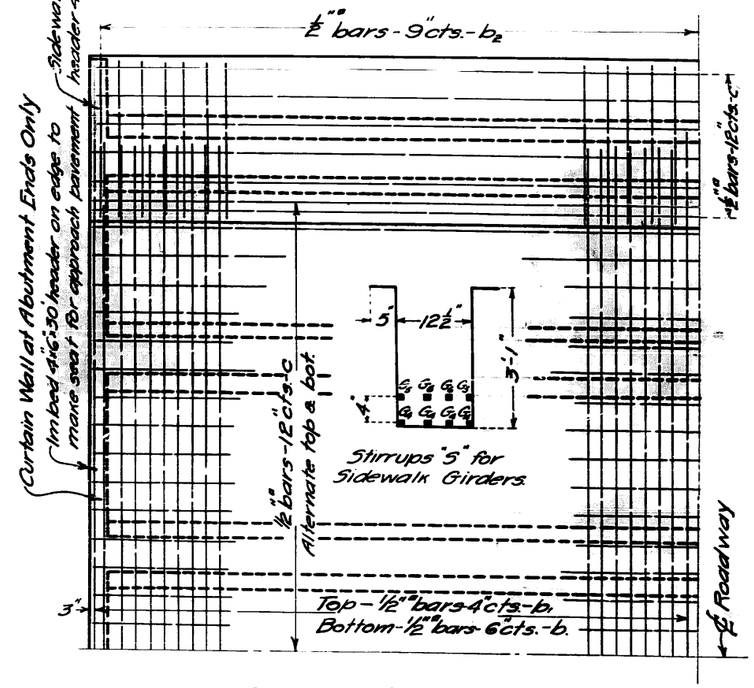
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



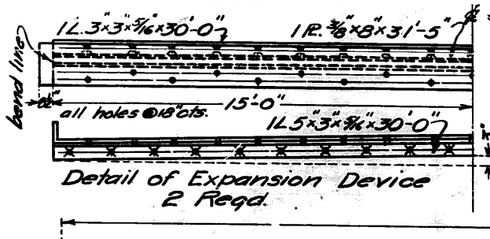
SECTION ON ℄ ROAD

SHOWING REINFORCEMENT IN SIDEWALK

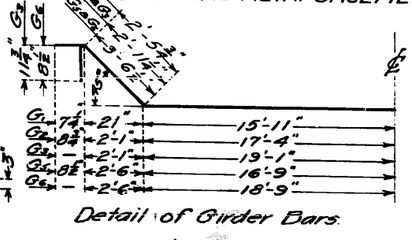
HALF ELEVATION.



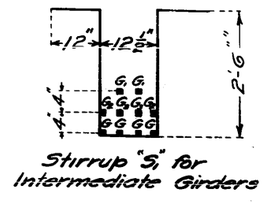
QUARTER PLAN OF ONE SPAN



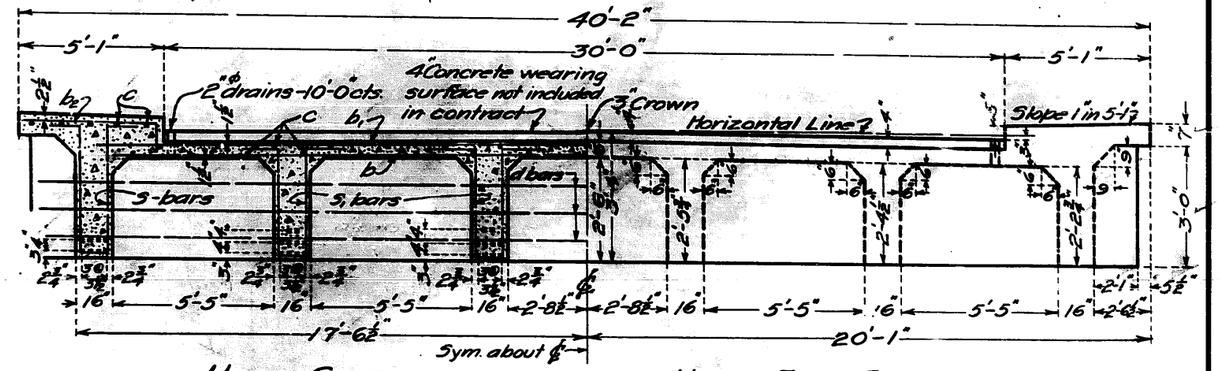
Detail of Expansion Device
2 Reqd.



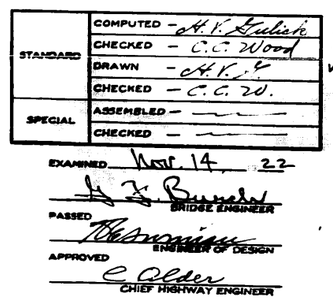
Detail of Girder Bars.

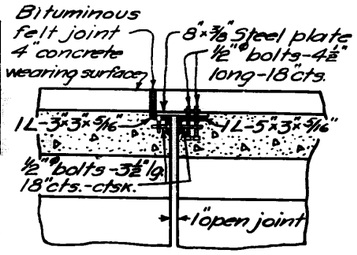


Stirrup "S" for Intermediate Girders

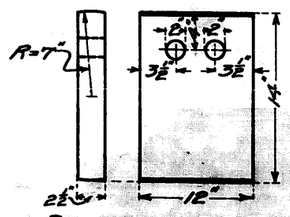


HALF SECTION HALF END ELEVATION.





DETAIL OF EXPANSION JOINT AT PIER



DETAIL OF C. I. ROCKERS
18 Reqd.

STEEL ROCKER PLATES.
8"x12"x1" for all rockers - 36 Reqd.
Surface adjacent to rockers to be planed smooth.

BILL OF MATERIAL
3 SPANS

Bars	No.	Size	Length
d	6	½" ϕ	38'-6"
b	258	½" ϕ	35'-0"
b_2	387	½" ϕ	34'-6"
b_{2a}	342	½" ϕ	6'-0"
c	258	½" ϕ	22'-0"
3	210	½" ϕ	8'-0"
5,	552	½" ϕ	8'-0"
G	48	1¼" ϕ	42'-6"
G_1	24	1⅛" ϕ	38'-0"
G_2	24	1⅛" ϕ	42'-0"
G_3	24	1⅛" ϕ	46'-0"
G_4	24	1⅛" ϕ	42'-6"
G_5	12	1⅛" ϕ	42'-0"
G_6	12	1⅛" ϕ	46'-0"
18 C.I. Rockers - lbs.			1970
36 Plates - lbs.			980
Exp. Devices - lbs.			1540
Concrete cu. yds.			2192
Steel		lbs.	63320

NOTES

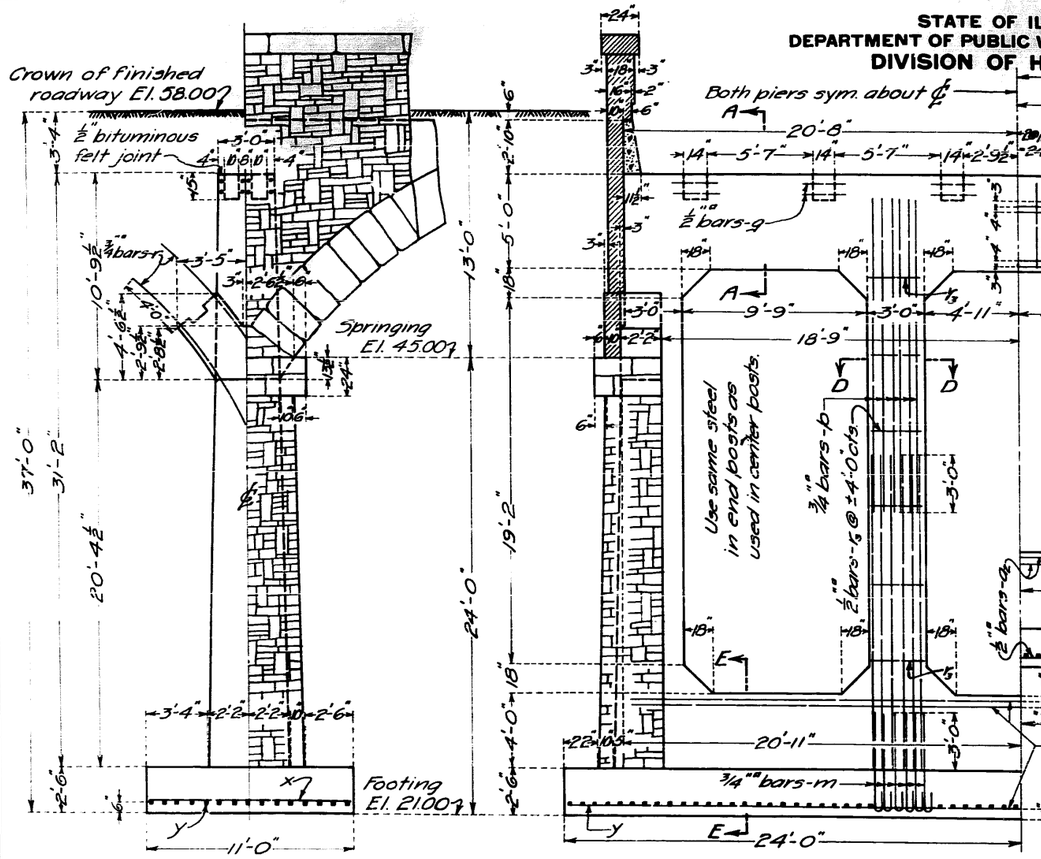
Class "A" concrete to be used throughout, Proportions 1:2½:4.
No camber in concrete bridge.

NEWHALL BRIDGE
STATION 83+48
STATE BOND ISSUE - ROUTE 42
SECTION - 112 COOK COUNTY.

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

BOND ISSUE ROUTE NO.	COUNTY	SEC.	TOTAL SHEETS	SHEET NO.
42	COOK	112	16	7

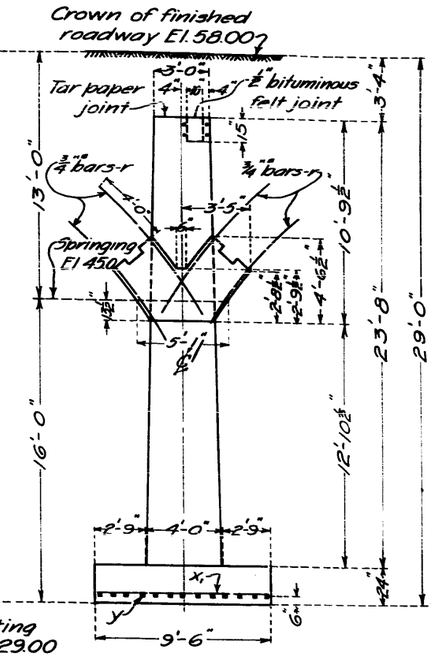
SHEET NO. 3 OF 16 SHEETS



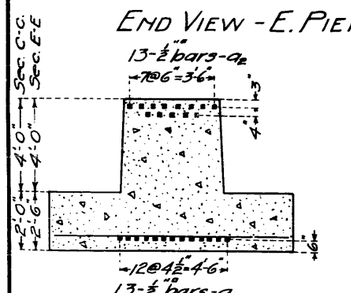
END VIEW - E. PIER

HALF ELEVATION - E. PIER

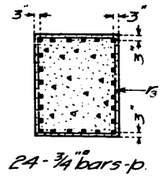
HALF ELEVATION - W. PIER



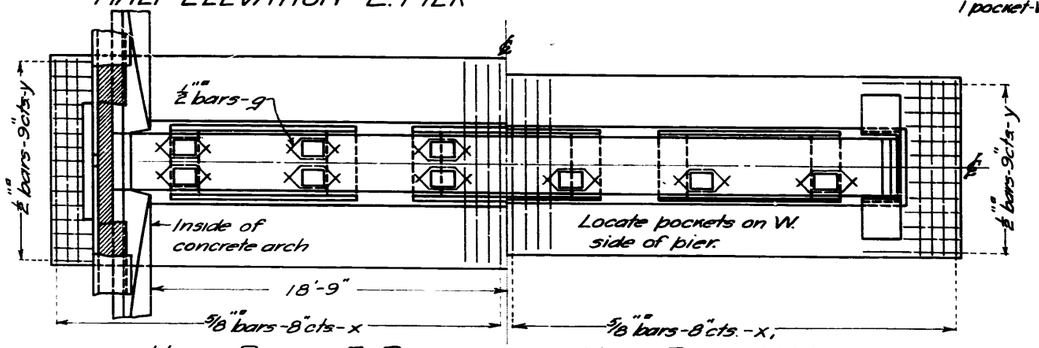
END VIEW - W. PIER



SECTIONS CC & E-E

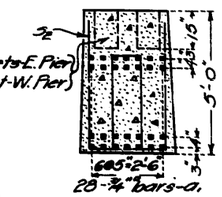


SECTION D-D

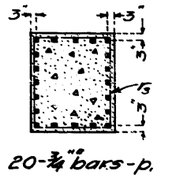


HALF PLAN - E. PIER

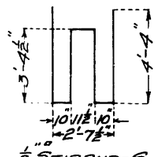
HALF PLAN - W. PIER



SECTION A-A



SECTION B-B



NOTES

Class "A" concrete to be used throughout Proportions 1:2½:4.
Cross hatching shows masonry in section.

BILL OF MATERIAL EAST PIER

Bars	No.	Size	Length
a1	28	¾" sq	40'-0"
a2	26	½" sq	40'-0"
d	8	½" sq	4'-6"
b	192	¾" sq	16'-6"
m	96	¾" sq	6'-0"
l3	24	½" sq	13'-6"
S2	39	½" sq	18'-0"
g	48	½" sq	4'-0"
x	72	⅝" sq	10'-6"
y	30	½" sq	3'-0"
Concrete - cu yds			1410
Steel - lbs			12,400

BILL OF MATERIAL WEST PIER

Bars	No.	Size	Length
a1	28	¾" sq	40'-0"
a2	26	½" sq	40'-0"
d	8	½" sq	4'-6"
b1	160	¾" sq	12'-6"
m1	80	¾" sq	6'-0"
l3	16	½" sq	13'-6"
S2	39	½" sq	18'-0"
g	24	½" sq	4'-0"
x1	72	⅝" sq	9'-0"
y	26	½" sq	3'-0"
Concrete - cu yds			1096
Steel - lbs			9640

STANDARD	COMPUTED	A. V. Zaklik
	CHECKED	C. C. Wood
	DRAWN	A.V.Z.
	CHECKED	C.C.W.
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED March 13, 1923
A. T. Bruce
BRIDGE ENGINEER

PASSED
ENGINEER OF DESIGN

APPROVED
CHIEF HIGHWAY ENGINEER

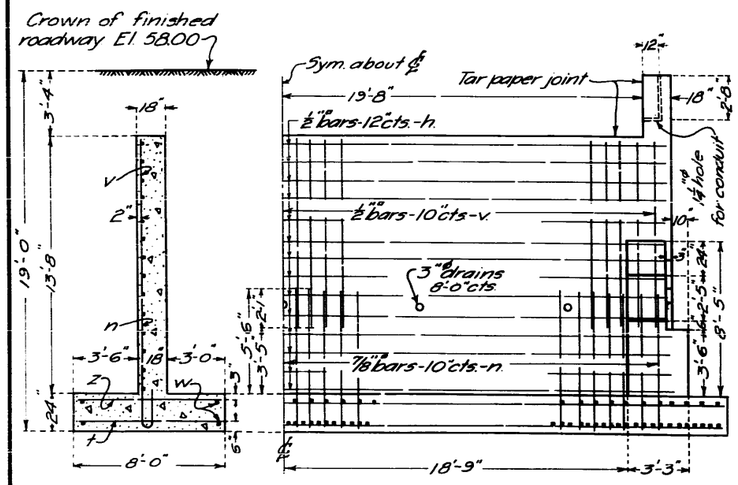
NEWHALL BRIDGE
STATION 83+48
STATE BOND ISSUE ROUTE-42
SECTION-112 COOK CO.

DETAILS OF PIERS

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

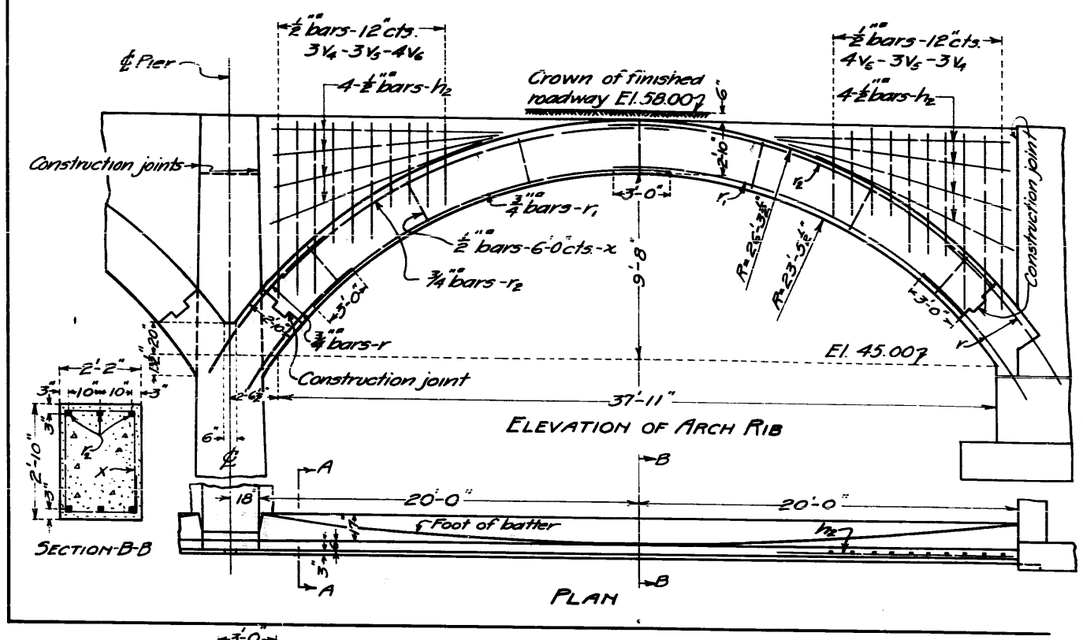
BOND ISSUE ROUTE NO.	COUNTY	SEC.	TOTAL SHEETS	SHEET NO.
42	COOK	112	16	8

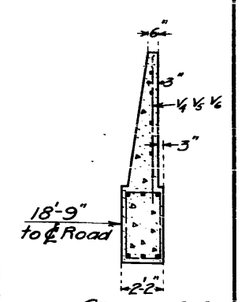
SHEET NO. 4
6 SHEETS



SECTION C-C

ELEVATION OF MAINWALL





SECTION A-A

BILL OF MATERIAL - 6 ARCHES

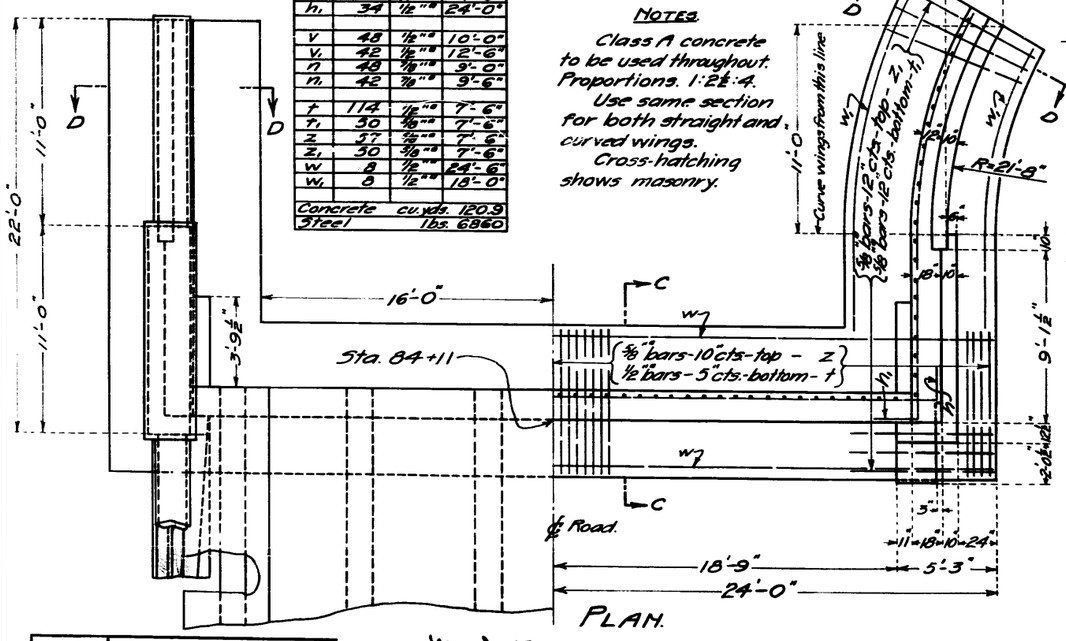
Bars	No.	Size	Length
¼	36	½" sq	9'-0"
½	36	½" sq	6'-6"
⅛	48	½" sq	4'-6"
h₂	48	½" sq	12'-6"
r	72	¾" sq	9'-6"
r₁	36	¾" sq	21'-6"
r₂	36	¾" sq	23'-0"
X	42	½" sq	9'-0"
Concrete cu.yds. 737			
Steel lbs. 3860			

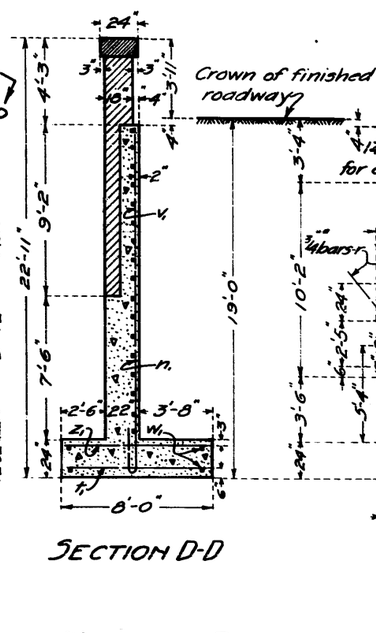
Class A concrete to be used throughout. Proportions 1:2½:4.
For details of masonry on concrete arch see Sh. 5.

