FEDERAL-AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 61	531-3HB-1	COOK	17	1
B. P. R. REG. NO. 4	ILLINOIS	PROJECT		

JOB NO. P-90-002-64

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

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SCALES		
PLAN	1 INCH	100 FT.
PROFILE, HOR.	1 INCH	100 FT.
PROFILE, VERT.	1 INCH	10 FT.
CROSS-SECTIONS	1 INCH	5 FT.

(S.B.I. ROUTE 53) F.A. ROUTE 61 SECTION 531-3HB-1 COOK COUNTY

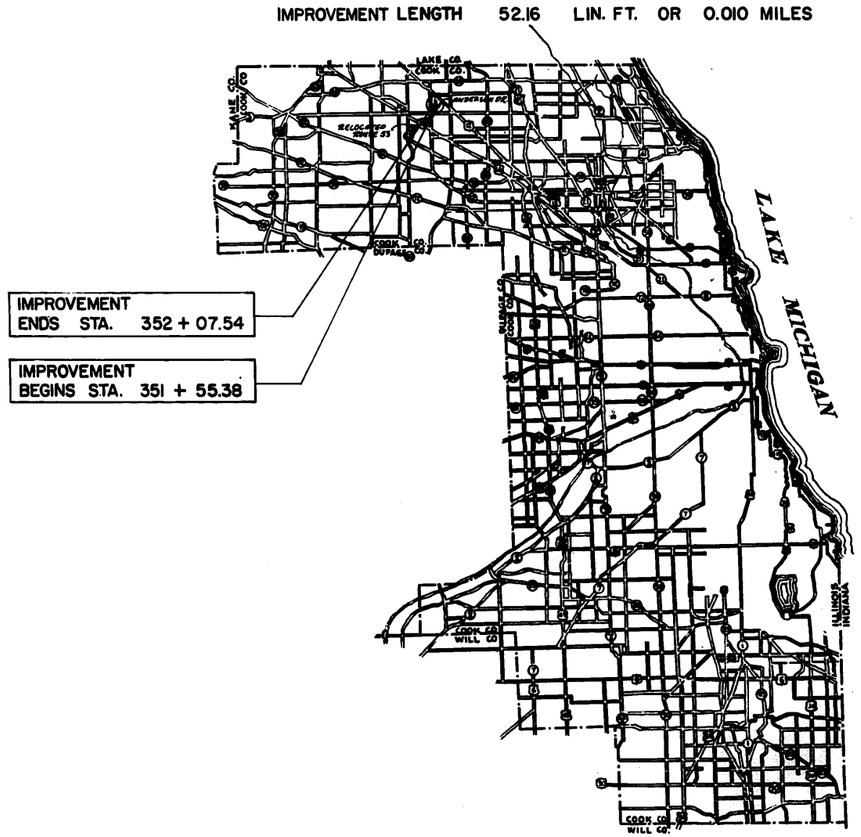
C-90-443-64

STRUCTURE OVER ANDERSON DRIVE EXTENSION
RELOCATED ROUTE 53

INDEX OF SHEETS ON SHEET 2

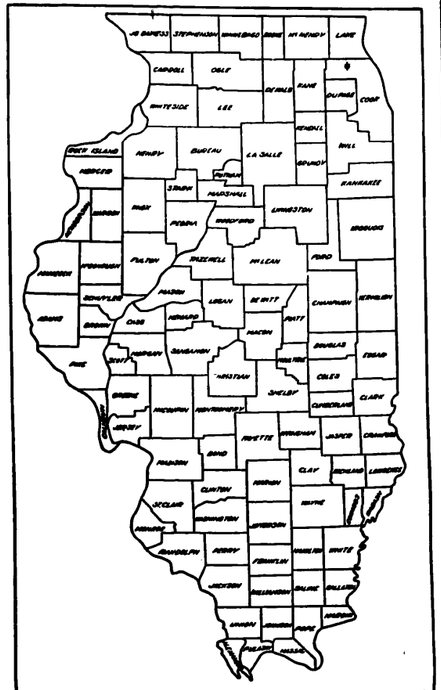
SECTION 531-3HB-1 INCLUDES THE CONSTRUCTION OF A 1-SPAN PRECAST PRESTRESSED CONCRETE I-BEAM GRADE SEPARATION STRUCTURE (TO CARRY RELOCATED ROUTE 53 OVER ANDERSON DRIVE EXTENSION), WITH A 52'-2" SPAN, ON CLOSED R.C. ABUTMENTS, IN VILLAGE OF ARLINGTON HEIGHTS.

IMPROVEMENT LENGTH 52.16 LIN. FT. OR 0.010 MILES



IMPROVEMENT ENDS STA. 352 + 07.54

IMPROVEMENT BEGINS STA. 351 + 55.38



LOCATION OF SECTION INDICATED THUS:—

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

SUBMITTED August 31 1964
C. A. Benson
CHIEF ENGINEER

EXAMINED September 9 1964
A. Williamsen
ENGINEER OF ROAD PLANS AND CONTRACTS

PASSED September 9 1964
ENGINEER OF BRIDGES

APPROVED September 9 1964
CHIEF HIGHWAY ENGINEER

APPROVED September 9 1964
DIRECTOR

R. KENNEDY

CONTRACT NO. 23866

COUNTY COOK SECTION 531-3HB-1 F. A. ROUTE 61

DELETED PROJECT NUMBER THROUGHOUT
KHW 11/6/64

REVISED 12-28-64

PLANS PREPARED BY BUREAU OF DESIGN	Albert Libres	DATE 8-28-64
APPROVED BY ASS'T DISTRICT ENGINEER-ENGINEERING	Richard C. Bramming	DATE 8-31-64
EXAMINED BY BUREAU OF CONSTRUCTION		DATE
EXAMINED BY BUREAU OF MAINTENANCE	Joseph A. Hess	DATE 8-28-64
EXAMINED BY BUREAU OF TRAFFIC	J. H. McLean	DATE 8-28-64
EXAMINED BY BUREAU OF MATERIALS	H. D. Spaeth	DATE 8-28-64
ENTIRE SECTION INSPECTED AND APPROVED AS TO POLICY — DISTRICT ENGINEER	C. A. Benowitz	DATE 8-31-64

BOND ISSUE ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FA-67	531-3NB-1	COOK	17	2
STA.	TO STA			
U.S. SUR. PUB. ROADS, DIV. 4	ILLINOIS	F. A. PROJECT		

INDEX OF SHEETS

SHEET NO.

WHERE SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

SUMMARY OF QUANTITIES

PAY ITEM	UNIT	TOTAL QUANTITY	CODE NO.
EMBANKMENT	CU YD	12,300	016001
CLASS A EXCAVATION FOR STRUCTURES	CU YD	1,200	050001
FURNISHING & ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 36"	LIN FT	962	051019
CLASS X CONCRETE	CU YD	1,065	052003
PROTECTIVE COAT	SQ YD	700	052021
FURNISHING & ERECTING STRUCTURAL STEEL	POUND	8,140	051002
REINFORCEMENT BARS	POUND	129,520	059001
FURNISHING CREOSOTED PILES, UP TO 20 FEET	LIN FT	544	060004
DRIVING TIMBER PILES	LIN FT	544	060008
NAME PLATES	EACH	1	061001
PERFORATED CORRUGATED METAL PIPE (6")	LIN FT	350	063020
ALUMINUM HANDRAIL	LIN FT	102	Z00004

NOTE: THE "STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION" ADOPTED JANUARY 2, 1958 AND THE "SUPPLEMENTAL SPECIFICATIONS" EFFECTIVE MARCH 2, 1964, SHALL GOVERN THE CONSTRUCTION OF THIS WORK

AXLE LOAD LIMITS: SINGLE - 18,000 LBS, TANDEM - 24,000 LBS

DHV-20	CLASSIFICATION	DESIGN SPEED
6276	M	70

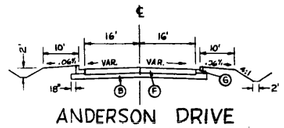
E.KOLBA

BOND ISSUE ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 61	531-3-HB-1	COOK	17	3
STA.	TO STA.			
U.S. Rte.	PUB. ROADS, DIV. 6	ILLINOIS	F. A. PROJECT	

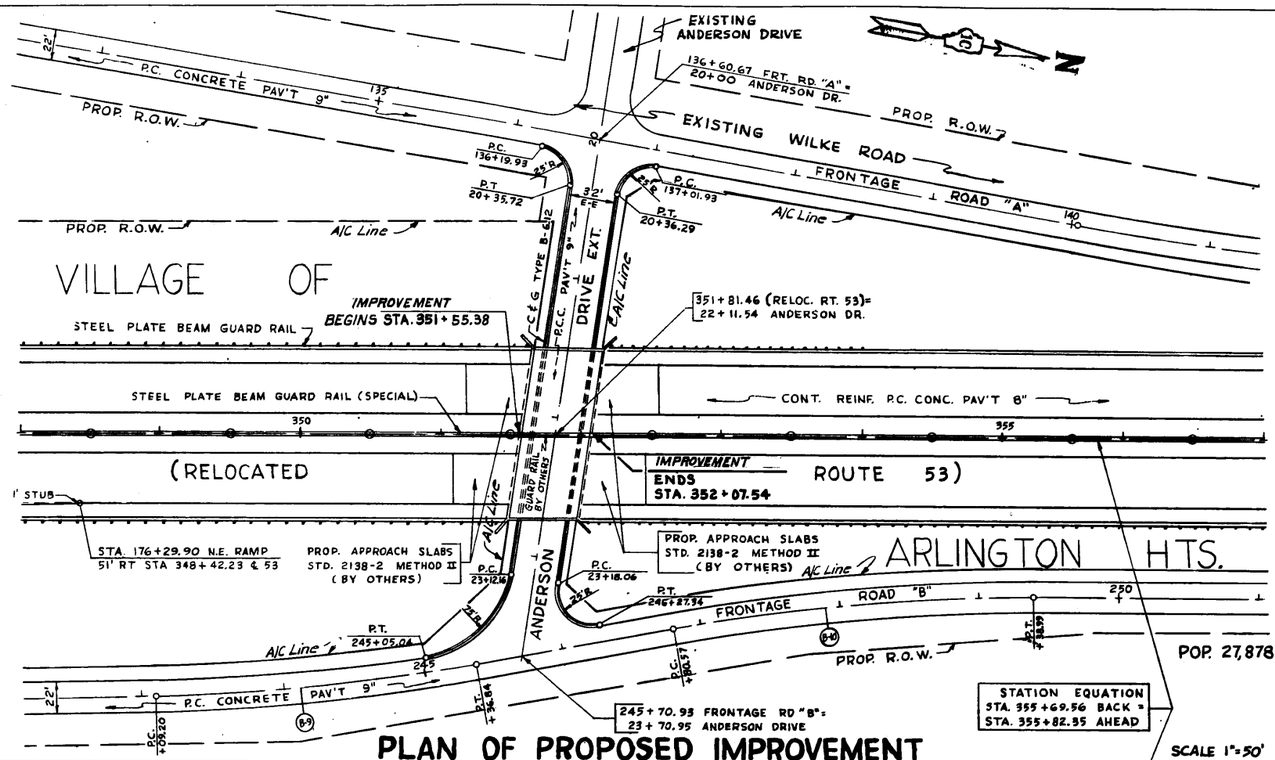
PLAN: SURVEYED / PLOTTED / NOTE BOOK: ALIGNMENT CHECKED / No. OF MAPS CHECKED / DATE / BY

CURVE DATA FRT. RD. "B"

	B-9	B-10
P.I.	244+23.27	248+10.15
Δ	9°-18'-59"	10°-34'-34"
D	4°-05'-33"	4°-05'-33"
R	1400'	1400'
L	227.64'	258.42'
T	114.07'	129.58'
E	4.64'	5.98'

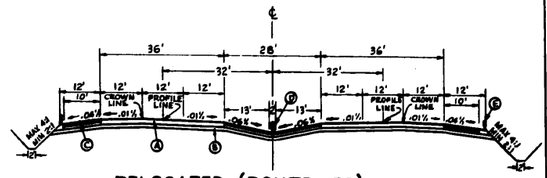


ANDERSON DRIVE EXTENSION
(TO BE CONSTRUCTED BY OTHERS)



LEGEND

- Ⓐ CONTINUOUSLY REINFORCED P.C. CONCRETE PAV'T (8")
- Ⓑ SUB-BASE GRANULAR MATERIAL, TYPE A (6")
- Ⓒ STABILIZED SHOULDER
- Ⓓ STEEL PLATE BEAM GUARD RAIL (SPECIAL)
- Ⓔ STEEL PLATE BEAM GUARD RAIL
- Ⓕ P.C. CONCRETE PAVEMENT (9")
- Ⓖ COMB. CONC. CURB & GUTTER, TYPE B-6.12 OR B-6.12 (MODIFIED)

