

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

FEDERAL-AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
42	3128-Z (VB,HB)	COOK	36	1
I.L.L. REG. NO. 4 ILLINOIS PROJECT U-UG-4(56)				

SCALES
 PLAN 1 INCH = 100 FT.
 PROFILE HOR. 1 INCH = 10 FT.
 PROFILE VERT. 1 INCH = 10 FT.
 CROSS-SECTIONS 1 INCH = 10 FT.

DISTRICT 10
(MARKED ROUTE 42A) F.A. ROUTE 42
SECTION 3128-Z(VB,HB)
HARLEM AVE. & 95TH ST. INTERCHANGE
PROJECT U-UG-4 (56)
COOK COUNTY

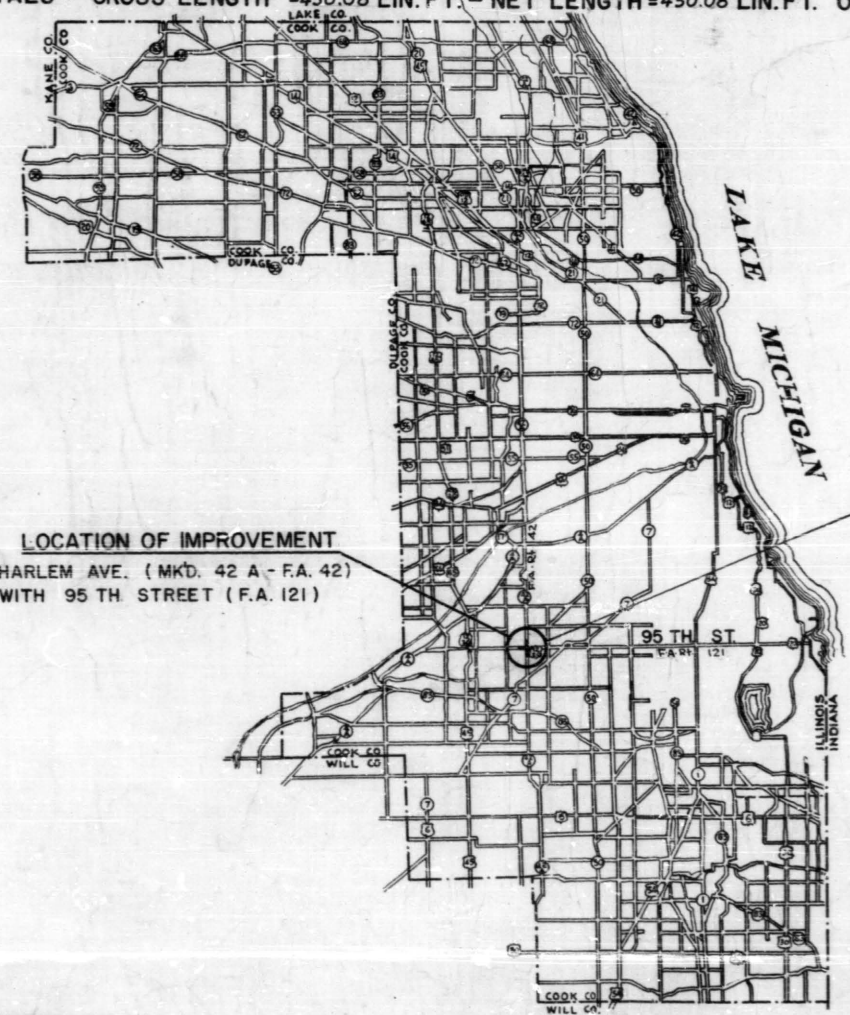
3128-Z-VB: GROSS LENGTH = 253.16 LIN. FT. - NET LENGTH = 253.16 LIN. FT.
 3128-Z-HB: GROSS LENGTH = 196.92 LIN. FT. - NET LENGTH = 196.92 LIN. FT.
 TOTALS: GROSS LENGTH = 450.08 LIN. FT. - NET LENGTH = 450.08 LIN. FT. OR 0.085 MILE = PROJ. U-UG-4(56)



PLANS FOR STRUCTURES EXAMINED Nov 18 1960
W. Baumgartner
 ENGINEER OF BRIDGE & TRAFFIC STRUCTURES

SECTION 3128-Z-VB INCLUDES THE CONSTRUCTION OF A 4-SPAN CONTINUOUS WF - BEAM STRUCTURE (CARRYING HARLEM AVE. OVER B. & O. C. T. R.R. ON OPEN ABUTMENTS AND PIERS, SPANS 53'-1", 63'-2", 74'-1" AND 57'-10" AT STA. 311+53.94 IN THE TOWNSHIPS OF PALOS & WORTH WITH THE EXCEPTION OF FURNISHING, FABRICATING, SHOP PAINTING AND DELIVERY OF THE STRUCTURAL STEEL.

SECTION 3128-Z-HB INCLUDES THE CONSTRUCTION OF A 4-SPAN CONTINUOUS WF - BEAM STRUCTURE (CARRYING HARLEM AVE. OVER 95TH ST.) ON OPEN ABUTMENTS AND PIERS, SPANS 40'-6", 57'-8-1/2", 56'-11" AND 38'-2-1/2" AT STA. 319+38.64 IN THE TOWNSHIPS OF PALOS & WORTH WITH THE EXCEPTION OF FURNISHING, FABRICATING, SHOP PAINTING AND DELIVERY OF STRUCTURAL STEEL.



SECTION 3128-Z-VB
 PROJECT U-UG-4(56)
 BEGINS STA. 309+94.83
 ENDS STA. 312+47.99

SECTION 3128-Z-HB
 PROJECT U-4(56)
 BEGINS STA. 318+38.64
 ENDS STA. 320+35.56

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

SUBMITTED 10-10-60
 EXAMINED January 12 1961
 PASSED January 12 1961
 APPROVED January 12 1961
 APPROVED January 12 1961

DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS

APPROVED _____ DATE _____
 DIVISION ENGINEER



Kevin O'Connell
 3/27/60

Revised 3-21-61

PLANS PREPARED BY BUREAU OF DESIGN
 EXAMINED BY BUREAU OF CONSTRUCTION
 EXAMINED BY BUREAU OF MAINTENANCE
 EXAMINED BY BUREAU OF TRAFFIC
 ENTIRE SECTION INSPECTED AND APPROVED AS TO POLICY
 DISTRICT ENGINEER

DATE 4-26-60
 DATE 7-7-60
 DATE 7-7-60
 DATE 7-7-60
 DATE 10-10-60

F.A. 42	3128-Z	COOK	36	2
	(48, 18)			

SUMMARY OF QUANTITIES

ITEM	UNIT	3128-Z-VB	3128-Z-HB	TOTAL	CODE NUMBER
EARTH EXCAVATION	CU YD	155	1,667	1,822	011001
EMBANKMENT	CU YD	48,184	8,259	56,443	016001
CLASS A EXCAVATION FOR STRUCTURES	CU YD	771	540	1,311	050001
CLASS "X" CONCRETE	CU YD	1,546.5	1,158.6	2,705.1	052003
ERECTING STRUCTURAL STEEL	POUND	716,865	545,011	1,261,876	054003
REINFORCEMENT BARS	POUND	220,140	199,180	419,320	059001
FURNISHING CREOSOTED PILES UP TO 20 FEET	LIN FT	2,629	680	3,309	060004
FURNISHING CREOSOTED PILES 20.1 TO 38 FEET	LIN FT	875		875	060005
TEST PILE (TIMBER)	EACH	3		3	060007
DRIVING TIMBER PILES	LIN FT	3,504	680	4,184	060008
DRIVING CONCRETE PILES	LIN FT	2,543	1,292	3,835	060043
FURNISHING CONCRETE PILES	LIN FT	2,543	1,292	3,835	060044
TEST PILE (CONCRETE)	EACH	2	2	4	060047
NAME PLATES	EACH	2	2	4	061001
PAVEMENT REMOVAL	SQ YD	256	1,709	1,965	082001
SLOPE WALL, 4 INCH	SQ YD	1,483	975	2,458	083002
ALUMINUM HANDRAIL	LIN FT	497	389	886	Z00004
CRUSHED STONE, GRADE 8 (COMPACTED)	TON	528	401	929	Z00088

INDEX OF SHEETS

SHEET NO.

- 1 : COVER SHEET
- 2 : INDEX OF SHEETS, SUMMARY OF QUANTITIES
- 3 : ROADWAY TYPICAL SECTIONS, HARLEM AVENUE & 95TH STREET
- 4 : PLAN OF EXISTING IMPROVEMENT, HARLEM AVENUE: STA. 304+50 TO STA. 318+00
- 5 : PLAN OF EXISTING IMPROVEMENT, HARLEM AVENUE: STA. 318+00 TO STA. 334+50
- 6 : PLAN & PROFILE, HARLEM AVENUE: STA. 301+00 TO STA. 315+00
- 7 : PLAN & PROFILE, HARLEM AVENUE: STA. 315+00 TO STA. 329+00
- 8 : GENERAL PLAN, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 9 : BORING LOGS, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 10 : SUPERSTRUCTURE, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 11 : SUPERSTRUCTURE DETAILS, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 12 : TABLES OF ELEVATIONS, SPANS NO. 1 & NO. 2, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 13 : TABLES OF ELEVATIONS, SPANS NO. 3 & NO. 4, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 14 : STEEL LAYOUT PLAN, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 15 : STEEL DETAILS, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 16 : STEEL DETAILS, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 17 : HANDRAIL DETAILS, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 18 : SOUTH ABUTMENT, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 19 : NORTH ABUTMENT, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 20 : ABUTMENT DETAILS & BILL OF MATERIALS FOR ABUTMENTS AND PIERS, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 21 : PIER NO. 1, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 22 : PIER NO. 2, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 23 : PIER NO. 3, HARLEM AVENUE OVER B. & O. C. T. R.R.
- 24 : GENERAL PLAN, HARLEM AVENUE OVER 95TH STREET
- 25 : BORING LOGS, HARLEM AVENUE OVER 95TH STREET
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- 28 : STEEL LAYOUT PLAN, HARLEM AVENUE OVER 95TH STREET
- 29 : STEEL DETAILS, HARLEM AVENUE OVER 95TH STREET
- 30 : HANDRAIL DETAILS, HARLEM AVENUE OVER 95TH STREET
- 31 : ABUTMENTS, HARLEM AVENUE OVER 95TH STREET
- 32 : ABUTMENT DETAILS & BILL OF MATERIALS FOR ABUTMENTS AND PIERS HARLEM AVENUE OVER 95TH STREET
- 33 : PIERS NO. 1 & NO. 3, HARLEM AVENUE OVER 95TH STREET
- 34 : PIER NO. 2, HARLEM AVENUE OVER 95TH STREET
- 35 : CONCRETE PILE DETAILS, HARLEM AVENUE OVER 95TH STREET & B. & O. C. T. R.R.
- 36 : STANDARD 2113, 2158
- 36A : STANDARD 2114, 1971-2

BREAKDOWN PERCENTAGE SEC. 3128Z-VB
 UG = 88%
 U = 9%
 Non Participating = 3%

B.M. #4 El. 601.82 Brass Plug
at N.E. corner Section 12

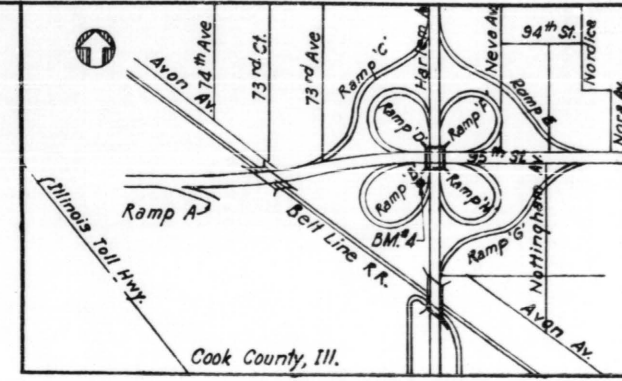
FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. Rt. 42	3128-Z-HB	COOK	36	24
FED. ROAD DIV. NO. 4 ILLINOIS PROJECT				

DESIGN STRESSES

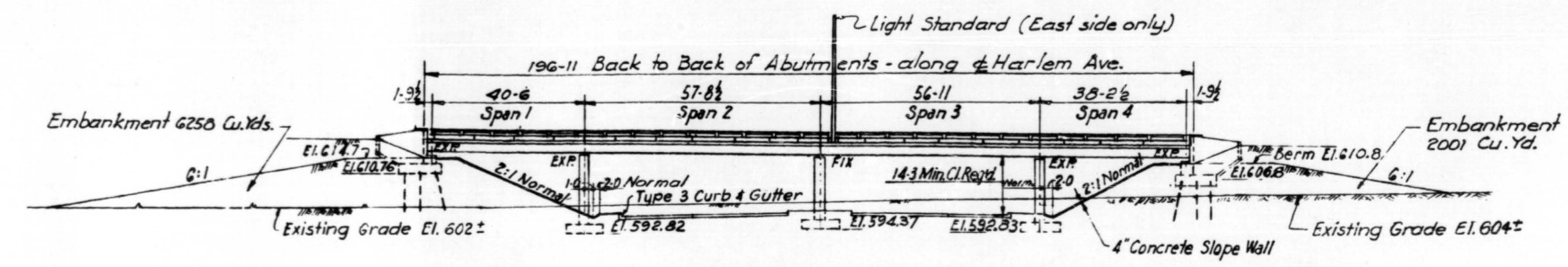
$f_c = 1,400$ p.s.i. Superstructure and Substructure without earth pressure.
 $f_c = 1,000$ p.s.i. Substructure with earth pressure.
 $f_s = 20,000$ p.s.i. Reinforcing Steel.
 $f_s = 18,000$ p.s.i. Structural Steel.
 $n = 10$
 $v = 75$ p.s.i. Pier Footings
 Maximum soil foundation pressure 2.5 tons per sq. ft.

GENERAL NOTES

Class "X" Concrete shall be used throughout. Coarse aggregate in end posts & parapets shall be absolutely free of chert, limonite, lignite & soft sandstone. The concrete floor slab shall be finished in accordance with Article 51.19 of the Standard Specifications. Slope Walls shall be reinforced with welded wire fabric 6"x6" mesh, #4 wires, weighing 58# per 100 sq. ft. A.S.T.M. designation A373 steel shall be used in cover plates and the beams to which they are welded. Rivets #4, Open holes 1 1/2" unless noted.