BILL OF MATERIAL
W. ABUTMENT

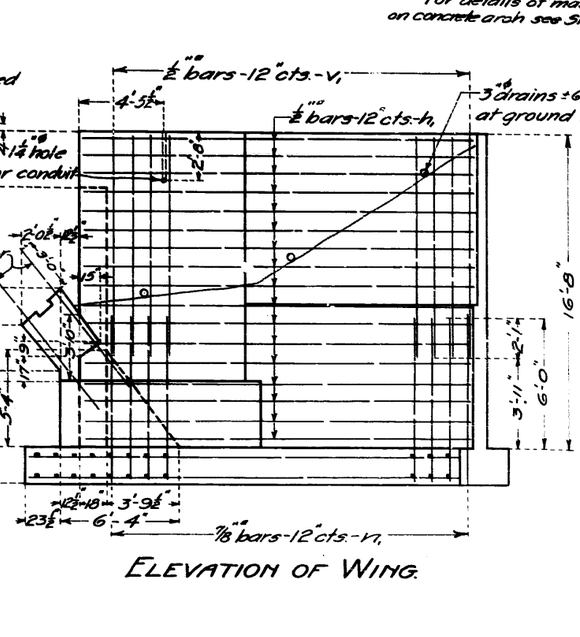
Bars	No.	Size	Length
n	28	½" sq	24'-0"
n₁	34	½" sq	24'-0"
v	48	½" sq	10'-0"
v₁	42	½" sq	12'-6"
n	48	⅞" sq	9'-0"
n₁	42	⅞" sq	9'-6"
t	114	½" sq	7'-6"
t₁	30	⅝" sq	7'-6"
z	57	⅜" sq	7'-6"
z₁	30	⅜" sq	7'-6"
w	8	½" sq	24'-6"
w₁	8	½" sq	18'-0"
Concrete cu.yds. 120.3			
Steel lbs. 6860			

NOTES.
Class A concrete to be used throughout. Proportions. 1:2½:4.
Use same section for both straight and curved wings.
Cross-hatching shows masonry.





SECTION D-D



ELEVATION OF WING.

STANDARD	COMPUTED	H.V. English
	CHECKED	C.C. Wood
	DRAWN	H.K.E.
	CHECKED	C.C.W.
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED March 13, 1923
A.T. Burch
BRIDGE ENGINEER

PASSED Thomas
ENGINEER OF DESIGN

APPROVED C. Alden
CHIEF HIGHWAY ENGINEER

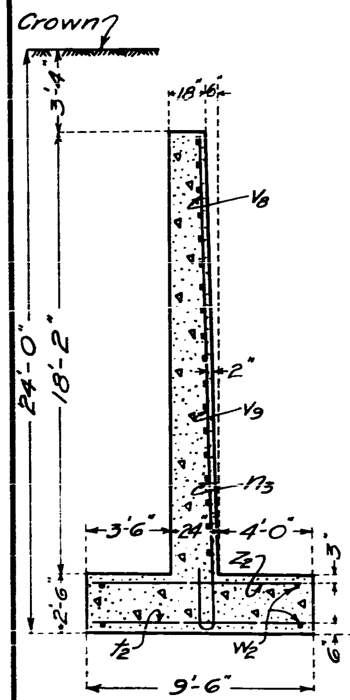
NEWHALL BRIDGE
STATION 83+48
STATE BOND ISSUE ROUTE-42
SECTION-112 COOK CO.

DETAILS OF ARCHES AND WEST ABUTMENT.

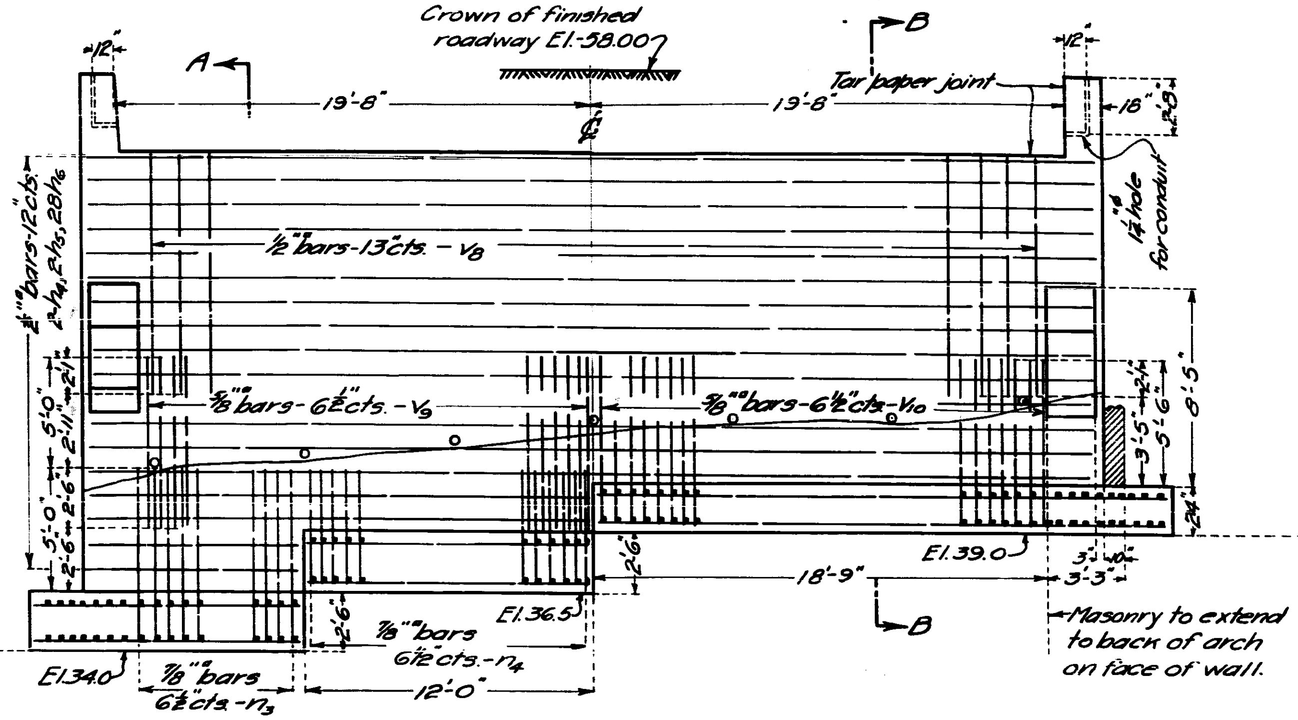
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

BOND ISSUE ROUTE NO.	COUNTY	SEC.	TOTAL SHEETS	SHEET NO.
42	Cook	112	16	9

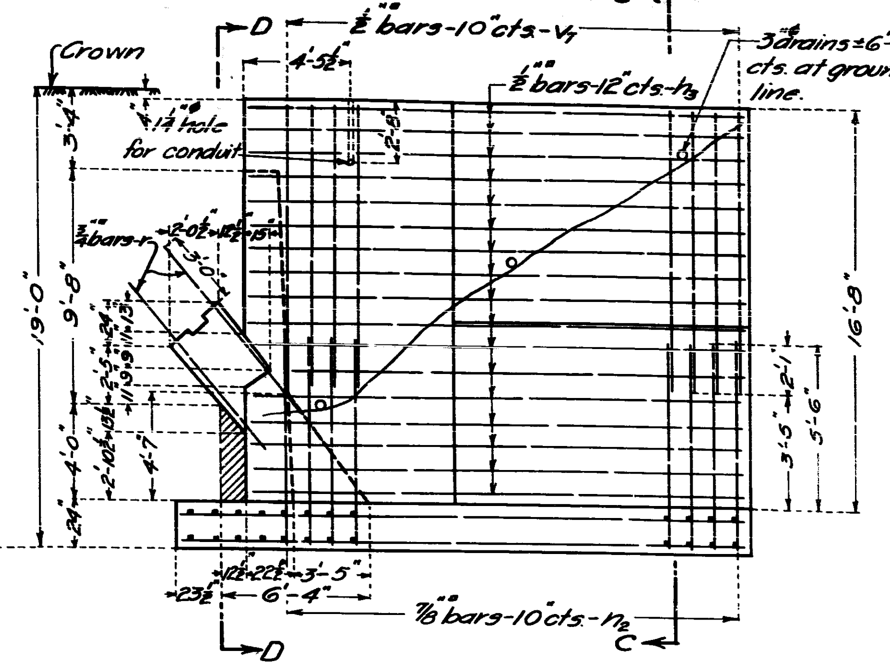
SHEET NO. 5
6 SHEETS



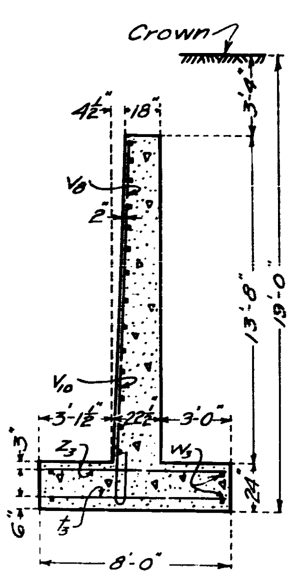
SECTION A-A



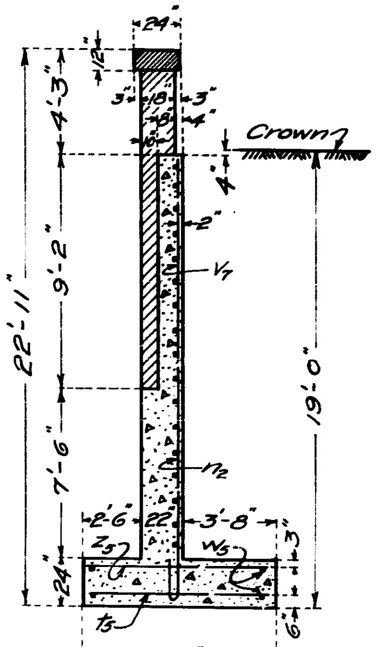
ELEVATION OF MAIN WALL



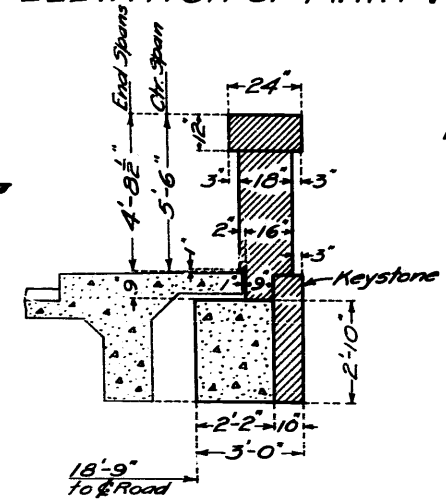
ELEVATION OF WING WALL (S)



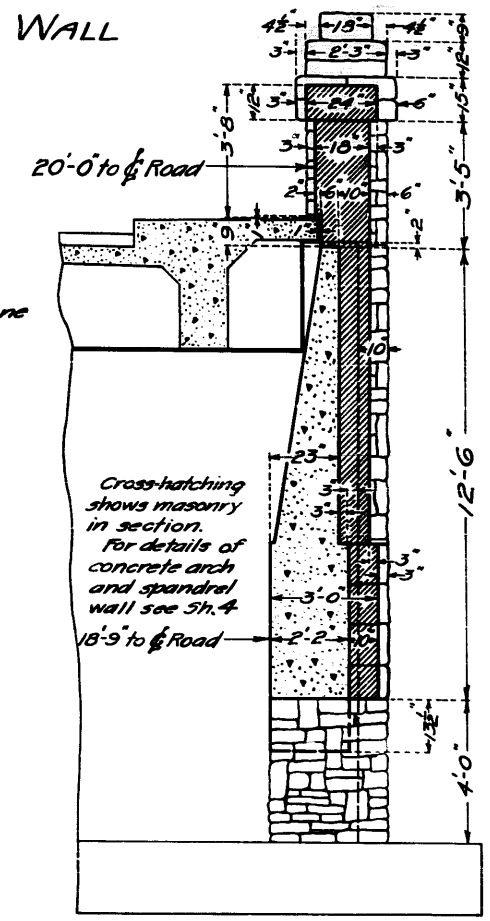
SECTION B-B



SECTION C-C



SECTION AT ℄ SPAN



SECTION D-D

BILL OF MATERIAL
EAST ABUTMENT

Bars	No.	Size	Length
V_7	24	½"	13'-0"
V_8	36	½"	10'-0"
V_9	36	⅝"	7'-6"
V_{10}	36	⅝"	8'-0"
V_{11}	28	½"	12'-6"
V_{12}	56	⅝"	7'-6"
V_{13}	24	½"	13'-0"
V_{14}	23	½"	12'-0"
h_3	17	½"	23'-0"
h_4	2	"	11'-6"
h_5	2	"	23'-6"
h_6	28	"	24'-0"
h_7	8	"	17'-0"
h_8	9	"	19'-0"
h_9	42	½"	25'-0"
n_2	24	⅞"	9'-0"
n_3	14	"	8'-6"
n_4	22	"	5'-0"
n_5	56	⅞"	9'-0"
n_6	48	⅝"	9'-0"
n_7	46	½"	6'-0"
Z_2	44	⅝"	9'-0"
Z_3	44	½"	7'-6"
Z_4	64	½"	9'-0"
Z_5	28	⅝"	7'-6"
Z_6	24	½"	8'-0"
Z_7	23	½"	6'-6"
t_2	44	¾"	9'-0"
t_3	44	½"	7'-6"
t_4	64	½"	9'-0"
t_5	56	½"	7'-6"
t_6	24	⅝"	8'-0"
t_7	23	½"	6'-6"
W_2	8	½"	11'-6"
W_3	4	"	23'-6"
W_4	4	"	25'-0"
W_5	4	"	17'-0"
W_6	4	"	19'-0"
W_7	4	½"	19'-0"
Concrete	cu. yds.		216.6
Steel	lbs.		12,630

NOTES

Class "A" concrete to be used throughout. Proportions 1:2½:4.
Cross-hatching shows masonry.

NEWHALL BRIDGE
STATION 83+48
STATE BOND ISSUE ROUTE-42
SECTION-112 COOK CO.

STANDARD	COMPUTED	H. V. Gulick
	CHECKED	C. C. Wood
	DRAWN	H. V. G.
	CHECKED	C. C. W.
SPECIAL	ASSEMBLED	—
	CHECKED	—

EXAMINED March 13, 1923
G. F. Burch — BRIDGE ENGINEER
PASSED [signature] — ENGINEER OF DESIGN
APPROVED C. Older — CHIEF HIGHWAY ENGINEER

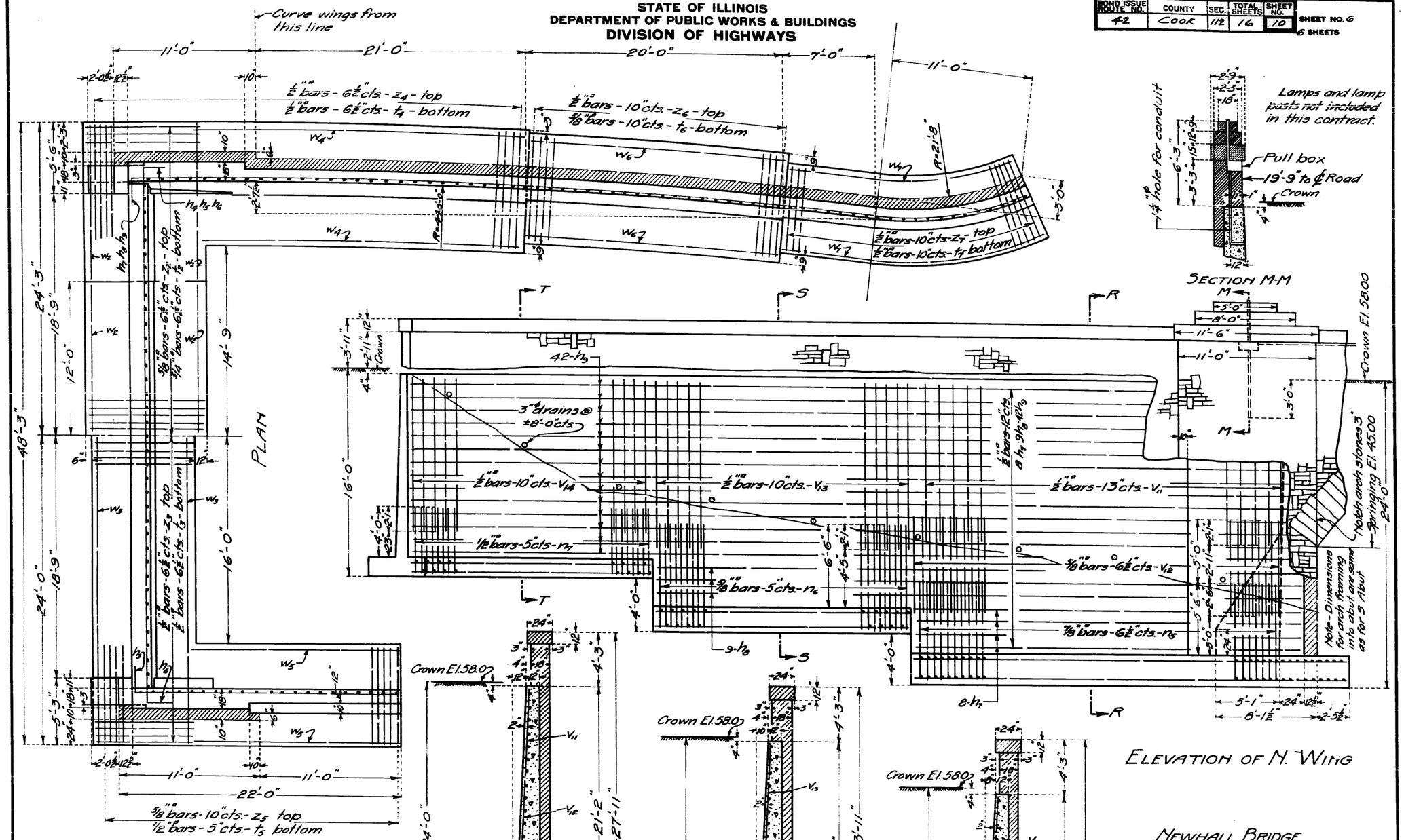
DETAILS OF
EAST ABUTMENT

"IMPERIAL" TRACING CLOTH
K & E CO., N.Y.

BOND ISSUE ROUTE NO.	COUNTY	SEC.	TOTAL SHEETS	SHEET NO.
42	COOK	112	16	10

SHEET NO. 6 OF 6 SHEETS

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



NOTES

Class "A" concrete to be used throughout. Proportions 1:2½:4.
Cross-hatching shows masonry.

STANDARD	COMPUTED	A. V. Eubich
	CHECKED	C. C. Wood
	DRAWN	A. V. E.
	CHECKED	C. C. W.
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED March 13, 1923
A. T. Bowden BRIDGE ENGINEER
PASSED T. H. Sherman ENGINEER OF DESIGN
APPROVED C. Allen CHIEF HIGHWAY ENGINEER

NEWHALL BRIDGE
STATION 83+48
STATE BOND ISSUE ROUTE-42
SECTION-112 COOK CO.