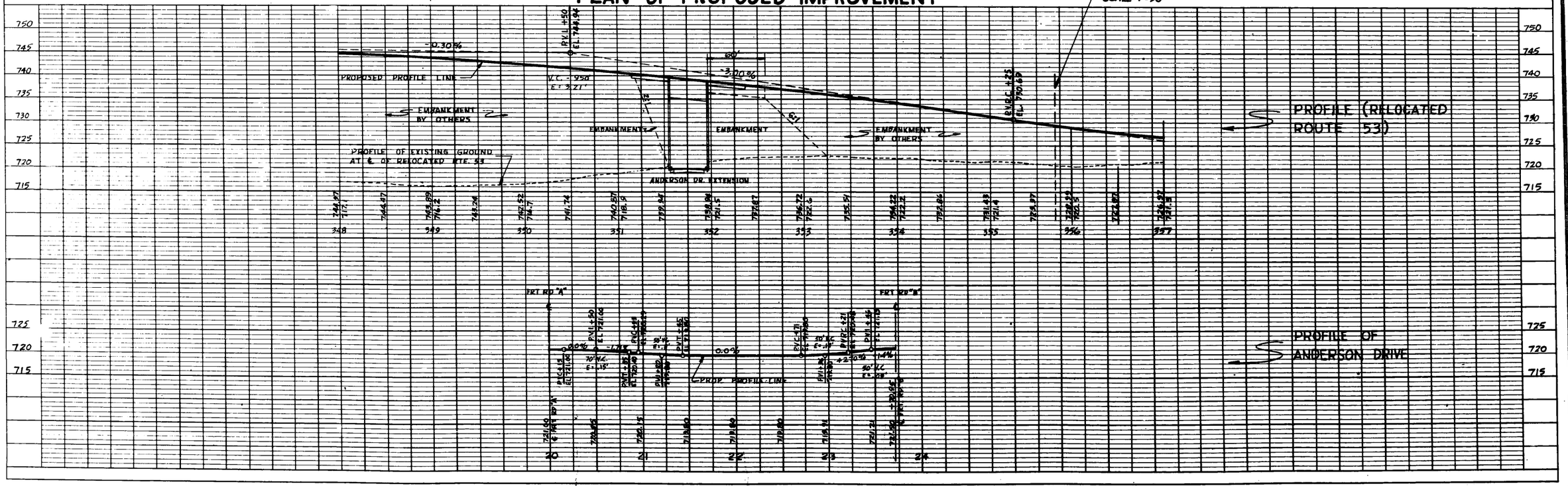


RELOCATED (ROUTE 53)
(MAIN LINE TANGENT SECTION)

SCALE 1"=50'

PLAN OF PROPOSED IMPROVEMENT

PROFILE: SURVEYED / PLOTTED / NOTE BOOK: GRADES CHECKED / S. M.'s NOTED / STRUCTURE LOCATIONS CHECKED / No. / DATE / BY

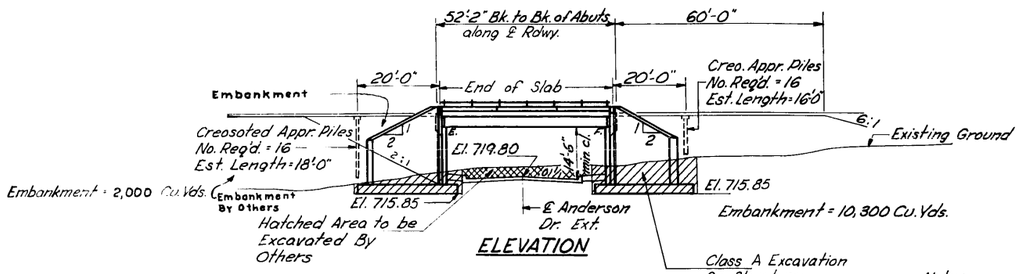


B.M.: Top of Shut Off Nut Hydrant W. Side Wilke Rd. and due West of P.T. Sta. 340+36.79 Elev. 727.21

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

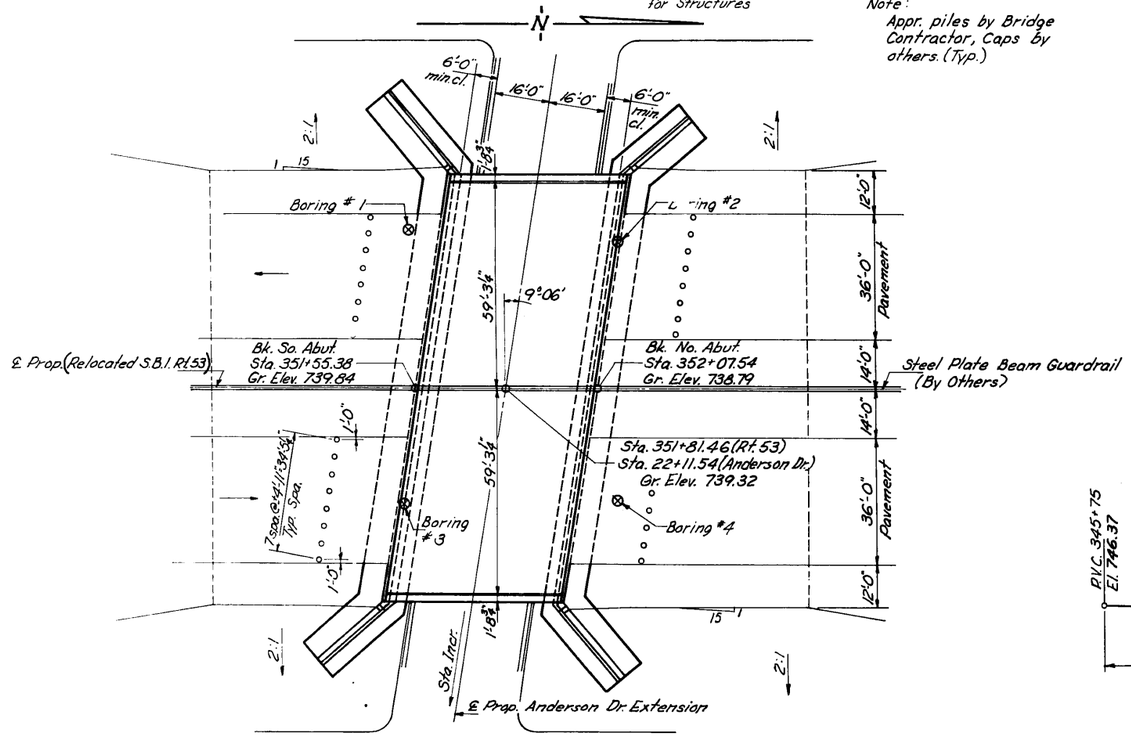
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 61	531-3HB-1	COOK	17	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
11 SHEETS



ELEVATION

Note:
Appr. piles by Bridge Contractor, Caps by others. (Typ.)



PLAN

GENERAL NOTES

Coarse aggregate to be used in parapet handrails must be absolutely free of chert, flint, limonite, lignite and soft sandstone.

The concrete floor slab shall be finished in accordance with Article 51.19 of the Standard Specifications.

All reinforcement bars shall be lapped 20 diameters unless otherwise shown.

Permanent forms will not be permitted in forming the the concrete floor.

All structural steel shall conform to A.S.T.M. Designation A-36.

The exposed surfaces of the expansion guard shall be given two shop coats of red lead paint, the contact surfaces shall be given one coat of red lead paint. Anchor studs shall not be painted.

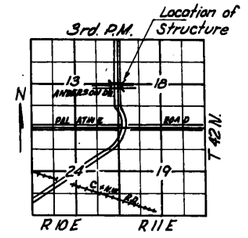
Expansion guards are included in the quantity of Structural steel. Estimated weight 3,330 lbs.

Except as otherwise provided, all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Article 56.1 to 56.5 inclusive of the Standard Specifications.

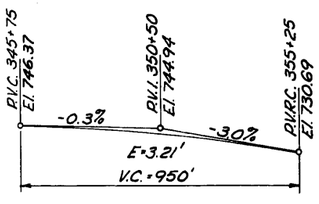
STA. 351+81.46
BUILT 196 BY
STATE OF ILLINOIS
F.A. Rt. 61 SEC. 531-3-HB-1

LOADING HS 20

NAME PLATE
Locate at S.E. Corner
See Std. 2113-1



LOCATION SKETCH



V.C. DATA
(SBI Rt. 53)

SUMMARY OF QUANTITIES

Item	Unit	Super.	Sub	Total
Aluminum Handrail	Lin. Ft.	102		102
Embankment	Cu. Yds.		12,300	12,300
Class "A" Excavation for Structures	Cu. Yds.		1,200	1,200
Structural Steel	Lbs.	8,140		8,140
Furnishing and Erecting Precast Prestressed Concrete I-Beams, (36")	Lin. Ft.	962		962
Class X Concrete	Cu. Yds.	175.5	889.7	1065.2
Reinforcement Bars	Lbs.	42,180	87,340	129,520
Name Plates	Each	1		1
Protective Coat	Sq. Yds.	700		700
Creosoted Piles (Up to 20')	Lin. Ft.			544
Perforated Corrugated Metal Pipe (6")	Lin. Ft.		350	350

DESIGNED	Fred Stone
CHECKED	M. Yamashita
DRAWN	Thomas A. Lewis
CHECKED	M. T.

JULY 27 1964

EXAMINED N. E. Baumann
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED E. H. Hunt
ENGINEER OF DESIGN

APPROVED U. E. Hall
CHIEF HIGHWAY ENGINEER

DESIGN STRESSES

f_c = 1400 (Super.)
f_c = 1000 psi. (Sub)
f_s = 20,000 psi. (Reinf. & Struct.)
v = 75 psi. (Flgs)
n = 10
Max. Soil Pressure = 2.38 T.S.F. (Abut. Toe)

PRECAST PRESTRESSED UNITS

f'_c = 5000 psi.
f'_{ci} = 4000 psi.
f_s = 248,000 psi. (Cables)
f_{si} = 173,600 psi.
n = 10

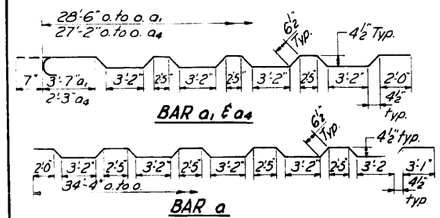
GENERAL PLAN & ELEVATION RELOCATED SBI Rt. 53 OVER ANDERSON DRIVE EXTENSION F.A. Rt. 61 (S.B.I. Rt. 53) SEC. 531-3-HB-1 COOK COUNTY STA. 351+81.46

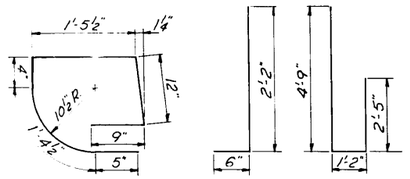
LOADING HS 20

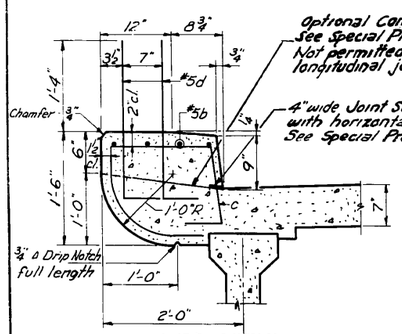
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 61	531-3HB-1	COOK	17	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

