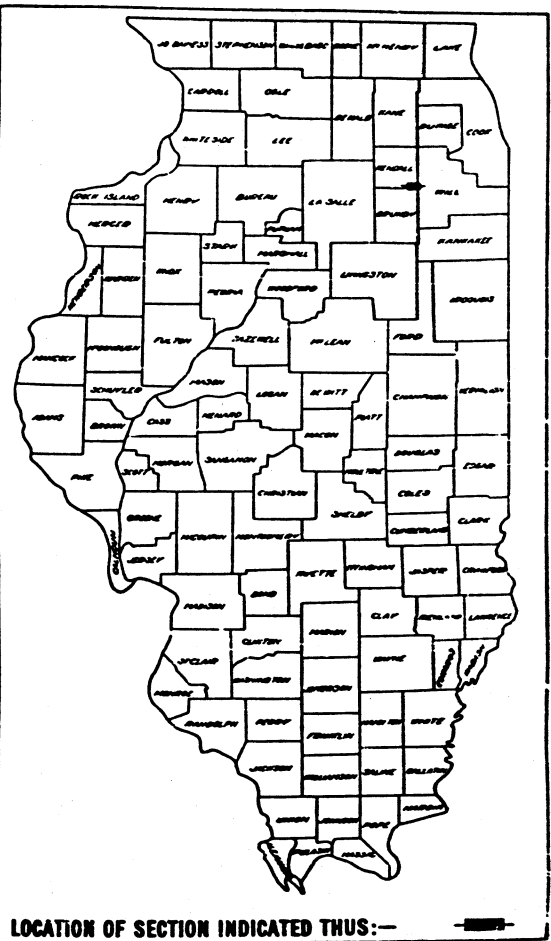


STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID INTERSTATE HIGHWAY

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

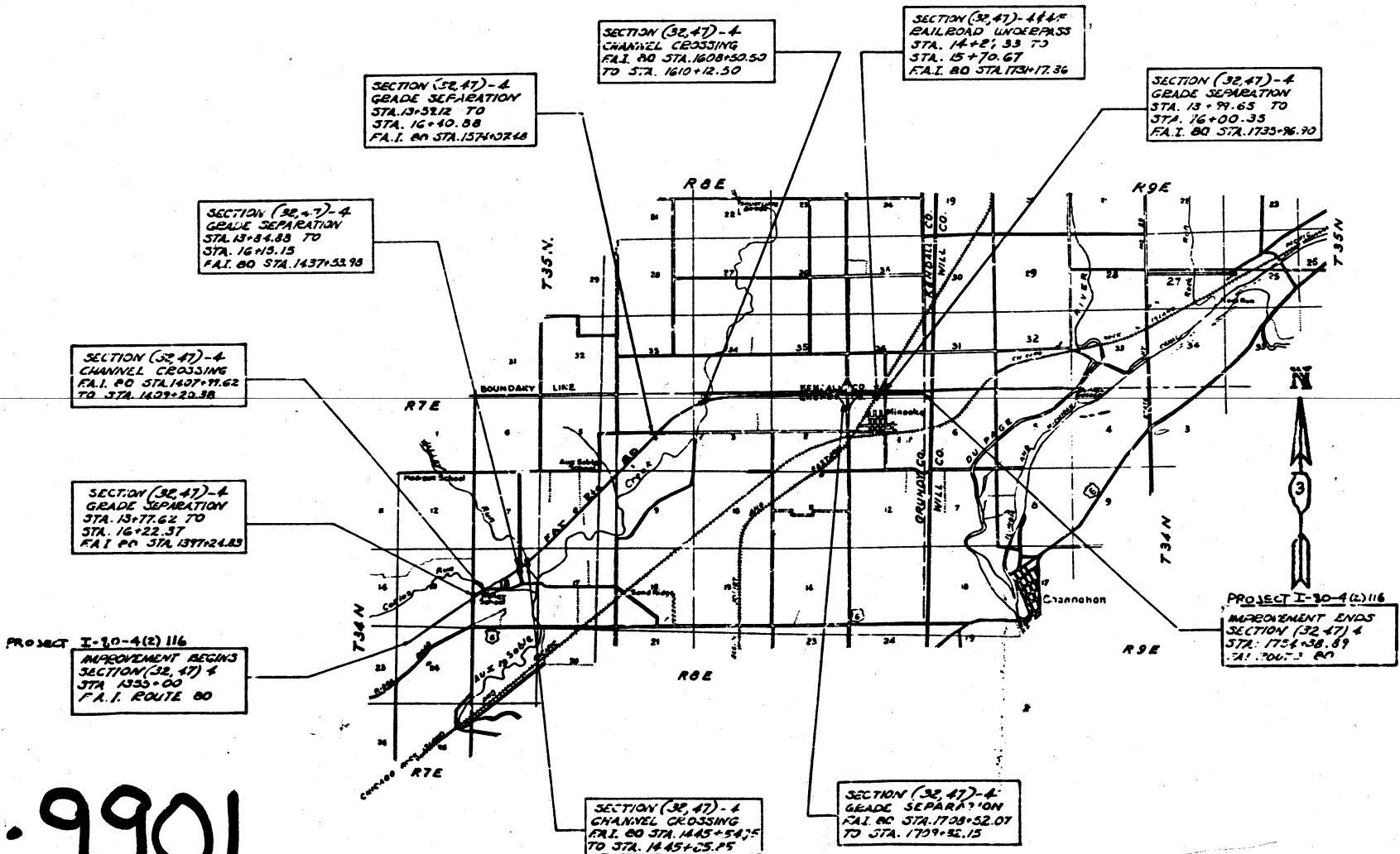
F.A.I. ROUTE 80
GRUNDY AND KENDALL COUNTIES
SECTION (32,47)-4
PROJECT I-80-4(2) 116
I-06-4(66)

FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 80 (32,47)-4	GRUNDY KENDALL		262	1
FEE ROAD DIST NO. 7 ALPHABETIC PROJECT				



LOCATION OF SECTION INDICATED THUS:—

1915 HIGHWAY CLASSIFICATION
15900 ADT - T - TO
1590 DMV - T - TO



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

SUBMITTED: April 30, 1959
EXAMINED: April 30, 1959
PASSED: April 30, 1959
APPROVED: April 30, 1959
APPROVED: April 30, 1959

3-49

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

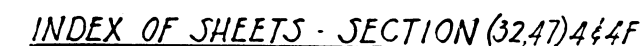
APPROVED: _____
DIVISION ENGINEER: _____
DATE: _____

032-9901

GROSS LIMITS OF CONTRACT 39,938.89 FEET 7.564 MILES
NET LIMITS OF CONTRACT 39,938.89 FEET 7.564 MILES
NET LENGTH OF PROJECT I-80-4(2) 116 = 39,938.89 FEET 7.564 MILES

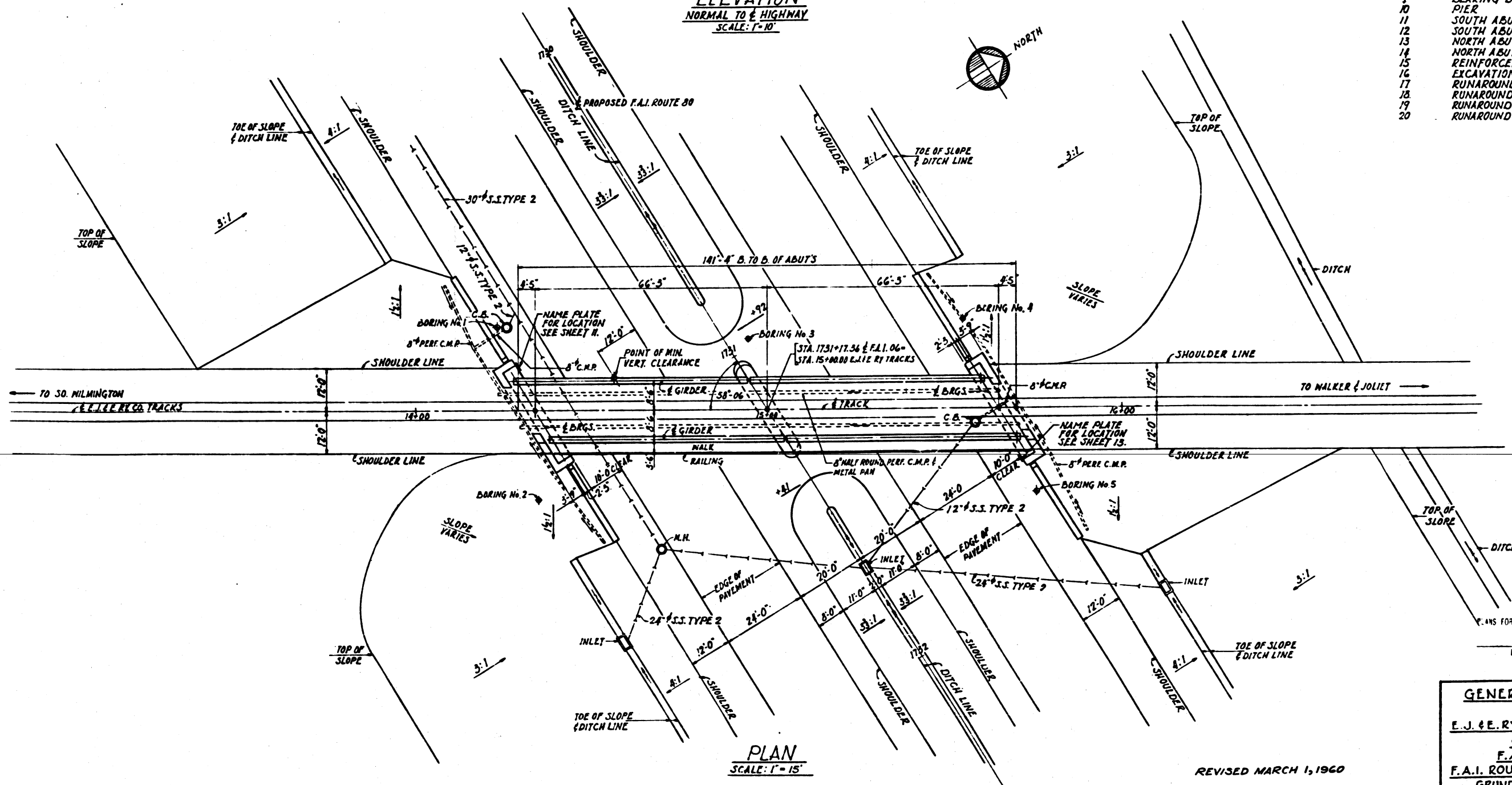
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET
F.A. 1.00	(32.47)-4	GRUNDY-KENDALL	262	218
	(32.47) 14F		17	4
FTD. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET 1 of 2C



<u>SHEET No.</u>	<u>TITLE</u>
1	GENERAL PLAN & ELEVATION
2	BORINGS, PROFILE, DESIGN DATA & QUANTITIES
3	STEEL FRAMING PLAN
4	GIRDER DETAILS
5	DICK CROSS SECTION & DETAILS
6	UPPER FLOOR PLATE & BALLAST STOP DETAILS
7	END FLOOR BEAM & HANDRAIL DETAILS
8	WALKWAY FRAMING DETAILS
9	BEARING DETAILS
10	PIER
11	SOUTH ABUTMENT
12	SOUTH ABUTMENT DETAILS
13	NORTH ABUTMENT
14	NORTH ABUTMENT DETAILS
15	REINFORCEMENT BAR LIST
16	EXCAVATION & DRAINAGE DETAILS
17	RUNAROUND PLAN & PROFILE
18	RUNAROUND CROSS SECTIONS
19	RUNAROUND CROSS SECTIONS
20	RUNAROUND CROSS SECTIONS

ELEVATION
NORMAL TO & HIGHWAY
SCALE: 1"=10'



PLANS FOR STRUCTURES E. 1. April 20, 59

J. M. Romine
ENGINEER OF BRIDGE & MARINE STRUCTURES

GENERAL PLAN & ELEVATION
UNDERPASS

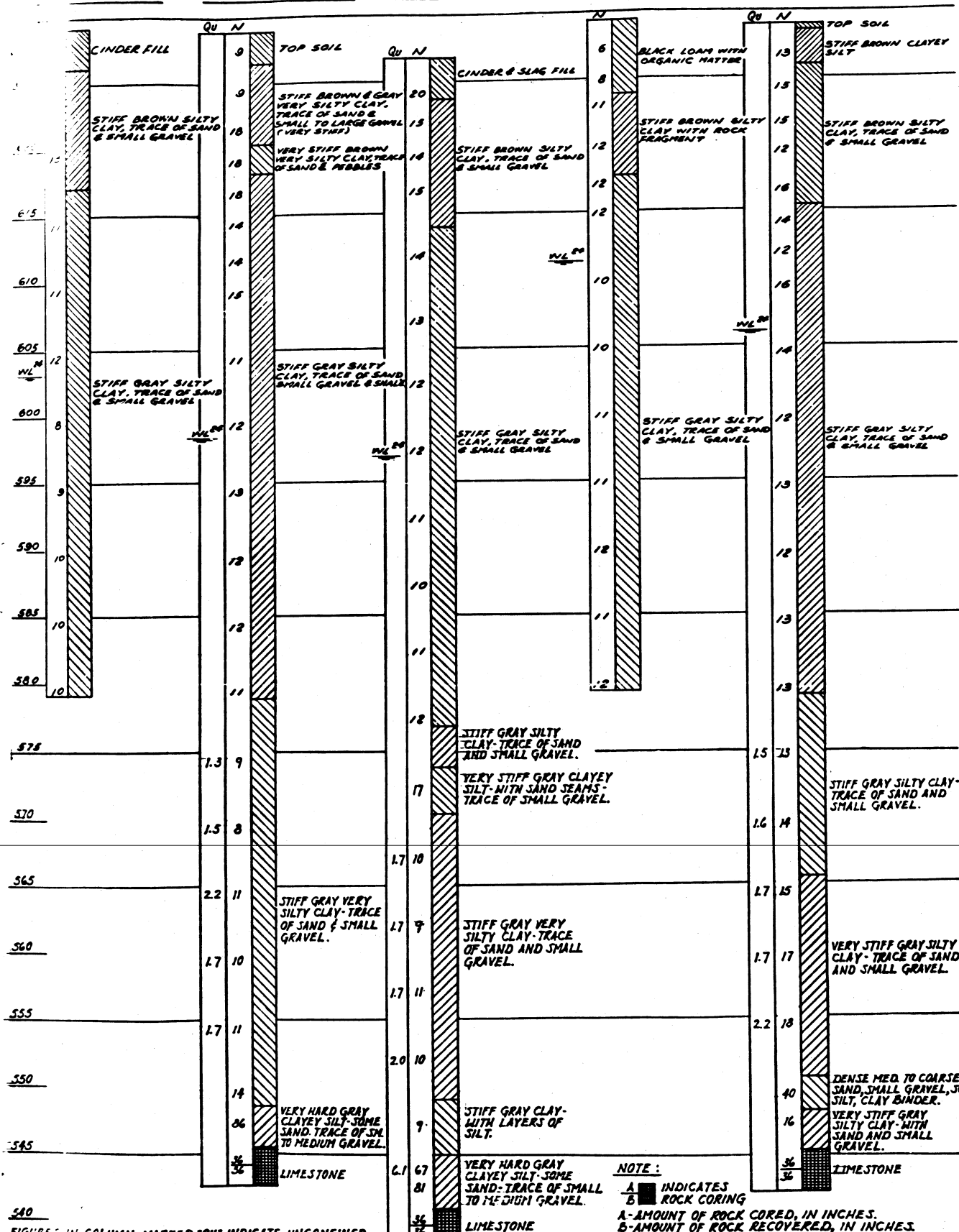
E.J. & E.R.Y.Co. BRIDGE No.
OVER F.A.I. ROUTE 80
F.A. PROJECT I-80-4(2)116
F.A.I. ROUTE 80 SECTION (32.47)-414F
GRUNDY - KENDALL COUNTY
STATION 1731+17.36

REVISED MARCH 1, 1960

ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
16 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

SOIL TEST BORINGS

ING NO.1 BORING NO.2 BORING NO.3 BORING NO.4 BORING NO.5



NOTE:
A INDICATES
B ROCK CORING
A-AMOUNT OF ROCK CORED, IN INCHES.
B-AMOUNT OF ROCK RECOVERED, IN INCHES.

- FIGURES IN COLUMN MARKED "QU" INDICATE UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQUARE FOOT.
- WATER LEVEL (ALL) FIGURE INDICATES TIME OF RAINFALL, SITE TOPOGRAPHY, ETC. MAY CAUSE CHANGES IN THESE LEVELS.
- FIGURES IN COLUMN MARKED "N" INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE SAMPLING PIPE ONE FOOT USING 140 LB. WEIGHT FALLING 30 INCHES.
- BORING DATA ARE SHOWN ONLY AS A GUIDE FOR BIDDERS IN ESTIMATING SOIL CONDITIONS WHICH MAY BE ENCOUNTERED IN THE WORK.

