ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS
FA 5	109-1SB	SANGAMON	43
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT(S)	

CITY OF SPRINGFIELD

STATE OF ILLINOIS

PLANS FOR PROPOSED IMPROVEMENT

SANGAMON COUNTY

F.A. ROUTE 5 (U.S.66)

SECTION 109-1SB

PROJECT UG-166(37)

PROJECT U-166(39)

FIFTH STREET
BROAD PLACE TO STANFORD AVENUE

CITY SECTION 114-CS

ILES AVENUE
FIFTH STREET TO SIXTH STREET

SECTION 109-1SB INCLUDES

BRIDGE
SINGLE SPAN SINGLE RAIL RAILROAD BRIDGE
STEEL GIRDER CONST. DESIGN: LEVEL LOAD COOPER E-72 PLUS IMPACT. FOUNDATIONS: SPREAD FOOTING 8000# / □'
ALLOWABLE SOIL PRESSURE.

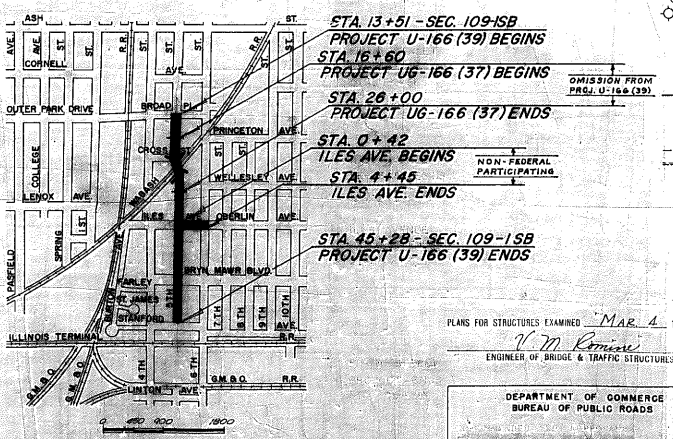
SPAN
84'-6" CENTER TO CENTER OF ABUTMENTS
18'-6" CENTER TO CENTER OF GIRDER
SKEW 39°-50' AT ℄ OF ROADWAY TO TANGENT OF RAILROAD CURVE

BACK OF BACK OF ABUTMENT
STA. 21963+44.38 RAILROAD STATIONS ℄ TRACK
STA. 21964+39.62 RAILROAD STATIONS ℄ OF TRACK

TOTAL LENGTH
95'-3"

SCALE
PLAN 0 10 20 Feet
PROFILE HORZ. 0 10 20 Feet
VERT. 0 1 2 Feet

NET LENGTH OF PROJ. U-166(39) = 2237.0 LIN. FT. = 0.424 MILE
NET LENGTH OF PROJ. UG-166(37) = 940.0 LIN. FT. = 0.178 MILE



STA. 13+51 - SEC. 109-1SB
PROJECT U-166(39) BEGINS
STA. 16+60
PROJECT UG-166(37) BEGINS
OMISSION FROM PROJ. U-166(39)
STA. 26+00
PROJECT UG-166(37) ENDS
STA. 0+42
ILES AVE. BEGINS
NON-FEDERAL PARTICIPATING
STA. 4+45
ILES AVE. ENDS
STA 45+28 - SEC. 109-1SB
PROJECT U-166(39) ENDS

CRAWFORD MURPHY & TILLY
CONSULTING ENGINEERS
SPRINGFIELD ILLINOIS

STANDARD SYMBOLS

- EXISTING TELEPHONE CABLE
- EXISTING GAS MAIN
- EXISTING WATER MAIN
- EXISTING MANHOLES
- MANHOLES TO BE ADJUSTED
- PROPOSED MANHOLES
- FRAMES & GRATES TO BE ADJUSTED
- EXISTING INLETS
- INLETS TO BE ADJUSTED
- PROPOSED INLETS
- INLETS TO BE FILLED
- EXISTING CATCH BASINS
- CATCH BASINS TO BE ADJUSTED
- PROPOSED CATCH BASINS
- EXISTING SEWERS
- PROPOSED STORM SEWERS
- EXISTING FIRE HYDRANTS
- FIRE HYDRANTS TO BE MOVED
- POWER POLES
- EXISTING PARKING METERS
- ORNAMENTAL LIGHTS
- TRAFFIC LIGHTS
- TRAFFIC LIGHTS TO BE MOVED
- ORNAMENTAL LIGHTS TO BE MOVED
- EXISTING TREES
- EXISTING TREES TO BE REMOVED
- P.C.C. BASE COURSE PATCHING 8"
- BRICK SURFACE COURSE REMOVEL
- PAVEMENT REPLACEMENT ENTIRE
- PROPOSED COMBINED SEWER
- EXISTING GAS VALVE
- EXISTING WATER VALVE
- PROPOSED TRAFFIC SIGNALS
- EXISTING CONDUIT
- PROPOSED CONDUIT
- EXISTING HANDHOLES
- PROPOSED HANDHOLES
- TYPE A SERVICE
- PROPOSED CONTROLLER

PLANS FOR STRUCTURES EXAMINED MAR. 4 1960
V M Romine
ENGINEER OF BRIDGE & TRAFFIC STRUCTURES

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

APPROVED _____ 19__
MAYOR, OR PRESIDENT OF BOARD OF TRUSTEES

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
SUBMITTED 2-3 1960 O.M. Kadl DISTRICT ENGINEER
EXAMINED April 22, 1960 ENGINEER OF ROAD PLANS & CONTRACTS
PASSED April 22, 1960 ENGINEER OF DESIGN
APPROVED April 22, 1960 CHIEF HIGHWAY ENGINEER
APPROVED April 22, 1960 DIRECTOR

Job No. 20297

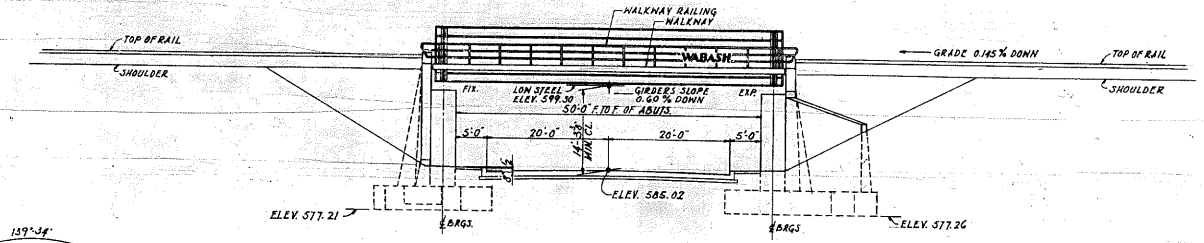
FA Route 5 Section 109-1SB Sangamon County

BENCH MARKS

CHISELED SQUARE IN SIDEWALK ON N.W. CORNER 5TH AND CROSS STREET 48 FT. RT. STA. 19+93 ELEV. 599.58

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. (CITY) 5	109-1 SB	SANGAMON	53	14
WTA.		TOSTA		
FED. ROAD DIST. NO. 2	ILLINOIS	PROJECT		

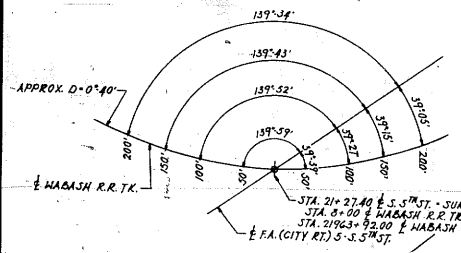
SHEET 1 OF 22



ELEVATION

NORMAL TO ℄ HIGHWAY

SCALE: 1"=10'

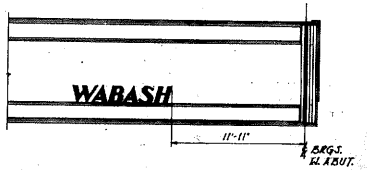


INDEX OF BRIDGE PLANS

SHEET No.	TITLE
1	GENERAL PLAN & ELEVATION
2	BORINGS, PROFILES, DESIGN DATA & QUANTITIES
3	STEEL FRAMING PLAN
4	GIRDER DETAILS
5	DECK CROSS SECTION
6	UPPER FLOOR PLATE
7	FLOOR PLATE
8	FLOOR PLATE DETAILS AT ABUTMENT
9	END FLOOR BEAM
10	HANDRAIL DETAILS
11	WALKWAY FRAMING DETAILS
12	BEARINGS
13	EAST ABUTMENT
14	EAST ABUTMENT DETAILS
15	WEST ABUTMENT
16	WEST ABUTMENT DETAILS
17	DETAILS OF WINGWALLS
18	REINFORCEMENT BAR LISTS
19	EXCAVATION & DRAINAGE DETAILS
20	RUNAROUND - PLAN & PROFILE
21	RUNAROUND CROSS SECTIONS
22	RUNAROUND CROSS SECTIONS

STANDARD DRAWINGS

STD. 2113



LOCATION OF EMBLEM ON NORTH GIRDER

SCALE: 3/16"=1'-0"

NOTE:

FOR LOCATION OF R.R. EMBLEM ON HANDRAIL AT SOUTH GIRDER SEE SHEET 10. FOR DETAILS OF LETTERS IN R.R. EMBLEM AND SECTION THRU LETTER AT GIRDER SEE SHEET 3.

LAYOUT OF RAILROAD TRACK

PLAN

SCALE: 1"=10'

PLAN SHOWING LAYOUT OF CENTERLINE OF BRIDGE

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

GENERAL PLAN & ELEVATION

UNDERPASS

WABASH R.R. BRIDGE No. 182-A

OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS

PROJECT UG-166(37)

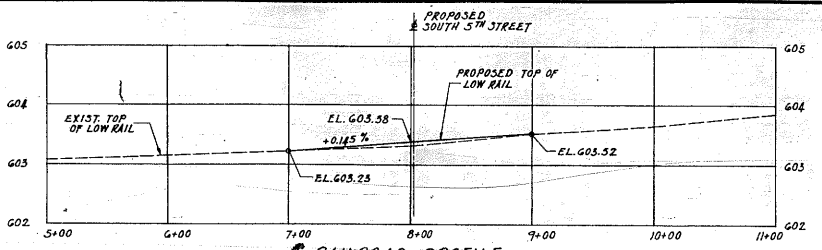
F.A.RT.(CITY) 5 (U.S.66) SECTION 109-1 SB

SANGAMON COUNTY

STATION 21+27.40

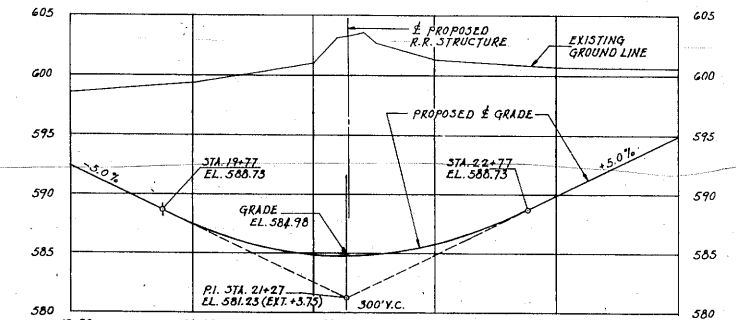
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.R.S. UG-166(37)	109-1-SB	SANGAMON	53	15
DIST.	TO STA.			
ILLINOIS DIST. NO. 7		CONTRACT		

SHEET 2 OF 22



RAILROAD PROFILE

SCALES: 1" = 50' HORIZ. 1" = 1' VERT.



ROADWAY PROFILE

SCALES: 1" = 50' HORIZ. 1" = 5' VERT.

MOMENT & SHEAR PER GIRDER

ASSUMED DEAD LOAD PER LIN. FT. PER GIRDER INCLUDING LIVE LOAD ON WALK = 3,200 LBS.

DESCRIPTION	MOMENT	SHEAR
DEAD LOAD	2,856'K	135 K
LIVE LOAD	4,287'K	234 K
IMPACT & ROLLING	2,191'K	120 K
CENTRIFUGAL FORCE	85'K	5 K
TOTAL	9,419'K	494 K
SECTION	1 WEB PL - 108"x 1/4"	
	36-6"x6"x 5/8" TOP & BOTT.	
	1 COV. PL - 18"x 5/8" TOP & BOTT.	
	2 SIDE PLS - 18"x 1/4" TOP & BOTT.	
	2 SIDE PLS - 16 1/2"x 1/2" TOP & BOTT.	
	1 SIDE PL - 11"x 5/8" TOP & BOTT.	
	1 SIDE PL - 3"x 5/8" TOP & BOTT.	
GROSS I	450,867 IN.4	
NET I	331,170 IN.4	
GROSS SEC. MOD.	8,217 IN.3	
NET SEC. MOD.	6,399 IN.3	

DESIGN MOMENTS FOR FLOOR BEAMS

	INTERMEDIATE FLOOR BEAMS		END FLOOR BEAMS			
DESCRIPTION	MOMENT	SHEAR	POS. MOM.	NEG. MOM.	MAX. SHEAR	MAX. END REACTION	MAX. CEN. REACTION
DEAD LOAD	20.8'K	4.5 K	25'K	24'K	9 K	9 K	17 K
LIVE LOAD	113.3'K	16.8 K	123'K	116'K	44 K	28 K	78 K
IMPACT & ROLLING	73.3'K	10.9 K	83'K	78'K	29 K	19 K	52 K
CENTRIFUGAL FORCE	5.9'K	0.6 K	4'K	4'K	2 K	1 K	3 K
TOTAL	211.3'K	32.8 K	235'K	222'K	84 K	57 K	150 K
SECTION	18 WF 85			18 WF 105			
GROSS I	1,429.9		1,852.5	1,852.5			
GROSS SEC. MOD.	156.1		202.2	202.2			
NET I	1,267.9		1,780	1,642			
NET SEC. MOD.	138.4		194.2	179.2			

BILL OF MATERIALS - SECTION 109-1-SB

BRIDGE

ITEM	UNIT	QUANTITY SUPER	SUB	TOTAL
CLASS X CONCRETE	CU. YDS.	—	912.7	912.7
REINFORCEMENT BARS	LBS.	—	49,730	49,730
FURNISHING & ERECTING STRUCTURAL STEEL	LBS.	316,050	—	316,050
CLASS A EXCAVATION FOR STRUCTURES	CU. YDS.	—	1,080	1,080
POROUS GRANULAR EMBANKMENT	CU. YDS.	—	1,955	1,955
PIPE HANDRAIL	LIN. FT.	96	—	96
MEMBRANE WATERPROOFING	SQ. FT.	1,560	—	1,560
DECK DRAINS (3 IN.)	LIN. FT.	192	—	192
NAME PLATES	EACH	—	—	1
PERFORATED CORRUGATED METAL PIPE (8 IN.)	LIN. FT.	—	260	260
RAILROAD EMBLEMS	EACH	—	—	2
TEMPORARY STEEL SHEET PILING	SQ. FT.	—	—	1,950
FURNISHING & ERECTING FLOOR GRATING	SQ. FT.	341	—	341

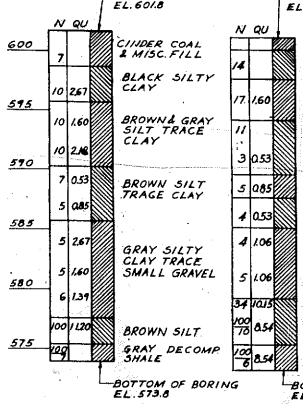
TEMPORARY RUNAROUND

* EARTH EXCAVATION	CU. YDS.	—	—	1,387
SUB-BASE GRANULAR MAT. TYPE A MODIFIED (SUB-BALLAST)	TONS	—	—	658

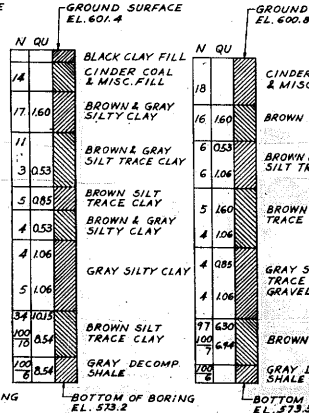
* THE ITEM EARTH EXCAVATION IS MADE UP OF THE FOLLOWING QUANTITIES:

CONSTR. OF EARTH EMBANKMENT	422	CU. YDS.
REMOVAL OF EARTH EMBANKMENT	430	CU. YDS.
REMOVAL OF SUB-BALLAST	329	CU. YDS.
REMOVAL OF TRACK BALLAST	206	CU. YDS.
TOTAL EARTH EXCAVATION	1387	CU. YDS.