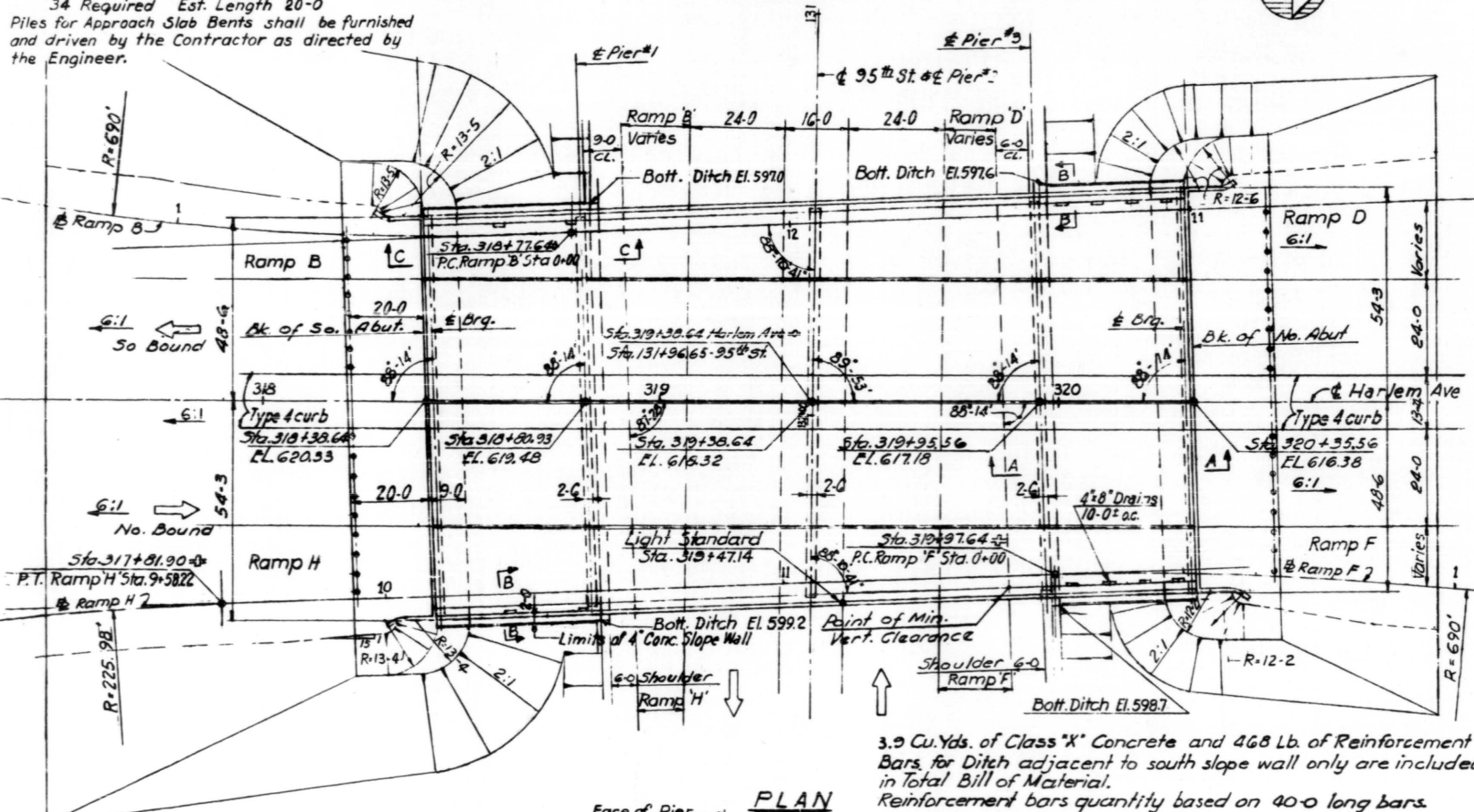


LOCATION PLAN



ELEVATION

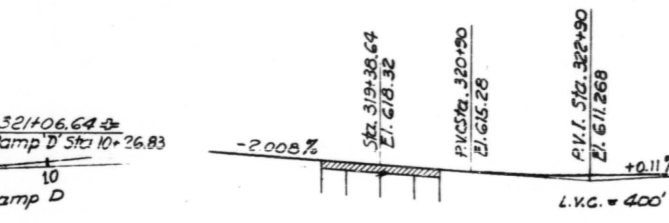
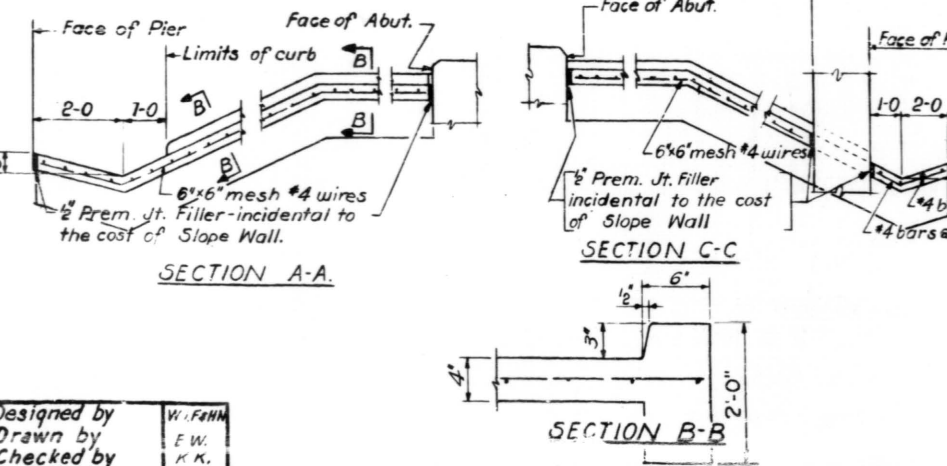
Pile Data (Approach Slabs)
 15 Ton Creosoted Piles
 34 Required Est. Length 20-0
 Piles for Approach Slab Bents shall be furnished and driven by the Contractor as directed by the Engineer.



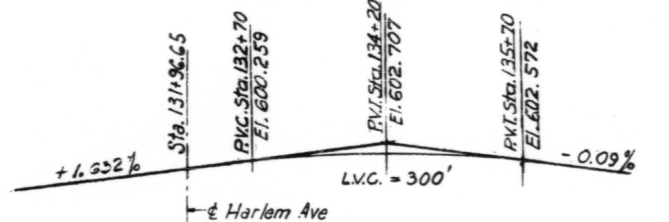
PLAN

3.9 Cu. Yds. of Class "X" Concrete and 468 Lb. of Reinforcement Bars for Ditch adjacent to south slope wall only are included in Total Bill of Material. Reinforcement bars quantity based on 40-0 long bars.

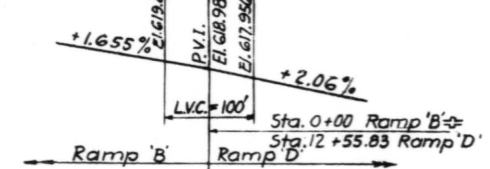
ITEM	UNIT	SECTION 3128-Z-HB		SECT. 3128-Z-HF
		SUPER.	SUB.	
Class "X" Concrete	Cu. Yds.	559.9	598.7	1158.6
Reinforcement Bars	Lbs.	129,435	69,745	199,180
Structural Steel	Lbs.	545,011		545,011
Aluminum Handrail	Lin. Ft.	389		389
Name Plates	Each	2		2
Concrete Piles	Lin. Ft.		1292	1292
Test Piles (Concrete)	Each		2	2
Creosoted Piles (up to 20-0)	Lin. Ft.	680		680
Embankment	Cu. Yds.	8259		8259
Class "A" Excavation for Structures	Cu. Yds.	540		540
Slope Wall (4")	Sq. Yds.		975	975
Earth Excavation	Cu. Yds.		166.7	166.7
Crushed Stone Grade 8	Tons		401	401



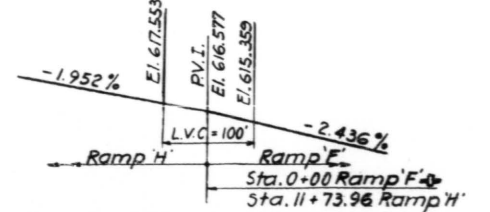
GRADE PROFILE - HARLEM AVE



GRADE PROFILE 95th ST.



GRADE PROFILE RAMP 'B' & 'D'



GRADE PROFILE RAMP 'H' & 'F'

STA. 319+38.64
 BUILT 196 BY
 STATE OF ILLINOIS
 F.A. Rt. 42 SEC. 3128-Z-HB
 F.A. PROJ. U-4 (56)
 LOADING H20-S16

NAME PLATE
 See Standard 2113
 For location see sheet 30

LOADING H20-S16-44

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BLDGS.
 DIVISION OF HIGHWAYS

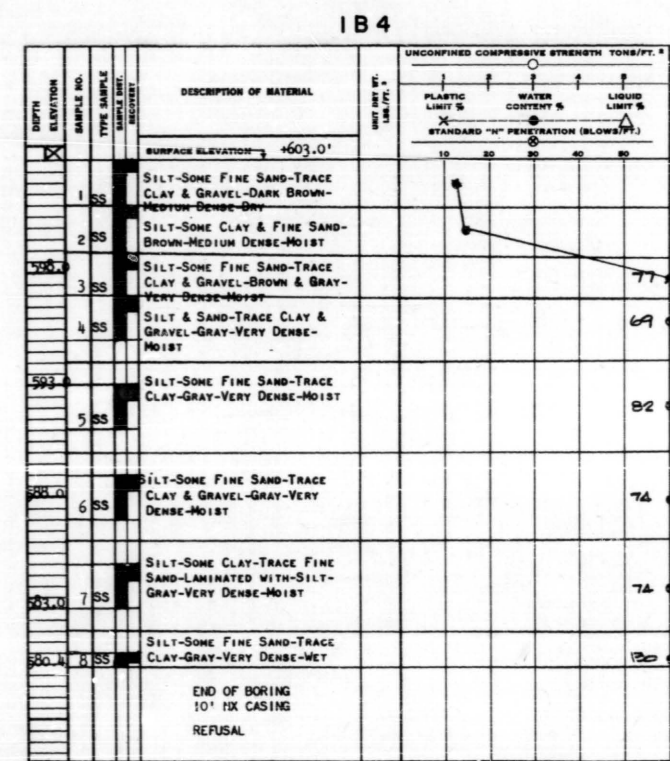
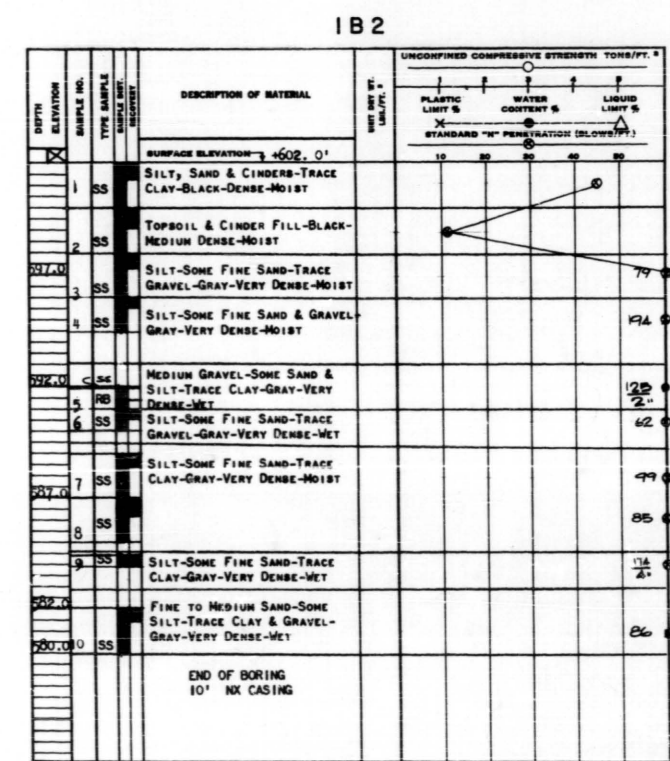
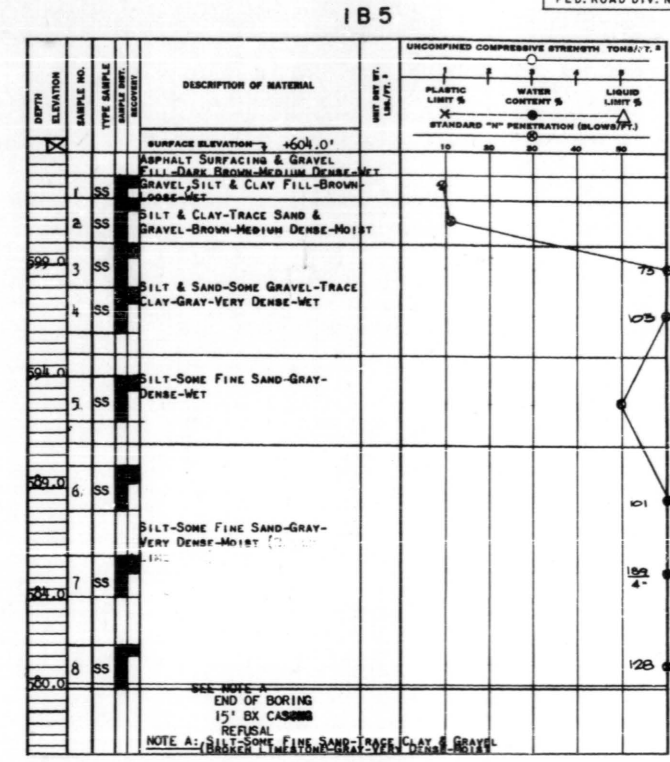
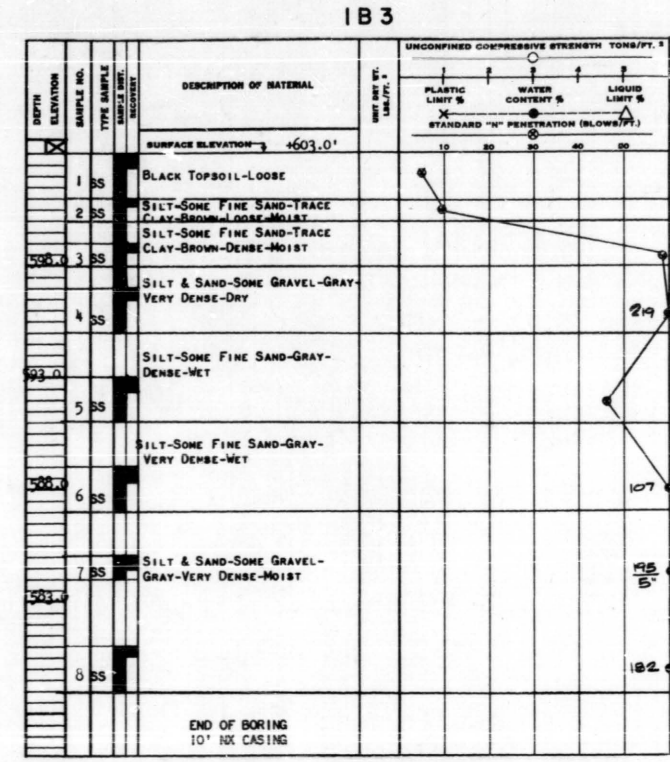
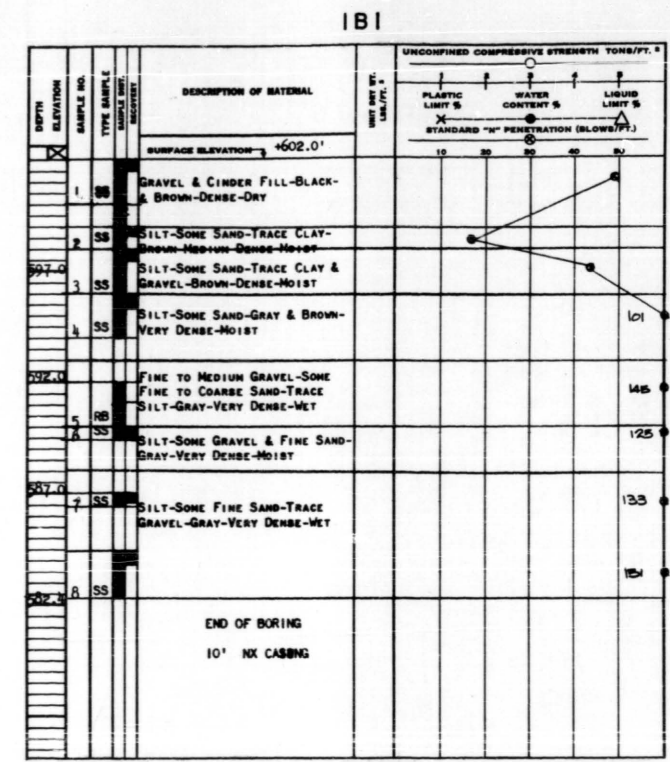
GENERAL PLAN
 HARLEM AVENUE
 OVER 95TH STREET

