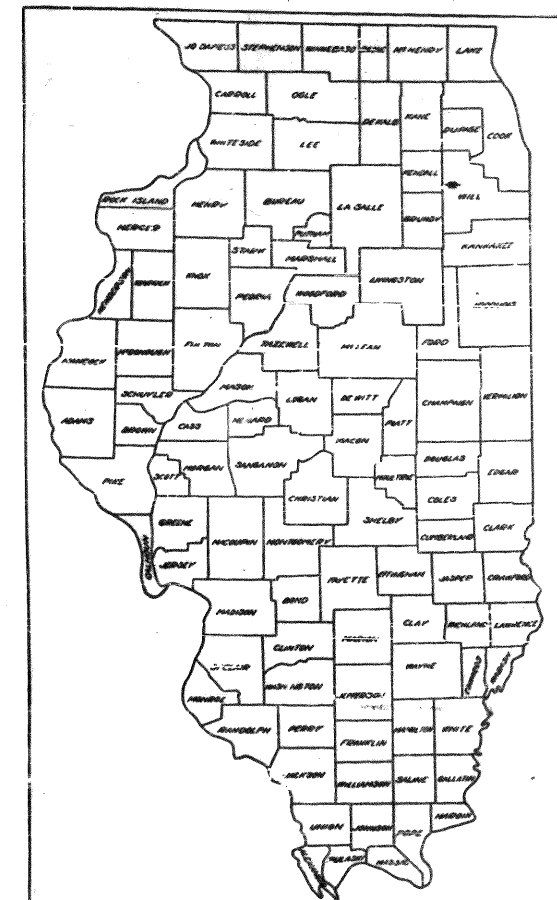


STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID INTERSTATE HIGHWAY

FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80-99-1HB		WILL	22	1
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT	I-80-4(10)	

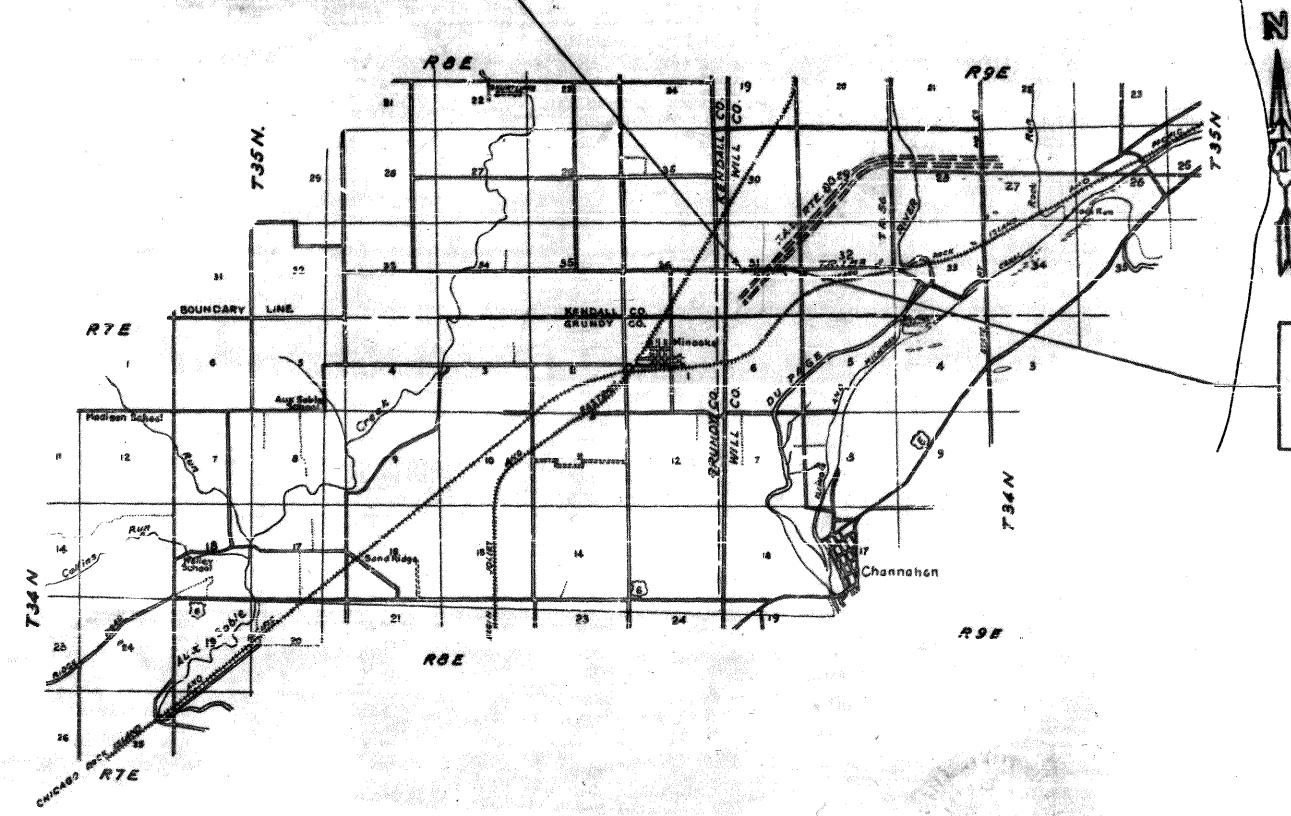
SCALES
 PLAN 1 INCH = 100 FT.
 PROFILE HOR. 1 INCH = 100 FT.
 PROFILE VERT. 1 INCH = 10 FT.
 CROSS-SECTIONS 1 INCH = 5 FT. VERT. 10 FT. HORIZ.

F.A.I. ROUTE 80 SECTION 99-1HB
PROJECT I-80-4(10) 125
WILL COUNTY



LOCATION OF SECTION INDICATED THIS: —

IMPROVEMENT BEGINS
 SECTION 99-1HB
 STATION 7+25
 ON TOWNSHIP ROAD 153



IMPROVEMENT ENDS
 SECTION 99-1HB
 STATION 25+25
 ON TOWNSHIP ROAD 153

SECTION 99-1HB INCLUDES THE FURNISHING OF ALL MATERIALS AND CONSTRUCTION OF A PRECAST PRESTRESSED CONCRETE I-BEAM GRADE SEPARATION STRUCTURE, SPANS 2 AT 51'-9 1/2" AND 2 AT 71'-7" CARRYING TOWNSHIP ROAD 153 OVER F.A.I. ROUTE 80 AT STATION 1804+10.29, SURVEY LINE ON F.A.I. ROUTE 80.

THIS SECTION ALSO INCLUDES THE CONSTRUCTION OF TOWNSHIP ROAD 153 APPROACH EMBANKMENT AND ROADWAY. THE ROADWAY SECTION CONSISTS OF AN 18 FOOT BITUMINOUS SURFACE SUB-CLASS A-2 TREATMENT ON A 20 FOOT GRAVEL OR CRUSHED STONE BASE COURSE, TYPE A (7" COMPACTED THICKNESS)

FOR INDEX OF SHEETS SEE SHEET 2
 FOR SUMMARY OF QUANTITIES SEE SHEET 3

PLAN FOR STRUCTURES EXAMINED *July 29 1959*
McR...
 DIVISION OF PUBLIC WORKS AND BUILDINGS

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
 DIVISION OF HIGHWAYS
 SUBMITTED: *May 28 1959*
D. B. Magowan DISTRICT ENGINEER
 EXAMINED: *July 29 1959*
William Cordell CHIEF OF ROAD PLOTS AND CONTRACTS
 PASSED: *July 29 1959*
E. H. ... CHIEF ENGINEER OF DESIGN
 APPROVED: *July 29 1959*
W. H. ... CHIEF HIGHWAY ENGINEER
 APPROVED: *July 29 1959*
Ed ... DIRECTOR

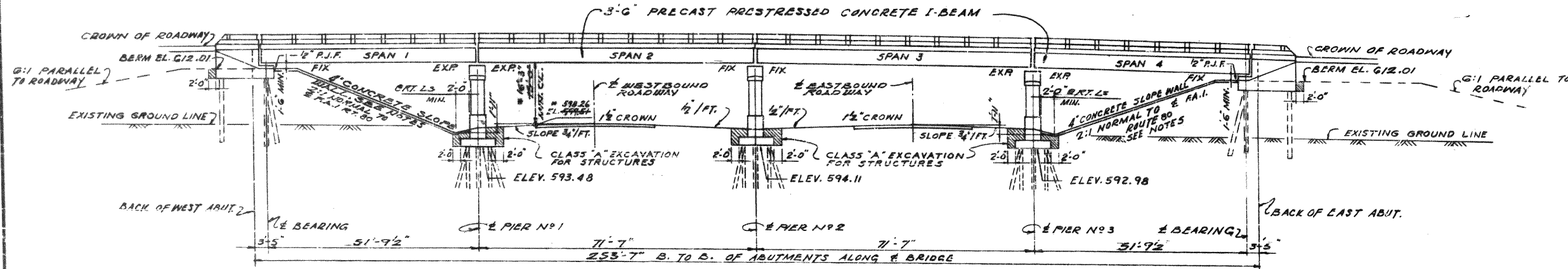
DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS
 APPROVED
 DIVISION ENGINEER DATE

GROSS LIMITS OF CONTRACT 1800 FEET 0.3409 MILES
 NET LIMITS OF CONTRACT 1800 FEET 0.3409 MILES

Stansel
 8/300

B.M. #24: ELEV. 595.87
 R.R. SPIKE IN 18" WILD CHERRY STUMP
 170' RT. OF STA. 1805+45 F.A.I. 80.
 B.M. #23: ELEV. 603.93
 R.R. SPIKE IN 16" HACKBERRY TREE 240'
 RT. OF STA. 1789+60 F.A.I. 80.

SECTION	COUNT	TOTAL SHEETS	SHEET NO.
F.A.I. 80	99-1HB	WILL	22
STA.	TO: STA.		2

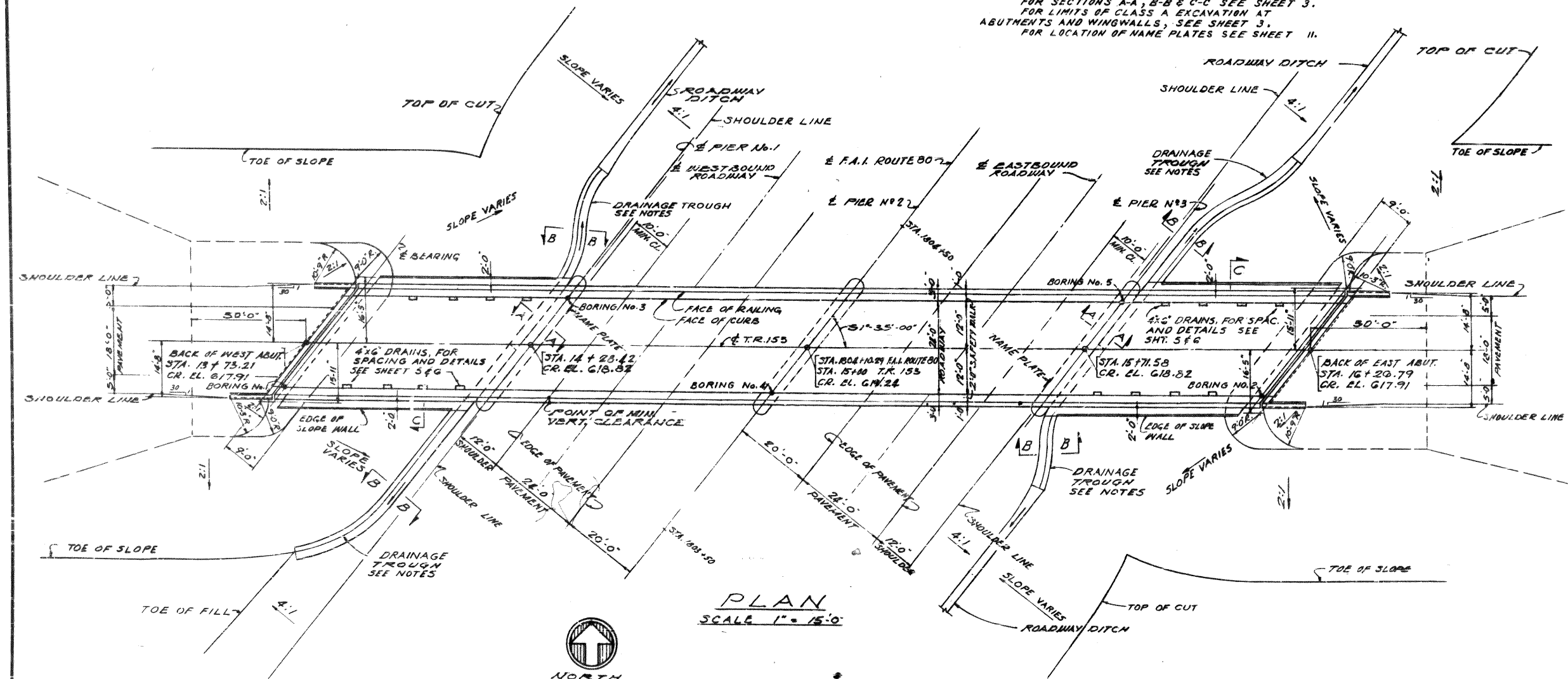


ELEVATION
 SCALE 1" = 15'-0"

NOTES:
 SLOPEWALLS TO BE REINFORCED WITH WELDED WIRE FABRIC 6"x6" MESH NO. 4 WIRE WEIGHING APPROX. 58# PER 100 SQ. FT.
 DRAINAGE TROUGH TO HAVE MIN. 8" PER FT. SLOPE EACH DIRECTION FROM EDGE OF SLOPEWALL AND TO TERMINATE IN ROADWAY DITCH.
 5 TO 1 BACKSLOPE MAY BE OMITTED IF EMBANKMENT IS CONSTRUCTED FULL 1:1.
 FOR SECTIONS A-A, B-B & C-C SEE SHEET 3.
 FOR LIMITS OF CLASS A EXCAVATION AT ABUTMENTS AND WINGWALLS, SEE SHEET 3.
 FOR LOCATION OF NAME PLATES SEE SHEET 11.

INDEX OF SHEETS

SHEET NO.	TITLE
1.	TITLE SHEET
2.	GENERAL PLAN AND ELEVATION
3.	DRAINAGE DETAILS, EXCAVATION, QUANTITIES AND GENERAL NOTES
4.	BORINGS AND NAME PLATE
5.	DECK REINFORCEMENT PLAN
6.	DECK CROSS SECTIONS AND DIAPHRAGM DETAILS
7.	DETAILS OF PRECAST PRESTRESSED CONCRETE I-BEAMS
8.	FRAMING PLAN, BEARING DETAILS AND EXPANSION DETAILS
9.	HANDRAIL DETAILS
10.	EAST AND WEST ABUTMENTS AND WINGWALL DETAILS
11.	PIERS 1, 2 AND 3
12.	REINFORCEMENT BAR LISTS
13.	ABUTMENT PILES
14.	SPECIAL HEADWALL DESIGN, GENERAL NOTES FOR ROADWAY CONSTRUCTION, TYPICAL SECTION, SCHEDULES, SUMMARY OF ROADWAY QUANTITIES, AND SYMBOLS.
15.	ROAD PLAN AND PROFILE
16.	CROSS SECTIONS
17.	CROSS SECTIONS
18.	CROSS SECTIONS
19.	STANDARDS 1686R AND 2124R
20.	STANDARDS 2128-1, 1974-2, 1972-1 AND 1967-1
21.	STANDARDS 1744-1, 1687S AND 2123
22.	STANDARDS 1973 AND 2113



PLAN
 SCALE 1" = 15'-0"

HIGHWAY CLASSIFICATION
 T-P-40
DESIGN LOADS
 LL. H15-512-44
 FUTURE D.L. = 1/4" BIT WEARING SURFACE
DESIGN STRESSES
CONCRETE (CAST IN PLACE)
 f_c = 3500 LBS. PER SQ. IN.
 f_c = 1800 LBS. PER SQ. IN.
 f_c = (WITH EARTH PRESSURE) 1000 LBS. PER SQ. IN.
 f_v = (PIER FOOTING) 75 LBS. PER SQ. IN.
 n = 10
PRESTRESSED CONCRETE
 f_c = 5000 LBS. PER SQ. IN.
 f_c = 4,000 LBS. PER SQ. IN.
 f_c = 2,000 LBS. PER SQ. IN.
REINFORCING STEEL
 f_s = 20,000 LBS. PER SQ. IN.
PRETENSIONING STEEL
 f_{su} = 283,000 LBS. PER SQ. IN.
 f_{sc} = 173,000 LBS. PER SQ. IN.
PILE LOADS
 ABUTMENTS = 35 TONS (CONCRETE PILES)
 WINGWALLS = 10 TONS (TIMBER PILES)
 PIERS = 20 TONS (TIMBER PILES)

GENERAL PLAN & ELEVATION
GRADE SEPARATION
 T.R. 153
 OVER F.A.I. ROUTE 80
 F.A. PROJECT I-80-4(10)
 F.A.I. ROUTE 80 SECTION 99-1HB
 WILL COUNTY
 STATION 1802+10.29

* Revised 1-2-61 JDS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	99-1HB	WIL.	22	3
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	F.A. PROJ. NO.		

GENERAL NOTES

CLASS X CONCRETE SHALL BE USED THROUGHOUT EXCEPT FOR CONCRETE IN HANDRAILS AND PRECAST I-BEAMS.

HANDRAIL CONCRETE SHALL BE USED IN HANDRAIL PORTION OF WINGWALLS AS SHOWN. FOR CONCRETE IN PRECAST I-BEAMS SEE SPECIAL PROVISIONS.

ALL CONCRETE SHALL BE CAST IN PLACE EXCEPT FOR THE PRECAST PRESTRESSED CONCRETE I-BEAMS.

THE CONCRETE FLOOR SLAB FOR EACH SPAN SHALL BE PLACED IN ONE CONTINUOUS OPERATION BETWEEN CONSTRUCTION JOINTS SHOWN AND SHALL BE FINISHED IN ACCORDANCE WITH ARTICLE 51.7 OF THE STANDARD SPECIFICATIONS.

ALL STEEL SHALL BE STRUCTURAL STEEL EXCEPT AS OTHERWISE NOTED.

BRONZE EXPANSION PLATES SHALL CONFORM TO A.S.T.M. SPECIFICATION B100, ALLOY 1, AND SHALL HAVE GRAPHITE INSERTS INSTALLED IN THE SLIDING SURFACE AS MANUFACTURED BY MERRIMAN BROS. INC., BOSTON, MASS., OR EQUAL.

ALL STEEL BEARING PLATES, GRAPHITE BRONZE EXPANSION PLATES, LEAD PLATES AND ANCHOR BOLTS SHALL BE FABRICATED AND SET IN ACCORDANCE WITH ARTICLE 51.15 OF THE STANDARD SPECIFICATIONS AND ARE INCLUDED IN QUANTITY OF STRUCTURAL STEEL. ESTIMATED WEIGHT - 5,710 LBS.