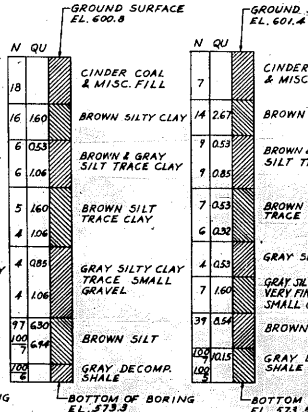
BORING No.1



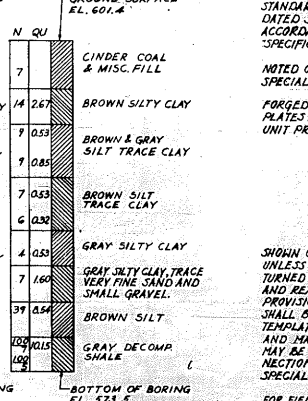
BORING No.2



BORING No.3



BORING No.4



SOIL TEST BORINGS

NOTE:
FOR LOCATION OF BORINGS SEE SHEET 1. FIGURES IN COLUMN MARKED "QU" INDICATE UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQ. FOOT. FIGURES IN COLUMN MARKED "N" INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE SAMPLING PIPE ONE FOOT USING 140 LB. WEIGHT FALLING 30 INCHES.

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.

ALL STEEL SHALL BE STRUCTURAL STEEL CONFORMING TO A.S.T.M. A7. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS, STEEL FOR WELDED MEMBERS AS SPECIFIED IN SPECIAL PROVISIONS SHALL BE STRUCTURAL STEEL FOR WELDING CONFORMING TO A.S.T.M. A373.

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	262,250 LBS.
CORROSION RESISTANT STEEL (MAYARI-R, CORTEN OR EQUAL)	48,370 LBS.
FORGED STEEL	470 LBS.
CAST STEEL	4,660 LBS.
GRAPHITED BRONZE EXPANSION BEARING PLATES	120 LBS.
LEAD PLATES	180 LBS.
TOTAL WEIGHT -	316,050 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 7/8" ϕ UNLESS OTHERWISE NOTED. HOLES SHALL BE 1/16" LARGER THAN RIVET SIZE AND 1/32" LARGER THAN TURNED BOLTS. HOLES FOR SHOP RIVETS AND TURNED BOLTS SHALL BE SUB-PUNCHED OR SUB-DRILLED AND REAMED TO SIZE WITH PARTS ASSEMBLED AS REQUIRED BY A.R.E.A. SPECIFICATIONS AND SPECIAL PROVISIONS. HOLES FOR FIELD CONNECTIONS OF FLOOR BEAMS TO GIRDERS AND END FLOOR BEAMS SHALL BE SUB-PUNCHED OR SUB-DRILLED AS REQUIRED AND SHALL BE REAMED TO SIZE THROUGH STEEL TEMPLATES WITH HARDENED STEEL BUSHINGS OR THEY MAY BE REAMED TO SIZE WHILE SHOP 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 JIGS 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 SPECIAL PROVISIONS.

CLASS X CONCRETE SHALL BE USED THROUGHOUT. ALL CORNERS SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE SHOWN OR NOTED ON THE PLANS.

*INCLUDES 30,645 LBS. OF STRUCTURAL STEEL FOR WELDING.

DESIGN DATA

LIVE LOAD

COOPER E72 PLUS IMPACT.

ALLOWABLE STRESSES

fs (TENSION) STRUCTURAL CARBON STEEL	18,000 #/in²
fs (TENSION) REINFORCING BARS	20,000 #/in²
fc (FLEXURE) CONCRETE	3,500 #/in²
fc (FLEXURE) CONC. WITHOUT EARTH PRESSURE	1,400 #/in²
fc (FLEXURE) CONC. WITH EARTH PRESSURE	1,000 #/in²
v (SHEAR IN FOOTINGS)	75 #/in²
n	10

FOUNDATIONS

SPREAD FOOTINGS

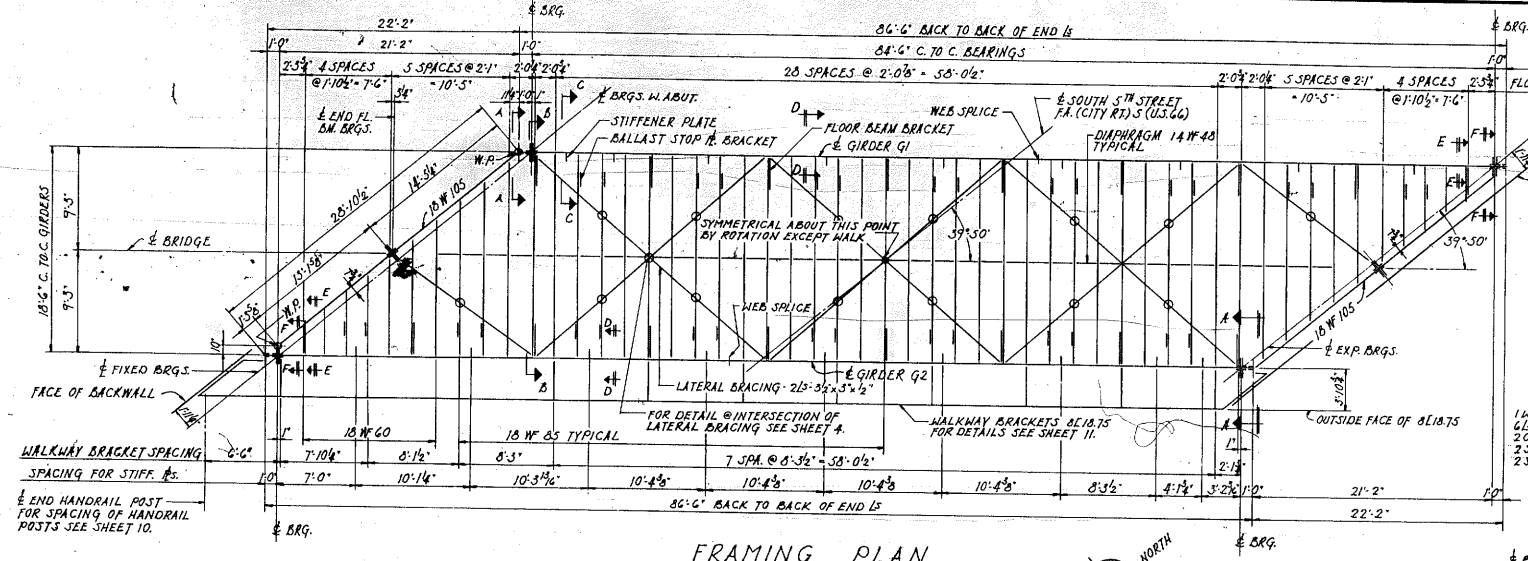
ALLOWABLE SOIL PRESSURE 8,000 #/in²

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

BORINGS, PROFILES, DESIGN DATA, QUANTITIES
UNDERPASS
WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A.R.T. (CITY) 5 (U.S. 66) SECTION 109-1-SB
SANGAMON COUNTY
STATION 21+27.40

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A. RT. (CITY) 5	109-1-58	SANGAMON	53	16
STA.	TO STA.			
F.A.U. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET 3 OF 22



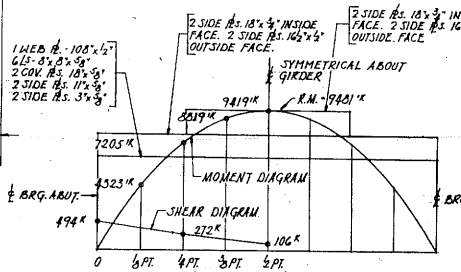
NOTE:

FOR WORK LINES BETWEEN END FLOOR BEAMS AND STIFFENER ℓs SEE DETAIL ON SHEET 9.

○ INDICATES TYPICAL CONNECTION AT INTERSECTION OF LATERAL BRACING AND FLOORBEAM. SEE SH. 4. FOR SECTIONS A-A, B-B, C-C, D-D & E-E SEE SHEET 5.

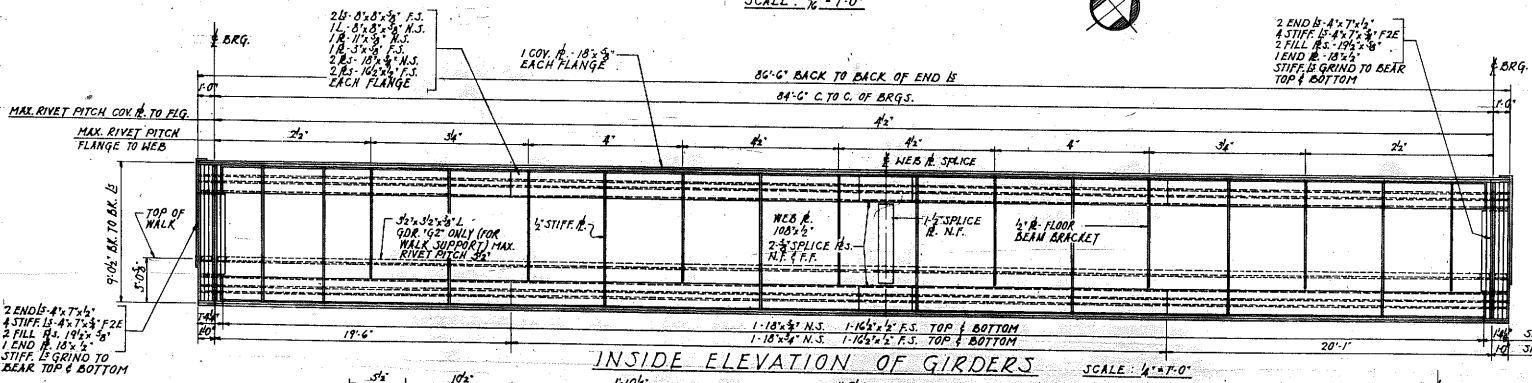
FRAMING PLAN

SCALE: 1/16" = 1'-0"



MAXIMUM MOMENT & SHEAR DIAGRAM

SCALES:	MOMENT	SHEAR
	1" = 15' HORIZONTAL	1" = 15' HORIZONTAL
	1" = 4000K VERTICAL	1" = 1000K VERTICAL

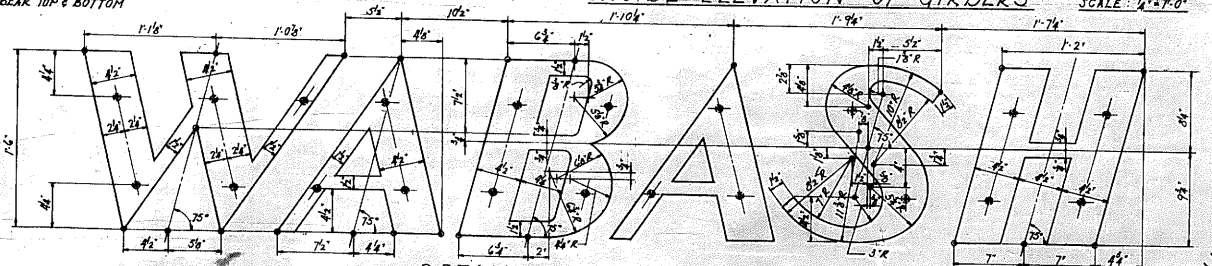


INSIDE ELEVATION OF GIRDERS

SCALE: ¼" = 1'-0"

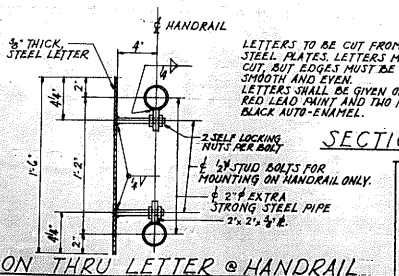
NOTE:

LETTERS, STUD BOLTS AND PLATES FOR MOUNTING EMBLEM ON HANDRAIL AND RODS FOR MOUNTING EMBLEM ON NORTH GIRDER SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR RAILROAD EMBLEMS. RAILROAD EMBLEM TO BE POSITIONED AND LUGS WELDED TO HANDRAIL IN SHOP.



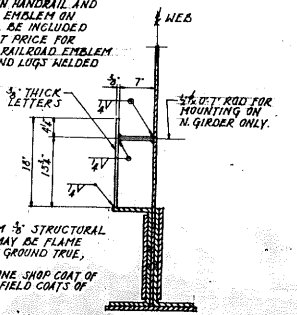
DETAIL OF LETTERS

SCALE: 2"=1'-0"



LETTERS TO BE CUT FROM ⅜" STRUCTURAL STEEL PLATES. LETTERS MAY BE FLAME CUT, BUT EDGES MUST BE GROUND TRUE, SMOOTH AND EVEN. LETTERS SHALL BE GIVEN ONE SHOP COAT OF RED LEAD PAINT AND TWO FIELD COATS OF BLACK AUTO-ENAMEL.

SECTION THRU LETTER @ HANDRAIL



SECTION THRU LETTER @ GIRDER

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

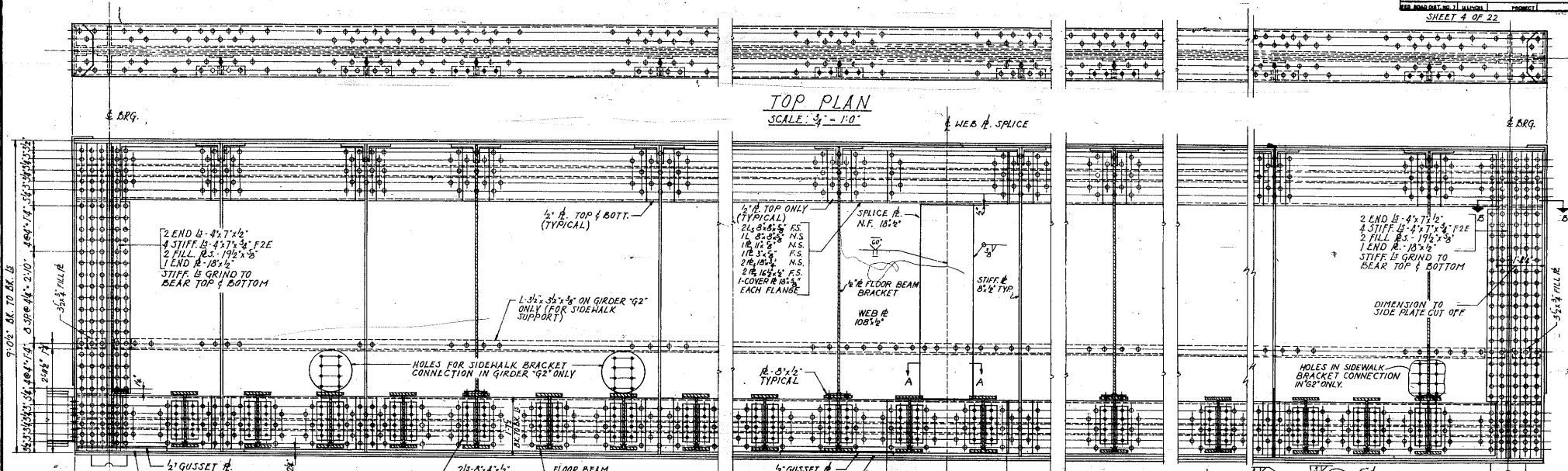
STEEL FRAMING PLAN
UNDER PASS

WABASH R.R. BRIDGE No 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A.RT.(CITY) 5 (U.S.66) SECTION 109-1-58
SANGAMON COUNTY
STATION 21+27.40

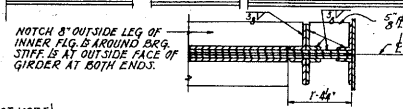
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. (CITY) S	109-1-SB	SANGAMON	58	17
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET 4 OF 22

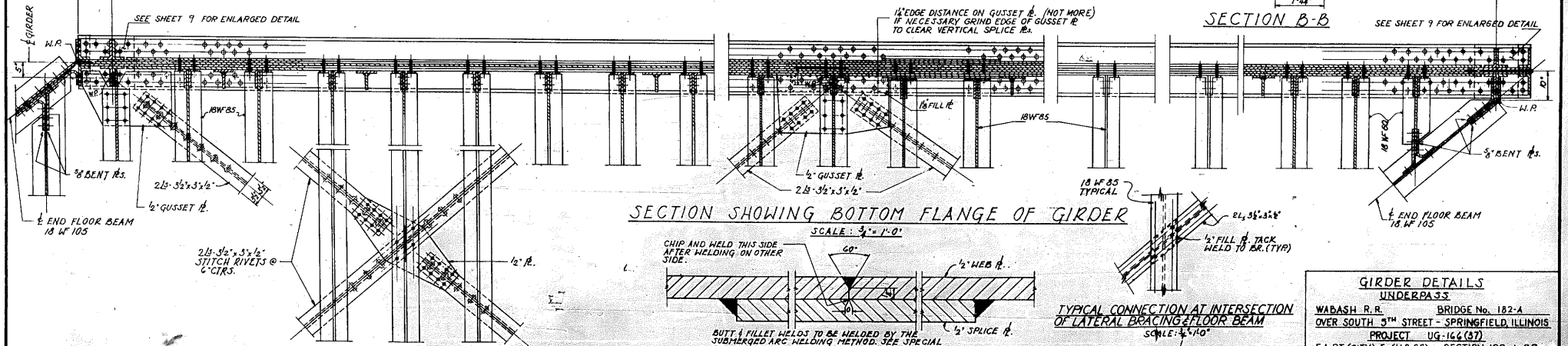
TOP PLAN
SCALE: 3/4" = 1'-0"