MOMENTS FOR FLOOR BEAMS

DESCRIPTION	INTERMEDIATE F.L.B.M.		SKEW END FLOOR BEAM			
	SHEAR	MOMENT	NEG. MOM.	POS. MOM.	MAX. END SHEAR	CENTER REACTION
DEAD LOAD	2.9*	13.9*	20.0*	17.4*	12.5*	22.3*
LIVE LOAD	12.2*	72.9*	55.0*	88.4*	38.0*	48.4*
IMPACT & ROLLING	7.9*	47.6*	38.4*	61.7*	26.6*	33.8*
TOTAL	23.0*	134.4*	113.4*	167.5*	77.1*	104.5*
SECTION	18 W 60		18 W 85			
SEC. MOD. REQ'D.	94.5 IN. ²		111.7 IN. ²			
SEC. MOD. FURN.	107.6 IN. ²		137.3 IN. ²			

MOMENT & SHEAR PER GIRDER

DESCRIPTION	SHEAR	MOMENT
DEAD LOAD	84.0*	1,375.0*
LIVE LOAD	187.0*	2,770.0*
IMPACT & ROLLING	107.0*	1,550.0*
TOTAL	378.0*	5,625.0*
SECTION	AEB 2 - 78"x2"	
	4 1/2" x 8 1/2" x 3/4"	
	4 COV. RS. 20"x3/4"	
SEC. MOD. REQUIRED	3,750 IN. ²	
SEC. MOD. FURNISHED	3,750 IN. ²	

GENERAL NOTES

SPECIFICATIONS: STEEL DESIGN IN ACCORDANCE WITH A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES FOR FIXED SPANS NOT EXCEEDING 400 FT. IN LENGTH, DATED 1958. CONCRETE DESIGN IN ACCORDANCE WITH A.R.E.A. SPECIFICATIONS FOR DESIGN OF PLAIN AND REINFORCED CONCRETE MEMBERS, DATED 1958. WORKMANSHIP AND MATERIALS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF ILLINOIS, DATED JAN. 2, 1958, EXCEPT THAT WHEREVER APPLICABLE, STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE A.R.E.A. SPECIFICATIONS. WELDING SHALL BE IN ACCORDANCE WITH CURRENT SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES OF THE AMERICAN WELDING SOCIETY.

CLASS X CONCRETE SHALL BE USED THROUGHOUT. ALL CORNERS SHALL BE CHAMFERED 1/4" UNLESS OTHERWISE SHOWN OR NOTED ON THE PLANS.

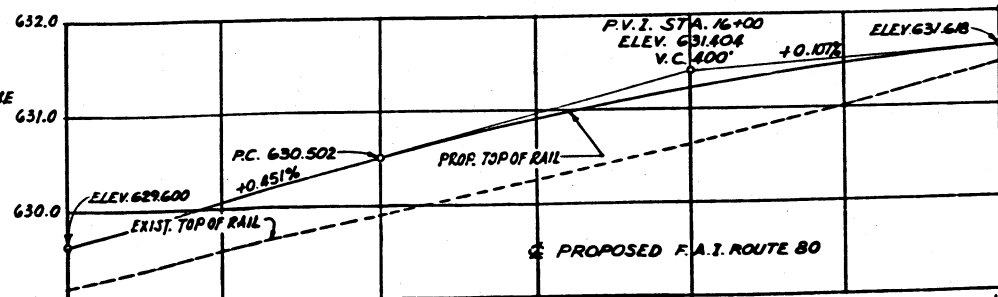
ALL STEEL SHALL BE STRUCTURAL STEEL UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS. THE WEIGHT OF CORROSION RESISTANT STEEL (MAYARI-R, CORTEN OR EQUAL), FORGED STEEL, CAST STEEL, GRAPHITED BRONZE EXPANSION BEARING PLATES, AND LEAD PLATES ARE INCLUDED IN THE WEIGHT OF STRUCTURAL STEEL, AND ARE TO BE PAID FOR AT THE CONTRACT UNIT PRICE PER POUND FOR "STRUCTURAL STEEL".

ESTIMATED WEIGHT OF THESE ITEMS IS AS FOLLOWS:

STRUCTURAL STEEL	334,650 LBS.
CORROSION RESISTANT STEEL (MAYARI-R, CORTEN OR EQUAL)	18,420 LBS.
FORGED STEEL	410 LBS.
CAST STEEL	7,020 LBS.
GRAPHITED BRONZE EXPANSION BEARING PLATES	180 LBS.
LEAD PLATES	590 LBS.
TOTAL WEIGHT	361,270 LBS.

ALL SHOP AND FIELD CONNECTIONS SHALL BE RIVETED EXCEPT WHERE OTHERWISE SHOWN OR NOTED ON THE DRAWINGS TO BE BOLTED OR WELDED. RIVETS AND BOLTS SHALL BE 3/4" UNLESS OTHERWISE NOTED. HOLES SHALL BE 1/8" LARGER THAN RIVET SIZE AND 3/4" LARGER THAN TURNED BOLTS. HOLES FOR SHOP RIVETS AND TURNED BOLTS SHALL BE SUBPUNCHED OR SUBDRILLED AND REAMED TO SIZE WITH PARTS ASSEMBLED AS REQUIRED BY A.R.E.A. SPEC. & SPEC. PROVS. HOLES FOR FIELD CONNECTIONS OF FLOOR BEAMS TO GIRDERS AND END FLOOR BEAMS SHALL BE SUBPUNCHED OR SUBDRILLED AS REQUIRED AND SHALL BE REAMED TO SIZE THROUGH STEEL TEMPLATES WITH HARDENED STEEL BUSHINGS OR THEY MAY BE REAMED TO SIZE WHILE ASSEMBLED AND MATCH MARKED. HOLES FOR FIELD CONNECTIONS OF BRACKETS, LATERAL BRACING AND DIAPHRAGMS MAY BE PUNCHED FULL SIZE. SHOP ASSEMBLE FLOOR BEAMS AND CONNECTION ANGLES OR BENT CONNECTION PLATES IN JOBS OR FRAMES FOR REAMING OF HOLES FOR FIELD AND SHOP RIVETS. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

STEEL SHALL BE SHOP INSPECTED BY THE ILLINOIS DIVISION OF HIGHWAYS BEFORE PAINTING. FOR FIELD AND SHOP PAINTING OF STEEL, SEE SPEC. PROVS. THE CONTRACTOR SHALL DRIVE THREE TEST PILES, ONE AT EACH ABUTMENT AND ONE AT THE PIER IN A PERMANENT LOCATION AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.



RAILROAD PROFILE

SCALE: 1" = 60' HORIZ.
1" = 1' VERT.

REVISED MARCH 1, 1960
ALFRED BENECH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WILSON AVENUE CHICAGO, ILLINOIS

BILL OF MATERIALS - SECTION (32,47)-4

ITEM	UNIT	QUANTITY		
		SUPER	SUB	TOTAL
CLASS X CONCRETE (STRUCTURES)	CU. YDS.	—	913.1	913.1
REINFORCEMENT BARS	LBS.	—	48,710	48,710
ERECTING STRUCTURAL STEEL	LBS.	361,270	—	361,270
CLASS A EXCAVATION FOR STRUCTURES	CU. YDS.	—	700	700
TREATED TIMBER	F.B.M.	10,005	—	10,005
POROUS GRANULAR EMBANKMENT	CU. YDS.	—	1553	1553
FURNISHING AND ERECTING METAL HANDRAIL	LIN. FT.	135	—	135
MEMBRANE WATERPROOFING	SQ. FT.	2,300	—	2,300
DECK DRAINS (3 IN.)	LIN. FT.	287	—	287
NAME PLATES	EACH	—	—	2
FURNISHING METAL PILE SHELLS (12 1/2 IN.)	LIN. FT.	—	9,114	9,114
DRIVING AND FILLING SHELLS	LIN. FT.	—	9,114	9,114
TEST PILES (METAL SHELL CONCRETE)	EACH	—	3	3
HARDWARE	LBS.	1,320	—	1,320
PIPE UNDERDRAINS (3 IN.)	LIN. FT.	—	234	234

BILL OF MATERIALS - SECTION (32,47)-4F

ITEM	UNIT	QUANTITY
FURNISHING STRUCTURAL STEEL	LBS.	361,270

DESIGN DATA

LIVE LOAD
COOPER E 72 PLUS IMPACT.

ALLOWABLE STRESSES

f _s (TENSION) STRUCTURAL CARBON STEEL	18,000 #/sq. in.
f _s (TENSION) REINFORCING BARS	20,000 #/sq. in.
f _c (FLEXURE) CONCRETE	3,500 #/sq. in.
f _c (FLEXURE) CONCRETE WITHOUT EARTH PRESSURE	1,400 #/sq. in.
f _c (FLEXURE) CONCRETE WITH EARTH PRESSURE	1,000 #/sq. in.
v (SHEAR IN FOOTINGS)	75 #/sq. in.

FOUNDATIONS
PIER AND ABUTMENTS TO BE 12 1/2" DIA. (7 GAGE) METAL SHELL CAST-IN-PLACE CONCRETE PILES - 40 TON CAPACITY.

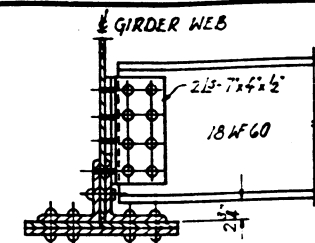
BORINGS, PROFILE, DESIGN DATA & QUANTITIES
UNDERPASS
E. J. & E. RY. Co. BRIDGE No. _____
OVER F.A.I. ROUTE 80
F.A.I. PROJECT
F.A.I. ROUTE 80 SECTION (32,47)-4 44F
GRUNDY - KENDALL COUNTY
STATION 1731+17.56

SHEET 3 OF 20

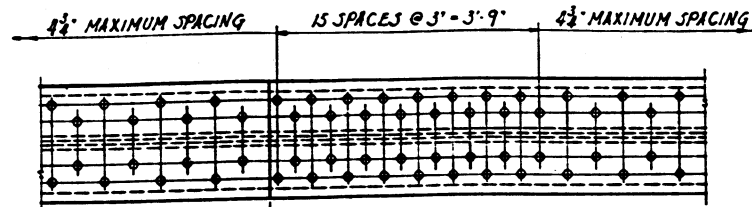


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	(32.47)-	GRUNDY-KENDALL	262	221
	(32.47)-80		17	7

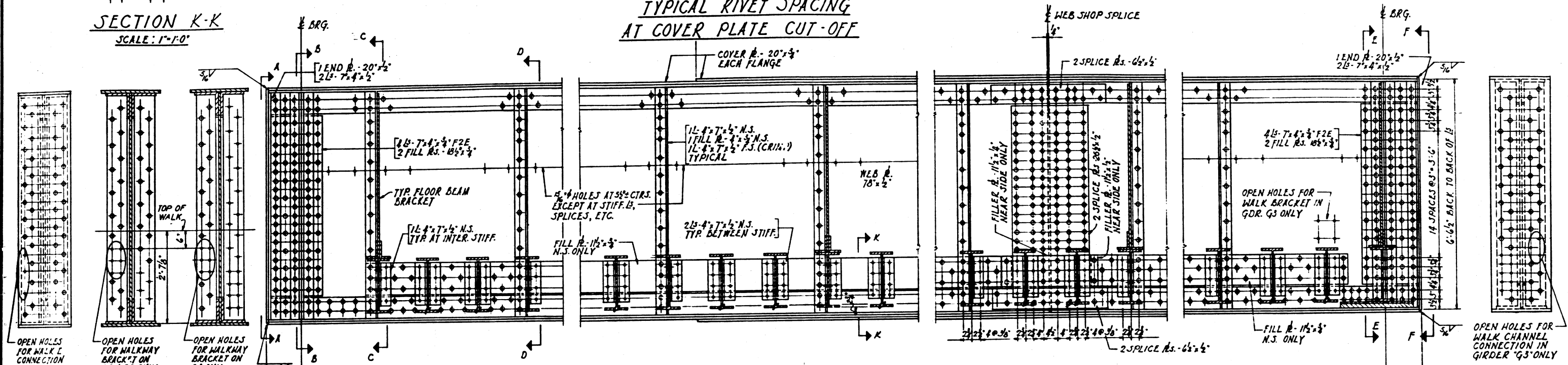
SHEET 4 of 20



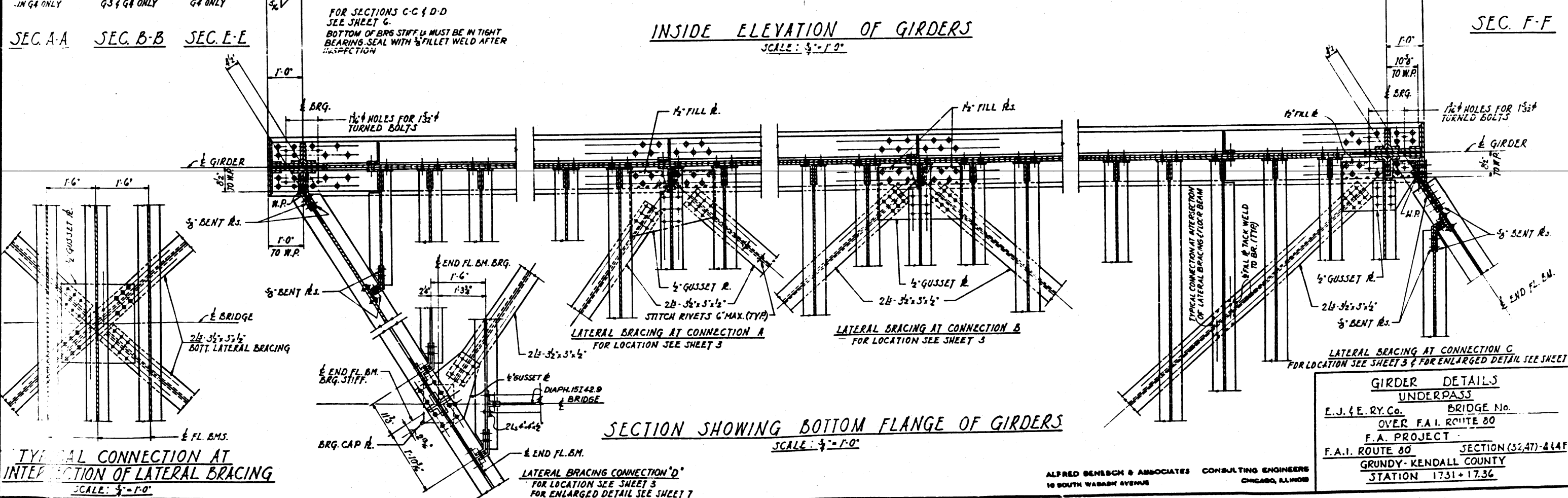
SECTION K-K
SCALE: 1"=1'-0"



TYPICAL RIVET SPACING
AT COVER PLATE CUT-OFF



INSIDE ELEVATION OF GIRDERS
SCALE: 3/4"=1'-0"

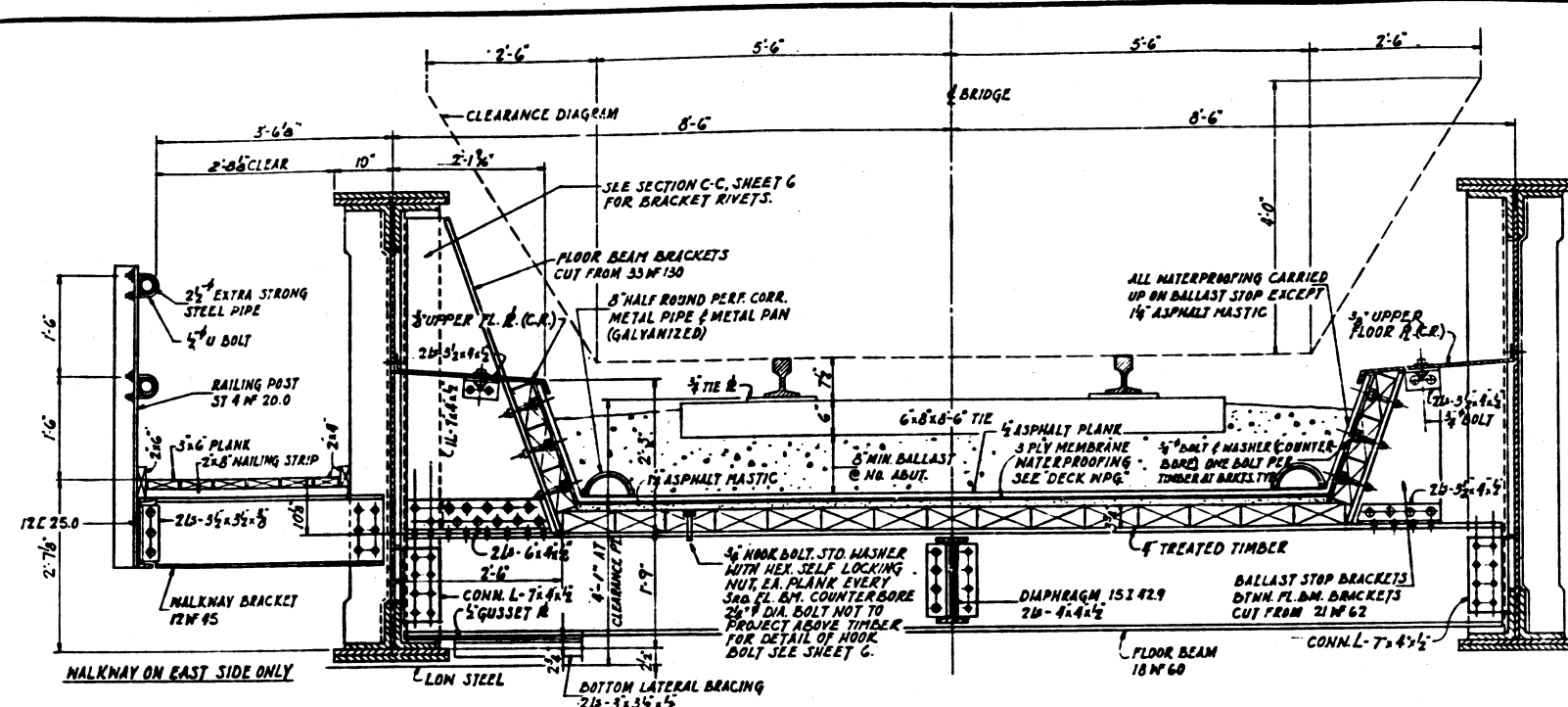


SECTION SHOWING BOTTOM FLANGE OF GIRDERS
SCALE: 3/4"=1'-0"

GIRDER DETAILS
UNDERPASS
E.J. & E. RY. Co. BRIDGE No.
OVER F.A.I. ROUTE 80
F.A.I. PROJECT
F.A.I. ROUTE 80 SECTION (32.47)-414F
GRUNDY-KENDALL COUNTY
STATION 1731+17.36