STEEL EXPANSION DEVICES AT THE PIERS AND ABUTMENTS SHALL BE FABRICATED AND SET IN ACCORDANCE WITH ARTICLE 51.15 (6) OF THE STANDARD SPECIFICATIONS AND ARE INCLUDED IN QUANTITY OF STRUCTURAL STEEL. ESTIMATED WEIGHT - 6,460 LBS.

STRUCTURAL STEEL SHALL BE PAINTED ONE SHOP COAT OF RED LEAD PAINT AND TWO FIELD COATS OF ALUMINUM PAINT IN ACCORDANCE WITH SECTION 56 OF THE STANDARD SPECIFICATIONS EXCEPT AS OTHERWISE SPECIFIED ON THE PLANS.

THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE IN A PERMANENT LOCATION AT EACH ABUTMENT AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE CONCRETE PILES.

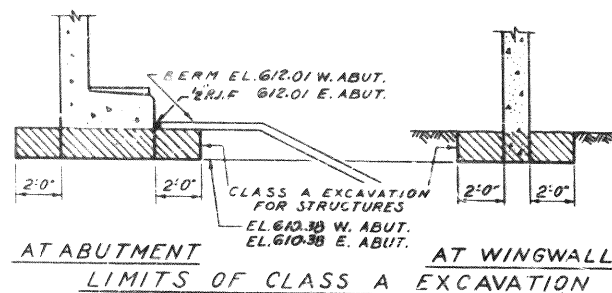
THE CONTRACTOR SHALL DRIVE ONE TIMBER TEST PILE AT EACH PIER AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE TIMBER PILES. JOINTS IN DECK SLAB NOTED ON PLANS TO BE FILLED WITH "PARALASTIC OR EQUAL" SHALL BE FILLED WITH JOINT SEALER CONFORMING TO "FEDERAL SPECIFICATION FOR SEALER, HOT POURED TYPE, FOR JOINTS IN CONCRETE 33-3.10.4". SHOP INSPECTION OF STRUCTURAL STEEL AND PRECAST PRESTRESSED I-BEAMS BY ILLINOIS DIVISION OF HIGHWAYS.

CONCRETE PILES THRU EMBANKMENT SHALL BE DRIVEN IN PRECURED HOLES IN ACCORDANCE WITH SEC. 60.9 (c) OF STANDARD SPECIFICATIONS.

BILL OF MATERIAL

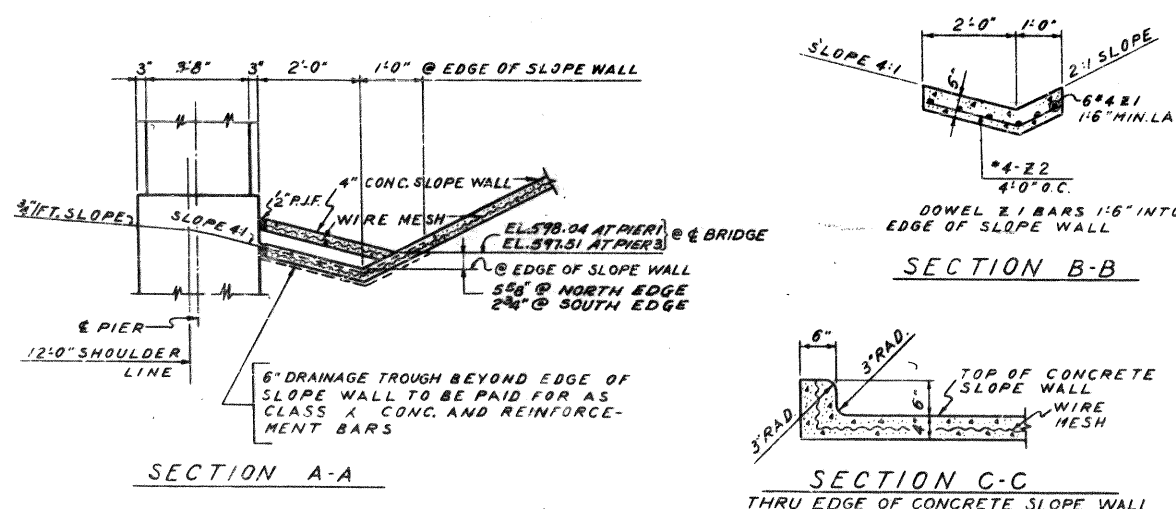
ITEM	UNIT	QUANTITY		
		SUPER	SUB	TOTAL
CLASS X CONCRETE	CU. YDS.	246.6	289.5	536.1 *
HANDRAIL CONCRETE	CU. YDS.		2.0	2.0
REINFORCEMENT BARS	LBS.	45,380	36,000	81,380 *
FURNISHING AND ERECTING STRUCTURAL STEEL	LBS.	12,170	—	12,170
FURNISHING AND ERECTING METAL HANDRAIL	LIN. FT.	536	—	536
NAME PLATES	EACH	—	2	2
FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS	LIN. FT.	1,381	—	1,381
TEST PILES (CONCRETE)	EACH	—	2	2
TEST PILES (TIMBER)	EACH	—	3	3
SLOPE WALL	SQ. YDS.	—	390	390
CLASS A EXCAVATION FOR STRUCTURES	CU. YDS.	—	276	276
FURNISHING CONCRETE PILES	LIN. FT.	—	570	570
DRIVING CONCRETE PILES	LIN. FT.	—	570	570
FURNISHING CREOSOTED PILES, 20.1 TO 38'	LIN. FT.	—	2,434	2,434
DRIVING TIMBER PILES	LIN. FT.	—	2,434	2,434
BITUMINOUS MATERIALS (COVER AND SEAL COATS)	GALS.			1,550
BITUMINOUS MATERIALS (PRIME COAT)	GALS.			1,290
BORROW EXCAVATION	CU. YDS.			44,070
COMPLETE SEEDING	ACRES			1.5
COVER COAT AGGREGATE	TONS			31
EARTH EXCAVATION	CU. YDS.			863
EMULSIFIED ASPHALT	GALS.			600
FERTILIZER NUTRIENTS	TONS			0.3
FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH			19
GRAVEL OR CRUSHED STONE BASE COURSE, TYPE A	TONS			1,350
GUIDE POSTS	EACH			41
PIPE CULVERTS, TYPE 2, 48 IN.	LIN. FT.			86
PROJECT MARKERS	EACH			2
SEAL COAT AGGREGATE	TONS			31
STEEL PLATE BEAM GUARD RAIL (12.5' UNITS)	LIN. FT.			75
STORM SEWERS, TYPE 1, 12 IN.	LIN. FT.			125
STRAW FOR ASPHALT COATED MULCH	TONS			6
TEMPORARY SEEDING	ACRES			1.5
TREE REMOVAL (6" TO 18" DIA.)	IN. DIA.			189
TREE REMOVAL (OVER 18" DIA.)	IN. DIA.			114
CORRUGATED METAL PIPE 24"	LIN. FT.			32

NOTE: THESE ITEMS MARKED THIS * INCLUDE 9.1 CU. YDS. CLASS X CONCRETE AND 780 LBS. REINFORCEMENT BARS FOR DRAINAGE TROUGH AND 13.5 CU. YDS. CLASS X CONCRETE AND 860 LBS. REINFORCEMENT BARS FOR HEADWALLS AT STA. 22+80 AND STA. 23+20.



BILL OF MATERIAL - SLOPE WALL

ITEM	UNIT	EAST ABUT.	WEST ABUT.
SLOPE WALL	SQ. YDS.	195	195



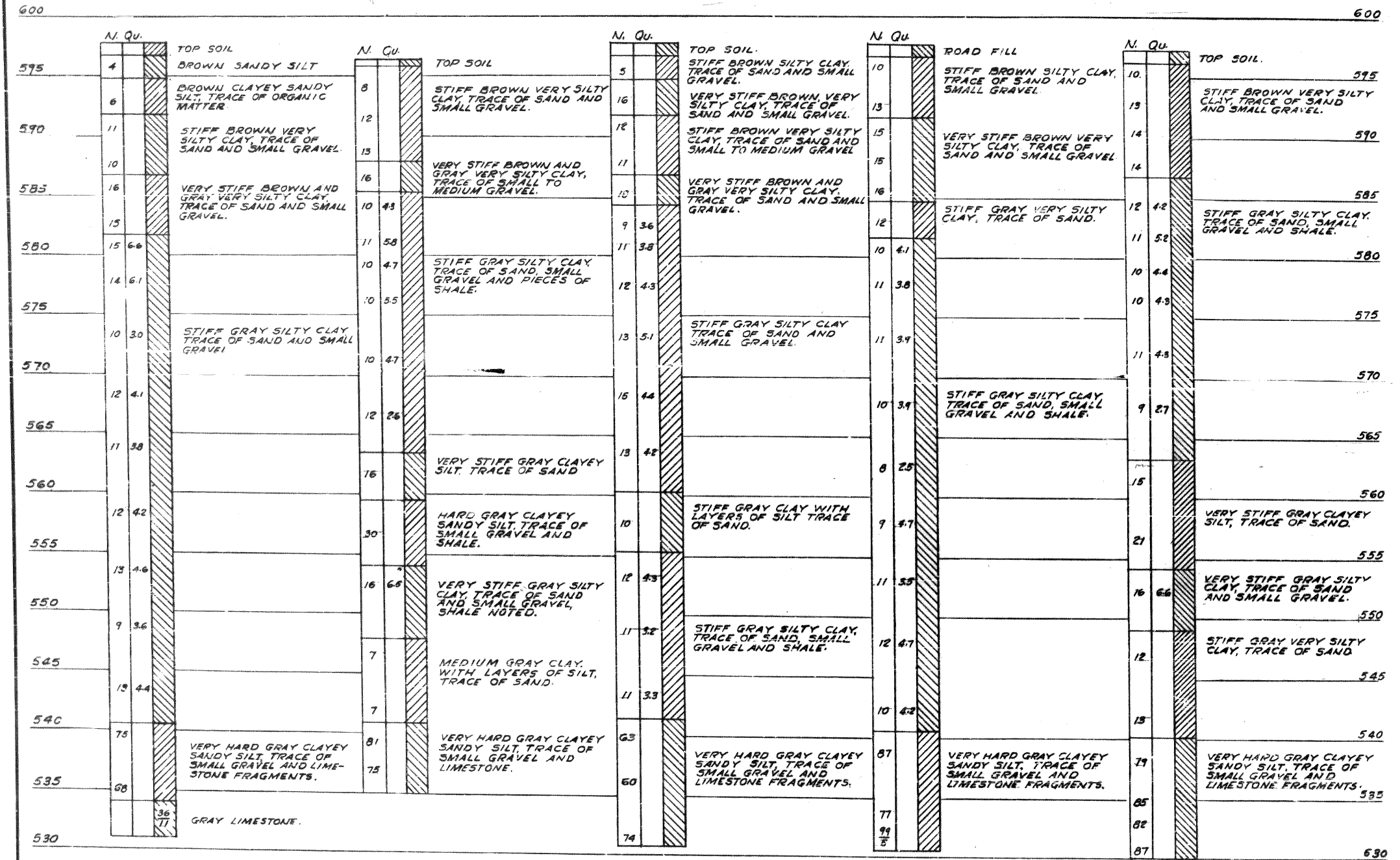
BILL OF MATERIAL - DRAINAGE TROUGHS

ITEM	UNIT	TOTAL
CLASS X CONCRETE	CU. YDS.	5.1
REINFORCEMENT BARS	LBS.	780

DRAINAGE DETAILS, EXCAVATION, QUANTITY AND GENERAL NOTES
 GRADE SEPARATION
 T.R. 153
 OVER F.A.I. ROUTE 80
 F.A. PROJECT
 F.A.I. ROUTE 80 SECTION 99-1HB
 WILL COUNTY
 STATION 1804+10.29

SOIL TEST BORINGS

BORING No. 1 BORING No. 2 BORING No. 3 BORING No. 4 BORING No. 5



STATION 1804+10.29
 BUILT 195 BY
 STATE OF ILLINOIS
 F.A.I. RT. 80 SEC. 99-1HB
 F.A. PROJ. I-80-4(10)
 LOADING H15-S12

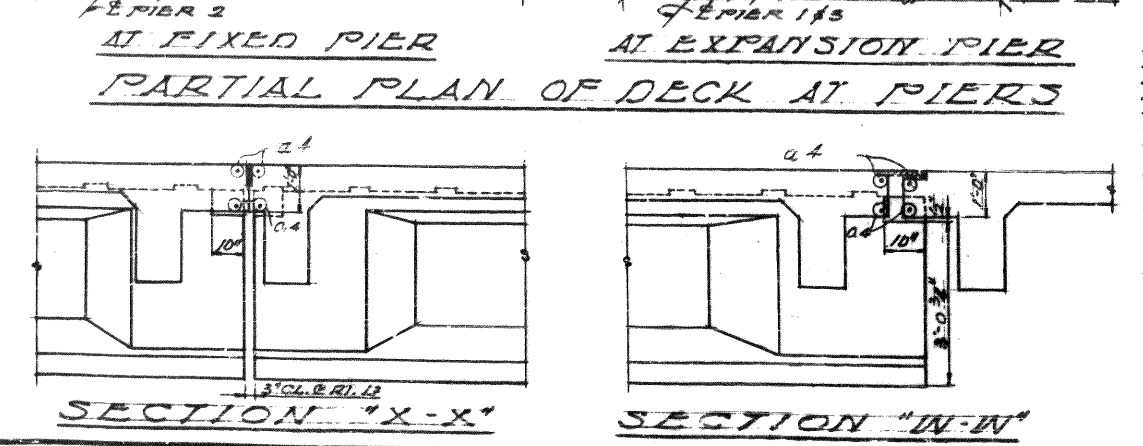
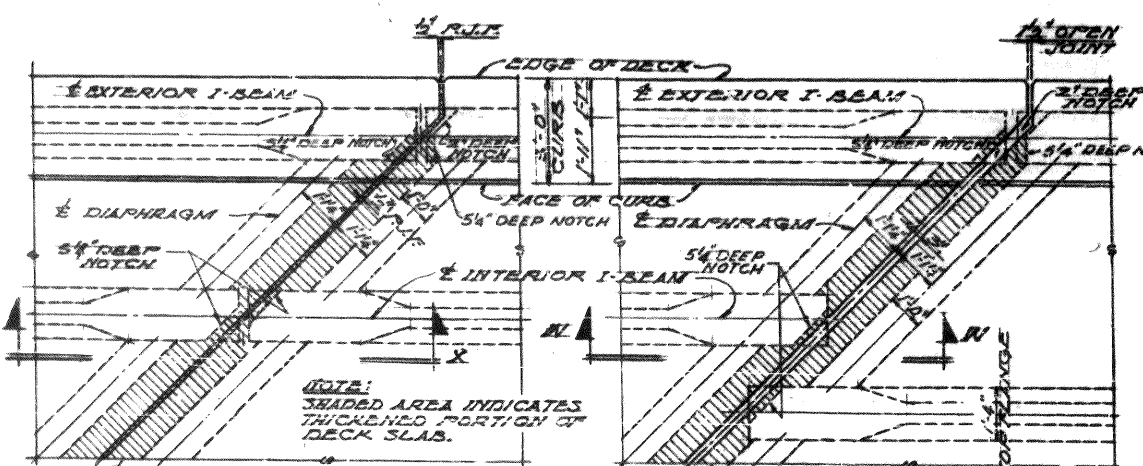
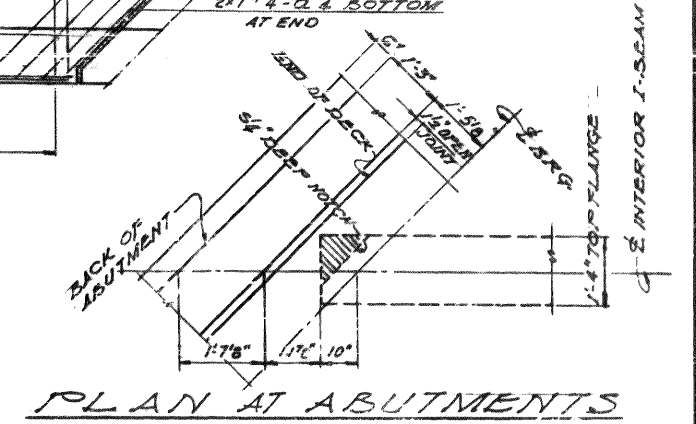
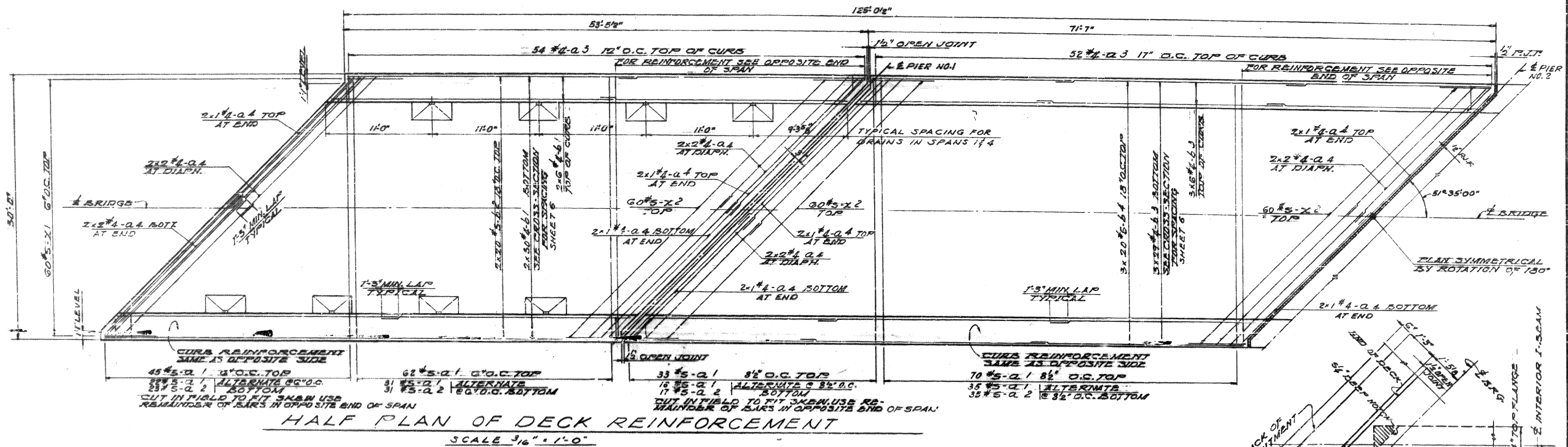
SEE STATE OF ILLINOIS STD.-2113
 NAME PLATES EACH 2

LETTERING FOR NAME PLATES

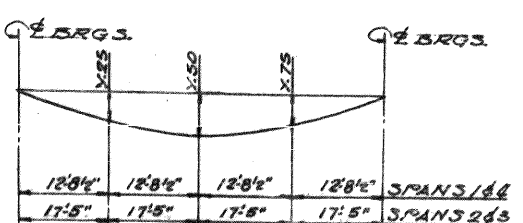
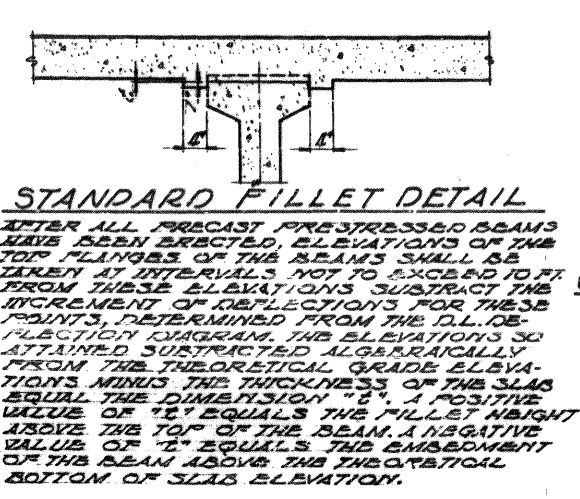
NOTE

FIGURES IN COLUMN MARKED "N" INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE SAMPLING PIPE ONE FOOT USING 140 LB. WEIGHT FALLING 30 INCHES.
 FIGURES IN COLUMN MARKED "Qu" INDICATE UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQ. FT.
 BORING DATA ARE SHOWN ONLY AS A GUIDE FOR BIDDERS IN ESTIMATING SOIL CONDITIONS WHICH MAY BE ENCOUNTERED IN THE WORK. FOR LOCATION OF BORINGS SEE SHEET 2.
 FIGURES NOTED THUS $\frac{A}{B}$ A INDICATES AMOUNT OF ROCK CORED, IN INCHES. B INDICATES AMOUNT OF ROCK RECOVERED IN INCHES.