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



SECTION B-B



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

TYPICAL DETAIL AT INTERSECTION OF BOTTOM LATERALS

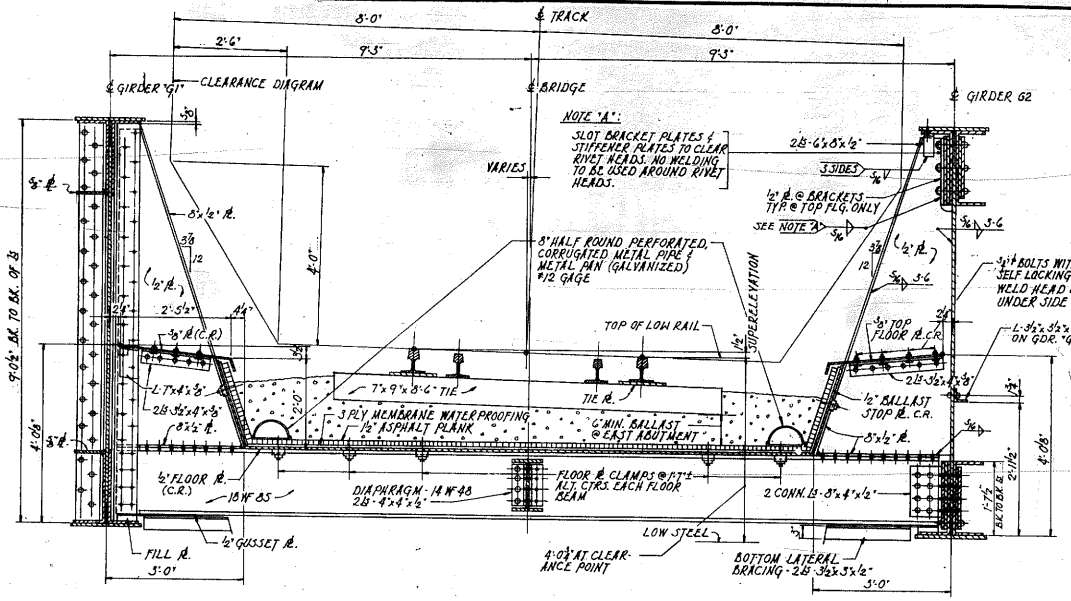
SECTION A-A
SCALE: FULL SIZE

TYPICAL CONNECTION AT INTERSECTION OF LATERAL BRACING & FLOOR BEAM
SCALE: 1 1/2"=1'-0"

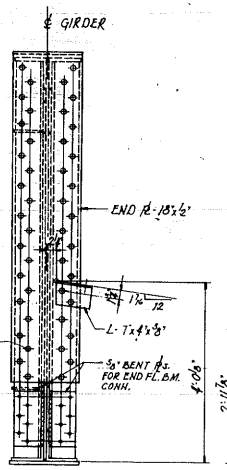
ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
20 SOUTH WABASH AVENUE CHICAGO, ILLINOIS

GIRDER DETAILS
UNDERPASS

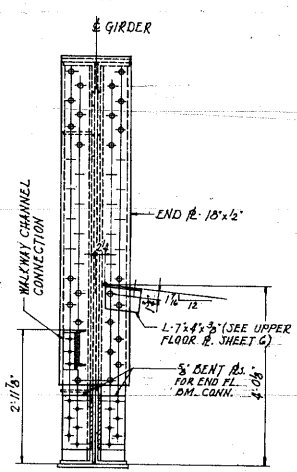
WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A.RT.(CITY) S. (U.S. 66) SECTION 109-1-SB
SANGAMON COUNTY
STATION 21+27.40



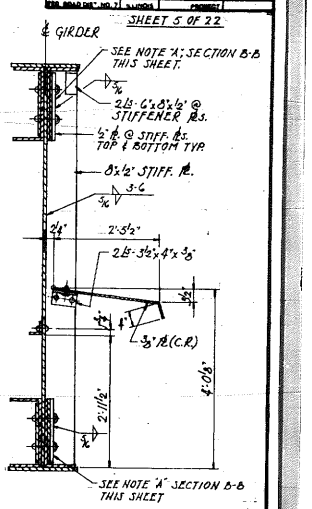
SECTION B-B
SCALE: ¾"=1'-0"



SECTION A-A
FOR GIRDER 'G1' ONLY
SCALE: ¾"=1'-0"

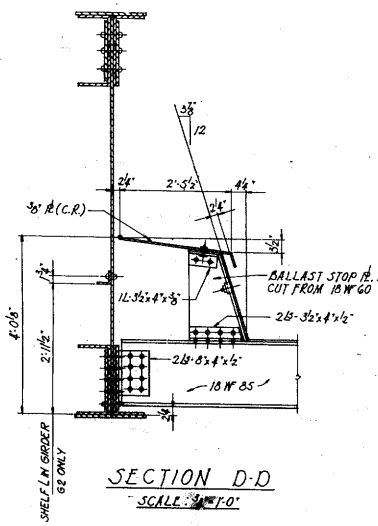


SECTION A-A
FOR GIRDER 'G2' ONLY
SCALE: ¾"=1'-0"

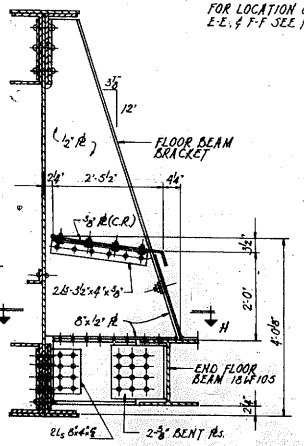


SECTION C-C
SCALE: ¾"=1'-0"

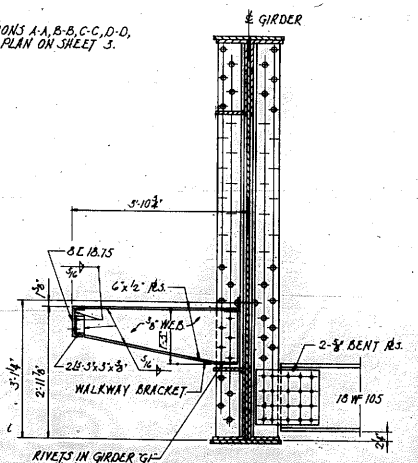
NOTE:
FOR LOCATION OF SECTIONS A-A, B-B, C-C, D-D, E-E, & F-F SEE FRAMING PLAN ON SHEET 3.



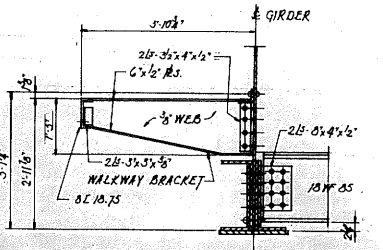
SECTION D-D
SCALE: ¾"=1'-0"



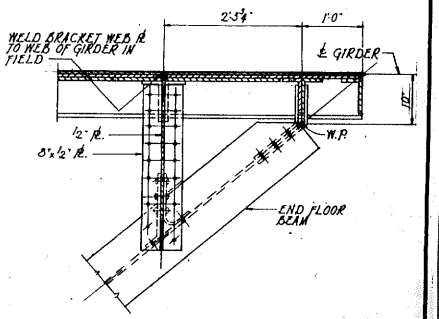
SECTION E-E
SCALE: ¾"=1'-0"



SECTION F-F
WALKWAY BRACKET ON 'G2' ONLY
SCALE: ¾"=1'-0"



TYPICAL SECTION
SHOWING WALKWAY BRACKET CONNECTION TO WEB OF GIRDER 'G2'
SCALE: ¾"=1'-0"



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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
P.A. RT. (CITY) 5	109-1-5B	SANGAMON	53	18
STA.	TO STA.			
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		

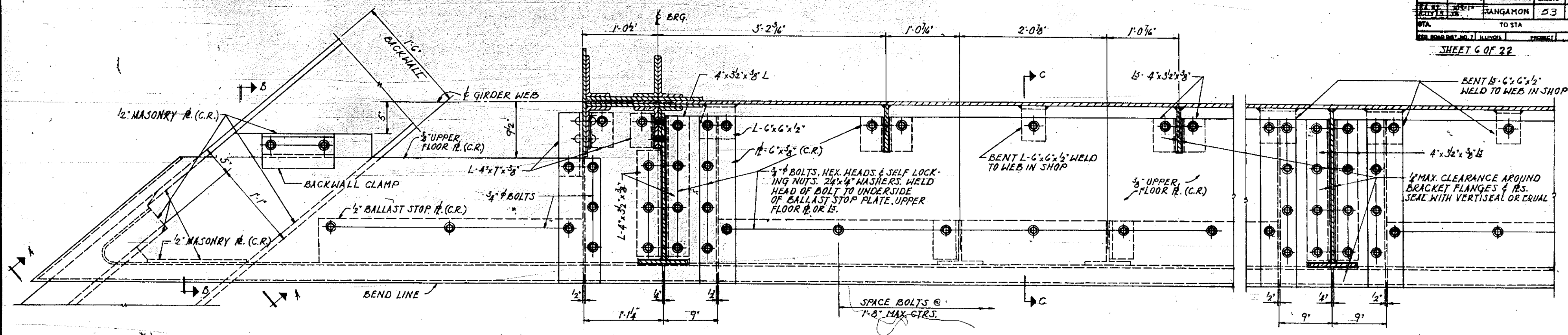
SHEET 5 OF 22

DECK CROSS SECTION
UNDERPASS
WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A.R.T.(CITY) 5 (U.S.66) SECTION 109-1-5B
SANGAMON COUNTY
STATION 21+27.40

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. (CITY) 5	109-1-SB	SANGAMON	53	19
STA.		TO STA		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET 6 OF 22



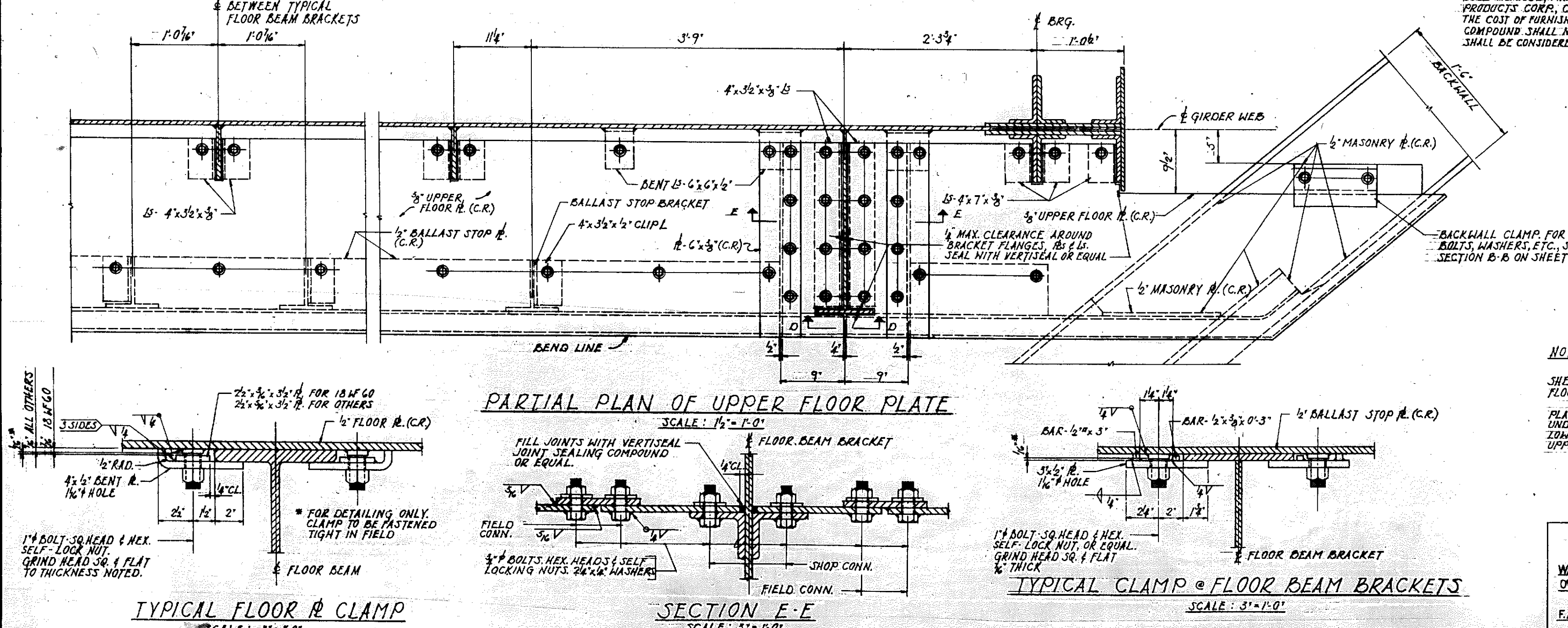
1'-6"
BACKWALL
℄ BRG.
℄ GIRDER WEB
½" MASONRY ℞ (C.R.)
⅝" UPPER FLOOR ℞ (C.R.)
L-4"x7"x⅜"
BACKWALL CLAMP
¾" ⌀ BOLTS
½" BALLAST STOP ℞ (C.R.)
BEND LINE
4"x3½"x⅜" L
L-6"x6"x½"
℞-6"x⅜" (C.R.)
¾" ⌀ BOLTS, HEX. HEADS & SELF LOCKING NUTS. 2¼"x¼" WASHERS. WELD HEAD OF BOLT TO UNDERSIDE OF BALLAST STOP PLATE, UPPER FLOOR ℞ OR Ls.
BENT L-6"x6"x½" WELD TO WEB IN SHOP
Ls-4"x3½"x⅜"
BENT Ls-6"x6"x½" WELD TO WEB IN SHOP
4"x3½"x⅜" Ls
¼" MAX. CLEARANCE AROUND BRACKET FLANGES & ℞s. SEAL WITH VERTISEAL OR EQUAL
SPACE BOLTS @ 1'-8" MAX. CTRS.
1'-0½"
3'-2⁹⁄₁₆"
1'-0⁷⁄₁₆"
2'-0⅛"
1'-1¼"
9"

PARTIAL PLAN OF UPPER FLOOR PLATE

SCALE: 1½" = 1'-0"

NOTE:

ALL JOINTS AROUND FLOOR BEAM BRACKETS, STIFFS. & OTHER ANGLES SHALL BE SEALED WITH VERTISEAL JOINT SEALING COMPOUND, GRAY, CODE No. 2382, MANUFACTURED BY SERVIGISED PRODUCTS CORP., CHICAGO, OR EQUAL. THE COST OF FURNISHING AND APPLYING THE SEALING COMPOUND SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.



℄ BETWEEN TYPICAL FLOOR BEAM BRACKETS
1'-0⁷⁄₁₆"
11¼"
3'-9"
2'-3¾"
℄ BRG.
1'-0½"
4"x3½"x⅜" Ls
1'-6"
BACKWALL
℄ GIRDER WEB
½" MASONRY ℞ (C.R.)
BENT Ls-6"x6"x½"
⅝" UPPER FLOOR ℞ (C.R.)
BALLAST STOP BRACKET
4"x3½"x½" CLIP L
Ls-4"x3½"x⅜"
½" BALLAST STOP ℞ (C.R.)
℞-6"x⅜" (C.R.)
Ls-4"x7"x⅜"
⅝" UPPER FLOOR ℞ (C.R.)
¼" MAX. CLEARANCE AROUND BRACKET FLANGES, ℞s & Ls. SEAL WITH VERTISEAL OR EQUAL
BACKWALL CLAMP. FOR BOLTS, WASHERS, ETC., SEE SECTION B-B ON SHEET 8.
BEND LINE
2½"x⅝"x3½" ℞ FOR 18 WF 60
2½"x⅝"x3½" ℞ FOR OTHERS
½" FLOOR ℞ (C.R.)
½" RAD.
4½" ½" BENT ℞
1⅛" ⌀ HOLE
* FOR DETAILING ONLY. CLAMP TO BE FASTENED TIGHT IN FIELD
1" ⌀ BOLT-SQ.HEAD & HEX. SELF-LOCK NUT. GRIND HEAD SQ. & FLAT TO THICKNESS NOTED.
℄ FLOOR BEAM
FILL JOINTS WITH VERTISEAL JOINT SEALING COMPOUND OR EQUAL.
℄ FLOOR BEAM BRACKET
FIELD CONN.
¾" ⌀ BOLTS. HEX. HEADS & SELF LOCKING NUTS. 2¼"x¼" WASHERS
SHOP CONN.
BAR-½"x3"
BAR-½"x⅝"x0'-3"
½" BALLAST STOP ℞ (C.R.)
3½" ½" ℞
1⅛" ⌀ HOLE
1" ⌀ BOLT-SQ.HEAD & HEX. SELF-LOCK NUT, OR EQUAL. GRIND HEAD SQ. & FLAT ⅝" THICK
℄ FLOOR BEAM BRACKET

PARTIAL PLAN OF UPPER FLOOR PLATE

SCALE: 1½" = 1'-0"

TYPICAL FLOOR ℞ CLAMP

SCALE: 3" = 1'-0"

SECTION E-E

SCALE: 3" = 1'-0"

TYPICAL CLAMP @ FLOOR BEAM BRACKETS

SCALE: 3" = 1'-0"

NOTE:

FOR SECTIONS A-A, B-B, C-C & D-D SEE SHEET 8. FOR TYPICAL DETAILS THRU UPPER FLOOR PLATE SEE SHEET 7.