STATION 319 + 38.64
 F.A. Rt. 42 COOK CO. SECTION 3128-Z-HB

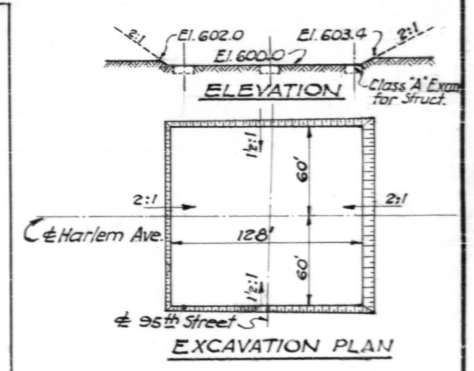
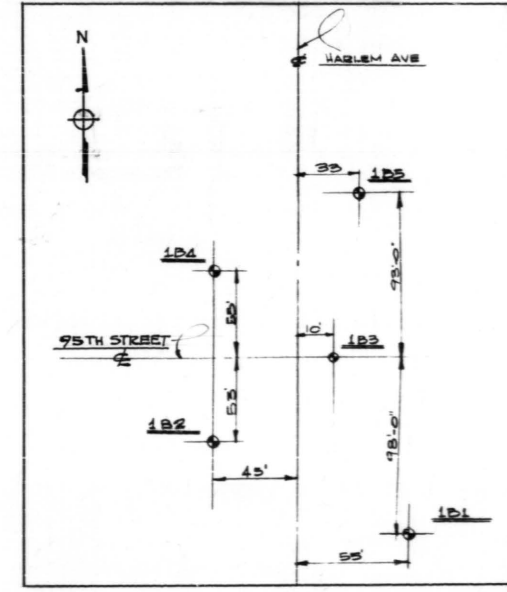
H. W. LOCKNER, INC.
 CONSULTING ENGINEERS
 CHICAGO, ILLINOIS

SHEET 24 of 36

Designed by W. F. H. H.
 Drawn by E. W.
 Checked by K. K.



LOCATION DIAGRAM



Water Level El. 536.0±

Date of Boring 4-22-1959

**STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS**

BORING LOGS

HARLEM AVENUE
OVER 95TH STREET

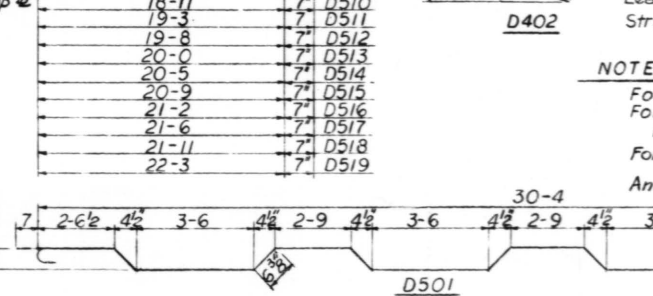
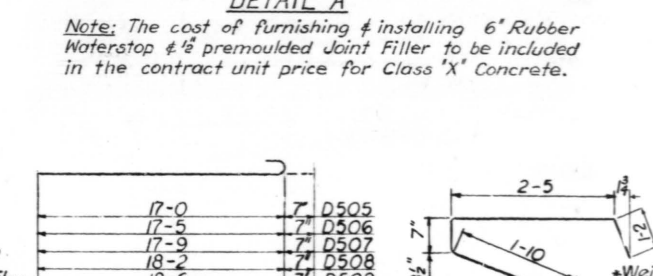
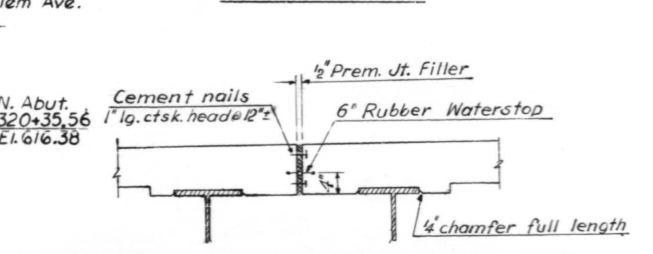
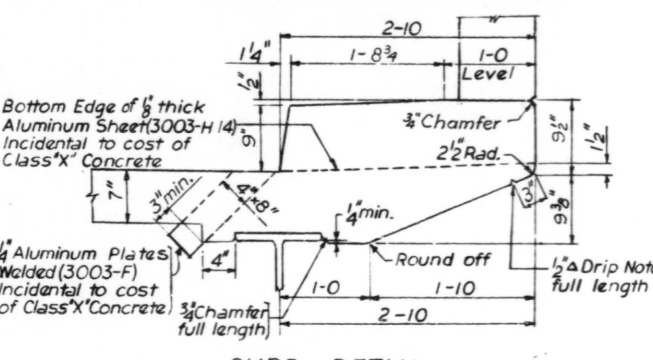
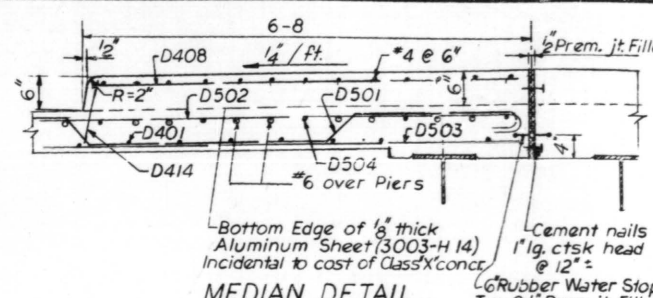
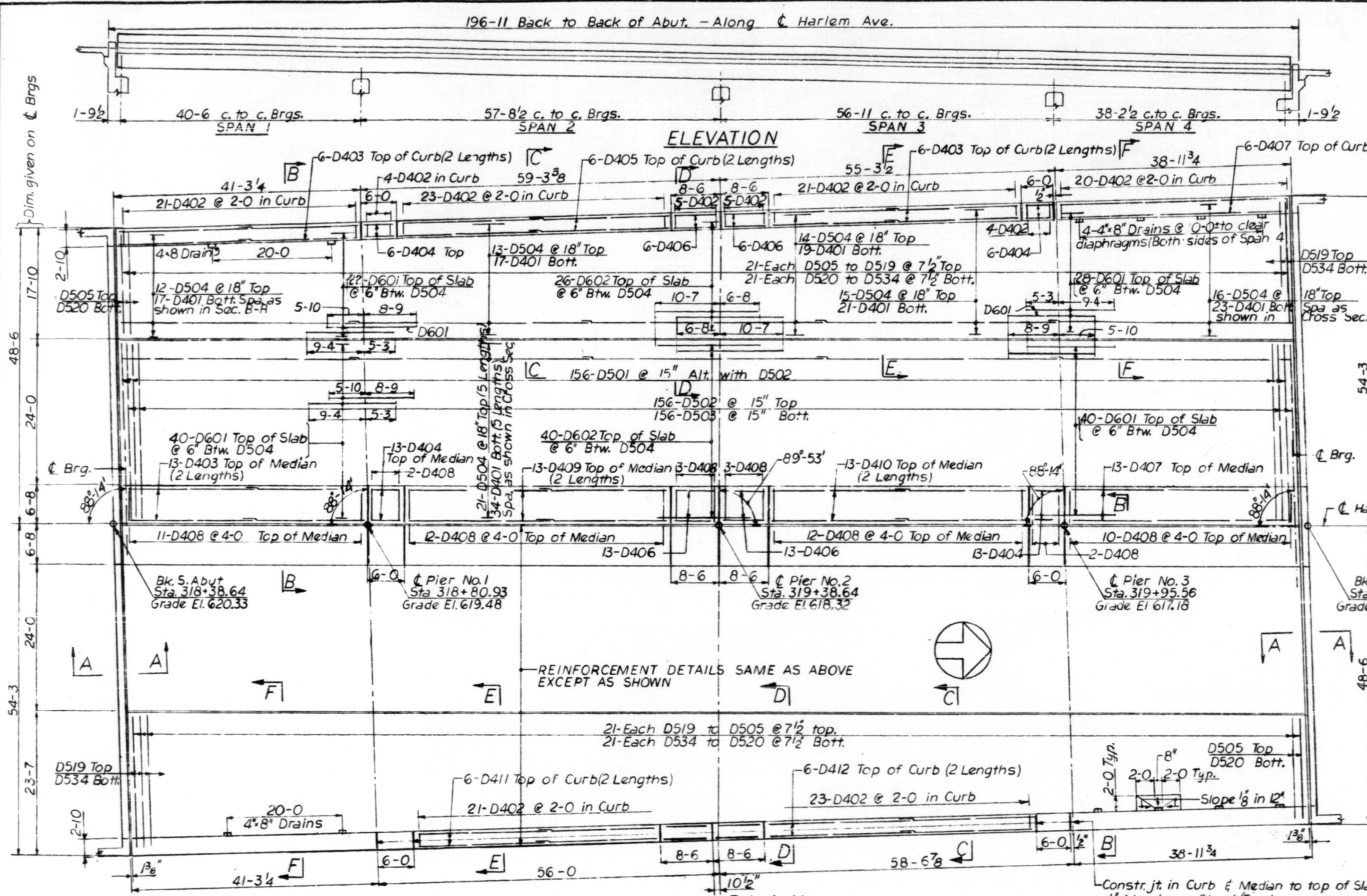
STATION 319 + 38.64

F.A.Rt. 42 COOK CO. SECTION 3128-Z-HB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

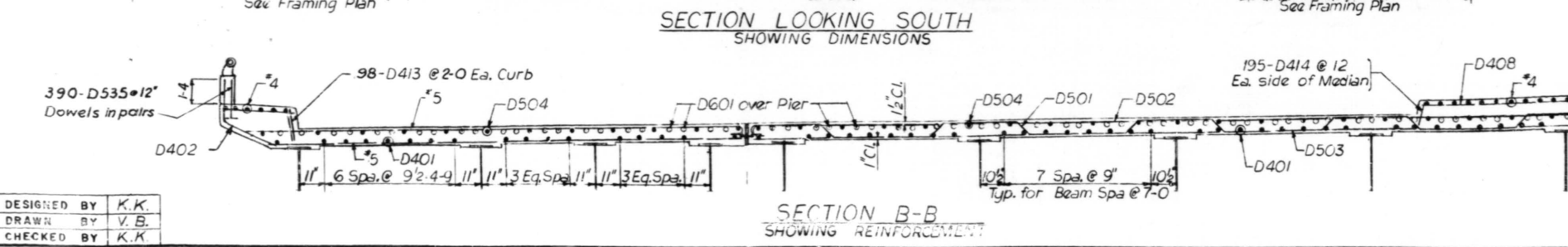
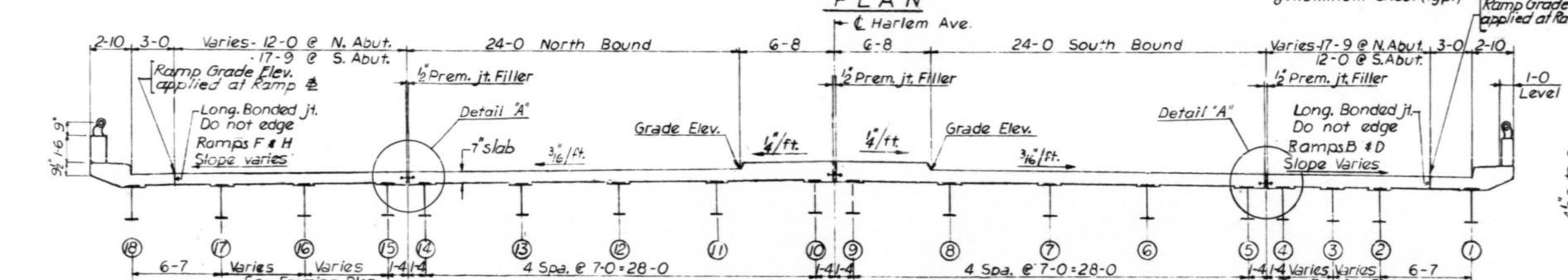
SHEET
25 of 36

196-11 Back to Back of Abut. - Along Harlem Ave.



FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA.Rt. 42	3128-Z-HB	COOK	36	26
FED. ROAD DIV. NO. 4 ILLINOIS PROJECT				

BILL OF MATERIALS					
Bar	No	Size	Length	Shape	
D601	262	#6	14-7		
D602	132	#6	17-3		
D501	312	#6	32-9		
D502	312	#6	31-6		
D503	312	#6	30-4		
D504	350	#5	39-8		
D505	42	#6	17-7		
D506	42	#6	18-0		
D507	42	#6	18-4		
D508	42	#6	18-9		
D509	42	#6	19-1		
D510	42	#6	19-6		
D511	42	#6	19-10		
D512	42	#6	20-3		
D513	42	#6	20-7		
D514	42	#6	21-0		
D515	42	#6	21-4		
D516	42	#6	21-9		
D517	42	#6	22-1		
D518	42	#6	22-6		
D519	42	#6	22-10		
D520	42	#6	16-0		
D521	42	#6	16-5		
D522	42	#6	16-9		
D523	42	#6	17-1		
D524	42	#6	17-6		
D525	42	#6	17-10		
D526	42	#6	18-3		
D527	42	#6	18-7		
D528	42	#6	19-0		
D529	42	#6	19-4		
D530	42	#6	19-9		
D531	42	#6	20-1		
D532	42	#6	20-6		
D533	42	#6	20-10		
D534	42	#6	21-3		
D535	780	#5	2-7		
D401	534	#4	39-8		
D402	206	#4	6-0		
D403	88	#4	21-0		
D404	76	#4	5-8		
D405	12	#4	22-9		
D406	76	#4	8-2		
D407	38	#4	38-7		
D408	110	#4	6-4		
D409	52	#4	21-11		
D410	52	#4	21-7		
D411	12	#4	20-8		
D412	12	#4	22-10		
D413	196	#4	11-2		
D414	390	#4	11"		
Class 'X' Concrete				Cu. Yds	539.2
Reinforcement Bars				Lbs.	127,640
*Structural Steel				Lbs.	545,011



DESIGNED BY K.K.
DRAWN BY V.B.
CHECKED BY K.K.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

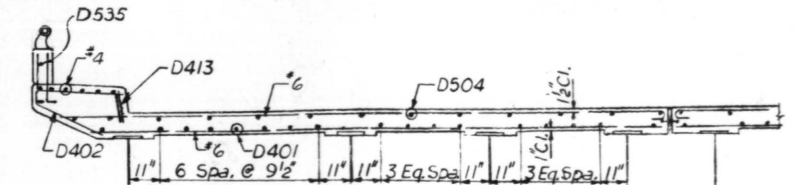
SUPERSTRUCTURE
HARLEM AVENUE
OVER 95TH STREET
STATION 319 + 38.64
F.A.Rt. 42 COOK CO. SECTION 3128-Z-HB