BORINGS AND NAMEPLATE
 GRADE SEPARATION
 T.R. 153
 OVER F.A.I. ROUTE 80
 F.A. PROJECT
 F.A.I. ROUTE 80 SECTION 99-1HB
 WILL COUNTY
 STATION 1804+10.29



NOTE:
ORDER Q.1 AND Q.2 FULL LENGTH, CUT TO FIT SKEN AND USE REMAINDER OF BARS IN OPPOSITE ENDS WHERE INDICATED. SKEW REINFORCEMENT WHERE SHOWN FOR CROSS SECTIONS AND DRAIN DETAILS SEE SHT. 6. BARS INDICATED THUS 2-20'S ETC., INDICATES 20 LINES OF BARS WITH 2 LENGTHS OF BARS PER LINE.



WEIGHT OF PRESTRESSED I-BEAM NOT INCLUDED

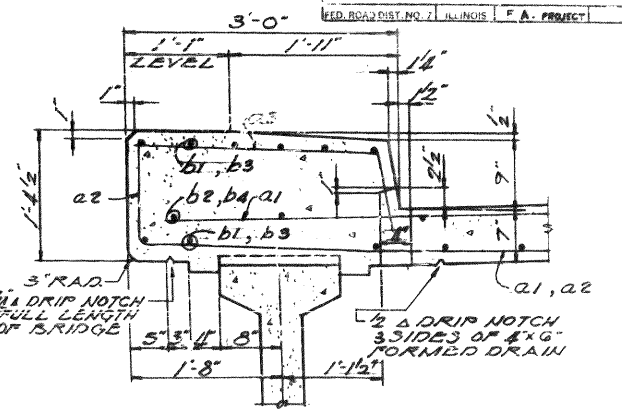
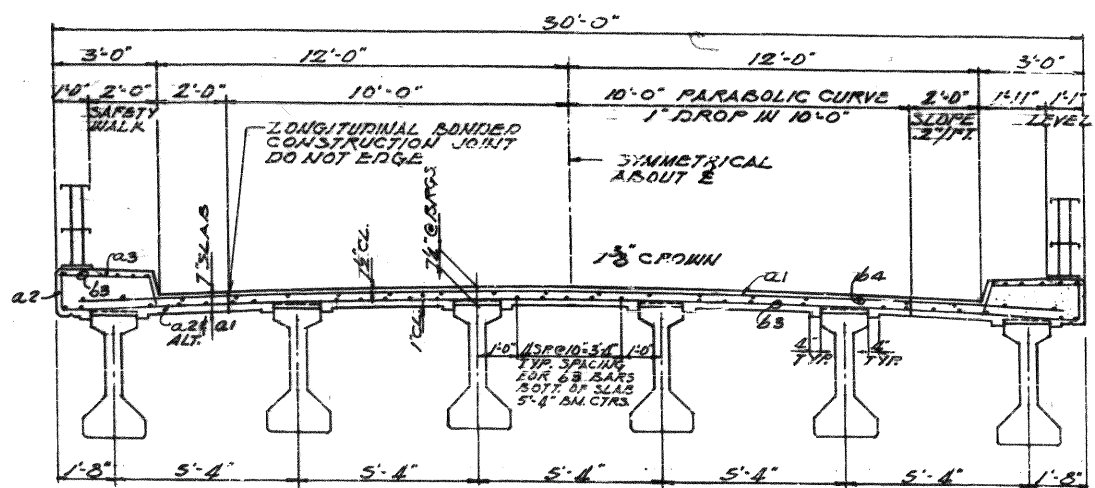
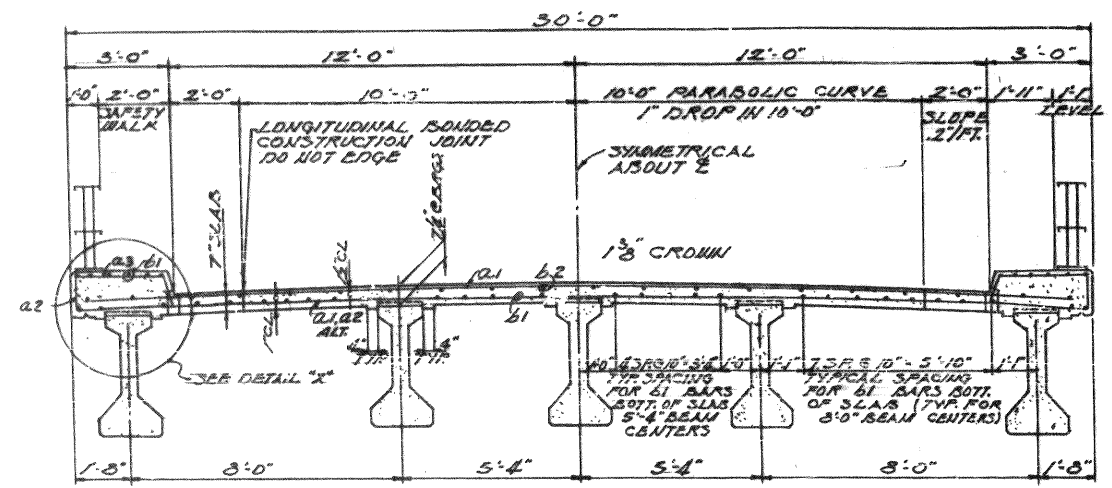
TABLE OF "Y" DIMENSIONS

BEAMS	SPANS 144		SPANS 243	
	Y ₂₅	Y ₇₅	Y ₂₅	Y ₇₅
EXTERIOR	5 1/8	3 3/8	5 1/8	3 3/8
1ST. INTERIOR	3 1/8	1 1/2	3 1/8	1 1/2
OTHER INTERIOR	1 1/8	3/8	1 1/8	3/8

BILL OF MATERIALS - SUPERSTRUCTURE

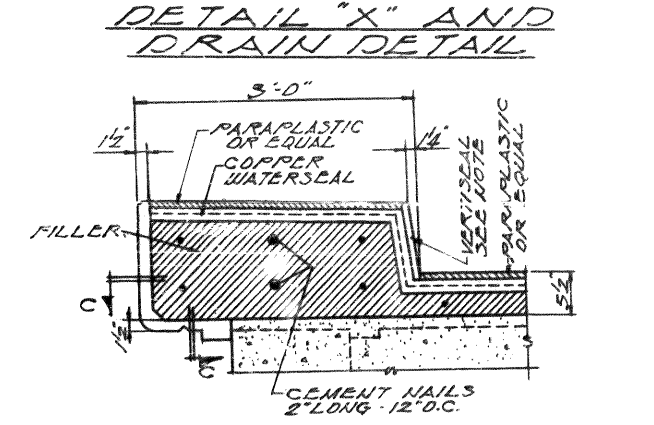
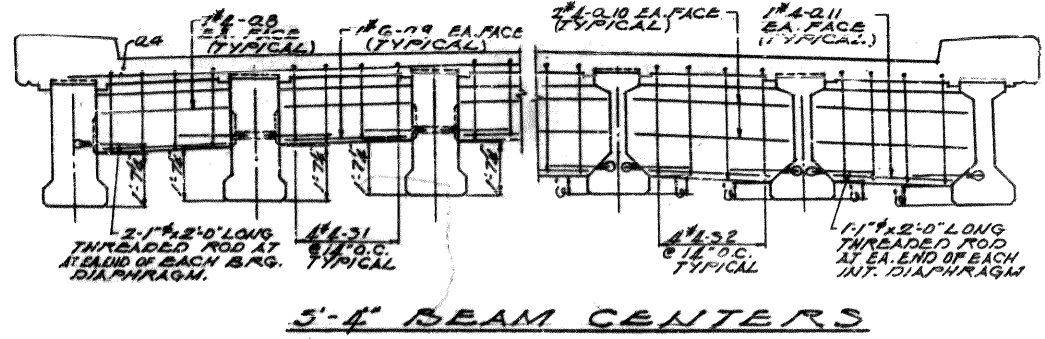
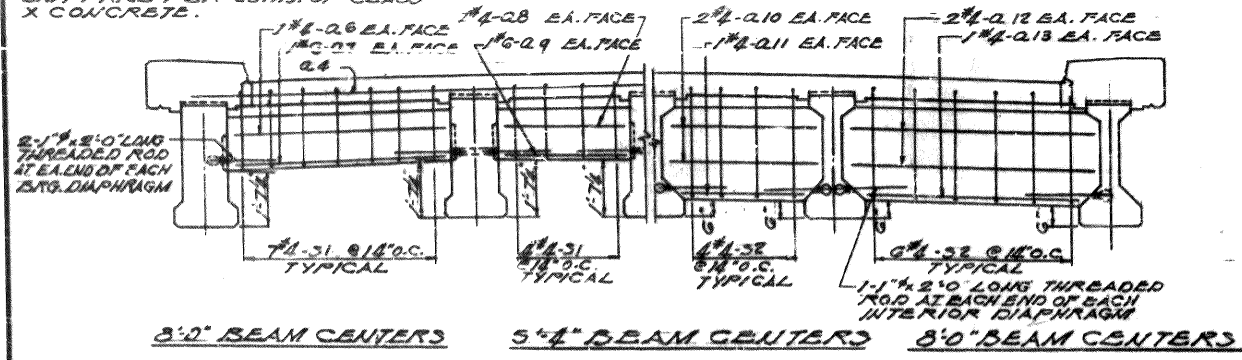
ITEM	UNIT	TOTAL
CLASS X CONCRETE	CU. YDS.	246.6
REINFORCEMENT BARS	LBS.	45,380
METAL HANDRAIL	LIN. FT.	536
STRUCTURAL STEEL	LBS.	12,170
FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS	LIN. FT.	1,381

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 80	99-1HB	WILL	22	6
STA.	TC STA.			
RED. ROAD DIST. NO. 2	ILLINOIS	F. A. PROJECT		



SPANS 1 & 4 SPANS 2 & 3
TYPICAL CROSS SECTIONS
 SCALE 3/8" = 1'-0"

NOTE: COST OF THREADED RODS ARE INCIDENTAL TO THE CONTRACT UNIT PRICE PER CU. YD. OF CLASS X CONCRETE.

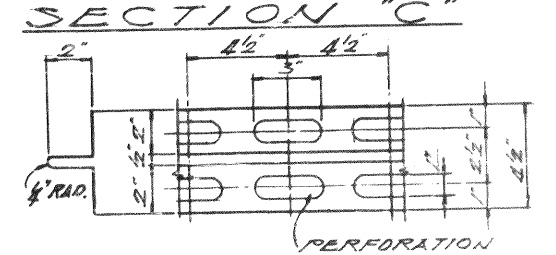
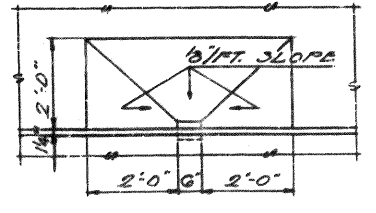
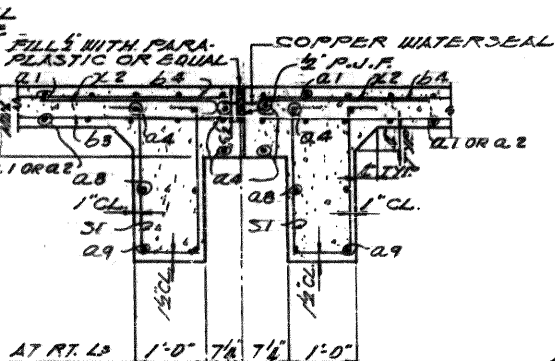
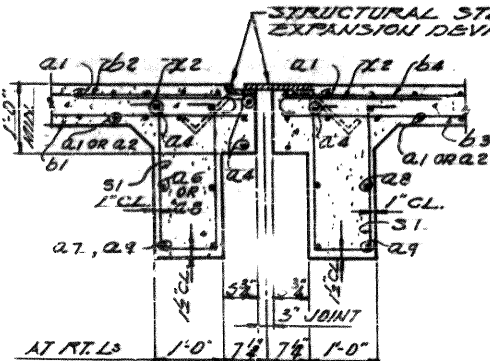
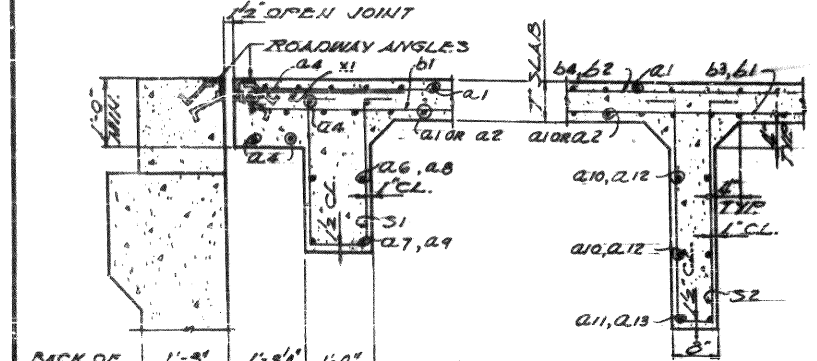


CURB DETAIL AT FIXED PIER
 SCALE 1" = 1'-0"

NOTE: SEAL VERTICAL CURB JOINT WITH BLACK GILD APPLIED JOINT SEALER VERTISEAL OR APPROVED EQUAL.

AT BEARINGS AT INTERIOR AT BEARINGS AT INTERIOR
SPANS 1 & 4 SPANS 2 & 3
TYPICAL DIAPHRAGM DETAILS
 SCALE 3/8" = 1'-0"

NOTE: FOR THICKENED PORTION OF DECK AT END OF SLAB SEE SHEET 5.



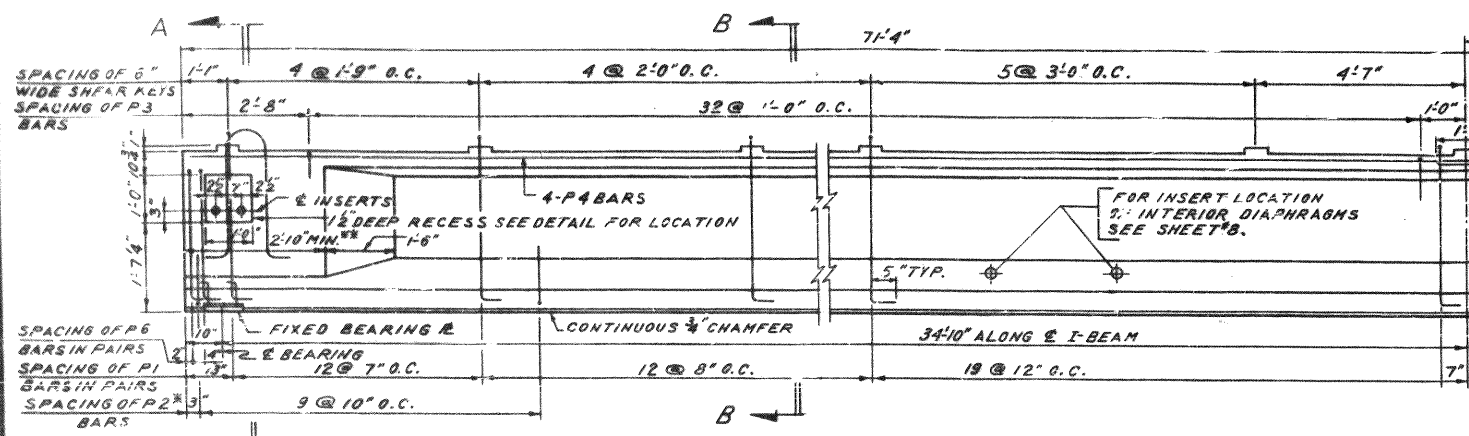
DETAIL OF COPPER WATERSEAL
 SCALE 3" = 1'-0"

PLAN AT DRAINS
 SCALE 1/2" = 1'-0"

AT ABUTMENTS AT INTERIORS AT EXPANSION PIERS AT FIXED PIER
TYPICAL DIAPHRAGM SECTIONS
 SEE SHEETS No. 7 & 8 FOR DIAPHRAGM LOCATIONS
 SCALE 3/8" = 1'-0"

