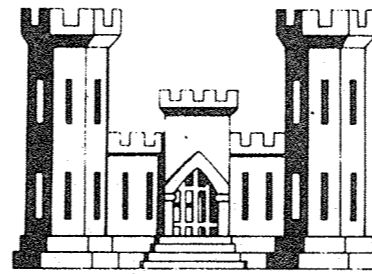


CENTRAL AND SOUTHERN FLORIDA PROJECT UPPER ST. JOHNS RIVER BASIN

*SAFETY ON THIS JOB
DEPENDS ON YOU*

PLANS
FOR CONSTRUCTION OF

STRUCTURE 96B AND TIEBACK LEVEE



ST. JOHNS RIVER
WATER MANAGEMENT DISTRICT

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

1988

*DRAWINGS IN THIS FOLIO
HAVE BEEN REDUCED TO
ONE HALF SCALE*

TO ACCOMPANY INVITATION
NO. DACW17-88-B-0008
DATED. 22 FEBRUARY 1988

 INCREASE PROFIT .. SUBMIT VECPS

D.O. FILE NO. 490-34,813

CENTRAL AND SOUTHERN FLORIDA PROJECT UPPER ST. JOHNS RIVER BASIN

SAFETY ON THIS JOB
DEPENDS ON YOU

NO.		SYMBOL	ZONE	REVISIONS	DESCRIPTION	DATE	APPROVED

PLANS FOR CONSTRUCTION OF

STRUCTURE 96B AND TIEBACK LEVEE



ST. JOHNS RIVER
WATER MANAGEMENT DISTRICT

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA
1988

INDEX TO DRAWINGS

SHEET NO.	DWG. NO.	TITLE	SHEET NO.	DWG. NO.	TITLE	SHEET NO.	DWG. NO.	TITLE
GENERAL			METALS AND MISCELLANEOUS			S-164 GATE HOIST HAUNCH CONCRETE REPAIRS		
1	1/1	INDEX TO DRAWINGS	14	5/1	HATCHES	38	9/1	AS-BUILT PLAN AND SECTION
2	1/2	LOCATION MAP	15	5/2	CUTOFF WALL	39	9/2	HAUNCH CONCRETE REPAIRS, DETAILS NO. 1
3	1/3	AERIAL PLAN, RIGHT-OF-WAY, AND CONTROL	16	5/3	FENCING DETAILS			
4	1/4	AERIAL PLAN, RIGHT-OF-WAY, AND CONTROL	17	5/4	SECURITY FENCING DETAILS			
5	1/5	TOPOGRAPHY	18	5/5	EMBEDDED METALS AND MISCELLANEOUS DETAILS NO. 1			
6	1/6	SITE PLAN	19	5/6	EMBEDDED METALS AND MISCELLANEOUS DETAILS NO. 2			
7	1/7	NOT USED	20	5/7	TIMBER WARNING SIGN DETAILS			
8	1/8	GENERAL PLAN AND SECTIONS	21	5/8	SAFETY BARRIER DETAILS			
	1/9	DEWATERING PLAN AND SECTIONS	22	5/9	SAFETY BARRIER FLOAT DETAILS			
			23	5/10	CONTROL HOUSE			
			24	5/11	CONTROL HOUSE DETAILS			
CONCRETE			MECHANICAL			CORE BORINGS AND MISCELLANEOUS		
9	2/1	PLAN AND SECTIONS	25	6/1	GATE HOIST - GENERAL ARRANGEMENT	40	10/1	LOG OF BORINGS
10	2/2	SECTIONS AND DETAILS	26	6/2	GATE HOIST - DETAILS NO. 1	41	10/2	LOG OF BORINGS
			27	6/3	GATE HOIST - DETAILS NO. 2	42	10/3	GRADATION CURVES
			28	6/4	GATE HOIST - DETAILS NO. 3	43	10/4	TEST PITS
			29	6/5	HYDRAULIC DIAGRAM AND CONTROL HOUSE	44	10/5	TEST PITS
			30	6/6	GATE LIMIT SWITCHES AND POSITION TRANSMITTER	45	10/6	TEST PITS
						46	10/7	TEST PITS GRADATION CURVES
						47	10/8	TEST PITS GRADATION CURVES
						48	10/9	TEST PITS GRADATION CURVES
REINFORCEMENT			ELECTRICAL SYSTEMS					
11	3/1	DETAILS NO. 1	31	7/1	CONDUIT PLANS			
			32	7/2	WIRING DIAGRAMS			
			33	7/3	DETAILS			
VERTICAL LIFT GATE			TIEBACK LEVEE					
12	4/1	ELEVATION AND DETAILS	34	8/1	PLAN AND PROFILE			
13	4/2	MISCELLANEOUS DETAILS	35	8/2	CROSS SECTIONS			
			36	8/3	CROSS SECTIONS			
			37	8/4	CROSS SECTIONS			

<p style="font-size: x-small;">PREPARED BY: <i>[Signature]</i> CHIEF STRUCTURES SECTION CHIEF LEVEE AND WATERWAYS SECTION SUBMITTED BY: <i>[Signature]</i> CHIEF DISTRICT ENGINEER APPROVAL RECORD: <i>[Signature]</i> CHIEF ENGINEERING DIV. APPROVED: <i>[Signature]</i> S.D.C.E. DEPUTY DISTRICT ENGINEER</p>	<p style="text-align: center;">DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA</p> <p style="text-align: center;">CENTRAL AND SOUTHERN FLORIDA PROJECT UPPER ST. JOHNS RIVER BASIN STRUCTURE 96B AND TIEBACK LEVEE GENERAL INDEX TO DRAWING</p> <p style="font-size: x-small;">INVENTORY NO. DACW17-88-B-0008 SIZE DWG. NO. 1/1 DESIGN ENG. DWN. BY: CRK. BY: DATED: 12 FEBRUARY 1988 D.N.S. P.A.W. SCALE: AS SHOWN DATED: JULY 1986 SHEET 1 OF 48</p>
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SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS					
NO.	SYM.	ZONE	DESCRIPTION	DATE	APPROVED
8	A	E	REVISED TO ACCOMPANY AMENDMENT NO. 0001	3-15-88	SBT