H. W. LOGNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

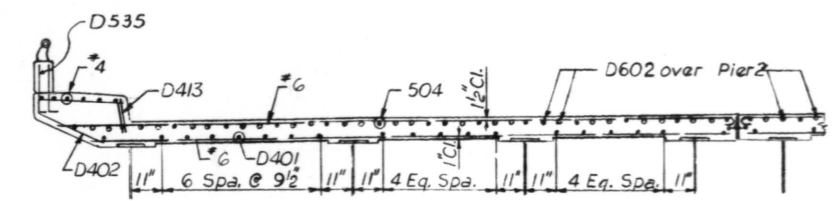
SHEET 26 of 36

TABLE A - THEORETICAL TOP OF SLAB ELEVATIONS

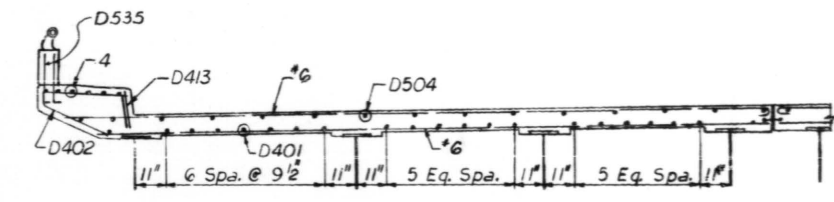
Points	Brig. S. Abut.	1	2	3	4	Pier 1	5	6	7	8	9	Pier 2	10	11	12	13	14	15	Pier 3	16	17	18	19	Brig. N. Abut.
1	619.53	619.36	619.18	619.00	618.83	618.82	618.63	618.43	618.24	618.04	617.84	617.67	617.64	617.44	617.24	617.04	616.84	616.64	616.53	616.43	616.22	616.02	615.82	615.75
2	619.71	619.52	619.33	619.14	618.95	618.94	618.75	618.55	618.35	618.14	617.94	617.77	617.74	617.54	617.34	617.14	616.94	616.74	616.63	616.53	616.32	616.12	615.91	615.85
3	619.81	619.61	619.42	619.23	619.03	619.02	618.83	618.63	618.43	618.24	618.04	617.85	617.84	617.63	617.43	617.23	617.03	616.82	616.72	616.62	616.42	616.21	616.01	615.94
4	619.90	619.71	619.51	619.31	619.11	619.10	618.91	618.71	618.51	618.31	618.11	617.93	617.91	617.71	617.51	617.31	617.11	616.91	616.81	616.71	616.51	616.31	616.11	616.04
5	619.96	619.76	619.56	619.36	619.16	619.15	618.96	618.76	618.55	618.35	618.15	617.97	617.95	617.75	617.55	617.35	617.15	616.95	616.85	616.75	616.55	616.35	616.15	616.08
6	620.06	619.86	619.66	619.46	619.26	619.25	619.06	618.86	618.66	618.46	618.26	618.08	618.06	617.86	617.66	617.46	617.25	617.05	616.95	616.85	616.65	616.45	616.25	616.18
7	620.17	619.97	619.77	619.57	619.37	619.36	619.17	618.96	618.76	618.56	618.36	618.19	618.16	617.96	617.76	617.56	617.36	617.16	617.05	616.96	616.76	616.56	616.36	616.29
8	620.27	620.07	619.87	619.67	619.47	619.46	619.27	619.07	618.87	618.67	618.47	618.30	618.27	618.07	617.86	617.66	617.46	617.26	617.16	617.06	616.86	616.66	616.46	616.39
9	620.38	620.18	619.98	619.78	619.58	619.57	619.38	619.17	618.97	618.77	618.57	618.41	618.37	618.17	617.97	617.77	617.57	617.37	617.26	617.17	616.96	616.76	616.56	616.50
10	620.38	620.18	619.98	619.78	619.58	619.57	619.37	619.17	618.97	618.77	618.57	618.41	618.37	618.17	617.97	617.77	617.57	617.37	617.26	617.17	616.96	616.76	616.56	616.50
11	620.26	620.06	619.86	619.66	619.46	619.45	619.26	619.06	618.86	618.66	618.46	618.30	618.26	618.06	617.85	617.65	617.45	617.25	617.15	617.05	616.85	616.65	616.45	616.38
12	620.15	619.95	619.75	619.55	619.35	619.34	619.15	618.95	618.75	618.54	618.34	618.19	618.14	617.94	617.74	617.54	617.34	617.14	617.04	616.94	616.74	616.54	616.34	616.27
13	620.04	619.84	619.64	619.44	619.23	619.22	619.03	618.83	618.63	618.43	618.23	618.08	618.03	617.83	617.63	617.43	617.23	617.02	616.92	616.82	616.62	616.42	616.22	616.15
14	619.92	619.72	619.52	619.32	619.12	619.11	618.92	618.72	618.52	618.32	618.12	617.97	617.92	617.72	617.51	617.31	617.11	616.91	616.81	616.71	616.51	616.31	616.11	616.04
15	619.87	619.67	619.47	619.28	619.08	619.07	618.88	618.68	618.48	618.27	618.07	617.93	617.87	617.67	617.47	617.27	617.06	616.86	616.76	616.66	616.46	616.25	616.05	615.98
16	619.77	619.57	619.38	619.18	618.98	618.97	618.78	618.59	618.39	618.19	617.99	617.85	617.79	617.59	617.38	617.18	616.98	616.78	616.67	616.57	616.36	616.15	615.94	615.87
17	619.67	619.47	619.28	619.08	618.89	618.88	618.69	618.50	618.30	618.10	617.91	617.78	617.71	617.51	617.30	617.10	616.89	616.69	616.59	616.47	616.26	616.04	615.83	615.76
18	619.56	619.37	619.17	618.98	618.78	618.77	618.59	618.39	618.20	618.00	617.80	617.67	617.60	617.40	617.19	616.98	616.77	616.55	616.45	616.32	616.09	615.86	615.63	615.55



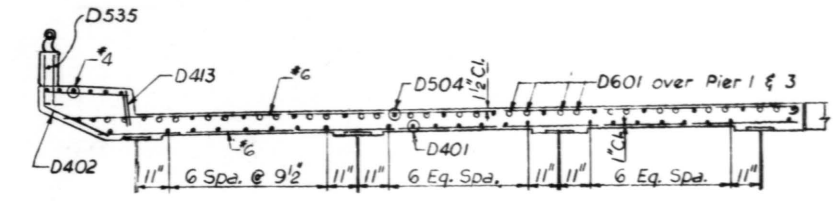
SECTION C-C
SHOWING REINFORCEMENT



SECTION D-D
SHOWING REINFORCEMENT



SECTION E-E
SHOWING REINFORCEMENT



SECTION F-F
SHOWING REINFORCEMENT

METHOD OF DETERMINING FILLET HEIGHT 'v'
After all Structural Steel has been erected, elevations of the top flanges of the beams shall be taken at points shown on Elevation Location Diagram. To these elevations add floor thickness. The Elevations so obtained subtracted from Table B elevations equal the fillet heights above top of beams.

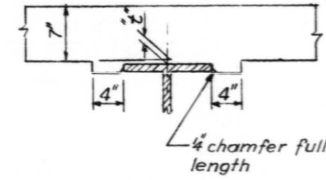
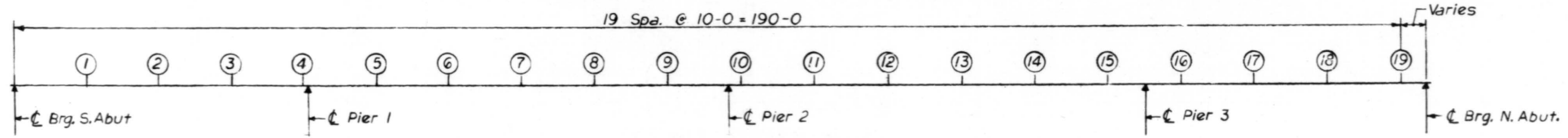
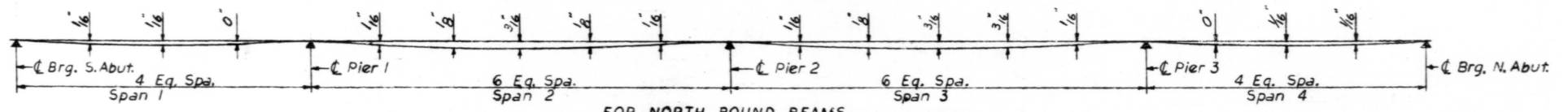


TABLE B - THEORETICAL TOP OF SLAB ELEVATIONS + D. L. DEFLECTION (CONCRETE)

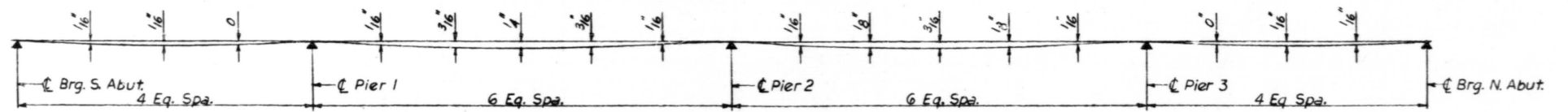
Points	Brig. S. Abut.	1	2	3	4	Pier 1	5	6	7	8	9	Pier 2	10	11	12	13	14	15	Pier 3	16	17	18	19	Brig. N. Abut.
1	619.53	619.36	619.18	619.00	618.83	618.82	618.64	618.44	618.26	618.05	617.84	617.67	617.64	617.44	617.25	617.06	616.85	616.64	616.53	616.43	616.22	616.02	615.82	615.75
2	619.71	619.52	619.33	619.14	618.95	618.94	618.76	618.56	618.37	618.15	617.94	617.77	617.74	617.54	617.35	617.15	616.95	616.74	616.63	616.53	616.33	616.12	615.91	615.85
3	619.81	619.61	619.42	619.23	619.03	619.02	618.84	618.64	618.45	618.25	618.04	617.85	617.84	617.64	617.44	617.24	617.04	616.82	616.72	616.62	616.42	616.21	616.01	615.94
4	619.90	619.71	619.51	619.31	619.11	619.10	618.92	618.72	618.53	618.32	618.11	617.93	617.91	617.71	617.52	617.32	617.12	616.91	616.81	616.71	616.51	616.31	616.11	616.04
5	619.96	619.77	619.57	619.36	619.16	619.15	618.97	618.77	618.57	618.36	618.15	617.97	617.95	617.76	617.56	617.36	617.16	616.95	616.85	616.75	616.55	616.35	616.15	616.08
6	620.06	619.87	619.67	619.46	619.26	619.25	619.07	618.87	618.68	618.47	618.26	618.08	618.06	617.86	617.67	617.47	617.26	617.05	616.95	616.85	616.65	616.45	616.25	616.18
7	620.17	619.98	619.78	619.57	619.37	619.36	619.18	618.97	618.78	618.57	618.36	618.19	618.16	617.96	617.77	617.57	617.37	617.16	617.05	616.96	616.76	616.56	616.36	616.29
8	620.27	620.08	619.88	619.67	619.47	619.46	619.28	619.08	618.89	618.68	618.47	618.30	618.27	618.07	617.88	617.68	617.47	617.26	617.16	617.06	616.86	616.66	616.46	616.39
9	620.38	620.19	619.99	619.78	619.58	619.57	619.39	619.18	618.99	618.78	618.57	618.41	618.37	618.18	617.98	617.78	617.58	617.37	617.26	617.17	616.97	616.76	616.56	616.50
10	620.38	620.19	619.99	619.78	619.58	619.57	619.38	619.18	618.99	618.78	618.57	618.41	618.37	618.18	617.98	617.78	617.58	617.37	617.26	617.17	616.97	616.76	616.56	616.50
11	620.26	620.07	619.87	619.66	619.46	619.45	619.26	619.07	618.88	618.67	618.46	618.30	618.26	618.07	617.87	617.67	617.46	617.25	617.15	617.05	616.85	616.65	616.45	616.38
12	620.15	619.96	619.76	619.55	619.35	619.34	619.15	618.96	618.77	618.55	618.34	618.19	618.14	617.94	617.74	617.54	617.34	617.14	617.04	616.94	616.74	616.54	616.34	616.27
13	620.04	619.85	619.65	619.44	619.23	619.22	619.03	618.84	618.65	618.44	618.23	618.08	618.03	617.83	617.64	617.44	617.24	617.02	616.92	616.82	616.63	616.42	616.22	616.15
14	619.92	619.73	619.53	619.32	619.12	619.11	618.92	618.73	618.54	618.33	618.12	617.97	617.92	617.72	617.53	617.33	617.12	616.91	616.81	616.71	616.51	616.31	616.11	616.04
15	619.87	619.68	619.48	619.28	619.08	619.07	618.88	618.69	618.50	618.28	618.07	617.93	617.87	617.68	617.48	617.29	617.07	616.86	616.76	616.66	616.46	616.25	616.05	615.98
16	619.77	619.58	619.39	619.18	618.98	618.97	618.78	618.60	618.41	618.20	617.99	617.85	617.79	617.60	617.39	617.20	616.99	616.78	616.67	616.57	616.36	616.15	615.94	615.87
17	619.67	619.48	619.29	619.08	618.89	618.88	618.69	618.51	618.32	618.11	617.91	617.78	617.71	617.52	617.31	617.12	616.90	616.69	616.59	616.47	616.26	616.04	615.83	615.76
18	619.56	619.38	619.18	618.98	618.78	618.77	618.59	618.40	618.22	618.01	617.80	617.67	617.60	617.41	617.20	617.00	616.78	616.55	616.45	616.32	616.10	615.86	615.63	615.55



ELEVATION LOCATION DIAGRAM



FOR NORTH BOUND BEAMS

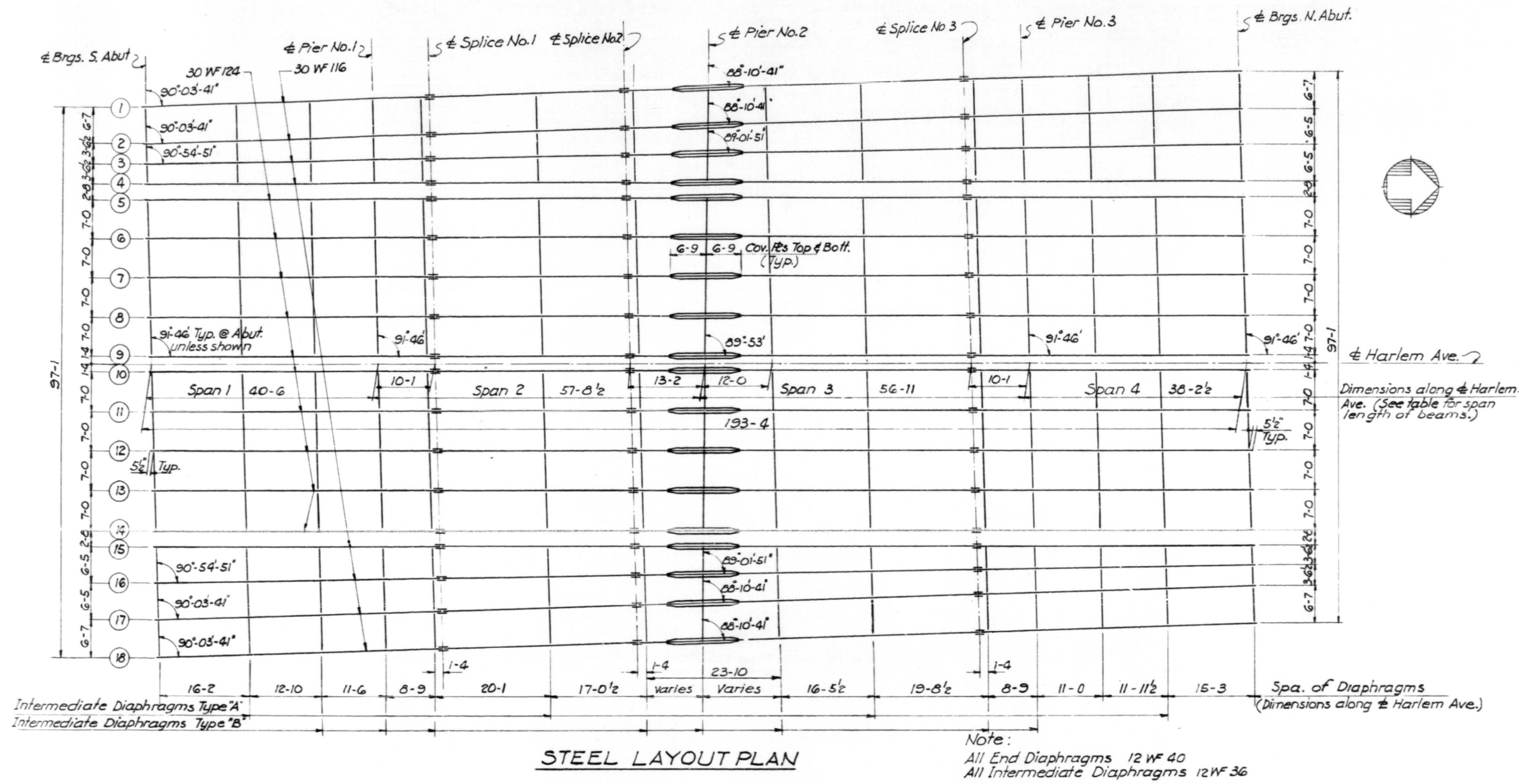


FOR SOUTH BOUND BEAMS

DEAD LOAD DEFLECTION DIAGRAMS

DESIGNED BY
DRAWN BY V. B.
CHECKED BY K. K.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
SUPERSTRUCTURE
SECTIONS AND ELEVATIONS
HARLEM AVENUE
OVER 95TH STREET
STATION 319+38.64
F.A. Rt. 42 COOK CO. SECTION 3128-Z-HB
H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS
SHEET 27 of 36