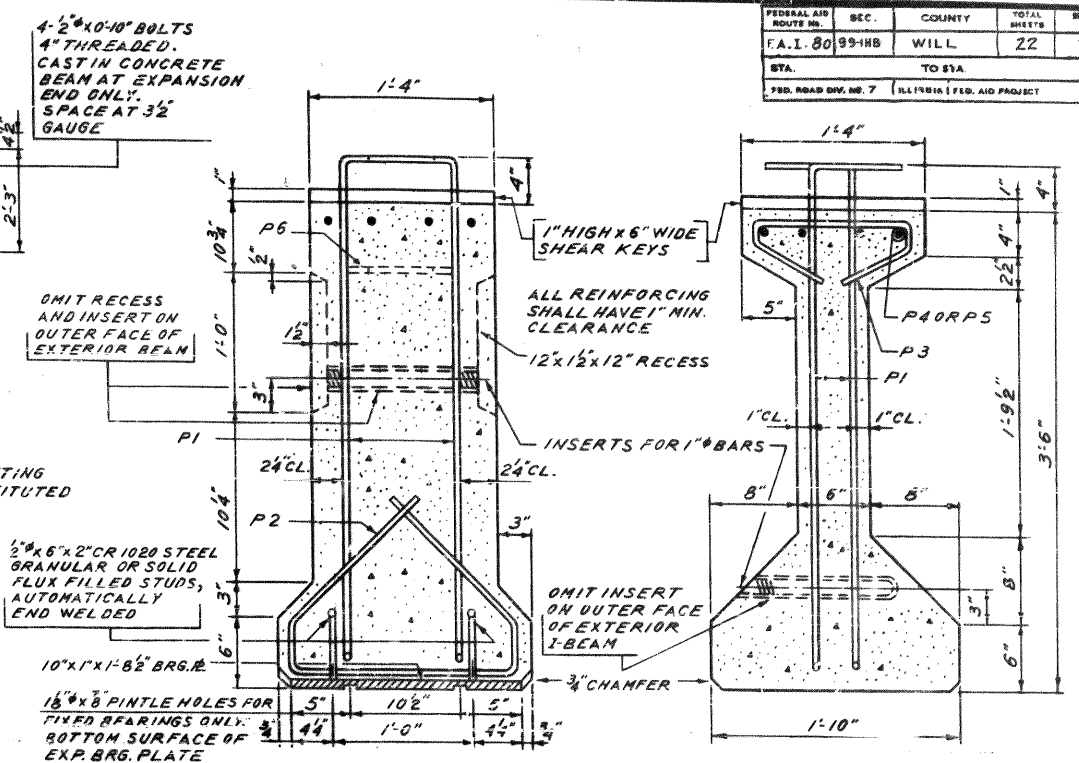
DECK CROSS SECTIONS AND DIAPHRAGM DETAILS
 GRADE SEPARATION
 T. R. 153
 OVER F.A.I. ROUTE 80
 F.A. PROJECT
 F.A.I. ROUTE 80 SECTION 99-1HB
 WILL COUNTY
 STATION 180+10.29

ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
 10 SOUTH WABASH AVENUE 613 CHICAGO, ILLINOIS

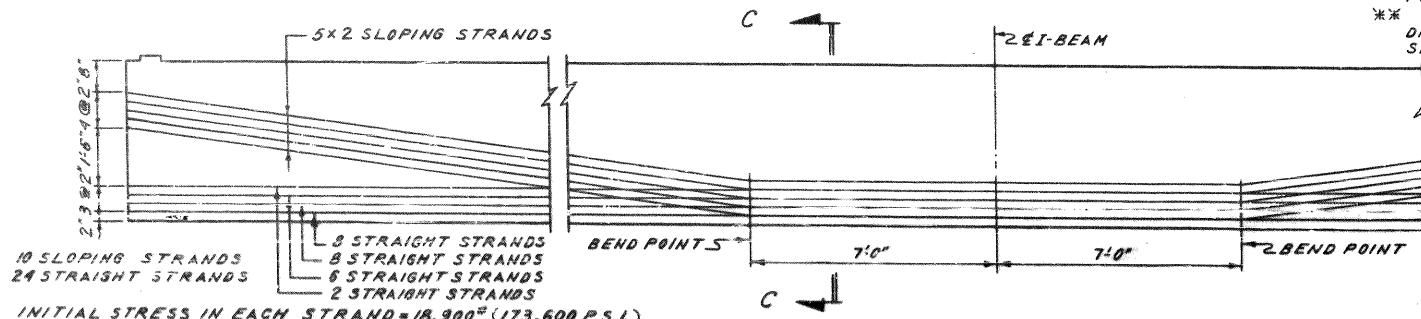


ELEVATION OF 69'-8" SPAN I-BEAMS
SCALE 1/2"=1'-0"

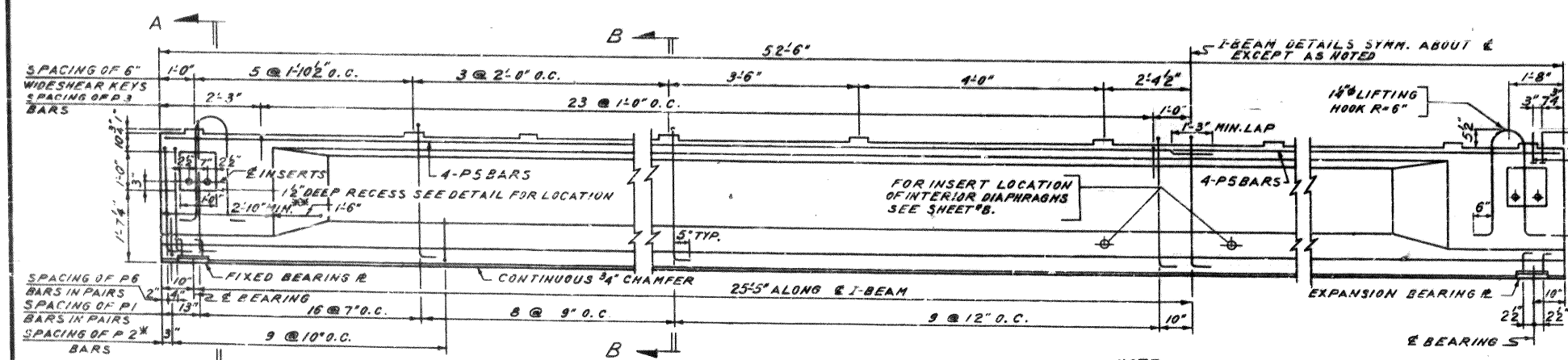
NOTE:
* ALTERNATE STEEL BANDING .035" MEETING THE APPROVAL OF THE ENGINEER MAY BE SUBSTITUTED FOR THE P2 BARS.
** DIFFERENCE BETWEEN END BLOCKS DIMENSIONS OF I-BEAMS IN ADJACENT SPANS SHALL NOT BE MORE THAN 6".



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

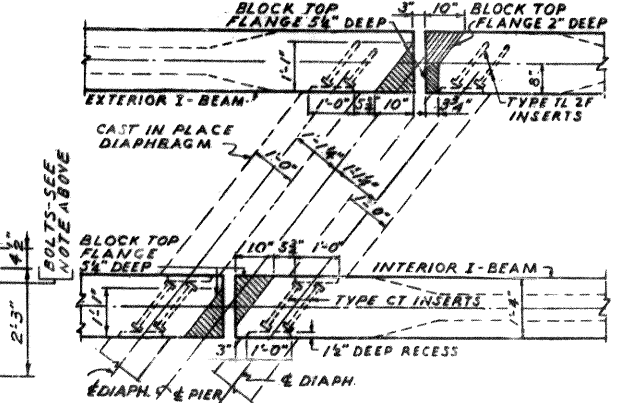


DETAILS OF PRESTRESSING STEEL FOR 69'-8" SPAN I-BEAMS

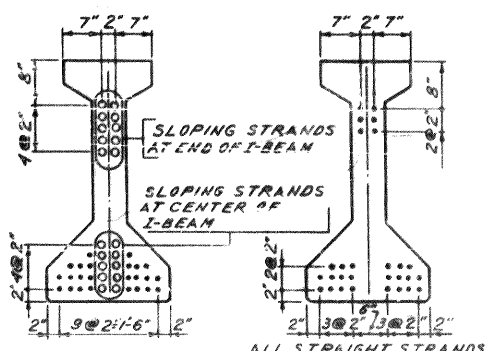


ELEVATION OF 50'-0" SPAN I-BEAMS
SCALE 1/2"=1'-0"

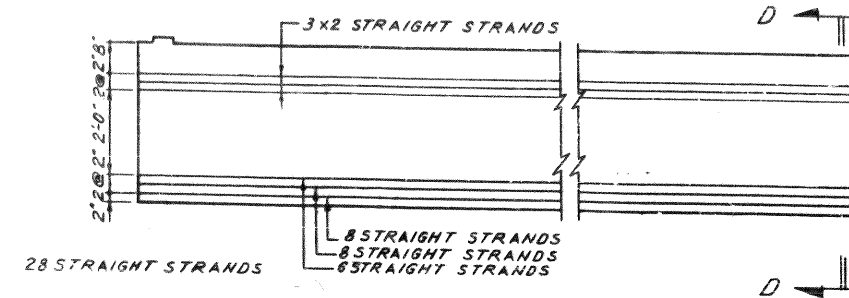
NOTE:
* INSERTS FOR 1" BARS AT BEARING DIAPHRAGMS-I-BEAM NOS. 1, 5, 6 & 11 RICHMOND TYPE TL2F OR EQUAL.
* I-BEAM NOS. 2 TO 4 AND 7 TO 10-RICHMOND TYPE CT OR EQUAL.
* AT INTERIOR DIAPHRAGMS-I-BEAM NOS. 1 TO 11 RICHMOND TYPE TL2F OR EQUAL.



DETAILS AT ENDS OF I-BEAMS AND BEARING DIAPHRAGM LOCATION (FOR INTERIOR DIAPHRAGM LOCATION SEE SHT. 8)



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



DETAILS OF PRESTRESSING STEEL FOR 50'-0" SPAN I-BEAMS

NOTES

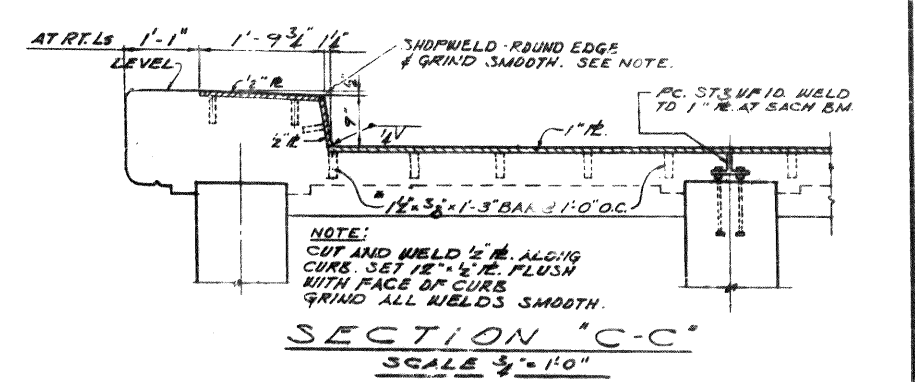
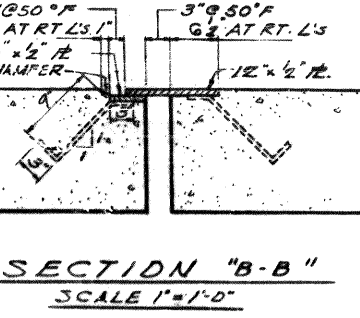
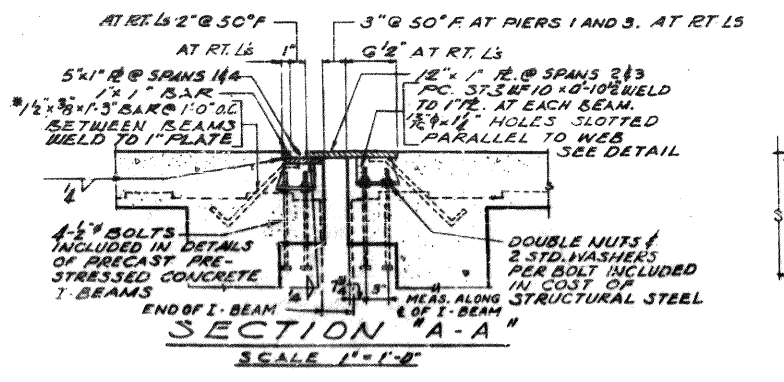
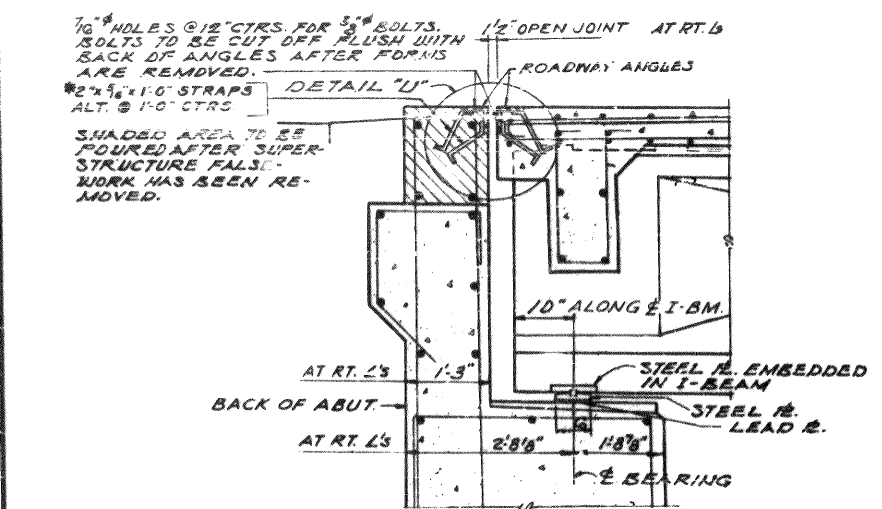
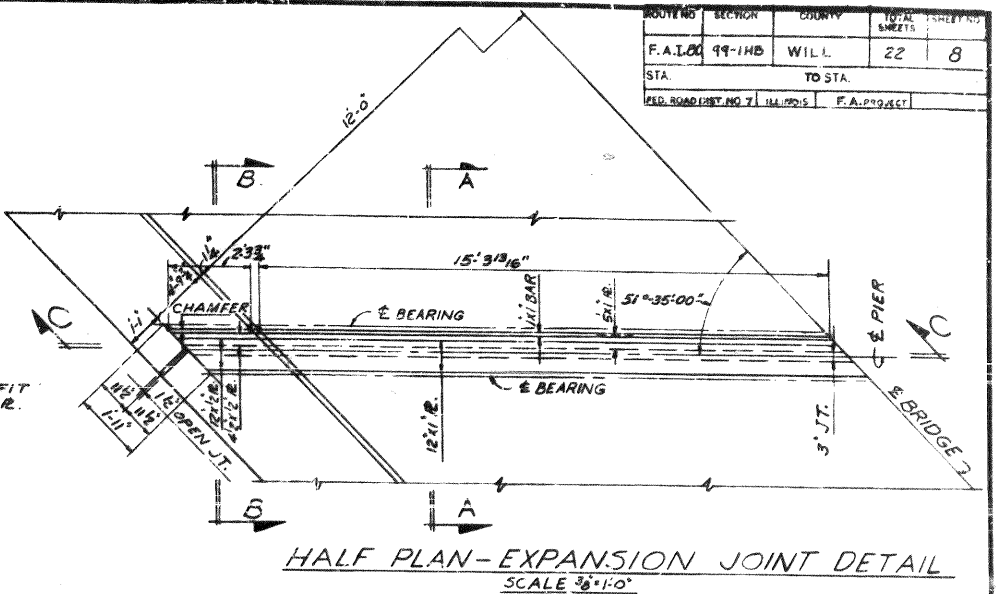
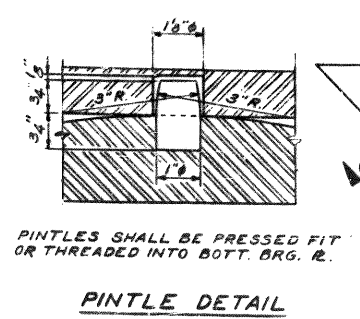
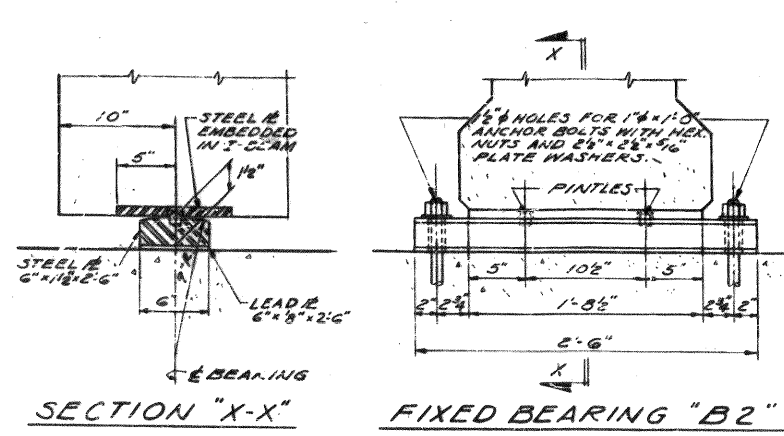
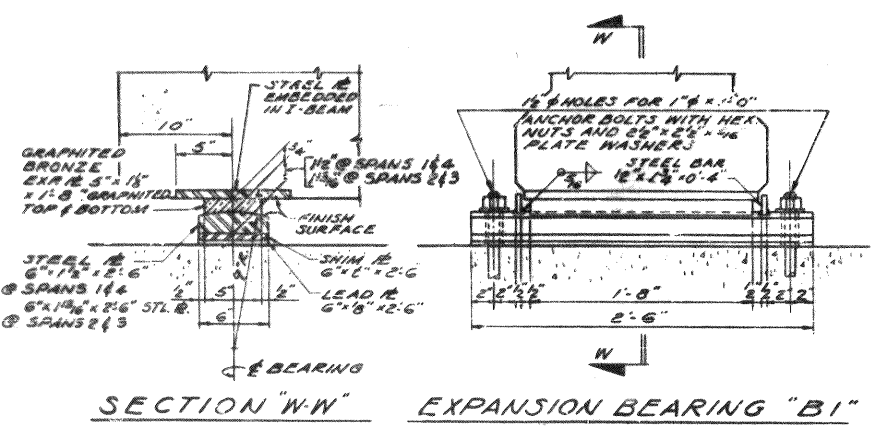
PRECAST PRESTRESSED CONCRETE I-BEAMS ARE DESIGNED IN ACCORDANCE WITH THE A.A.S.H.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1953, AND THE CRITERIA FOR PRESTRESSED CONCRETE BRIDGES, 1954, OF THE BUREAU OF PUBLIC ROADS.
PRESTRESSING STRANDS SHALL CONSIST OF UNCOATED SEVEN WIRE STRANDS WHICH HAVE A NOMINAL DIAMETER OF 7/16" AND A CROSS SECTIONAL AREA OF 0.1029 SQUARE INCHES.
ALL REINFORCING STEEL, PRESTRESSING STRANDS, LIFTING HOOKS, INSERTS, BEARING PLATES AND OTHER ITEMS WHICH ARE CAST INTO THE PRECAST CONCRETE I-BEAMS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LINEAL FOOT FOR "FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS."
PRESTRESSED CONCRETE I-BEAMS SHALL BE LIFTED ONLY BY THE LIFTING HOOKS PROVIDED IN THE TOP FLANGES AT THE ENDS OF THE BEAMS.
SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION REGARDING MATERIALS, PRESTRESSING EQUIPMENT AND OPERATIONS, CONSTRUCTION AND HANDLING METHODS, AND OTHER REQUIREMENTS FOR THE PRECAST PRESTRESSED CONCRETE I-BEAMS.
STEEL FOR LIFTING HOOK SHALL BE NON DEFORMED BARS OF STRUCTURAL OR INTERMEDIATE GRADE BILLET STEEL. ALTERNATE LIFTING HOOKS MEETING THE APPROVAL OF THE ENGINEER MAY BE SUBSTITUTED FOR THE 1 1/2" LIFTING HOOK SHOWN.