DETAILS OF EAST ABUTMENT

RTE. NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAUS 3509	112-BR	COOK	45	1
FED. ROAD DIST. NO. 1	ILLINOIS	PROJECT	IX-5003(810)	

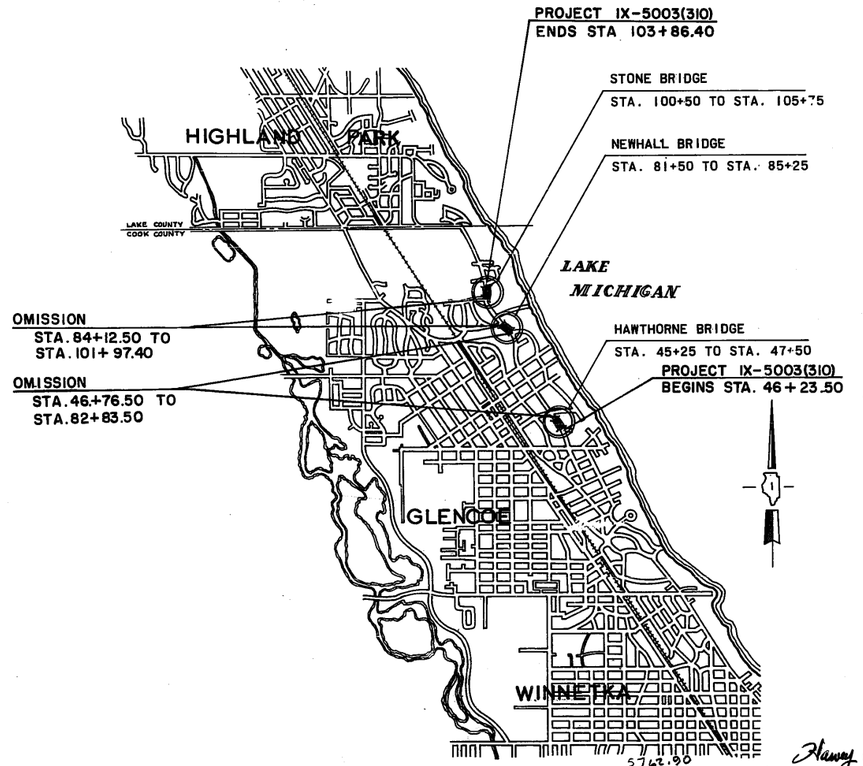
P-91-846-71

STATE OF ILLINOIS
ILLINOIS DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS DISTRICT 1
FEDERAL AID HIGHWAY

F.A.U. ROUTE 3509
SHERIDAN ROAD
SECTION 112 BR
PROJECT IX-5003(310)
COOK COUNTY
C-91-085-75

FOR INDEX SEE SHEET NO. 2

LOCATION OF SECTION INDICATED THUS



LENGTH OF PROJECT = 5762.90 FT. = 1.091 MI.

HAWTHORNE BRIDGE	= 225 FEET	=	(0.043 MILES)
NEWHALL BRIDGE	= 375 FEET	=	(0.071 MILES)
STONE BRIDGE	= 525 FEET	=	(0.099 MILES)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED MARCH 2 1976
Sigmund C. Zajeuchi
PROJECT ENGINEER

EXAMINED April 19 1976
J. W. Johnson
ENGINEER OF PLANS AND CONTRACTS

PASSED April 22 1976
Thomas J. Smith
ENGINEER OF DESIGN

APPROVED April 22 1976
Wm J. Hennessey
DIRECTOR, DIVISION OF HIGHWAYS

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR | DATE

Harvey O. Wyse

James D. Tallmadge

CONTRACT NO. 33120

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAUS 3508	112-BR	COOK	45	2
FED.ROAD DIST.NO.1	ILLINOIS	PROJECT		

GENERAL NOTES

THIS SECTION WILL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JULY 1, 1976. THE SPECIAL PROVISIONS, AND THE "MIMEOGRAPHED SUPPLEMENTAL SPECIFICATIONS".

1. EQUIPMENT: ALL DISTRIBUTORS FOR BITUMINOUS PRIMING AND SEAL COATING OPERATIONS SHALL BE EQUIPPED WITH SHIELDS TO PREVENT CONTAMINATION OF ADJACENT HIGHWAY APPURTENANCES, SHIELDS SHALL MEET WITH THE ENGINEER'S APPROVAL.
2. FLOURESCENT VESTS: ALL CONSTRUCTION PERSONNEL WILL BE REQUIRED TO WEAR FLOURESCENT ORANGE VESTS AT ALL TIMES WHILE ON THE CONSTRUCTION SITE. COMPLIANCE WITH THIS REQUIREMENT SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.
3. CONCRETE BREAKER: WHEN REMOVING PAVEMENT, CURB & GUTTER, OR ANY OTHER STRUCTURES, THE USE OF ANY TYPE OF CONCRETE BREAKERS WHICH MIGHT DAMAGE THE UNDERGROUND PUBLIC OR PRIVATE UTILITIES WILL NOT BE PERMITTED. UNDER NO CIRCUMSTANCES WILL THE USE OF A FROST BALL BE PERMITTED.
4. BARRICADES: THE CONTRACTOR SHALL PROVIDE AND INSTALL WEIGHTED SAND BAGS ON EACH BARRICADE USED.
5. ALL GRASS AREAS DISTURBED BY EXCAVATION AND EMBANKMENT OPERATIONS AND OTHER AREAS DESIGNATED BY THE ENGINEER WILL RECEIVE TOPSOIL PLACEMENT AND SODDING AS SPECIFIED IN THE SPECIAL PROVISIONS.
6. PROFILE GRADE ELEVATIONS FOR EACH FINISHED ROADWAY SHALL APPLY AT LOCATIONS SHOWN ON THE TYPICAL SECTIONS AND SPECIAL DETAILS.
7. ALL TREES, SHRUBS AND BUSHES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND AS DIRECTED BY THE ENGINEER. ALL TREES, SHRUBS & BUSHES SO DESIGNATED BY THE ENGINEER BETWEEN THE CONSTRUCTION LIMITS AND THE RIGHT-OF-WAY LINE SHALL BE SAVED.
8. THE STANDARDS WITH THE REVISION NUMBER LISTED IN THE INDEX OF SHEETS SHALL APPLY TO THIS SECTION.
9. ALL STATIONING IS ALONG CENTERLINE OF SURVEY EXCEPT AS OTHERWISE NOTED.

STANDARD DRAWINGS

STANDARD	1514-9
STANDARD	1527-8
STANDARD	1564
STANDARD	1683-4
STANDARD	1686-4 , 1766-7
STANDARD	1909-10
STANDARD	2113-1 , 2115-7 , 2117-1
STANDARD	2319-3, 2320-3, 2323-3 2347-1
STANDARD	2130-5
STANDARD	2179-9
STANDARD	2213-4 , 2298-4, 2299-7, 2300-1, 2302-3, 2304-4, 2305-3, 2306-4, 2312-5, 2314-3

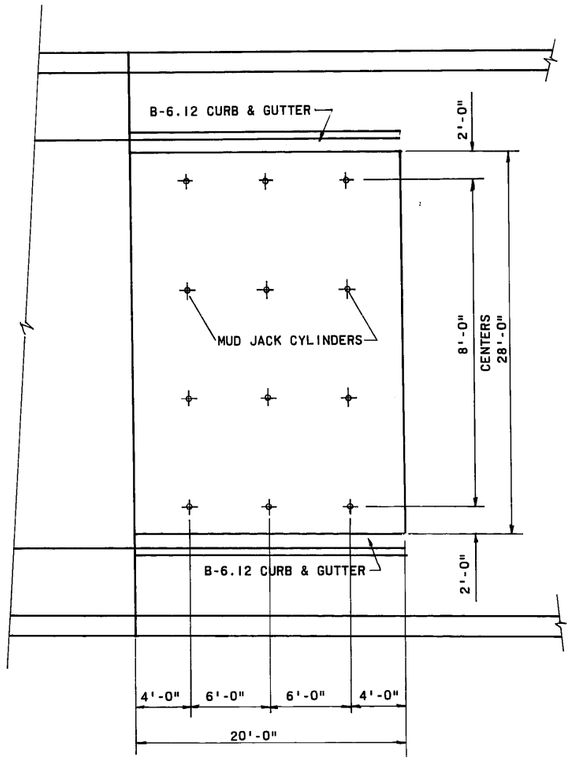
INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES AND INDEX OF DRAWINGS
3-5	SUMMARY OF QUANTITIES
6	TYPICAL ROADWAY SECTIONS - HAWTHORNE BRIDGE; TYPICAL PLAN AND SECTION - PRIVATE ENTRANCE
7	TYPICAL ROADWAY SECTIONS - NEWHALL BRIDGE
8	TYPICAL ROADWAY SECTIONS - STONE BRIDGE
9	PLAN AND PROFILE - HAWTHORNE BRIDGE
10	PLAN AND PROFILE - NEWHALL BRIDGE
11	PLAN AND PROFILE - STONE BRIDGE
12	CROSS SECTIONS - HAWTHORNE BRIDGE
13	CROSS SECTIONS - NEWHALL BRIDGE
14	CROSS SECTIONS - STONE BRIDGE
14A	DETOUR PLAN
15	DETAILS APPROACH SLAB
15A	FRAME & GRATE TYPE B-24
16	HAWTHORNE BRIDGE: - GENERAL PLAN AND ELEVATION
17	- GENERAL NOTES AND MISCELLANEOUS DETAILS
18	- TOP OF SLAB ELEVATIONS
19	- SUPERSTRUCTURE
20	- STRUCTURAL STEEL
21	- SOUTH ABUTMENT
22	- NORTH ABUTMENT
23	NEWHALL BRIDGE: - GENERAL PLAN AND ELEVATION
24	- GENERAL NOTES AND DETAILS
25	- TOP OF SLAB ELEVATIONS
26	- SUPERSTRUCTURE
27	- STRUCTURAL STEEL
28	- BEARING AND MISCELLANEOUS DETAILS
29	- PIERS NO.1 AND NO.2
30	- EAST ABUTMENT
31	- EAST ABUTMENT
32	- WEST ABUTMENT
33	- ARCH AT SPAN 1
34	- CONCRETE PILES STANDARD X-3
35	STONE BRIDGE: - GENERAL PLAN AND ELEVATION
36	- GENERAL NOTES AND DETAILS
37	- TOP OF SLAB ELEVATIONS
38	- TOP OF SLAB ELEVATIONS
39	- SUPERSTRUCTURE
40	- STRUCTURAL STEEL
41	- BEARING DETAILS
42	- PIERS NO.1 AND NO.2
43	- NORTH ABUTMENT
44	- SOUTH ABUTMENT
45	- MISCELLANEOUS DETAILS

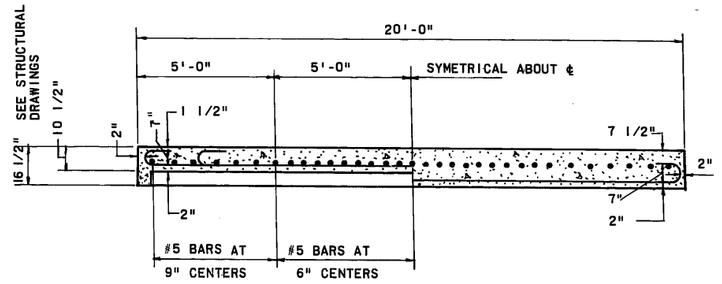
GENERAL NOTES
INDEX OF DRAWINGS
STANDARD DRAWINGS

Rev. 4-19-79

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAU 3508	112-BR	COOK	45	15
FED. ROAD DIST. NO. 1	ILLINOIS	PRO: CT		

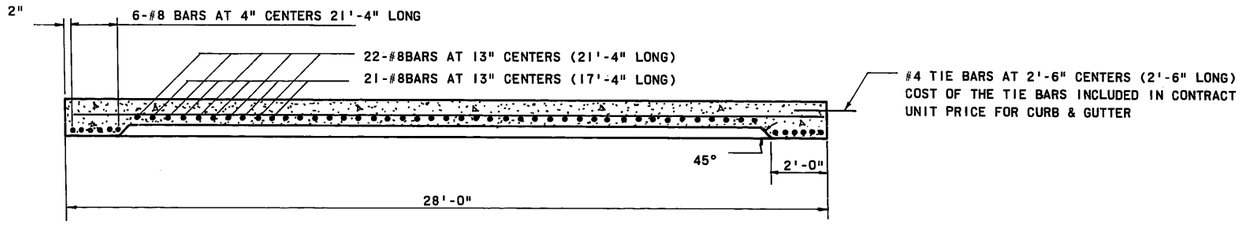


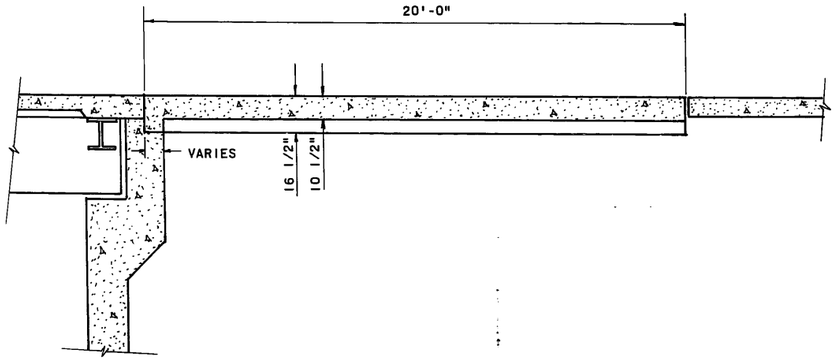
PLAN
METHOD I



LONGITUDINAL SECTION THRU CENTER OF SLAB

LONGITUDINAL SECTION THRU THICKENED EDGE OF SLAB





SECTIONAL VIEW
METHOD I

SECTIONAL VIEW OF CONCRETE SLAB

(QUANTITIES FOR ONE 28'-0" APPROACH AND SLAB STANDARD 1909 MODIFIED)

	TRANSVERSE BARS #5 METHOD I		LONGITUDINAL BARS #8 METHOD I	TOTAL WEIGHT OF BARS METHOD I	PAVEMENT 16 1/2"-10 1/2"-16 1/2 METHOD I.
	NO.	LENGTH		POUNDS	SQ. YDS.
	33	27'-6"	34 AT 21'-4" LONG 21 AT 17'-4" LONG	3855	62.2

GENERAL NOTES

1. THE SLAB WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR PORTLAND CEMENT CONCRETE PAVEMENT (16½"-10½"-16½")
2. ALL REINFORCEMENT BARS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR REINFORCEMENT BARS, EXCEPT AS NOTED.
3. THE MUD JACK CYLINDERS, AND PREFORMED EXPANSION JOINT FILLER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PORTLAND CEMENT CONCRETE PAVEMENT (16½"-10½"-16½")
4. PREFORMED EXPANSION JOINT FILLER SHALL CONFORM TO SECTION 715 OF THE STANDARD SPECIFICATION.
5. WIDTH OF BRIDGE APPROACH SLAB POURS SHALL BE DETERMINED BEFORE THE REINFORCEMENT BARS ARE FABRICATED.
6. THE CONTRACTOR SHALL, AFTER COMPLETION OF THE FINISHING OPERATIONS, MARK THE LOCATION OF THE MUD JACK CYLINDERS.
7. FOR FURTHER DETAILS SEE STANDARD 1909.

APPROACH SLAB DETAIL
HAWTHORNE BRIDGE
NEWHALL BRIDGE
STONE BRIDGE

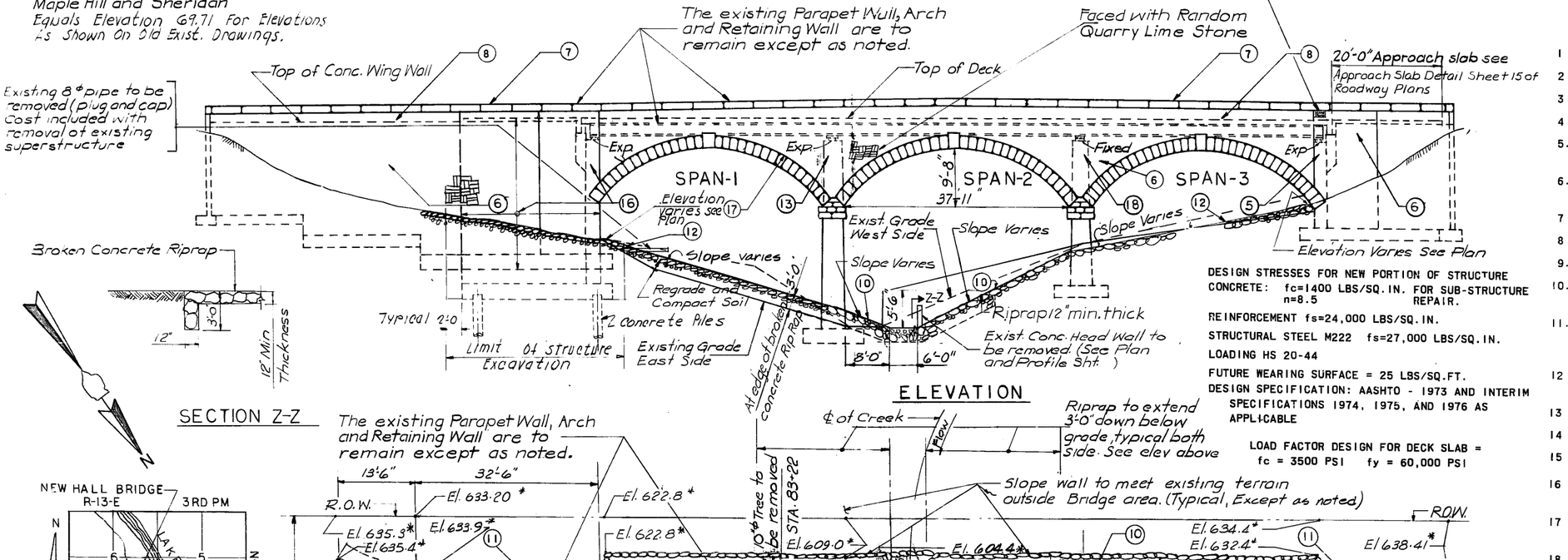
HURY CO. h3228

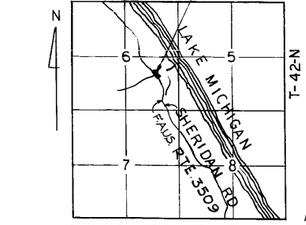
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAUS 3504	112-BR	COOK	45	23
FED. ROAD DIST. NO. 1	ILLINOIS	PROJECT		

SHEET NO. 1 OF 12 SHEETS

Bench Mark Elevation = 649.24
S.E. flange bolt on top flange of fire hydrant N.W. corner of Maple Hill and Sheridan
Equals Elevation 69.71 For Elevations As Shown On Old Exist. Drawings.

Note:
* 1) Indicates elevation of broken concrete riprap and surrounding terrain.
2) Contractor shall provide grading from proposed edge of riprap to existing grade at R.O.W. line. Cost incidental to Special Excavation.





LOCATION SKETCH

STATION 83+48
RECONSTRUCTED 197
F.A.U.S. RTE. 3509 SEC. 112-BR
F.A. PROJ. IX-5003(310)
LOADING HS 20
STR. NO. 016-0619

NAME PLATE
See Standard 2113

DESIGNED	SCN
CHECKED	E D
DRAWN	A R B
CHECKED	E D

Note:
Contractor shall take special precaution to protect all large trees as per engineers direction when grading this area.