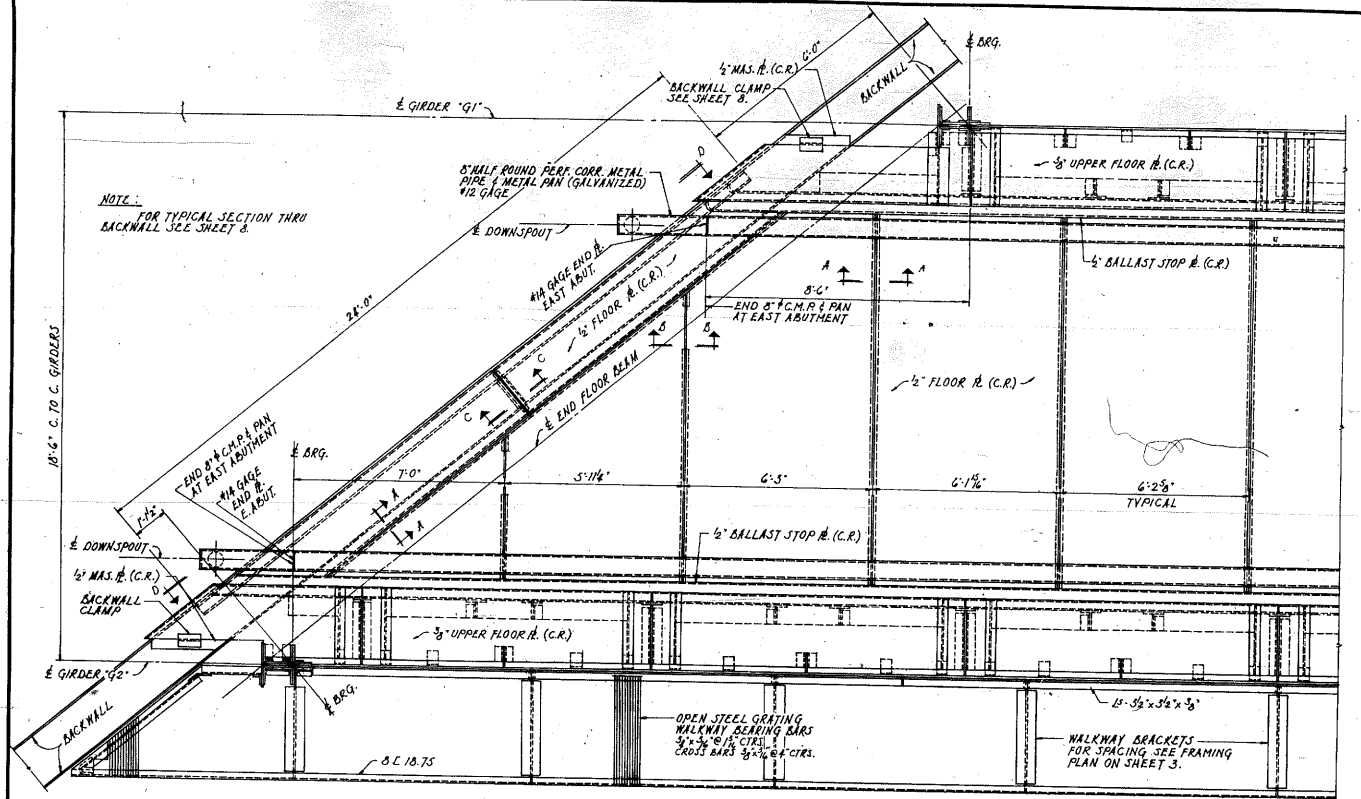
ALL BOLTS FOR CONNECTING UPPER FLOOR PLATES TO BE ¾" ⌀ WITH HEX. HEADS SHOP WELDED TO UNDERSIDE OF LOWEST PLATE OR ANGLE. HOLES IN LOWEST PLATE OR ANGLE TO BE ¹³⁄₁₆" ⌀. HOLES IN UPPER PLATES TO BE ¹⁵⁄₁₆" ⌀ TO ALLOW FOR ADJUSTMENT.

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

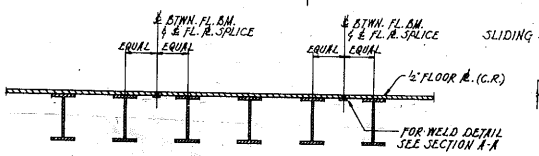
UPPER FLOOR PLATE
UNDERPASS
WABASH R.R. BRIDGE No 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A.RT. (CITY) 5 (U.S. 66) SECTION 109-1-SB
SANGAMON COUNTY
STATION 21+27.40

ROUTE NO	SECTION	COUNTIES	TOTAL SHEETS	SHEET NO
F.A. RT. (CITY) 5	109-1-SB	SANGAMON	53	20
STA.	TO STA			
BRIDGE DIST. NO 21 ILLINOIS		PROJECT		

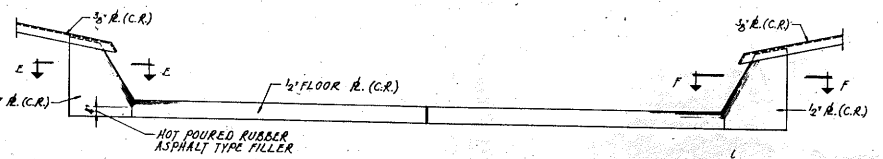
SHEET 7 OF 22



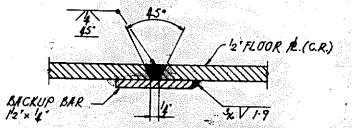
PLAN AT WEST ABUTMENT
SHOWING LAYOUT OF FLOOR PLATES
SCALE: ½"=1'-0"



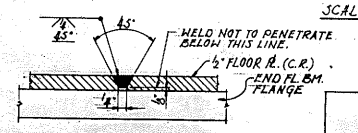
TYPICAL SECTION THRU FLOOR PLATES
SCALE: ½"=1'-0"



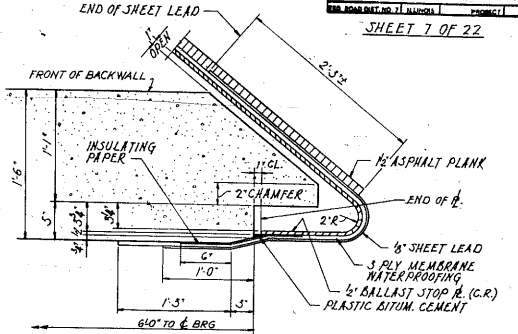
SECTION D-D
SCALE: ½"=1'-0"



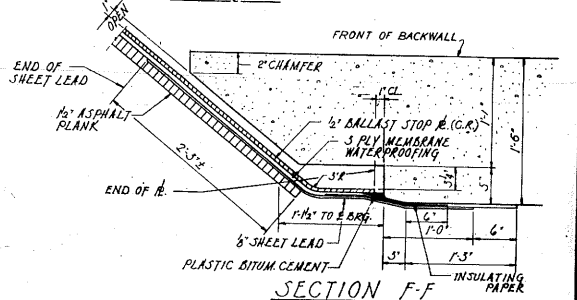
SECTION A-A
SHOWING TYPICAL FLOOR PL. SPLICE
SCALE: 6"=1'-0"



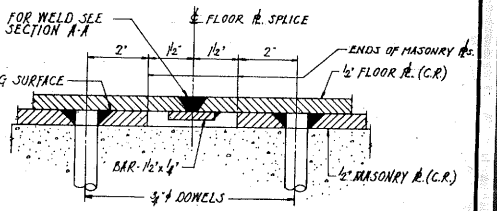
SECTION B-B
SHOWING FLOOR PL. SPLICE OVER END FL. BM.
SCALE: 6"=1'-0"



SECTION E-E
SCALE: 1½"=1'-0"



SECTION F-F
SCALE: 1½"=1'-0"

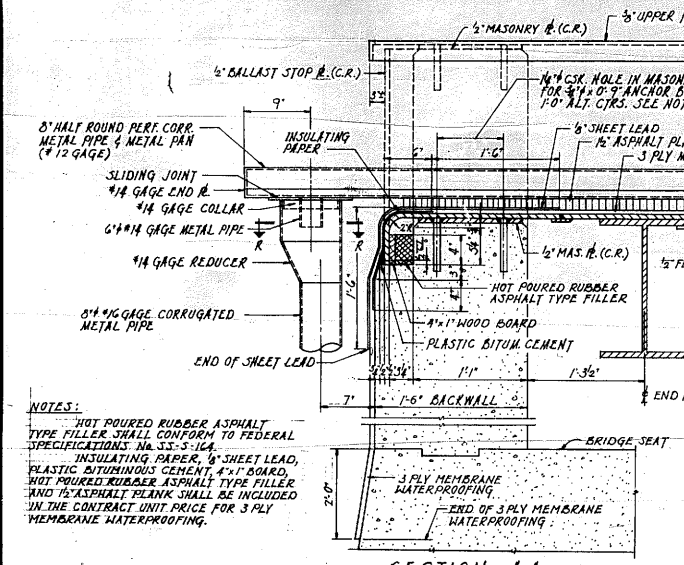


SECTION C-C
SCALE: 6"=1'-0"

FLOOR PLATE
UNDERPASS

WABASH R.R. BRIDGE No 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A.R.T.(CITY) 5 (U.S. 66) SECTION 109-1-SB
SANGAMON COUNTY
STATION 21+27.40

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



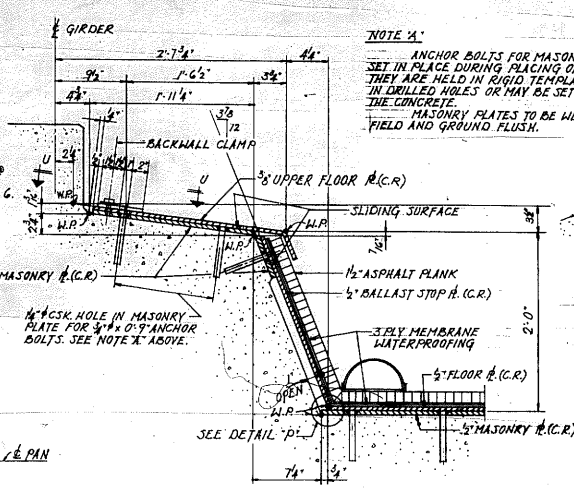
NOTES:

HOT POURED RUBBER ASPHALT TYPE FILLER SHALL CONFORM TO FEDERAL SPECIFICATIONS No. SS-S-164.

INSULATING PAPER, ½" SHEET LEAD, PLASTIC BITUMINOUS CEMENT, 4"x 1" BOARD, HOT POURED RUBBER ASPHALT TYPE FILLER AND ½" ASPHALT PLANK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR 3 PLY MEMBRANE WATERPROOFING.

SECTION A-A
SCALE: ½"=1'-0"

SECTION R-R

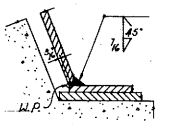


SECTION B-B
SCALE: ½"=1'-0"

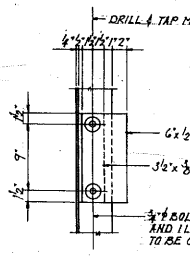
NOTE "A"

ANCHOR BOLTS FOR MASONRY PLATES MAY BE SET IN PLACE DURING PLACING OF CONCRETE PROVIDED THEY ARE HELD IN RIGID TEMPLATES. THEY MAY BE SET IN DRILLED HOLES OR MAY BE SET IN HOLES FORMED IN THE CONCRETE.

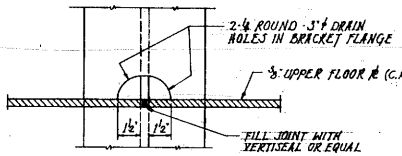
MASONRY PLATES TO BE WELDED TO BOLTS IN THE FIELD AND GROUND FLUSH.



DETAIL "P"
SCALE: 3"=1'-0"



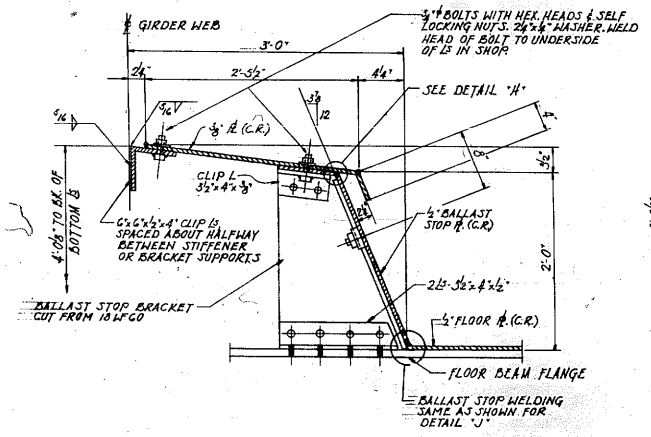
SECTION "U-U"
SCALE: 1½"=1'-0"



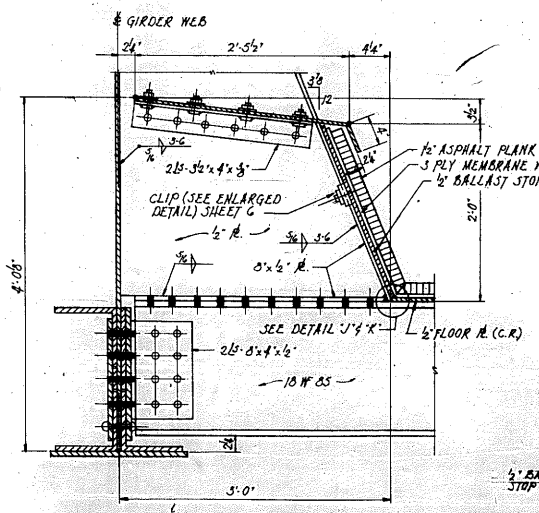
SECTION "D-D"
SCALE: 3"=1'-0"

NOTE:

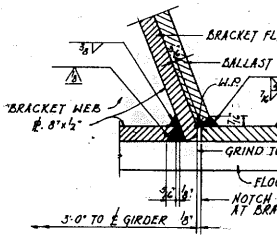
FOR LOCATION OF SECTIONS A-A, B-B, C-C & D-D SEE PARTIAL PLAN OF UPPER FLOOR PLATE ON SHEET G.