BAR SCHEDULE

MARK	SIZE	TYPE	LENGTH	TYPE A			TYPE C			TYPE B		
				B	C	D	E	F	H	K		
P1	#5	B	4'-9"	0'-5"	3'-8"	0'-8"						
P2	#3	A	4'-9"	1'-3"	0'-5 1/2"	1'-8"	0'-3 1/2"	1'-3"	10'-5"	10'-5"		
P3	#3	C	2'-7"	0'-6"	0'-2 1/2"	1'-2"	0'-2 1/2"	0'-6"	0'-2 1/2"	0'-2 1/2"		
P4	#6	STRT	36'-2"									
P5	#6	STRT	26'-9"									
P6	#5	B	3'-11"	0'-5"	2'-7"	0'-8"						

ALL DIMENSIONS GIVEN ARE OUT TO OUT OF BARS

DETAILS OF PRECAST PRESTRESSED CONCRETE I-BEAMS GRADE SEPARATION
T.R.153
OVER F.A.I. ROUTE 80
F.A. PROJECT
F.A.I. ROUTE 80 SECTION 99-HB
WILL COUNTY
STATION 1804+10.29



SECTION AT ABUTMENTS

FOR PLAN AT ABUTMENTS SEE SHEET NO. 5

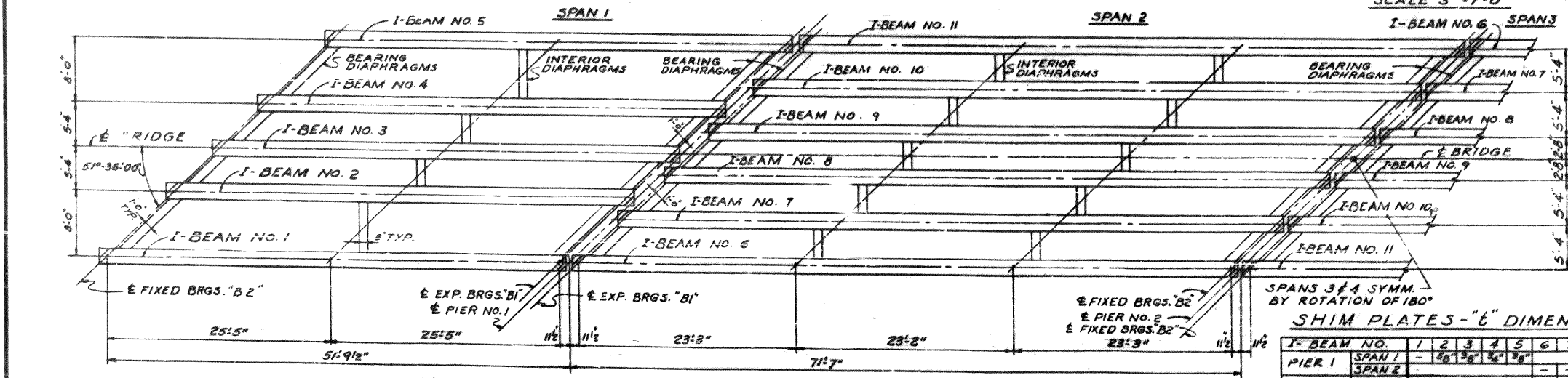
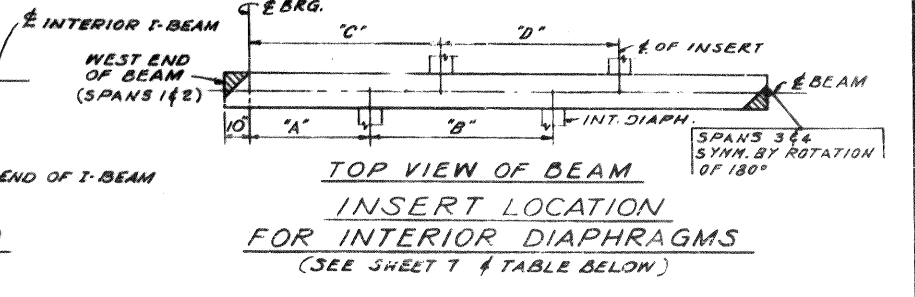
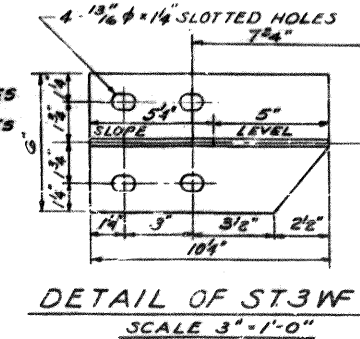
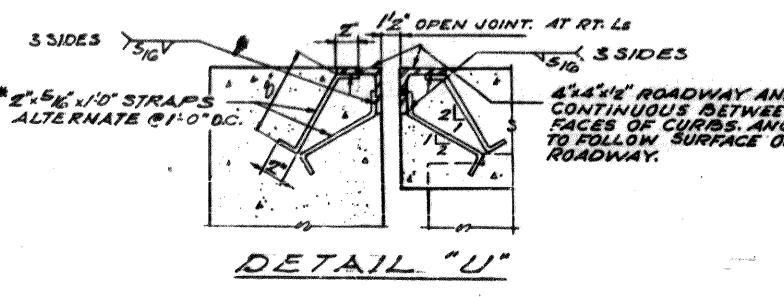


TABLE OF INSERT LOCATION

BM NO.	"A"	"B"	"C"	"D"
1			28'-7 1/8"	
2	28'-2 1/8"		27'-6 1/8"	
3	23'-3 3/8"		27'-6 1/8"	
4	23'-3 3/8"		28'-7 1/8"	
5	28'-2 1/8"			
6			25'-4 3/8"	23'-2"
7, 8, 9, 10	21'-1 1/8"	23'-2"	25'-4 3/8"	23'-2"
11	21'-1 1/8"	23'-2"		

NOTES:

* 1/2" x 3/4" x 10" CR1020 STEEL GRANULAR OR SOLID FLUX FILLED STUDS AUTOMATICALLY END WELDED MAY BE SUBSTITUTED FOR STRAP ANCHORS ALL MATERIAL FOR EXPANSION DEVICE SHALL BE STRUCTURAL STEEL.

DIMENSIONS NOTED AT 50°F SHALL BE INCREASED 0.07 INCH FOR EACH 10° DROP IN TEMPERATURE FROM 50°F AND DECREASED 0.07 INCH FOR EACH 10° INCREASE IN TEMPERATURE FROM 50°F.

ROADWAY EXPANSION DEVICES SHALL BE FABRICATED AND ERRECTED TO CONFORM TO ROADWAY CROWN.

ASSEMBLY IN SHOP FOR INSPECTION.

ALL SURFACES INACCESSIBLE AFTER ERECTION SHALL RECEIVE TWO SHOP COATS OF RED LEAD PAINT EXCEPT PORTIONS EMBEDDED IN CONCRETE.

SHIM PLATES - "E" DIMENSIONS

I-BEAM NO.	1	2	3	4	5	6	7	8	9	10	11
PIER 1	SPAN 1		56" 3/8"	56" 3/8"							
	SPAN 2							56"	56"		
PIER 3	SPAN 3									56"	56"
	SPAN 4		56" 3/8"	56" 3/8"							

NO SHIM PLATES REQ'D AT PIER 2

ALFRED BENESCH & ASSOCIATES CONSULTING ENGINEERS
10 SOUTH WABASH AVENUE 613 CHICAGO, ILLINOIS

FRAMING PLAN, BEARING DETAILS & EXP. DEVICE

GRADE SEPARATION

T.R. 153

OVER F.A.I. ROUTE 80

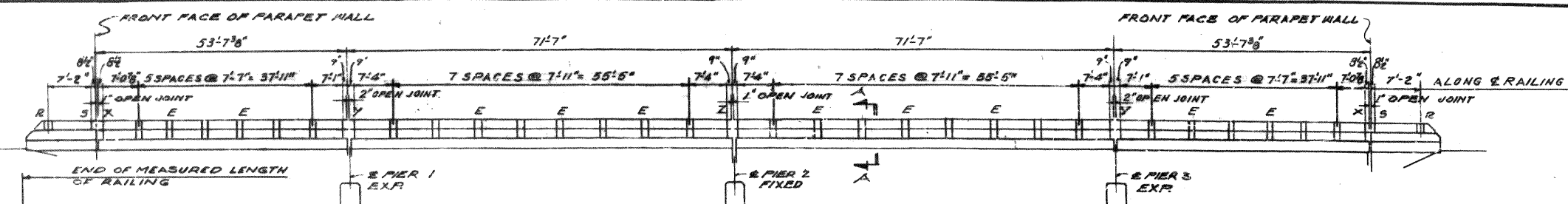
F.A. PROJECT

F.A.I. ROUTE 80 SECTION 99-1HB

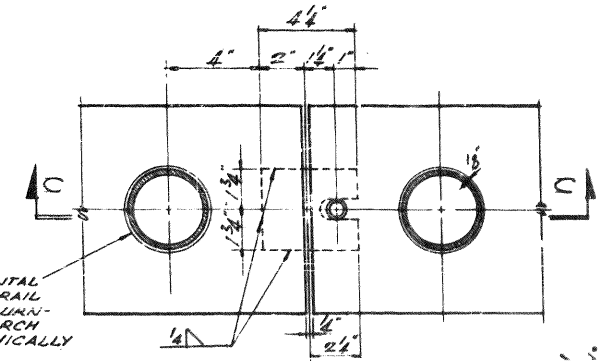
WILL COUNTY

STATION 1804+10.29

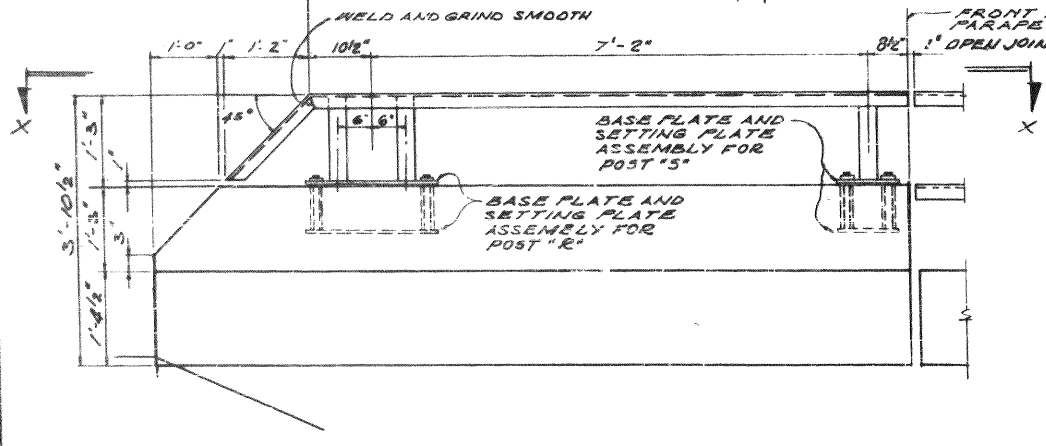
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAL80	99-1HB	WILL	22	9
TO STA.				
F.A. PROJECT				



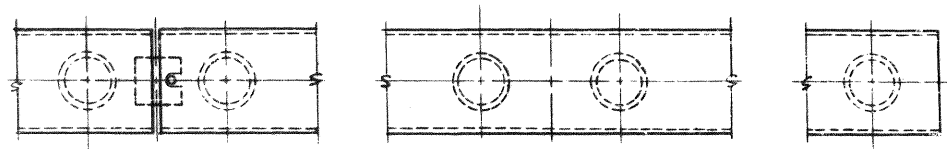
ELEVATION



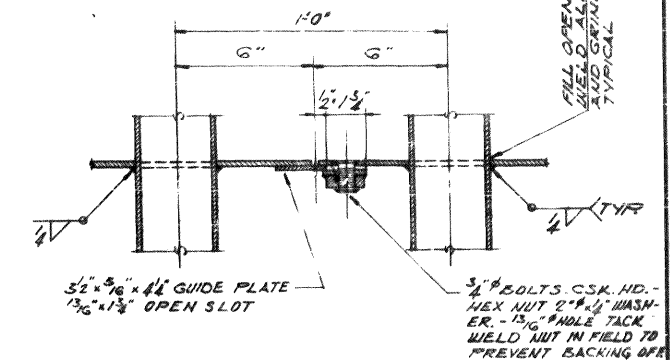
SECTION "B-B"



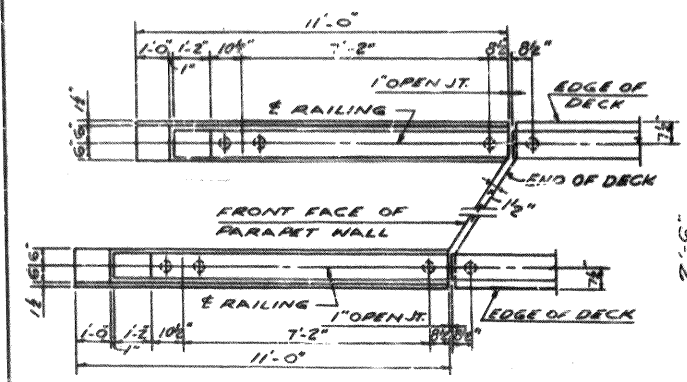
WINGWALL HANDRAIL ELEVATION



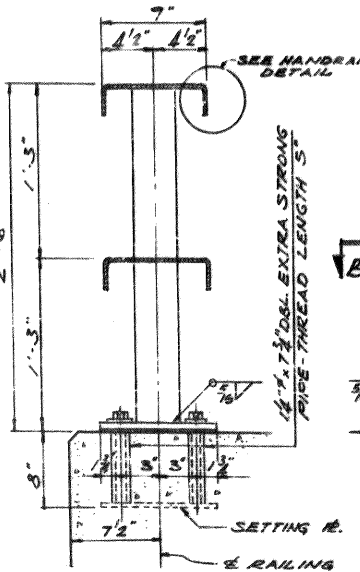
TOP VIEW OF RAIL



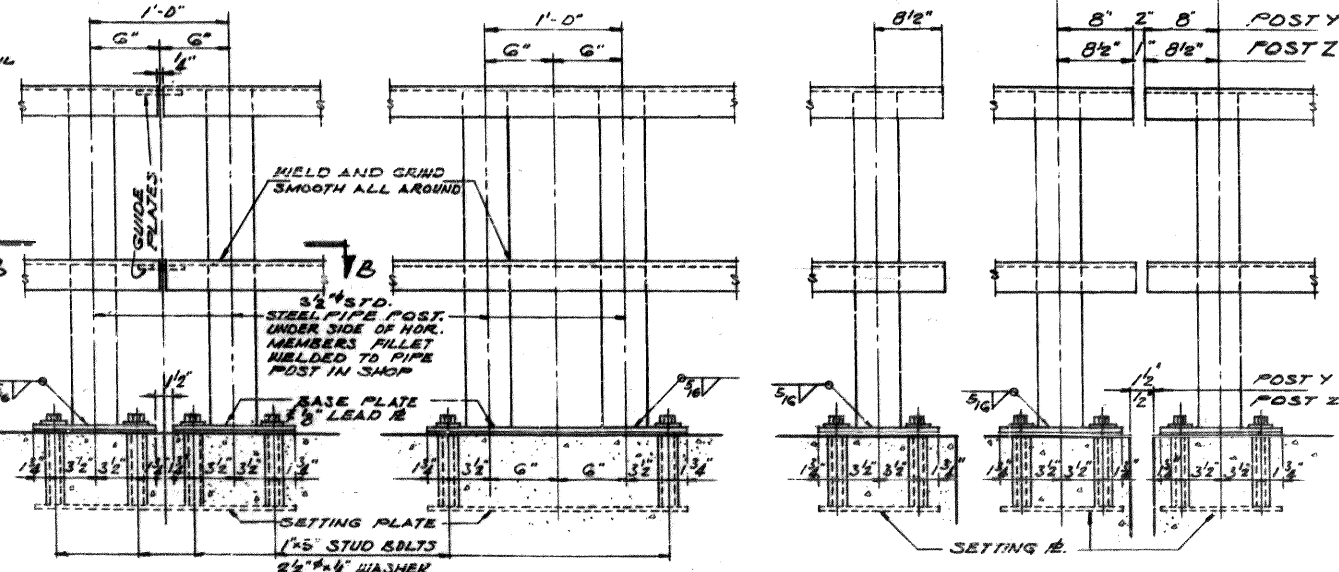
SECTION "C-C"



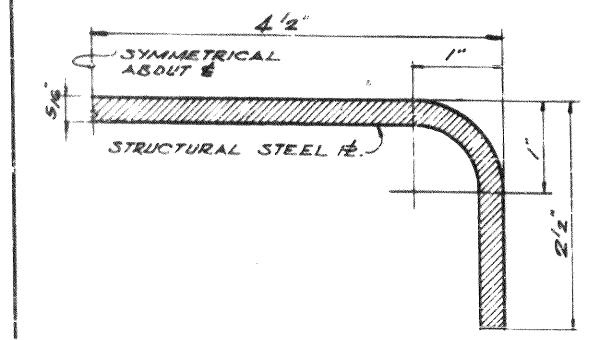
SECTION "X-X"



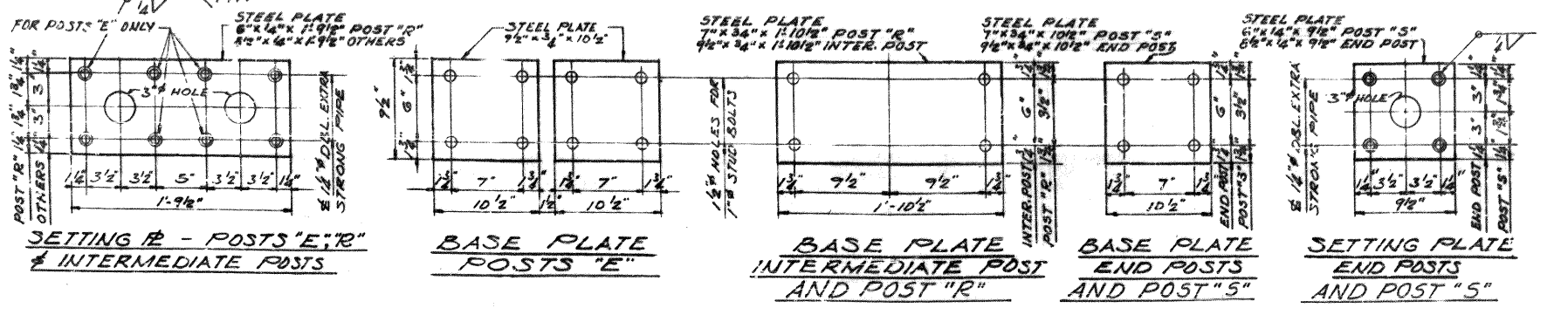
SECTION "A-A"



POSTS "E" INTERMEDIATE POSTS END POST "X" END POST "Y"



HANDRAIL DETAIL



NOTES

RAIL SHALL BE FABRICATED AND ERECTED TO CONFORM TO PROFILE OF ROADWAY.