LEGEND

	LEVEE AND DESIGNATION	} PROPOSED, COMPLETED OR UNDER CONSTRUCTION
	CANAL AND DESIGNATION	
	STRUCTURE NUMBER	
	CULVERT	
	SPILLWAY	
	HURRICANE GATE	
	LOCK	
	PUMPING STATION	
	COUNTY LINE	
	ROAD OR HIGHWAY AND DESIGNATION	
	RAILROAD	
	NEW STRUCTURE 96B & S-164 HAUNCH REPAIR	
	NEW TIEBACK LEVEE	

- GENERAL NOTES:**
- ELEVATIONS ARE IN FEET AND TENTHS AND REFER TO NATIONAL GEODETIC VERTICAL DATUM (N.G.V.D.).
 - ALL ELEVATIONS ARE ABOVE THE REFERENCE PLANE, UNLESS PRECEDED BY A MINUS (-) SIGN.
 - ALL STATIONING IS ALONG C-54 AND C-1 TIEBACK LEVEE RANGE 1000.
 - COORDINATES ARE BASED ON THE STANDARD PLANE RECTANGULAR COORDINATE SYSTEM FOR THE EAST ZONE OF FLORIDA.
 - ALL AZIMUTHS (0° = SOUTH) REFER TO GRID.
 - F.C.E. (FLOOD CONTROL EVERGLADES) STATIONS ARE CORPUS OF ENGINEERS TRAVERSE DISKS SET IN CONCRETE MONUMENTS OR 4" IRON PIPES AND ARE BENCH MARKS.

LOCATION OF WORK

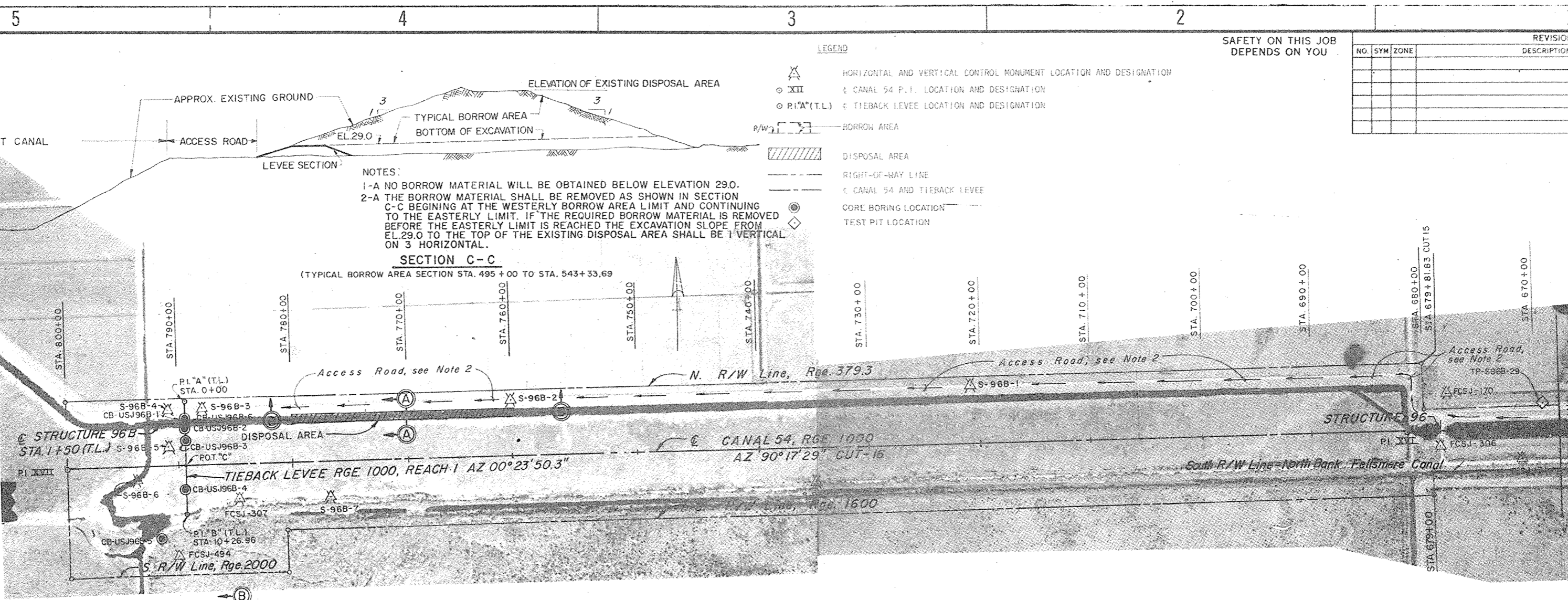
LOCATION MAP
SCALE IN MILES

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPUS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