DESIGN STRESSES FOR NEW PORTION OF STRUCTURE
CONCRETE: fc=1400 LBS/SQ.IN. FOR SUB-STRUCTURE REPAIR. n=8.5
REINFORCEMENT fs=24,000 LBS/SQ.IN.
STRUCTURAL STEEL M222 fs=27,000 LBS/SQ.IN.
LOADING HS 20-44
FUTURE WEARING SURFACE = 25 LBS/SQ.FT.
DESIGN SPECIFICATION: AASHTO - 1973 AND INTERIM SPECIFICATIONS 1974, 1975, AND 1976 AS APPLICABLE
LOAD FACTOR DESIGN FOR DECK SLAB = fc = 3500 PSI fy = 60,000 PSI

LEGEND OF CONSTRUCTION

1 REMOVE EXISTING CONCRETE DECK AND BEAMS.
2 PLACE NEW CONCRETE DECK AND NEW STEEL BEAMS.
3 PROVIDE EPOXY COATED BARS FOR CONCRETE DECK.
4 PROVIDE NEW 2 1/2" PREFORMED JOINT SEALER.
5. REPAIR PART OF ABUTMENT AND ADJUST TOP OF ABUTMENT TO MEET NEW CONSTRUCTION.
6. TUCK POINT EXISTING MASONRY PARAPET AND WALLS AS PER ENGINEER INSTRUCTIONS.
7 REPLACE STONE MASONRY COPING AS PER SPECIFICATIONS.
8 REMOVE AND REPLACE STONE AT BASE OF SIDEWALK.
9. PROVIDE NEW CONCRETE APPROACH SLAB.
10. PLACE BROKEN CONCRETE RIPRAP SLOPE WALL FROM BASE OF CREEK TO ABUTMENTS AS SHOWN.
11. PROVIDE FILL MATERIAL AT BASE OF WING WALLS SO AS TO CAUSE THE WATER TO FLOW AWAY FROM WING WALLS. WHERE POSSIBLE TYPICAL FOR ALL FOUR WALLS.
12 CLEAN UNDER THE BRIDGE BEFORE PLACEMENT OF BROKEN CONCRETE RIPRAP WORK INCIDENTAL TO SLOPE WALL WORK.
13 REPAIR TOP OF EXISTING PIER .
14 PROVIDE INLET DRAINS, SEE HIGHWAY DRAWINGS.
15 PROVIDE 4"x12" ALUMINUM FLOOR DRAINS SPACED AT 6'-0" O.C. BOTH SIDES OF BRIDGE DECK.
16 REMOVE AND REPLACE NORTHEAST ABUTMENT AND RETAINING WALLS WITH NEW CONSTRUCTION AS INDICATED.
17 REMOVE & REPLACE CONCRETE ARCH WITH NEW CONSTRUCTION TO LIMITS AS SHOWN.
18 REMOVE CAP & REPLACE WITH NEW CONSTRUCTION.
19 PROVIDE STEEL SHEET PILING AS INDICATED.

HORZONTAL CURVE DATA
P.I. STA. 85+00.30
Δ = 14°-18'
D = 8°-00'
T = 89.85'
L = 178.75'
R = 716.30'
E = 5.60'

WATERWAY DATA
Drainage Area: 144 Acres
Character: Pavement & Wooded Ravines
Required Opening: 48 Sq.Ft.
Q50 = 449 CFS
High Water (50 Year) Elev. 607.9

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Engineer of Bridge & Traffic Structures

HANSEN, SCHNEEMAN & ASSOCIATES, INC.
CONSULTING ENGINEERS
223 West Jackson Blvd., Suite 703
Chicago, Illinois — 60604

GENERAL PLAN AND ELEVATION
NEWHALL BRIDGE

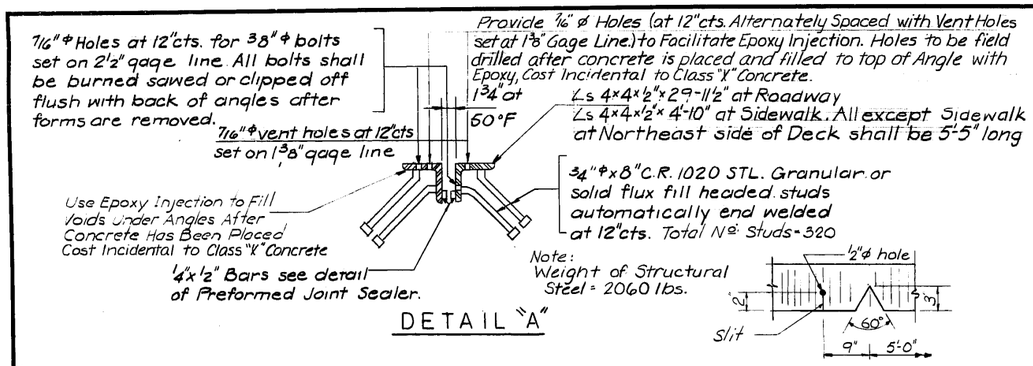
F.A.U.S. RTE. 3509 SHERIDAN ROAD
SECTION 112-BR
COOK COUNTY
STATION 83+48

Rev. 4-19-78

HUSY CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAUS 3509	112-BR	COOK	45	24
FED. ROAD DIST. NO. 1	ILLINOIS	PROJECT		

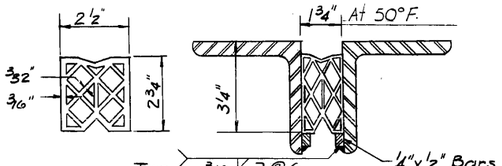
SHEET NO. 2 OF 12 SHEETS



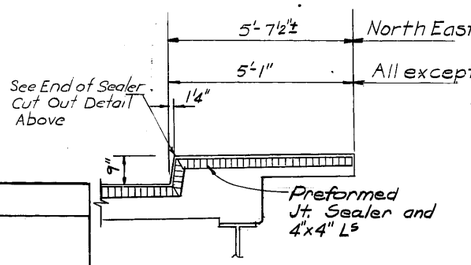
DETAIL "A"

Note: Weight of Structural Steel = 2060 lbs.

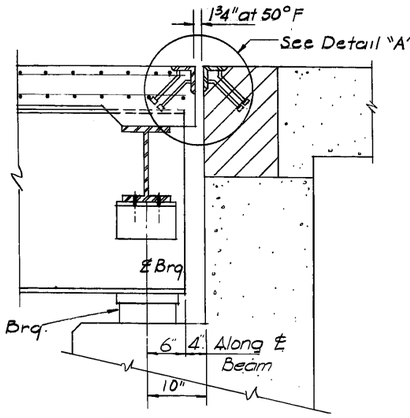
SEALER CUT OUT DETAIL



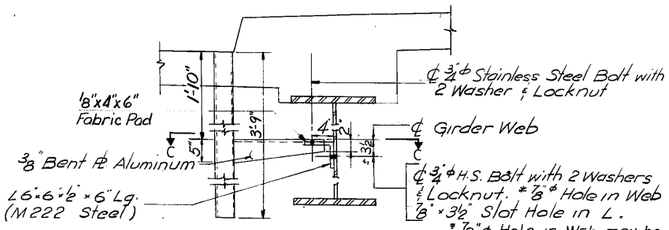
PREFORMED JOINT SEALER



P.J.S DET. AT SIDEWALK



SECTION B-B



SECTION AT CURB

GENERAL NOTES

ALL REINFORCEMENT BARS SHALL CONFORM TO ASSHTO M-31 GRADE 60 OR M-53 GRADE 60

CALCULATED WEIGHT OF STRUCTURAL STEEL = 79,490

NEW FIELD CONNECTIONS SHALL BE BOLTED USING HIGH STRENGTH BOLTS. BOLTS 7/8" ϕ OPEN HOLES 1" ϕ UNLESS OTHERWISE NOTED. HIGH STRENGTH BOLTS SHALL BE ASTM 325, TYPE III

ALL STRUCTURAL STEEL SHALL BE AASHTO M-222 UNPAINTED EXCEPT EXPANSION JOINT ANGLES WHICH SHALL BE AASHTO M-183 AND SHOP PAINTED WITH TWO COATS OF BASIC LEAD SILICO CHROMATE PAINT.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED IN BOTTOM OF FLANGE OF BEAMS OR GIRDERS NOR ON THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS AND EXISTING PIPE LINE SUPPORTS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

SEE SPECIAL PROVISIONS FOR REPAIR OF EXISTING STONE PARAPET & ARCH.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

CONTRACTOR SHALL RESPONSIBLE FOR SUPPORTING ALL EXCEPT GAS LINE PIPES; GAS COMPANY SHALL BE RESPONSIBLE FOR SUPPORT OF ITS UTILITY LINE, SEE SPECIAL PROVISIONS.

EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION ANCHOR AND 3/4" ϕ x 12" HOOKED BOLTS.

PROTECTIVE COAT SHALL BE APPLIED TO TOP SURFACES OF DECK, CURB, SIDEWALK & STONE PARAPET.

SEE SPECIAL PROVISIONS FOR REMOVAL OF EXISTING SUPER STRUCTURE, AND INSTALLATION OF RIP RAP SLOPE WALLS.

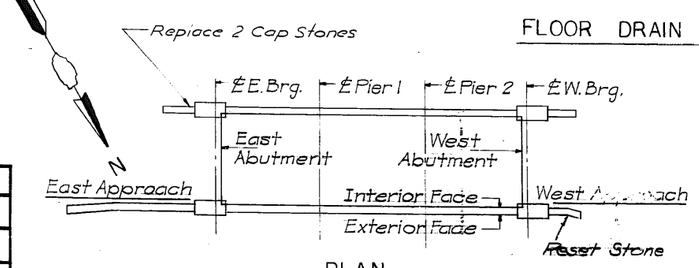
CONTRACTOR SHALL USE CAUTION IN REMOVING EXISTING SUPERSTRUCTURE. SUGGESTED SEQUENCE OF SUPERSTRUCTURE REMOVAL: FIRST REMOVE DECK AND THEN BEAMS AND DIAPHRAGMS WITH CARE SO AS NOT TO DAMAGE EXISTING UTILITIES & CONCRETE SUB-STRUCTURE.

NEW STONE VENEER FOR ARCH & RETAINING WALLS SHALL BE TIED WITH 16 GAUGE CORRUGATED WALL TIES, SEE DETAIL.

STONE MASONRY REPAIR

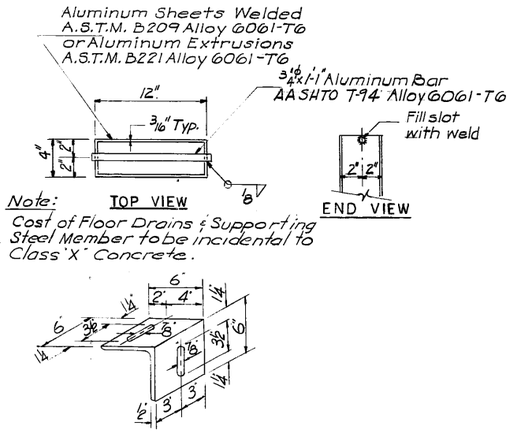
	Stone Removal & Replacement & Cap Repair (Cu. Yds.)	New Stone Replacement (Cubic Yds.)	Tuck Pointing (Lin. Ft.)	
North Masonry Wall	Pier No 2 3.5 Arch No 1 24.0 E. Abut. 16.0 East Approach 1.7 West Approach 0.5 Parapet at deck = 3.3	Pier No 2 0.8 Arch No 1 10.0 E. Abut. 4.0 East Approach 0.5 West Approach 0.2 Parapet at deck = 1.5	Exterior Face 2928 Bridge & Wing Wall Interior Face 4744.8 Bridge & Wing Wall	
South Masonry Wall	Parapet at Deck 4.4 East Approach 0.5 West Approach 0.5	Parapet at Deck 3.2 E. Abut. 2.3 W. Abut. 1.3 East Approach 0.2 West Approach 0.2	Exterior Face 892.8 Bridge & Wing Wall Interior Face 3168 Bridge & Wing Wall	
Total	54.4 C.Y.	24.2 C.Y.	11733.6	

Note: See Plan and Stone Parapet Repair Detail below

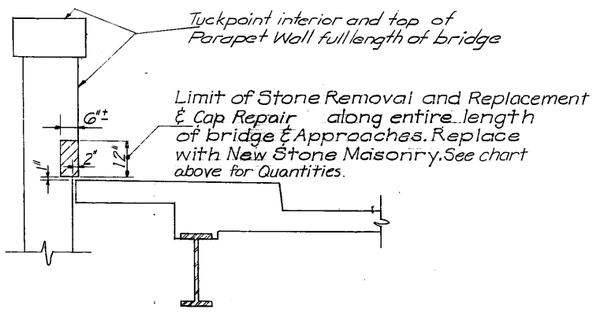


PLAN

Note: See chart above for location & quantities of Stone Masonry Replacement.

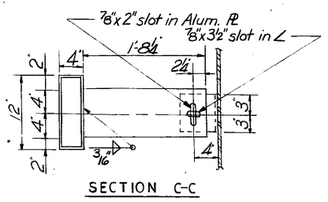


FLOOR DRAIN DETAIL

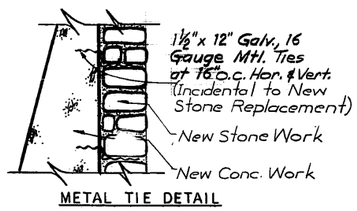


STONE PARAPET REPAIR DETAIL

Note: See chart above for location & quantities of Stone Masonry Replacement.



SECTION C-C



METAL TIE DETAIL

TOTAL BILL OF MATERIALS

ITEM	UNIT	SUPER	SUB	TOTAL
CONCRETE REMOVAL	CU. YDS.	-	117.6	117.6
STRUCTURE EXCAVATION	CU. YDS.	-	1219.6	1219.6
CLASS X CONCRETE	CU. YDS.	140.4	183.4	323.8
REINFORCEMENT BARS	LBS.	14,450	20,850	35,300
REINFORCEMENT BARS (EPOXY COAT)	LBS.	26,220	145	26,365
PROTECTIVE COAT	SQ. YDS.	597.4	-	597.4
BROKEN CONCRETE RIPRAP	SQ. YDS.	-	920	920
PREFORMED JOINT SEALER (2 1/2")	LIN. FT.	84	-	84
NAME PLATE	EACH	1	-	1
			-	
EXPANSION BOLTS 3/4" ϕ	EA.	-	150	150
TEST PILES - CONCRETE	EA.		1	1
FURNISHING CONC. PILES	LIN. FT.		1008	1008
DRIVING CONC. PILES	LIN. FT.		1008	1008
FURNISHING AND ERECTING STRUCTURAL STEEL	LUMP SUM	1	-	1
STONE REMOVAL AND REPLACEMENT & CAP REAPIR	CU. YDS.		54.4	54.4
POROUS GRANULAR EMBANKMENT	CU. YDS.	-	1044	1044
TUCKPOINTING	LIN. FT	-	11733.6	11733.6
NEW STONE REPLACEMENT	CU. YDS.		24.2	24.2
REMOVAL OF EXISTING SUPERSTRUCTURES NO. 2	EA.	1		1
TREE REMOVAL (6 TO 15 INCH DIA.	IN. DIA		28"	28"
REMOVAL OF EXISTING ARCH	CU. YDS.	-	15.8	15.8
SPECIAL EXCAVATION	CU. YDS.		292	292
~~GAS PIPE HANGERS~~	~~EACH~~	~~$~~	-	~~$~~
REPAIR CONCRETE STRUCTURE	SQ. FT.	-	140	140
CONC. JT. SEALER with BACKER ROD	LIN. FT.	258		258
PERMANENT STEEL SHEET PILING	SQ. FT.		720	720

DESIGNED	SCN
CHECKED	E.D.
DRAWN	B.A.J.
CHECKED	E.D

HANSEN, SCHNEEMAN & ASSOCIATES, INC.
CONSULTING ENGINEERS
223 West Jackson Blvd., Suite 703
Chicago, Illinois — 60604

GENERAL NOTES & DETAILS

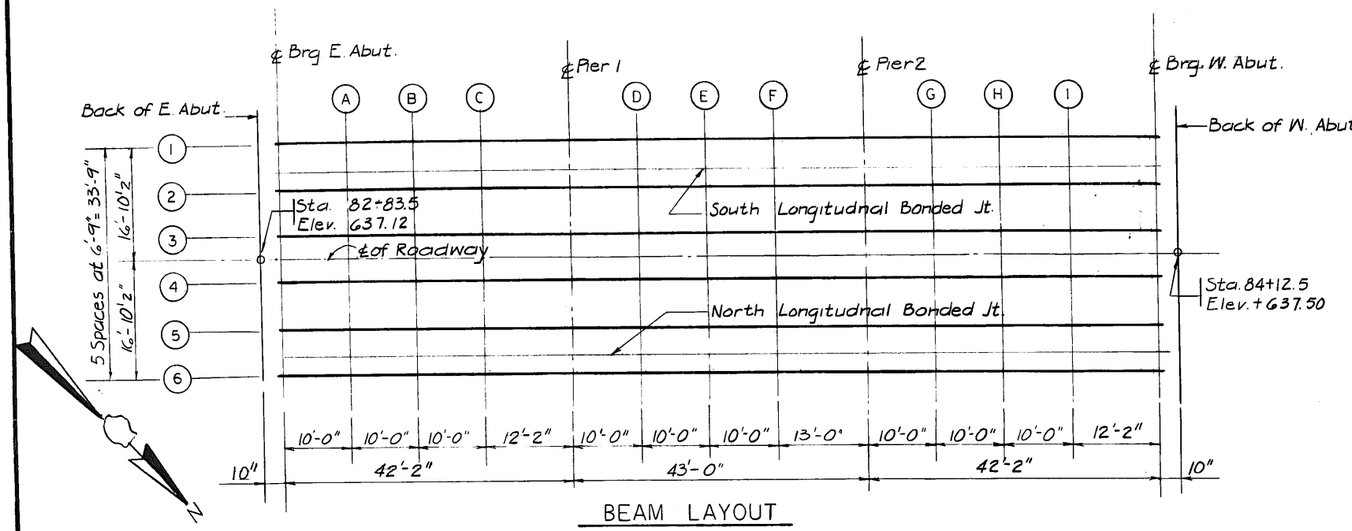
NEWHALL BRIDGE

F.A.U.S. RTE. 3509 SHERIDAN ROAD

SECTION	112-BR
COOK	COUNTY
STATION	83+48

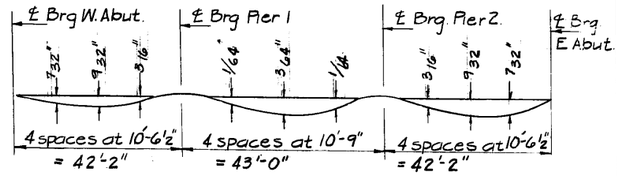
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAUS 3509	112-BR	COOK	45	25
FED. ROAD DIST. NO. 1		ILLINOIS PROJECT		

SHEET NO. 3 OF 12 SHEETS



BEAM LAYOUT

Note:
The deflections are not to be used in the field if the engineers is working from the grade elevations adjusted for dead load, deflections as shown.



DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete)

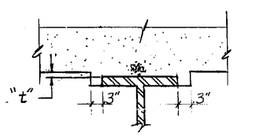
BEAM OR JOINT	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEV.	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
GIRDER 1	BK. E. ABUT.	8283.5000	16.8750	636.8518	636.8518
	℄ BRG. E. ABUT.	8284.3333	16.8750	636.8543	636.8543
	A	8294.3333	16.8750	636.8843	636.9024
	B	8304.3333	16.8750	636.9143	636.9383
	C	8314.3333	16.8750	636.9443	636.9599
	℄ PIER 1	8326.5000	16.8750	636.9808	636.9808
	D	8336.5000	16.8750	637.0108	637.0114
	E	8346.5000	16.8750	637.0408	637.0444
	F	8356.5000	16.8750	637.0708	637.0727
	℄ PIER 2	8369.5000	16.8750	637.1098	637.1098
	G	8379.5000	16.8750	637.1398	637.1597
	H	8389.5000	16.8750	637.1698	637.1913
	I	8399.5000	16.8750	637.1998	637.2113
	℄ BRG. W. ABUT.	8411.6667	16.8750	637.2363	637.2363
	BK. W. ABUT.	8412.5000	16.8750	637.2388	637.2388
S. LONG. JOINT	BK. E. ABUT.	8283.5000	12.0000	636.9280	636.9280
	℄ BRG. E. ABUT.	8284.3333	12.0000	636.9305	636.9305
	A	8294.3333	12.0000	636.9605	636.9786
	B	8304.3333	12.0000	636.9905	637.0145
	C	8314.3333	12.0000	637.0205	637.0361
	℄ PIER 1	8326.5000	12.0000	637.0570	637.0570
	D	8336.5000	12.0000	637.0870	637.0876
	E	8346.5000	12.0000	637.1170	637.1206
	F	8356.5000	12.0000	637.1470	637.1489
	℄ PIER 2	8369.5000	12.0000	637.1860	637.1860
	G	8379.5000	12.0000	637.2160	637.2259
	H	8389.5000	12.0000	637.2460	637.2675
	I	8399.5000	12.0000	637.2760	637.2875
	℄ BRG. W. ABUT.	8411.6667	12.0000	637.3125	637.3125
	BK. W. ABUT.	8412.5000	12.0000	637.3150	637.3150

BEAM OR JOINT	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEV.	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
GIRDER 2	BK. E. ABUT.	8283.5000	10.1250	636.9573	636.9573
	℄ BRG. E. ABUT.	8284.3333	10.1250	636.9598	636.9598
	A	8294.3333	10.1250	636.9898	637.0079
	B	8304.3333	10.1250	637.0198	637.0438
	C	8314.3333	10.1250	637.0498	637.0654
	℄ PIER 1	8326.5000	10.1250	637.0863	637.0863
	D	8336.5000	10.1250	637.1163	637.1169
	E	8346.5000	10.1250	637.1463	637.1499
	F	8356.5000	10.1250	637.1763	637.1782
	℄ PIER 2	8369.5000	10.1250	637.2153	637.2153
	G	8379.5000	10.1250	637.2453	637.2652
	H	8389.5000	10.1250	637.2753	637.2968
	I	8399.5000	10.1250	637.3053	637.3168
	℄ BRG. W. ABUT.	8411.6667	10.1250	637.3418	637.3418
	BK. W. ABUT.	8412.5000	10.1250	637.3443	637.3443
GIRDER 3	BK. E. ABUT.	8283.5000	3.3750	637.0628	637.0628
	℄ BRG. E. ABUT.	8284.3333	3.3750	637.0653	637.0653
	A	8294.3333	3.3750	637.0953	637.1034
	B	8304.3333	3.3750	637.1253	637.1493
	C	8314.3333	3.3750	637.1553	637.1709
	℄ PIER 1,	8326.5000	3.3750	637.1918	637.1918
	D	8336.5000	3.3750	637.2218	637.2224
	E	8346.5000	3.3750	637.2518	637.2554
	F	8356.5000	3.3750	637.2818	637.2837
	℄ PIER 2	8369.5000	3.3750	637.3208	637.3208
	G	8379.5000	3.3750	637.3508	637.3707
	H	8389.5000	3.3750	637.3808	637.4023
	I	8399.5000	3.3750	637.4108	637.4223
	℄ BRG. W. ABUT	8411.6667	3.3750	637.4473	637.4473
	BK. W. ABUT.	8412.5000	3.3750	637.4498	637.4498

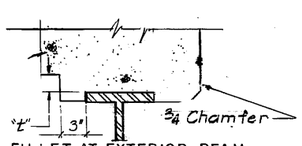
BEAM OR JOINT	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEV.	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
CENTER LINE	BK. E. ABUT.	8283.5000	0.0000	637.1155	637.1155
	℄ BRG. E. ABUT.	8284.3333	0.0000	637.1180	637.1180
	A	8294.3333	0.0000	637.1480	637.1661
	B	8304.3333	0.0000	637.1780	637.2020
	C	8314.3333	0.0000	637.2080	637.2236
	℄ PIER 1	8326.5000	0.0000	637.2445	637.2445
	D	8336.5000	0.0000	637.2745	637.2751
	E	8346.5000	0.0000	637.3045	637.3081
	F	8356.5000	0.0000	637.3345	637.3364
	℄ PIER 2	8369.5000	0.0000	637.3735	637.3735
	G	8379.5000	0.0000	637.4035	637.4234
	H	8389.5000	0.0000	637.4335	637.4550
	I	8399.5000	0.0000	637.4635	637.4750
	℄ BRG. W. ABUT.	8411.6667	0.0000	637.5000	637.5000
	BK. W. ABUT.	8412.5000	0.0000	637.5025	637.5025
GIRDER 4	BK. E. ABUT.	8283.5000	-3.3750	637.0628	637.0628
	℄ BRG. E. ABUT.	8284.3333	-3.3750	637.0653	637.0653
	A	8294.3333	-3.3750	637.0953	637.1034
	B	8304.3333	-3.3750	637.1253	637.1493
	C	8314.3333	-3.3750	637.1553	637.1709
	℄ PIER 1	8326.5000	-3.3750	637.1918	637.1918
	D	8336.5000	-3.3750	637.2218	637.2224
	E	8346.5000	-3.3750	637.2518	637.2554
	F	8356.5000	-3.3750	637.2818	637.2837
	℄ PIER 2	8369.5000	-3.3750	637.3208	637.3208
	G	8379.5000	-3.3750	637.3508	637.3707
	H	8389.5000	-3.3750	637.3808	637.4023
	I	8399.5000	-3.3750	637.4108	637.4223
	℄ BRG. W. ABUT.	8411.6667	-3.3750	637.4473	637.4473
	BK. W. ABUT.	8412.5000	-3.3750	637.4498	637.4498

BEAM OR JOINT	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEV.	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
N. LONG. JOINT	BK. E. ABUT.	8283.5000	-12.0000	636.9280	636.9280
	℄ BRG. E. ABUT.	8284.3333	-12.0000	636.9305	636.9305
	A	8294.3333	-12.0000	636.9605	636.9786
	B	8304.3333	-12.0000	636.9905	637.0145
	C	8314.3333	-12.0000	637.0205	637.0361
	℄ PIER 1	8326.5000	-12.0000	637.0570	637.0570
	D	8336.5000	-12.0000	637.0870	637.0876
	E	8346.5000	-12.0000	637.1170	637.1206
	F	8356.5000	-12.0000	637.1470	637.1489
	℄ PIER 2	8369.5000	-12.0000	637.1860	637.1860
	G	8379.5000	-12.0000	637.2160	637.2359
	H	8389.5000	-12.0000	637.2460	637.2675
	I	8399.5000	-12.0000	637.2760	637.2875
	℄ BRG. W. ABUT.	8411.6667	-12.0000	637.3125	637.3125
	BK. W. ABUT.	8412.5000	-12.0000	637.3150	637.3150
GIRDER 6	BK. E. ABUT.	8283.5000	-16.8750	636.8518	636.8518
	℄ BRG. E. ABUT.	8284.3333	-16.8750	636.8543	636.8543
	A	8294.3333	-16.8750	636.8843	636.9024
	B	8304.3333	-16.8750	636.9143	636.9283
	C	8314.3333	-16.8750	636.9443	636.9599
	℄ PIER 1	8326.5000	-16.8750	636.9808	636.9808
	D	8336.5000	-16.8750	637.0108	637.0114
	E	8346.5000	-16.8750	637.0408	637.0444
	F	8356.5000	-16.8750	637.0708	637.0727
	℄ PIER 2	8369.5000	-16.8750	637.1098	637.1098
	G	8379.5000	-16.8750	637.1398	637.1597
	H	8389.5000	-16.8750	637.1698	637.1913
	I	8399.5000	-16.8750	637.1998	637.2113
	℄ BRG. W. ABUT.	8411.6667	-16.8750	637.2363	637.2363
	BK. W. ABUT.	8412.5000	-16.8750	637.2388	637.2388

DESIGNED	SCN
CHECKED	E.D
DRAWN	BAJ
CHECKED	SCN



FILLET AT INTERIOR BEAM



FILLET AT EXTERIOR BEAM

Note
To determine "t" After all structual steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown above minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

HANSEN, SCHNEEMAN & ASSOCIATES, INC.
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TOP OF SLAB ELEVATIONS
NEWHALL BRIDGE
F.A.U.S. RTE. 3509 SHERIDAN ROAD

SECTION	112-BR
COOK	COUNTY
STATION	83+48

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAUS 3509	112-BR	COOK	45	26
FED.ROAD DIST.NO.1		ILLINOIS PROJECT		

SHEET NO. 4 OF 12 SHEETS

281-#5 c_1(E) bars at 5½" cts top of sidewalk
130-#5 c_2 bars at 12"cts bottom of sidewalk
281-#5 c(E) bars at 5½" cts at curb at South sidewalk only
130-#5 c_3(E) bars at 12"cts at curb
5-#6 b_1(E) bars at 12" cts Top of Sidewalk between b(E) bars Typ. over Piers
1" Deep sawed joint in sidewalk
6x4-#5 b(E) bars at 12"cts top at each sidewalk
6x4-#5 b_2 bars at 12"cts bottom at each sidewalk
281-#5a(E) bars at 5½" cts at top of slab
194-#5 a_1 bars at 8"cts bottom of slab.
36x4-#5 b(E) at 12"cts top of slab
Varies from 40'-2" @ Pier 1 to 40'-8½" @ East Abutment
32x4-#5 b_2 bars at bottom of slab spaced as shown in cross section A-A below
35-#6 b_1(E) bars at 12"cts Top of slab between b(E) bars (Typ over Pier)
Varies Out to Out of Deck From Pier 1 to East Abutment 30'-0"
Dimension from Pier 1 to West Abutment
40'-2" from Pier #1 to W. Abutment
1'-8" LAP For #5 b_2 bars
1'-8" LAP For #5 b bar
℄ Pier 1
℄ Pier 2
℄ Roadway & Bridge
40'-8½" Out to Out Deck
30'-0"
5'-1"
5'-7½"±
6'-6"
9'-9"
7'-4"
11'-10"
A
B
94-#5 c_4(E) Span 1 and 187-#5 c(E) Spans 2 and 3 at 5½" cts at curb North sidewalk only.
1¾" at 50°F
42'-10¼"
43'-0"
128'-8½"
End of slab to End of slab

PLAN

Note:
- Reinf. Bars designated (E) shall be epoxy coated. See Special Provisions.
- Bars indicated thus 36x4-#5 etc., indicates
- that 36 lines of bars with 4 length per line.
- Lap in Accordance with Latest Edition of ASSHTO
- Section 15.13 & 15.22. For Section A-A see sheet 8.

℄ of Roadway & Bridge
Varies 40'-8½"± at E. Abut. to 40'-2" at Pier 1 to W. Abut.
30'-0" face to face of sidewalk
5'-1"
3'-0"
12'-0"
12'-0"
3'-0"
Varies 5'-7½" to 5'-1" (see Plan)
Longitudinal bonded construction joint do not edge.
Profile Grade.
Slope 3/16" / FT.
Slope 3/16" / FT.
2% Crown Drop
c_1(E)
b(E)
b_2
c_2
c_3(E)
b_1(E)
c(E)
a(E)
a_1
c'(E) or c_4(E)
b_2
c_2
c_3(E)
Exist. Deck, Topping Beams & Diaphragm to be removed
Exist. 6" Deck & 4" Topping
2'-4½"
7½"
10½" 6-#5 b_2 bars at 12"cts
Exist Bm. Dimensions
8" 8" 5'-5" 8" 8"
3'-2'2"
5 spaces at 6'-9" = 33'-9"
① NEAR PIER
NEAR MIDSPAN ⑥ see plan.

CROSS SECTION B-B
Looking West

b_1(E) over Piers only
1¼"
2¼ cl.
1" Deep sawed joints in Sidewalk (See plan for location)
Concrete Joint Sealer with Backer Rod (See Special Provision)
c_1(E)
b(E)
a(E)
a_1
1" 9"
2¼ cl. (± 4)
1'-0" clr
b_1(E)
c(E)
b_2
c_2
c_3(E)
¾" chamfer Typical
½" Typical
Bonded Construction Joint (Mandatory)
Varies 5'-1" to 5'-7½" see plan
5'-1" South Walk.
North Walk.
Varies 3'-2'2" to 3'-9'2" see plan.

SIDEWALK SECTION

2'-3" 1½" 2'-3" c(E)
2'-11" 2'-11" c_4(E)
1'-1"

BAR C(E) & C_4(E)

1'-2"
6" 6"

BAR C_3(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	281	5	34'-10	
a_1	194	5	34'-10	
b(E)	192	5	33'-5"	
b_1(E)	90	6	19'-2"	
b_2	176	5	33'-5"	
c(E)	468	5	5'-7"	
c_1(E)	562	5	4'-8"	
c_2	260	5	4'-8"	
c_3(E)	260	5	2'-2"	
c_4(E)	94	5	6'-11"	

ITEM	Unit	TOTAL
Concrete Joint Sealer w/ Backer Rod	Linear Feet	258
Protective Coat	Sq. Yds.	597.4
Removal of existing Superstructure	Each	1
Reinforcement Bar	Lbs	14,450
Class X Concrete	Cu. Yds.	140.4
Reinf. Bars (Epoxy Coated)	Lbs.	26,220

DESIGNED	SCN
CHECKED	E.D.
DRAWN	BAJ
CHECKED	SCN

HANSEN, SCHNEEMAN & ASSOCIATES, INC.
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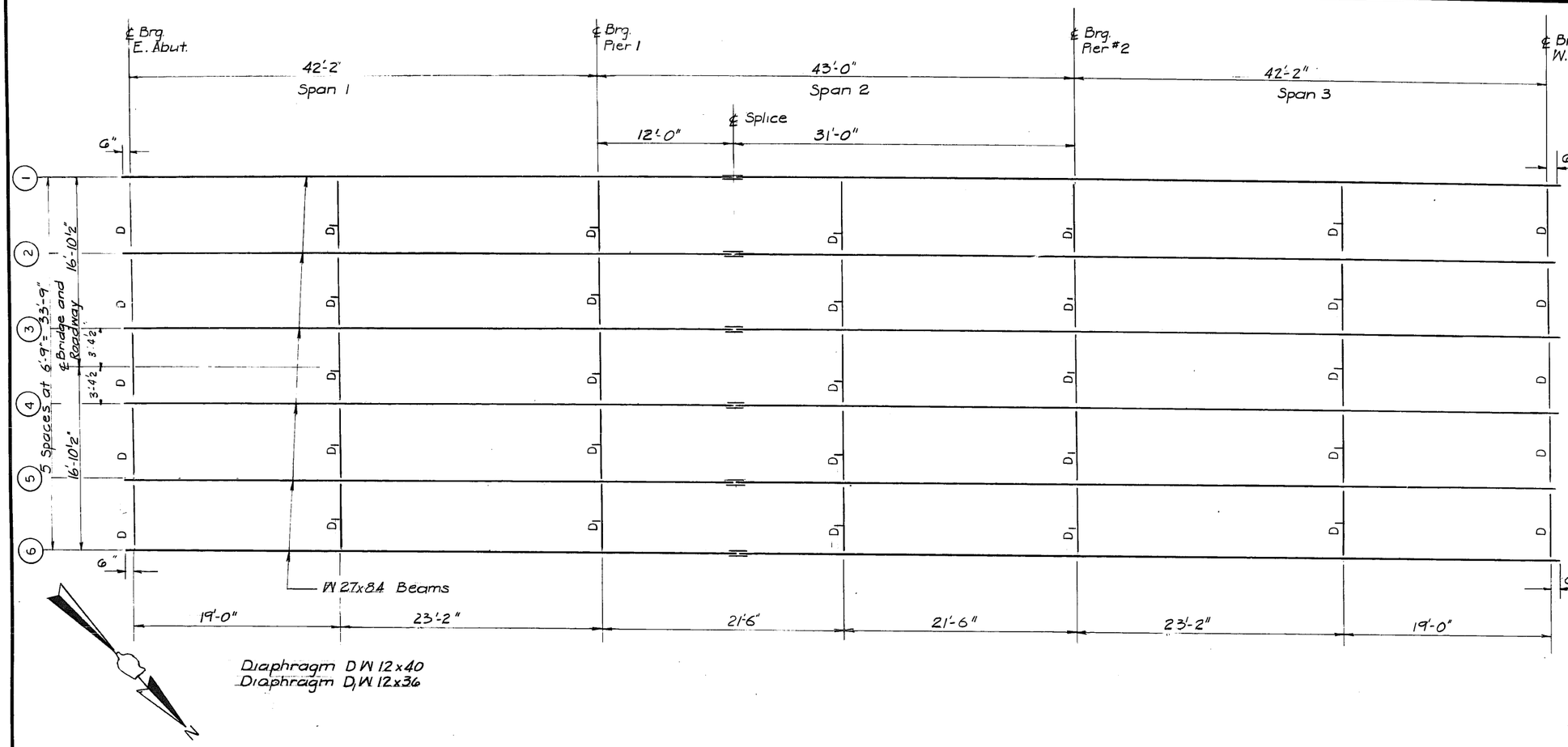
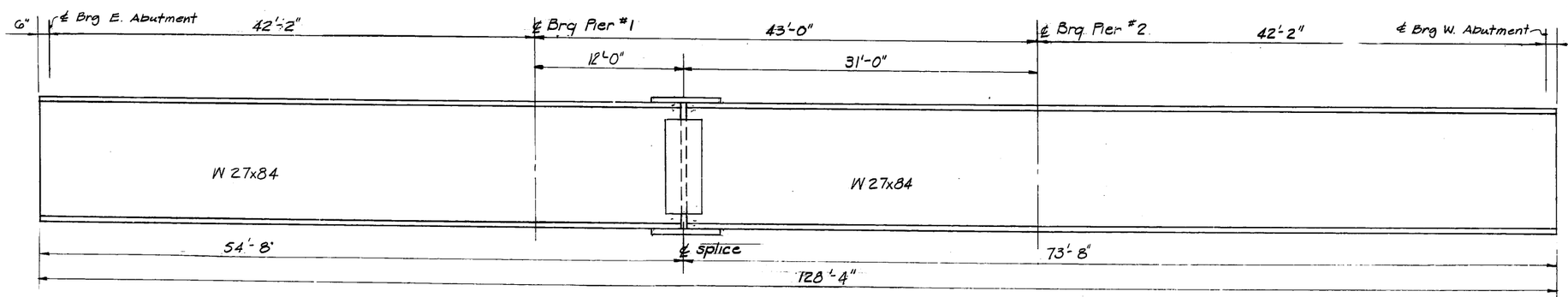
SUPERSTRUCTURE
NEWHALL BRIDGE
F.A.I.S. PTE. 3509 SHERIDAN ROAD

SECTION	112-BR
COOK	COUNTY
STATION	83+48

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAUS 3509	112- BR	COOK	45	27
FED. ROAD DIST. NO. 1		ILLINOIS PROJECT		

SHEET NO. 5 OF 12 SHEETS





TOP OF BEAM ELEVATIONS *

Beam No.	℄ Brg. E. Abut.	℄ Pier 1	℄ Splice	℄ Pier 2	℄ Brg W. Abut.
1	636.188	636.272	636.298	636.412	636.570
2	636.293	636.378	636.404	636.517	636.675
3	636.399	636.483	636.509	636.623	636.781
4	636.399	636.483	636.509	636.623	636.781
5	636.293	636.378	636.404	636.517	636.675
6	636.188	636.272	636.298	636.412	636.570

* For Fabrication only.

INTERIOR BEAM MOMENT TABLE

	Pier	0.4 Span 1 or 3	0.5 Span 2
I (IN 4)	2830	2830	2830
D (K&F)	1.093	1.093	1.093
M_D (FK)	202.1	161.7	50.5
M_L (FK)	172	240.8	195.0
Mimp (FK)	51.6	72.2	58.5
Total M (FK)	425.7	474.7	304.0
fs total (ksi)	24.10	26.9	17.2

*Includes allowance for Future Wearing Surface

INTERIOR BEAM REACTIONS

	Abut.	Pier
R_D (k)	18.8	51.7
R_L (k)	37.2	45.7
Imp (k)	11.2	11.4
Rtotal (K)	67.2	108.8

BILL OF MATERIALS

Item	Unit	Total
Structural Steel	Lbs	*77,430

*Includes weight of Steel Brg. Assembly. Approx Wt. of Fixed Bearing Assembly = 810 lbs. Quantity Elastomeric Expansion Bearings = 18

NOTE

- The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the tension flanges, web and all splice plate material of the steel girders or wide flange
- For Splice and Diaphragm details see sheet, 6

DESIGNED	SCN
CHECKED	E.D.
DRAWN	B.A.J.
CHECKED	SCN

HANSEN, SCHNEEMAN & ASSOCIATES, INC.
CONSULTING ENGINEERS
223 West Jackson Blvd., Suite 703
Chicago, Illinois — 60604

STRUCTURAL STEEL
NEWHALL BRIDGE
F.A.U.S. RTE. 3509 SHERIDAN ROAD

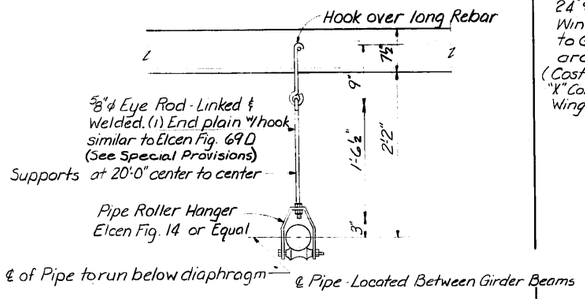
SECTION 112-BR
COOK COUNTY
STATION 83+48.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAUS 3509	112-BR	COOK	45	28
FED. ROAD DIST. NO. 1		ILLINOIS PROJECT		

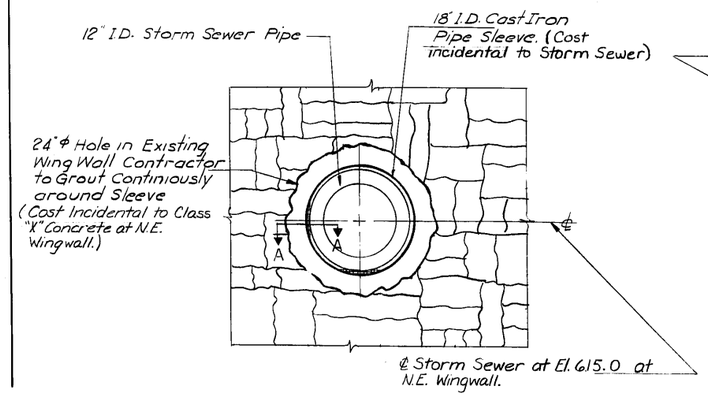
SHEET NO. 6 OF 12 SHEETS

FOR INFORMATION ONLY

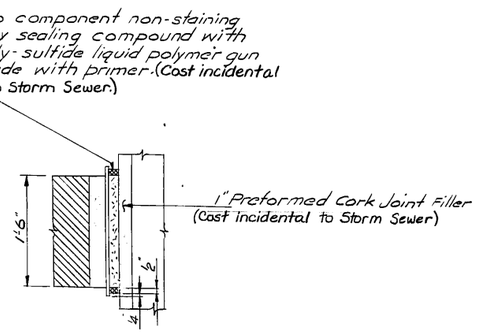
. . . . BY OTHERS



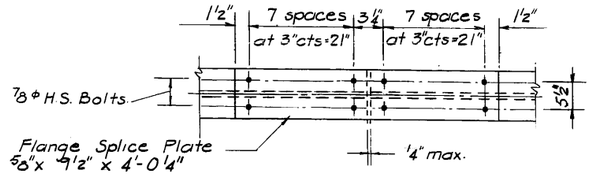
SUPPORT FOR GAS PIPE

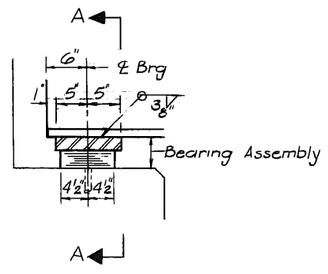


DETAIL OF SEWER AT N.E. WING WALL

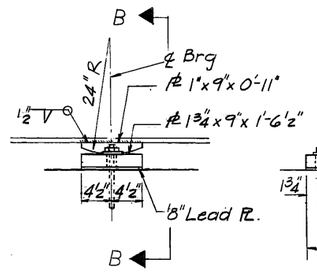


SECTION A-A

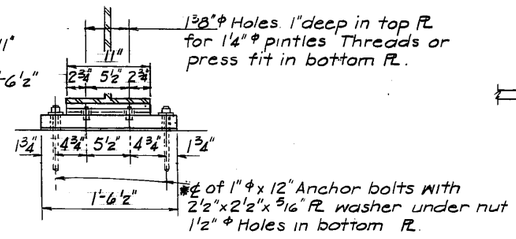




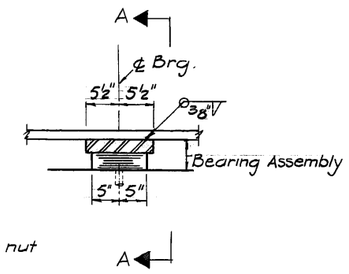
SECTION AT ABUT.