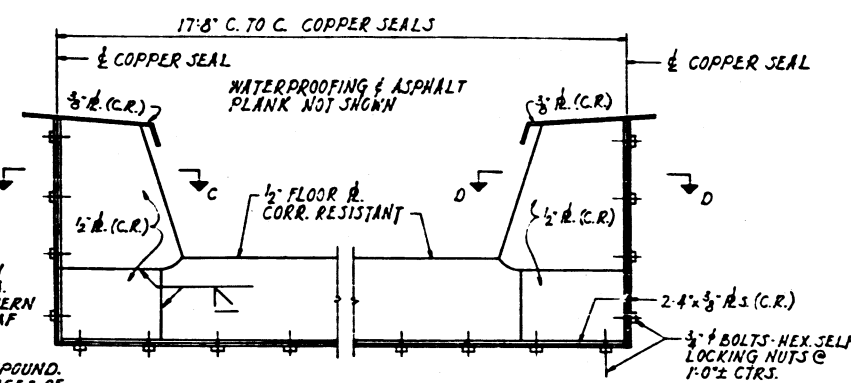
ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	(32, 47)	GRUNDY-KENDALL	262	222
(32, 47)			17	8
SHEET 5 of 20				

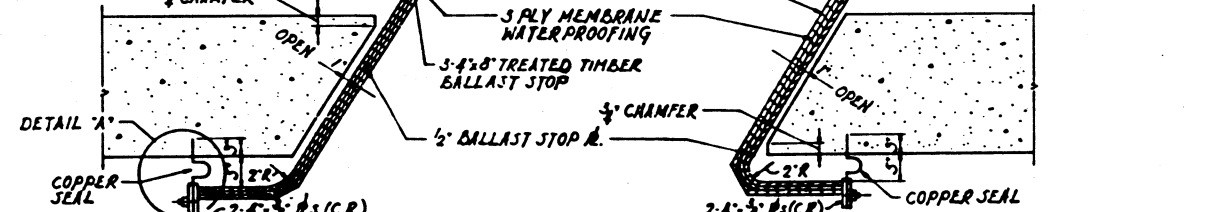


- DECK WATERPROOFING**
TO BE APPLIED IN THE NUMERICAL ORDER LISTED
1. 2" ASPHALT PLANK
 2. J.M. WATERPROOFING CEMENT OR EQUAL
 3. ASBESTOS FELT "50"
 4. J.M. WATERPROOFING CEMENT OR EQUAL
 5. PERFORATED ASBESTOS FELT 15 LB.
 6. J.M. WATERPROOFING CEMENT OR EQUAL
 7. ASBESTOS FELT "50"
 8. J.M. WATERPROOFING CEMENT OR EQUAL
 9. 1/4" ASPHALT MASTIC
 10. UNSATURATED 12 LB. ASBESTOS PAPER
 11. 4" TREATED TIMBER

NOTE:
ALL FLOOR TIMBERS & BALLAST STOP TIMBERS TO BE FINISHED TO 3/4" THICKNESS AND FINISH TWO EDGES.
ALL TIMBERS TO BE CUT TO LENGTH, SQUARE ENDS AND BORED BEFORE TREATING.
TREATMENT TO BE WITH CREOSOTE OIL, RETENTION 16 LBS. PER CUBIC FT. FULL CELL PROCESS, A.C.E.A. SPECIFICATION MANUAL 17. TIMBERS TO BE SOUTHERN PINE, GRADE DEMON, STRUCTURAL C.S. OR LONGLEAF STRUCTURAL C.S. SEE SPECIAL PROVISIONS.
TOP OF TOP FLANGE OF FLOOR BEAMS TO BE GIVEN A COAT OF PETROLATUM RUST PROOF COMPOUND. AT COMPLETION OF WORK ALL EXPOSED SURFACES OF BOLTS, WASHERS, SPICES & SUCH SHOULD BE GIVEN A COAT OF PETROLATUM RUST PROOF COMPOUND. SEE SPEC. PROVS.
TREATED TIMBER TO BE LAID RANDOM LENGTHS WITH SPICE CONNECTIONS FOR CURB TIMBERS ONLY.
ALL HOOK BOLTS, BOLTS, COUNTERSUNK BOLTS, WASHERS & NUTS USED TO FASTEN THE TIMBER DECK & SPICE & FOR BALLAST STOP PLANKS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR HARDWARE.



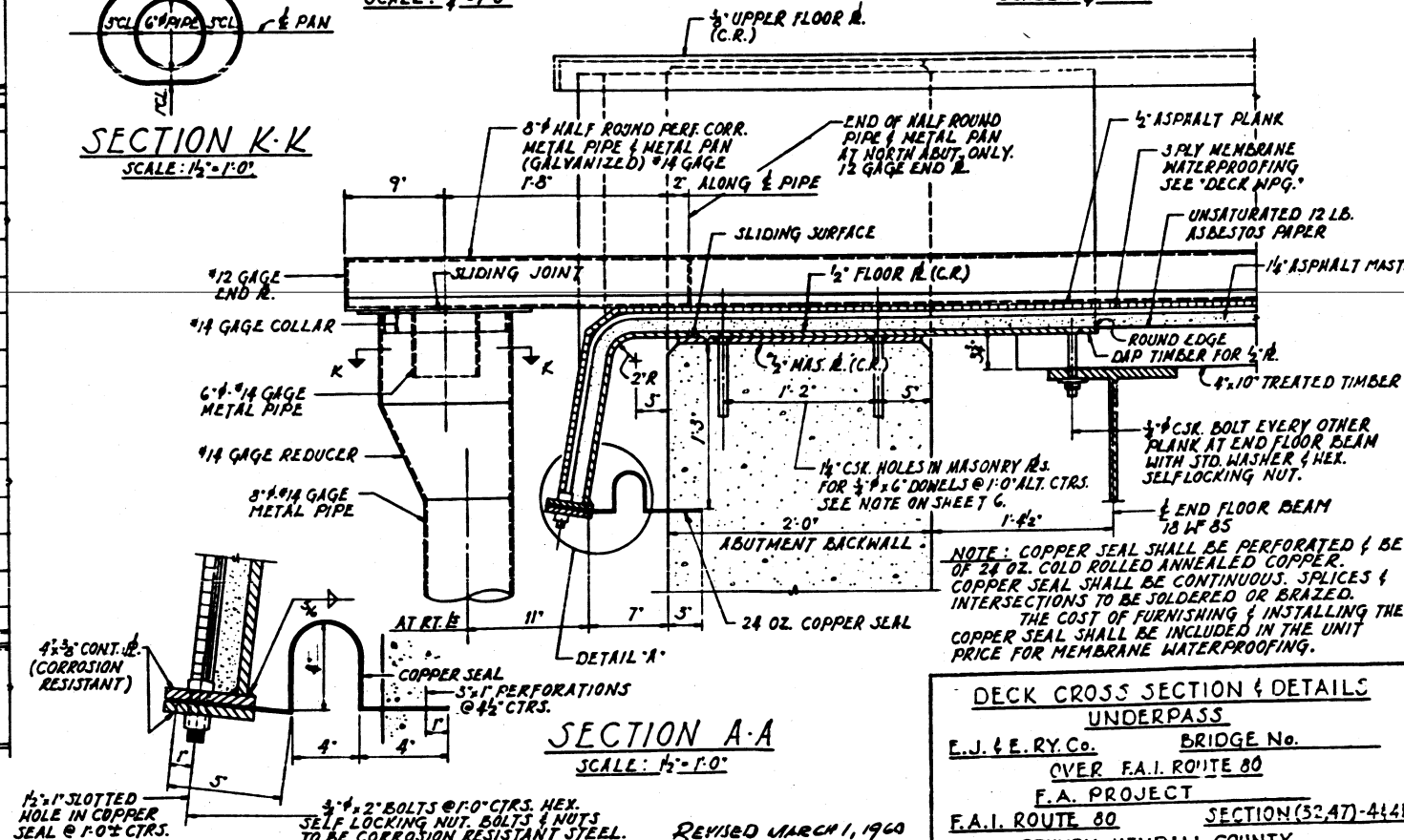
SECTION B-B
SCALE: 3/4" = 1'-0"



SECTION C-C
SCALE: 3/4" = 1'-0"

SECTION D-D
SCALE: 3/4" = 1'-0"

SECTION K-K
SCALE: 1/2" = 1'-0"

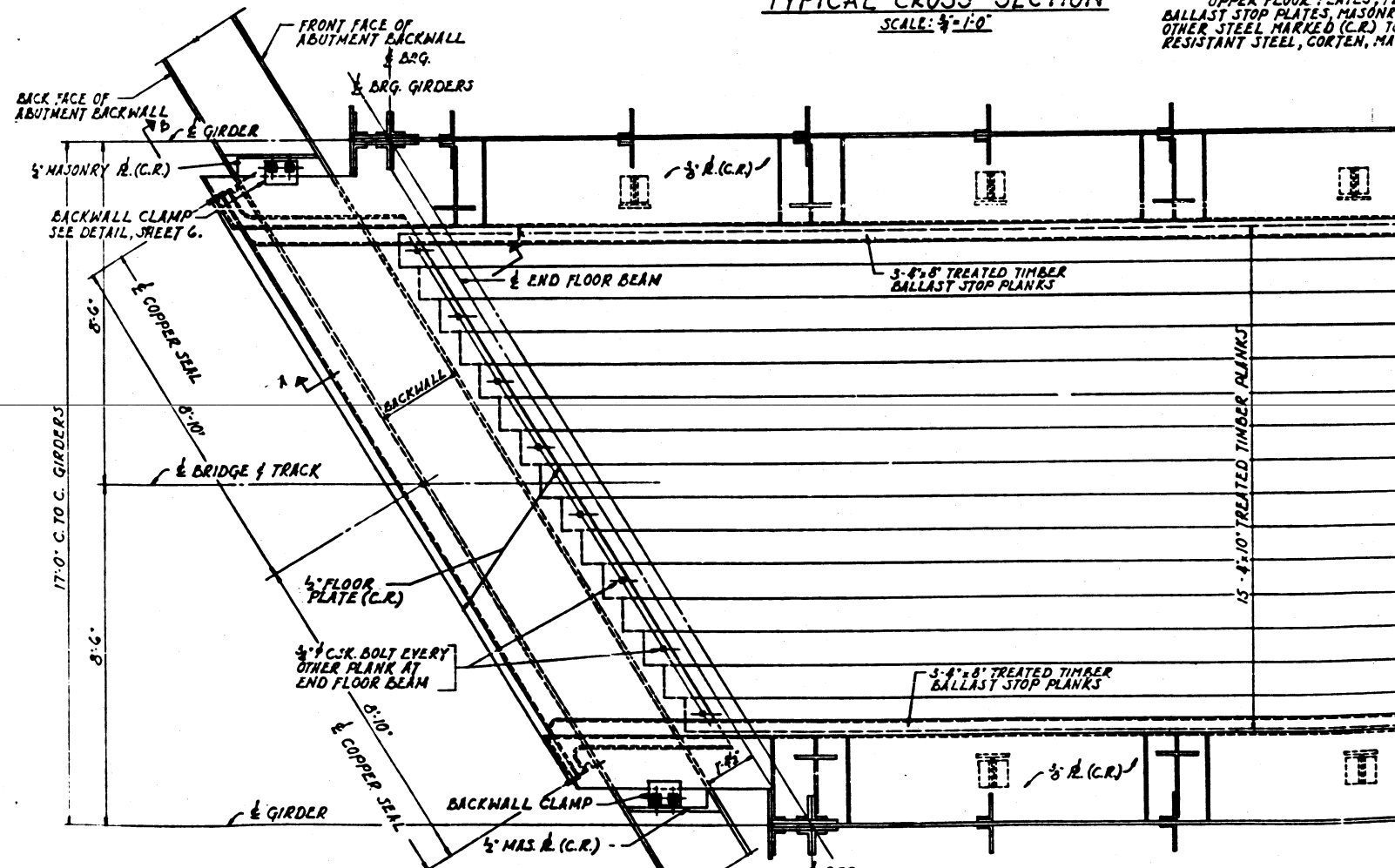


SECTION A-A
SCALE: 1/2" = 1'-0"

DETAIL A
SCALE: 3/4" = 1'-0"

TYPICAL CROSS SECTION
SCALE: 3/4" = 1'-0"

NOTE:
UPPER FLOOR PLATES, FLOOR PLATES, BALLAST STOP PLATES, MASONRY PLATES & ALL OTHER STEEL MARKED (C.R.) TO BE CORROSION RESISTANT STEEL, CORTEN, MAYARI-K OR EQUAL.

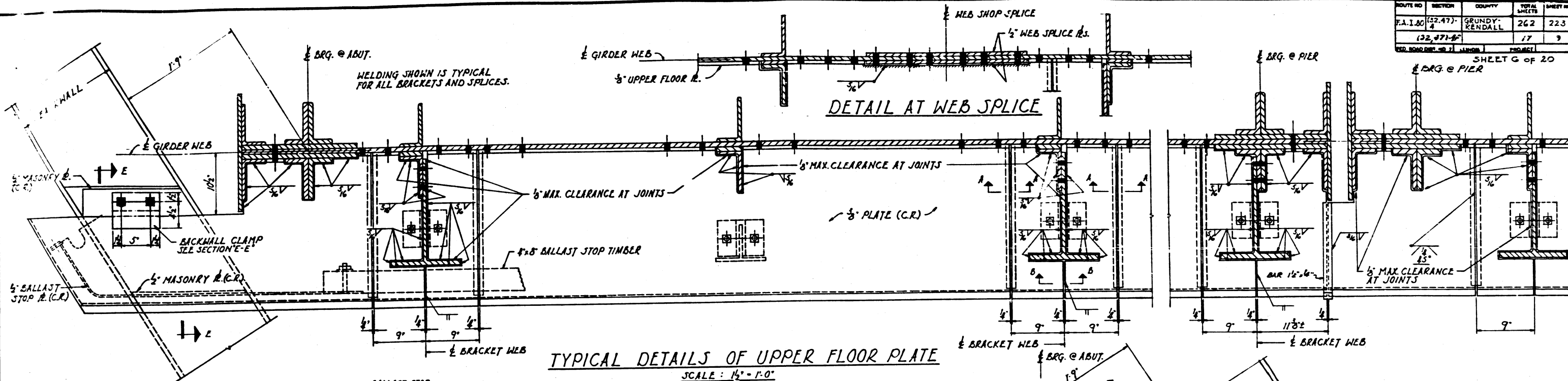


PLAN OF DECK AT ABUTMENTS
SCALE: 1/2" = 1'-0"

DECK CROSS SECTION & DETAILS UNDERPASS
E.J. & E.R.Y.CO. BRIDGE No. _____
OVER F.A.I. ROUTE 80
F.A. PROJECT
F.A.I. ROUTE 80 SECTION (32,47)-444F
GRUNDY-KENDALL COUNTY
STATION 1731+1736

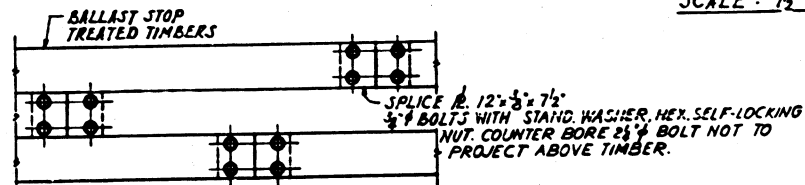
REVISED MARCH 1, 1960
ALFRED BENSCH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET #
F.A.I. 80	(32.47)- 4	GRUNDY- KENDALL	262	223
	(32.371-85		17	9
FED. ROAD DIST. NO. 1	UNION	PROJECT		



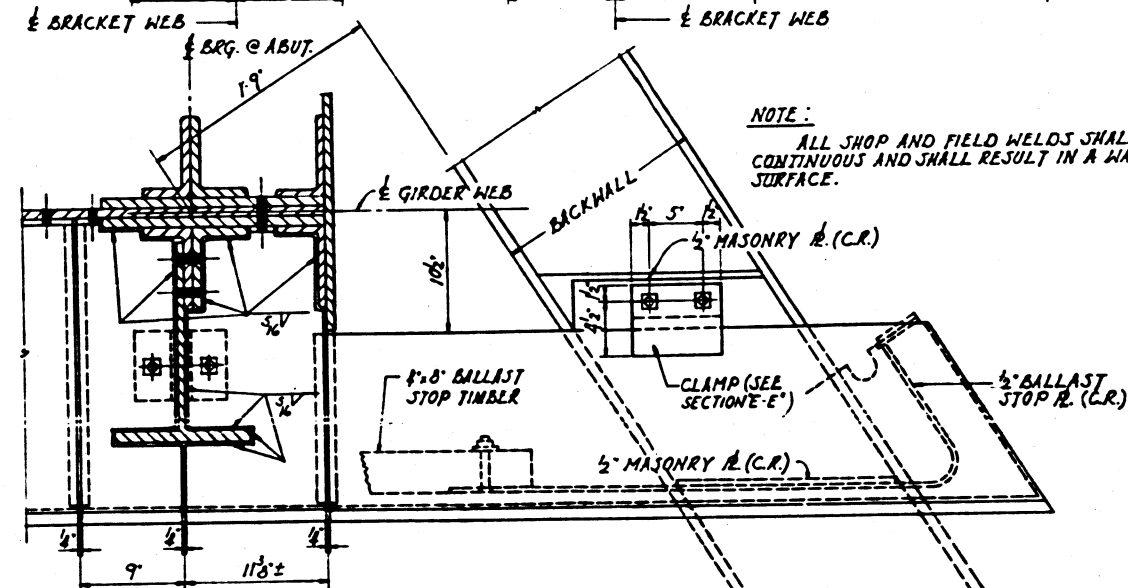
NOTE :

NOTE.
ANCHOR BOLTS FOR MASONRY PLATES MAY BE SET IN PLACE DURING PLACING OF CONCRETE PROVIDED THEY ARE HELD IN RIGID TEMPLATES, OR MAY BE SET IN DRILLED OR FORMED HOLES AND GROUTED INTO PLACE.
MASONRY PLATES TO BE WELDED TO ANCHOR BOLTS IN FIELD AND GROUND FLUSH.