RAIL POSTS SHALL BE TRULY VERTICAL.

WELDING OF RAIL POST TO HORIZONTAL MEMBERS AND BASE PLATES SHALL BE CONTINUOUS WELDS ALL AROUND.

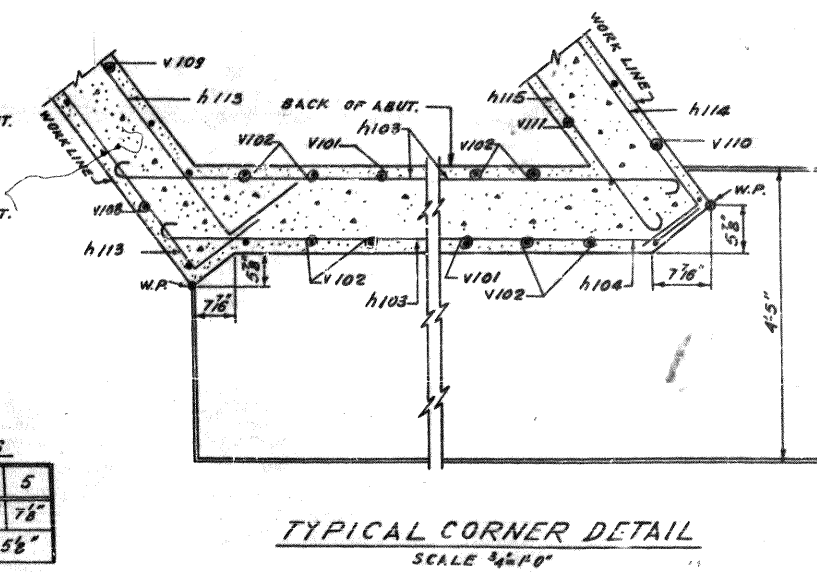
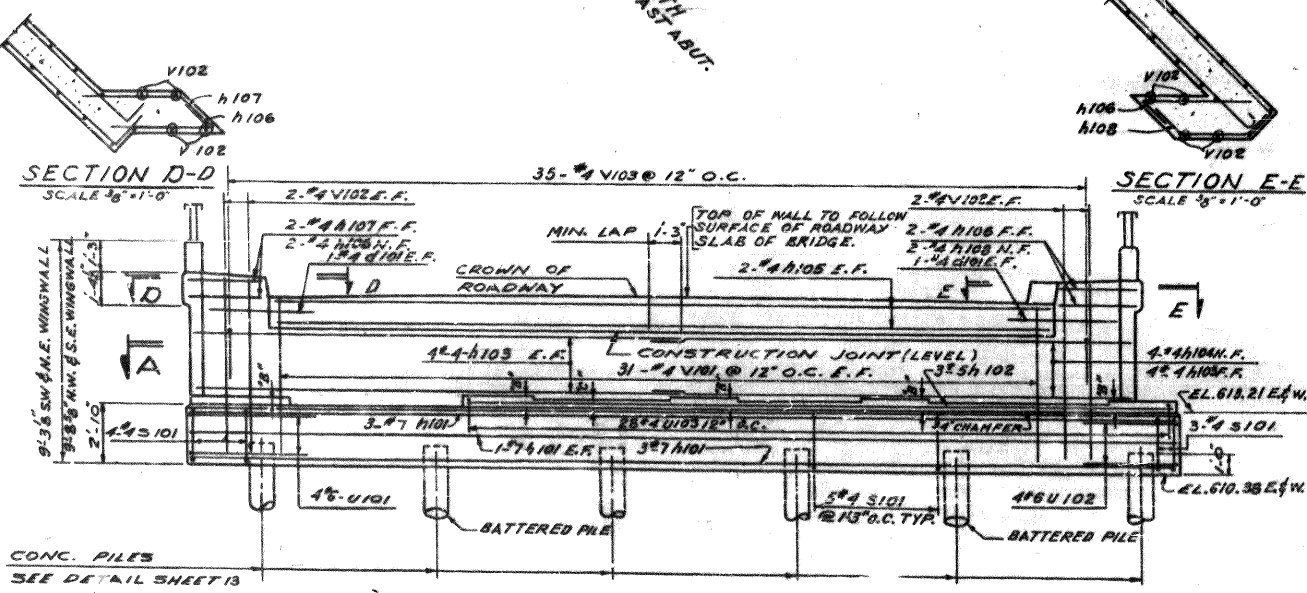
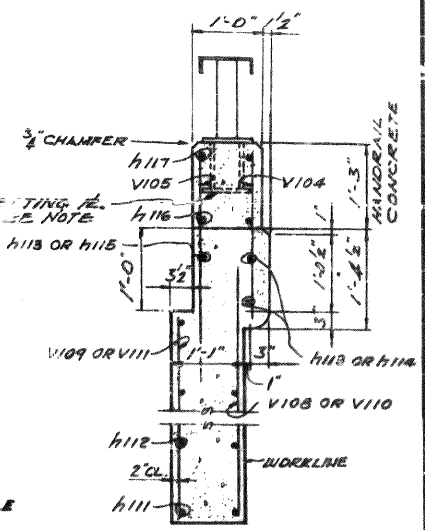
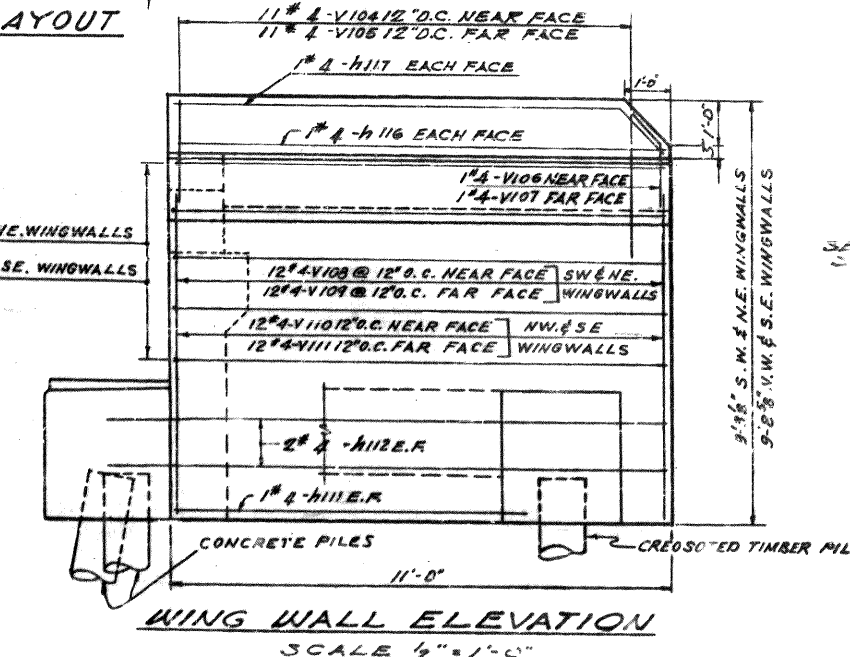
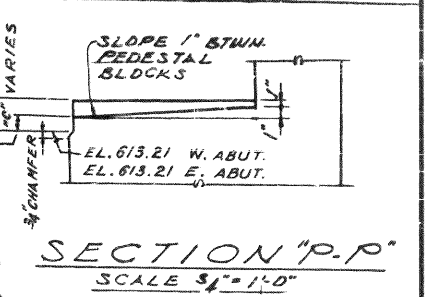
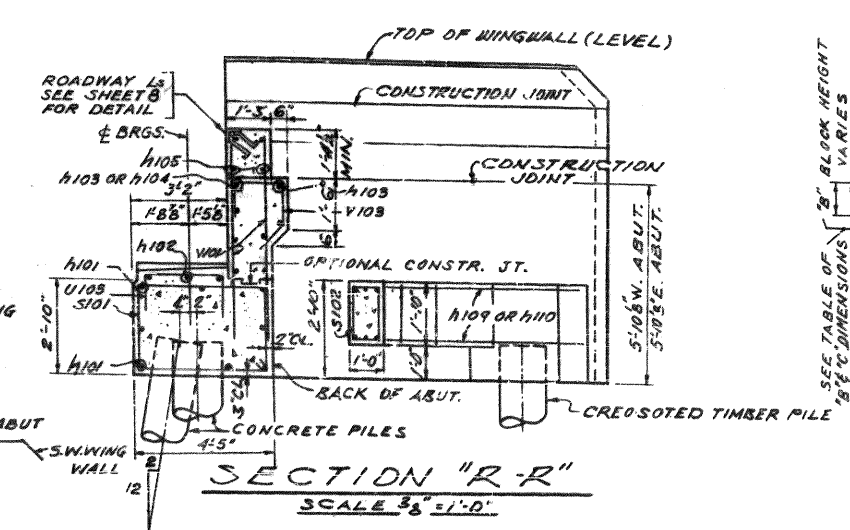
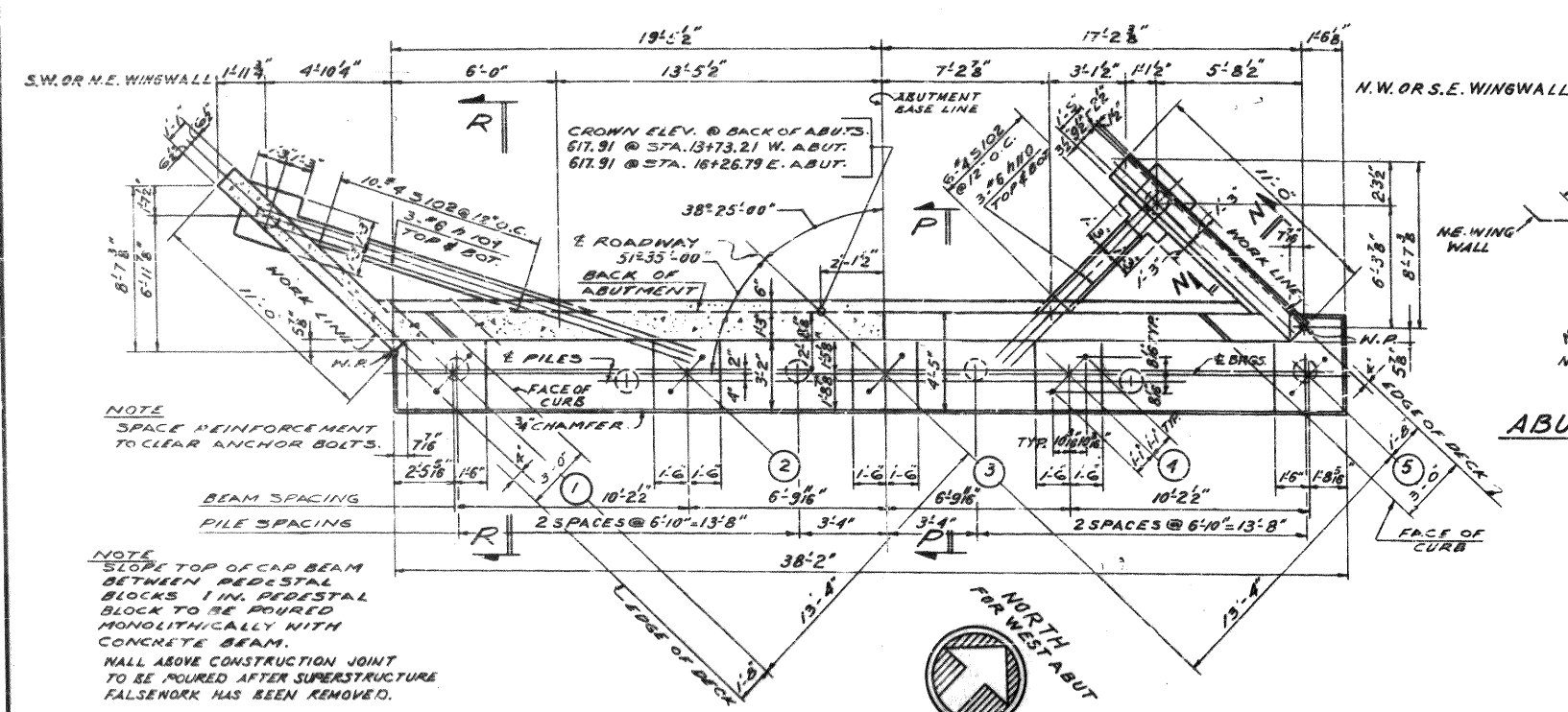
RAIL POSTS SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR WELDED AND SEAMLESS STEEL PIPE A.S.T.M. A53 WITH MINIMUM YIELD POINT OF 30,000 P.S.I.

HANDRAIL SHALL BE GIVEN ONE SHOP COAT OF RED LEAD AND 2 FIELD COATS OF ALUMINUM PAINT. SEE SPECIFICATIONS.

SHIM PLATES FOR RAIL POSTS: FURNISH SHIMS CONSISTING OF ONE 1/8" SHIM AND TWO 1/16" SHIMS AT 50% OF RAIL POST ON SUPERSTRUCTURE AND ALL POSTS ON WINGWALLS FOR VERTICAL ADJUSTMENT OF POSTS.

SIZE OF SHIM PLATES, LEAD PLATES AND SPACING OF HOLES SHALL BE SAME AS FOR BASE PLATES OF POSTS.

HANDRAIL DETAILS
 GRADE SEPARATION
 T.R.153
 OVER F.A.I. ROUTE 80
 F.A. PROJECT
 F.A.I. ROUTE 80 SECTION 99-1HB
 WILL COUNTY
 STATION 1304+10.29



BILL OF MATERIALS - E & W ABUTMENT & WINGWALLS

ITEM	UNIT	QUANTITY	
		E. ABUT.	W. ABUT.
CLASS X CONCRETE	CU. YDS.	36.8	36.8
REINFORCEMENT BARS	LBS.	2,890	2,890
HANDRAIL CONCRETE	CU. YDS.	1.0	1.0
CLASS A EXCAVATION FOR STRUCTURES	CU. YDS.	24	24
CONCRETE PILES	LIN. FT.	270	300
TEST PILES (CONCRETE)	EACH	1	1
CREOSOTED TIMBER PILES	LIN. FT.	60	70

PILE SCHEDULE FOR EACH ABUT.

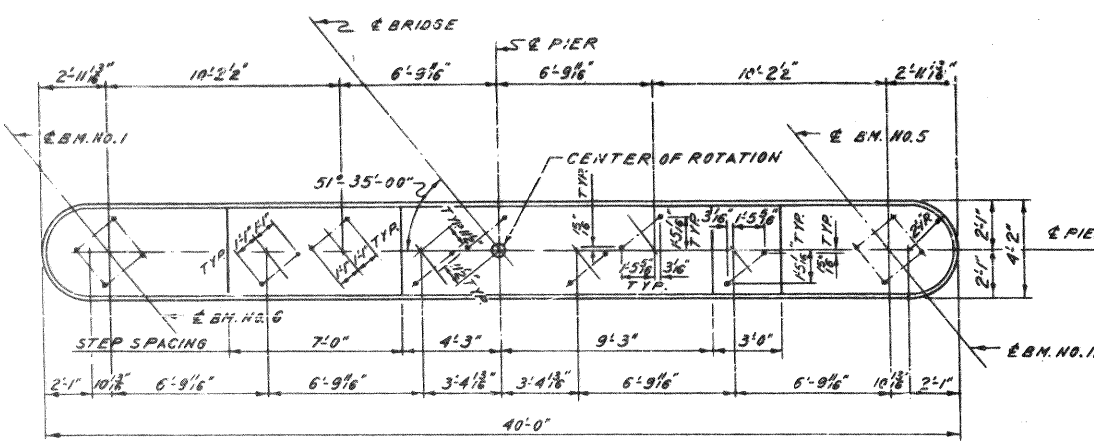
PILES	CONCRETE	CREOSOTED
CAPACITY	35 TONS	10 TONS
NO. REQ.	6 (INC. 1 TEST PILE)	2
EST LENGTH	W. ABUT. 60'	55'
	E. ABUT. 54'	30'

TABLE OF "B" & "C" DIMENSIONS

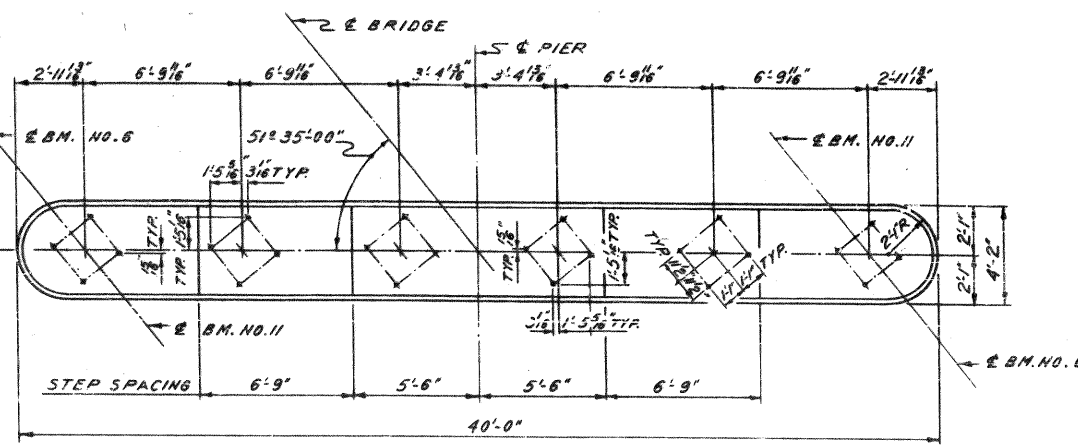
BEAM LOCATION	1	2	3	4	5
"B" DIMENSION	2'	5'	6'	7'	7'
"C" DIMENSION	0'	3'	4'	5'	5'

(SEE SECTION P-P)

EAST & WEST ABUTMENTS & WINGWALL DETAILS
GRADE SEPARATION
T.R. 153
OVER F.A.I. ROUTE 80
F.A. PROJECT
F.A.I. ROUTE 80 SECTION 99-1HB
WILL COUNTY
STATION 1804+10.29

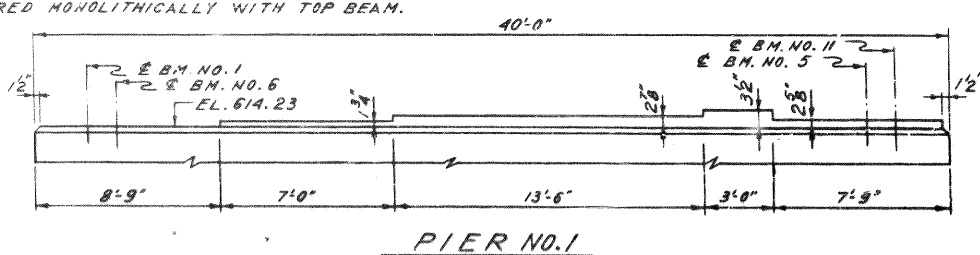


TOP PLAN OF PIER NO. 1
 PIER NO. 3 SIMILAR BY ROTATION OF 180°
 SCALE 4"=1'-0"

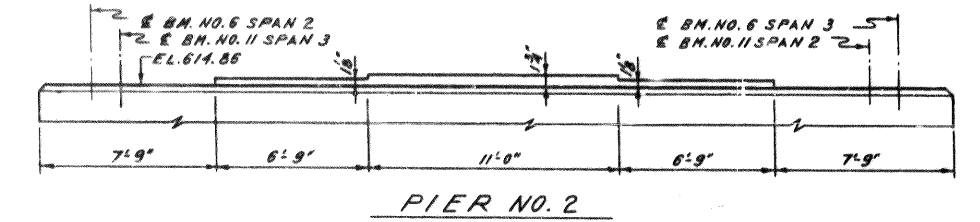


TOP PLAN OF PIER NO. 2
 SCALE 4"=1'-0"

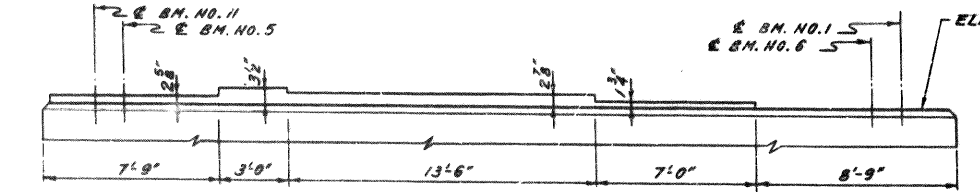
NOTE:
 PEDESTAL STEPS TO BE
 POURED MONOLITHICALLY WITH TOP BEAM.