STEEL LAYOUT PLAN

Note:
All End Diaphragms 12 WF 40
All Intermediate Diaphragms 12 WF 36

ELEVATIONS AT TOP OF TOP FLANGE FOR FABRICATION
(Deflection not included)

Location	Beam	SOUTHBOUND STRUCTURE									NORTHBOUND STRUCTURE								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Brgs. S. Abut.		618.86	619.04	619.14	619.24	619.29	619.40	619.50	619.61	619.71	619.71	619.60	619.48	619.37	619.26	619.20	619.10	619.00	618.89
Brgs. Pier No. 1		618.15	618.28	618.36	618.43	618.48	618.59	618.69	618.79	618.90	618.90	618.78	618.67	618.56	618.44	618.40	618.31	618.21	618.11
Splice No. 1		617.97	618.09	618.16	618.23	618.27	618.36	618.48	618.59	618.69	618.69	618.50	618.46	618.35	618.24	618.20	618.11	618.02	617.91
Splice No. 2		617.30	617.41	617.47	617.54	617.59	617.69	617.80	617.90	618.00	618.00	617.89	617.78	617.66	617.55	617.50	617.42	617.35	617.26
Brgs. Pier No. 2		617.00	617.10	617.18	617.26	617.30	617.41	617.52	617.63	617.74	617.74	617.63	617.52	617.41	617.30	617.26	617.19	617.11	617.01
Splice No. 3		616.07	616.17	616.25	616.34	616.38	616.49	616.59	616.70	616.80	616.80	616.68	616.57	616.46	616.34	616.30	616.21	616.13	616.00
Brgs. Pier No. 3		615.87	615.96	616.05	616.14	616.18	616.28	616.39	616.49	616.60	616.60	616.48	616.37	616.26	616.14	616.09	616.00	615.92	615.78
Brgs. N. Abut.		615.09	615.18	615.28	615.37	615.41	615.52	615.62	615.73	615.83	615.83	615.72	615.60	615.49	615.38	615.31	615.20	615.09	614.89

THICKNESS OF SHIM PLATES

Location	Beam	SOUTHBOUND STRUCTURE									NORTHBOUND STRUCTURE										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
S. Abut.		0	0	1 1/8	0	1/2	0	0	1 1/4	0	0	0	1 1/8	0	0	1 1/4	0	0	1 1/8	0	
Pier No. 1		5/8	0	0	7/8	1 1/8	0	1 1/4	1 1/8	0	1 1/4	1 1/8	0	1 1/8	0	1 1/8	0	1 1/8	0	0	
Pier No. 2		0	0	1	0	5/8	0	1 1/4	0	1 1/4	1 1/8	0	1 1/8	0	1 1/8	0	7/8	0	0	0	
Pier No. 3		0	0	1 1/8	0	3/8	0	1 1/8	3/8	1 1/4	1 1/8	0	1 1/8	0	1 1/8	0	1 1/2	1	0	0	0
N. Abut.		0	1 1/8	0	0	3/8	0	0	1 1/4	0	0	1 1/8	0	0	1 1/8	0	5/8	0	1 1/8	0	0

TABLE OF SPAN DIMENSIONS

Beam	Dimensions to Brgs.			
	Span 1	Span 2	Span 3	Span 4
1	40-5 3/4	59-3 3/8	55-3 1/2	38-2 1/4
2	40-5 3/4	59-0 3/4	55-6 1/8	38-2 1/4
3	40-5 3/4	58-10 7/8	55-8 1/8	38-2 5/16
4	40-6	58-9 1/8	55-10 1/8	38-2 1/2
5		58-8 1/8	55-11 1/8	
6		58-5 5/8	56-2 3/8	
7		58-2 9/16	56-4 5/8	
8		57-11 3/4	56-7 1/4	
9		57-9	56-10 1/2	
10		57-8	56-11 1/2	
11		57-5 1/4	57-2 1/4	
12		57-2 1/4	57-5 1/8	
13		56-11 1/4	57-7 1/8	
14		56-8 1/8	57-10 3/8	
15		56-7 1/8	57-11 3/8	
16	40-5 3/4	56-5 1/8	58-1 5/8	38-2 5/16
17	40-5 3/4	56-3 1/2	58-3 3/8	38-2 1/4
18	40-5 3/4	56-1	58-5 3/8	38-2 1/4

DESIGNED BY K.K.
DRAWN BY A.B.
CHECKED BY K.K.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

STEEL LAYOUT PLAN

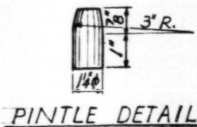
HARLEM AVENUE
OVER 95TH STREET
STATION 319+38.64

F.A. R.I. 42 COOK CO. SECTION 3128-2-HB

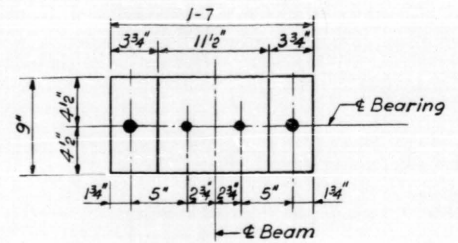
H. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET
28 of 36

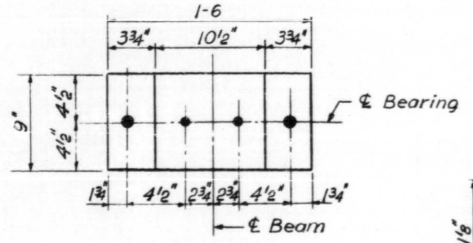
FEDERAL-ROAD ROUTE NO.	SECTION	COUNTY	TOTAL SHEET NO.
F.A. R.I. 64	3128-Z-HB	COOK	36 29
FED. ROAD DIV. NO. 4 ILLINOIS PROJECT			



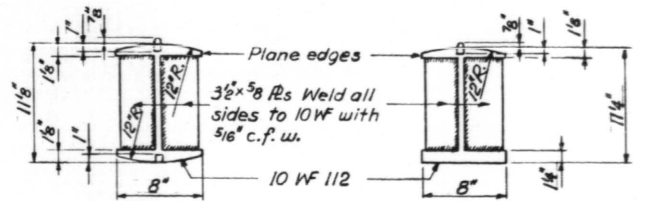
PINTLE DETAIL



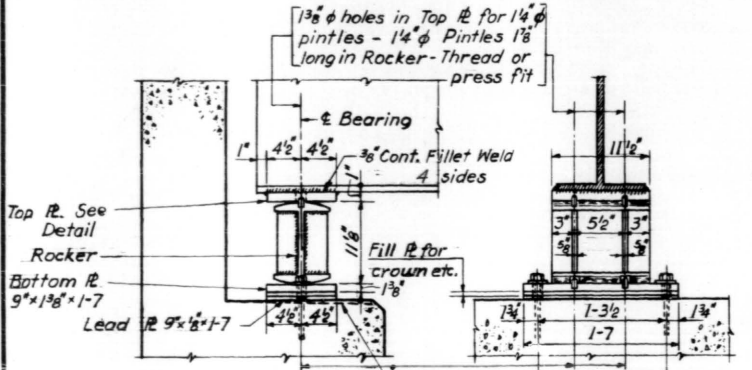
PLAN



PLAN

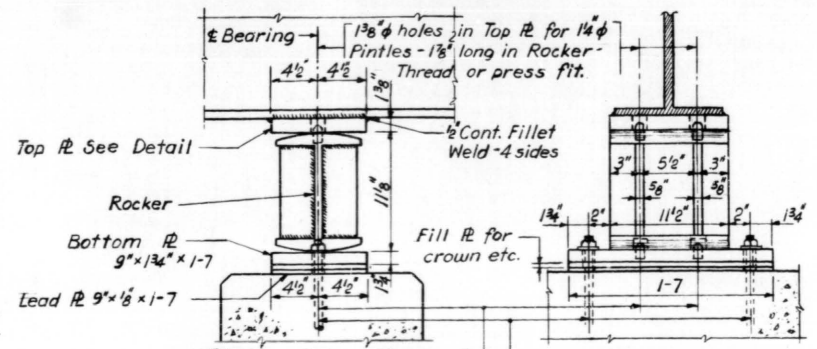


EXPANSION
FIXED
DETAIL OF BEARINGS



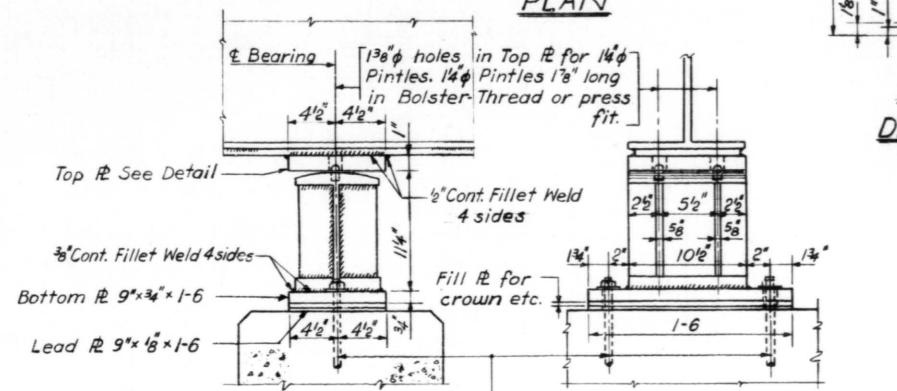
ABUTMENT EXPANSION BEARING

36 REQUIRED



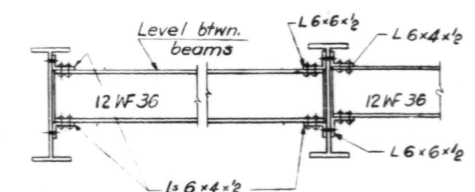
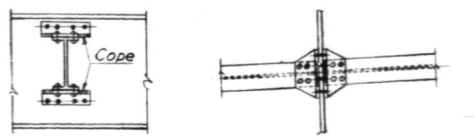
EXPANSION BEARING - PIER No 1 & 3

36 REQUIRED



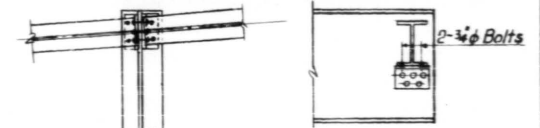
FIXED BEARING - PIER No 2

18 REQUIRED

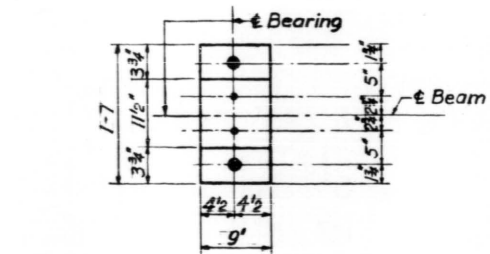


Place type 'A' diaphragms as near as practical to the top flange of stringers & type 'B' diaphragms as near as practical to the bottom flange of stringers