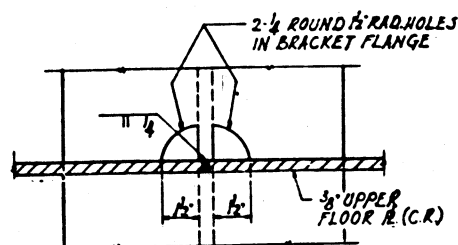
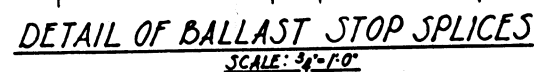


NOTE :

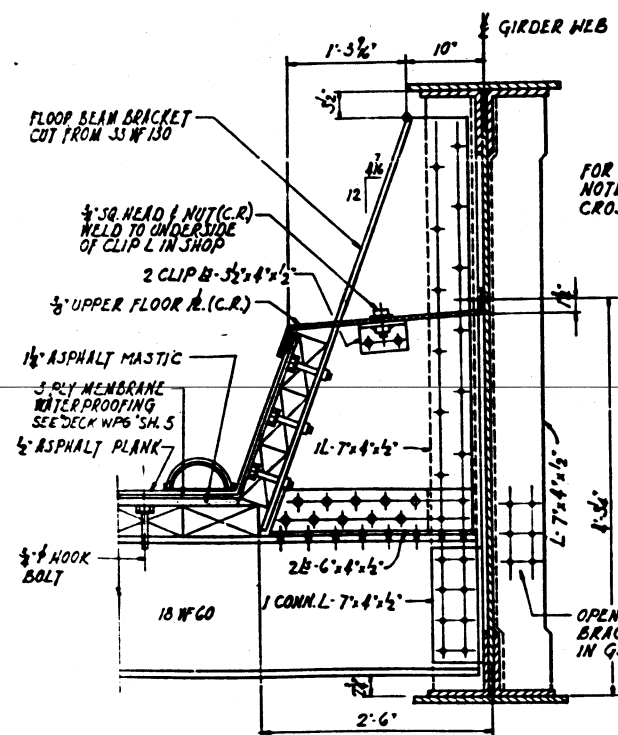
NOTE:
ALL SHOP AND FIELD WELDS SHALL BE
CONTINUOUS AND SHALL RESULT IN A WATERTIGHT
SURFACE.



TYP. DETAILS OF UPPER FLOOR P. (CONT.)

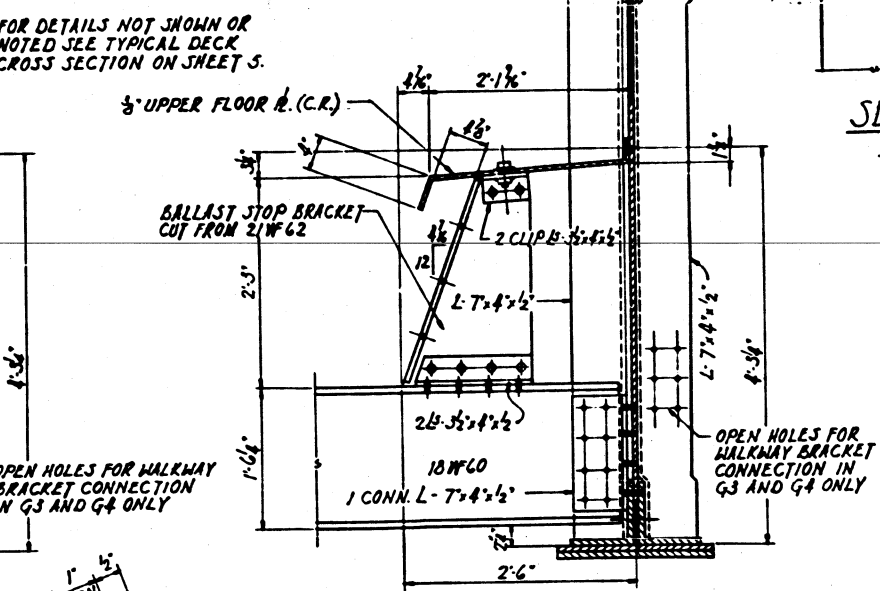


SECTION B-B
SCALE: 3" = 1'-0"

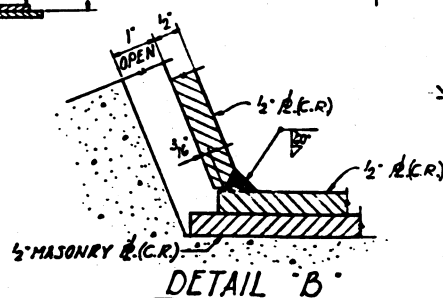


SECTION C-C
SCALE: 1"=1'-0"

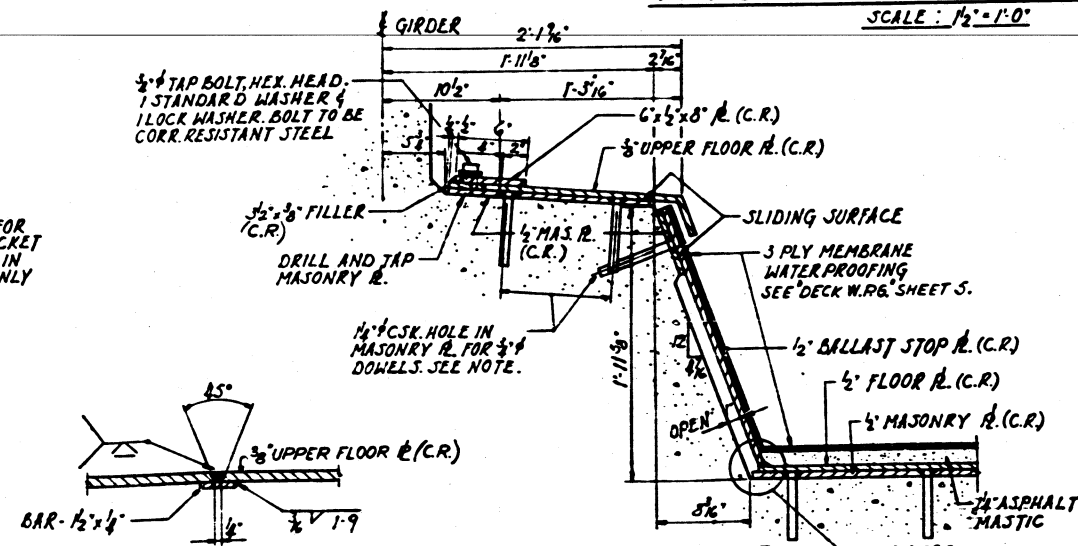
FOR LOCATION OF SECTION C-C
AND SECTION D-D SEE SHEET 4.



SECTION D-D
SCALE: 1"=1'-0"



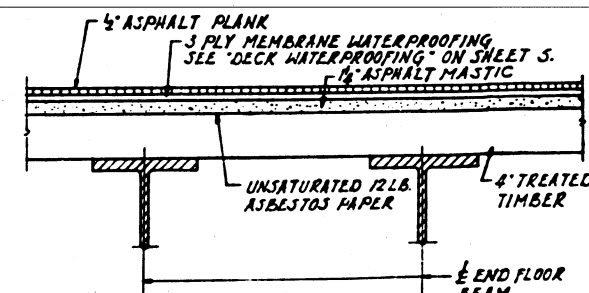
DETAIL B



SECTION E-E
SCALE: 1/8"=1'-0"

REVISED MARCH 1, 1960

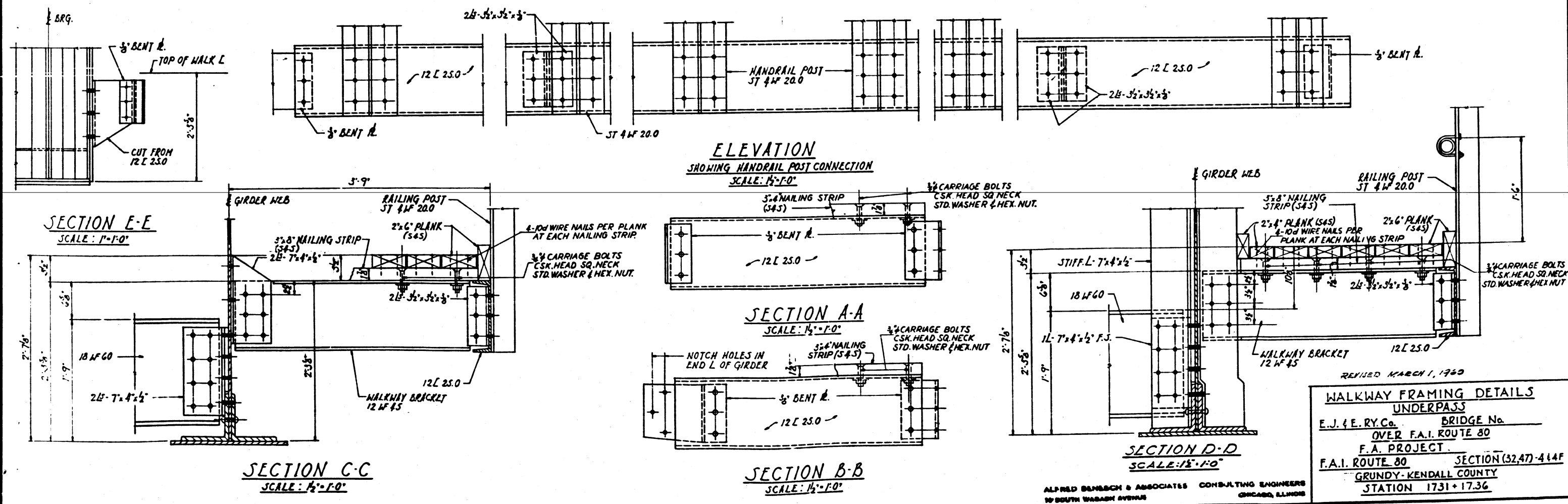
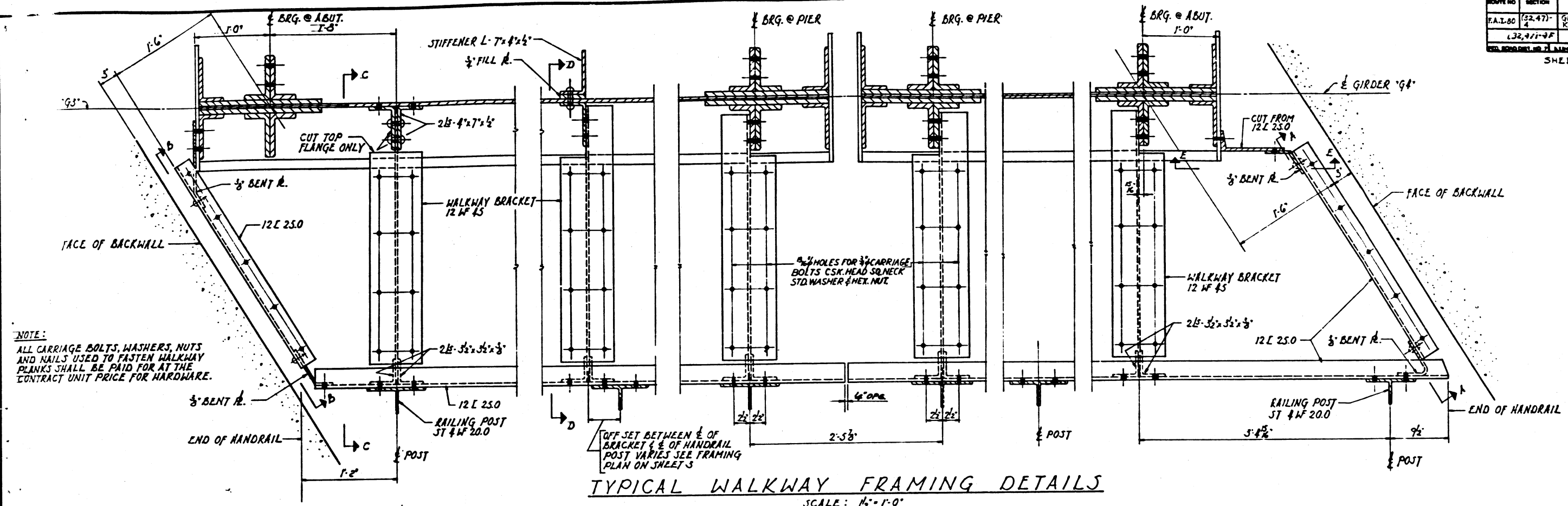
ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
18 SOUTH WABASH AVENUE CHICAGO, ILLINOIS



SECTION THRU DECK AT PIERS
SCALE: $\frac{1}{2}" = 1'-0"$

UPPER FLOOR & BALLAST STOP DETAILS
UNDERPASS

UNDERPASS
E.J. & E.RY. Co. BRIDGE No. _____
OVER F.A.I. ROUTE 80
F.A. PROJECT
F.A.I. ROUTE 80 SECTION (32.47) - 414F
GRUNDY-KENDALL COUNTY
STATION 1731 + 1736



REVISED MARCH 1, 1960

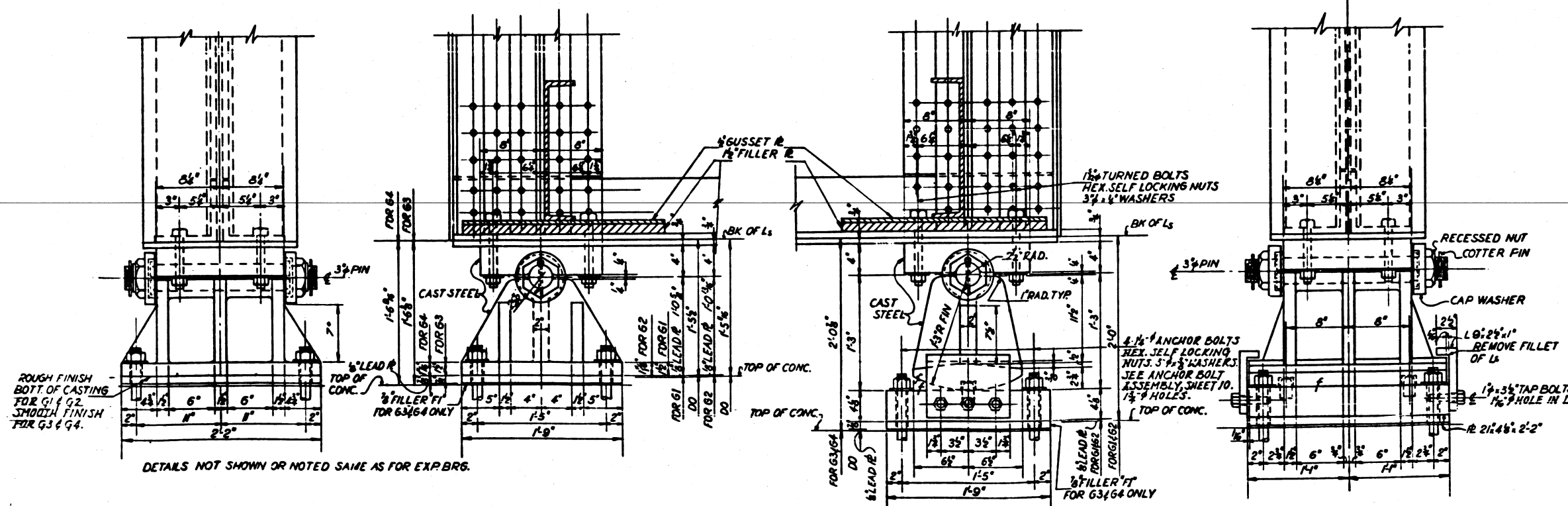
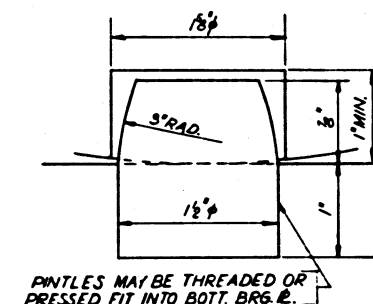
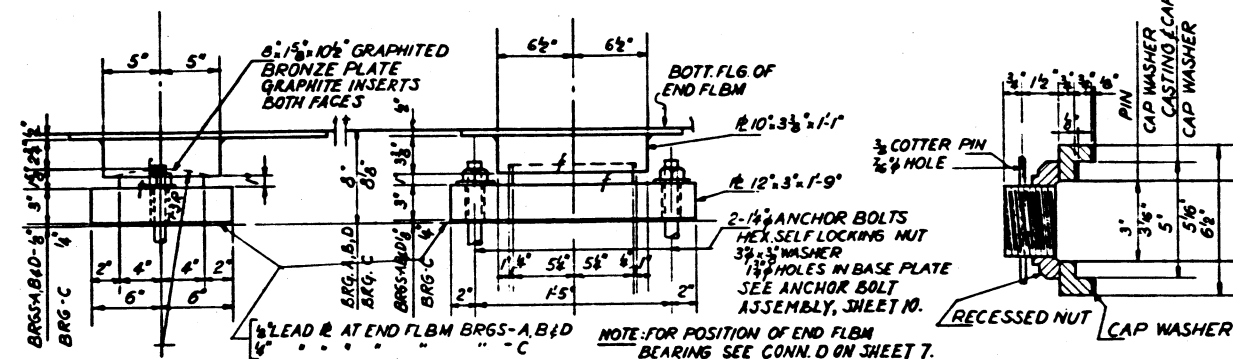
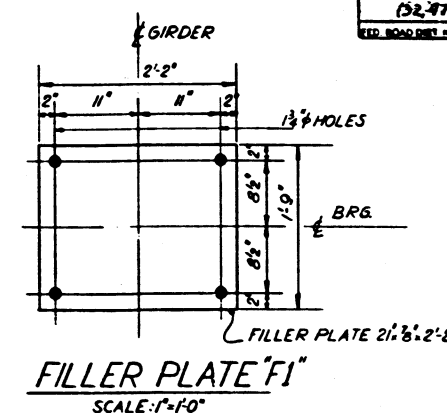
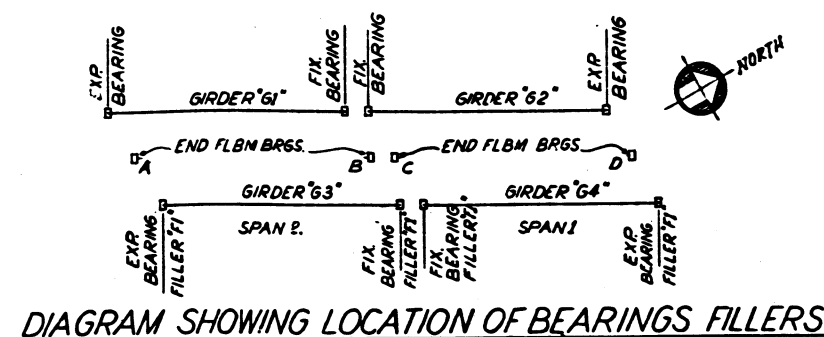
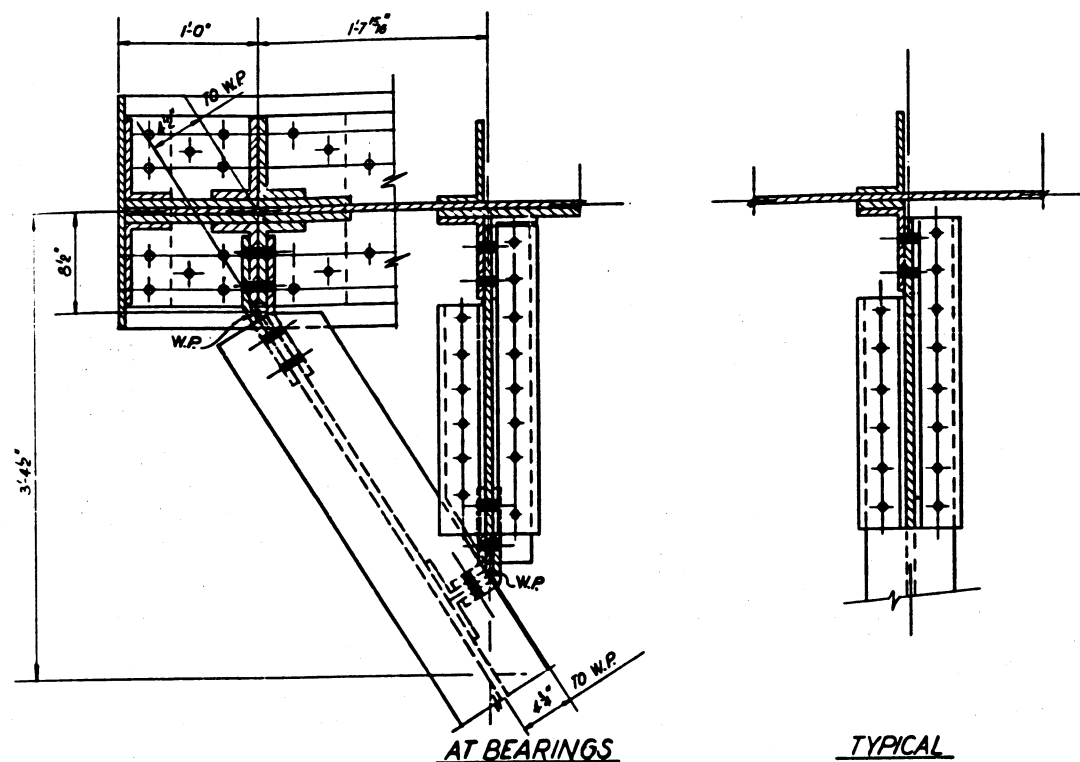
WALKWAY FRAMING DETAILS UNDERPASS