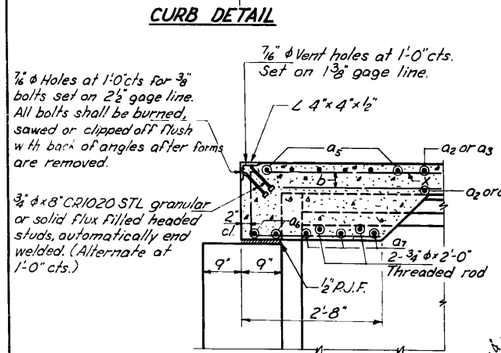
SHEET NO. 2
// SHEETS



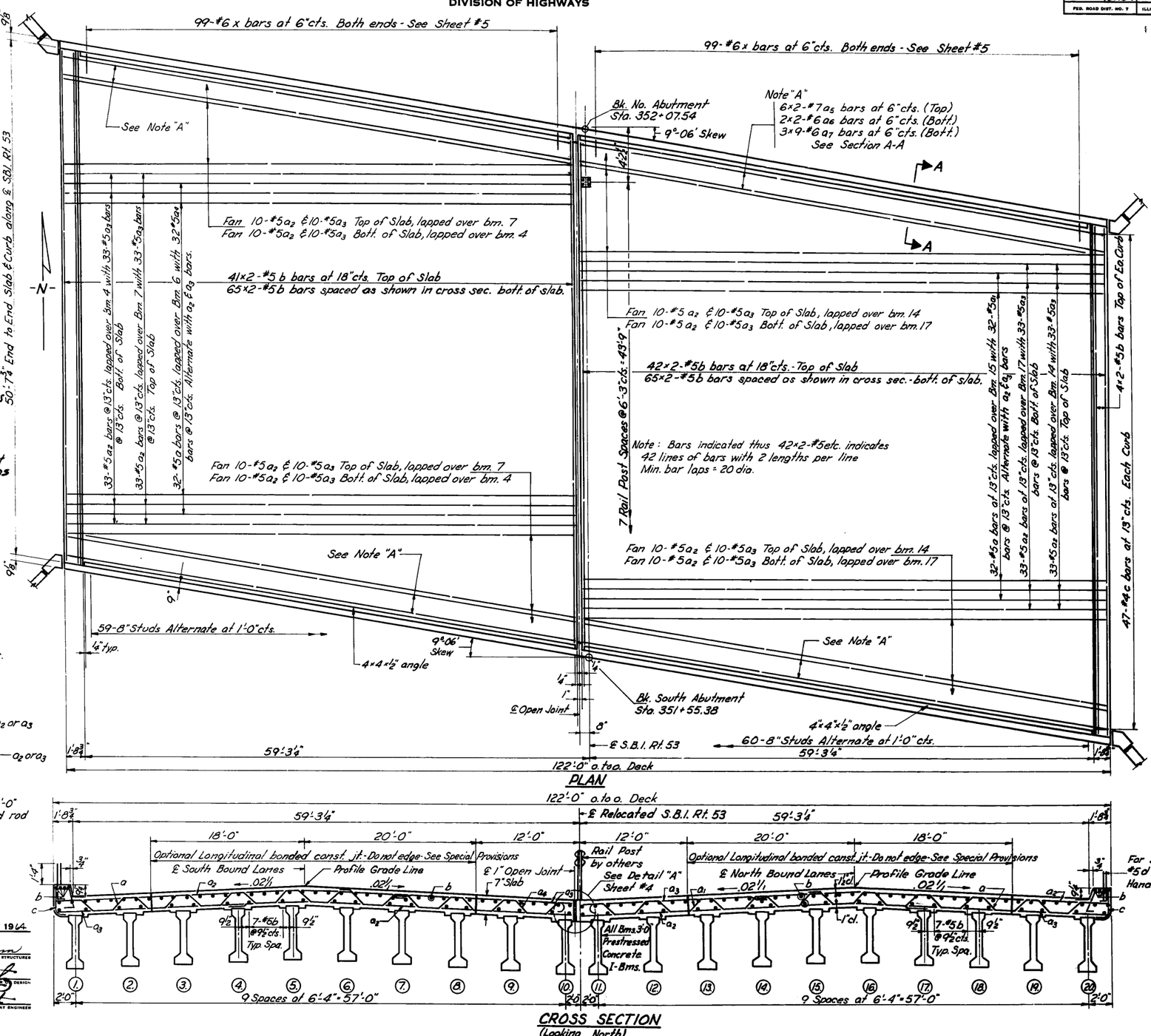




CURB DETAIL



SECTION A-A



PLAN

CROSS SECTION
(Looking North)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	64	#5	36'-0"	
a_1	32	#5	30'-5"	
a_2	212	#5	41'-3"	
a_3	212	#5	22'-0"	
a_4	32	#5	29'-1"	
a_5	48	#7	32'-6"	
a_6	16	#6	32'-3"	
a_7	108	#6	5'-7"	
b	442	#5	26'-0"	
c	94	#4	5'-4"	
m	36	#4	5'-7"	
m_1	36	#4	4'-8"	
s	72	#4	6'-10"	
x	396	#6	8'-4"	
Reinforcement Bars		Lbs.	42,180	
Structural Steel		Lbs.	8,140	
Class X Concrete		Cu. Yds.	175.5	

For placement of bars m, m_1, s, & x See Sheet #5.
Total quantities on this sheet include Reinf. Bars & Class X Conc. for parapet handrails shown on Sheet #6.

DESIGNED	Fred Stone
CHECKED	M. Masius
DRAWN	Thomas A. Lewis
CHECKED	

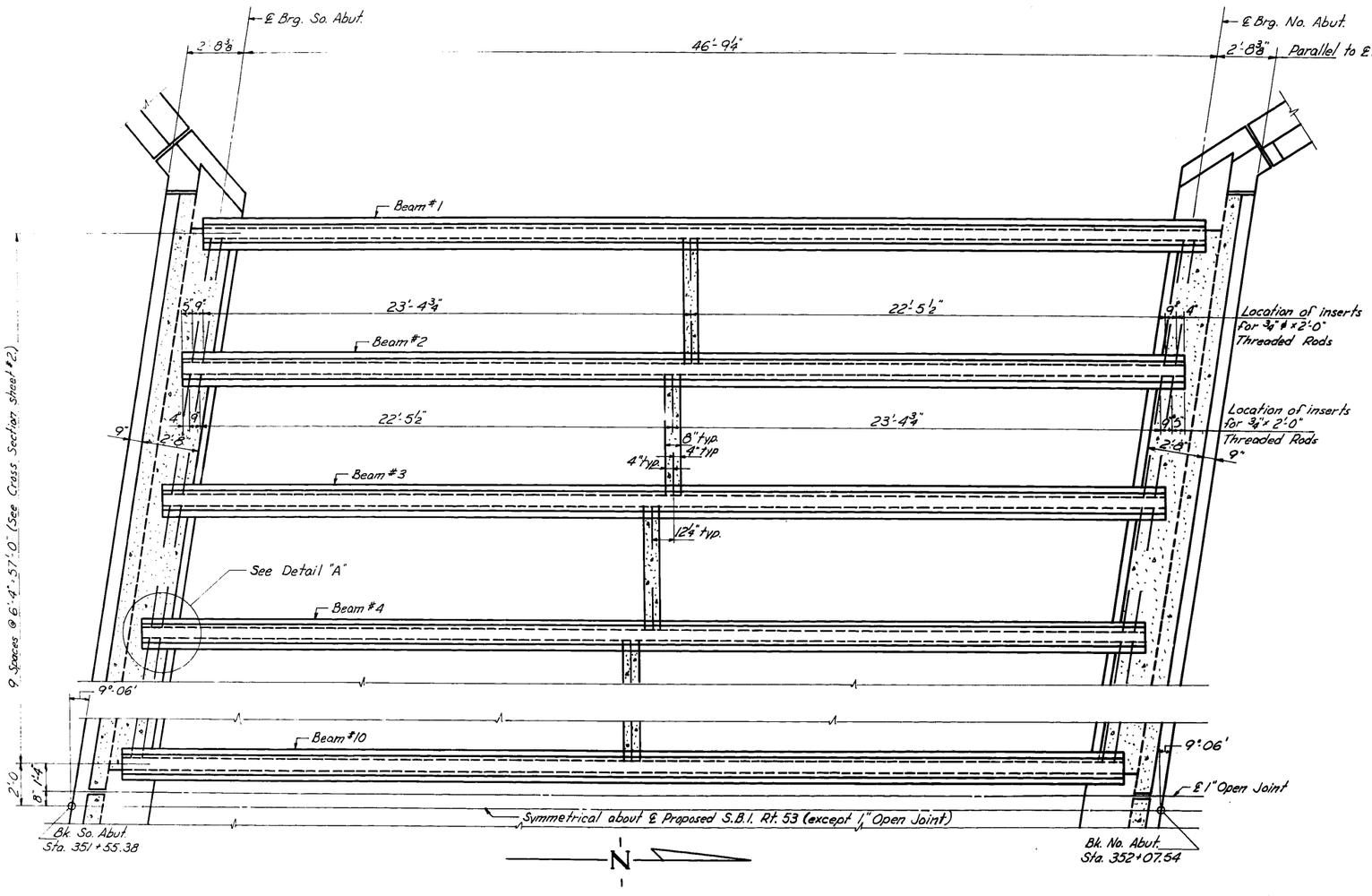
EXAMINED July 27 1964
W. C. Baumann, ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
APPROVED V. E. Haff, CHIEF HIGHWAY ENGINEER

SUPERSTRUCTURE
S.B.I. Rt. 53 SEC. 531-3-HB-1
COOK COUNTY
STA. 351+81.46

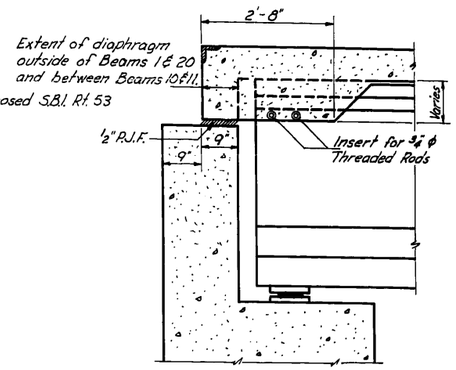
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 61	531-3HB-1	COOK	17	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

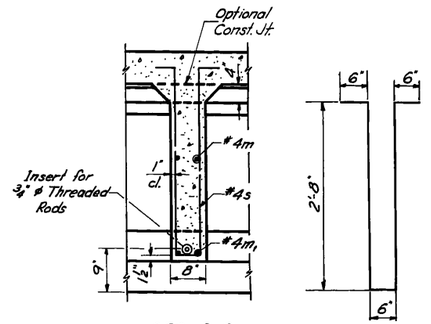
SHEET NO. 3 // SHEETS



FRAMING PLAN

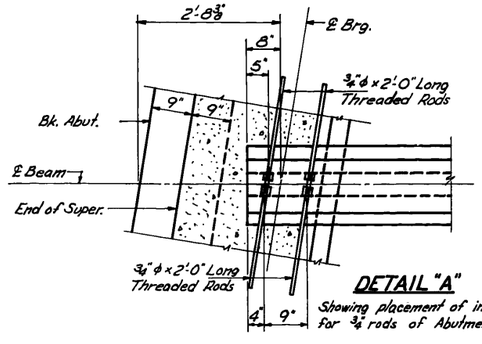


SEC. AT ABUTMENTS



SEC. C-C
Sec. Taken From Sheet #5

BARS



DETAIL "A"
Showing placement of inserts for ¾" rods of Abutments.

DESIGNED	Fred Stone
CHECKED	M Ganashire
DRAWN	Thomas A. Lewis
CHECKED	

JULY 27 1964

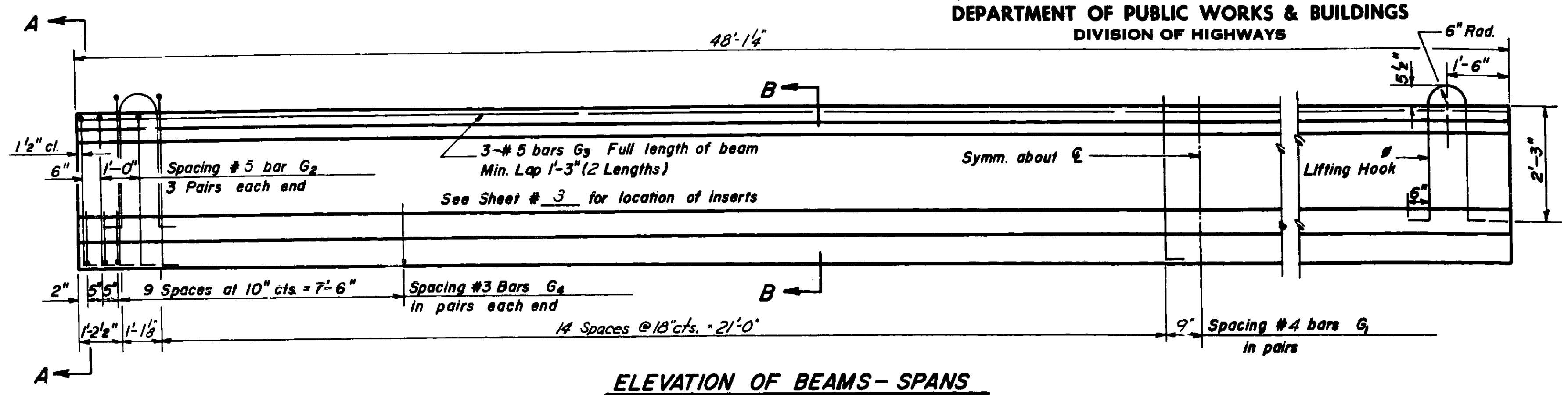
EXAMINED W C Baumann — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED — ENGINEER OF DESIGN
APPROVED U. E. Hoff — CHIEF HIGHWAY ENGINEER