GENERAL
LOCATION MAP

DESIGN BY: D.N.S.	REV. BY: PAW.	INV. NO. DACV:	SIZE: F	DWG. NO.: 1/2
DATED:		SCALE: AS SHOWN	DATED: JULY 1986 SHEET 2	



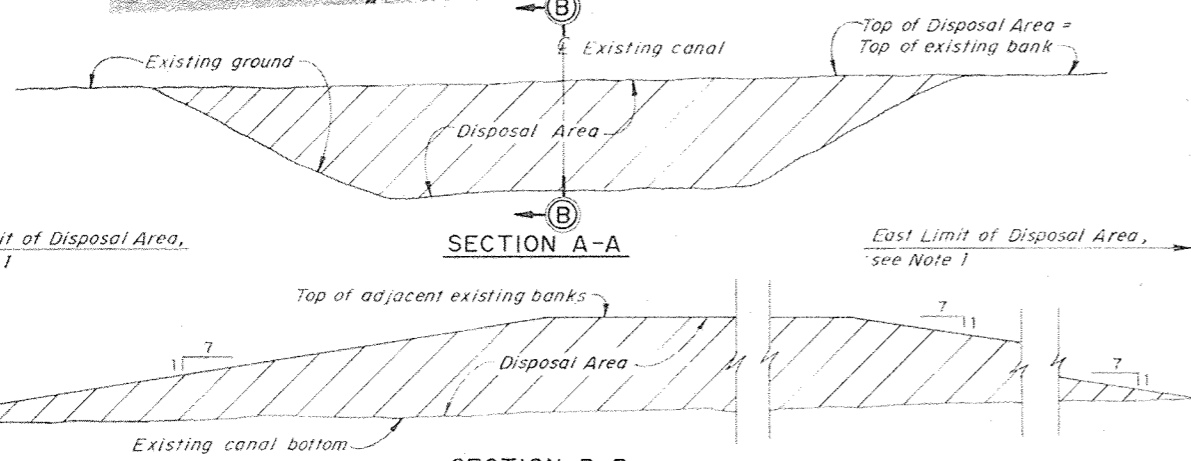
SAFETY ON THIS JOB DEPENDS ON YOU

REVISIONS				
NO.	SYM.	DESCRIPTION	DATE	APPROVED

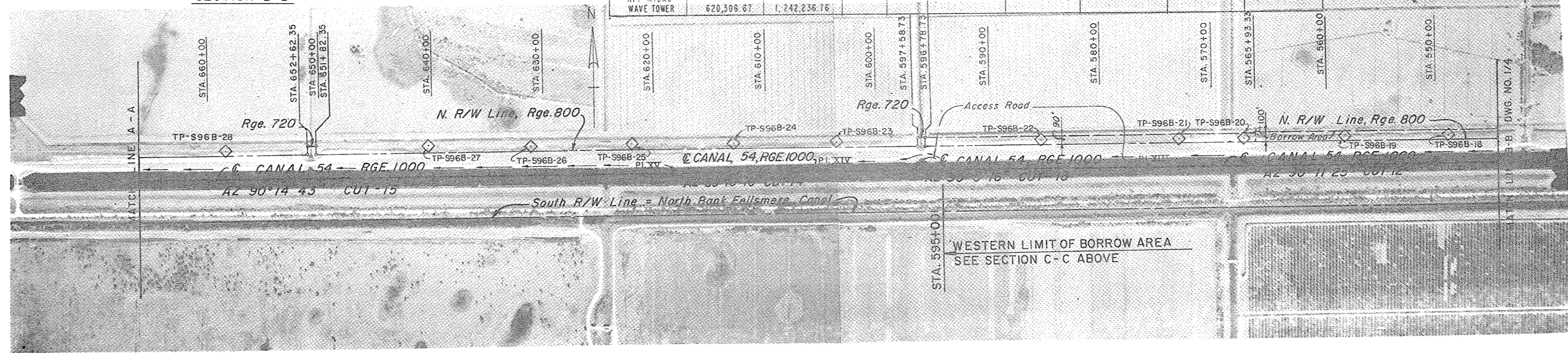
- LEGEND**
- ⊗ XII HORIZONTAL AND VERTICAL CONTROL MONUMENT LOCATION AND DESIGNATION
 - ⊕ CANAL 54 P.I. LOCATION AND DESIGNATION
 - ⊙ P.O.T. (T.L.) TIEBACK LEVEE LOCATION AND DESIGNATION
 - ▭ BORROW AREA
 - ▨ DISPOSAL AREA
 - RIGHT-OF-WAY LINE
 - ⊕ CANAL 54 AND TIEBACK LEVEE
 - ⊙ CORE BORING LOCATION
 - ⊕ TEST PIT LOCATION

NOTES:
 1-A NO BORROW MATERIAL WILL BE OBTAINED BELOW ELEVATION 29.0.
 2-A THE BORROW MATERIAL SHALL BE REMOVED AS SHOWN IN SECTION C-C BEGINNING AT THE WESTERLY BORROW AREA LIMIT AND CONTINUING TO THE EASTERLY LIMIT. IF THE REQUIRED BORROW MATERIAL IS REMOVED BEFORE THE EASTERLY LIMIT IS REACHED THE EXCAVATION SLOPE FROM EL. 29.0 TO THE TOP OF THE EXISTING DISPOSAL AREA SHALL BE 1 VERTICAL ON 3 HORIZONTAL.

SECTION C-C
 (TYPICAL BORROW AREA SECTION STA. 495+00 TO STA. 543+33.69)



MONUMENT	PLANE COORDINATES		ELEV.	C-54 CUT	TIEBACK LEVEE REACH	C-54 STATION	TIEBACK LEVEE STATION	C-54 RANGE	TIEBACK LEVEE RANGE
	X	Y							
S-96B-1	590,308.60	1,269,141.18	20.03	16		720+85.28		495.04	
S-96B-2	586,151.73	1,269,158.07	29.24	16	1	762+40.18	0+41.44 (TL)	497.29	3711.25(TL)
S-96B-3	583,965.56	1,269,177.31	28.74	16	1	788+26.42	0+40.13 (TL)	491.20	1129.01(TL)
S-96B-4	583,315.14	1,269,179.00	28.21	16	1	790+76.84	0+40.18 (TL)	490.74	874.59(TL)
S-96B-5	583,312.57	1,268,919.42	21.06	16	1	790+77.09	2+99.77 (TL)	750.98	874.82(TL)
S-96B-6	583,040.28	1,268,089.45	26.64	16	1	793+46.15	11+91.61 (TL)	1581.72	667.29(TL)
S-96B-7	584,903.85	1,268,347.83	24.42	16	1	778+83.92	8+63.08 (TL)	1315.90	2069.03(TL)
S-96B-8	588,896.98	1,268,317.95	25.00	16	1	754+90.71		1323.44	
FCSJ-306	594,534.12	1,268,611.15		16		678+55.12		1001.58	
FCSJ-307	583,663.65	1,268,332.19		16		787+24.06		1329.82	
FCSJ-494	583,116.79	1,267,098.66	28.99	16		792+68.47		1812.12	
AZ MK	583,111.53	1,267,193.11		16		792+70.35		2417.69	
FCSJ-170	594,523.37	1,268,851.20		16		678+67.09		781.59	
SUGAR	605,249.82	1,265,912.56							
ATT MICRO WAVE TOWER	620,306.67	1,242,236.76							



WESTERN LIMIT OF BORROW AREA SEE SECTION C-C ABOVE

P.I.	PLANE COORDINATES		REACH	STATION
	X	Y		
P.I. "A"	583,449.85	1,269,218.91	1	0+00 (TL)
P.O.T. "B"	583,277.705	1,268,191.97	1	10+26.96 (TL)
P.O.T. "C"	583,437.018	1,268,669.162	1	5+49.16 (TL)