E.J. & E. RY. Co. BRIDGE No. 1731
OVER F.A.I. ROUTE 80
F.A. PROJECT
GRUNDY-KENDALL COUNTY
STATION 1731+17.36

ALFRED BENSCH & ASSOCIATES CONSULTING ENGINEERS
19 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	(32.47)-4	GRUNDY-KENDALL	262	226
(32.47)-4F			17	12
EXP. ROAD DIST. NO. 7			PROJECT	

SHEET 9 of 20



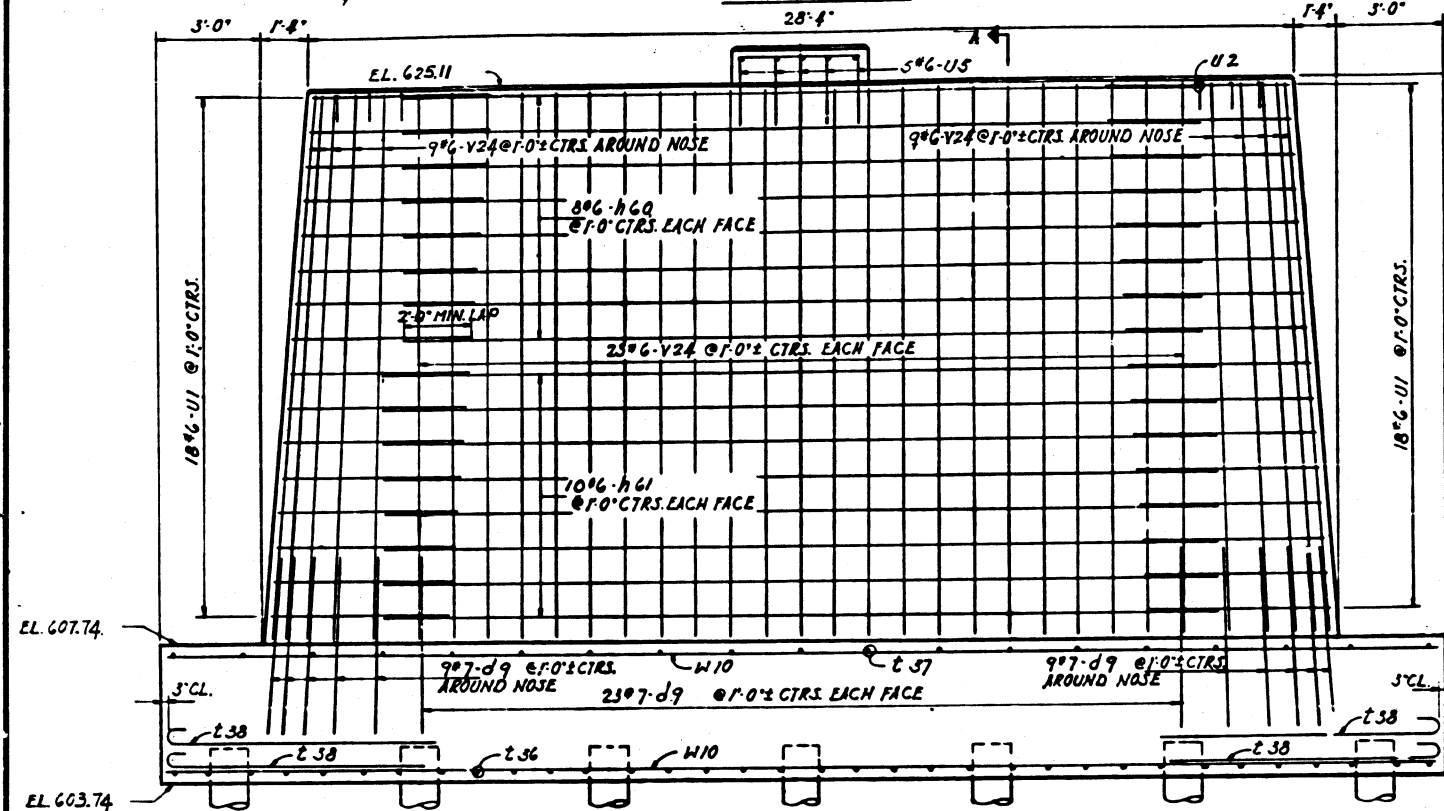
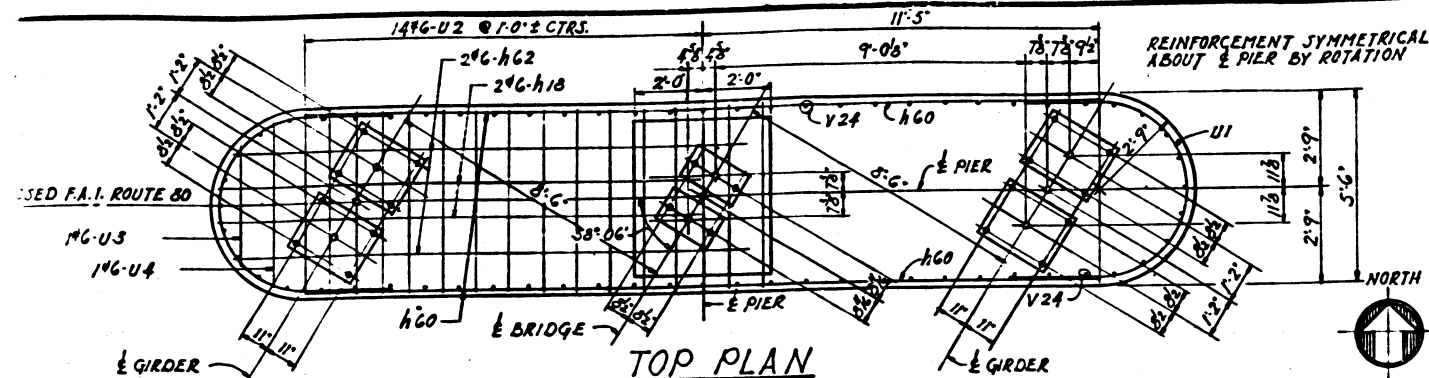
NOTES:
ALL CASTINGS SHALL CONFORM TO A.S.T.M. A27, GRADE 65-35, FULL ANNEALED.
PINS FOR GIRDER BEARINGS SHALL BE STEEL FORGINGS CONFORMING TO A.S.T.M. A235, CLASS F.
GRAPHITED BRONZE EXPANSION BEARING PLATES SHALL BE MADE FROM CAST BRONZE ALLOY PLATES CONFORMING TO A.S.T.M. B22-ALLOY B AND SHALL CONTAIN GRAPHITE FILLED RECESSES.

BEARING DETAILS
UNDERPASS
E.J. & E.R.Y. Co. BRIDGE No.
OVER F.A.I. ROUTE 80
F.A. PROJECT
F.A.I. ROUTE 80 SECTION (32.47)-4F
GRUNDY-KENDALL COUNTY
STATION 17.31 + 17.36

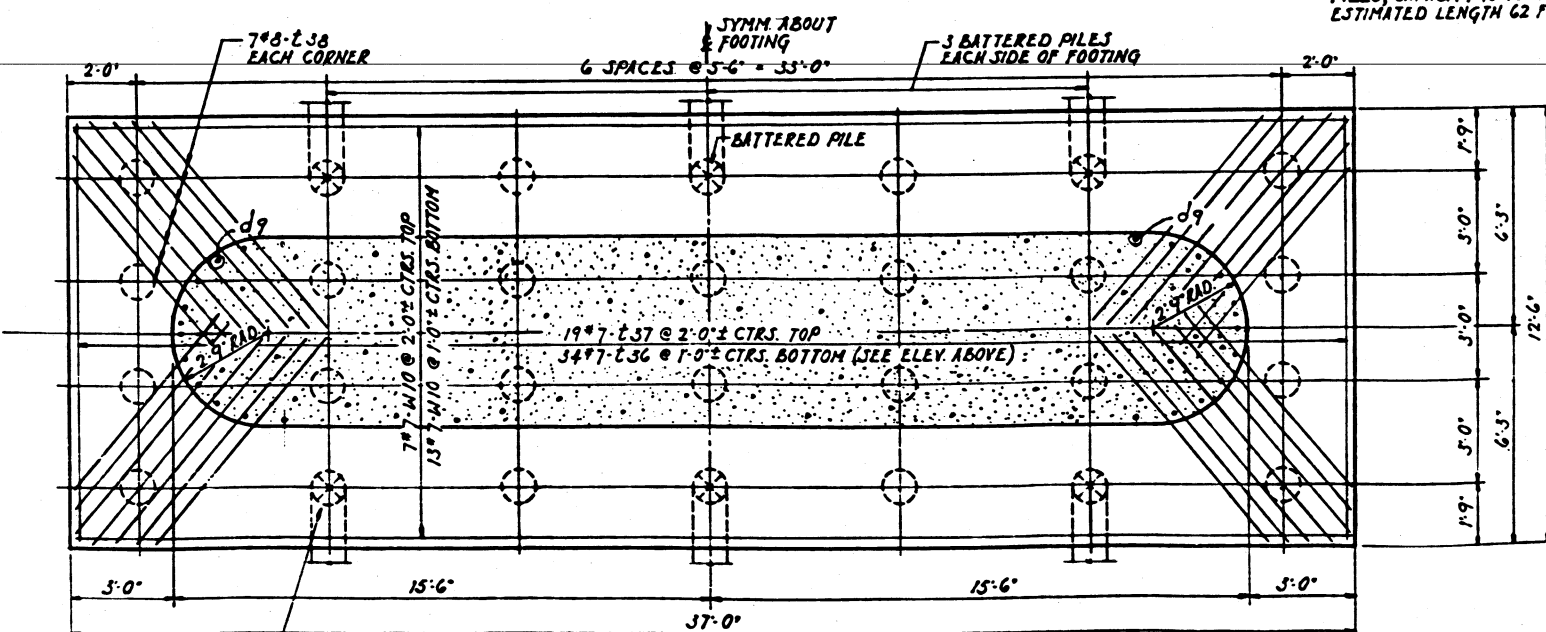
ALFRED BENECH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I. 80	(32.47) 4	GRUNDY-KENDALL	262	227
	(32.57) - 9F		17	13

SHEET 10 OF 20

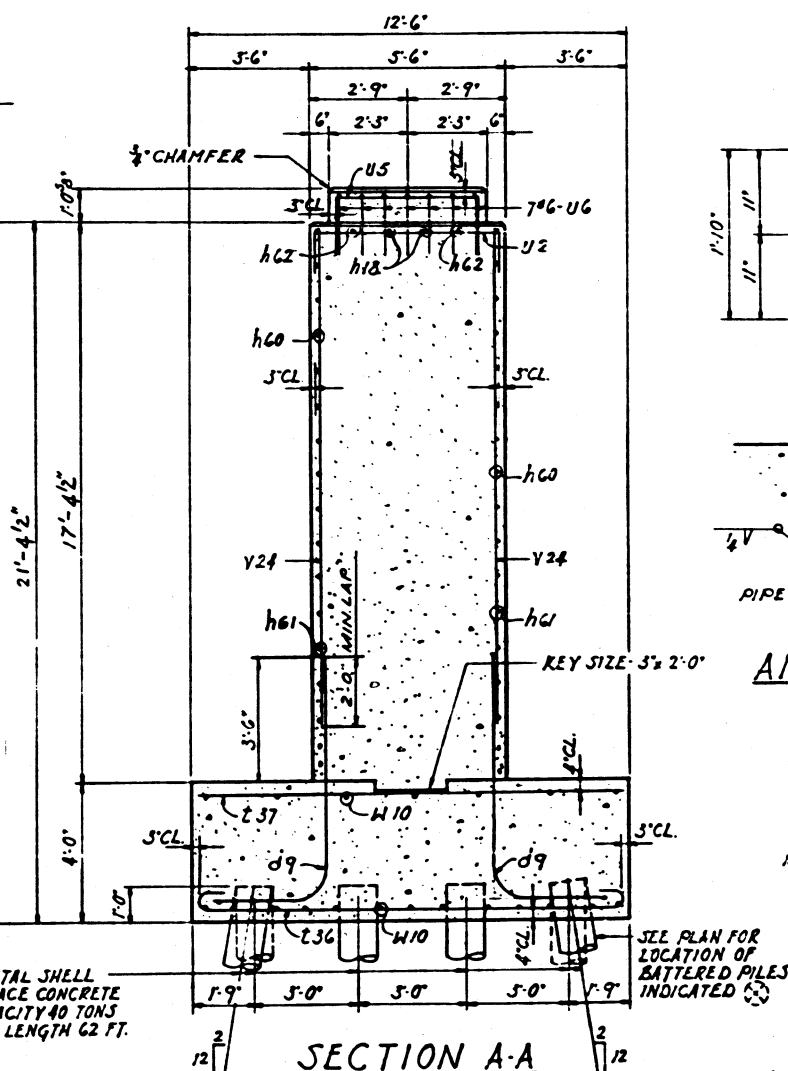


ELEVATION



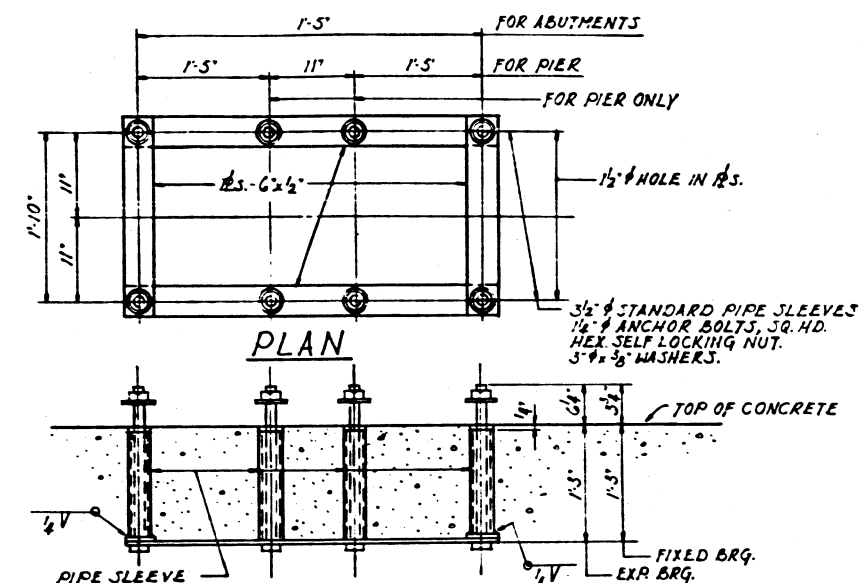
FOOTING PLAN

PILE BATTERED 2" IN 12"
SEE SECTION A-A

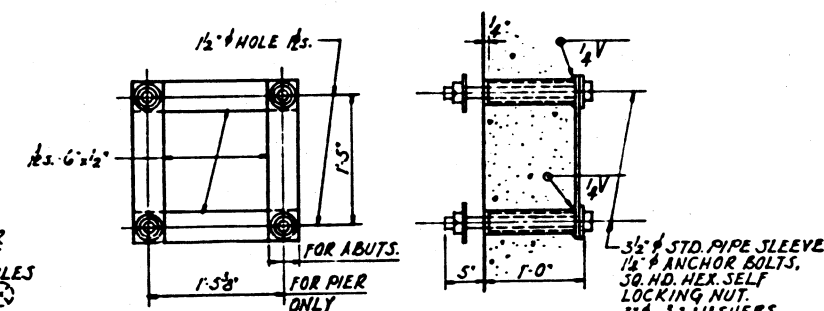


SECTION A-A

SCALE: $\frac{1}{2}$ " = 1'-0"