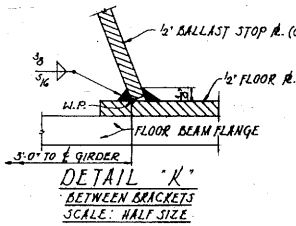
SECTION C-C
THRU BALLAST STOP PL.
SCALE: 1½"=1'-0"



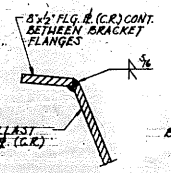
TYPICAL SECTION AT FLOOR BEAM BRACKET
SCALE: 1½"=1'-0"



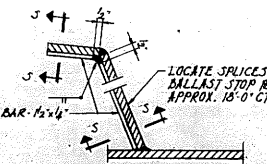
DETAIL "J"
AT FLOOR BEAM BRACKET
SCALE: HALF SIZE



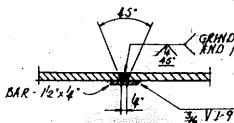
DETAIL "K"
BETWEEN BRACKETS
SCALE: HALF SIZE



DETAIL "H"
SCALE: 3"=1'-0"



TYPICAL FIELD SPLICE
FOR BALLAST STOP PL.
SCALE: 3"=1'-0"



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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. (CITY) 5	109-1-88	SANGAMON	53	21
STA.	TO STA.			
RED BOOK DIST. NO. 7	ILLINOIS	PROJECT		

SHEET 8 OF 22

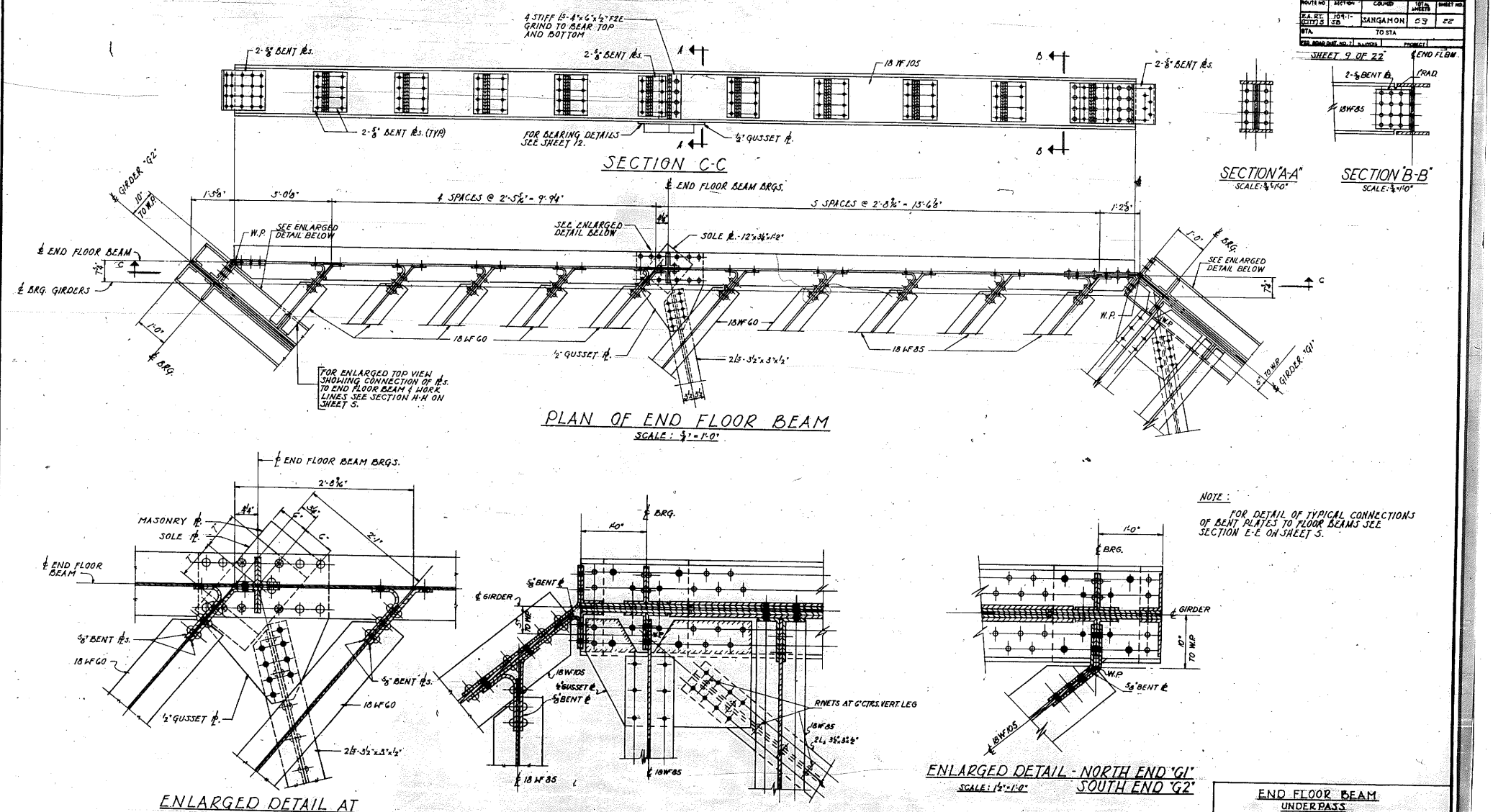
FLOOR PLATE DETAILS @ ABUTMENT
UNDERPASS

WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A.RT.(CITY) 5 (U.S.66) SECTION 109-1-88
SANGAMON COUNTY
STATION 21+27.40

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

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A. RT. (CITY) 5	109-1-5B	SANGAMON	53	22
STA.	TO STA			
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET 9 OF 22



NOTE:

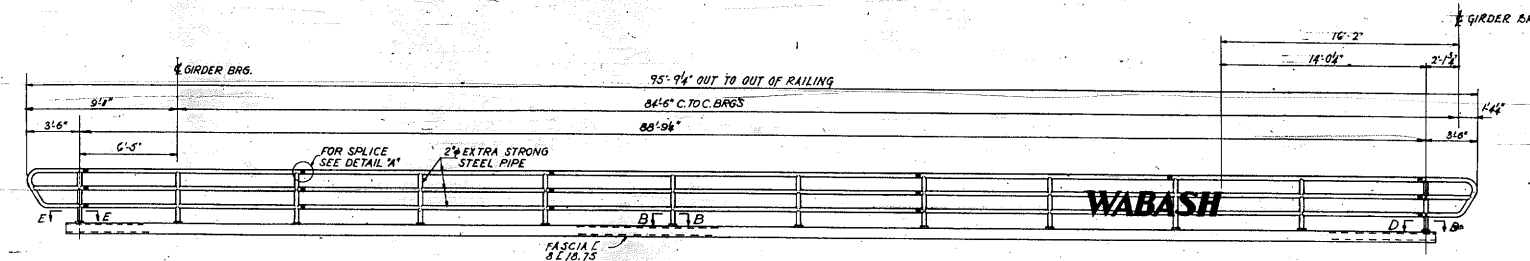
FOR DETAIL OF TYPICAL CONNECTIONS OF BENT PLATES TO FLOOR BEAMS SEE SECTION E-E ON SHEET 5.

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

END FLOOR BEAM
UNDERPASS
WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A.R.T.(CITY) 5 (U.S.66) SECTION 109-1-5B
SANGAMON COUNTY
STATION 21+27.40

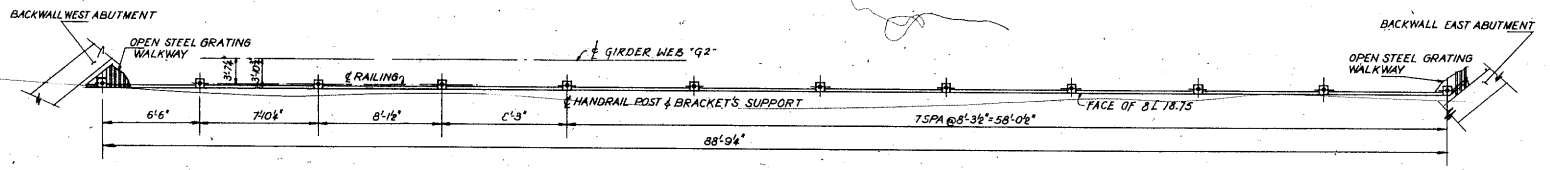
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.R.T. (CITY) 5	109-1-SB	SANGAMON	53	23
STA.				
FED. ROAD DIST. NO. 7	ILLINOIS		PROJECT	

SHEET 10 OF 22



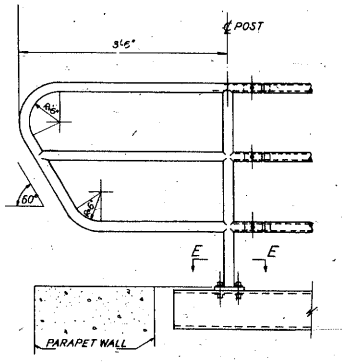
ELEVATION OF HANDRAIL & POSTS.
SCALE: ¼"=1'-0"

FOR DETAILS OF LETTERS IN R.R. EMBLEM AND SECTION THRU LETTER AT HANDRAIL SEE SHEET 3.

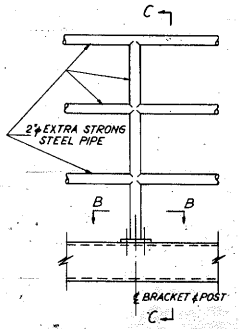


PLAN SHOWING SPACING OF HANDRAIL POSTS.
SCALE: ¼"=1'-0"

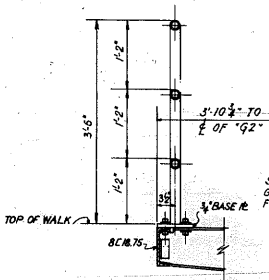
NOTE:
PIPE HANDRAIL SHALL BE GIVEN ONE SHOP COAT OF RED LEAD PAINT AND TWO FIELD COATS OF ALUMINUM PAINT.



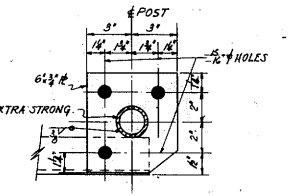
END POST
SCALE: 1"=1'-0"



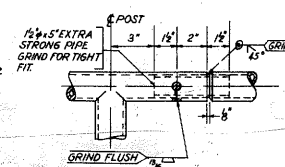
TYPICAL POST
SCALE: 1"=1'-0"



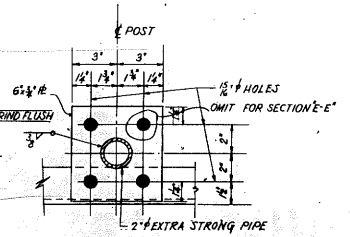
SECTION C-C
SCALE: 1"=1'-0"



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



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



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

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

HANDRAIL DETAILS
UNDERPASS

WABASH R.R. BRIDGE No 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT DG-166(37)
F.A.R.T.(CITY) 5 (U.S.66) SECTION 109-1-SB
SANGAMON COUNTY
STATION 21+27.40

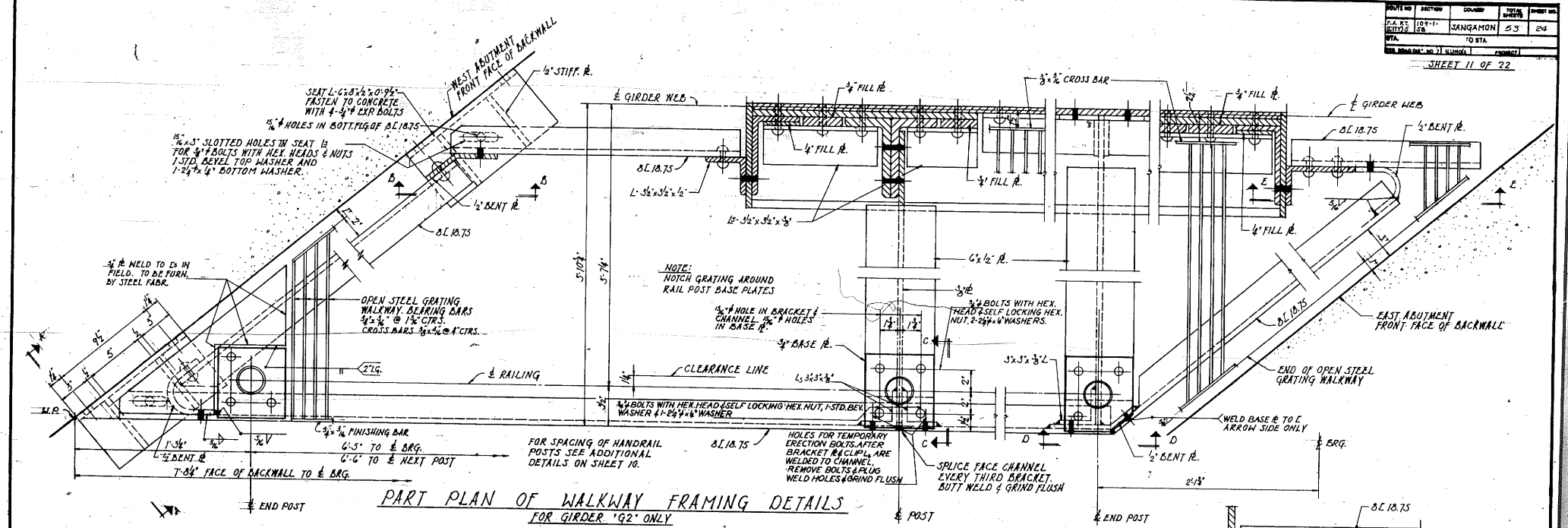
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.R.T. (CITY) 5	109-1-SB	SANGAMON	53	24
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

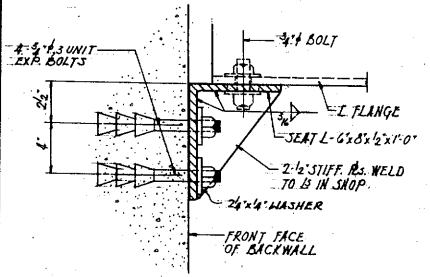
SHEET 11 OF 22

PART PLAN OF WALKWAY FRAMING DETAILS

FOR GIRDER 'G2' ONLY

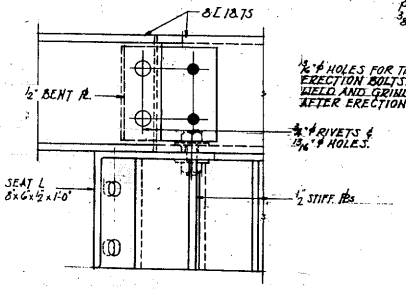
SCALE: 3"=1'-0"





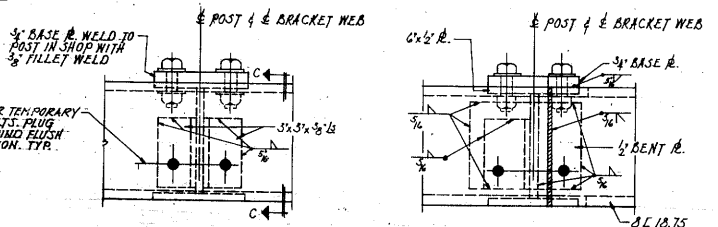
SECTION A-A

SCALE: 3"=1'-0"



SECTION B-B

SCALE: 3"=1'-0"

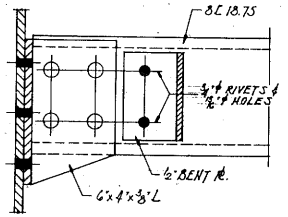


DETAIL OF CHANNEL AT HANDRAIL POSTS

SCALE: 3"=1'-0"

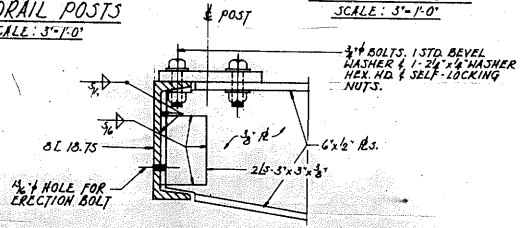
SECTION D-D

SCALE: 3"=1'-0"



SECTION E-E

SCALE: 3"=1'-0"



SECTION C-C

SCALE: 3"=1'-0"

NOTES:

FLOOR GRATING SHALL BE WELDED STEEL GRATING. GRATING SHALL BE FASTENED TO CHANNEL AND ANGLE SUPPORTS WITH 1/4" ø "J" BOLTS IN 5/16" ø HOLES. "J" BOLTS SHALL BE SPACED NOT OVER 1'-6" CTRS. AND NOT LESS THAN ONE PER PANNEL. HOLES FOR "J" BOLTS IN SUPPORTS TO BE DRILLED IN FIELD.

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

WALKWAY FRAMING DETAILS UNDER PASS

WABASH R.R. BRIDGE No. 182-A

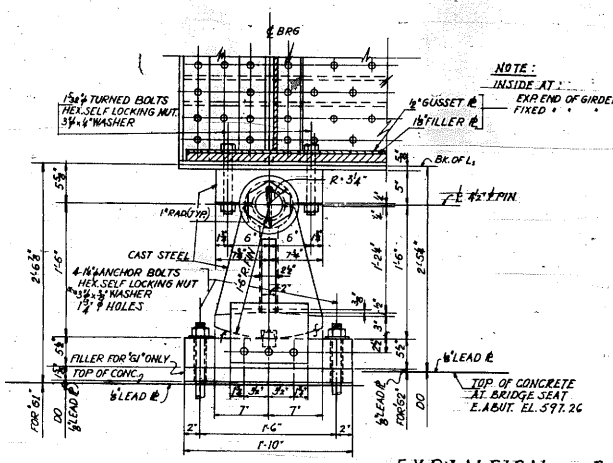
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS

PROJECT UG-16C(37)

F.A.R.T.(CITY) 5 (U.S. 66) SECTION 109-1-SB

SANGAMON COUNTY

STATION 21+27.40



EXPANSION BEARING

SCALE: 1½"=1'-0"

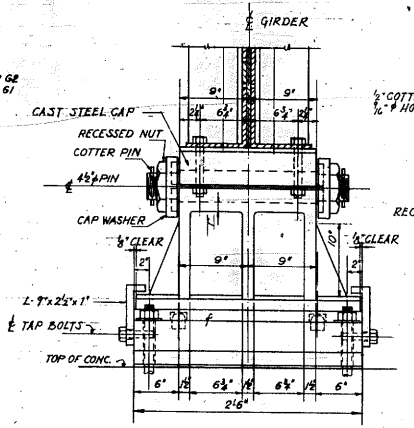
NOTE:
INSIDE AT: EXP. END OF GIRDER G2
FIXED " " " G1

NOTES:

ALL CASTINGS SHALL CONFORM TO A.S.T.M. A27, GRADE 65-35, FULL ANNEALED.