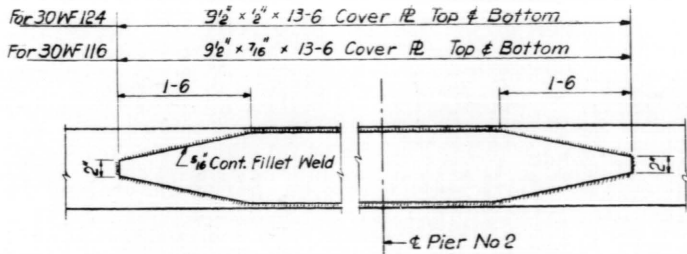
INTERMEDIATE DIAPHRAGMS



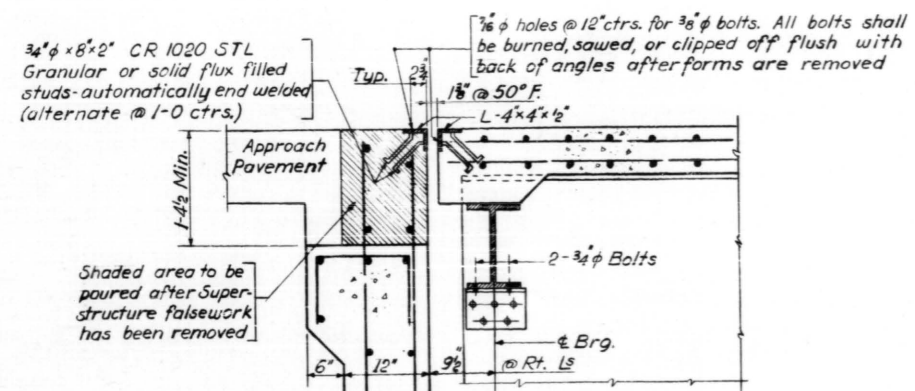
END DIAPHRAGMS



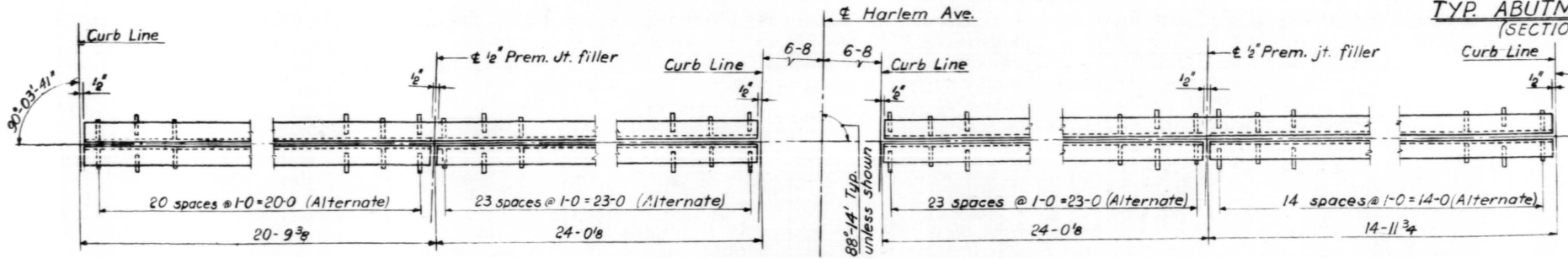
PLAN OF ABUTMENT BEARING



COVER PLATE DETAIL AT PIER No 2

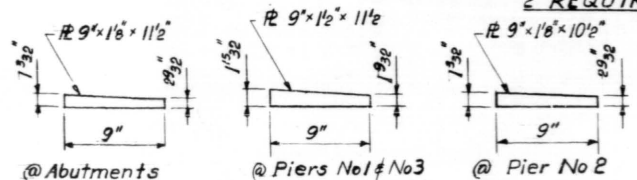


TYP. ABUTMENT DETAIL

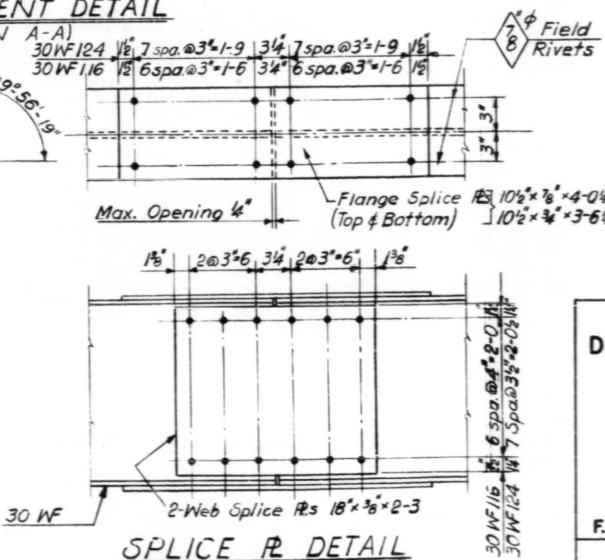


EXPANSION GUARD DETAIL

2 REQUIRED



TOP PLATE DETAILS



SPLICE PLATE DETAIL

NOTE: The roadway expansion guards shall be fabricated and erected to fit the crown of roadway.

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

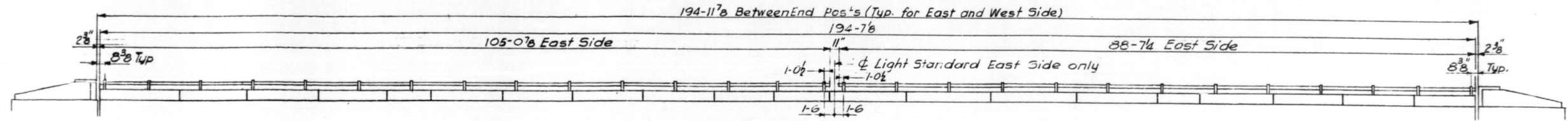
STEEL DETAILS
HARLEM AVENUE
OVER 95TH STREET
STATION 319+38.64
F.A. R.I. 42 COOK CO. SECTION 3128-Z-HB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

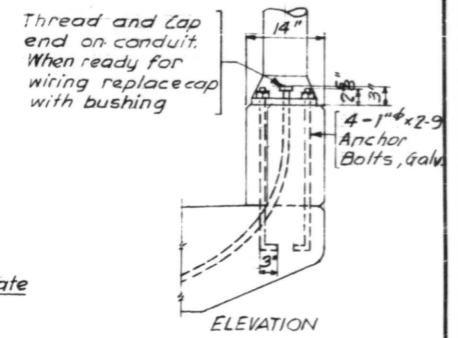
SHEET 29 of 36

DESIGNED BY K.K.
DRAWN BY E.W.
CHECKED BY K.K.

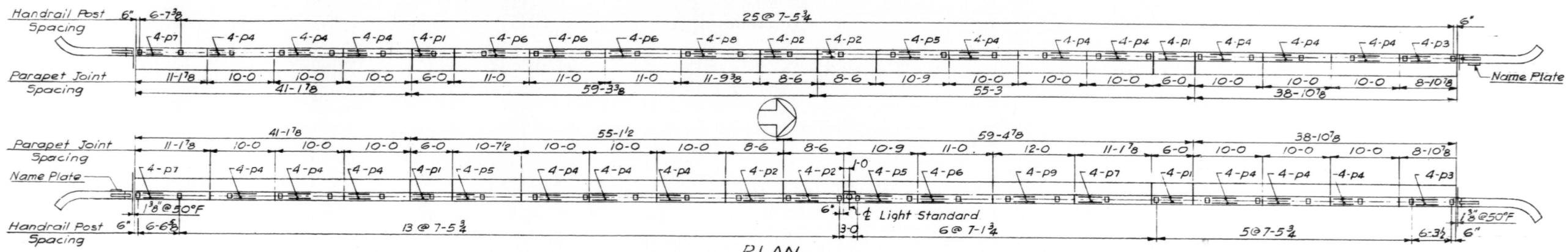
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F.A.Rt. 42	3128-Z-HB	COOK	36	30
FED. ROAD DIV. No. 4 ILLINOIS PROJECT				



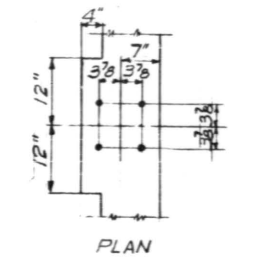
ELEVATION



ELEVATION

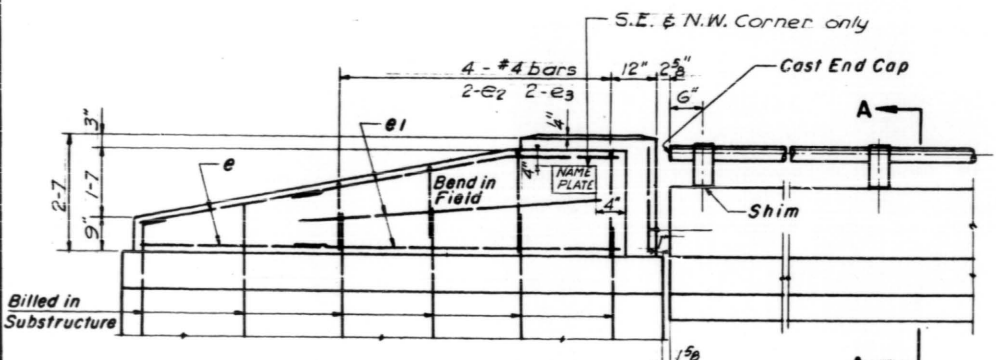


PLAN

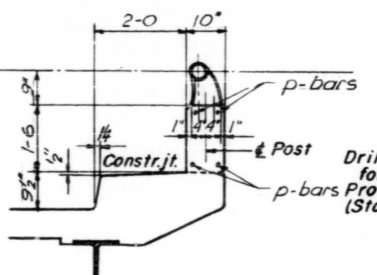


PLAN

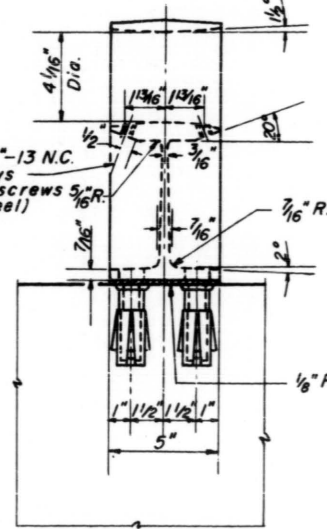
LIGHT POLE MOUNTING DETAILS



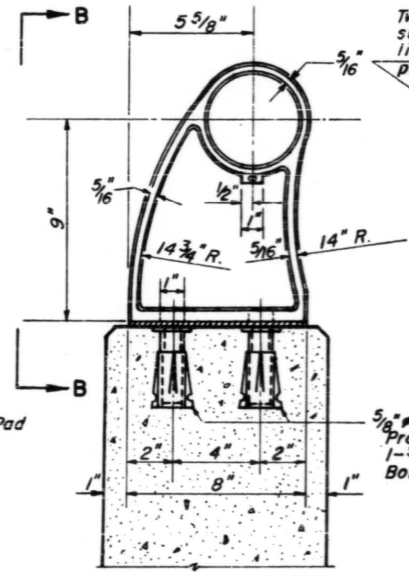
ELEVATION



SECTION A-A

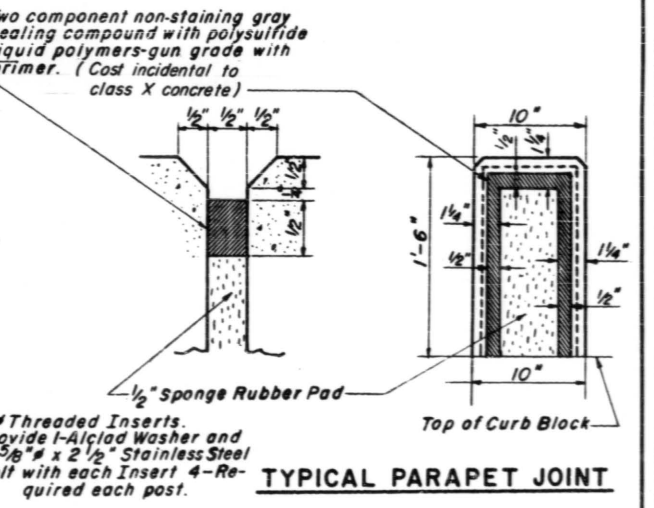


VIEW B-B

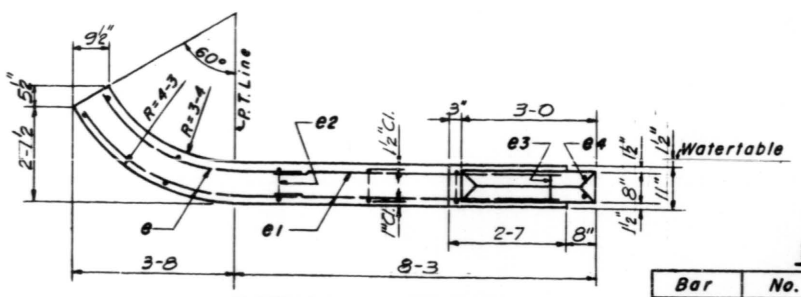


SECTION A-A

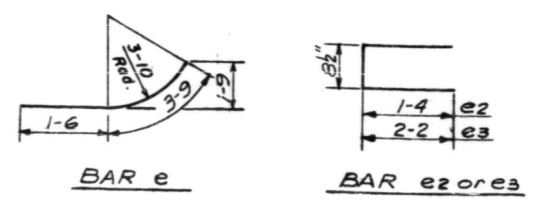
RAIL POST DETAILS



TYPICAL PARAPET JOINT



PLAN-END POST

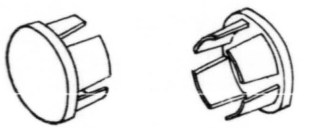


BAR e

BAR e2 or e3

BAR LIST

Bar	No.	Size	Length	Shape
e	16	#4	5-3	
e1	24		7-0	
e2	8		3-4	
e3	8		5-0	
e4	8	#4	2-3	
p1	16	#5	5-8	
p2	16		8-2	
p3	8		8-7	
p4	72		2-8	
p5	12		10-5	
p6	16		10-8	
p7	12		10-10	
p8	4		11-6	
p9	4	#5	11-8	



CAST END CAP
DRIVE FIT TYPE
6° - Required
Incidental to item
"Aluminum Handrail"

NOTES

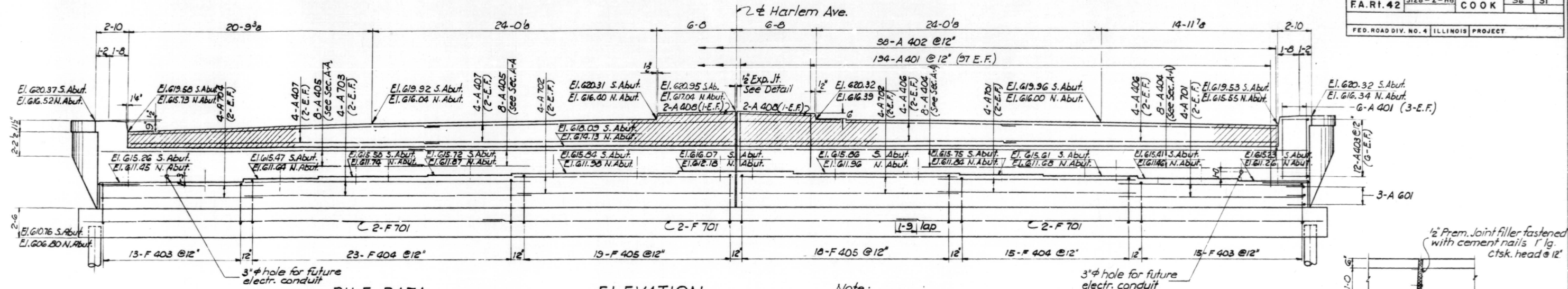
All Posts shall be placed normal to parapet.
All Posts shall be of Aluminum conforming to ASTM Specification B-108 alloy SG-70B-T6.
All Rail Tubing shall be of Aluminum conforming to ASTM Specification B-235 alloy GS-IIA-T6.
Alclad Washers shall be made from sheet conforming to ASTM Specification B 209 alloy clad CG-42A-T4.
For material composition of Prefabricated Pad, See Art. 54.9(f), (Bearings and Anchorage), of the Std. Specifications.
Set Screws shall be of Aluminum conforming to ASTM Specification B-211 alloy CG-42A-T4.
For Curb Detail See Sheet No. 20

BILL OF MATERIAL

Item	Unit	Quantity
Class "X" Concrete	Cu.Yds	20.7
Reinforcement Bars	Lbs	1795
Aluminum Handrail	Lin.Ft.	389
Name Plates	Ea.	2

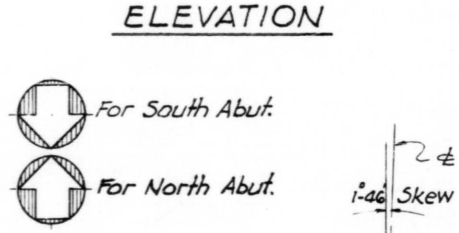
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
ALUMINUM HANDRAIL
HARLEM AVENUE
OVER 95TH STREET
STATION 319 + 38.64
F.A. Rt. 42 COOK CO. SECTION 3128-Z-HB
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-Z-HB	COOK	36	31
FED. ROAD DIV. NO. 4 ILLINOIS PROJECT				