SECTION
ANCHOR BOLT ASSEMBLY - GIRDERS



PLAN SECTION ^{3" x 3" WASHERS.}
ANCHOR BOLT ASSEMBLY-END FLOOR BEAMS

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
CLASS X CONCRETE, STRUCTURES	CU. YDS.	169
REINFORCEMENT BARS	LBS.	4,810
CLASS A EXCAVATION FOR STRUCTURES	CU. YDS.	140
FURNISHING METAL PILE SHELLS, 12 1/2 IN.	LIN. FT.	1,674
POROUS GRANULAR EMBANKMENT	CU. YDS.	65

REVISED MARCH 1, 1960

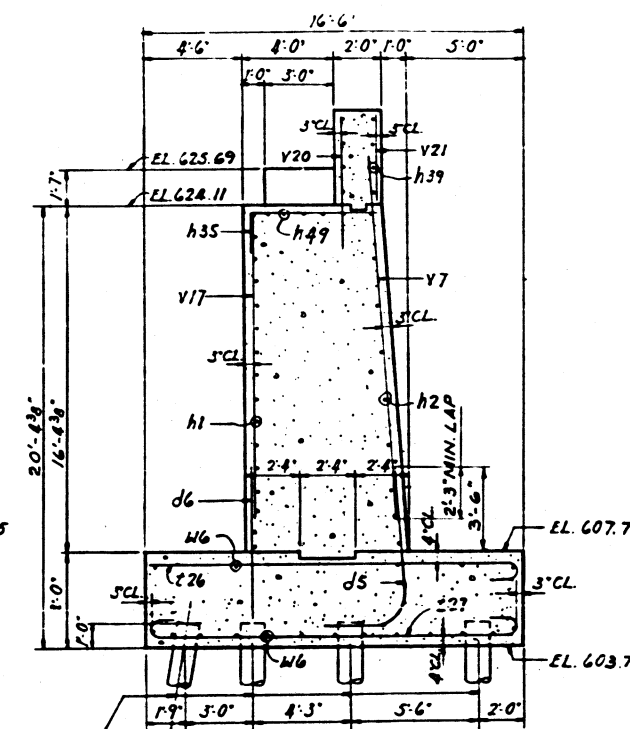
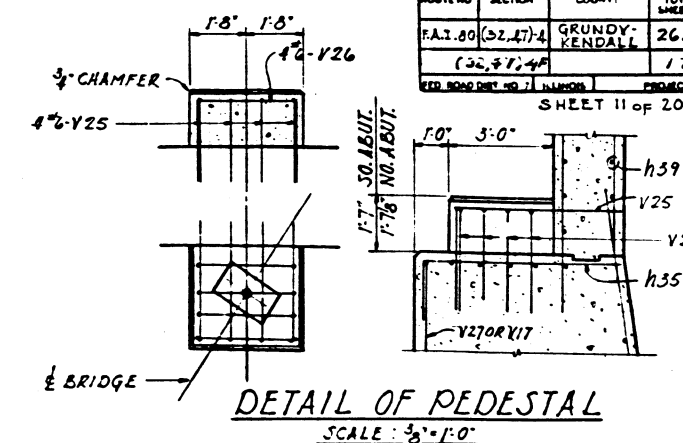
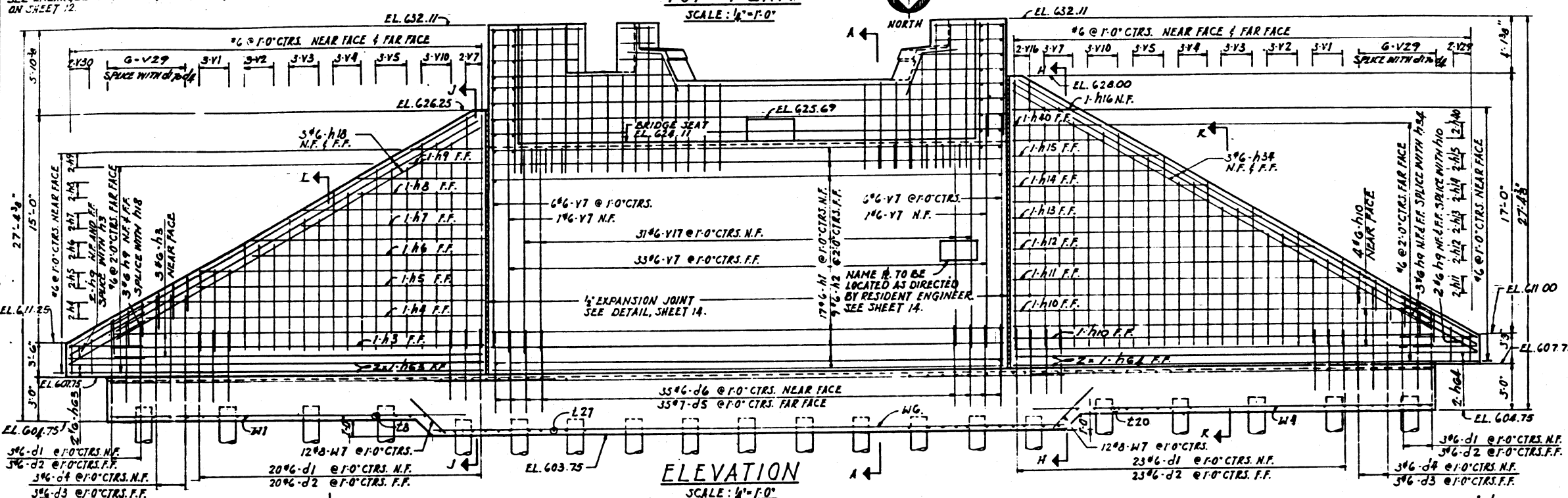
ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

PIER
UNDERPASS
E. J. & E. RY. Co. BRIDGE No.
CVER F.A.I. ROUTE 80
F.A. PROJECT
F.A.I. ROUTE 80 SECTION (32.47)-4
GRUNDY- KENDALL COUNTY
STATION 1731+17.36

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	(32.47)-4	GRUNDY-KENDALL	262	228
(32.47)-4			17	14
ED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET 11 of 20

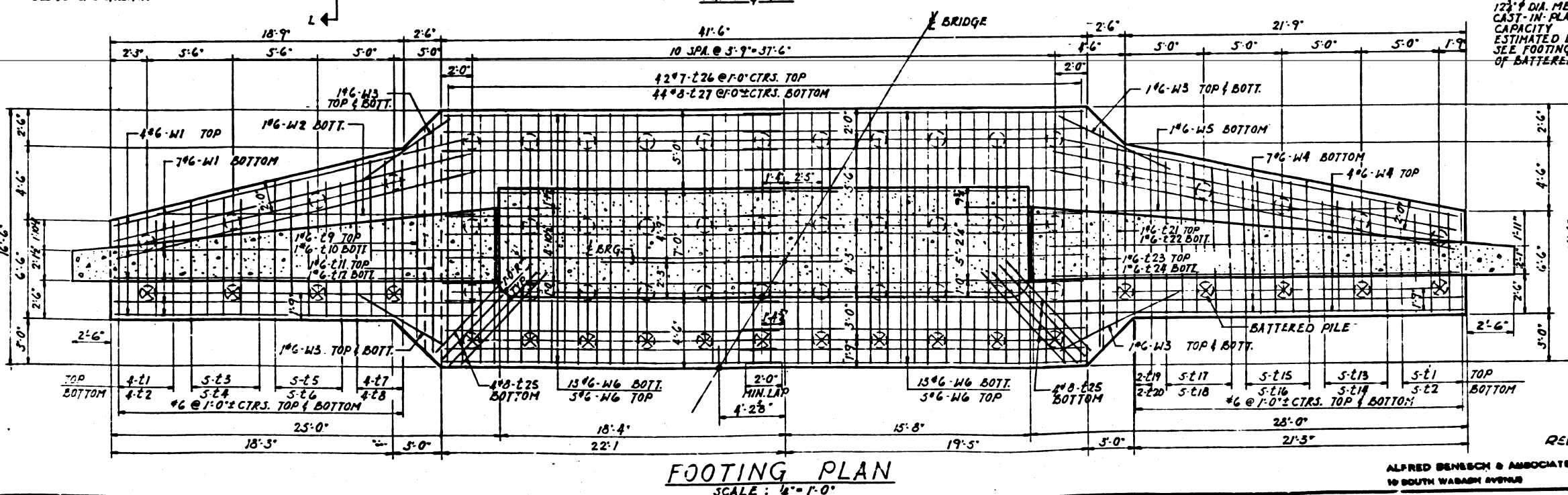
NOTE
FOR REINFORCEMENT & DIMENSIONS ABOVE BRIDGE SEAT
SEE ENLARGED DETAILS OF ABUTMENT BACKWALL
ON SHEET 12.



12" DIA. METAL SHELL
CAST-IN-PLACE CONCRETE PILES.
CAPACITY 40 TONS
ESTIMATED LENGTH 62 FT.
SEE FOOTING PLAN FOR LOCATION
OF BATTERED PILES.

BILL OF MATERIAL

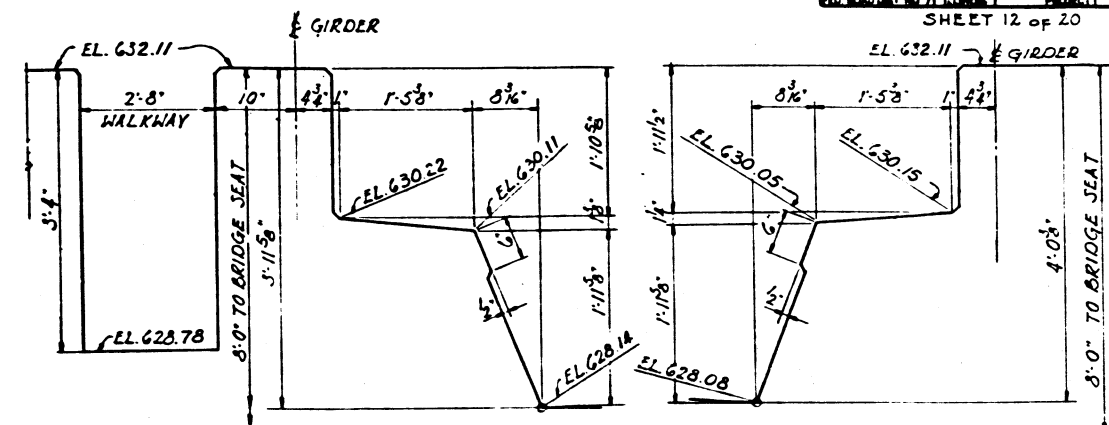
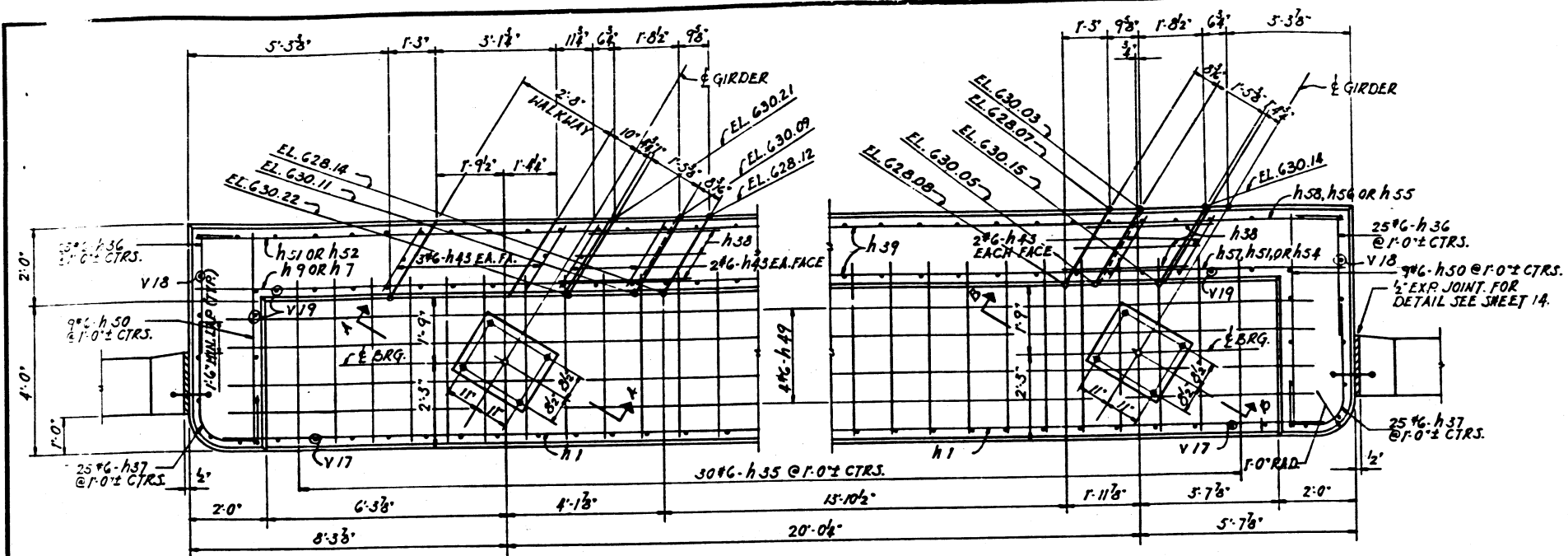
ITEM	UNIT	QUANTITY
CLASS X CONCRETE, STRUCTURES	CU. YDS.	368.3
REINFORCEMENT BARS	LBS.	19,910
CLASS A EXCAVATION FOR STRUCTURES	CU. YDS.	285
POROUS GRANULAR EMBANKMENT	CU. YDS.	730
FURNISHING METAL PILE SHELLS, 12" DIA.	LIN. FT.	5,782



SOUTH ABUTMENT UNDERPASS
E.J. & E.R.Y. Co. BRIDGE No.
OVER F.A.I. ROUTE 80
F.A. PROJECT
F.A.I. ROUTE 80 SECTION (32.47)-4
GRUNDY-KENDALL COUNTY
STATION 1731+17.36

REVISED, MARCH 1, 1960
ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.T. 80	(32.47)-4	GRUNDY-KENDALL	262	229
	(32.47)-2 =		17	15
RED BOARD DIST. NO. 1	UNION	PROJECT		

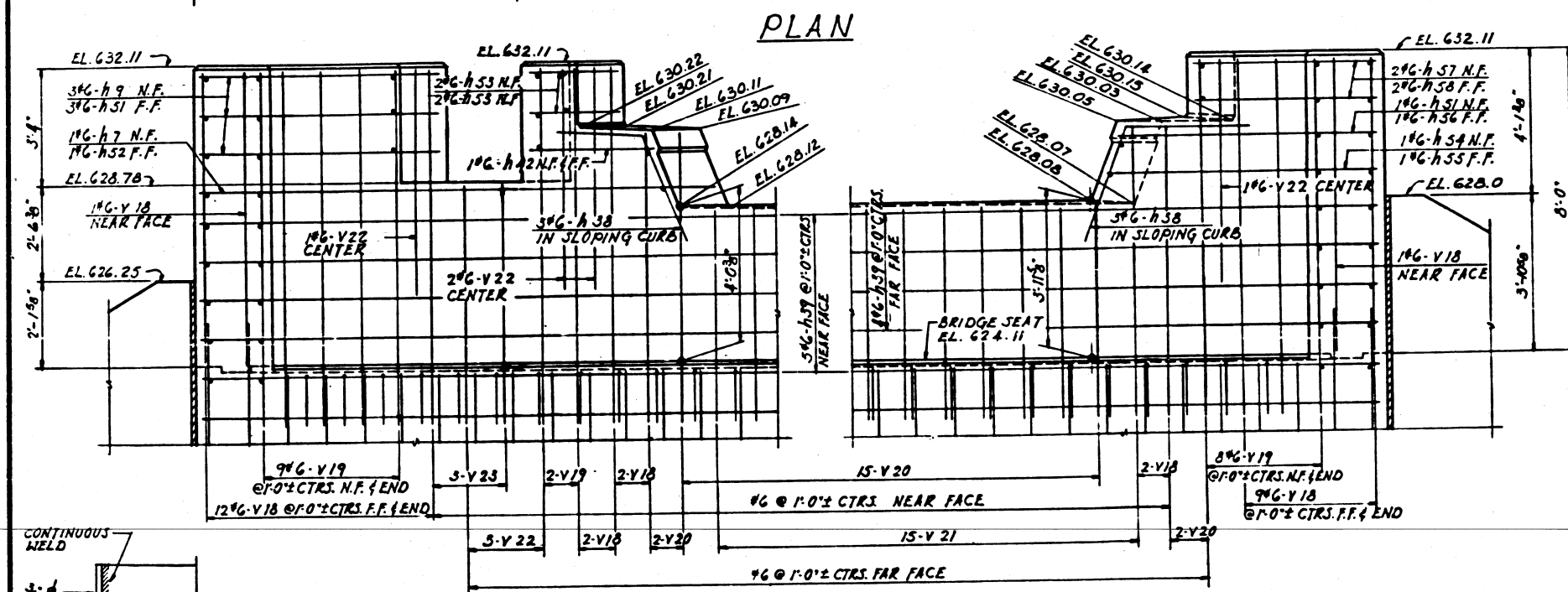


SECTION A-A

SCALE : 1"=1'-0"