PINS FOR GIRDER BEARINGS SHALL BE FORGED TO CONFORM TO A.S.T.M. A235, CLASS F.

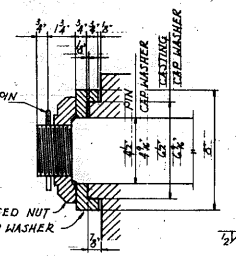
GRAPHITED BRONZE EXPANSION BEARING PLATES SHALL BE MADE FROM CAST BRONZE ALLOY PLATES CONFORMING TO A.S.T.M. B22, ALLOY B, AND SHALL CONTAIN GRAPHITE FILLED RECESSES.



DETAIL OF PINTLE

SCALE: FULL SIZE

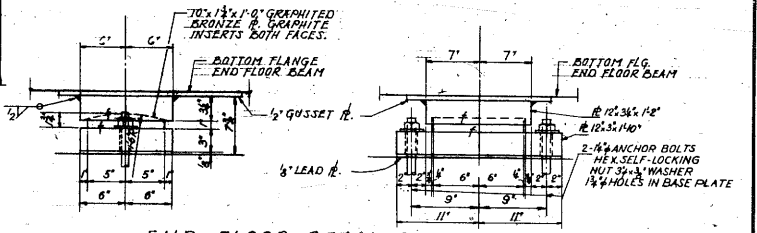
PINTLES MAY BE THREADED OR PRESSED FIT INTO BOTTOM OF BEARING PLATE.



DETAIL OF PIN

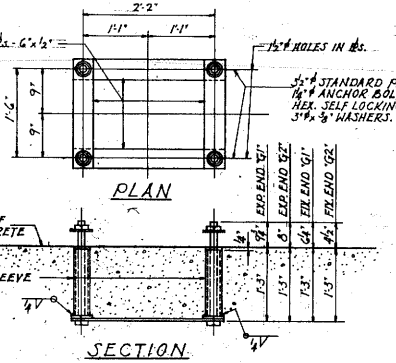
SCALE: 3"=1'-0"

NOTE:
FOR LOCATION OF END FLOOR BEAM BEARING ON END FLOOR BEAM SEE SHEET 9.

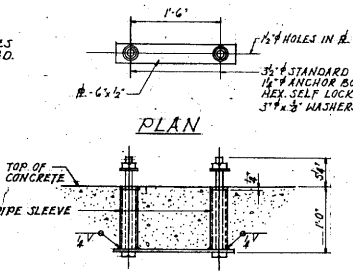


END FLOOR BEAM BEARING

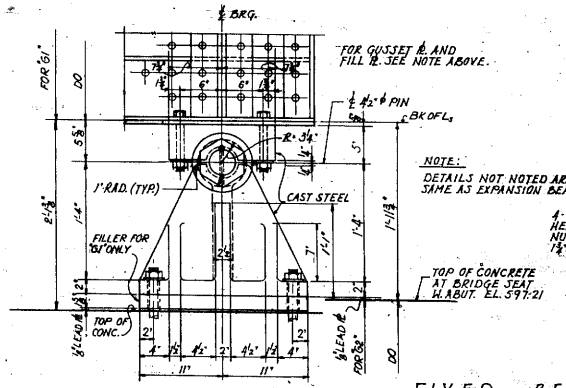
SCALE: 1½"=1'-0"



ANCHOR BOLT ASSEMBLY - GIRDERS



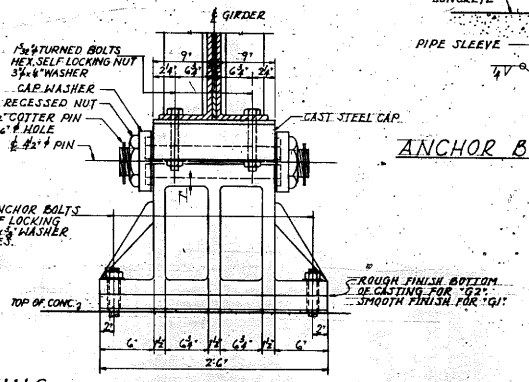
ANCHOR BOLT ASSEMBLY END FLOOR BEAM

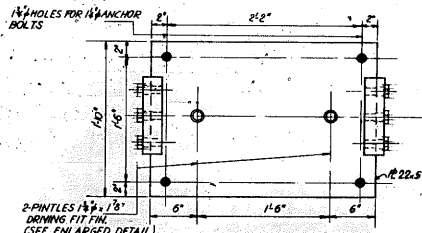


NOTE:
DETAILS NOT NOTED ARE SAME AS EXPANSION BEARING

FIXED BEARING

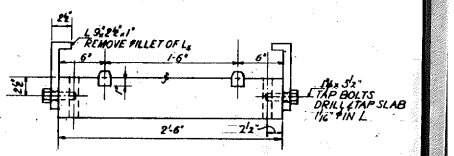
SCALE: 1½"=1'-0"



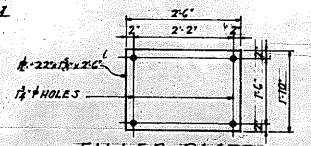


BEARING SLAB

SCALE: 1½"=1'-0"



SCALE: 1½"=1'-0"



FOR FIXED END OF "G1" FOR EXPANSION END OF "G1"

SCALE: ½"=1'-0"

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

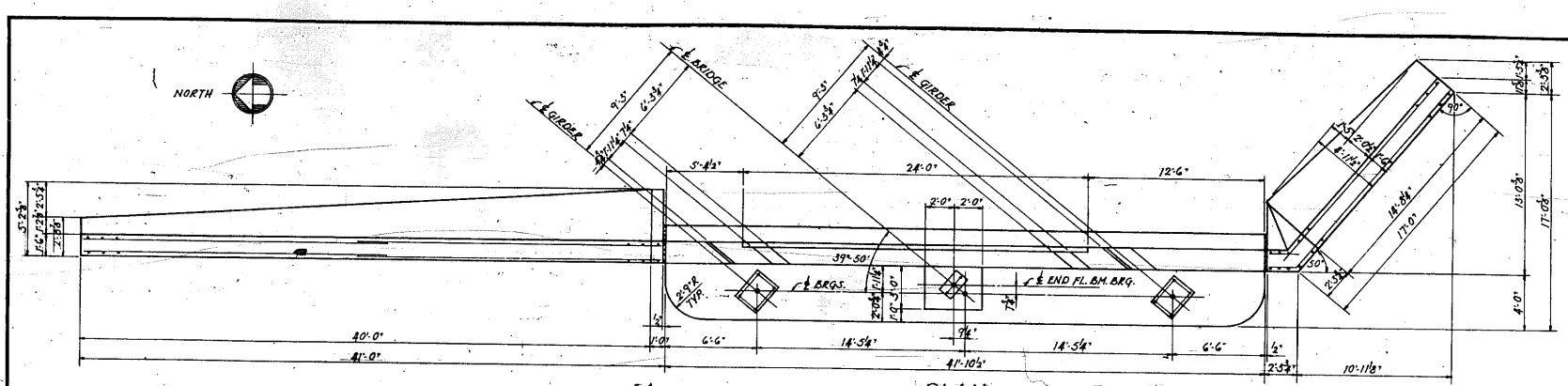
F.A.S. SEC.	109-1-SB	COUNTY	SHEET NO.	SHEET NOS.
STATE		SANGAMON	55	25
U.S.		TO STA.		
ILL.				

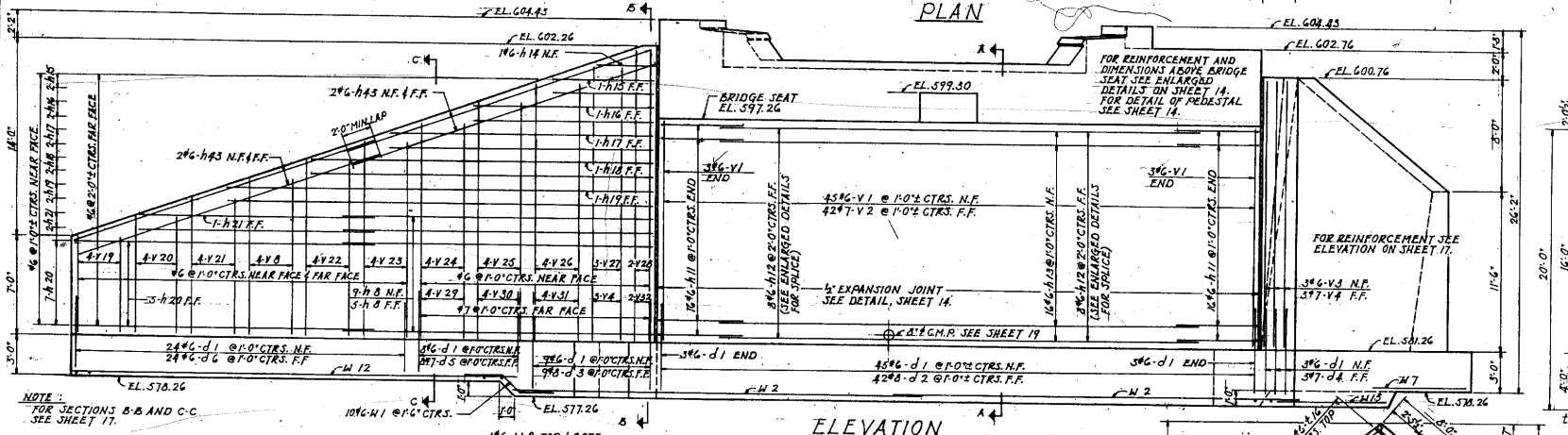
SHEET 12 OF 27 SHEETS

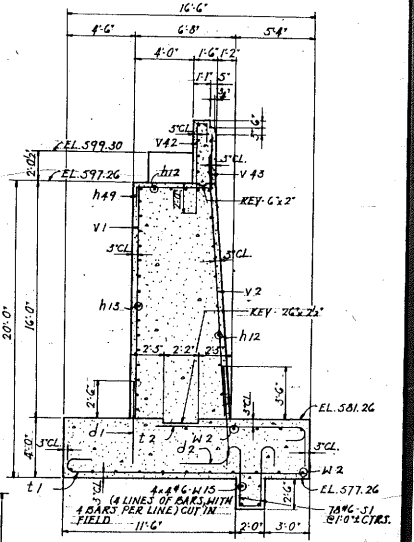
BEARINGS
UNDERPASS
WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A.R.T.(CITY) 5 (U.S.66) SECTION 109-1-SB
SANGAMON COUNTY
STATION 21+27.40

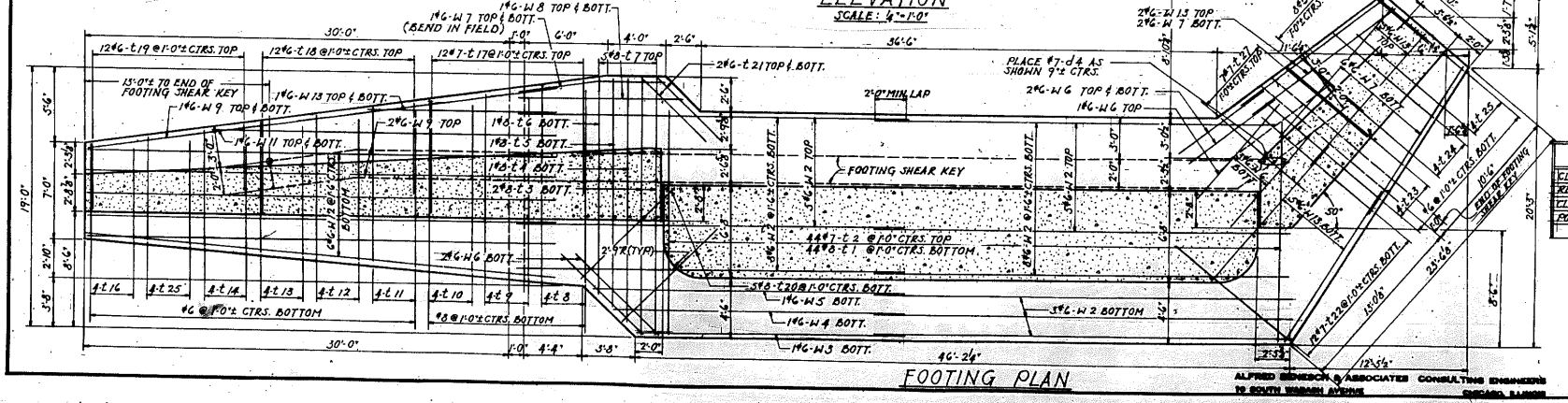
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.R.S. (CITY) 5	109-1-3B	SANGAMON	58	20
DIST.		TITLE		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET 13 OF 22









BILL OF MATERIALS

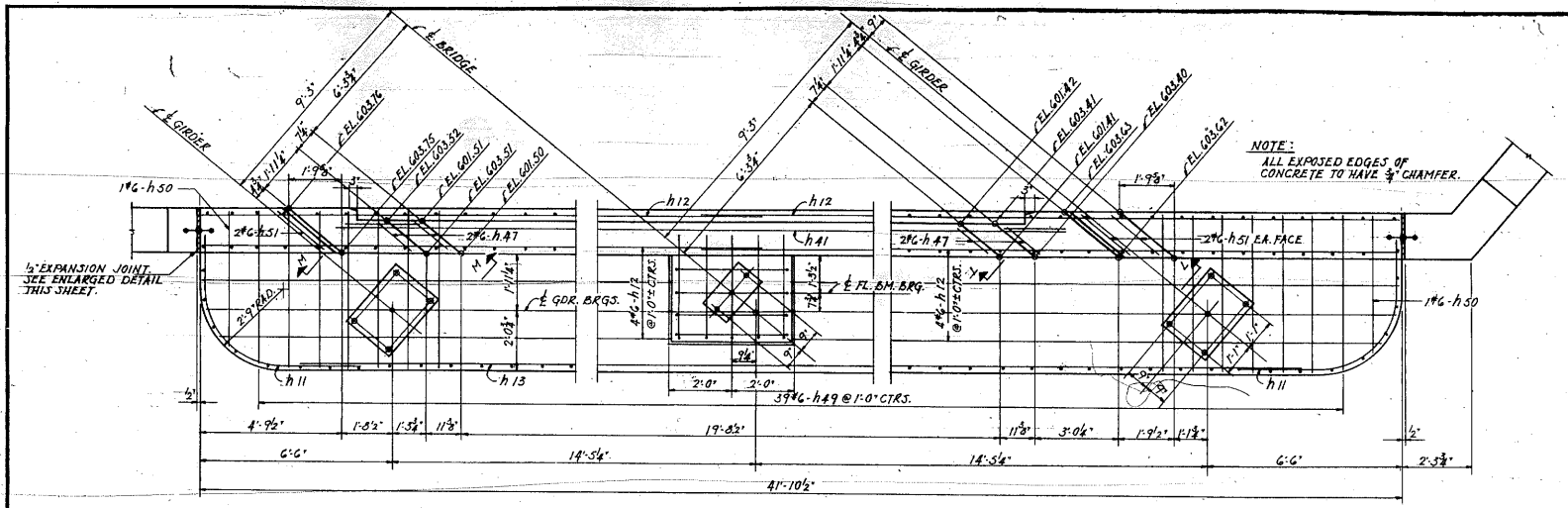
ITEM	UNIT	QUANTITY
CLASS X CONCRETE	CU. YDS.	458.7
REINFORCEMENT BARS	LBS.	24,930
CLASS A EXCAVATION FOR STRUCTURES	CU. YDS.	542
POROUS GRANULAR EMBANKMENT	CU. YDS.	985

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

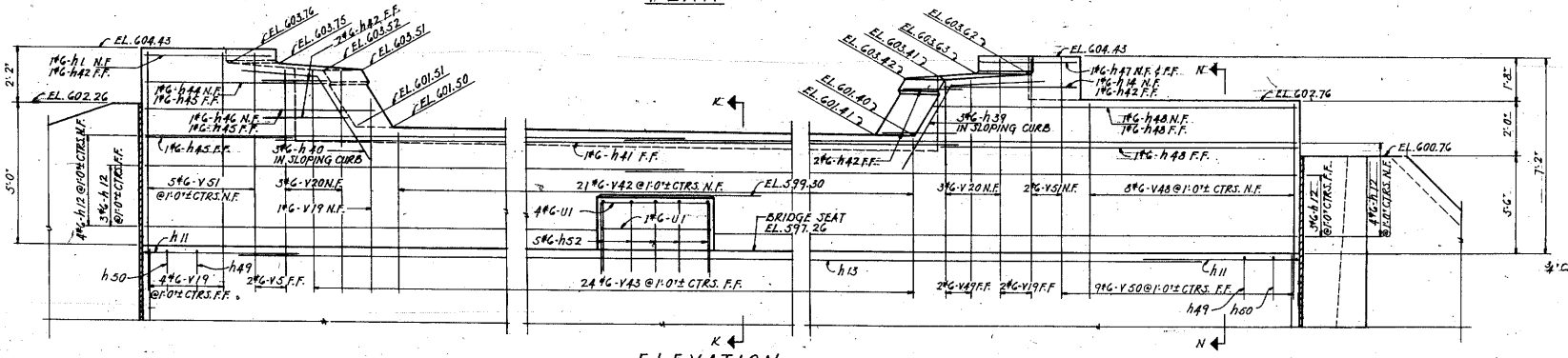
EAST ABUTMENT
UNDERPASS
WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A. RT. (CITY) 5 (U.S. 66) SECTION 109-1-3B
SANGAMON COUNTY
STATION 21+27.40