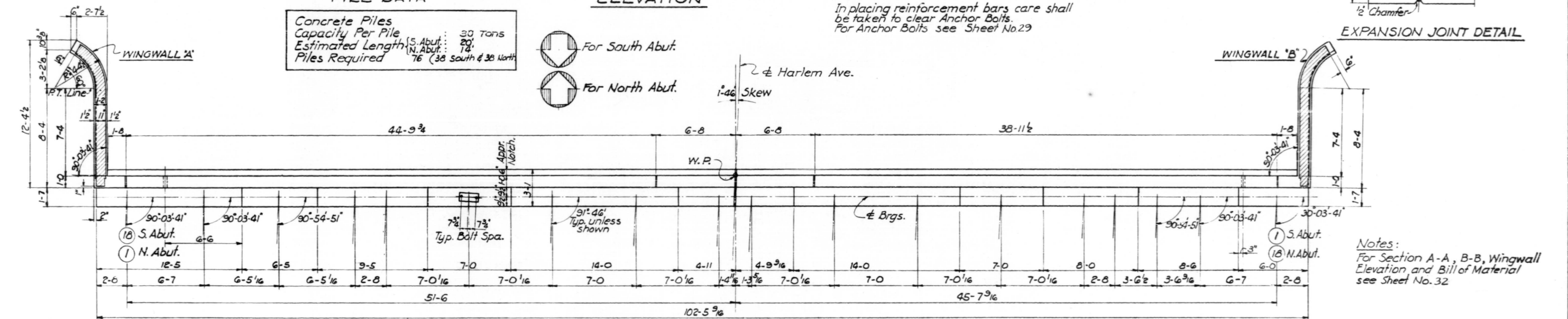
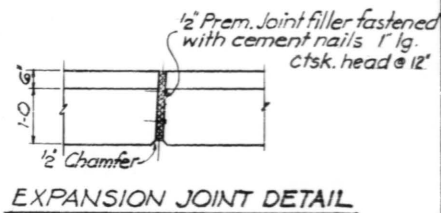


PILE DATA

Concrete Piles	Capacity Per Pile	30 Tons
	Estimated Length	20'
	Piles Required	76 (36 South & 38 North)

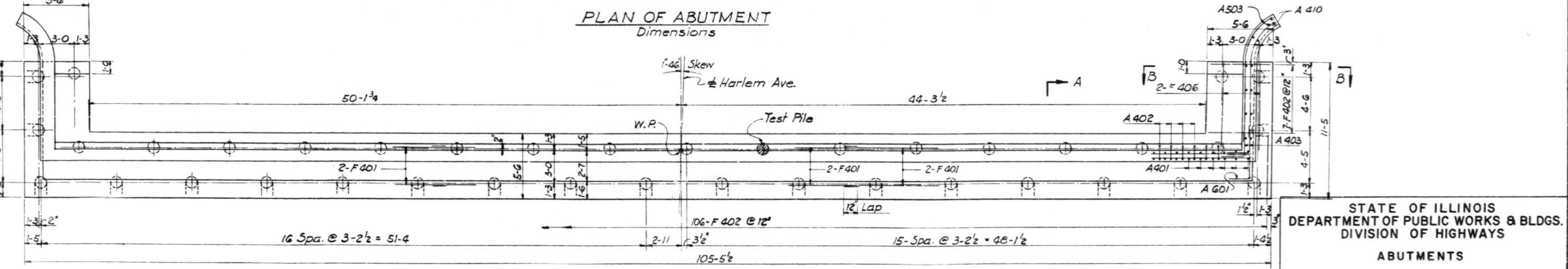


Note:
In placing reinforcement bars care shall be taken to clear Anchor Bolts.
For Anchor Bolts see Sheet No. 29



Notes:
For Section A-A, B-B, Wingwall Elevation and Bill of Material see Sheet No. 32

PLAN OF ABUTMENT
Dimensions



PLAN OF ABUTMENT
Reinforcement and Pile Spacing

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

ABUTMENTS

HARLEM AVENUE
OVER 95TH STREET
STATION 319+38.64

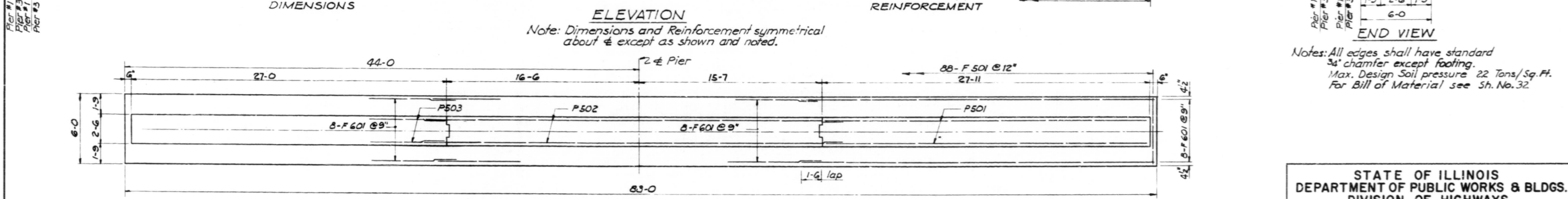
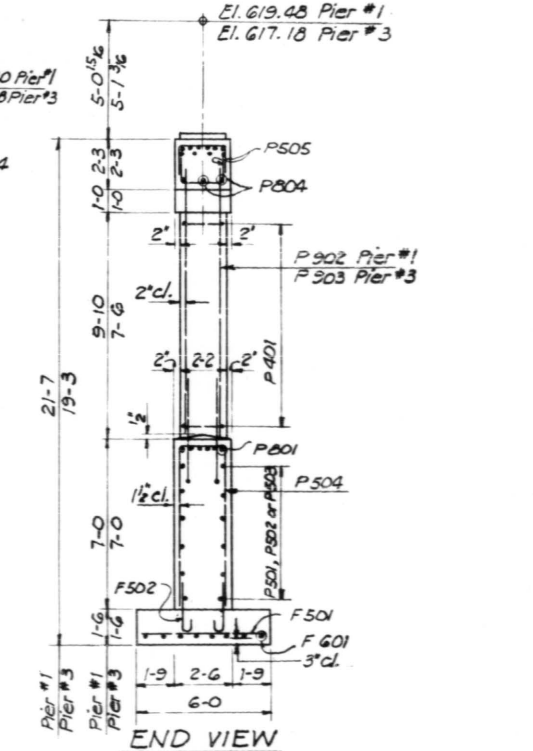
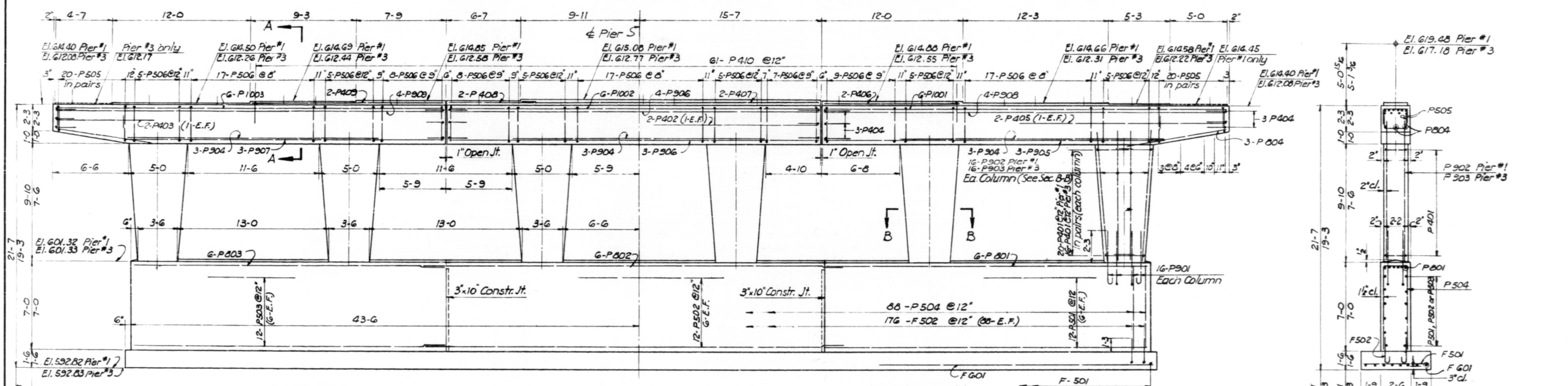
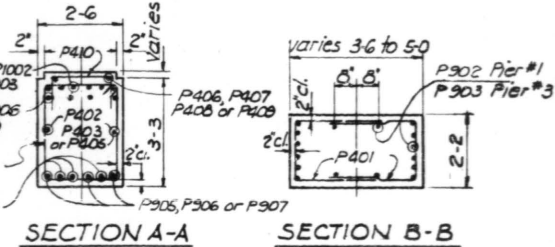
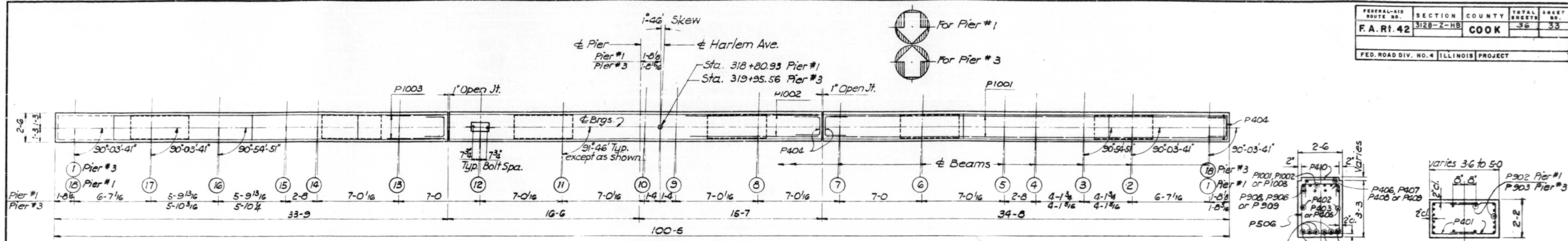
F.A. Rt. 42 COOK CO. SECTION 3128-Z-HB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 31 of 36

DESIGNED BY H.N.
DRAWN BY A.W.
CHECKED BY V.B.

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-2-HB	COOK	36	33
FED. ROAD DIV. NO. 4 ILLINOIS PROJECT				



Notes: All edges shall have standard 3/4" chamfer except footing.
 Max. Design Soil pressure 22 Tons/Sq.Ft.
 For Bill of Material see Sh. No.32

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BLDGS.
 DIVISION OF HIGHWAYS

PIERS No.1 AND No.3
 HARLEM AVENUE
 OVER 95TH STREET
 STATION 319+38.64

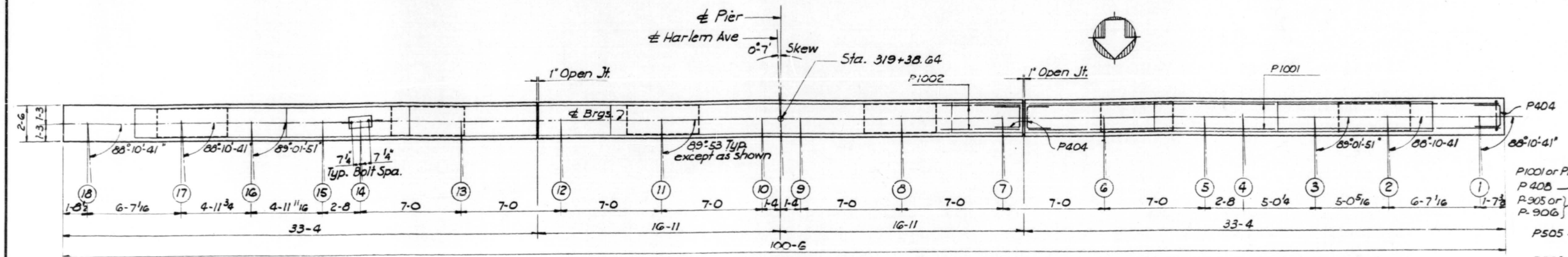
F.A. Rt. 42 COOK CO. SECTION 3128-2-HB

H. W. LOCHNER, INC.
 CONSULTING ENGINEERS
 CHICAGO, ILLINOIS

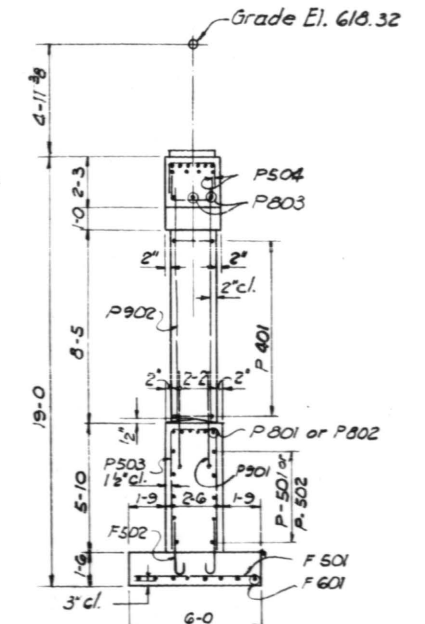
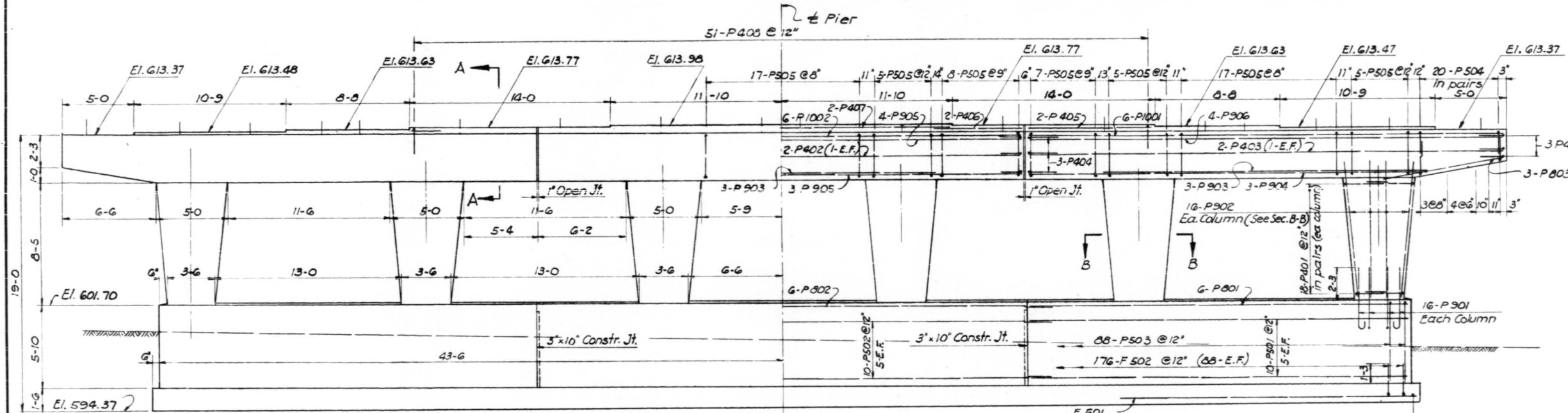
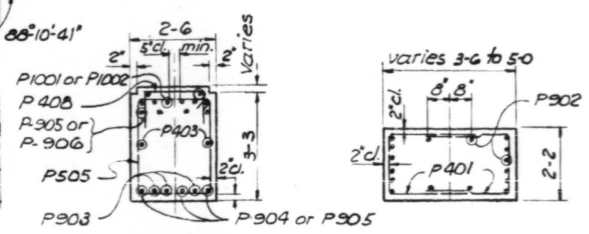
SHEET 33 of 36

DESIGNED BY K.K.
 DRAWN BY A.B.
 CHECKED BY H.N.