SECTION B-B

SCALE: 1"=1'-0"

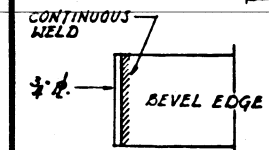


ELEVATION

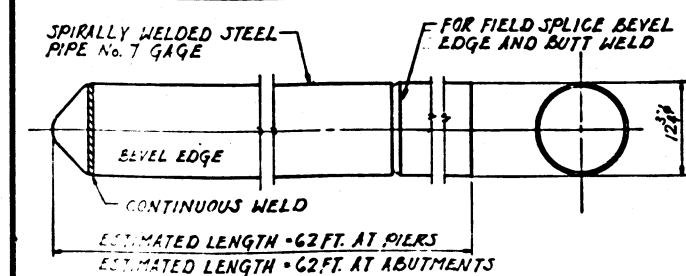
DETAILS OF ABUTMENT BACKWALL

SHOWING REINFORCEMENT ABOVE BRIDGE SEAT

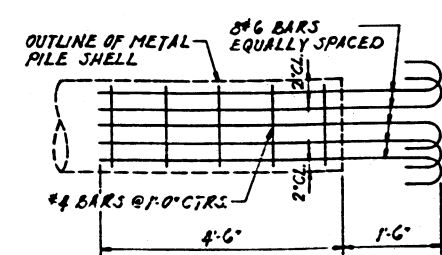
SCALE: $\frac{1}{2}" = 1'-0"$



OPTIONAL FLAT END
OF METAL PIPE SHELL

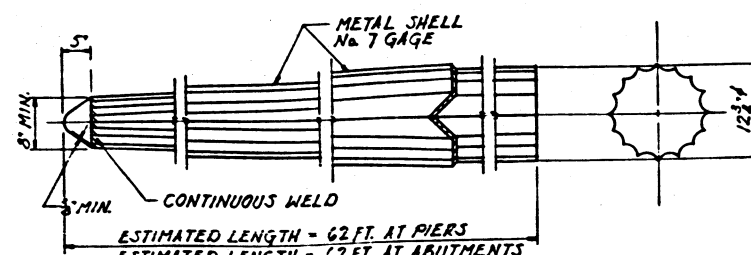


DETAIL OF METAL PIPE SHELL FOR CAST-IN-PLACE CONCRETE PILES



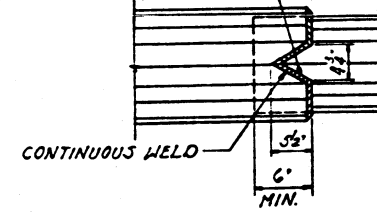
NOTE:
REINFORCEMENT BARS INCLUDED IN THE CONTRACT
UNIT PRICE PER LINEAL FOOT FOR DRIVING AND
FILLING SHELLS.

DETAIL OF REINFORCING
FOR TOP OF PILES



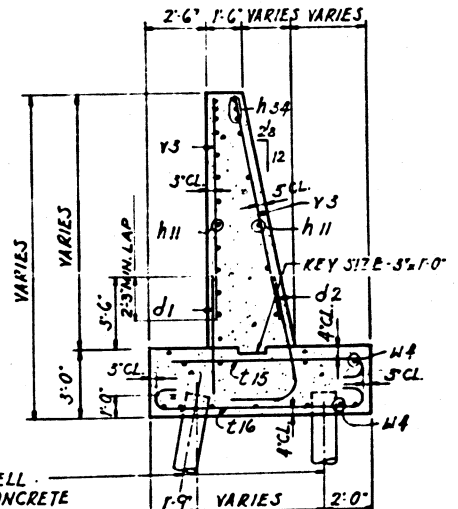
DETAIL OF METAL FLUTED SHELL
FOR CAST-IN-PLACE CONCRETE PILES

**BURN 4 EQUALLY SPACED —
NOTCHES IN LOWER SECTION
BEFORE INSERTING EXTENSION**



SPLICE TO BE USED AS REQUIRED

NOTE:
REINFORCING BAR MARKS SHOWN ARE FOR SECTIONS H-H & K-K.
SEE WINGWALL ELEVATIONS FOR BAR MARKS AT SECTIONS J-J & L-L.



SECTION K-K

SECTION L-L SIMILAR
FOR LOCATION OF SECTIONS K-K & L-L
SEE SHEET 11.
SCALE: 1/4" = 1'-0"

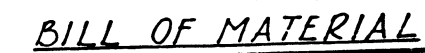
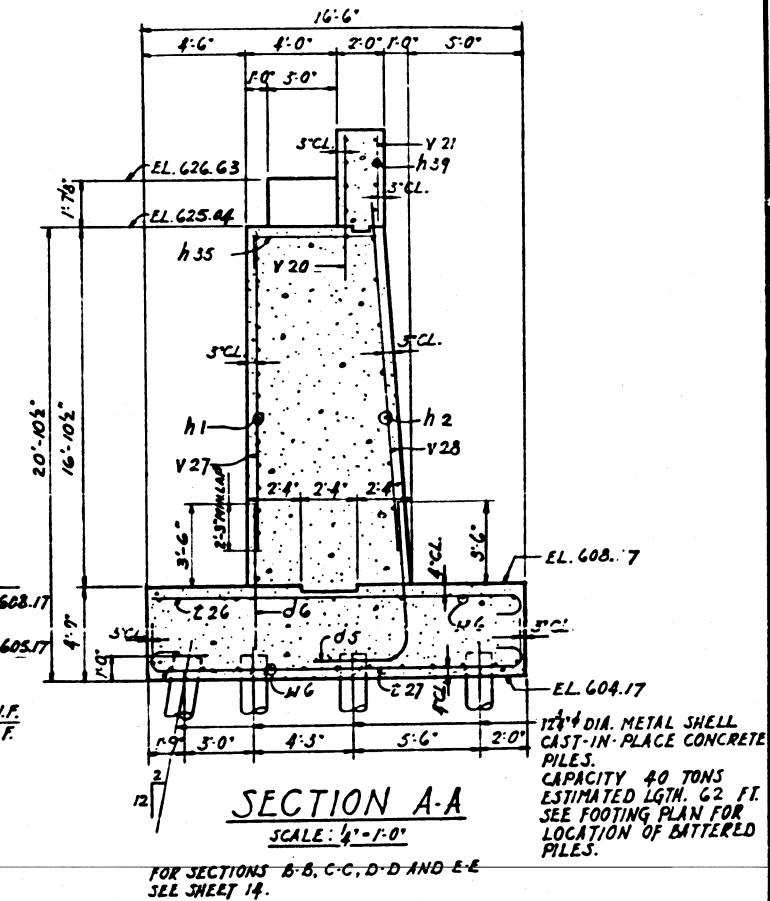
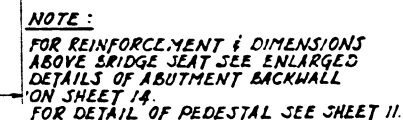
SOUTH ABUTMENT DETAILS
UNDERPASS

E. J. & E. RY. Co. BRIDGE No.
OVER F.A.I. ROUTE 80
F.A. PROJECT.
F.A.I. ROUTE 80 SECTION (32.47)-4
GRUNDY - KENDALL COUNTY
STATION 1731 + 17.36

~~REVISED MARCH 1, 1960~~

ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
12 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

SHEET 13 OF 20



ITEM	UNIT	QUANTITY
CLASS X CONCRETE, STRUCTURES	CU.YDS.	375.2
REINFORCEMENT BARS	LBS.	19,990
CLASS A EXCAVATION FOR STRUCTURES	CU.YDS.	275
POROUS GRANULAR EMBANKMENT	CU.YDS.	760
FURNISHING METAL PILE SHELLS, 12 $\frac{1}{2}$ " IN.	LIN.FT.	3,658

NORTH ABUTMENT
UNDERPASS
E.J. & E. RY. Co. BRIDGE No.
OVER F.A.I. ROUTE 80
F.A. PROJECT -
F.A.I. ROUTE 80 SECTION (32,47)-4
GRUNDY-KENDALL COUNTY
STATION 1731+17.36

ALFRED BENECH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

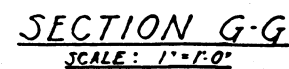
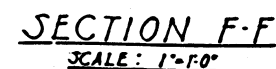
SHEET 14 OF



DETAILS OF ABUTMENT BACKWALL

SHOWING REINFORCEMENT ABOVE BRIDGE SEAT

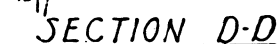
SCALE: $\frac{1}{2}" = 1'-0"$



SECTION C-C SIMILAR
FOR LOCATION OF SECTIONS B-B & C-C
SEE SHEET 13.

NOTE :

REINFORCING BAR MARKS SHOWN ARE FOR SECTIONS B-B & D-D.
SEE WINGWALL ELEVATIONS FOR BAR MARKS AT SECTIONS C-C & E-E.

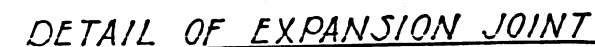


SECTION E-E SIMILAR
FOR LOCATION OF SECTIONS D-D & E-E
SEE SHEET 13.

SCALE: $\frac{1}{4}" = 1'-0"$

REFER NAME PLATE TO STANDARD 2113.
FOR LOCATIONS SEE SHEETS 11 & 13.

LETTERING FOR NAME PLATE



BETWEEN ABUTMENTS & WINGWALLS

SCALE : 1"=1'-0"

ALFRED BENLICH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

REVISED MARCH 1, 1960

NORTH ABUTMENT DETAILS
UNDERPASS

E. J. & E. RY. Co. BRIDGE No.

OVER F.A.I. ROUTE 8C

F.A. PROJECT

F.A.I. ROUTE 80 SECTION (32,47)-4

GRUNDY-KENDALL COUNTY

STATION 1731+17.36

REINFORCEMENT BAR LISTS

ROUTE NO. 32.47-4
SECTION 32.47-4
COUNTY GRUNDY-KENDALL
TO STA. 1731+17.36
FROM STA. 1731+17.36
SHEET 15 OF 20

ABUTMENTS

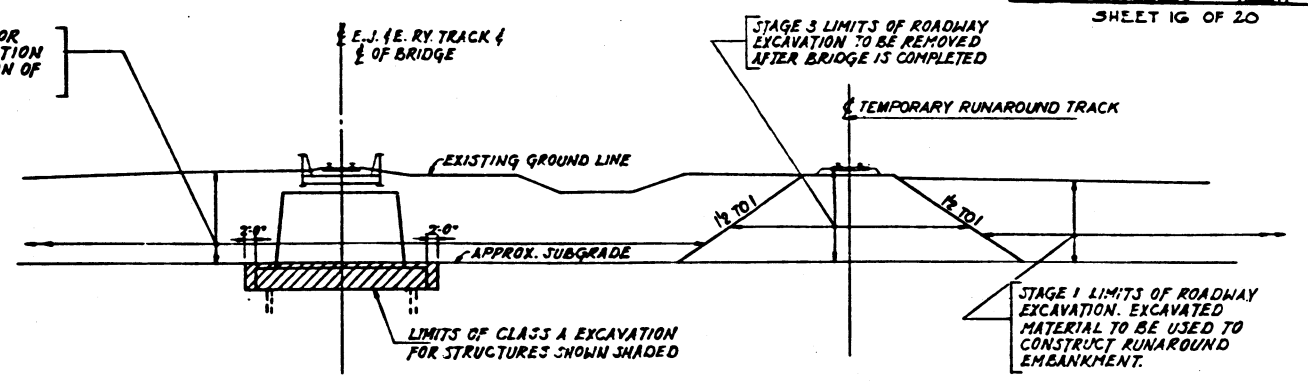
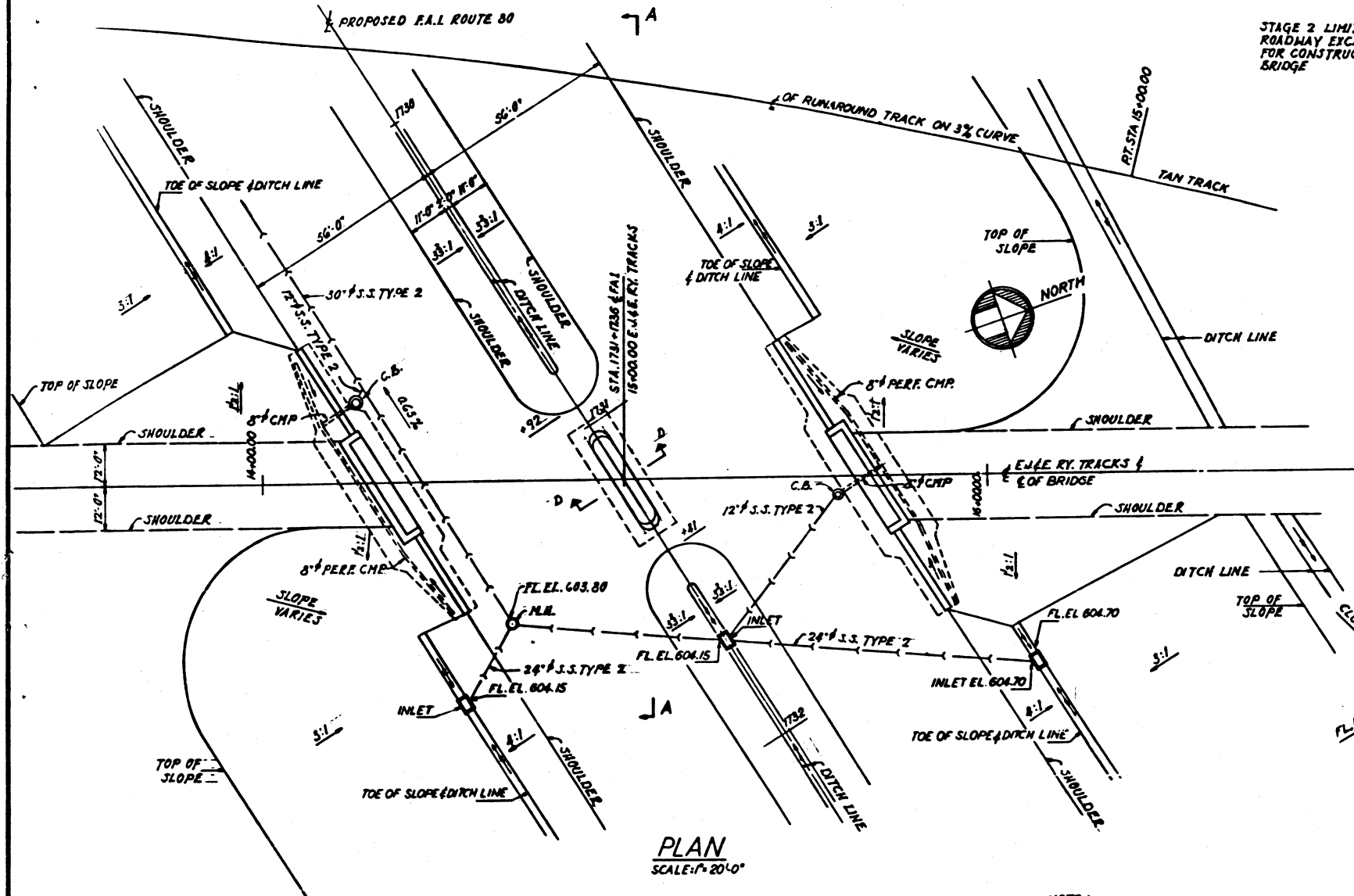
NO. REQUIRED	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	K	J
STRAIGHT														
26	#8	3-0	NT											
19	#5	5-6	h1											
6	#6	7-3	h2											
35	#5	6-6	h3											
15	#6	5-0	h4											
8	#7	33-6	h5											
4	#7	24-6	h6											
3	#7	22-6	h7											
3	#7	19-0	h8											
3	#7	15-6	h9											
4	#7	12-0	h10											
3	#7	8-6	h11											
6	#7	5-0	h12											
6	#7	27-6	h13											
3	#7	24-0	h14											
3	#7	20-6	h15											
3	#7	17-0	h16											
3	#7	13-3	h17											
3	#7	9-9	h18											
1	#7	4-3	h19											
11	#7	28-0	h20											
6	#7	23-9	h21											
3	#7	24-3	h22											
3	#7	20-9	h23											
3	#7	17-3	h24											
3	#7	13-9	h25											
3	#7	10-3	h26											
3	#7	6-9	h27											
4	#7	3-3	h28											
6	#7	25-0	h29											
3	#7	22-3	h30											
3	#7	18-9	h31											
3	#7	15-3	h32											
3	#7	11-9	h33											
3	#7	8-3	h34											
3	#7	4-9	h35											
6	#7	31-6	h36											
7	#7	33-6	h37											
3	#7	6-3	h38											
2	#7	9-0	h39											
2	#7	3-0	h40											
14	#7	1-9	h41											
3	#7	2-6	h42											
1	#7	7-3	h43											
1	#7	10-0	h44											
2	#7	8-0	h45											
2	#7	7-3	h46											
4	#7	32-0	h47											
18	#7	5-6	h48											

ABUTMENTS-CONT'D.