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.R.T. (CITY) 5	109-1-SB	SANGAMON	53	27
DIST.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET 14 OF 22



PLAN

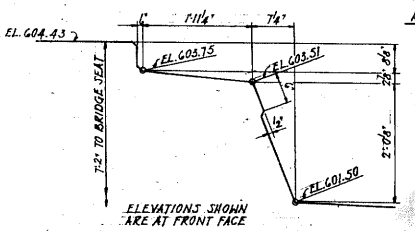


ELEVATION

DETAILS OF ABUTMENT BACKWALL

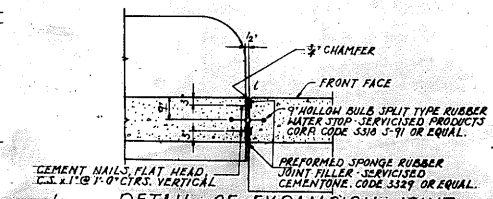
SHOWING REINFORCEMENT ABOVE BRIDGE SEAT

SCALE: ½"=1'-0"



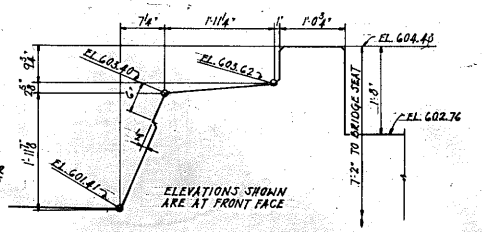
SECTION M-M

SCALE: 1"=1'-0"



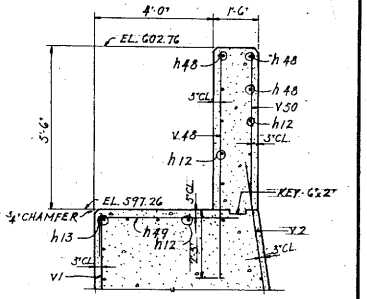
DETAIL OF EXPANSION JOINT

BETWEEN ABUTMENTS & WINGWALLS



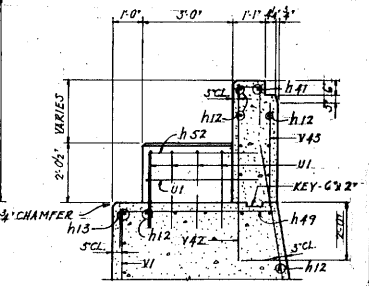
SECTION L-L

SCALE: 1"=1'-0"



SECTION N-N

SCALE: ½"=1'-0"



SECTION K-K

SCALE: ½"=1'-0"

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

EAST ABUTMENT DETAILS

UNDERPASS

WABASH R.R. BRIDGE No. 182-A

OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS

PROJECT UG-1GC(37)

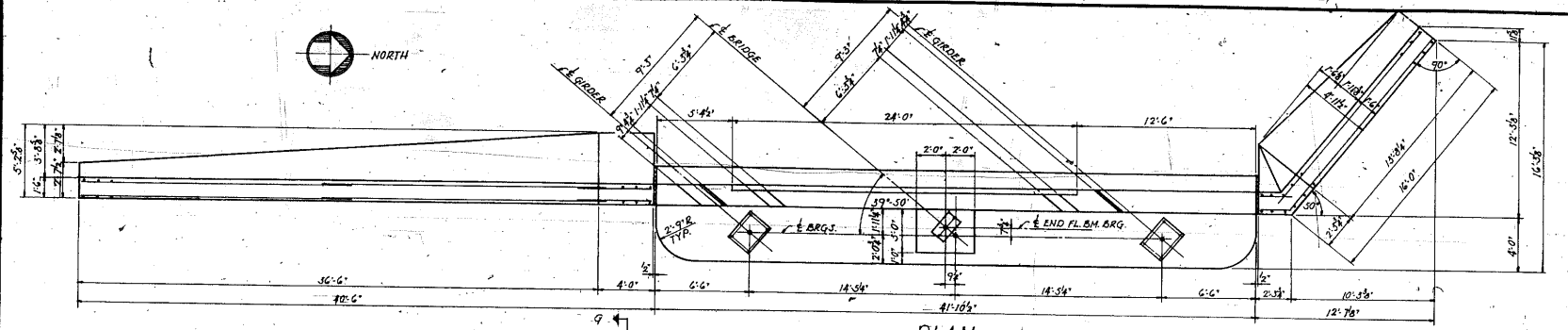
F.A. RT. (CITY) 5 (U.S. 66) SECTION 109-1-SB

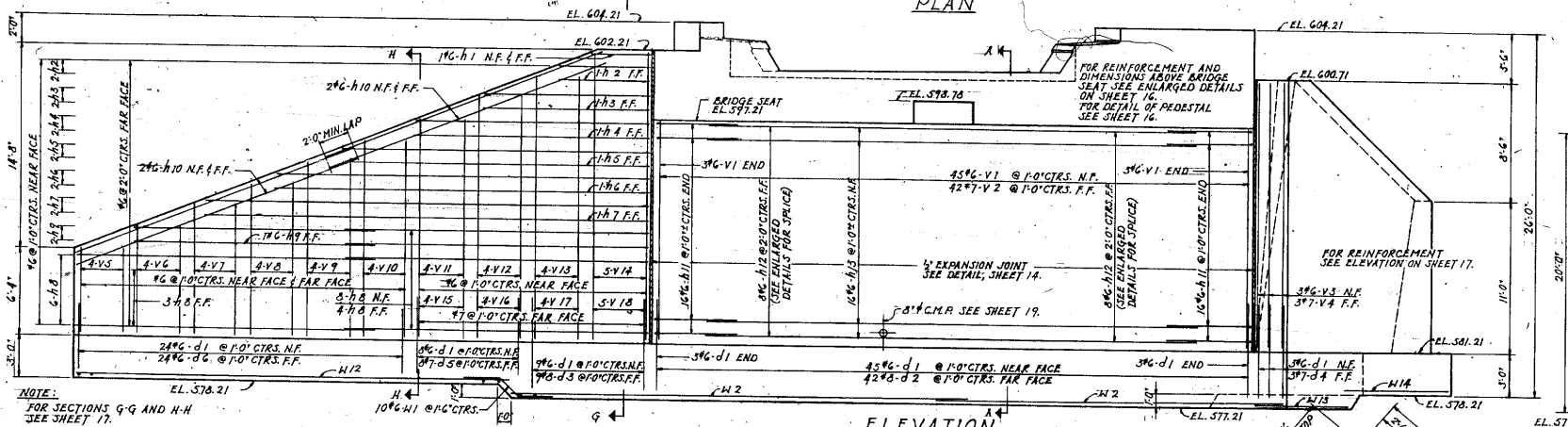
SANGAMON COUNTY

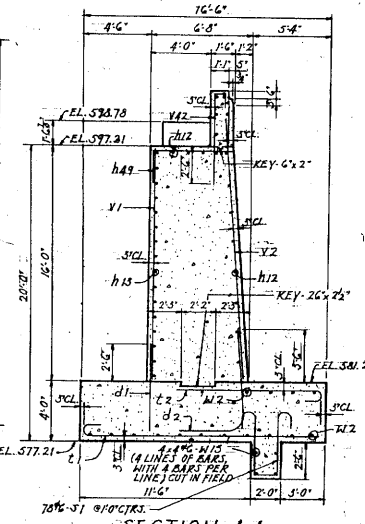
STATION 21+27.40

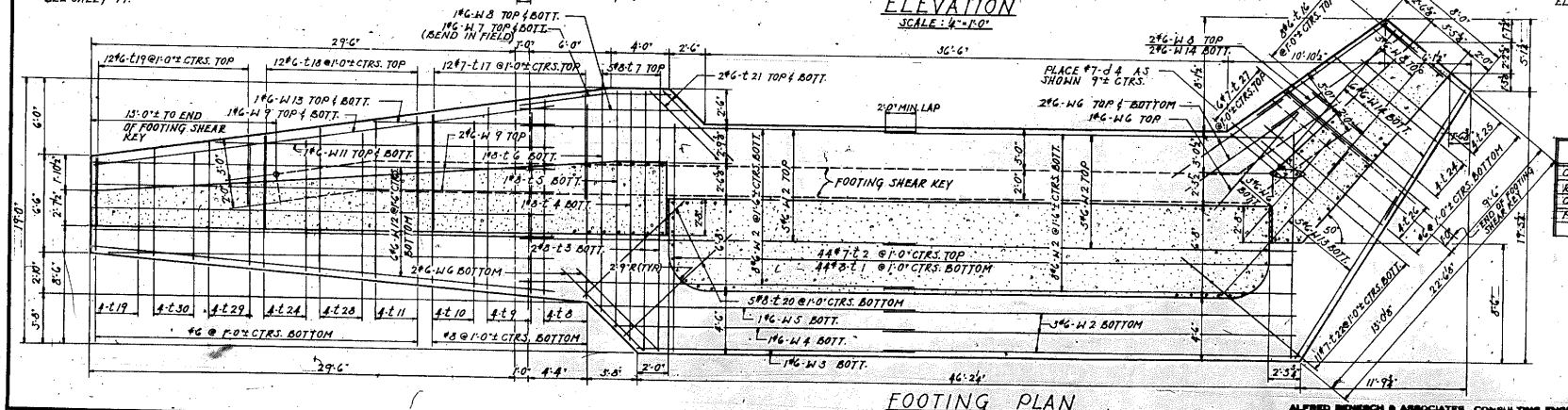
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. (CITY) 5	109-1-3B	SANGAMON	53	28
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET 15 OF 22









BILL OF MATERIALS

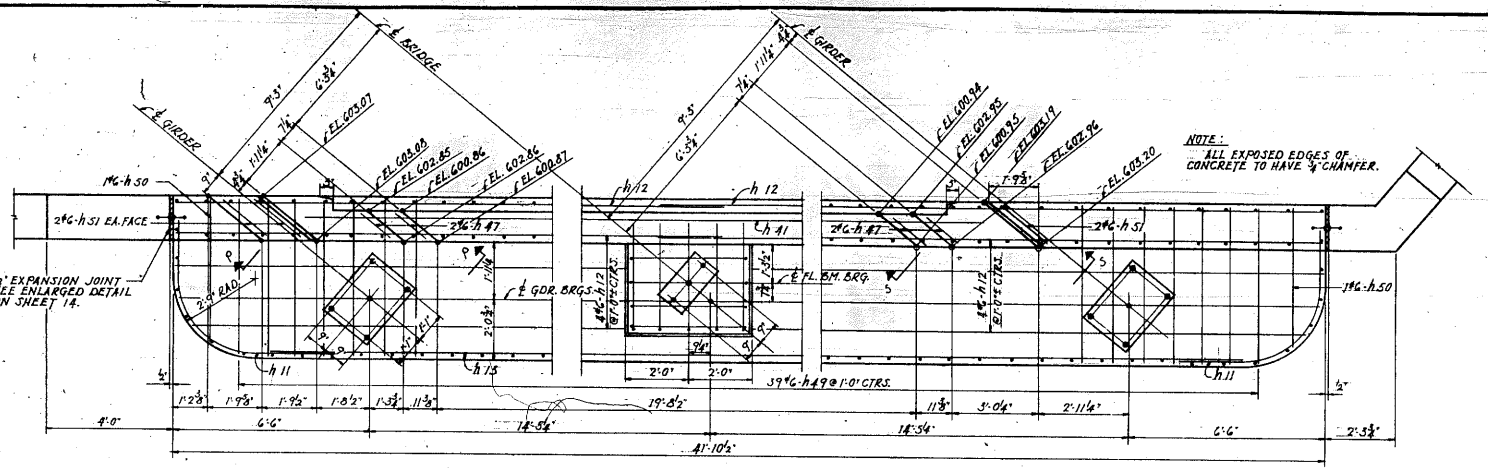
ITEM	UNIT	QUANTITY
CLASS X CONCRETE	CU.YDS.	438.0
REINFORCEMENT BARS	LBS.	24,750
CLASS A EXCAVATION FOR STRUCTURES	CU.YDS.	538
POROUS GRANULAR EMBANKMENT	CU.YDS.	970.

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

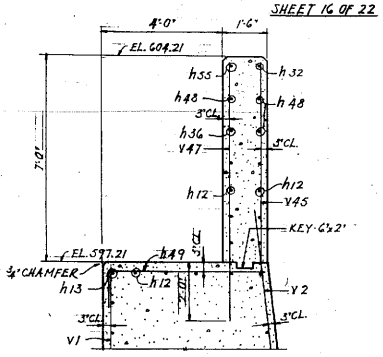
WEST ABUTMENT
UNDERPASS
WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A. RT. (CITY) 5 (U.S. 66) SECTION 109-1-3B
SANGAMON COUNTY
STATION 21+27.40

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. (CITY) 5	109-1-38	SANGAMON	53	29
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

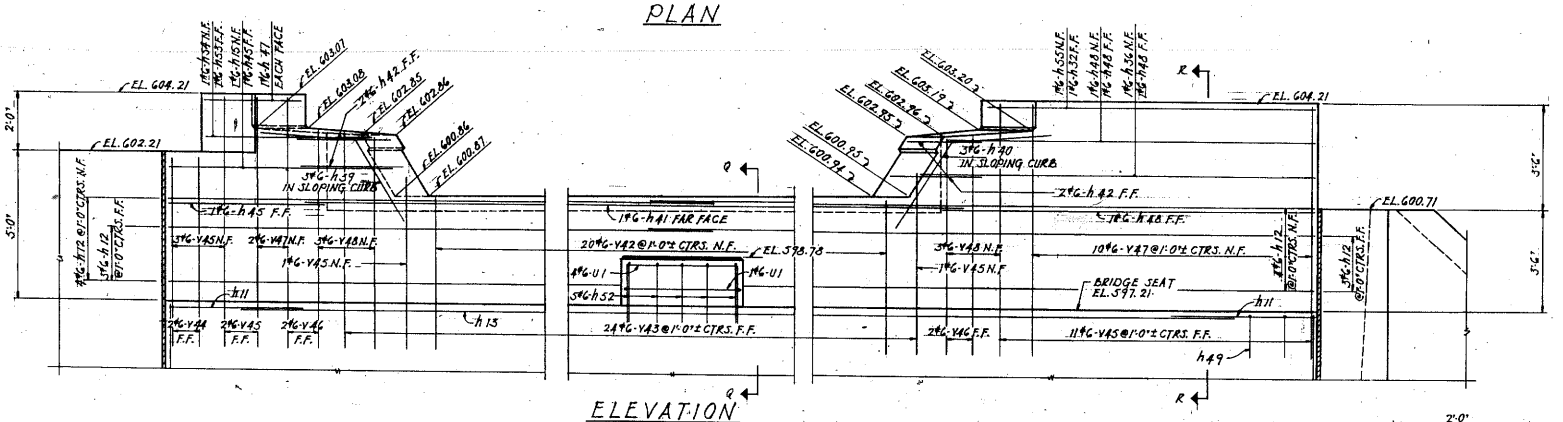
SHEET 16 OF 22



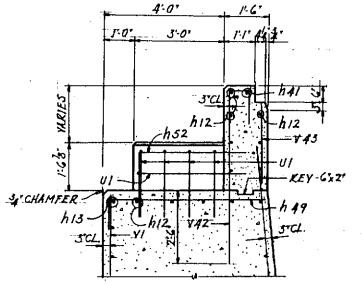
PLAN



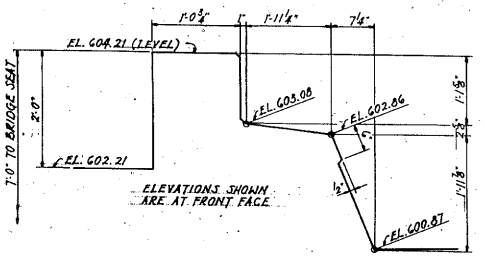
SECTION R-R
SCALE: ½"=1'-0"