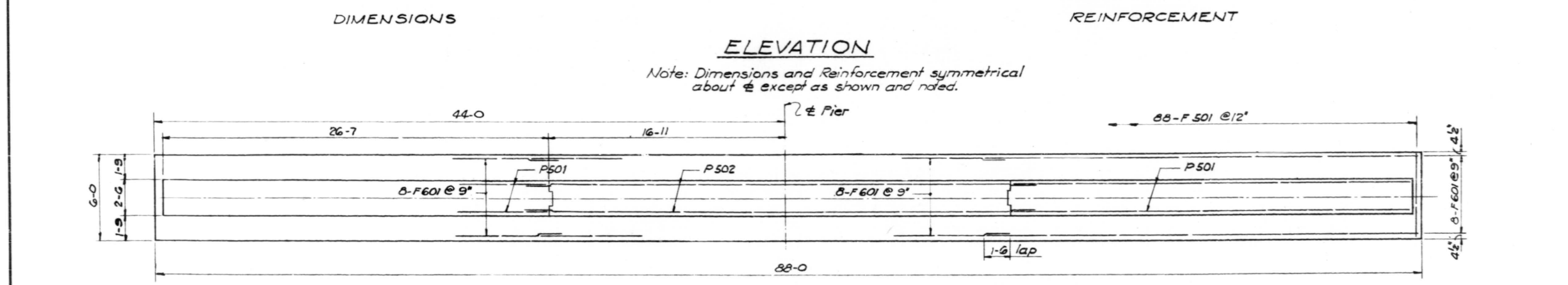
FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.Rt. 42	3128-Z-HB	COOK	36	34
FED. ROAD DIV. NO. 4 ILLINOIS PROJECT				



Note: In placing reinforcement bars care shall be taken to clear anchor bolts. For anchor bolts see sheet No. 29



Notes: All edges shall have standard 3/4" chamfer except footing.
Max. Design Soil pressure 22 Tons/Sq. Ft.
For Bill of Material see Sh. No. 32



DESIGNED BY K.K.
DRAWN BY A.B.
CHECKED BY H.N.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS

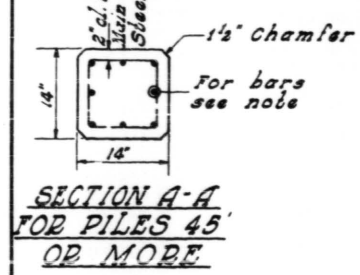
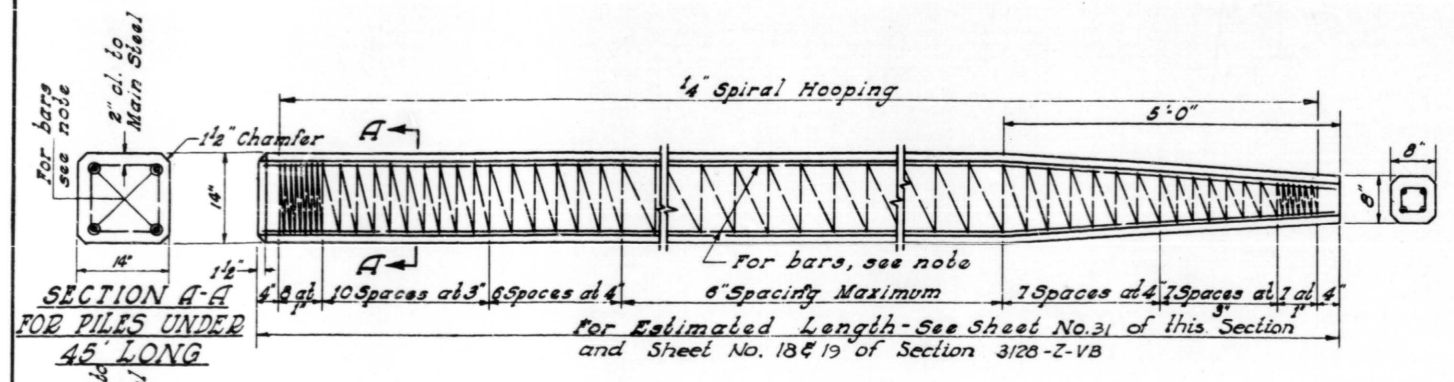
PIER No. 2
HARLEM AVENUE
OVER 95TH STREET
STATION 319+38.64

F.A.Rt. 42 COOK CO. SECTION 3128-Z-HB

H. W. LOCHNER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

SHEET 34 of 36

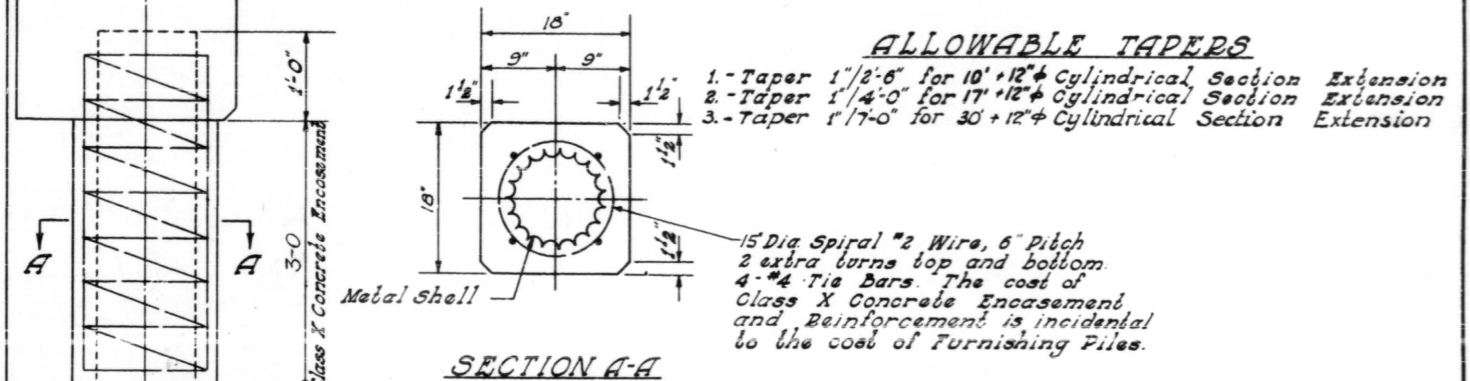
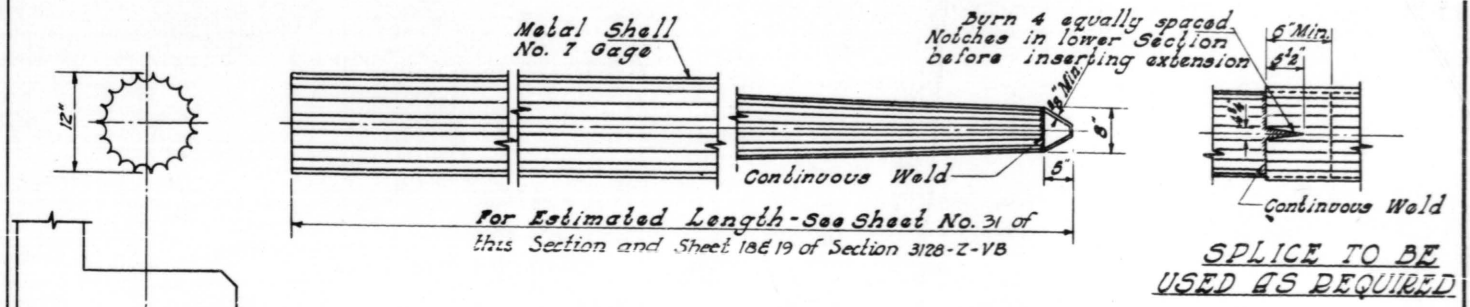
FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. Rt. 42	3128-Z-HB 3128-Z-VB	COOK	36	35
FED. ROAD DIV. NO. 4 ILLINOIS PROJECT				



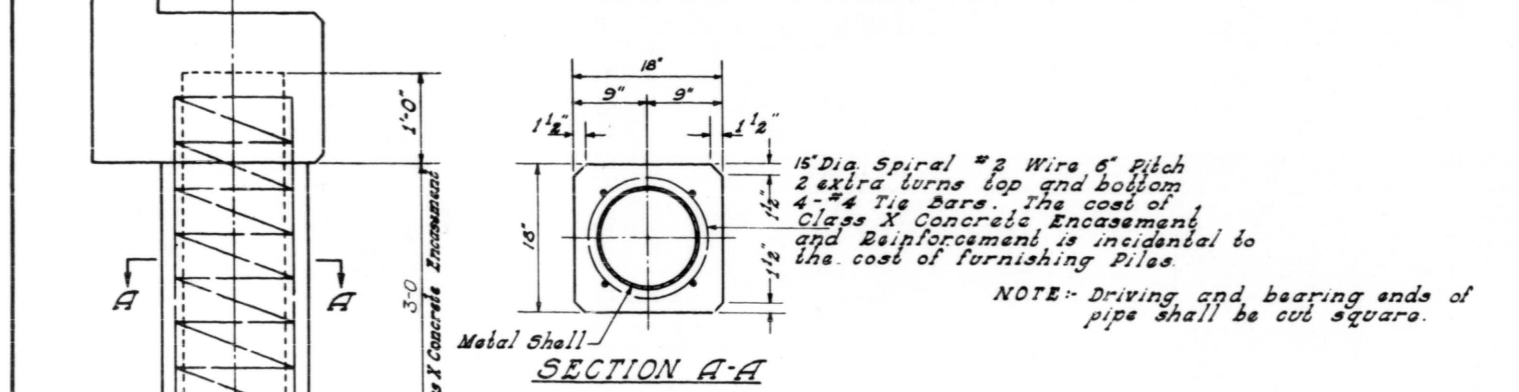
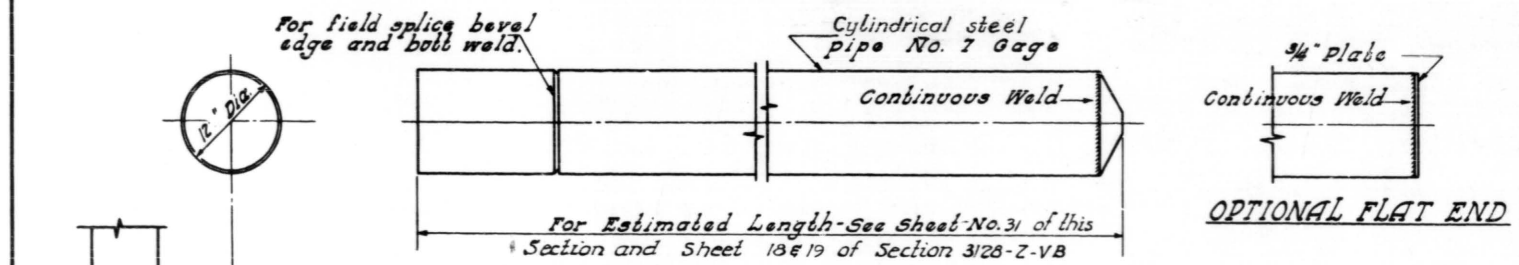
NOTE:-
For 14" x 14" Piles 45' long or more use 6-#9 bars - 4 for the full length and 4 to the point of bevel. For 14" x 14" Piles under 45'-0" long use 4-#9 bars the full length.

HANDLING:- For Pile lengths up to 45 Ft, use 2 slings placed at a distance of 0.21 L* from each end. For Piles longer than 45 Ft., 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

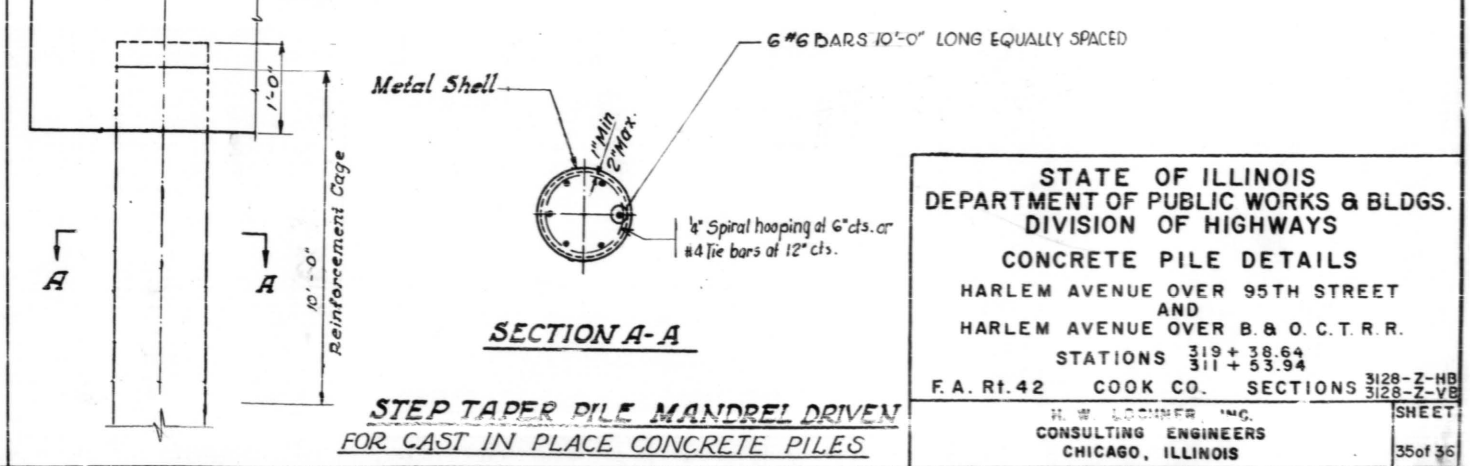
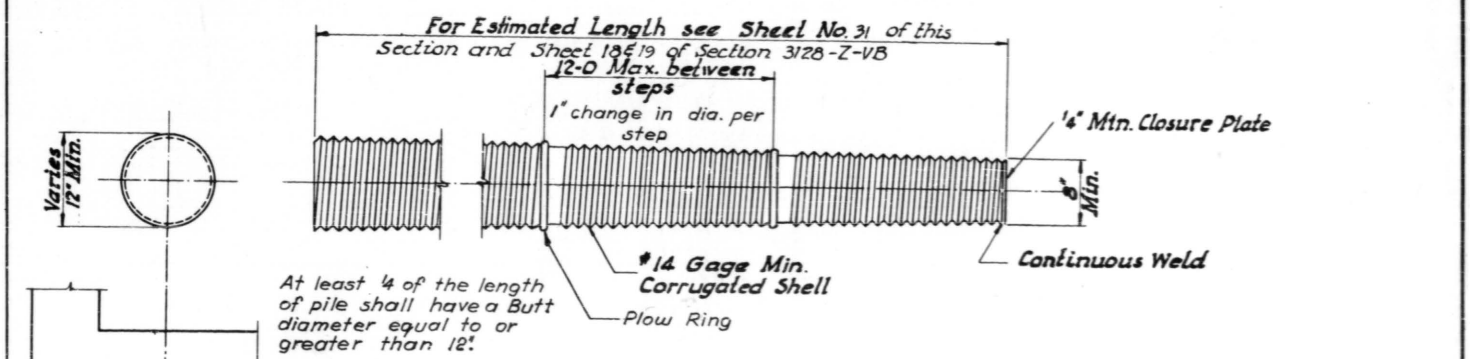
DETAIL OF PRECAST CONCRETE PILES



DETAIL OF TAPERED METAL SHELL FOR CAST IN PLACE CONG. PILES.



DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



STEP TAPER PILE MANDREL DRIVEN FOR CAST IN PLACE CONCRETE PILES

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
CONCRETE PILE DETAILS
HARLEM AVENUE OVER 95TH STREET
AND
HARLEM AVENUE OVER B. & O. C. T. R. R.
STATIONS 319 + 38.64
311 + 53.94
F.A. Rt. 42 COOK CO. SECTIONS 3128-Z-HB
3128-Z-VB
H. W. LOMBER, INC.
CONSULTING ENGINEERS
CHICAGO, ILLINOIS
SHEET 35 of 36