P.I.	PLANE COORDINATES		CUT	STATION
	X	Y		
XVI	594,271.90	1,268,614.06	16	687+17.55
XV	600,502.24	1,268,587.39	15	618+86.95
XIV	601,916.76	1,268,605.22	14	604+72.52
XIII	605,799.96	1,268,599.28	13	565+93.51
P.O.T. "A"	583,437.018	1,268,665.163	16	789+52.37

- NOTES:**
- THE DISPOSAL OF MATERIAL SHALL BEGIN AT STA. 780+00 (C-54) AND CONTINUE TO THE EAST AS SHOWN IN SECTION B-B. THE EXISTING CANAL SHALL BE FILLED TO A LINE NO HIGHER THAN THE EXISTING CANAL BANKS AS SHOWN IN SECTION A-A.
 - THE ACCESS ROAD BETWEEN STA. 680+00 AND 790+00 IS 10' TO 20' WIDE AT ELEV. 29.0± WITH APPROX. 1 ON 3 SIDE SLOPES DOWN TO ELEV. 20.0±. THE CHARACTER OF THE ACCESS ROAD MATERIAL IS SUCH THAT WHEN WET, PORTIONS BECOME SLICK AND MUDDY. THIS WET CONDITION WILL REQUIRE THE ACCESS ROAD TO BE IMPROVED IN ORDER TO PROVIDE ACCESS FOR CONSTRUCTION EQUIPMENT. THE MATERIAL TO BE USED FOR ROAD IMPROVEMENT SHALL BE TAKEN FROM SECTION C-C (TYPICAL BORROW AREA SECTION) SHOWN ABOVE.

DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA
 CENTRAL AND SOUTHERN FLORIDA PROJECT
 UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
 GENERAL
 RIGHT-OF-WAY AND CONTROL

SCALE NONE DATED JULY 1988 SHEET 3

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4

3

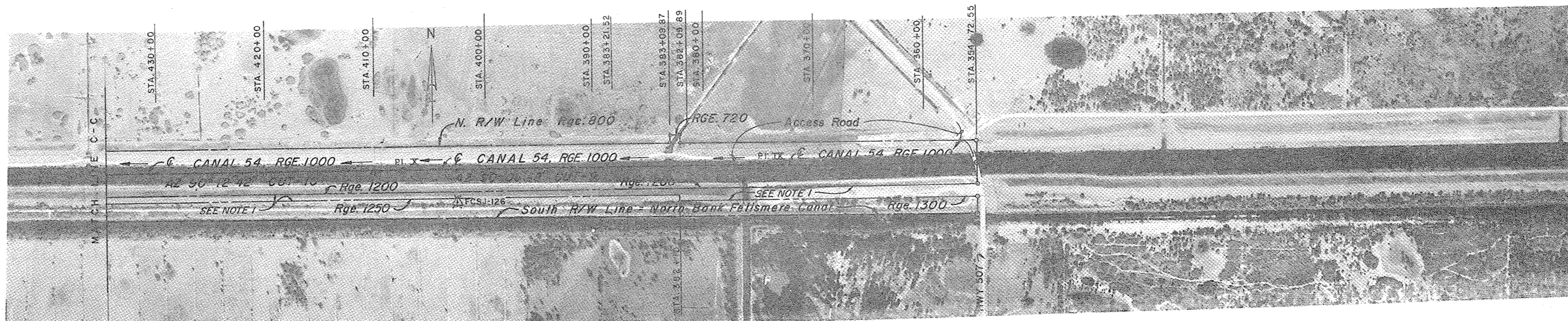
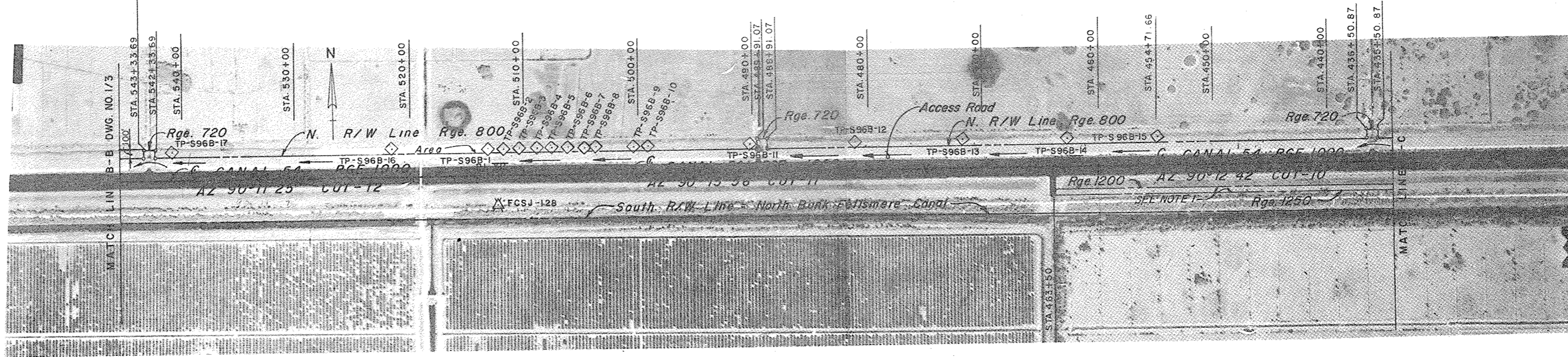
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SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS					
NO.	SYM.	ZONE	DESCRIPTION	DATE	APPROVED
1	Δ	A-5	REVISED TO CONFORM TO AMENDMENT NO. 0601	3-15-88	Z. B. F.

EASTERN LIMIT OF BORROW AREA
SEE SECTION C-C DWG. NO. 1/3



NOTE:
1. THE LANDS BETWEEN RGE 1200 AND 1300 FROM STA. 354+72.55 TO STA. 382+10 AND LANDS BETWEEN RGE 1200 AND 1250 FROM STA. 382+10 TO STA. 463+50 ARE NOT A PART OF THIS CONTRACT.