FRAMING DETAILS
S.B.I. RT. 53 SEC. 531-3-HB-1
COOK COUNTY
STA. 351+81.46

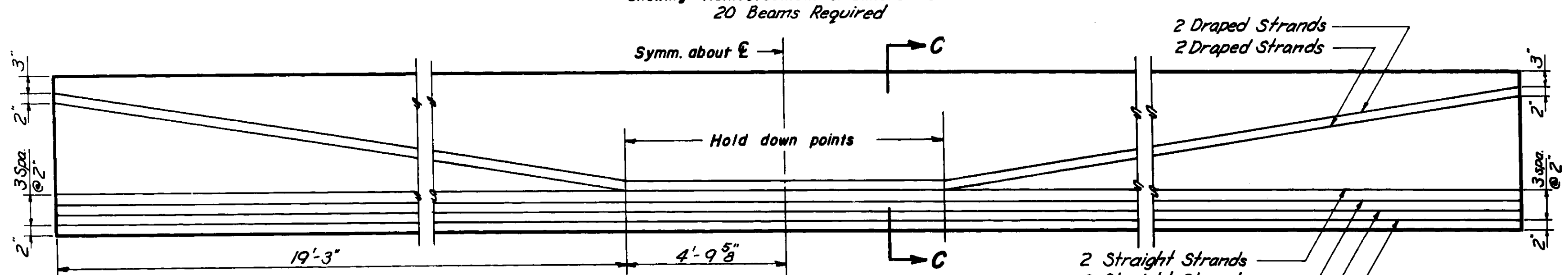
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA61	531-3HB-1	COOK	17	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
11 SHEETS

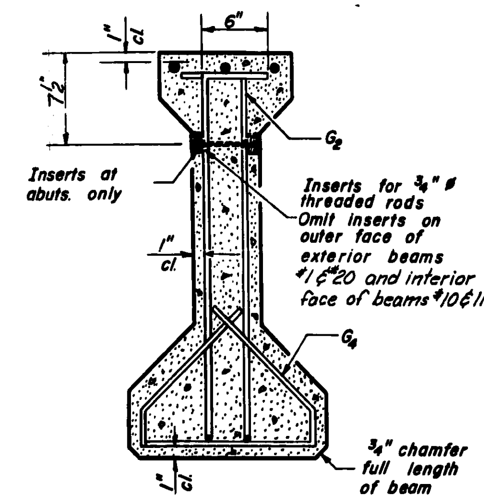
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



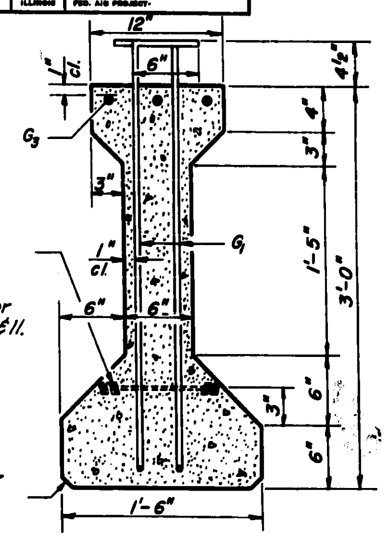
ELEVATION OF BEAMS - SPANS
Showing Reinforcement & Dimensions
20 Beams Required



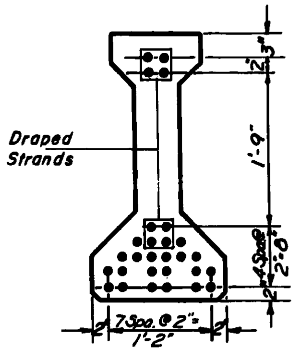
ELEVATION OF BEAMS - SPANS
Showing Prestressing Steel



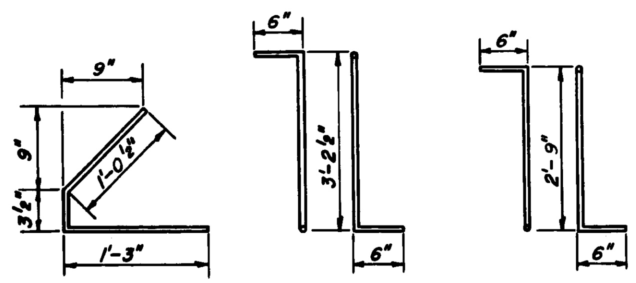
SECTION A-A



SECTION B-B



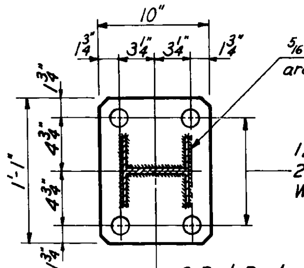
SECTION C-C



BAR G_4 BAR G_1 BAR G_2

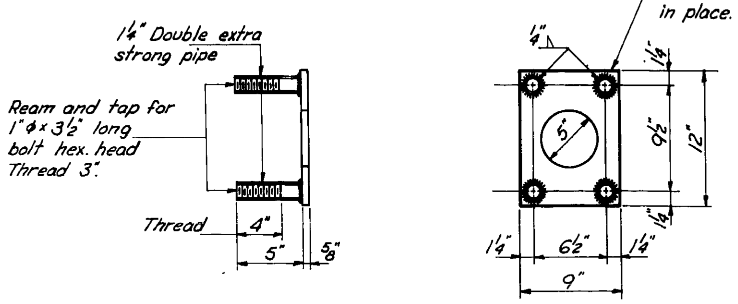
BAR SCHEDULE

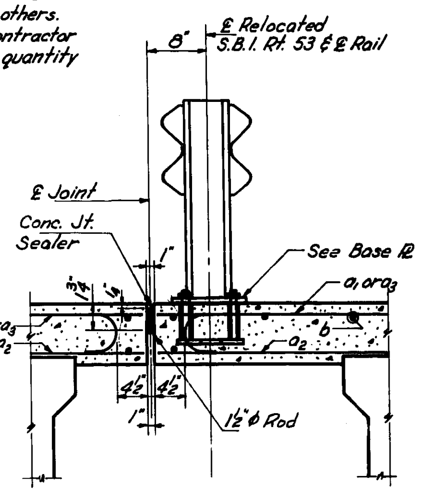
Bar	No.	Size	Length	Shape
G_1	1280	#4	4'-2½"	┐└
G_2	240	#5	3'-9"	┐└
G_3	120	# 5	24'-7"	—
G_4	960	# 3	2'-7"	∟



RAIL POST
BASE PLATE

Note:
Steel ℞ Beam Guard Rail with Base Plate and rail post, by others.
Anchor devices by bridge contractor
Est. wt. = 270# is included in quantity of Structural Steel.





DETAIL "A"
See Sheet #2

ANCHOR DETAILS

NOTES

All inserts and threaded rods for inserts, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete I-Beams shall be included in the contract unit price per lineal foot of "Furnishing And Erecting Precast Prestressed Concrete I-Beams, 36 In.

See Supp. Specif., eff. Mar. 2, '64 for additional information regarding materials, Prestressing equipment, construction and handling methods and other requirements for Precast Prestressed Concrete I-Beams.

Prestressing Steel shall have a nominal diameter of 7/16".

Inserts for ¾" ø threaded rods are to be two strut, coil type for interior I-Beams and single coil, flared loop type for exterior I-Beams.

Steel for lifting hooks shall be non-deformed bars of structural or intermediate grade billet steel.

BILL OF MATERIAL

Item	Unit	Total
Furnishing & Erecting Precast Prestressed Concrete I-Beams, 36"	Lin. Ft.	962

DESIGNED	Fred Stone
CHECKED	M. Pamachis
DRAWN	Thomas A. Lewis T.B. Fuller
CHECKED	[illegible]

JULY 27 1964
EXAMINED W. E. Baumann
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED [illegible]
ENGINEER OF DESIGN
APPROVED V. E. [illegible]
CHIEF HIGHWAY ENGINEER

BEAM DETAILS
S.B.I. Rt. 53 SEC. 531-3-HB-1
COOK COUNTY
STA. 351+81.46

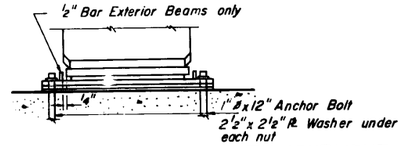
PI-1-36S 8-1-63

04109 790 123 8-62

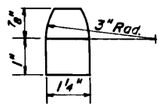
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA61	531-3HB-1	COOK	17	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

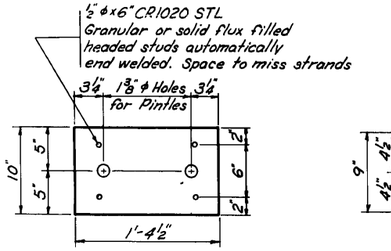
SHEET NO. 5
// SHEETS



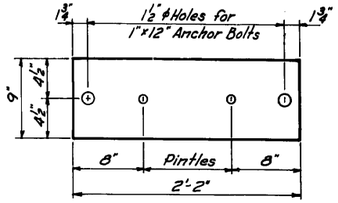
CROSS SECTION AT SOUTH ABUTMENT



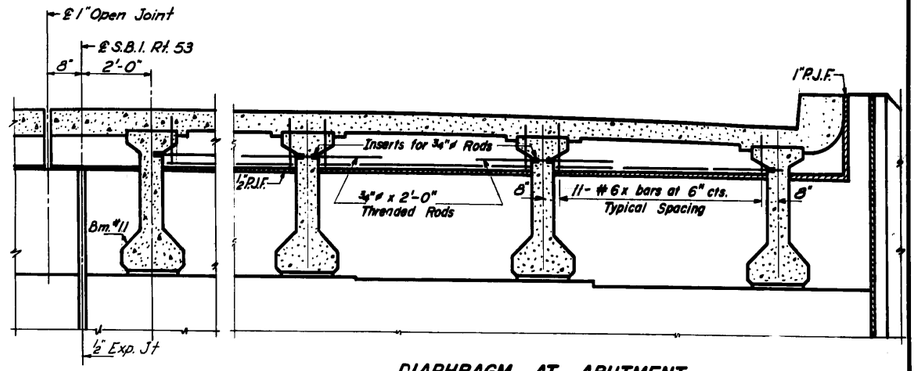
PINTLE DETAIL



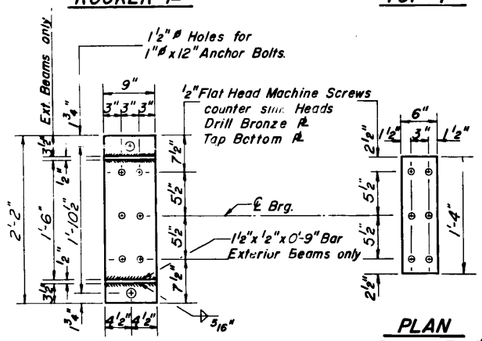
PLAN - ROCKER ℄



PLAN BOTTOM ℄

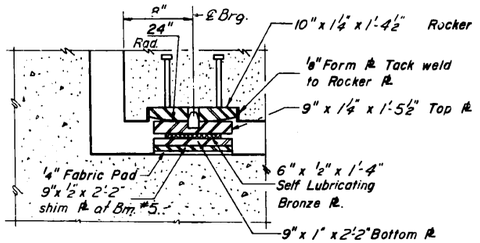


DIAPHRAGM AT ABUTMENT

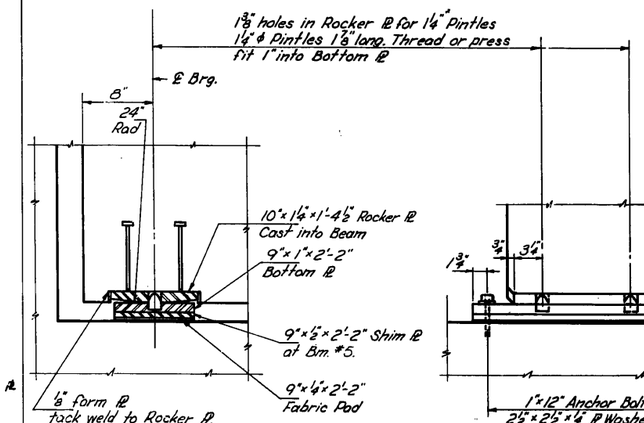


PLAN BOTTOM ℄

PLAN BRONZE ℄

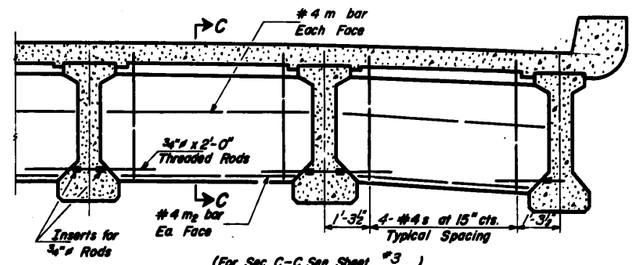


SECTION AT SOUTH ABUTMENT



SECTION AT NO. ABUT.