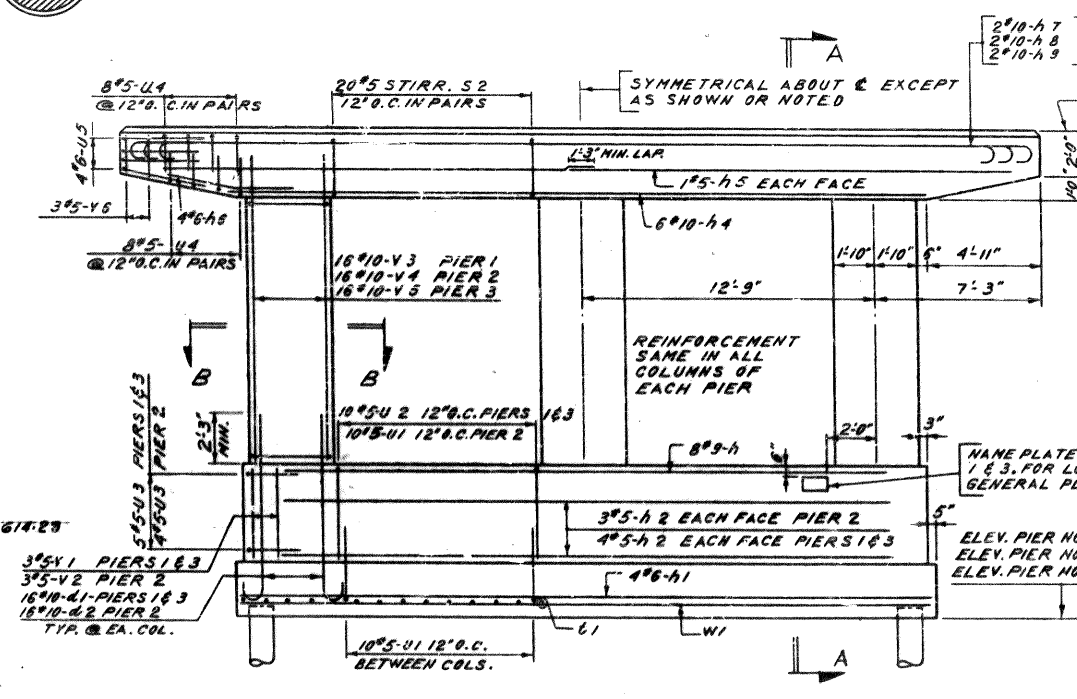
PIER NO. 1



PIER NO. 2

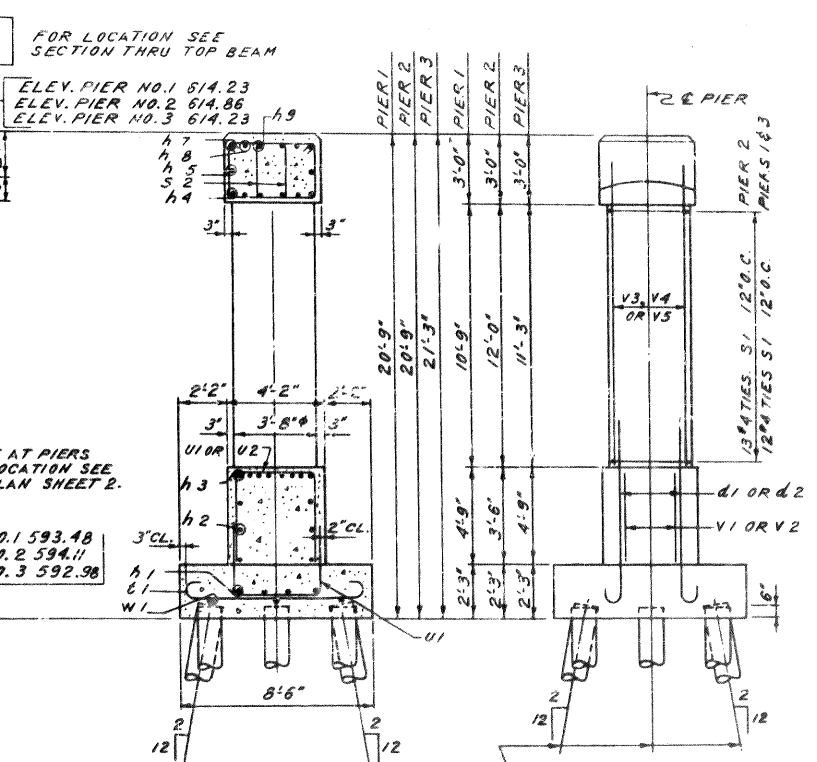


PIER NO. 3
 ELEVATION OF PEDESTAL STEPS
 SCALE 4"=1'-0"



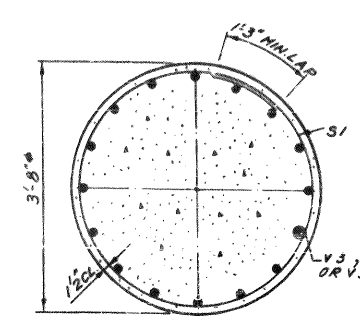
ELEVATION
 SCALE 4"=1'-0"

NOTE:
 SPACE REINFORCEMENT IN TOP
 BEAM TO AVOID INTERFERENCE WITH
 DRILLING OF HOLES FOR ANCHOR BOLTS.

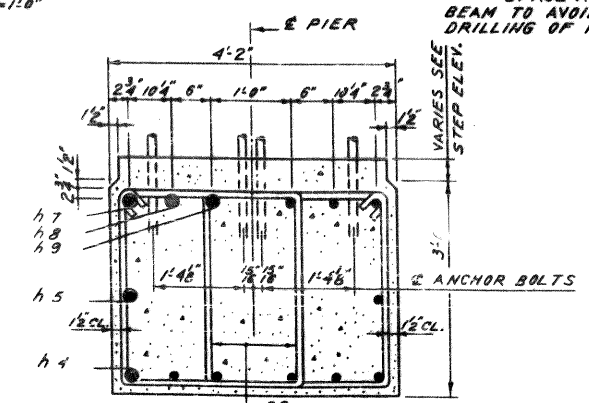


SECTION A-A
 SCALE 4"=1'-0"

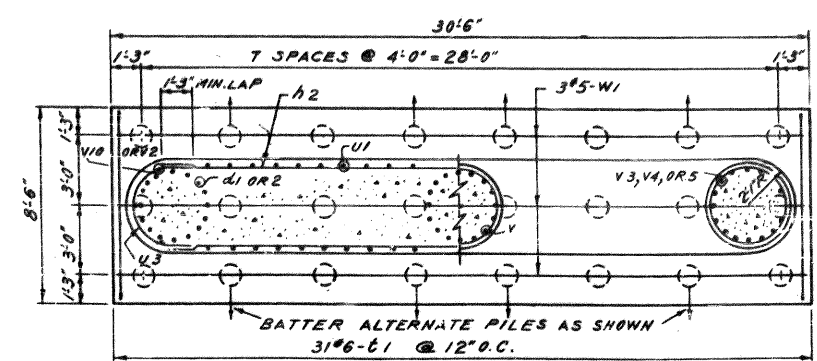
CREOSOTED TIMBER PILES CAPACITY=20 TONS
 EST. LENGTH AT PIER NO. 1, 2 & 3 = 32 FT.
 NO. REQUIRED FOR EACH PIER 24 PILES



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



SECTION THRU TOP BEAM
 SCALE 3/4"=1'-0"



HALF SECTION FOOTING PLAN
 SCALE 4"=1'-0"

BILL OF MATERIALS

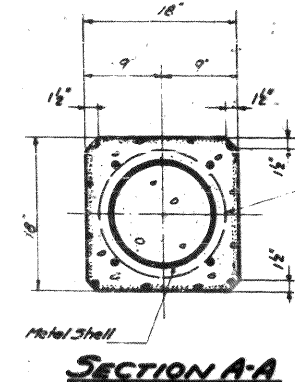
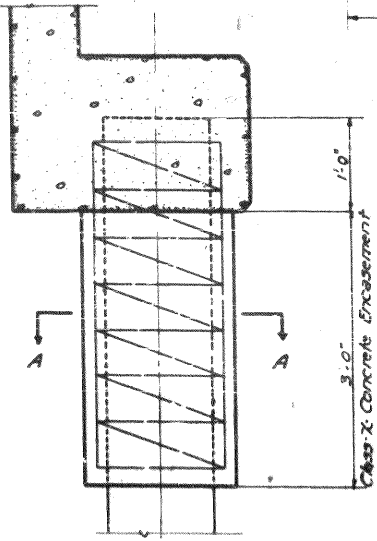
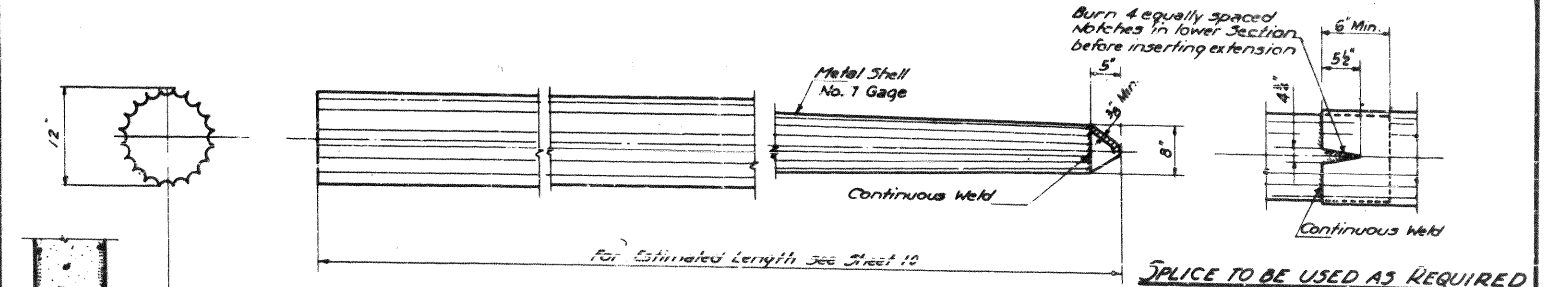
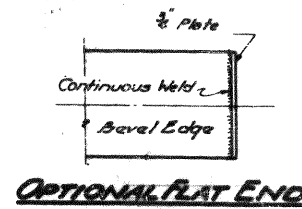
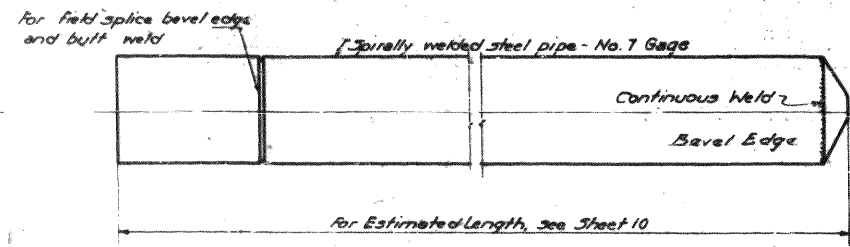
ITEM	UNIT	QUANTITY		
		PIER 1	PIER 2	PIER 3
CLASS X CONCRETE	CU. YDS.	73.3	68.7	73.9
REINFORCEMENT BARS	LBS.	11,070	9,970	10,180
CLASS A EXCAVATION FOR STRUCTURES	CU. YDS.	81	66	81
FURNISHING CREOSOTED PILES, 20.1 TO 38'	LIN. FT.	768	768	768
TEST PILES (TIMBER)	EACH	1	1	1

PIERS 1, 2 & 3
 GRADE SEPARATION
 I.R. 153
 OVER F.A.I. ROUTE 80
 F.A. PROJECT
 F.A.I. ROUTE 80 SECTION 99-1HB
 WILL COUNTY
 STATION 1804+10.29

ABUTMENT PILES

PILING TO BE USED AT THE ABUTMENTS SHALL BE ANY OF THE VARIOUS KINDS SHOWN BELOW

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	99-1HB	WILL	22	13
STA.	TO STA.			
FED. ROAD DIST. NO. 7 ILLINOIS F.A.I. PROJECT				



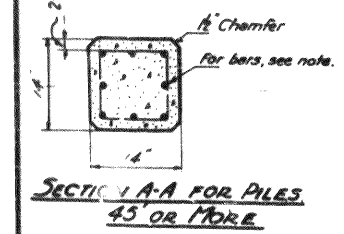
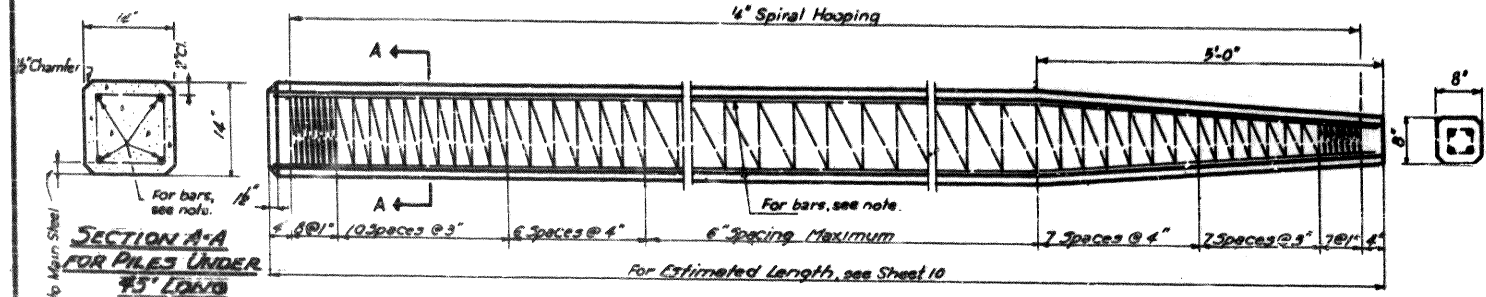
15 Dia. Spiral #2 Wire 6\"/>

DETAIL OF SPIRALLY WELDED STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

- ALLOWABLE TAPERS**
1. Taper 1/4\"/>

15 Dia. Spiral #2 Wire 6\"/>

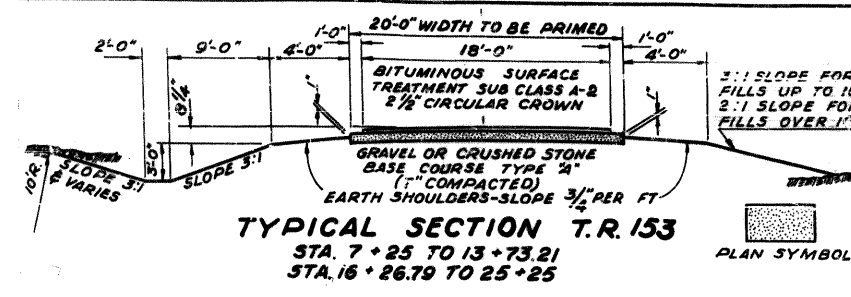
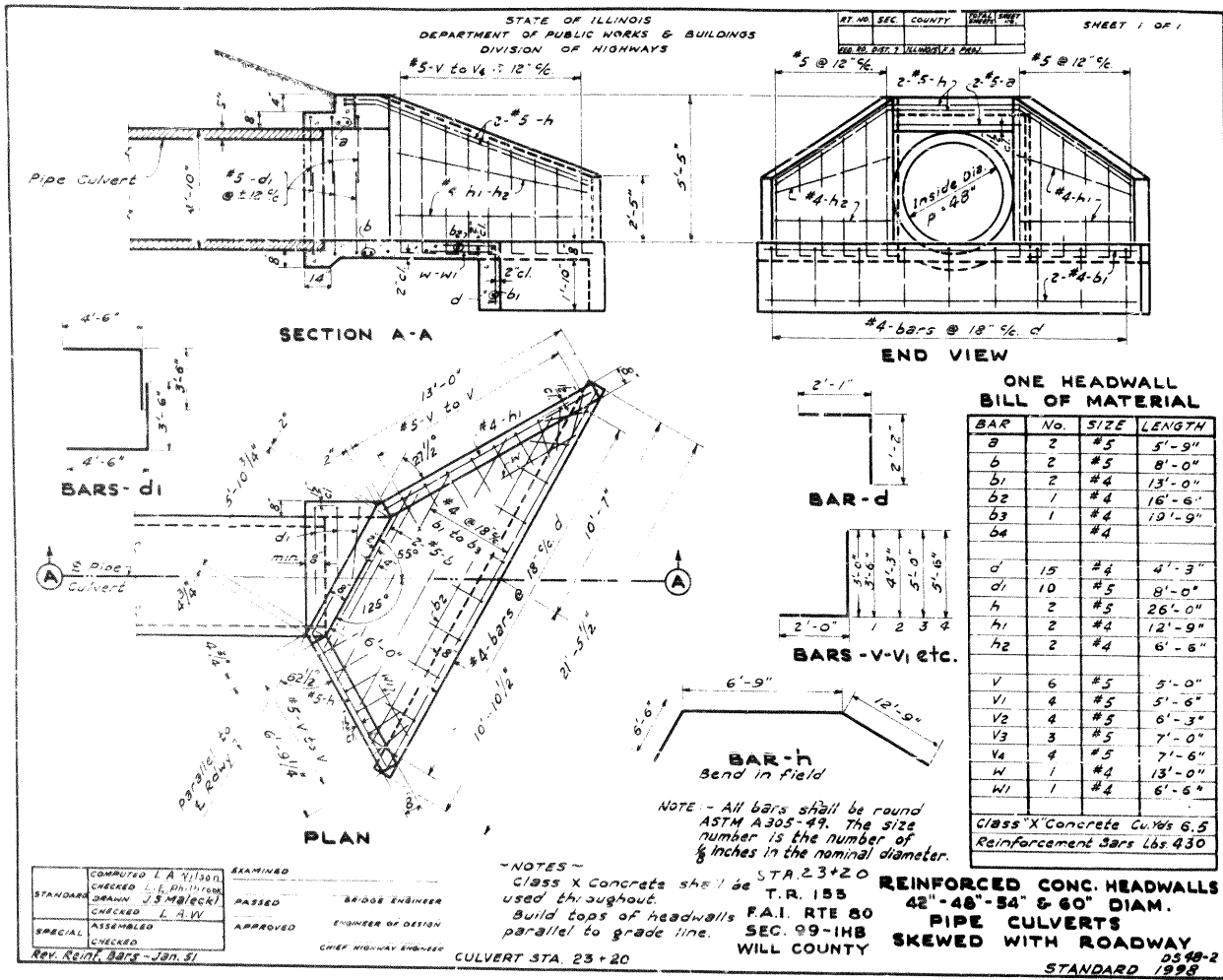
DETAIL OF METAL SHELL FOR CAST IN PLACE CONCRETE PILES