CANAL 54				
P. I.	PLANE COORDINATES		CUT	STATION
	X	Y		
III	611,569.52	1,268,581.78	11 & 12	512+25.82
II	610,297.04	1,268,951.10	10 & 11	460+51.87
X	621,633.22	1,268,531.60	9 & 10	407+95.70
IX	624,916.26	1,268,909.11	8 & 9	374+72.55
VIII	626,916.22	1,268,568.00	7 & 8	354+72.22

MONUMENT	PLANE COORDINATES		CUT	STATION	RANGE
	X	Y			
FCSJ 126	621,633.25	1,268,207.96	9 & 10	407+94.57	1303.64
FCSJ 128	611,063.17	1,268,281.81	11 & 12	512+24.87	1299.98

DEPARTMENT OF THE ARMY
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JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN

STRUCTURE 96B AND TIEBACK LEVEE

GENERAL
RIGHT-OF-WAY AND CONTROL

SCALE NONE DATED JULY 1986 SHEET 4

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D. O. FILE NO. 490-34,813

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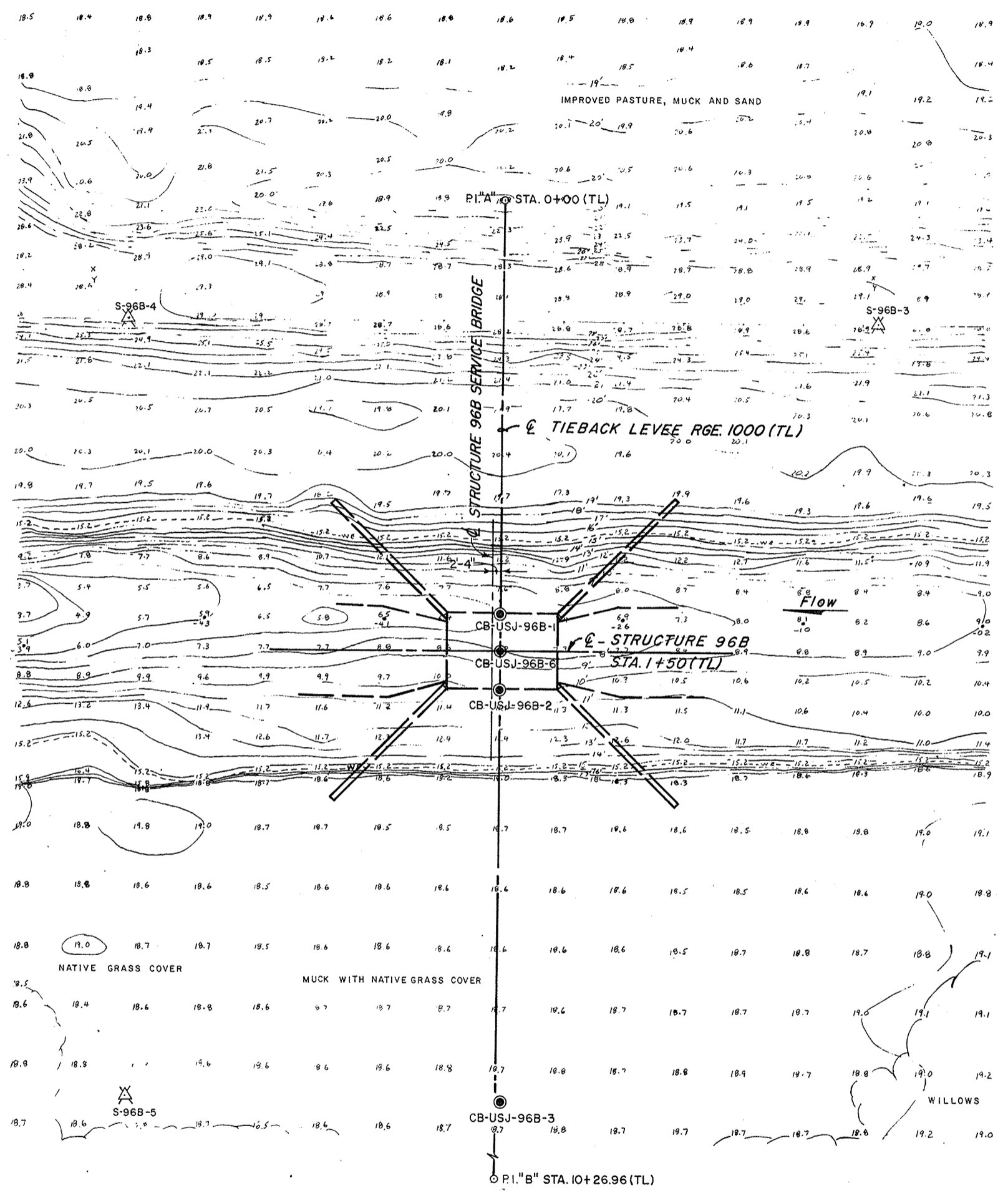
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1

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REVISIONS					
NO.	SYM.	ZONE	DESCRIPTION	DATE	APPROVED



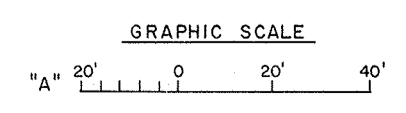
LEGEND

- X S-96B-4 MONUMENT AND DESIGNATION WITH HORIZONTAL AND VERTICAL CONTROL
- CB-S-96B-1 CORE BORING LOCATION AND DESIGNATION
- 20.3 ELEVATION OF EXISTING GROUND
- 19 CONTOUR AND DESIGNATION
- RIGHT-OF-WAY LINE
- TIEBACK LEVEE, RGE. 1000
- PI. "A" TIEBACK LEVEE P.I. LOCATION AND DESIGNATION
- STRUCTURE OUTLINE AND CHANNEL WIDTH

NOTES

1. FOR GENERAL NOTES, SEE DWG. NO. 1/2.
2. SURVEY MADE FOR S-96B WHERE MADE MARCH THRU MAY 1986 AND ARE IN FIELD BOOKS 86 BREVARD COUNTY NOS. 75 - 79.
3. ALL STATIONING SHOWN ON THIS SHEET REFPPS TO THE CENTERLINE OF TIEBACK LEVEE (TL), RGE. 1000.
4. FOR LOG OF BORINGS, SEE DWG. NOS. 10/1 AND 10/2.
5. FOR RIGHT-OF-WAY AND CONTROL DATA, SEE DWG. NOS. 1/3 AND 1/4.
6. FOR WATER STAGES, SEE SPECIFICATIONS.
7. FOR TEST PIT DATA, SEE DWG. NOS. 10/4 THRU 10/6.