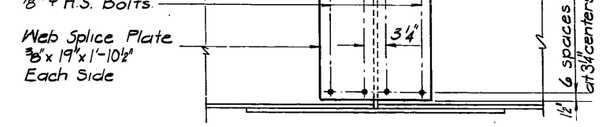
ELEVATION AT PIER 2



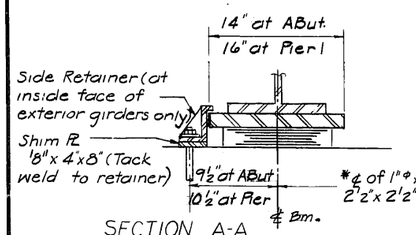
SECTION B-B



SECTION AT PIER 1

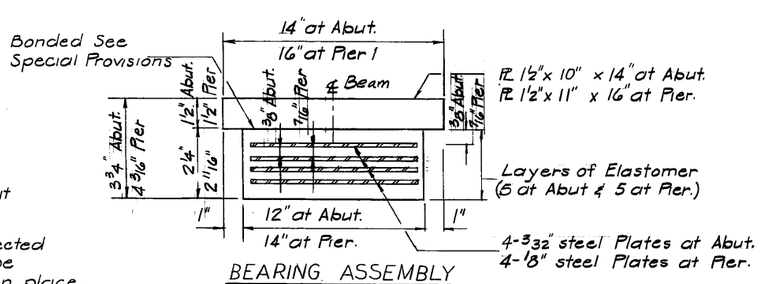


DETAIL OF SPLICE

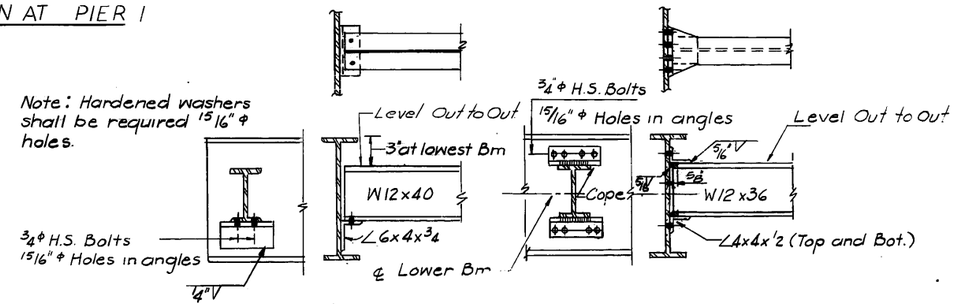


SECTION A-A

*Note: After beams have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonary.

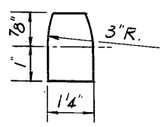


BEARING ASSEMBLY

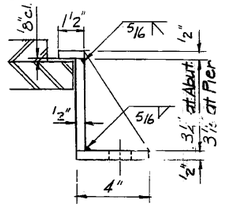


DIAPHRAGM D
10 Required

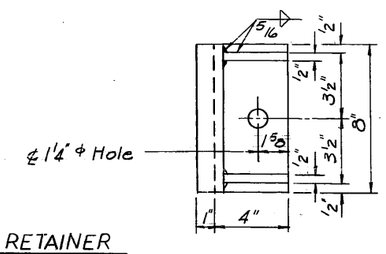
DIAPHRAGM D1
30 Required



PINTLE



SIDE RETAINER



DESIGNED	SCN
CHECKED	E.D.
DRAWN	B.A.J.
CHECKED	SCN

HANSEN, SCHNEEMAN & ASSOCIATES, INC.
CONSULTING ENGINEERS
223 West Jackson Blvd., Suite 703
Chicago, Illinois — 60604

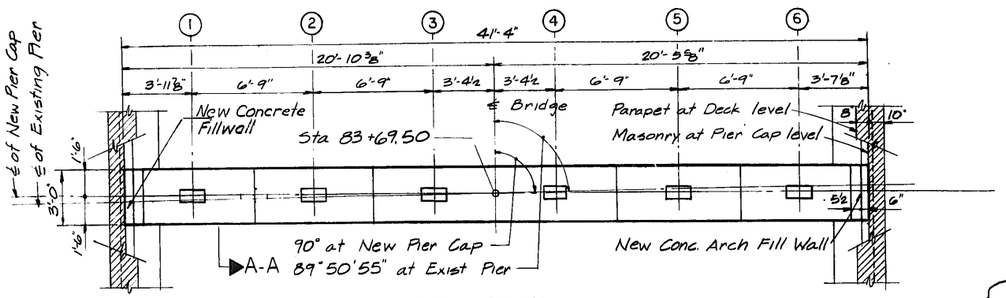
BEARING & MISC. DETAILS
NEWHALL BRIDGE
F.A.U.S. RTE. 3509 SHERIDAN ROAD

SECTION	112-BR
COUNTY	COOK
STATION	83+48

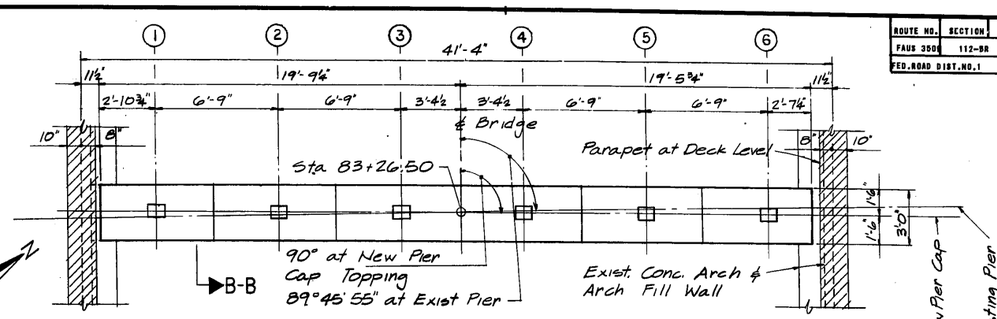
Rev. 4/17/78 N.M.D.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAUS 3509	112-BR	COOK	45	29
FED. ROAD DIST. NO. 1		ILLINOIS	PROJECT	

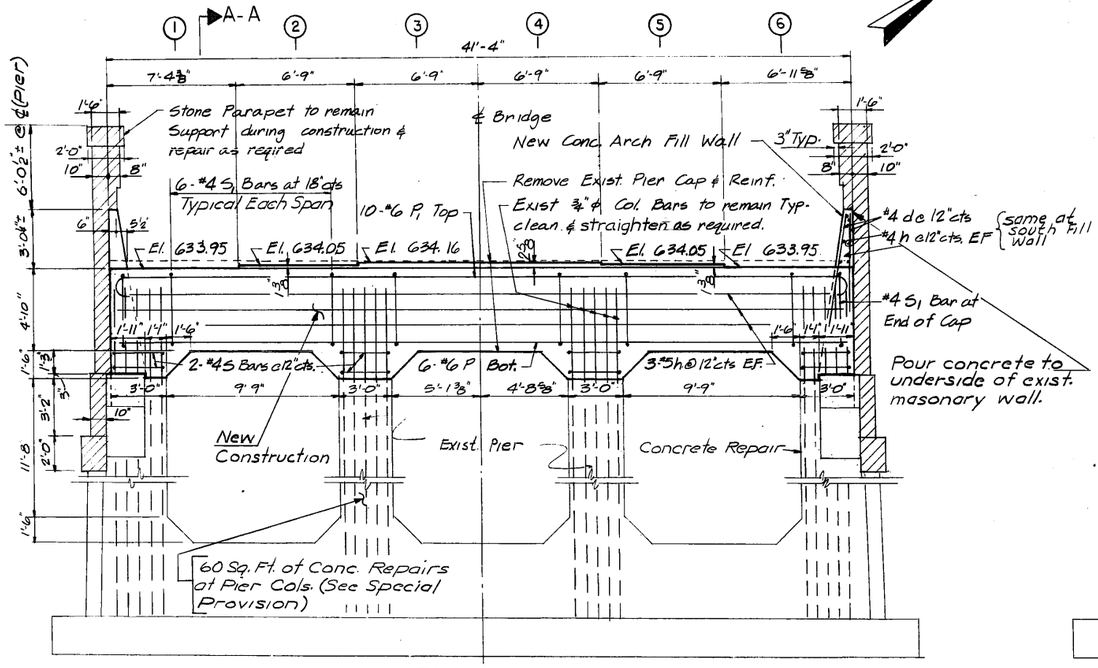
SHEET NO. ; OF 12 SHEETS



TOP PLAN

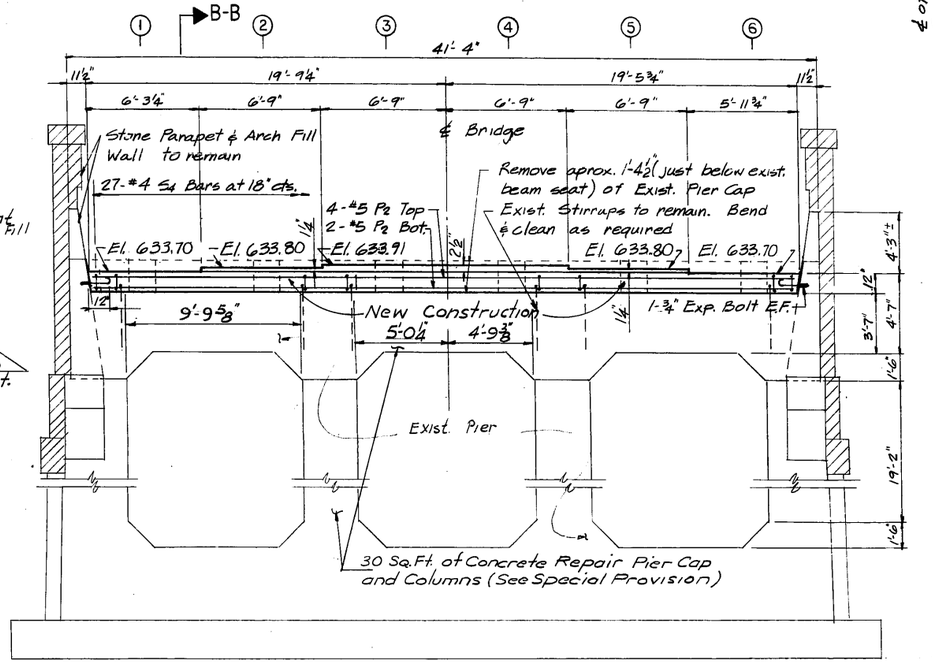


TOP PLAN



ELEVATION

PIER N° 2



ELEVATION

PIER N° 1

BILL OF MATERIAL PIER N° 1

Bar	N°	Size	Length	Shape
P2	6	#5	39'-0"	
S4	27	#4	6'-6"	

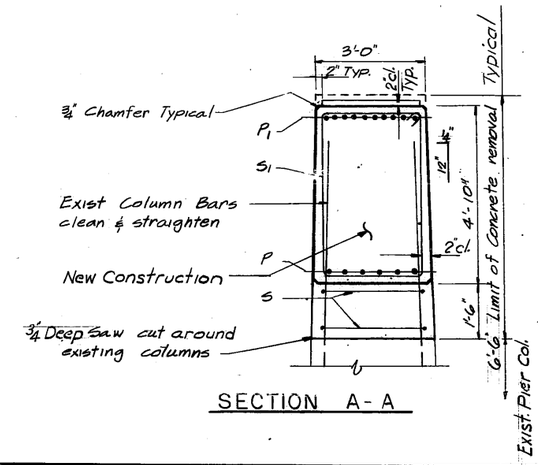
ITEM	UNIT	TOTAL
Reinforcement	Lbs	360
Class "X" Concrete	Cu Yds	4.7
Concrete Removal	Cu Yds	6.0
Expansion Bolts ¾ ϕ	Ea.	4
Concrete Repair	Sq Ft.	30

BILL OF MATERIAL PIER N° 2

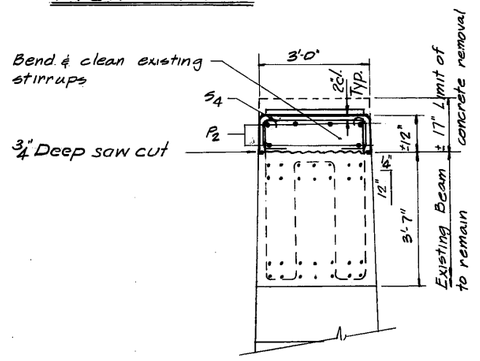
Bar	N°	Size	Length	Shape
d	12	#4	4'-6"	
h	12	#4	2'-9"	
S	8	#4	11'-9"	
S1	20	#4	15'-1"	
P	6	#6	41'-0"	
P1	10	#6	42'-2"	

ITEM	UNIT	TOTAL
Reinforcement	Lbs	1,330
Class "X" Concrete	Cu. Yds.	26.7
Concrete Removal	Cu Yds	28.0
Repair Conc. Structure	Sq Ft.	60.

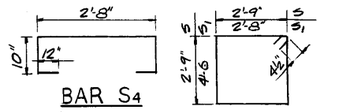
Note:
Bond Joint, Between Existing and New Conc. In accordance with Article 504-13(a)(2)



SECTION A-A

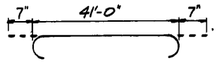


SECTION B-B



BAR S4

BAR S & S1



BAR P1

DESIGNED	SCN
CHECKED	AS
DRAWN	SCN
CHECKED	FD

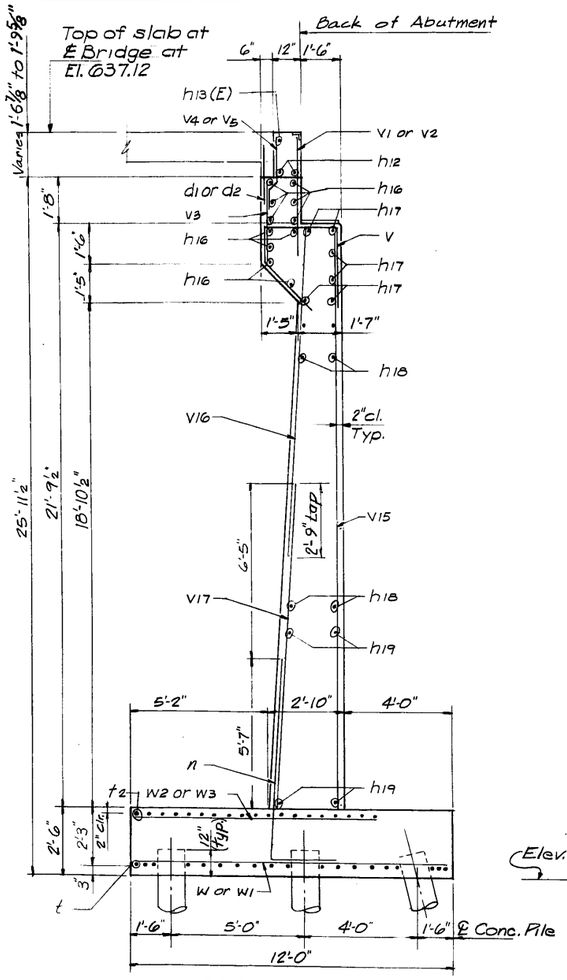
HANSEN, SCHNEEMAN & ASSOCIATES, INC.
CONSULTING ENGINEERS
223 West Jackson Blvd., Suite 703
Chicago, Illinois — 60604

PIERS 1 & 2
NEWHALL BRIDGE
F.A.U.S. RTE. 3509 SHERIDAN ROAD

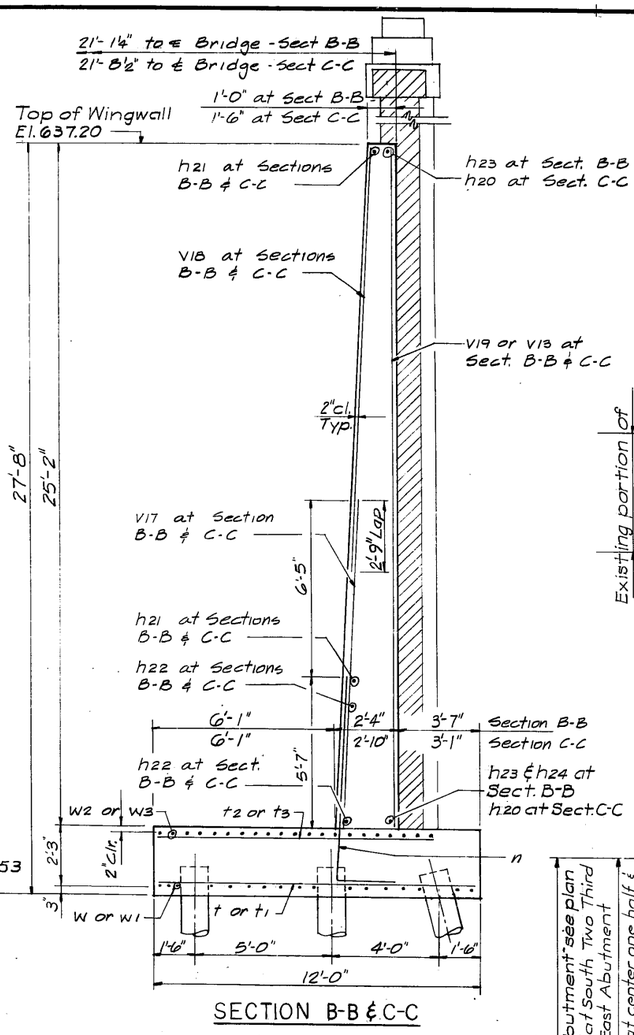
SECTION	112-BR
COOK	COUNTY
STATION	83+48