CROSS SECTION AT NO. ABUT.



(For Sec. C-C See Sheet #3)

Note: No interior diaphragm between Bm. 10 ℄ Bm. 11.

INTERIOR DIAPHRAGMS

Note: Quantity of Reinf. Bars is included in Superstr. Bill of Material Sheet 2

Note:
Bearings included as Structural Steel, except as otherwise noted. Est. weight = 4540#
Cost of Fabric Bearing Pads shall be incidental to "Furnishing and Erecting Precast Prestressed Concrete I-Beams." See Special Provisions.
Cost of Rocker ℄ cast into beam is included in the cost of "Furnishing and Erecting Precast Prestressed Concrete I-Beams.

DESIGNED	Fred Stone
CHECKED	M. Ramakrishnan
DRAWN	Thomas A. Lewis, T.B. Fuller, D.L. Beemer
CHECKED	

JULY 27 1964

EXAMINED H.E. Baumann, ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED E.J. Benard, ENGINEER OF DESIGN
APPROVED U.E. Ahlf, CHIEF HIGHWAY ENGINEER

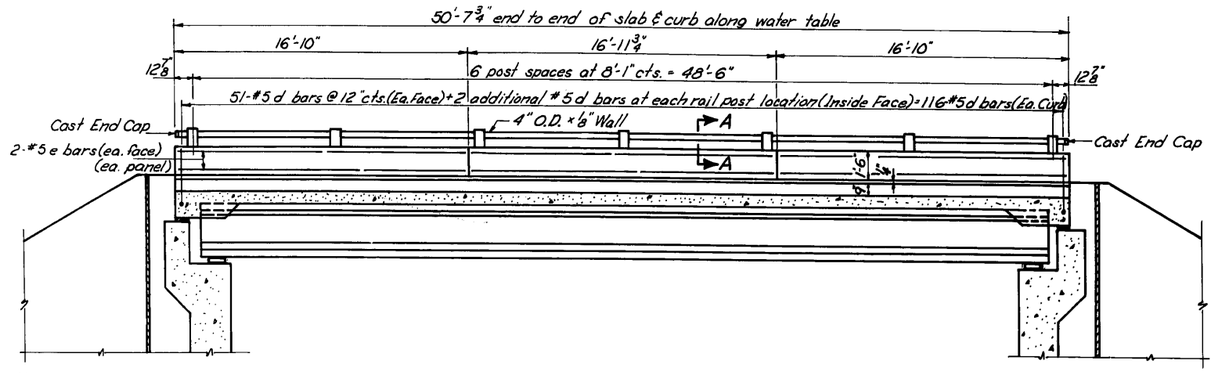
PI-3-B 8-1-63

BEARING DETAILS
S.B.I. Rt. 53 SEC. 531-3-HB-1
COOK COUNTY
STA. 351+81.46

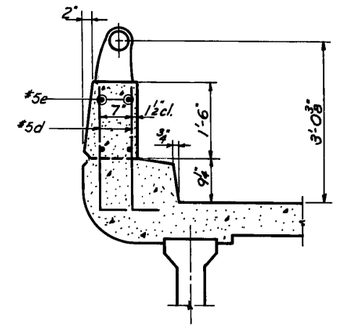
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA61	531-3HB-1	COOK	17	9
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

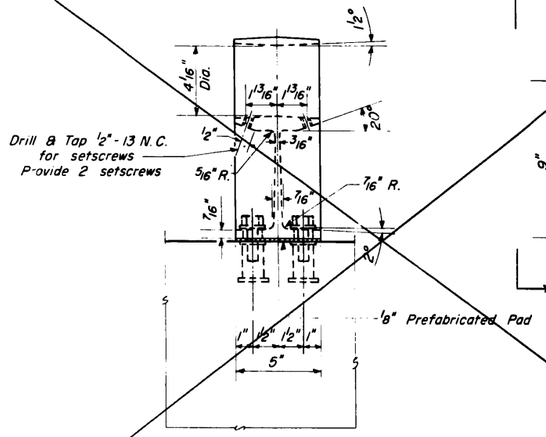
SHEET NO. 6
// SHEETS



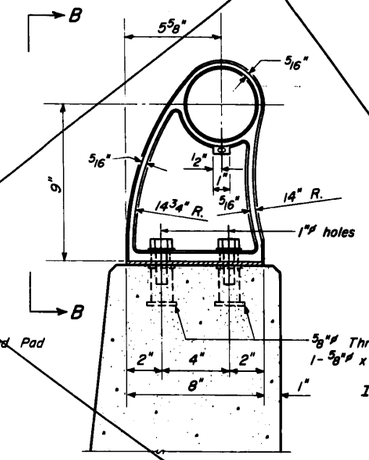
ELEVATION



SEC. THRU CURB



VIEW B-B



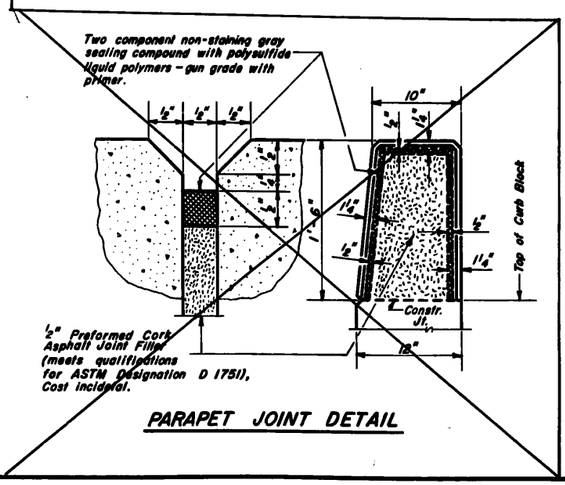
SECTION A-A

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

RAIL POST DETAILS

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 6061-T6 or 6062-T6
Aluminum handrail shall be measured in lineal feet. The length paid for shall be the overall length along the top longitudinal railing member through all post and gaps.
Rail Tubing may extend a maximum of 3 panel lengths
For material composition of Prefabricated Pad, See Art. 54.9 (f), (Bearings and Anchorage), of the Std. Specs.
Set Screws shall be of Aluminum conforming to ASTM Specification B-211 alloy 2024-T4.
Aluminum handrail will be paid for at the contract unit price per lineal foot for ALUMINUM HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation and erection.



PARAPET JOINT DETAIL

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d	232	#5	2'-9"	⌋
e	24	#5	16'-7"	——
Aluminum Handrail			Lin.Ft.	102
Reinforcement Bars			Lbs.	1080

Note: Quantity of Reinf. Bars is included in Superstructure Bill of Material Sheet #2.
See Sheet 6A for Rail Post detail.

ALUMINUM HANDRAIL

HANDRAIL DETAILS
S.B.I. Rt. 53 SEC. 531-3-HB-1
COOK COUNTY
STA. 351+81.46

DESIGNED	Fred Stone
CHECKED	M. Tamashiro
P.G.B.	T.A.L.
DRAWN	W. A. Sausaman
CHECKED	M.T.

JULY 27 1964
EXAMINED W.E. Baumann
ENGINEER OF BRIDGE AND TRAFFIC SIGN PLANS
PASSED
APPROVED
CHIEF HIGHWAY ENGINEER

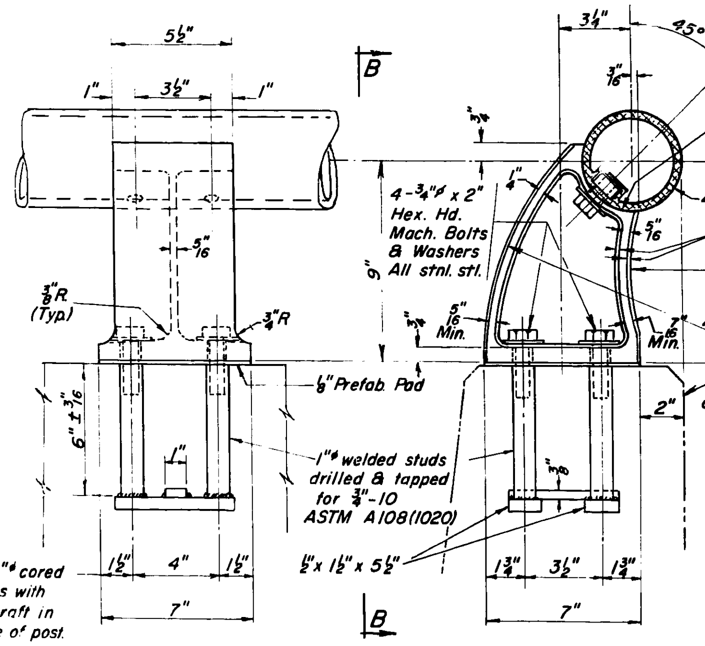
R-10 Drawn 2-16-60 Rev. 11-2-62 Rev. 7-17-63 4-23-64

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA61	531-3HB-1	COOK	17	10
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 6A
// SHEETS

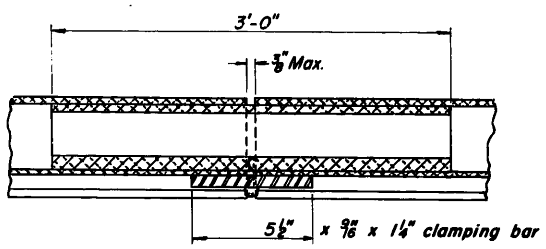
NOTE: SEE SHEET NO. 6 FOR RAIL POST & PARAPET ELEVATION AND BILL OF MATERIAL.



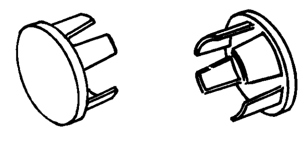
VIEW B-B

SECTION A-A

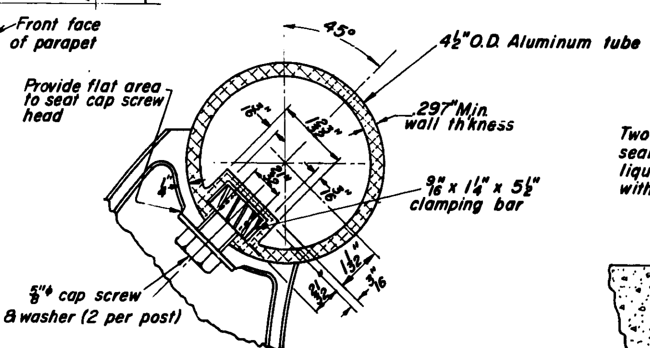
RAIL POST DETAILS



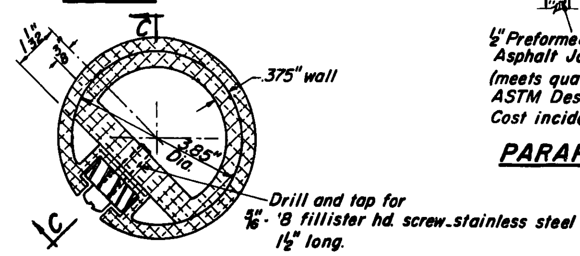
SECTION C-C



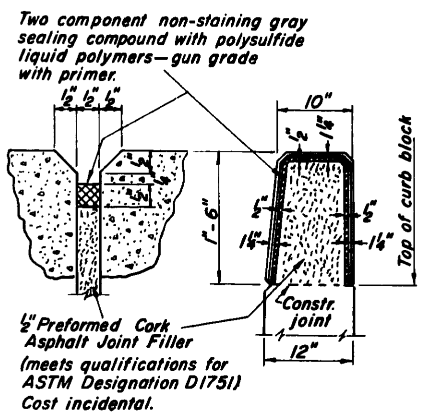
CAST END CAP
DRIVE FIT TYPE
4 Required



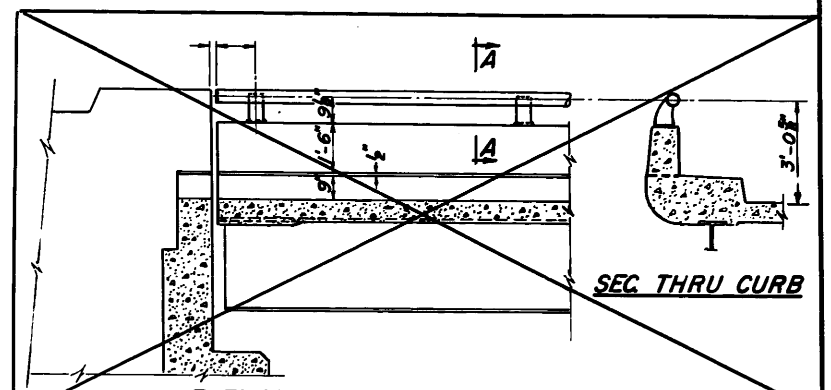
DETAIL of RAIL ATTACHMENT to POST



RAILING SPLICE DETAIL



PARAPET JOINT DETAIL



NOTES:

All Posts shall be normal to parapet.