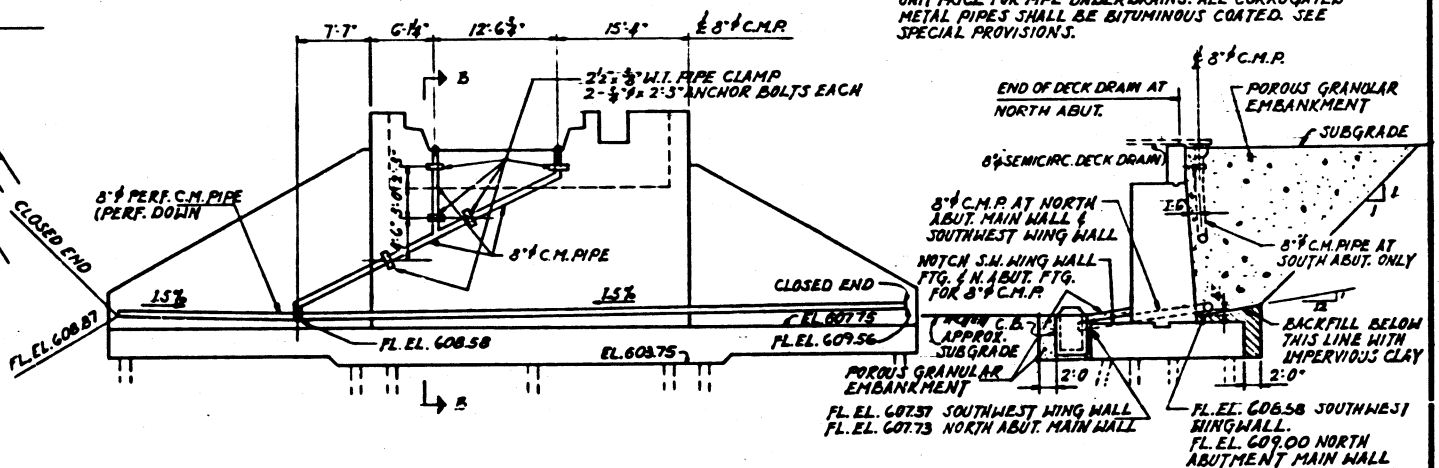
NO. REQUIRED	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	K	J
STRAIGHT														
4	#6	6-0	h51											
1	#6	12-9	h52											
4	#6	1-2	h53											
1	#6	6-9	h54											
1	#6	6-0	h55											
1	#6	5-3	h56											
2	#6	4-3	h57											
2	#6	3-6	h58											
12	#6	7-0	h59											
12	#6	8-9	h60											
12	#6	10-3	h61											
12	#6	12-0	h62											
12	#6	13-9	h63											
6	#6	15-6	h64											
57	#6	17-0	h65											
4	#6	18-3	h66											
4	#6	16-9	h67											
12	#6	15-3	h68											
6	#6	13-6	h69											
6	#6	11-9	h70											
6	#6	10-3	h71											
6	#6	8-6	h72											
6	#6	6-9	h73											
4	#6	13-9	h74											
37	#6	14-9	h75											
29	#6	7-9	h76											
19	#6	7-9	h77											
19	#6	5-9	h78											
15	#6	3-9	h79											
7	#6	4-6	h80											
3	#6	6-6	h81											
11	#6	24-0	h82											
1	#6	20-6	h83											
8	#6	7-0	h84											
11	#6	26-6	h85											
1	#6	22-0	h86											
36	#6	21-9	h87											
11	#6	27-0	h88											
31	#6	15-3	h89											
47	#6	17-6	h90											
4	#6	1-3	h91											
ADDITIONAL REINFORCING REVISED FOR 16'-0" VERTICAL CLEARANCE REQUIREMENT														
STRAIGHT														
2	#6	32-0	h1											
1	#6	33-6	h2											
20	#6	5-0	h3											
4	#6	27-0	h4											
4	#6	30-0	h5											
4	#6	30-6	h6											
4	#6	27-6	h7											
28	#6	3-0	h8											
4	#6	3-6	h9											

ABUTMENTS-CONT'D.

NO REQUIRED	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	K
SOUTH	NORTH												
BENT													
44	44	18	18-2	E27	1	1-1	16-0				1-1		
8	8	18	9-0	E25	1	1-1	7-11						
49	45	16	8-3	d2	13		5-0	1-9	1-6		1-0		6-0 10
6	6		7-0	d3	13		6-7	1-9	1-6		1-0		7-8 1-1
	4		7-5	d8	13		4-2	1-9	1-6		1-0		5-3 8
30	30		7-0	A35	2	1-6	5-6						
46	48		5-6	A36	2	1-6	4-0						
46	48		6-6	A37	11		3-3	1-1	8		84	1-6	
6	6		6-3	A38	3				2-10	3-5			3-22 1-22
9	11		6-11	E1	1	8	6-3						
9	11		7-7	E2	1	8	6-3					8	
5	6		7-11	E3	1	8	7-3						
5	6		8-7	E4	1	8	7-3					8	
5	6		9-2	E5	1	8	8-6						
5	6		9-10	E6	1	8	8-6					8	
4			10-5	E7	1	8	7-9						
4			11-1	E8	1	8	9-9					8	
1	1		13-8	E9	1	8	13-0						
1	1		14-4	E10	1	8	13-0					8	
1	2		15-8	E11	1	8	15-0						
1	2		16-4	E12	1	8	15-0					8	
5			7-3	E13	1	8	7-0						
5			8-4	E14	1	8	7-0					8	
5			8-9	E15	1	8	8-1						
5			9-5	E16	1	8	8-1					8	
5			9-10	E17	1	8	9-2						
5			10-6	E18	1	8	9-2					8	
2			10-11	E19	1	8	10-3						
2			11-7	E20	1	8	10-3					8	
1			12-8	E21	1	8	12-0						
1			13-4	E22	1	8	12-0					8	
1			14-11	E23	1	8	14-3						
1			15-7	E24	1	8	14-3					8	
	6		10-8	E28	1	8	10-0						
	6		11-4	E29	1	8	10-0					8	
	5		8-2	E30	1	8	7-6						
	5		8-10	E31	1	8	7-6					8	
	5		9-5	E32	1	8	8-9						
	5		10-1	E33	1	8	8-9					8	
	1		14-2	E34	1	8	13-6						
	1		14-10	E35	1	8	13-6					8	
4	4		7-6	V25	2	3-0	4-6						
4	4	16	8-4	V26	2	3-0	2-11					3-0	
35	35	17	9-1	d5	13		5-11	1-8	1-6		1-0		7-0 5
42	42	17	16-10	E26	1	10	16-0						
ADDITIONAL REINFORCING.													
REVISED FOR 16'-0" VERTICAL CLEARANCE REQUIREMENT													
BENT													
4	2	6	5-6	A36	2	1-6	4-0						
4	2	6	6-6	A37	11		3-3	1-1	8		84	1-6	

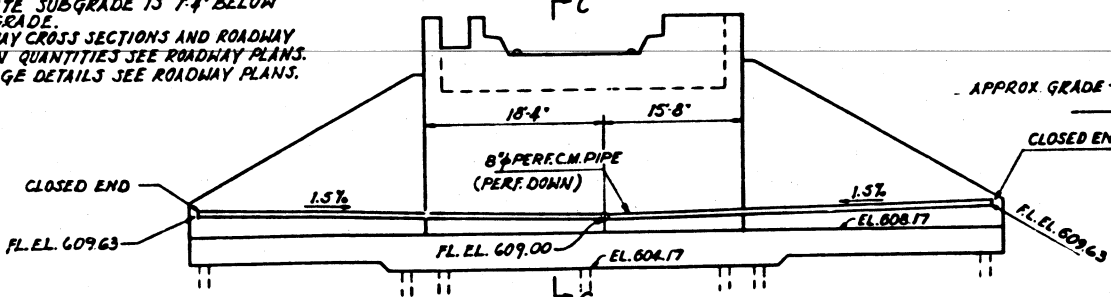
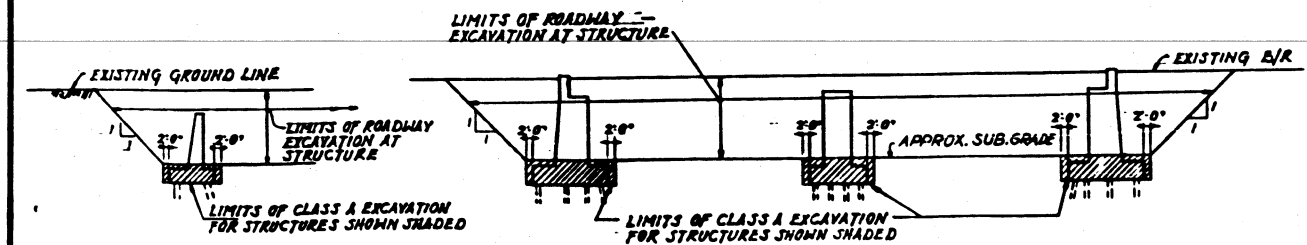


NOTE:
 8" CORRUGATED METAL PIPE AND 8" PERF. CORRUGATED METAL PIPE, CLAMPS, FITTINGS AND CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR PIPE UNDERDRAINS. ALL CORRUGATED METAL PIPES SHALL BE BITUMINOUS COATED. SEE SPECIAL PROVISIONS.



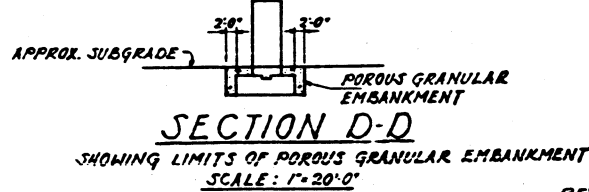
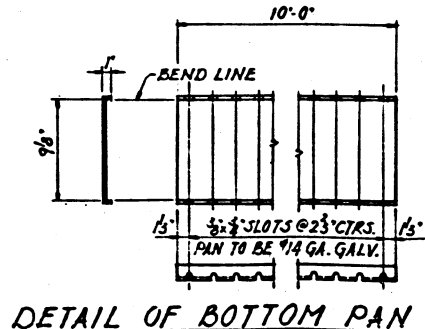
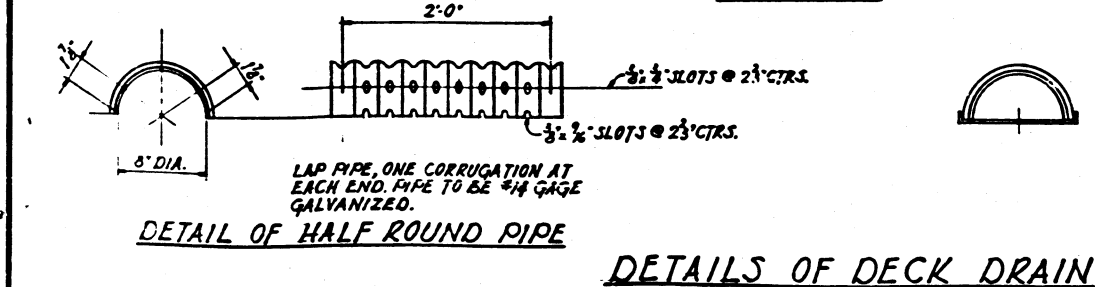
SECTION C-C-NORTH ABUTMENT
 SHOWING LIMITS OF POROUS GRANULAR EMBANKMENT
 SCALE: 1"=10'-0"

NOTE:
 APPROXIMATE SUBGRADE IS 1'-4" BELOW PROFILE GRADE.
 FOR ROADWAY CROSS SECTIONS AND ROADWAY EXCAVATION QUANTITIES SEE ROADWAY PLANS.
 FOR DRAINAGE DETAILS SEE ROADWAY PLANS.



SECTION THRU WING WALLS
 SHOWING LIMITS OF POROUS GRANULAR EMBANKMENT
 SCALE: 1"=10'-0"

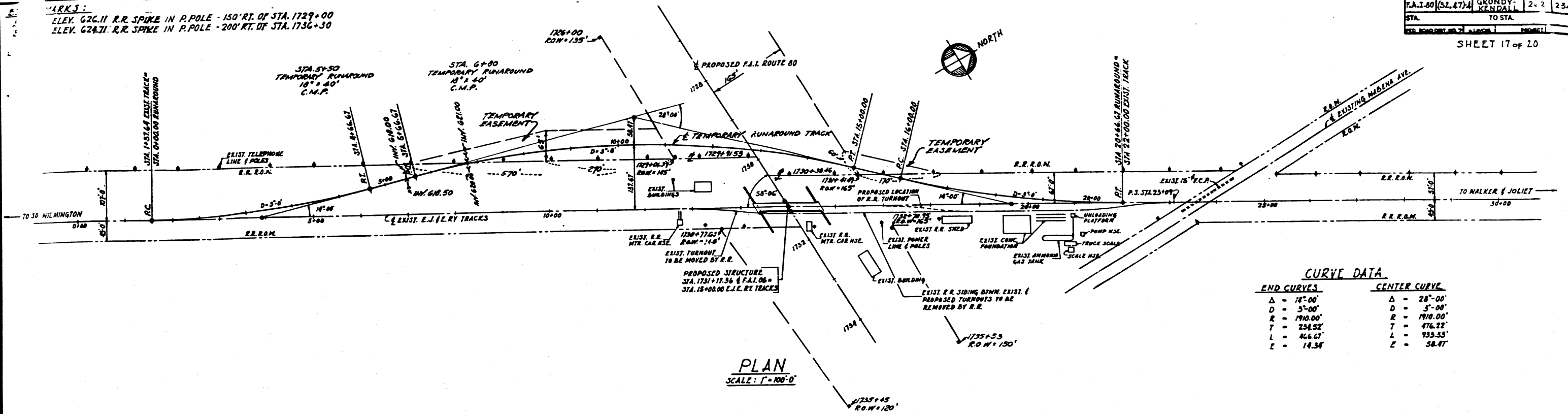
NOTE:
 IMPERVIOUS CLAY BACKFILL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR CLASS A EXCAVATION FOR STRUCTURES. SEE SPECIAL PROVISIONS. TOP SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCIDENTAL TO THE CONTRACT.



EXCAVATION & DRAINAGE DETAILS UNDERPASS
 E.J. & E.R.Y. Co. BRIDGE No.
 OVER F.A.I. ROUTE 80
 F.A. PROJECT
 F.A.I. ROUTE 80 SECTION (32,47)-4
 GRUNDY-KENDALL COUNTY
 STATION 1731+1736

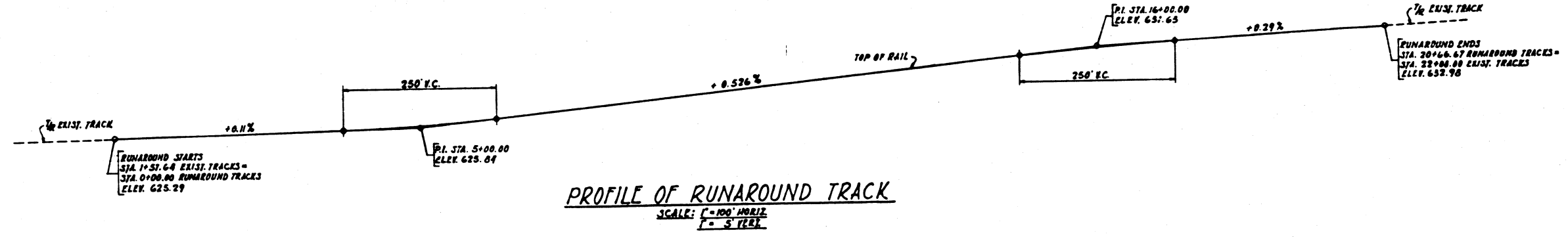
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
F.A.I. 80	(32.47)-4	GRUNDY-KENDALL	2-2	234
STA.		TO STA.		
EST. BOARD DIST. NO. 7		PROJECT		

SHEET 17 of 20

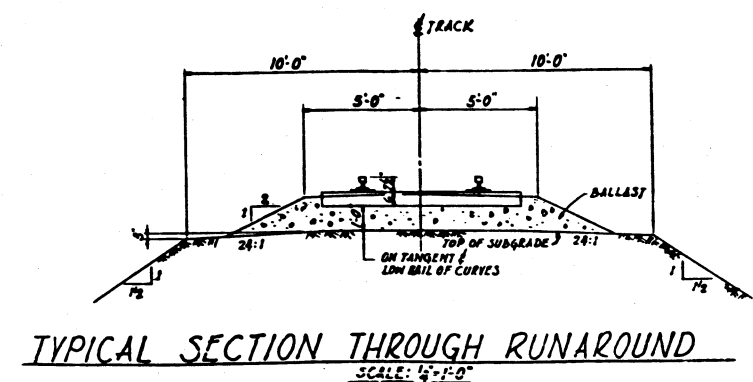


CURVE DATA

END CURVES	CENTER CURVE
Δ = 18°-00'	Δ = 28°-00'
D = 5°-00'	D = 5°-00'
R = 1910.00'	R = 1910.00'
T = 234.52'	T = 476.22'
L = 466.67'	L = 933.33'
E = 14.34'	E = 58.47'



NOTE:
 CROSS SECTIONS SHOWN ON SHEETS 18, 19 & 20
 ARE SECTIONS AT STATIONS ALONG 1/2 OF
 EXISTING TRACK.



NOTE:
 BALLAST, TIES AND RAILS TO BE
 FURNISHED AND INSTALLED BY
 THE E.J.E. RY. COMPANY.
 TIES AND RAILS SHALL LATER BE
 REMOVED BY THE E.J.E. RY. CO.

EMBANKMENT QUANTITIES

RUNAROUND EMBANKMENT	3,848 CU. YDS.
BALLAST (APPROX.)	1,210 CU. YDS.
TOTAL	5,058 CU. YDS.

QUANTITIES FOR RUNAROUND WILL NOT BE LISTED
 WITH BRIDGE QUANTITIES, BUT SHALL BE INCLUDED IN THE
 GENERAL BILL OF MATERIAL FOR SECTION (32.47)-4.
 EMBANKMENT AND BALLAST TO BE REMOVED BY
 CONTRACTOR FOR SECTION (32.47)-4 AFTER TEMPORARY
 RUNAROUND IS ABANDONED. THIS WORK SHALL BE PAID
 FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR
 EARTH EXCAVATION. SEE SPECIAL PROVISIONS.

RUNAROUND - PLAN & PROFILE.
UNDERPASS
E.J.E. RY. Co. BRIDGE No.
OVER F.A.I. ROUTE 80
F.A. PROJECT
F.A.I. ROUTE 80 SECTION (32.47)-4
GRUNDY-KENDALL COUNTY
STATION 1731+17.36

ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
 10 SOUTH WABASH AVENUE CHICAGO, ILLINOIS