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAUS 3508	112-BR	COOK	45	30
FED. ROAD DIST. NO. 1	ILLINOIS	PROJECT		

SHEET NO. 8 OF 12 SHEETS

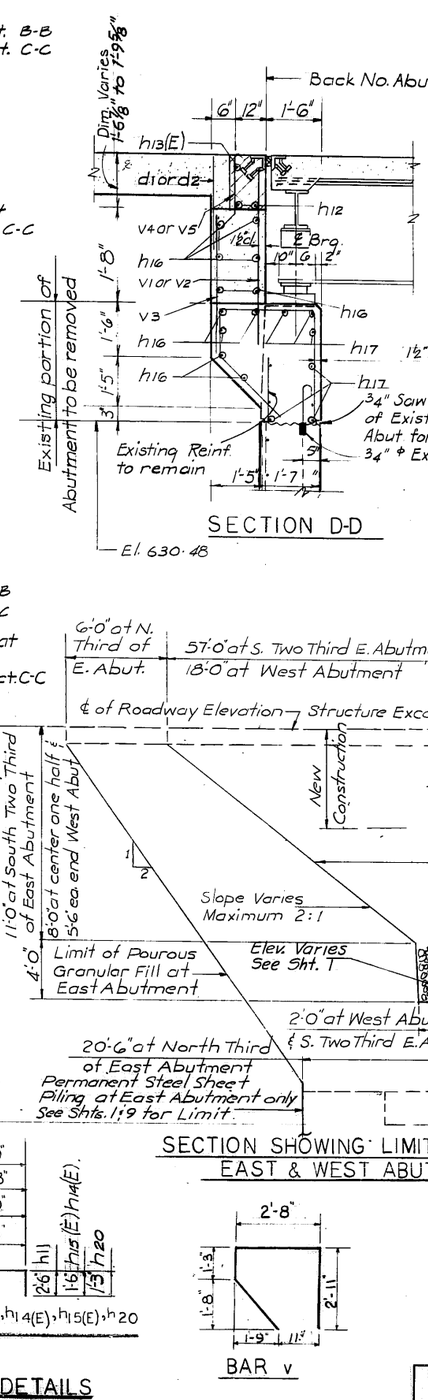


SECTION A-A



SECTION B-B & C-C

Note:
Bond joint between new and existing concrete in accordance with Article 504.13 (a) (2)



SECTION D-D

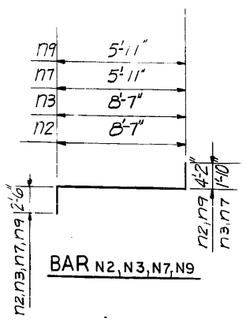
Note:
For Location of Sections (See Sheet No. 9)

PILE DATA
Type - Concrete Piles
Capacity = 40 Ton
Estimated Length = 42'-0"
No. Required = 24 + 1 Test Pile in Permanant Location

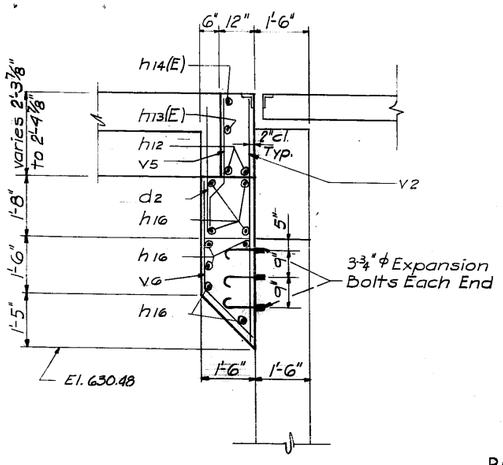
BILL OF MATERIALS

Bar	No	Size	Length	Shape
d1	29	5	3'-0"	
d2	12	5	3'-9"	
h11	72	5	5'-0"	
h12	2	6	39'-8"	
h13(E)	1	6	39'-8"	
h14(E)	1	5	6'-3"	
h15(E)	1	5	6'-9"	
h16	11	5	41'-2"	
h17	5	5	40'-3"	
h18	24	5	13'-9"	
h19	16	5	9'-2"	
h20	26	5	10'-1"	
h21	22	5	21'-8"	
h22	4	5	17'-2"	
h23	22	5	15'-0"	
h24	4	5	10'-2"	
n	61	9	10'-3"	
n1	4	9	10'-6"	
n2	13	8	15'-3"	
n3	13	8	12'-11"	
n4	20	8	5'-0"	
n5	24	5	6'-3"	
n6	11	9	13'-0"	
n7	7	8	10'-3"	
n8	15	5	6'-2"	
n9	13	8	12'-7"	
t	17	8	14'-8"	
t1	15	8	11'-8"	
t2	28	8	12'-9"	
t3	29	8	8'-9"	
t4	31	5	9'-2"	
V	38	5	9'-3"	
V1	29	4	4'-6"	
V2	12	4	5'-3"	
V3	38	4	2'-11"	
V4	29	4	3'-3"	
V5	12	4	4'-0"	
V6	1	4	4'-10"	
V15	10	5	21'-7"	
V16	15	6	12'-5"	
V17	31	9	12'-0"	
V18	20	6	15'-9"	
V19	18	5	25'-0"	
V20	4	5	15'-3"	
V21	5	5	21'-0"	
W	10	8	11'-8"	
W1	9	8	23'-6"	
W2	8	8	20'-9"	
W3	21	8	8'-9"	

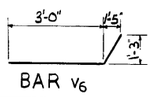
ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	118.4
Reinforcement Bar	Lbs.	16,550
Reinf. Bar Epoxy Coat	Lbs.	75
Concrete Fr. ...oval	Cu. Yds.	7.1.0
Expansion Bolt ¾"ϕ	Ea.	100
Structure Excavation	Cu. Yds.	1091.3
Porous Gran. Embank.	Cu. Yds.	961.7
Test Piles	Ea.	1
Furn. Conc. Piles	Lin. Ft.	1008
Driving Conc. Piles	Lin. Ft.	1008
Repair Conc. Structure	Sq. Ft.	30
Perm. Stl. Sht. Piling	Sq. Ft.	720



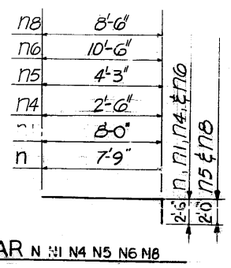
BAR N2, N3, N7, N9



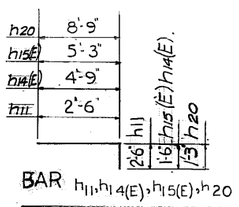
SECTION E-E



BAR V6

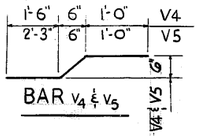


BAR N, N1, N4, N5, N6, N8



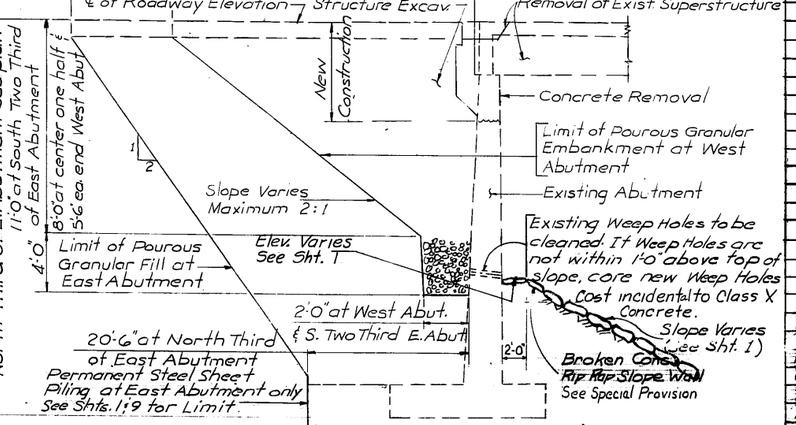
BAR $h_{11}, h_{14(E)}, h_{15(E)}, h_{20}$

BAR V



BAR V_4 & V_5

BAR DETAILS



SECTION SHOWING LIMITS OF EXCAVATION EAST & WEST ABUTMENT

DESIGNED	S.C.N.
CHECKED	E.D.
DRAWN	B.A.J.
CHECKED	A.S.

EAST ABUTMENT
NEWHALL BRIDGE

F.A.U.S. RTE. 3508 SHERIDAN ROAD

SECTION	112-BR
COUNTY	COOK
STATION	83+48

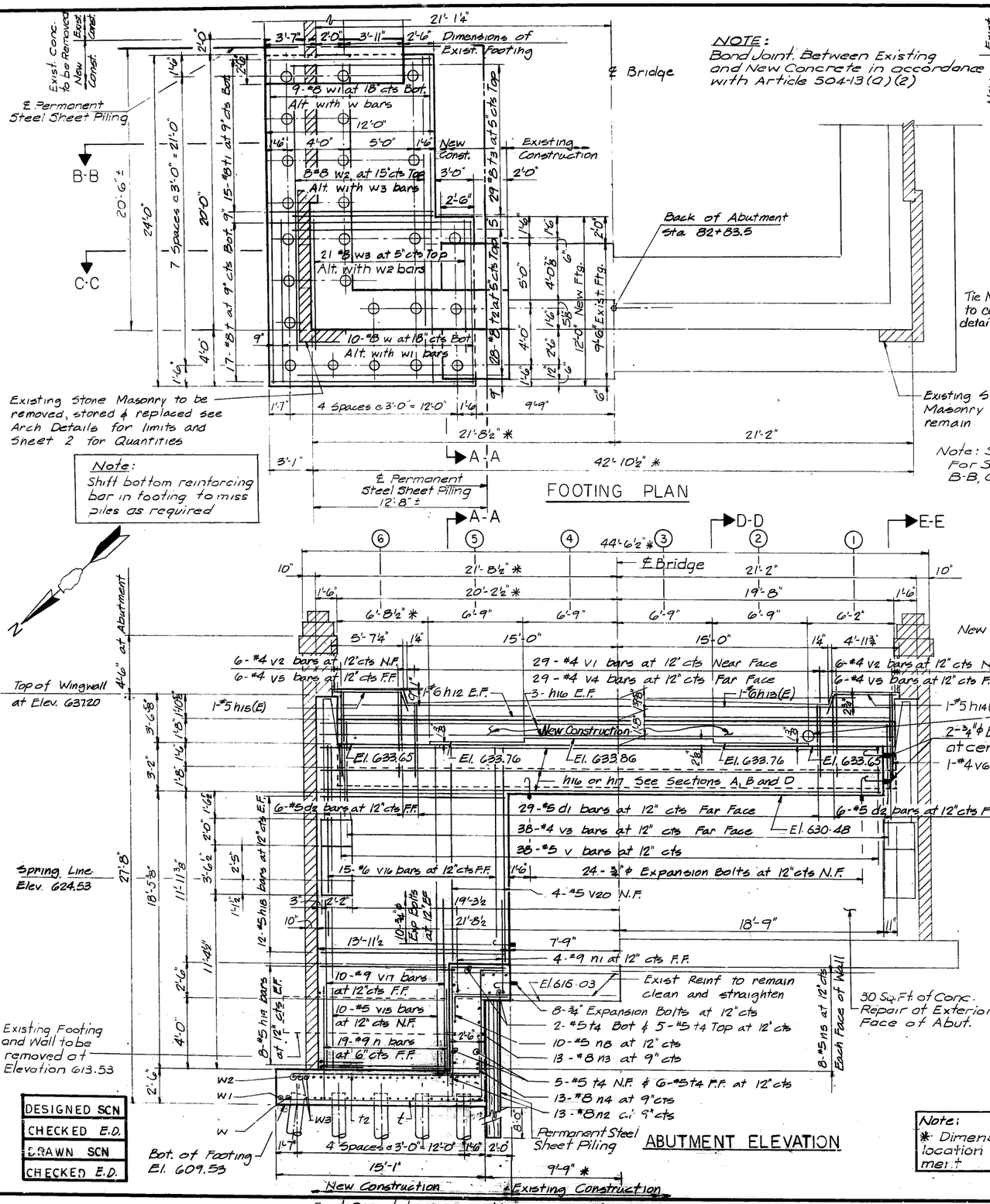
HANSEN, SCHNEEMAN & ASSOCIATES, INC.
CONSULTING ENGINEERS
223 West Jackson Blvd., Suite 703
Chicago, Illinois — 60604

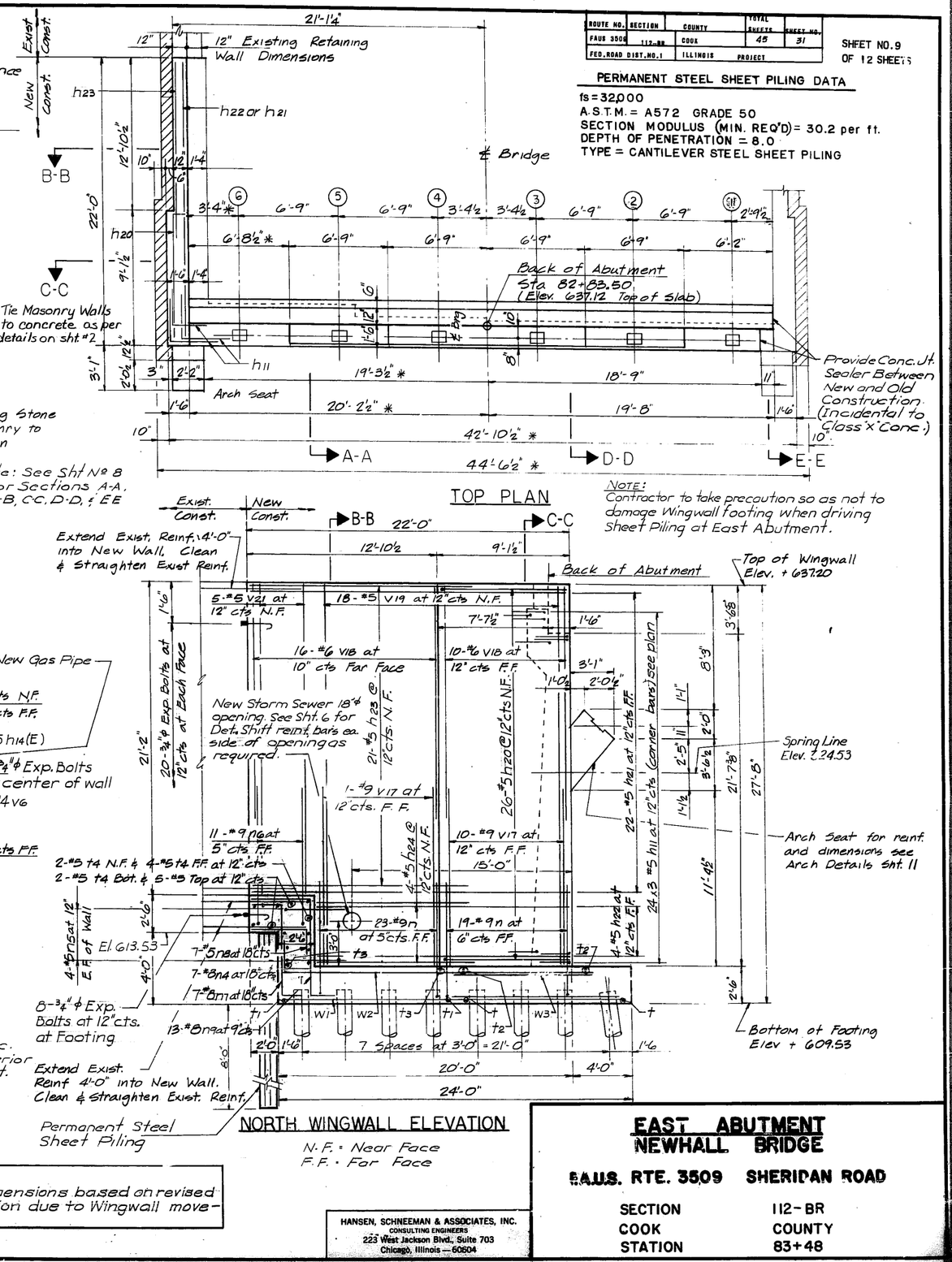
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAUS 3506	112-BR	COOK	45	31
FED. ROAD DIST. NO. 1	ILLINOIS	PROJECT		

SHEET NO. 9 OF 12 SHEETS

PERMANENT STEEL SHEET PILING DATA

fs = 32,000
A.S.T.M. = A572 GRADE 50
SECTION MODULUS (MIN. REQ'D) = 30.2 per ft.
DEPTH OF PENETRATION = 8.0
TYPE = CANTILEVER STEEL SHEET PILING





Note:
* Dimensions based on revised location due to Wingwall movement.

DESIGNED	SCN
CHECKED	E.D.
DRAWN	SCN
CHECKED	E.D.

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Chicago, Illinois — 60604

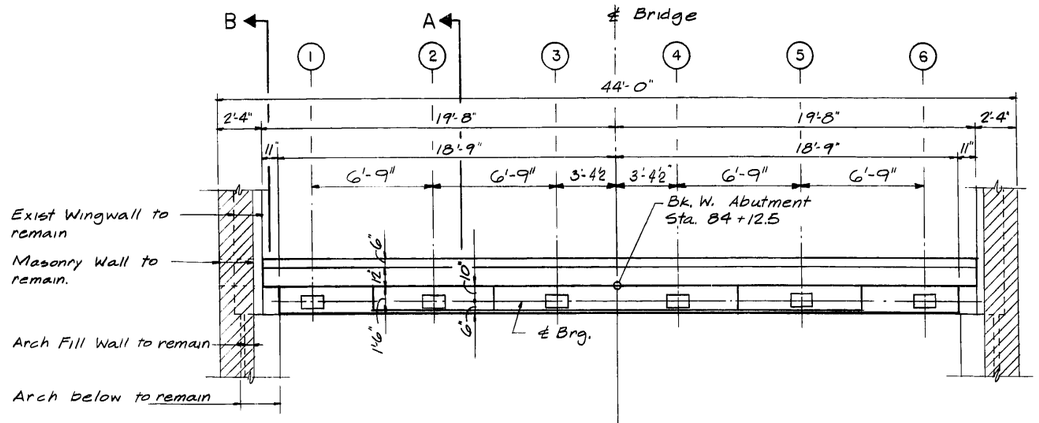
EAST ABUTMENT
NEWHALL BRIDGE

F.A.U.S. RTE. 3509 SHERIDAN ROAD

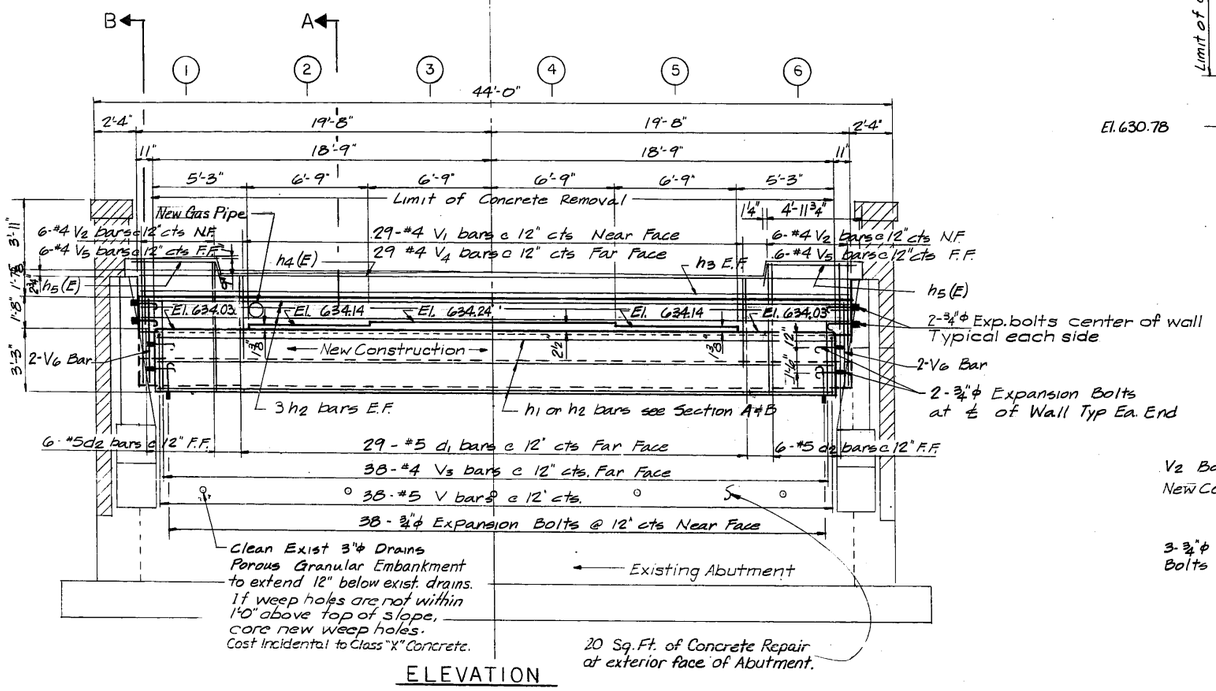
SECTION	112-BR
COOK	COUNTY
STATION	83+48