All Aluminum Alloy Extruded Rail shall conform to ASTM specification B-235 alloy 6061-T6, or 6062-T6, and shall extend a minimum of 2 panel lengths (attached to a minimum of 3 posts) except at ends or at open joints where a minimum of 1 panel length is required. All joints in railing must be spliced per detail.

See Special Provisions for following Material Specifications:

Cast Aluminum Alloy Bridge Post Alloy 344-T4.
Stainless Steel Machine Bolts, Washers, and Bars.

For material composition of Prefabricated Pad, see Article 54.9(f), (Bearing and Anchorage), of the Standard Specifications.

METHOD of MEASUREMENT: Aluminum handrail shall be measured in lineal feet. The length paid for shall be the over all length along the top longitudinal railing member thru all posts and gaps.

BASIS of PAYMENT: Aluminum handrail shall be paid for at the contract unit price per lineal foot for ALUMINUM HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation, and erection.

Cost of rail splice, end caps, and hardware to be incidental to item ALUMINUM HANDRAIL.

~~BILL of MATERIAL~~

Item	Unit	Quantity
ALUMINUM HANDRAIL	Lin. Ft.	

ALUMINUM HANDRAIL

S.B.I. RT.53 SEC.531-3HB-1
COOK COUNTY
STATION 351+81.46

DESIGNED	
CHECKED	
DRAWN	Wm. M. Best
CHECKED	

JULY 27 1964
EXAMINED W.E. Baumann
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED [signature]
ENGINEER OF DESIGN
APPROVED V.E. [signature]
CHIEF HIGHWAY ENGINEER

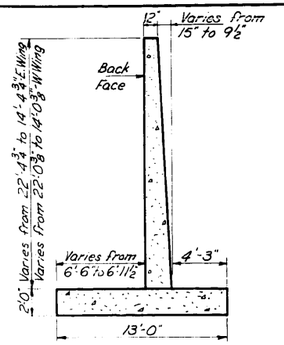
R-19 Dwn. 6-26-64

84369 750 125 8-62

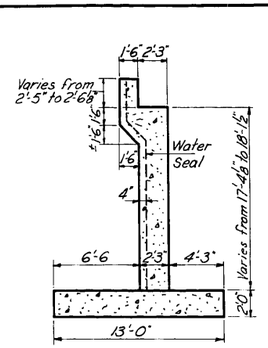
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 61	531-3HB-1	COOK	17	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

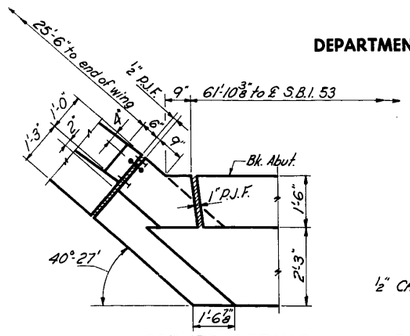
SHEET NO. 7
11 SHEETS



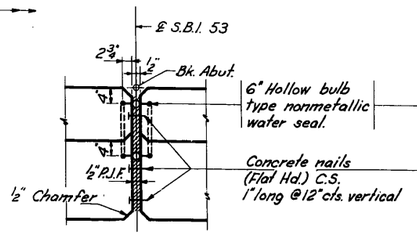
SECTION B-B



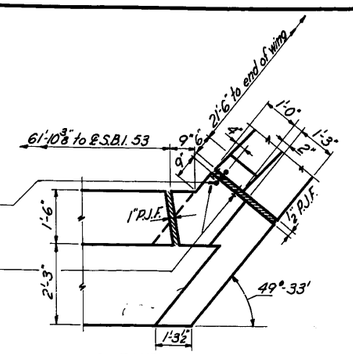
SECTION A-A



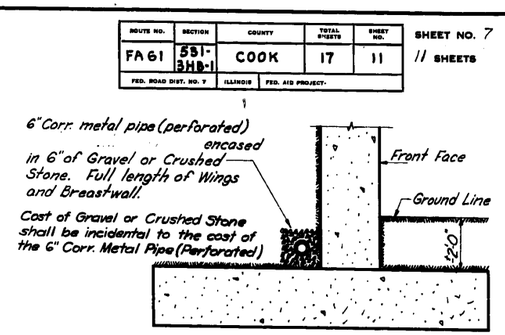
CORNER DETAILS



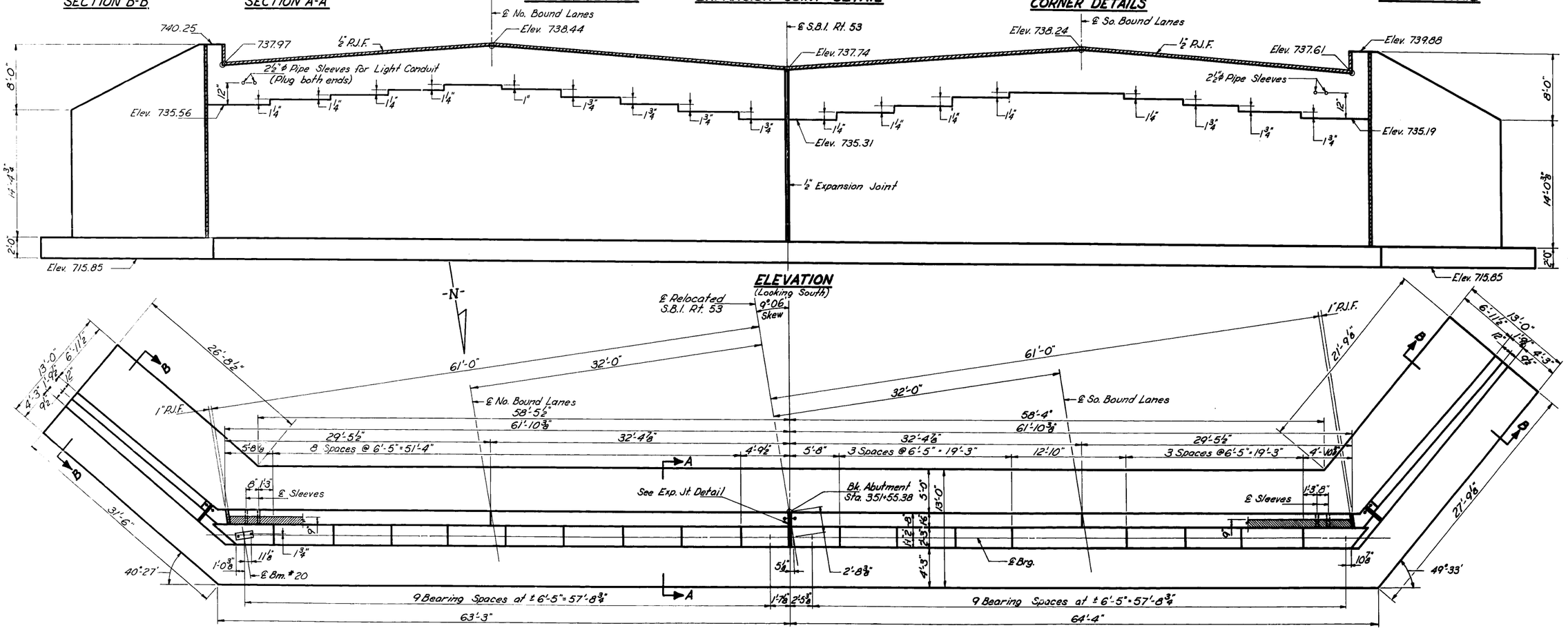
EXPANSION JOINT DETAIL



CORNER DETAILS



DRAIN DETAIL



PLAN

DESIGNED	Fred J. Stone
CHECKED	M. Yamashita
DRAWN	Thomas A. Lewis
CHECKED	M.E.

JULY 27 1964

EXAMINED W.G. Baumann
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED
ENGINEER OF DESIGN

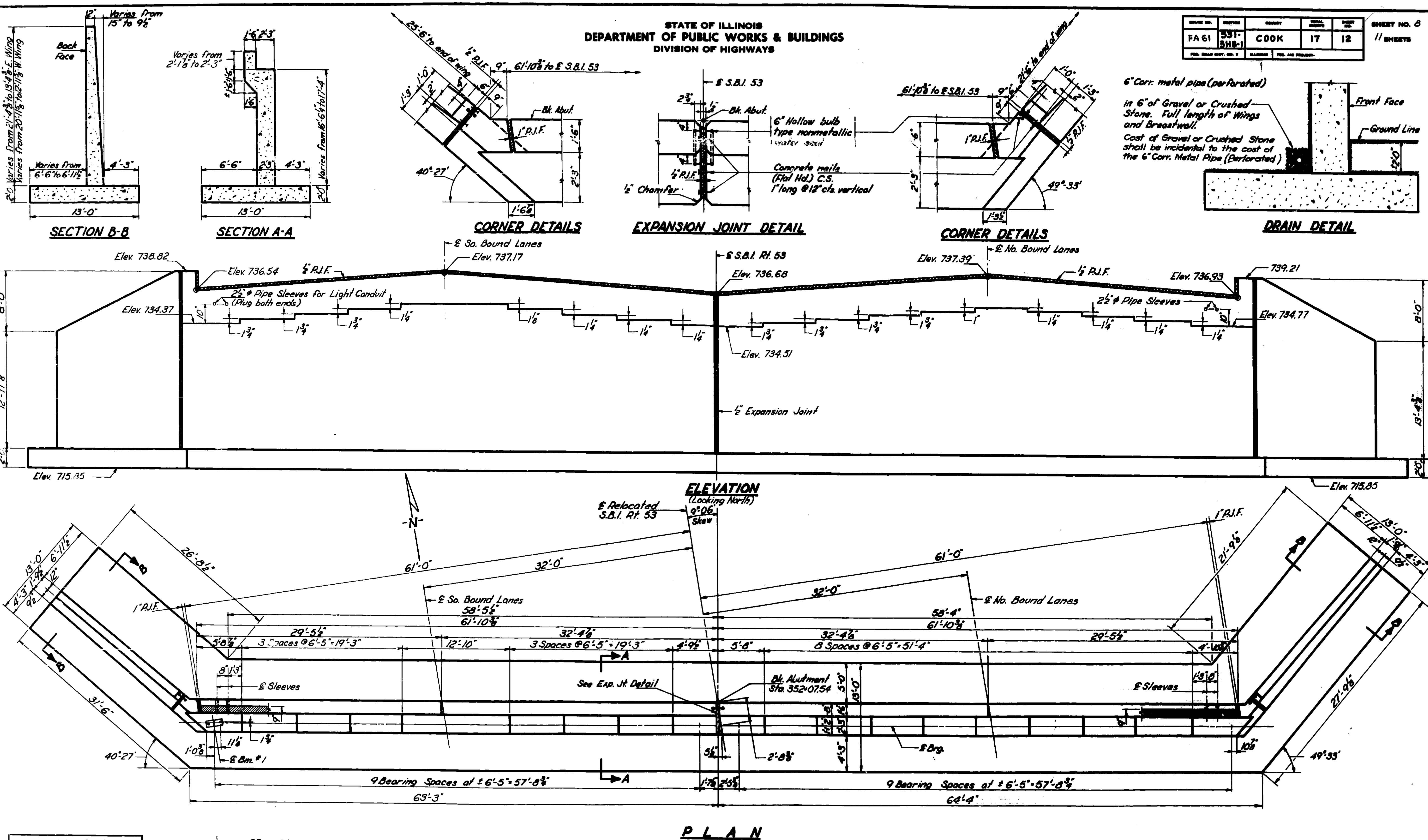
APPROVED
CHIEF ENGINEER

SOUTH ABUTMENT
S.B.I. RT. 53 SEC. 531-3HB-1
COOK COUNTY
STA. 351+81.46

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 61	531-3HB-1	COOK	17	12

SHEET NO. 8
11 SHEETS



DESIGNED	Fred Stone
CHECKED	M. Tamachiro
DRAWN	Thomas A. Lewis
CHECKED	M.T.