TOPOGRAPHY
SCALE: "A"



DESIGN ENG. D.N.S.				DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	
DRAWN BY RAW.				CENTRAL AND SOUTHERN FLORIDA PROJECT UPPER ST JOHNS RIVER BASIN	
CHECKED BY F.				STRUCTURE 96B AND TIEBACK LEVEE GENERAL	
DATE: JULY 1986				TOPOGRAPHY	
SCALE: AS SHOWN				SIZE DWG. NO. 1/5	
DATED: JULY 1986				SHEET 5	

5

4

3

2

A

B

C

D

E

A

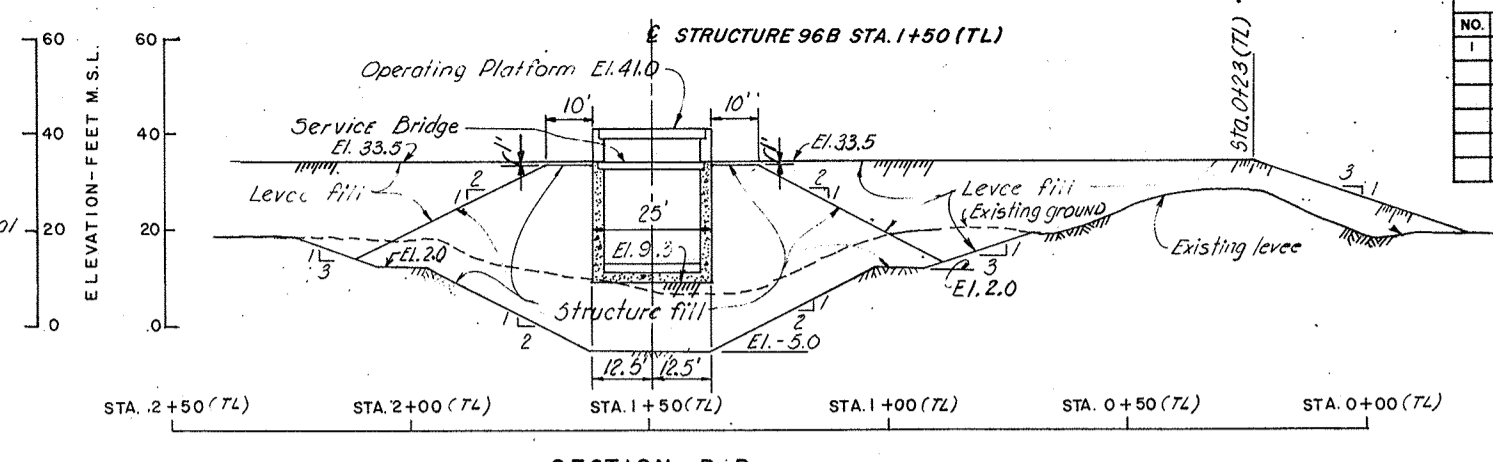
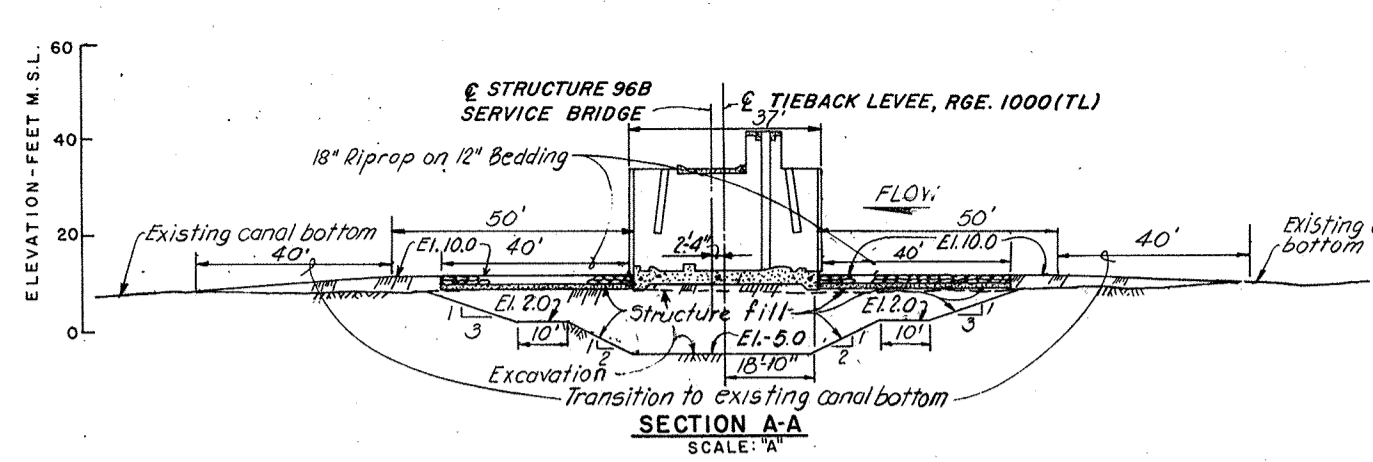
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C