Note
 For 14\"/>

Handling
 For pile lengths up to 45 ft, use two slings placed at a distance of 0.21L from each end.
 For Piles longer than 45 ft, use three slings placed at a distance of 0.12L from each end and at mid-point of pile.
 xL: Overall length pile to be handled

DETAIL OF PRECAST CONCRETE PILES



SUMMARY OF ROADWAY QUANTITIES

BITUMINOUS MATERIALS (COVER AND SEAL COATS)	1,550	GALS.
BITUMINOUS MATERIALS (PRIME COAT)	1,290	GALS.
BORROW EXCAVATION	44,070	CU. YDS.
CLASS X CONCRETE	13.5	CU. YDS.
COMPLETE SEEDING	1.5	ACRES
COVER COAT AGGREGATE	31	TONS
EARTH EXCAVATION	863	CU. YDS.
EMULSIFIED ASPHALT	600	GALS.
FERTILIZER NUTRIENTS	0.3	TONS
FURNISHING AND ERECTING RIGHT OF WAY MARKERS	19	EACH
GRAVEL OR CRUSHED STONE BASE COURSE, TYPE "A"	1,350	TONS
GUIDE POSTS	41	EACH
PIPE CULVERTS, TYPE 2, 48 IN.	86	LIN. FT.
PROJECT MARKERS	2	EACH
REINFORCEMENT BARS	860	LBS.
SEAL COAT AGGREGATE	31	TONS
STEEL PLATE BEAM GUARD RAIL (12.5' UNITS)	75	LIN. FT.
STORM SEWERS, TYPE 1, 12 IN.	125	LIN. FT.
STRAW FOR ASPHALT-COATED MULCH	6	TONS
TEMPORARY SEEDING	1.5	ACRES
TREE REMOVAL (6" TO 15" DIA.)	189	IN. DIA.
TREE REMOVAL (OVER 15" DIA.)	114	IN. DIA.
CORRUGATED METAL PIPE 24"	32	LIN. FT.

TREE REMOVAL SCHEDULE

LOCATION	STATION	TYPE	IN. DIA. 6" TO 15"	IN. DIA. OVER 15"
21' RT.	14+96	STUMP	10"	
22' RT.	16+26	"	8"	
25' RT.	17+26	"	15"	
18' RT.	17+88	"		30"
22' RT.	17+97	"	15"	
21' RT.	19+93	"		42"
25' RT.	20+25	"		21"
24' RT.	20+42	"	12"	
24' RT.	20+68	"		21"
23' RT.	21+10	"	6"	
13' RT.	21+14	"	12"	
23' RT.	21+16	"	8"	
23' RT.	21+20	"	10"	
23' RT.	21+39	"	8"	
25' RT.	21+55	"	12"	
26' RT.	21+58	"	6"	
26' RT.	21+61	"	6"	
26' RT.	21+68	"	6"	
22' RT.	21+74	"	10"	
22' RT.	21+82	"	6"	
23' RT.	21+98	"	12"	
25' LT.	21+27	OAK	6"	
28' LT.	21+44	OAK	15"	
32' LT.	21+80	OAK	6"	
TOTALS			189"	114"

BASE AND SURFACE COURSE SCHEDULE

STA. TO STA.	LENGTH FT.	BASE WIDTH FT.	COMP. THICKN. INCHES	GRAV. OR CR. STONE BASE CRSE. TYPE "A"	BITUM. MATER'LS (PRIME COAT) CALS.	BITUM. MATER'LS (COVER & SEAL COATS) GALS.	COVER COAT AGGREGATE TONS	SEAL COAT AGGREGATE TONS
7+25 TO 13+73.21	648.21	20.00	7	568	540	650	13	13
16+26.79 TO 25+25	898.21	20.00	7	784	750	900	13	18
TOTALS				1,350	1,290	1,550	31	31

SYMBOLS

- EXISTING CULVERT
- - - EXISTING FARM TILE
- - - PROPOSED STORM SEWER
- - - PROPOSED PIPE CULVERT
- P-1A PIPE CULVERT 30"x77' (TYPE, DIAMETER & LENGTH)
- - - PROPOSED STEEL PLATE BEAM GUARD RAIL
- ● ● PROPOSED GUIDE POSTS
- INV. INVERT OF CULVERT OR STORM SEWER
- S.D. SPECIAL DITCH ELEVATION
- PROPOSED RIGHT OF WAY MARKERS

GENERAL NOTES FOR ROADWAY CONSTRUCTION

The roadway section for Township Road 153 consists of a 20 foot Gravel or Crushed Stone Base Course, Type A, (7" compacted thickness), on which an 18 foot Bituminous Surface, Sub-class A-2 shall be constructed.

Proposed F.A.I. Route 80 shall be constructed under a separate contract.

The cost of removing house foundations or portions thereof, any walls, steps, pump foundations, and the like which were a part of a residence or business establishment originally located on the new right of way and which have not been accounted for as a pay item on the plans shall be considered incidental to this contract.

Underground gasoline tanks or septic tanks within the limits of the right of way which have not been removed and will not interfere with construction shall be filled with a free flowing sand at the direction of the Engineer. Cost of this work shall be considered incidental to the cost of this contract.

All disturbed roadway area outside of the proposed curb and gutter, sodded, and surfaced area shall be seeded, mulched and fertilized.

The cost of removal of existing concrete headwalls, pipe or other obstructions which interfere with the proposed roadway construction and which are not to be removed as a separate pay item will be considered as incidental to the cost of Earth Excavation.

Added expense which will be involved in connecting existing drain tile, storm sewer or pipe culverts to proposed structures shall be considered incidental to the cost of the structure involved.

If in the opinion of the Engineer, exposed areas of the roadway section are of such nature that they will not support vegetation, they shall be covered to a loose depth of 3" with suitable material approved by the Engineer. No compaction will be required. The material may consist of excess excavated material or it may be borrow excavation if there is no suitable surplus excavated material available. Borrow Excavation will be paid for as such.

The cost of hauling either surplus excavated material or Borrow Excavation from its source to the point where it is to be used will be paid for in accordance with Article 15.7 and 15.8 of the Standard Specifications. No additional compensation will be allowed for placing and shaping this material to the proper roadway section or for stockpiling if necessary.

SPECIAL HEADWALL DESIGN

GENERAL NOTES FOR ROADWAY CONSTRUCTION

TYPICAL SECTIONS

SCHEDULES

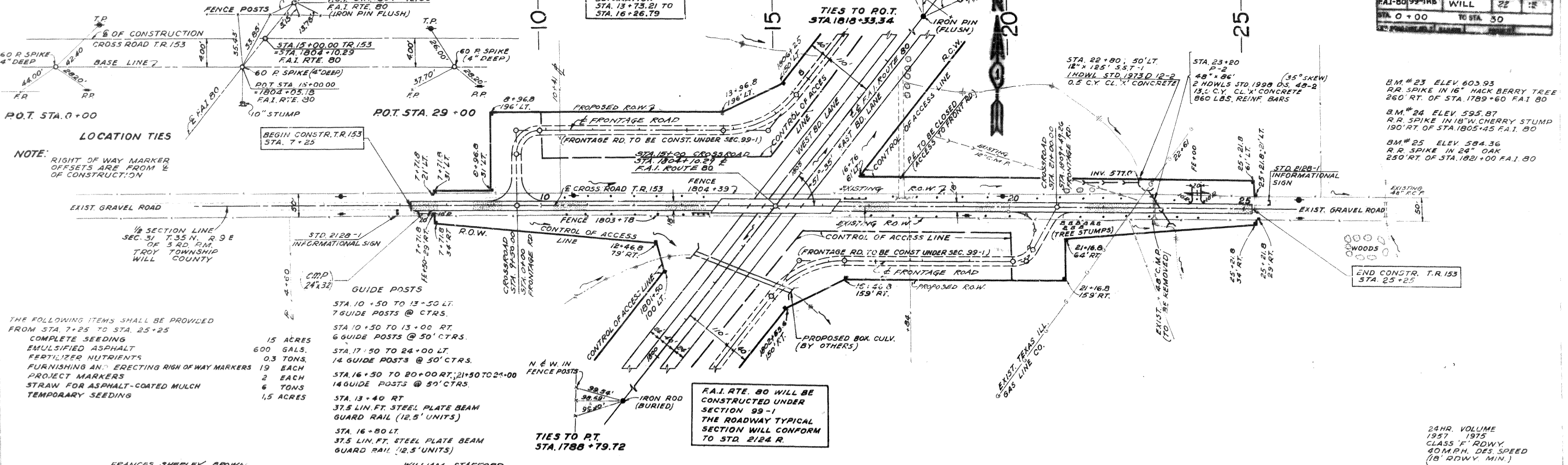
SUMMARY OF ROADWAY QUANTITIES

SYMBOLS

TOWNSHIP ROAD 153
F.A.I. RTE. 80
F.A.I. RTE. 80 STA. 1804+10.29
SECTION 99-IHB
WILL COUNTY

DONALD J. SIEGELL

TIES ARE TO NAILS & WASHERS



DATE	REVISION	BY	CHKD	APP'D
FAI-80 99-1WB	WILL	22	12	
STA. 0+00	TO STA. 30			

LOCATION TIES

NOTE: RIGHT OF WAY MARKER OFFSETS ARE FROM 1/2 OF CONSTRUCTION

THE FOLLOWING ITEMS SHALL BE PROVIDED FROM STA. 7+25 TO STA. 25+25

- COMPLETE SEEDING 15 ACRES
- EMULSIFIED ASPHALT 600 GALS.
- FERTILIZED NUTRIENTS 0.3 TONS
- FURNISHING AND ERECTING RIGHT OF WAY MARKERS 19 EACH
- PROJECT MARKERS 2 EACH
- STRAW FOR ASPHALT-COATED MULCH 6 TONS
- TEMPORARY SEEDING 1.5 ACRES

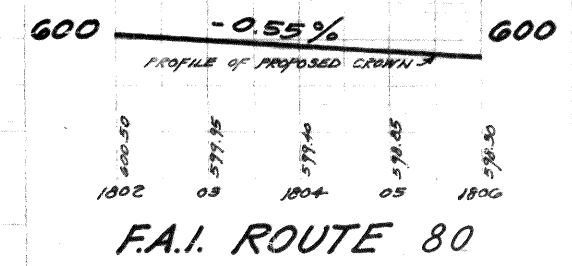
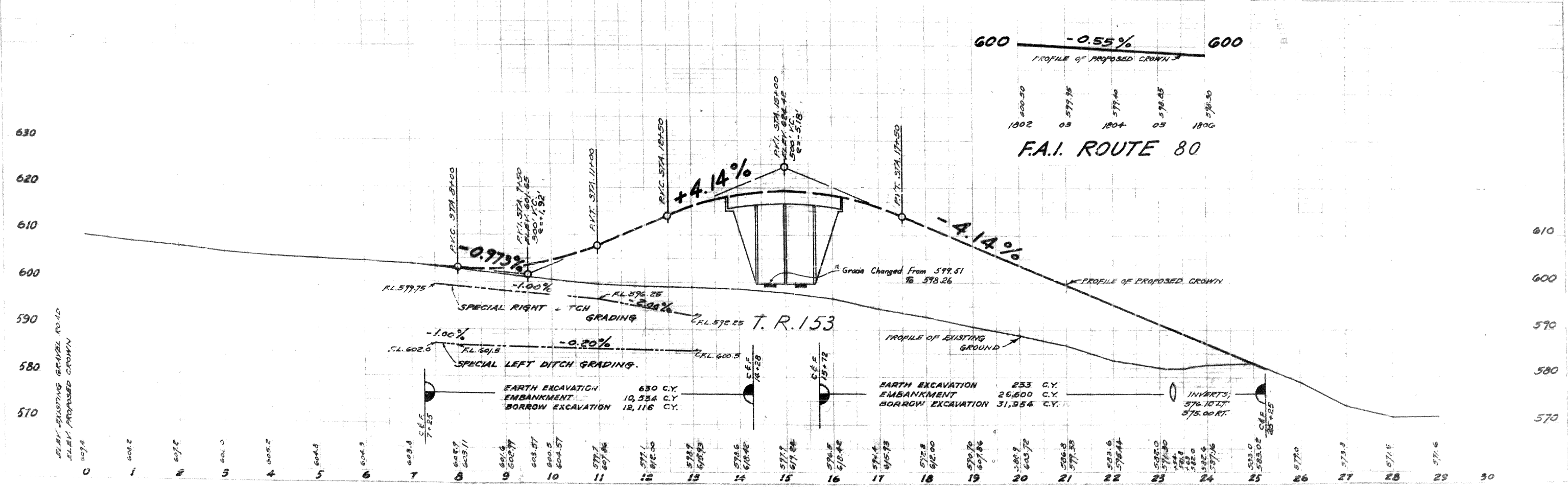
BEGIN CONSTR. T.R. 153 STA. 7+25

END CONSTR. T.R. 153 STA. 25+25

FRANCES SHEPLEY BROWN

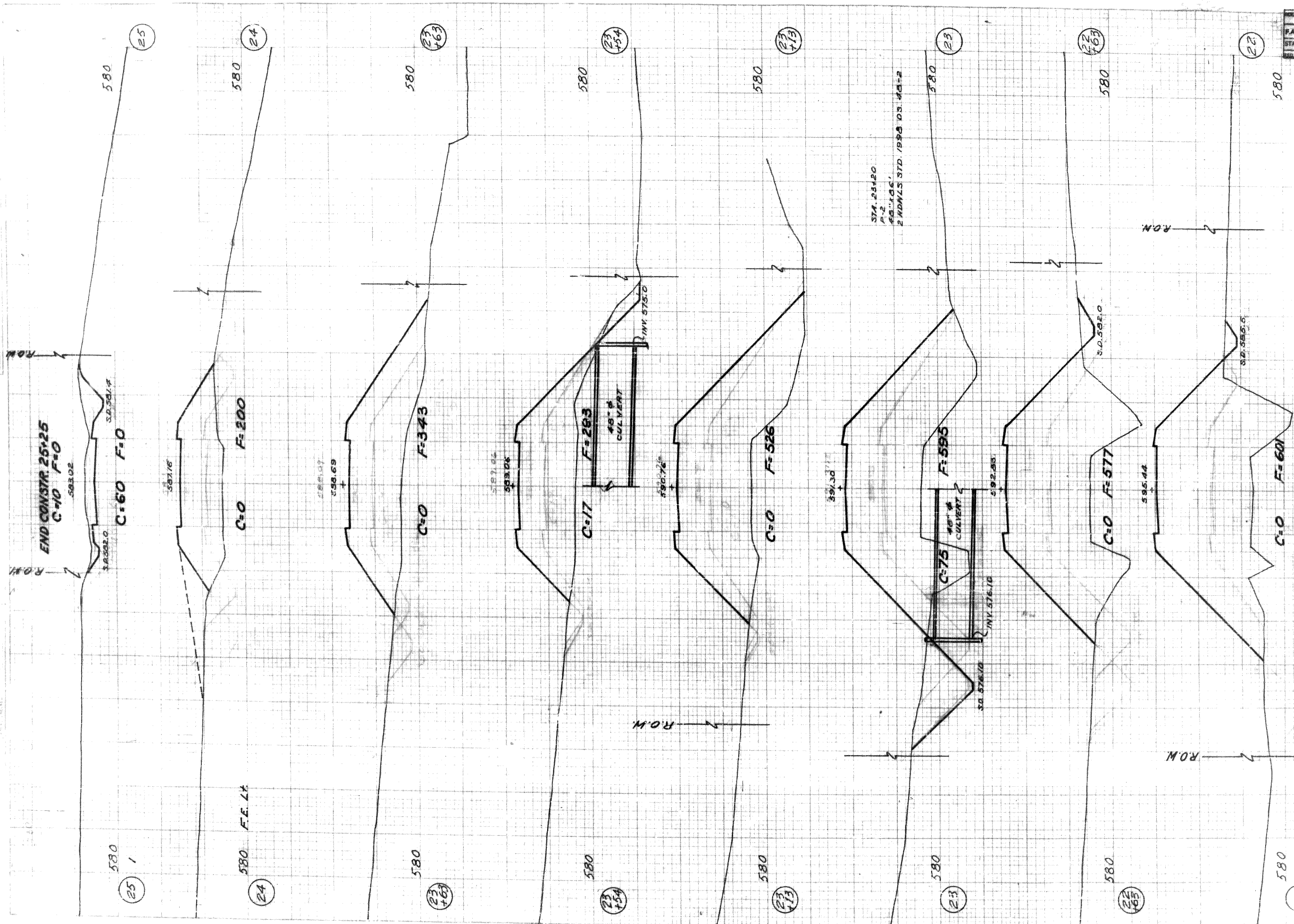
WILLIAM STAFFORD

WILLIAM STAFFORD



EXIST. GRAVEL ROAD
1/2 SECTION LINE
SEC. 31 T. 35 N. R. 9 E
OF 3 RD. FM.
TROY TOWNSHIP
WILL COUNTY

PROJECT NO.	SHEET NO.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-8099-1HB	WILL	22	18	
STA 22+00	TO STA 25+00			
SHEET NO. 22				



CROSS SECTIONS-TR.153(FAI RTE.80 STA.1804 +10.29)

80
 60
 40
 20
 12+20
 18+10
 24+00
 30+00
 36+00
 42+00
 48+00
 54+00
 60+00
 66+00
 72+00
 78+00
 84+00
 90+00
 96+00
 102+00
 108+00
 114+00
 120+00