JULY 27 1964
EXAMINED W. E. Baumann
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED [illegible]
ENGINEER OF DESIGN
APPROVED V. E. Olaf
CHIEF HIGHWAY ENGINEER

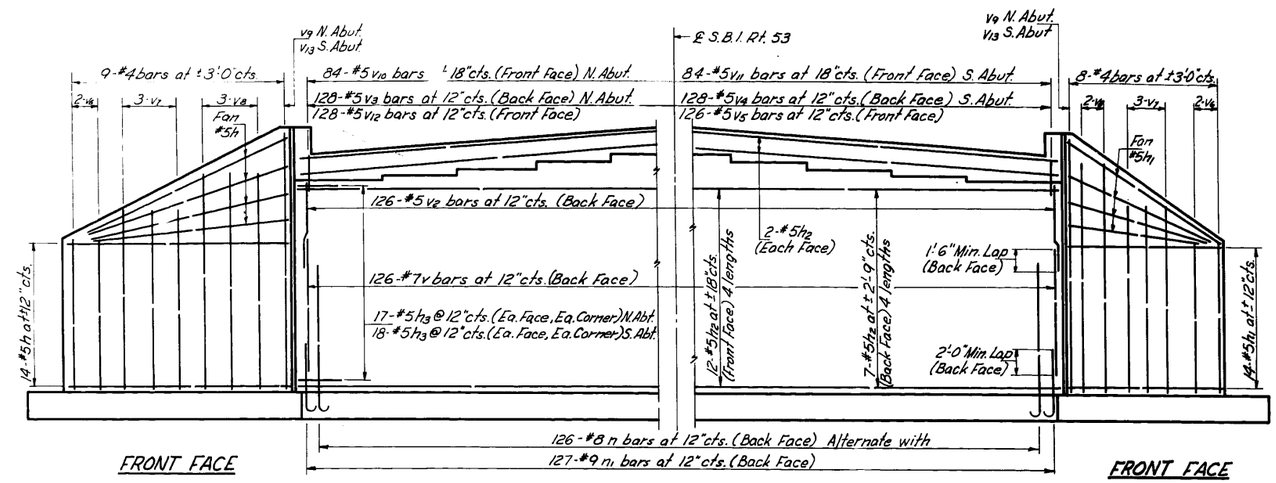
NORTH ABUTMENT
S.B.I. RT. 53 SEC. 531-3HB-1
COOK COUNTY
STA. 351+81.46

04369 750 125 8-62

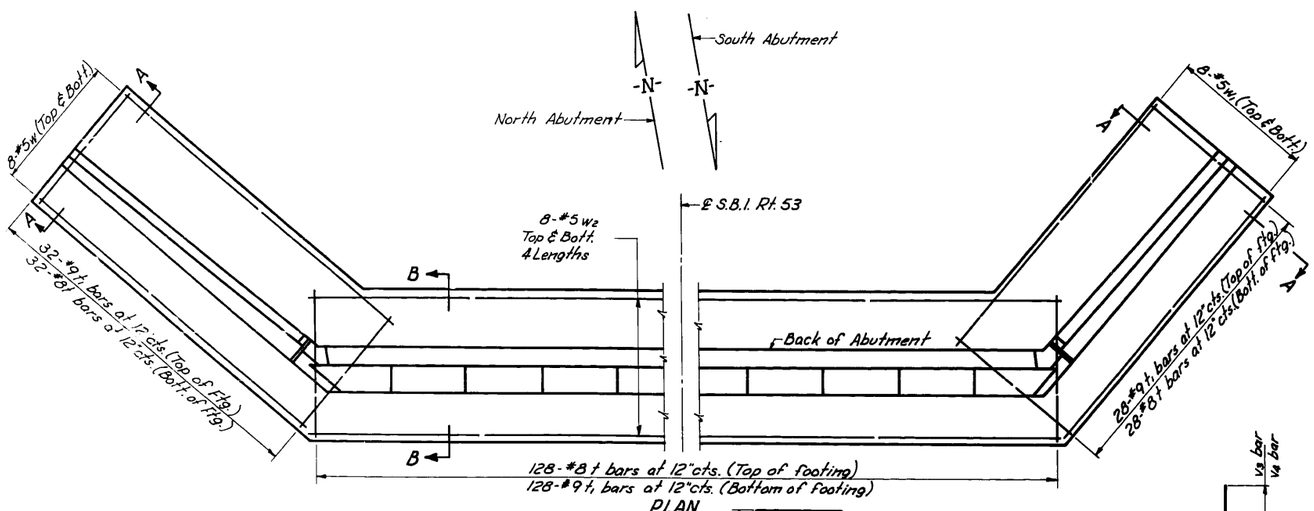
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 61	531-SHB-1	COOK	17	13
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

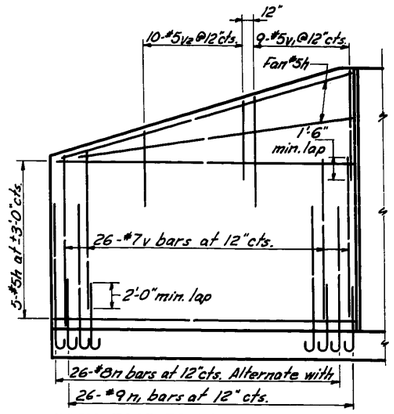
SHEET NO. 9 // SHEETS



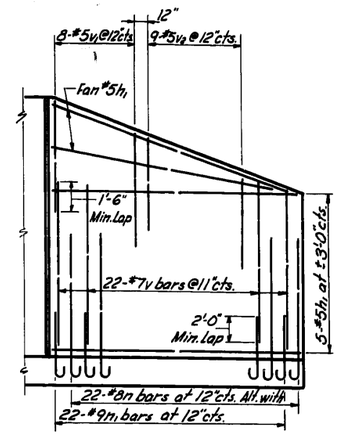
ELEVATION



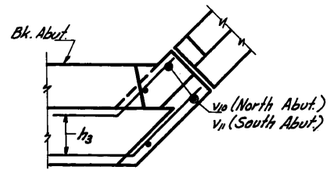
PLAN



BACK FACE REINFORCEMENT
(Long Wings)



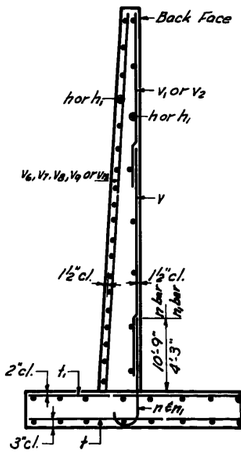
BACK FACE REINFORCEMENT
(Short Wings)



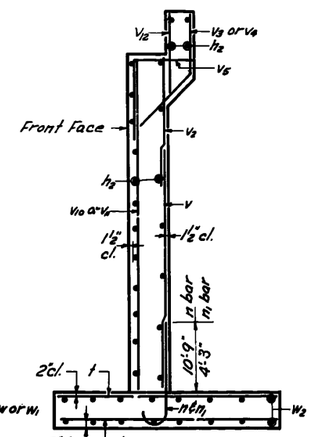
CORNER REINFORCEMENT

TWO ABUTMENTS BILL OF MATERIAL

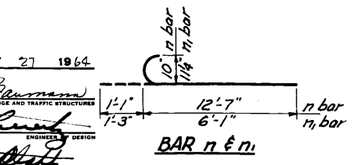
Bar	No.	Size	Length	Shape
h	50	#5	25'-9"	—
h1	50	#5	21'-9"	—
h2	184	#5	32'-0"	—
h3	140	#5	6'-0"	/
n	348	#8	13'-8"	⌊
n1	350	#9	7'-4"	⌊
t	376	#8	12'-9"	—
t1	376	#9	12'-9"	—
v	348	#7	13'-0"	—
v1	34	#5	10'-0"	—
v2	290	#5	7'-0"	—
v3	128	#5	8'-3"	⌋
v4	128	#5	8'-6"	⌋
v5	252	#5	8'-0"	⌐
v6	8	#4	13'-2"	—
v7	12	#4	15'-0"	—
v8	10	#4	18'-0"	—
v9	2	#4	20'-10"	—
v10	92	#5	16'-0"	—
v11	92	#5	17'-2"	—
v12	256	#5	4'-11"	—
v13	2	#4	21'-10"	—
w	32	#5	31'-2"	—
w1	32	#5	27'-5"	—
w2	128	#5	33'-3"	—
Class X Concrete			Cu Yds.	889.7
Reinforcement Bars			Lbs.	87,340



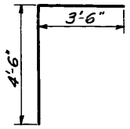
SECTION A-A



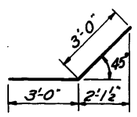
SECTION B-B



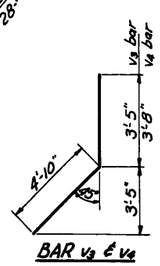
BAR n & n1



BAR v5



BAR h3



BAR v3 & v4

DESIGNED	Fred Stine
CHECKED	M. Ramashus
DRAWN	Thomas A. Lewis
CHECKED	M.T.

JULY 27 1964

EXAMINED W.E. Baumann, ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED E.E. Hunt, ENGINEER OF DESIGN

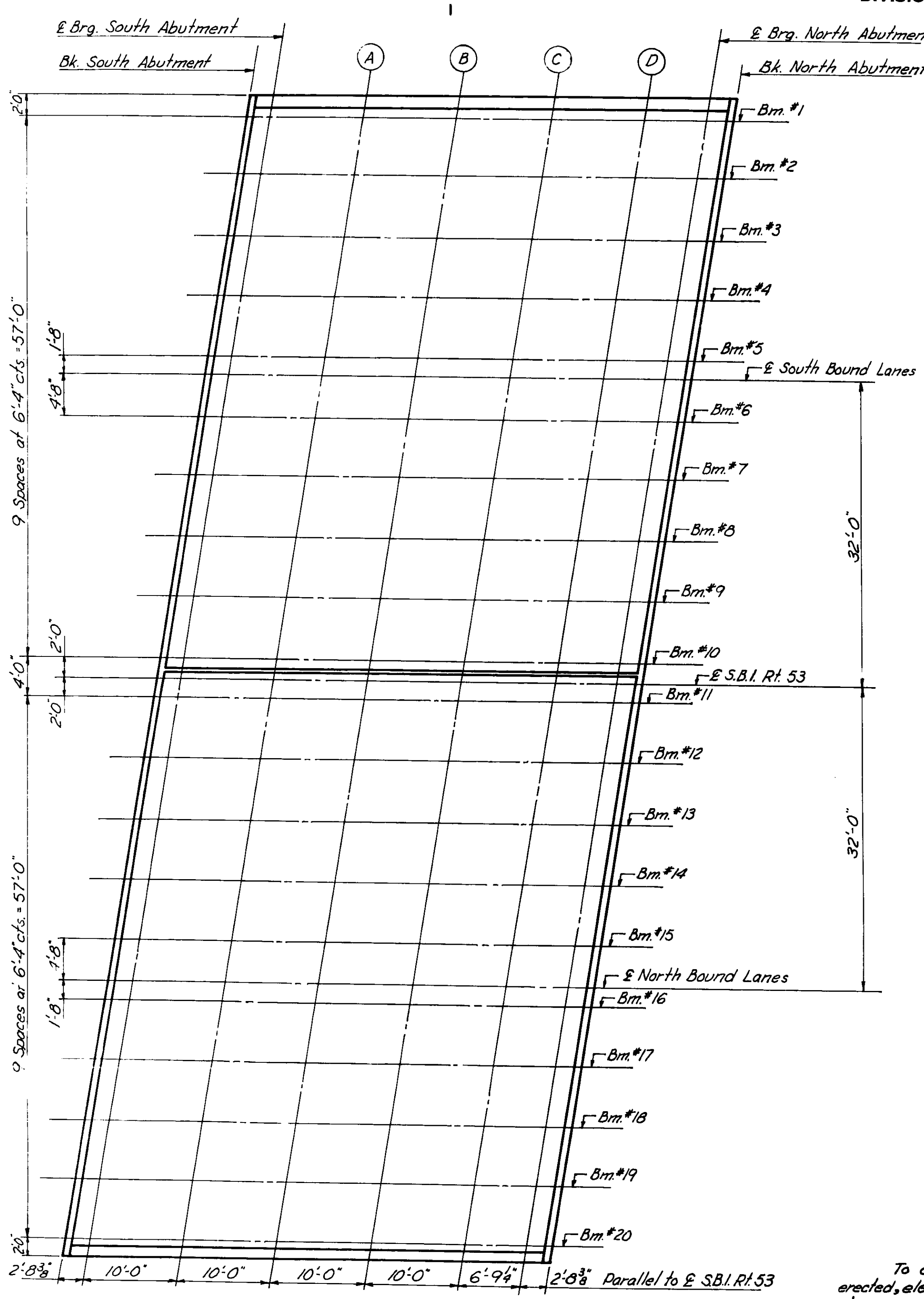
APPROVED V.E. Scott, CHIEF HIGHWAY ENGINEER