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAUS 3509	112-BR	COOK	45	32
FED. ROAD DIST. NO. 1	ILLINOIS	PROJECT		

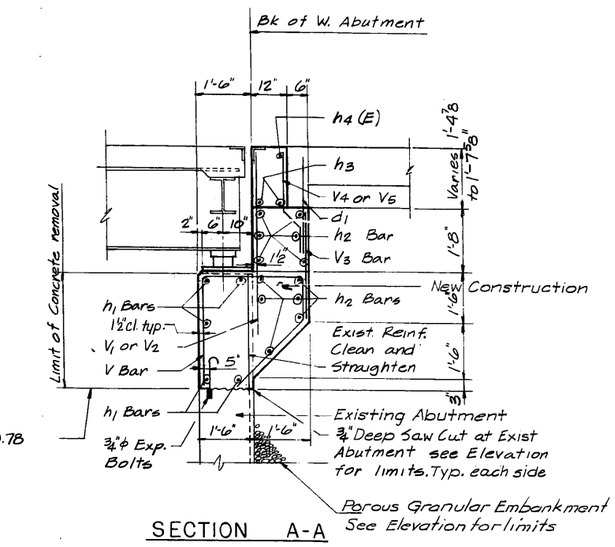
SHEET NO. 10 OF 12 SHEETS



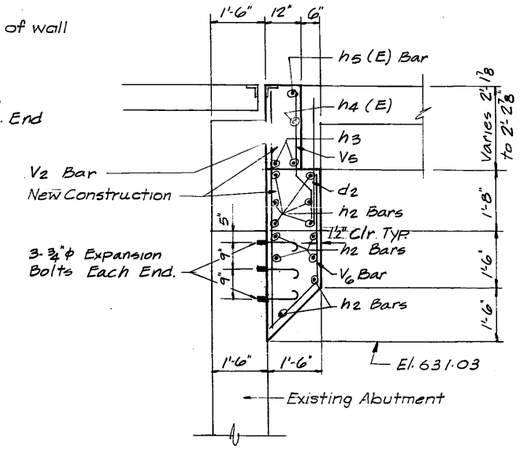
PLAN



ELEVATION



SECTION A-A

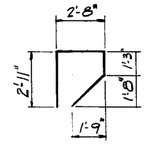


SECTION B-B

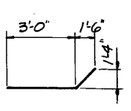
BILL OF MATERIAL

Bar	No	Size	Length	Shape
d1	29	#5	3'-0"	
d2	12	#5	3'-9"	
h1	5	#5	37'-4"	
h2	12	#5	39'-2"	
h3	2	#6	39'-2"	
h4(E)	1	#6	39'-2"	
h5(E)	2	#5	6'-3"	
V	38	#5	9'-3"	
V1	29	#4	4'-6"	
V2	12	#4	5'-3"	
V3	38	#4	2'-10"	
V4	29	#4	3'-3"	
V5	12	#4	4'-0"	
V6	4	#4	5'-0"	

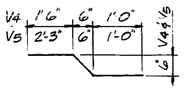
ITEM	UNIT	TOTAL
Structure Excavation	Cu Yds	128.3
Porous Granular Embank.	Cu Yds.	82.3
Class X Concrete	Cu Yds	17.8
Reinforcement Bars	Lbs.	1540
Reinf. Bars (Epoxy Coated)	Lbs.	70
Concrete Removal	Cu Yds	6.6
Expansion Bolts ¾"ϕ	Ea	46
Repair Conc Structure	Sq. Ft.	20



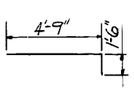
BAR V



BAR V6



BAR V4 & V5



BAR h5(E)

Note:
Bond joint between new and existing concrete in accordance with Article 504.13 (a) (2)

DESIGNED	SCN
CHECKED	E.D
DRAWN	BAJ
CHECKED	SCN

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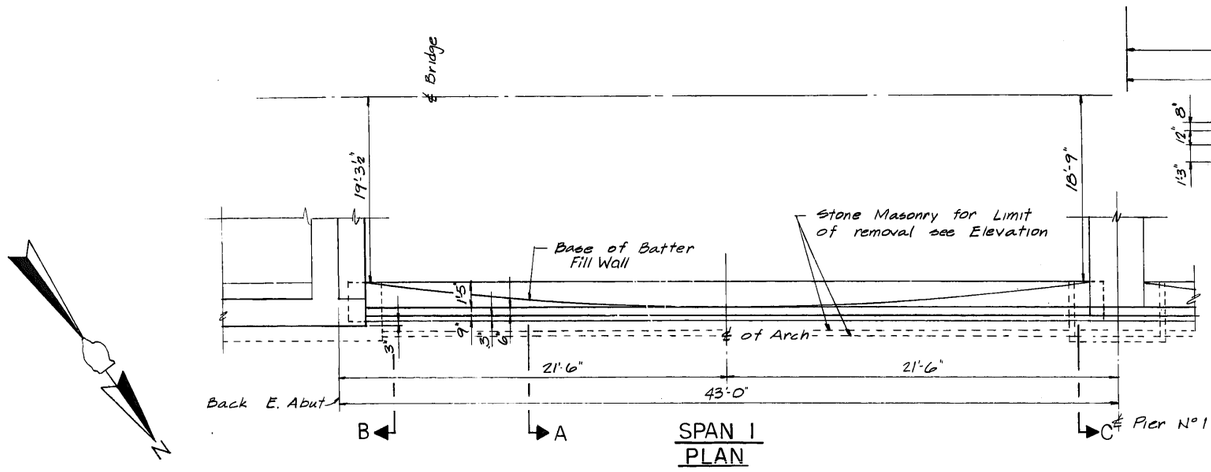
Chicago, Illinois — 60604

WEST ABUTMENT
NEWHALL BRIDGE
FAUS. RTE. 3509 SHERIDAN ROAD

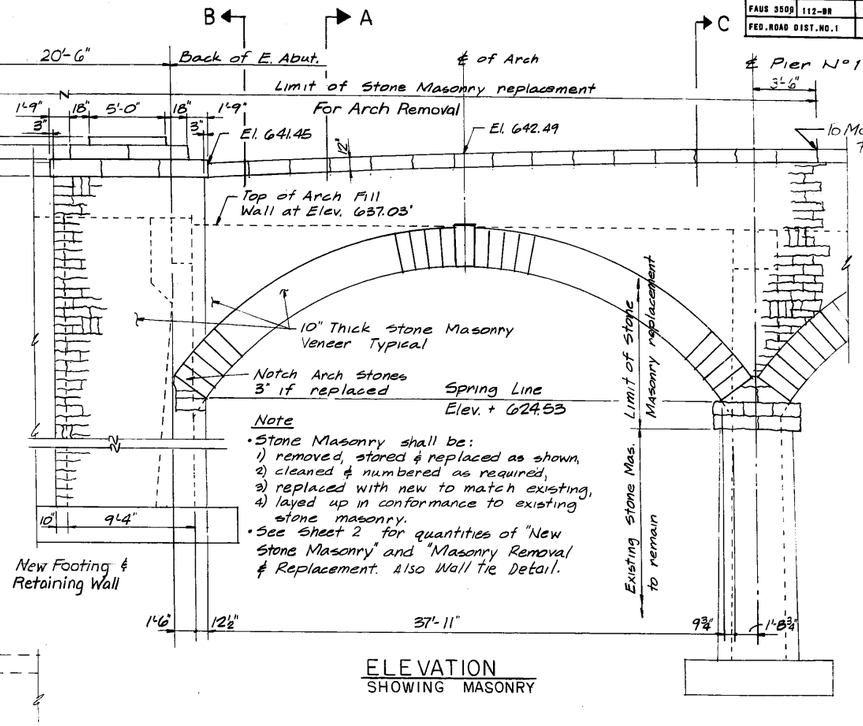
SECTION	112-BR
COOK	COUNTY
STATION	83+48

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAUS 3509	112-BR	COOK	45	33
FED. ROAD DIST. NO. 1	ILLINOIS	PROJECT		

SHEET NO. 11 OF 12 SHEETS



SPAN I
PLAN



Note
- Stone Masonry shall be:
  1) removed, stored & replaced as shown,
  2) cleaned & numbered as required,
  3) replaced with new to match existing,
  4) layed up in conformance to existing stone masonry.
- See Sheet 2 for quantities of "New Stone Masonry" and "Masonry Removal & Replacement. Also Wall tie Detail.

ELEVATION
SHOWING MASONRY

BILL OF MATERIAL

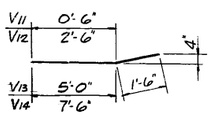
Bar	N°	Size	Length	Shape
d3	3	#6	6'-6"	
d4	3	#6	9'-9"	
h6	4	#4	15'-0"	
h7	8	#4	13'-6"	
h8	8	#4	7'-6"	
h9	6	#6	22'-1"	
h10	6	#6	24'-0"	
S2	27	#4	9'-5"	
S3	27	#4	3'-6"	
V1	8	#4	2'-0"	
V6	6	#4	4'-0"	
V9	8	#4	6'-6"	
V10	6	#4	9'-0"	
V11	8	#4	2'-0"	
V12	8	#4	4'-0"	
V13	8	#4	6'-6"	
V14	6	#4	9'-0"	

ITEM	UNIT	TOTAL
Reinforcement	Lbs.	1080
Class X Concrete	Cu. Yds.	15.8
Removal of Existing Arch	Cu. Yds.	15.8

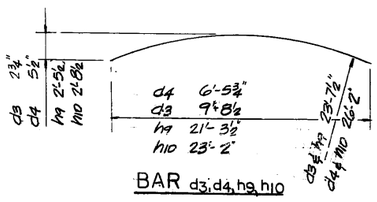
SPAN -I

Note:
For dimensions of Arch Seat see sheet 9 North Wingwall Elevation.

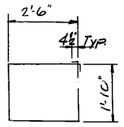
NORTH ARCH ONLY
ELEVATION "A"
SHOWING REINFORCING



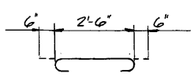
BAR V11, 12, 13, 14



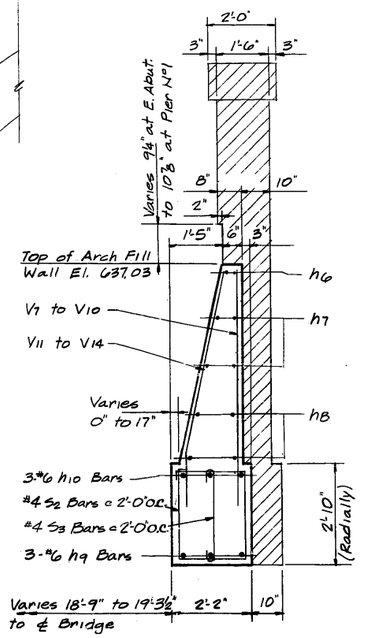
BAR d3, d4, h9, h10



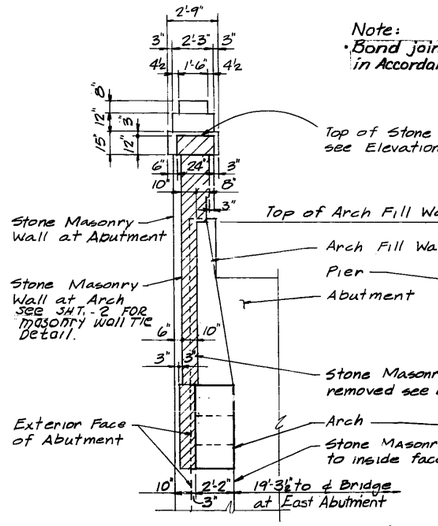
BAR S2



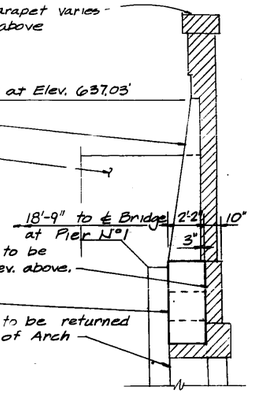
BAR S3



SECTION A A



SECTION B B



SECTION C C

Note:
- Bond joint between new and existing concrete in Accordance with Article 504.13 (a)(2).

DESIGNED	SCN
CHECKED	E.D.
DRAWN	SCN
CHECKED	E.D.

ARCH @ SPAN I
NEWHALL BRIDGE
F.A.U. RTE. 3509 SHERIDAN ROAD

SECTION	112-BR
COOK	COUNTY
STATION	83+48

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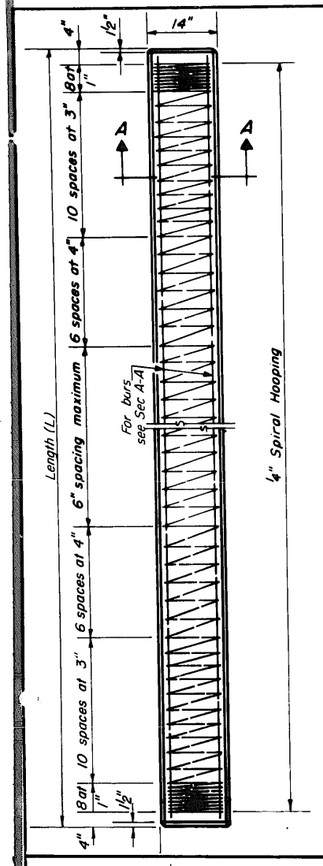
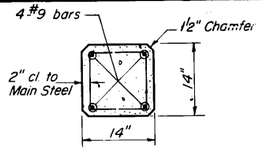
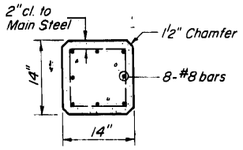
Chicago, Illinois — 60604



DETAIL OF PRECAST CONCRETE PILES

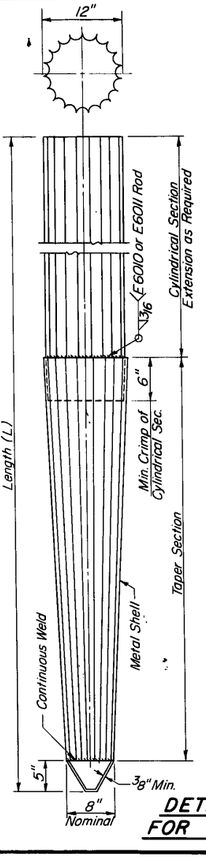


SECTION A-A FOR PILES UNDER 45' LONG

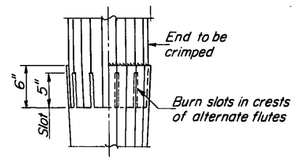


SECTION A-A FOR PILES 45' OR MORE

Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12 L from each end and at mid point of pile.

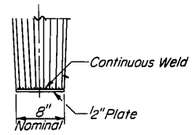


DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



FIELD CRIMP DETAIL

Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.

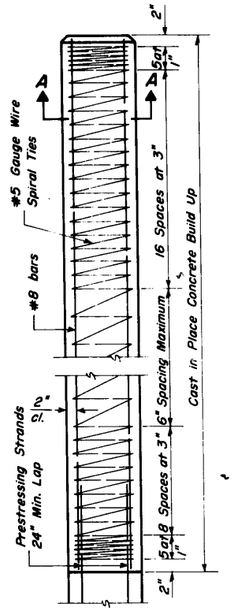


OPTIONAL FLAT END

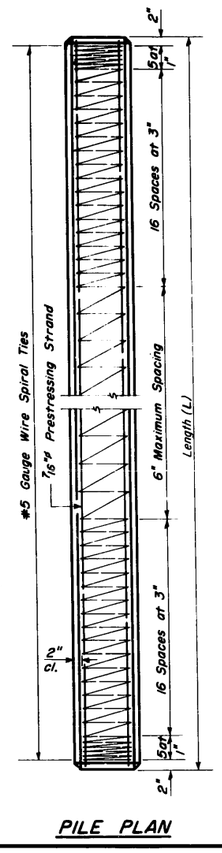
ALLOWABLE TAPER SECTIONS

10' Length - Taper 1" in 2'-6"
17' Length - Taper 1" in 4'-0"
25' Length - Taper 1" in 7'-0"
30' Length - Taper 1" in 7'-0"

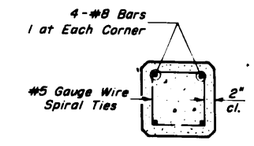
NOTE:
The thickness of the shell shall be 0.1793 inches with a tolerance of 5%.



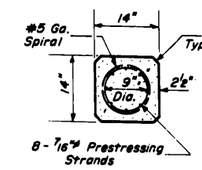
PILE BUILD UP



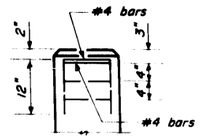
PILE PLAN



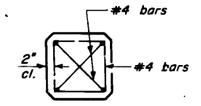
SECTION A-A



SECTION THRU PILE



ELEVATION
(End Reinforcement)



PLAN
(End Reinforcement)

DESIGN STRESSES

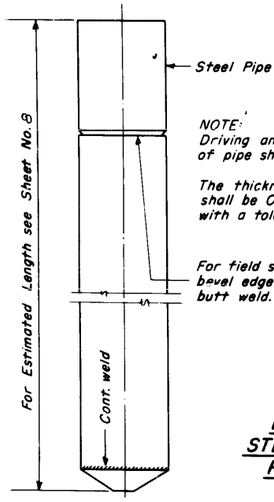
f'c' = 5,000 psi.
f'ci = 4,000 psi.
fs' = 270,000 psi. (31,000 lbs.)
fsi = 188,000 psi. (21,700 lbs.-7/16"ϕ or 29,300 lbs.-1/2"ϕ)

NOTES

Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.1155 sq.in. or the equivalent 6-1/2"ϕ strands with a cross-sectional area of 0.155 sq.in. may be used.

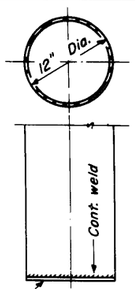
For Pile lengths up to 65', use two slings placed at a distance of 0.21 L * from each end. For Piles longer than 65', use three slings placed at a distance of 0.12 L * from each end and at mid-point of pile. * L = Over all length of pile to be handled.

PRECAST PRESTRESSED CONCRETE PILE



NOTE:
Driving and bearing ends of pipe shall be cut square.

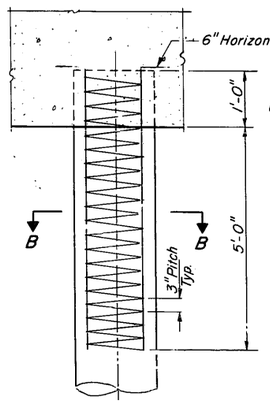
The thickness of the shell shall be 0.1793 inches with a tolerance of 5%.

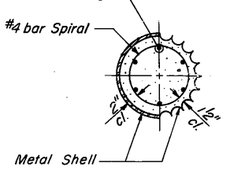


OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

The cost of Reinforcement is incidental to the cost of furnishing piles.

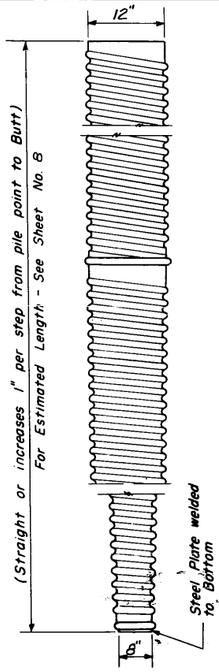




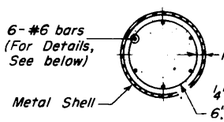
SECTION B-B

Reinforcement in top of pile shall be omitted under pier footings when placed in natural ground.

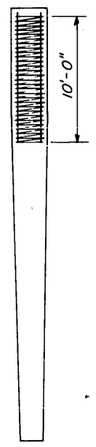
DETAIL OF REINFORCEMENT FOR METAL SHELLS



Reinforcement is incidental to the cost of furnishing piles.

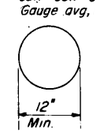


SECTION A-A

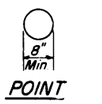


PILE REINFORCEMENT

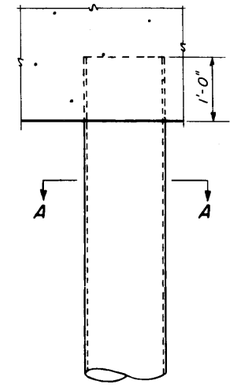
At least 10% of the length of pile shall have a Butt diameter equal to or greater than 12".
Gauges are furnished to suit soil conditions (16 Gauge avg. Min.)



BUTT



POINT
(Applies only to Step Taper type pile)



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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U.S. 3509	112-BR	Cook	45	34
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 12
12 SHEETS

NEWHALL BRIDGE
F.A.U.S. RTE. 3509
SECTION 112-BR
COOK COUNTY
STATION 83+48

X-3 6-28-76