D

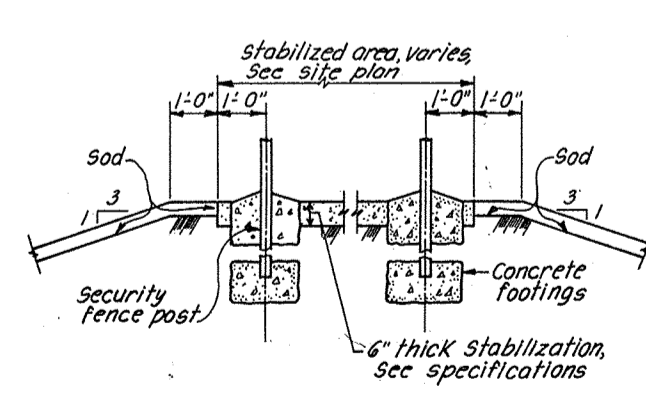
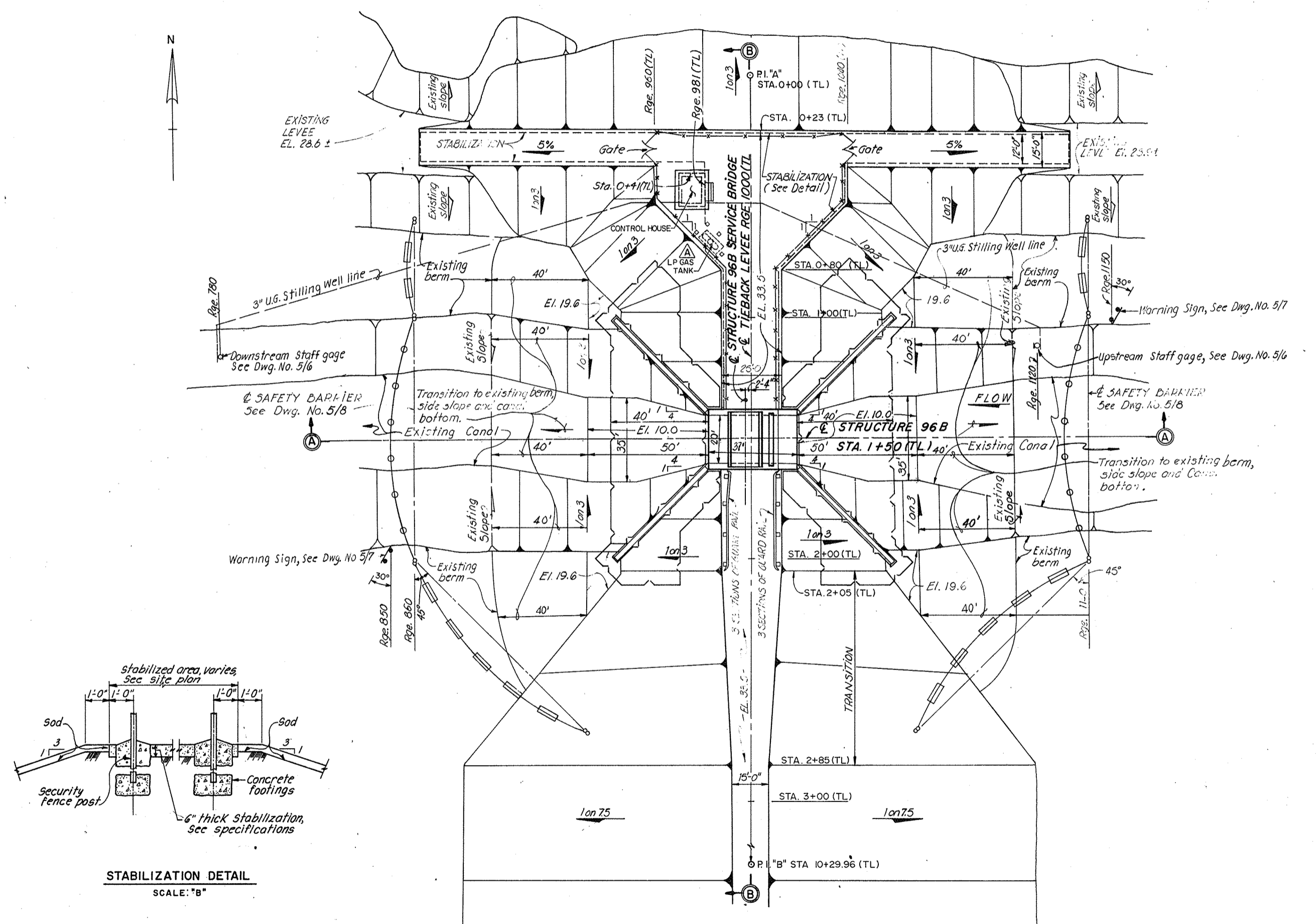
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REVISIONS					
NO.	SYM.	ZONE	DESCRIPTION	DATE	APPROVED
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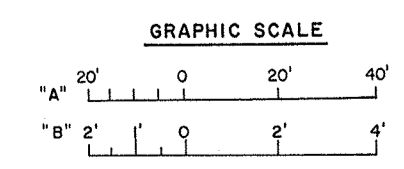


- LEGEND**
- LIMITS OF SODDING
 - LIMITS OF 18" RIPPAP ON 12" BEDDING
 - DIRECTION OF REQUIRED SLOPE
 - DIRECTION OF EXISTING SLOPE
 - LIMITS OF SECURITY FENCING
 - 1 on 3 RATIO OF REQUIRED SLOPE (1 ON 3 = 1 VERTICAL ON 3 HORIZONTAL)
 - LIMITS OF STABILIZATION

- NOTES:**
1. STRUCTURE FENCING AND SODDING LIMITS NOT SHOWN ON SITE PLAN THIS SHEET, SEE DWG. NO. 1/8.
 2. FOR SECURITY GATES AND DETAILS, SEE DWG. NO. 5/4.



SITE PLAN
SCALE: "A"