ABUTMENT REINFORCEMENT
S.B.I. RT. 53 SEC. 531-3-HB-1
COOK COUNTY
STA. 351+81.46

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 61	531-3HB-1	COOK	17	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10
11 SHEETS

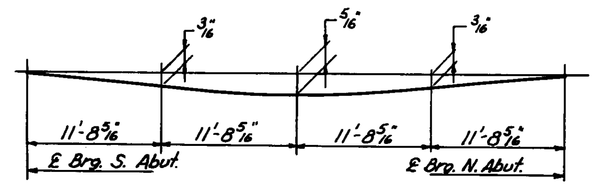
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



PLAN

THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS

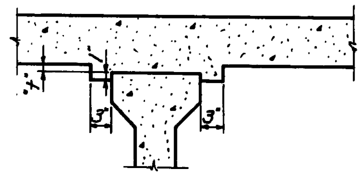
Location	Bk. South Abutment	℄ Bearing So. Abut.	A.	B.	C.	D.	℄ Bearing No. Abut.	Bk. North Abutment
Beam #1	739.12	739.06	738.88	738.69	738.47	738.26	738.10	738.05
Beam #2	739.26	739.21	739.03	738.83	738.62	738.41	738.25	738.20
Beam #3	739.41	739.36	739.17	738.98	738.77	738.55	738.40	738.34
Beam #4	739.56	739.50	739.32	739.13	738.91	738.70	738.55	738.49
Beam #5	739.70	739.65	739.47	739.28	739.07	738.85	738.70	738.64
℄ South Bound Lanes	739.74	739.69	739.51	739.32	739.11	738.89	738.74	738.68
Beam #6	739.66	739.61	739.43	739.24	739.03	738.81	738.66	738.60
Beam #7	739.56	739.50	739.32	739.13	738.92	738.70	738.55	738.50
Beam #8	739.45	739.40	739.21	739.02	738.82	738.60	738.45	738.39
Beam #9	739.34	739.29	739.11	738.92	738.71	738.49	738.34	738.29
Beam #10	739.24	739.18	739.00	738.81	738.60	738.39	738.24	738.18
℄ S.B.I. Rt. 53	739.24	739.19	739.01	738.82	738.61	738.39	738.24	738.19
Beam #11	739.25	739.20	739.01	738.82	738.61	738.40	738.25	738.19
Beam #12	739.39	739.34	739.16	738.97	738.76	738.55	738.40	738.34
Beam #13	739.54	739.49	739.31	739.12	738.91	738.70	738.55	738.49
Beam #14	739.69	739.64	739.45	739.27	739.06	738.84	738.69	738.64
Beam #15	739.83	739.78	739.60	739.41	739.21	738.99	738.84	738.79
℄ North Bound Lanes	739.94	739.89	739.71	739.52	739.31	739.10	738.95	738.89
Beam #16	739.91	739.86	739.68	739.49	739.29	739.07	738.92	738.87
Beam #17	739.81	739.75	739.57	739.39	739.18	738.97	738.82	738.76
Beam #18	739.70	739.65	739.47	739.28	739.07	738.86	738.71	738.66
Beam #19	739.59	739.54	739.36	739.17	738.97	738.75	738.61	738.55
Beam #20	739.49	739.43	739.25	739.07	738.86	738.65	738.50	738.44



DEAD LOAD DEFLECTION DIAGRAM

Includes weight of concrete slab only.

Note: The above deflections are not for use in the field if the Engineer is working from the Theoretical Grade Elevations Adjusted for Dead Load Deflections shown on this sheet.



STANDARD FILLET DETAIL

To determine "t" : After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown on this sheet. These elevations subtracted algebraically from "Theoretical Grade Elevations Adjusted for Dead Load Deflections" minus slab thickness, equals the fillet hights "t". A positive value of "t" equals the fillet height above the top of the beam. A negative value of "t" not to exceed ½", equals the embedment of the beam above the theoretical bottom of slab elevation.

DESIGNED	Fred Stone
CHECKED	[illegible]
DRAWN	Thomas A. Lewis
CHECKED	M.T.

JULY 27 1964
EXAMINED W.E. Baumann
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED [illegible]
ENGINEER OF DESIGN
APPROVED V.E. Olaff
CHIEF HIGHWAY ENGINEER

TOP OF SLAB ELEVATIONS
S.B.I. RT. 53 SEC. 531-3-HB-1
COOK COUNTY
STA. 351+81.46

D43L9 750 123 8-62

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 61	531-3HB-1	COOK	17	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 11
11 SHEETS

Boring No. B-1 **Station** 351 + 51 **Offset** 32' W of C.L of 53
Ground Surface 721.6
Surface Water El. —— **Groundwater El. at Completion** 17½ **After** —— **Hours**

	Elevation	N	Qu t/s.f.	w (%)
Ground Surface 721.6	0			
BLACK ORGANIC CLAY				
BROWN CLAY				
BROWN & GRAY MOTTLED CLAY		7 / 10	5.04	B
BROWN & GRAY MOTTLED CLAY	-5	6 / 12	5.04	B
BROWN to GRAY CLAY		9 / 11	5.04	B
GRAY CLAY	-10	6 / 10	3.49	B
GRAY CLAY		9 / 13	3.88	B
GRAY CLAY	-15	8 / 11	3.88	B
GRAY CLAY TO GRAY SANDY GRAVEL H 20		11 / 15	1.63 / 3.10	B / B
GRAY CLAY GRAY SANDY SILTY GRAVEL	-20	6 / 6	2.47	S

	Elevation	N	Qu t/s.f.	w (%)
GRAY GRAVELLY SILTY CLAY		[illegible] / 6	2Ton	P
GRAY GRITTY CLAY	-25	10 / 15	2.33	B
GRAY GRITTY SILTY CLAY		10 / 15	2.33	B
GRAY GRITTY SILTY CLAY LAYER OF BOULDERS GRAY GRITTY SILTY CLAY	-30	10 / 14	2.33	B
GRAY GRITTY SILTY CLAY OF LAYER OF BOULDERS		16 / 44	2.91	B
END OF BORING	-35			
GR[illegible]Y SAND W/HYDRO STATIC PRESSURE				
	-40			
	-45			

Boring No. B-2 **Station** 352 + 13 **Offset** 32' W of C.L of 53
Ground Surface 721.6
Surface Water El. —— **Groundwater El. at Completion** 21' **After** —— **Hours**

	Elevation	N	Qu t/s.f.	w (%)
Ground Surface 721.6	0			
BLACK ORGANIC CLAY BROWN CLAY				
BROWN & GRAY SILTY CLAY		16 / 17	4.12	S
BROWN & GRAY MOTTLED CLAY	-5	16 / 20	5.77	S
BROWN CLAY W/BOULDERS BOULDER HERE		15 / 18	4.50 / 3.71	P / S
BROWNISH GRAY CLAY	-10	7 / 12	5.04	B
GRAY GRITTY CLAY		5 / 8	2.33	B
GRAY CLAY	-15	5 / 8	1.75	P / B
GRAY STONEY CLAY		9 / 12	2.53	B
GRAY ST[illegible] CLAY GRAY FINE SAND H20	-20	11 / 13	2.91	B

	Elevation	N	Qu t/s.f.	w (%)
GRAY FINE SAND GRAY LAMINATED SILTY CLAY		8 / 8	2.13	B
GRAY CLAYEY SANDY GRAVEL	-25	5 / 6	-	
GRAY GRITTY CLAY		8 / 14	1.63 / 3.30	B / B
GRAY GRAVEL H20	-30	6 / 8	-	
GRAY GRAVEL		7 / 9	-	
GRAY GRITTY CLAY	-35	8 / 11	2.33	B
GRAY GRITTY CLAY LAYER OF GRAVEL		18 / 22	2.89	S
GRAY SANDY GRAVEL	-40	12 / 15	-	
END OF BORING				
	-45			

Boring No. B-3 **Station** 351 + 51 **Offset** 32' E of CL of 53
Ground Surface 720.1
Surface Water El. —— **Groundwater El. at Completion** 17½ **After** —— **Hours**

	Elevation	N	Qu t/s.f.	w (%)
Ground Surface 720.1	0			
BLACK ORGANIC CLAY				
BROWN CLAY				
BROWN & GRAY MOTTLED		13 / 15	4.95	S
BROWNISH GRAY CLAY	-5	8 / 12	6.98	B
BROWNISH GRAY CLAY BROWN SANDY CLAY GRAY SANDY SILTY CLAY		19 / 11	2.33 / .98	B / S
GRAY CLAY	-10	7 / 8	2.33 / 2.41	B / B
GRAY CLAY		5 / 7	1.30	B
GRAY CLAY GRAY GRITTY CLAY	-15	6 / 9	1.30 / 2.13	B / B
LAYER OF GRAY GRAVEL GRAY GRITTY CLAY H20		8 / 9	1.30	B
GRAY GRITTY CLAY	-20	6 / 9	1.17	B

	Elevation	N	Qu t/s.f.	w (%)
GRAY GRAVEL GRAY GRITTY CLAY		5 / 7	1 Ton	P
GRAY GRITTY CLAY	-25	8 / 11	1.63	B
GRAY GRITTY CLAY		6 / 8	.81	B
GRAY CLAY	-30	7 / 8	1.63	B
GRAY GRITTY CLAY		6 / 13	1.63	B
GRAY GRAVEL	-35	8 / 13	-	
END OF BORING DUE TO HYDRO STATIC PRESSURE SAND & WATER				
	-40			
	-45			

Boring No. B-4 **Station** 352 + 13 **Offset** 32' E of C.L of 53
Ground Surface 721.3
Surface Water El. —— **Groundwater El. at Completion** 17½ **After** —— **Hours**

	Elevation	N	Qu t/s.f.	w (%)
Ground Surface 721.3	0			
BLACK ORGANIC CLAY				
BROWN & GRAY MOTTLED CLAY		10 / 12	3.69	S
BROWN & GRAY MOTTLED CLAY	-5	8 / 15	4.33	S
BROWNISH GRAY CLAY		9 / 16	7.37	B
BROWNISH GRAY CLAY	-10	8 / 15	7.37	B
BROWNISH GRAY CLAY TO GRAY CLAY		10 / 15	3.49 / 2.33	B / B
GRAY CLAY	-15	6 / 9	3.10	B
GRAY SANDY SILTY CLAY W/ LAYERS OF SAND GRAY CLAY		12 / 14	1.56	B
GRAY CLAY	-20	8 / 13	3.69	B

	Elevation	N	Qu t/s.f.	w (%)
GRAY CLAY TO GRAY GRAVELLY CLAY		11 / 14	2.33 / 2.72	B / B
GRAY GRITTY CLAY —— GRAY SANDY GRAVEL	-25	9 / 13	3.30	B
GRAY GRITTY CLAY		8 / 12	3.88	B
GRAY GRAVEL	-30	8 / 12	----	
GRAY GRAVEL		5 / 10	----	
GRAY GRITTY CLAY	-35	8 / 12	2.72	B
GRAY GRAVELLY CLAY W/ LAYER OF GRAY GRAVEL		8 / 20	2.13	B
GRAY GRAVEL	-40	5 / 8	----	
GRAY GRAVEL		8 / 13	----	
GRAY CLAY	-45	13 / 16	2.72	B
END OF BORING				

N—Standard Penetration Test—Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140# hammer falling 30".

Qu—Unconfined Compressive Strength—t/sf

w—Water Content—percentage of oven dry weight—%.

Type failure:
B—Bulge Failure
S—Shear Failure
E—Estimated Value

DESIGNED	[illegible]
CHECKED	M. Pamachuis
DRAWN	Thomas A. Lewis
CHECKED	M.T.

JULY 27 1964

EXAMINED W.E. Baumann
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES

PASSED [illegible]
ENGINEER OF DESIGN

APPROVED V.E. Olaff
CHIEF HIGHWAY ENGINEER

BORING DATA
S.B.I. RT. 53 SEC. 531-3-HB-1
COOK COUNTY
STA. 351+81.46