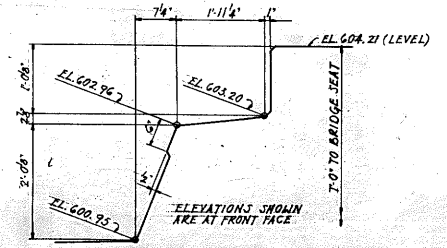
ELEVATION
DETAILS OF ABUTMENT BACKWALL
SHOWING REINFORCEMENT ABOVE BRIDGE SEAT
SCALE: ½"=1'-0"



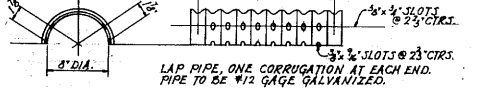
SECTION Q-Q
SCALE: ½"=1'-0"



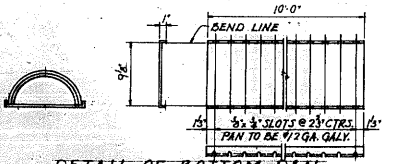
SECTION P-P
SCALE: 1"=1'-0"



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



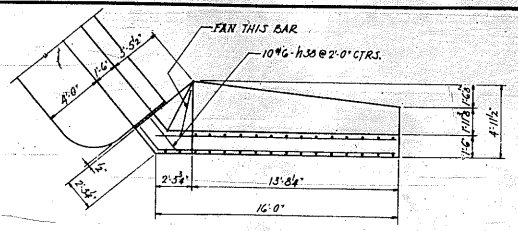
DETAIL OF HALF ROUND PIPE



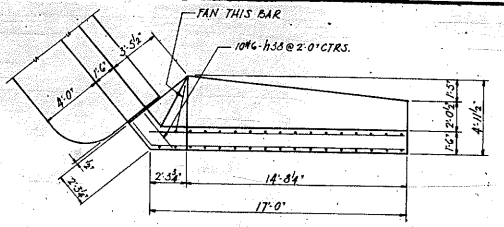
DETAIL OF BOTTOM PAN
DETAILS OF DECK DRAIN

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

WEST ABUTMENT DETAILS
UNDERPASS
WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A. RT. (CITY) 5 (U.S. 66) SECTION 109-1-38
SANGAMON COUNTY
STATION 21+27.40



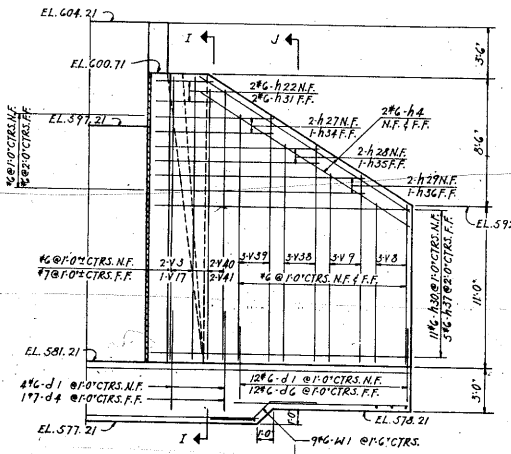
PLAN



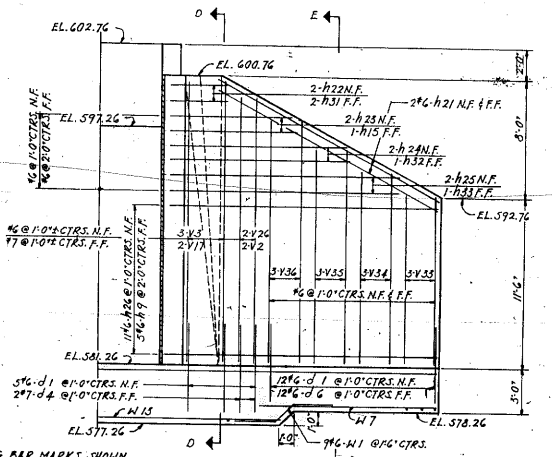
PLAN

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. (CITY) 5	109-1-3B	SANGAMON	53	30
STA.	TO STA			
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

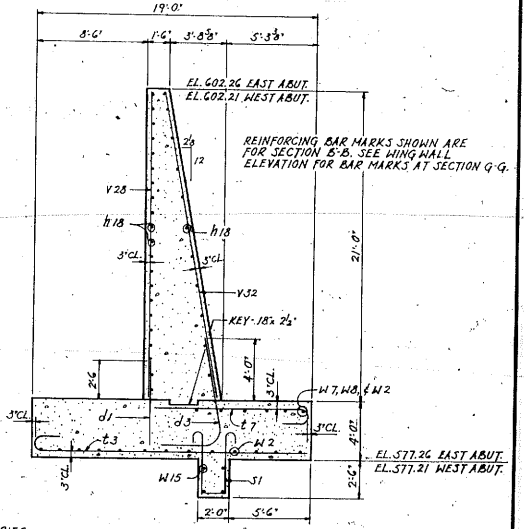
SHEET 17 OF 22



ELEVATION
NORTHWEST WINGWALL
SCALE: ¼"=1'-0"

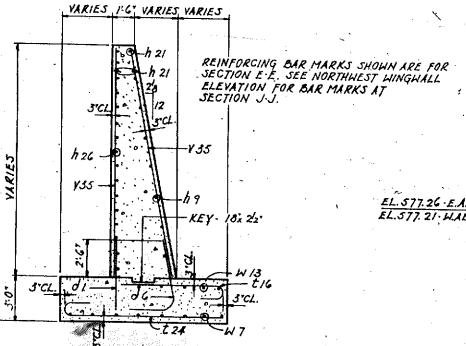


ELEVATION
SOUTHEAST WINGWALL
SCALE: ¼"=1'-0"

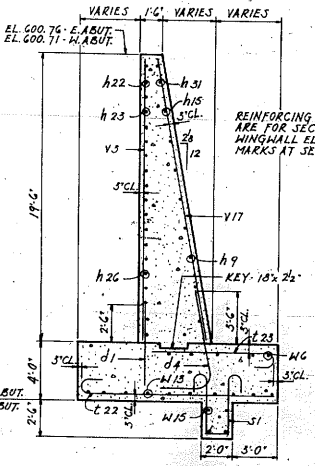


SECTION B-B
SECTION G-G SIMILAR

FOR LOCATION OF SECTION B-B SEE SHEET 13.
FOR LOCATION OF SECTION G-G SEE SHEET 15.
SCALE: ¼"=1'-0"



SECTION E-E
SECTION J-J SIMILAR
SCALE: ¼"=1'-0"

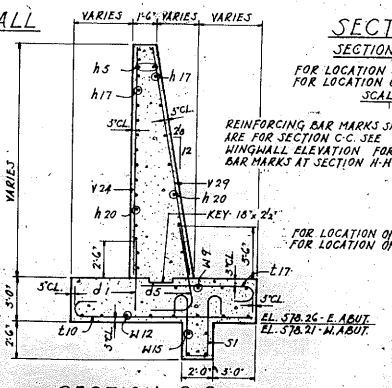


SECTION D-D
SECTION I-I SIMILAR
SCALE: ¼"=1'-0"

WABASH R.R.
BUILT 196 BY
STATE OF ILLINOIS
F.A. RT. (CITY) 5 (U.S. 66) SEC. 109-1-3B
PROJECT UG-166(37)
STATION 21+27.40

REFER NAME PLATE TO STANDARD 2113.
CENTER NAME PLATE UNDER NORTH GIRDER ON WEST ABUTMENT WALL. BOTTOM EDGE TO BE 3'-0" ABOVE TOP OF PAVEMENT.

LETTERING FOR NAME PLATE



SECTION C-C
SECTION H-H SIMILAR
SCALE: ¼"=1'-0"

FOR LOCATION OF SECTION C-C SEE SHEET 13.
FOR LOCATION OF SECTION H-H SEE SHEET 15.

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

DETAILS OF WINGWALLS
UNDERPASS

WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH. STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A. RT. (CITY) 5 (U.S. 66) SECTION 109-1-3B
SANGAMON COUNTY
STATION 21+27.40

REINFORCEMENT BAR LISTS

SHEET 18 OF 22

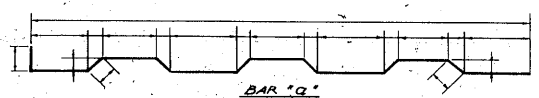
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.R.S. (CITY) 5	109-1-56	SANGAMON	53	31
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

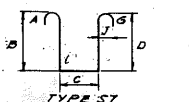
NO. REQUIRED EAST	NO. REQUIRED WEST	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	K	J
ABUTMENT															
		ST	RAIGHT												
5	5	#8	9-9	E20											
44	42	#7	18-9	V2											
2	3	1	19-6	V14											
	4	1	16-0	V15											
	4	1	17-6	V16											
7	5	1	19-3	V17											
	5	1	21-0	V18											
4		1	15-6	V29											
4		1	16-9	V30											
4		1	18-3	V31											
2		1	20-9	V32											
	2	#7	18-6	V41											
112	111	#6	5-0	d1											
1	2	#6	4-0	h1											
	3	1	6-6	h2											
	3	1	11-6	h3											
	7	1	16-6	h4											
	3	1	21-3	h5											
	3	1	26-3	h6											
	3	1	31-3	h7											
14	21	1	21-0	h8											
5	3	1	17-0	h9											
	8	1	20-9	h10											
38	38	1	27-9	h12											
16	16	1	36-3	h13											
2		1	4-6	h14											
4	1	1	7-6	h15											
3		1	13-3	h16											
3		1	19-0	h17											
3		1	24-6	h18											
3		1	30-3	h19											
12		1	21-6	h20											
7		1	16-9	h21											
2	2	1	3-0	h31											
1	1	1	10-9	h32											
1		1	14-3	h33											
	1	1	7-0	h34											
	1	1	10-01	h35											
	2	1	13-0	h36											
	5	1	16-3	h37											
10	10	1	2-6	h39											
1	1	1	28-0	h41											
6	4	1	2-9	h42											
8		1	22-6	h43											
1		1	7-3	h44											
3	2	1	5-0	h45											
1		1	8-0	h46											
6	6	1	1-6	h47											
5	4	1	12-3	h48											
6	6	#6	2-0	h51											

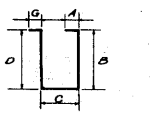
NO. REQUIRED EAST	NO. REQUIRED WEST	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	K	J
ABUTMENT															
	1	#6	3-3	h53											
	1	1	4-3	h54											
	1	#6	9-3	h55											
4	4	#6	6-6	c21											
51	51	#6	15-9	V1											
6	5	1	19-3	V3											
2	8	1	6-3	V5											
	8	1	7-9	V6											
	8	1	9-6	V7											
8	14	1	11-0	V8											
	14	1	12-9	V9											
	8	1	14-3	V10											
	4	1	16-0	V11											
	4	1	17-6	V12											
	4	1	19-0	V13											
	5	1	20-9	V14											
15		1	7-0	V19											
14		1	8-3	V20											
8		1	9-9	V21											
8		1	12-6	V22											
8		1	14-0	V23											
4		1	15-3	V24											
4		1	16-9	V25											
6		1	18-0	V26											
3		1	19-6	V27											
2		1	20-6	V28											
6		1	11-3	V33											
6		1	13-0	V34											
6		1	14-6	V35											
6		#6	16-3	V36											
	6	#6	14-9	V38											
	6	1	16-6	V39											
	2	1	18-6	V40											
28	24	1	3-6	V43											
	2	1	4-9	V44											
	18	1	6-9	V45											
	4	1	8-6	V46											
	12	1	8-9	V47											
8	6	1	7-6	V48											
2		1	6-0	V49											
9		1	5-3	V50											
7		#6	9-0	V51											
29	29	#6	28-0	W2											
1	1	1	20-0	W3											
1	1	1	21-6	W4											
1	1	1	23-0	W5											
10	10	1	8-0	W6											
10	2	#6	9-9	W7											

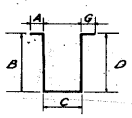
NO. REQUIRED EAST	NO. REQUIRED WEST	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	K	J
ABUTMENT															
2	7	#6	11-3	W8											
4	4	#6	33-0	W9											
2	2	#6	24-0	W11											
6	6	1	30-0	W12											
12	7	1	13-0	W13											
	8	1	8-6	W14											
16	16	#6	22-0	W15											
BENT															
42	42	#8	10-11	d2	13		3-0	1-8	6-3		1-0		4-0	3	
9	9	#8	11-7	d3	13		3-0	1-10	6-9		1-0		4-0	6	
44	44	#8	17-1	E1	1	1-1	16-0								10
2	2	1	19-7	E3	1	1-1	18-6								10
1	1	1	18-10	E4	1	1-1	17-9								10
1	1	1	17-10	E5	1	1-1	16-9								10
1	1	1	16-9	E6	1	1-1	15-8								10
5	5	1	10-0	E7	1	1-1	8-11								10
4	4	1	15-0	E8	1	1-1	13-11								10
4	4	1	14-1	E9	1	1-1	13-0								10
4	4	#8	13-2	E10	1	1-1	12-1								10
5	4	#7	11-1	d4	13		3-0	1-10	6-3		1-0		4-0	6	
8	8	#7	9-1	d5	13		2-0	1-10	5-3		1-0		3-0	4	
44	44	#7	10-10	E2	1	10	10-0								7
12	12	1	9-6	E17	1	10	8-8								7
12	11	1	12-9	E22	1	10	11-11								7
7	6	#7	8-3	E27	1	10	7-5								7
36	36	#6	8-1	d6	13		2-0	1-10	4-3		1-0		3-0	6	
32	32	#6	7-7	H11	11		2-2	3-10	1-7		2-5				
2	2	1	4-9	h22	3				2-9	2-0			1-6	1-3	
2		1	9-3	h23	3				7-3	2-0			1-6	1-3	
2		1	12-7	h24	3				10-7	2-0			1-6	1-3	
2		1	16-0	h25	3				14-0	2-0			1-6	1-3	
11		1	18-9	h26	3				16-9	2-0			1-6	1-3	
	2	1	8-9	h27	3				6-9	2-0			1-6	1-3	
	2	1	11-9	h28	3				9-9	2-0			1-6	1-3	
	2	1	14-9	h29	3				12-9	2-0			1-6	1-3	
	11	1	17-9	h30	3				15-9	2-0			1-6	1-3	
3	3	1	6-0	h38	3				2-6	3-6			2-5	1-7	
3	3	1	7-3	h40	3				3-9	3-6			2-5	1-7	
39	39	1	6-3	h49	2	1-3	5-0								
2	2	1	5-6	h50	2	1-3	4-3								
5	5	#6	6-9	h52	2	3-0	3-9								

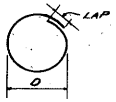
NO. REQUIRED EAST	NO. REQUIRED WEST	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	K	J
ABUTMENT															
78	78	#6	11-6	S1	S7	8	4-4	1-6	4-4			8			6
4	4	#6	11-10	C11	1	8	11-2								6
4		1	11-0	C12	1	8	10-4								6
4		1	10-1	C13	1	8	9-5								6
4		#6	9-2	C14	1	8	8-6								6
12	8	#6	7-3	C16	1	8	6-7								6
12	12	1	8-0	C18	1	8	7-4								6
12	16	1	6-9	C19	1	8	6-1								6
4		1	11-3	C23	1	8	10-7								6
4	8	1	9-9	C24	1	8	9-1								6
8	4	1	8-3	C25	1	8	7-7								6
	4	1	11-6	C26	1	8	10-10								6
	4	1	10-9	C28	1	8	10-1								6
	4	1	8-9	C29	1	8	8-1								6
	4	#6	7-9	C30	1	8	7-1								6
5	5	#6	11-0	U1	2	3-9	3-6					3-9			
21	20	#6	7-9	W42	2	1-2	7					6-0			
19	19	#6	6-6	W1	3			1-6	1-6	1-6		1-0½	1-0½		

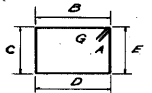


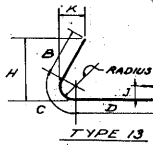


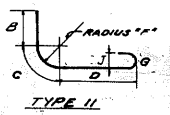


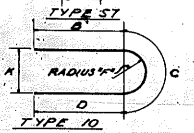


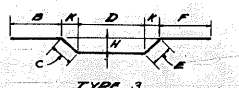


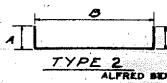


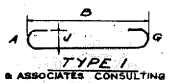












NOTE: ALL DIMENSIONS OUT TO OUT
DIMENSIONS OMITTED ARE 12.00

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

REINFORCEMENT BAR LISTS
UNDERPASS
WABASH R.R. BRIDGE No. 182-A
OVER SOUTH 5TH STREET - SPRINGFIELD, ILLINOIS
PROJECT UG-166(37)
F.A.R.T.(CITY) 5 (U.S.66) SECTION 109-1-56
SANGAMON COUNTY
STATION 21+27.40