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

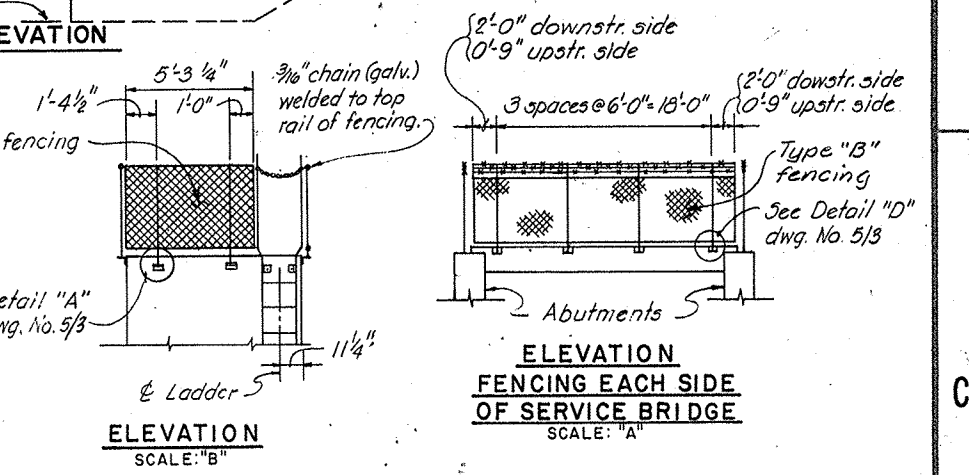
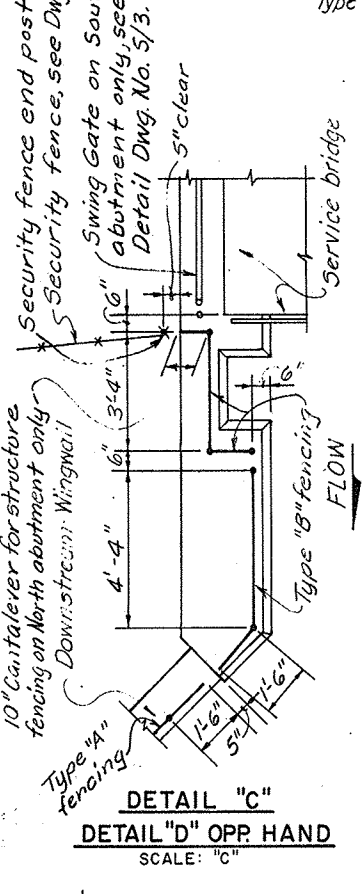
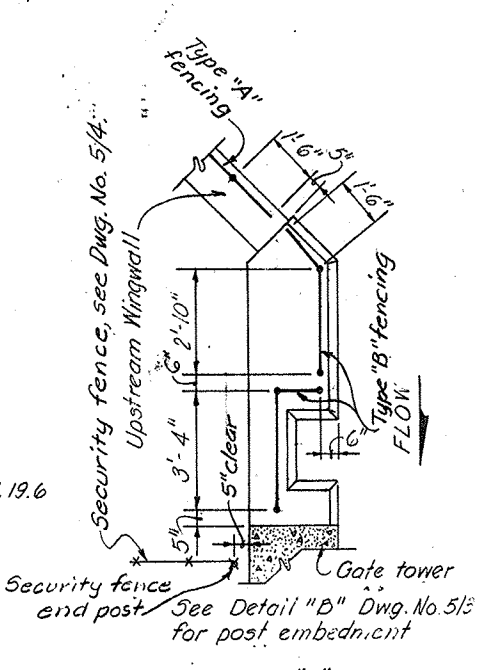
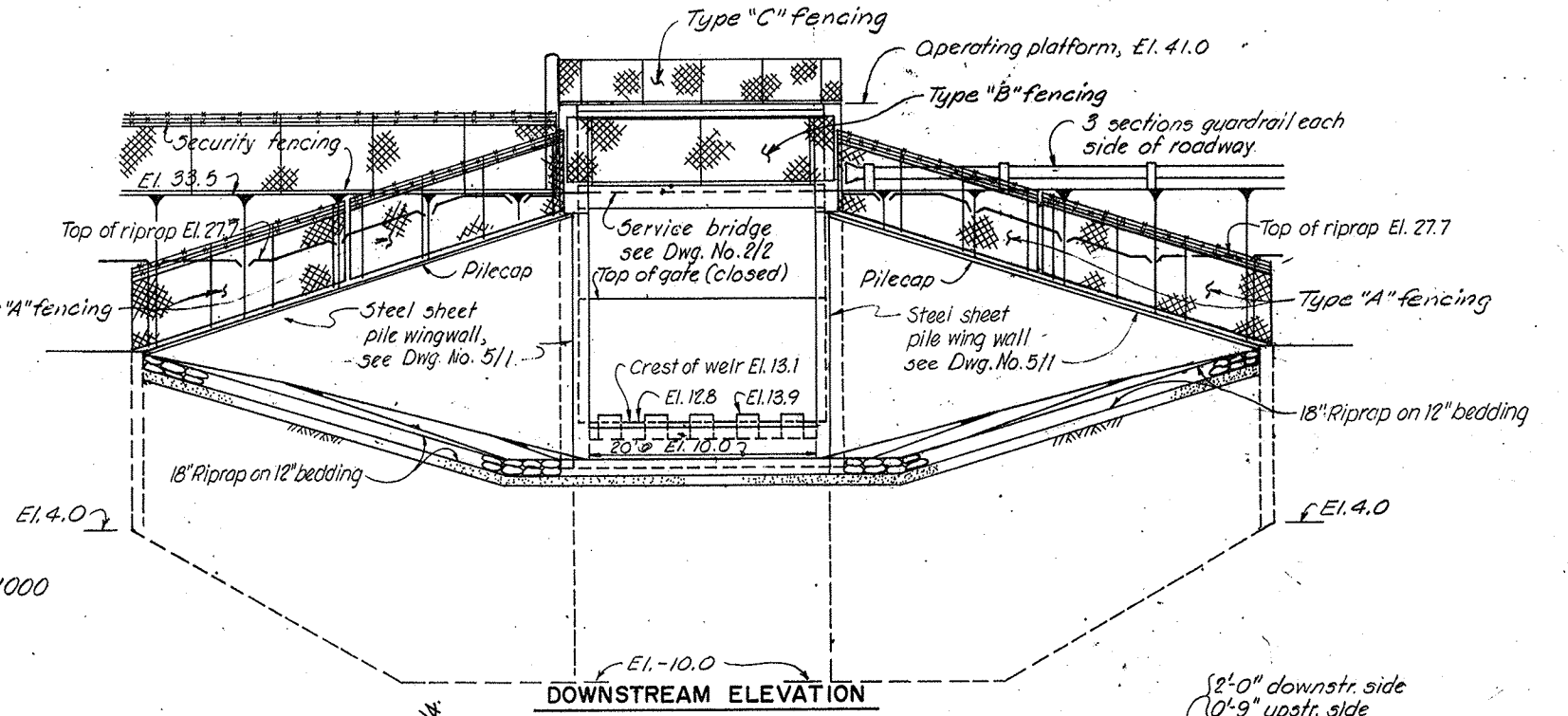
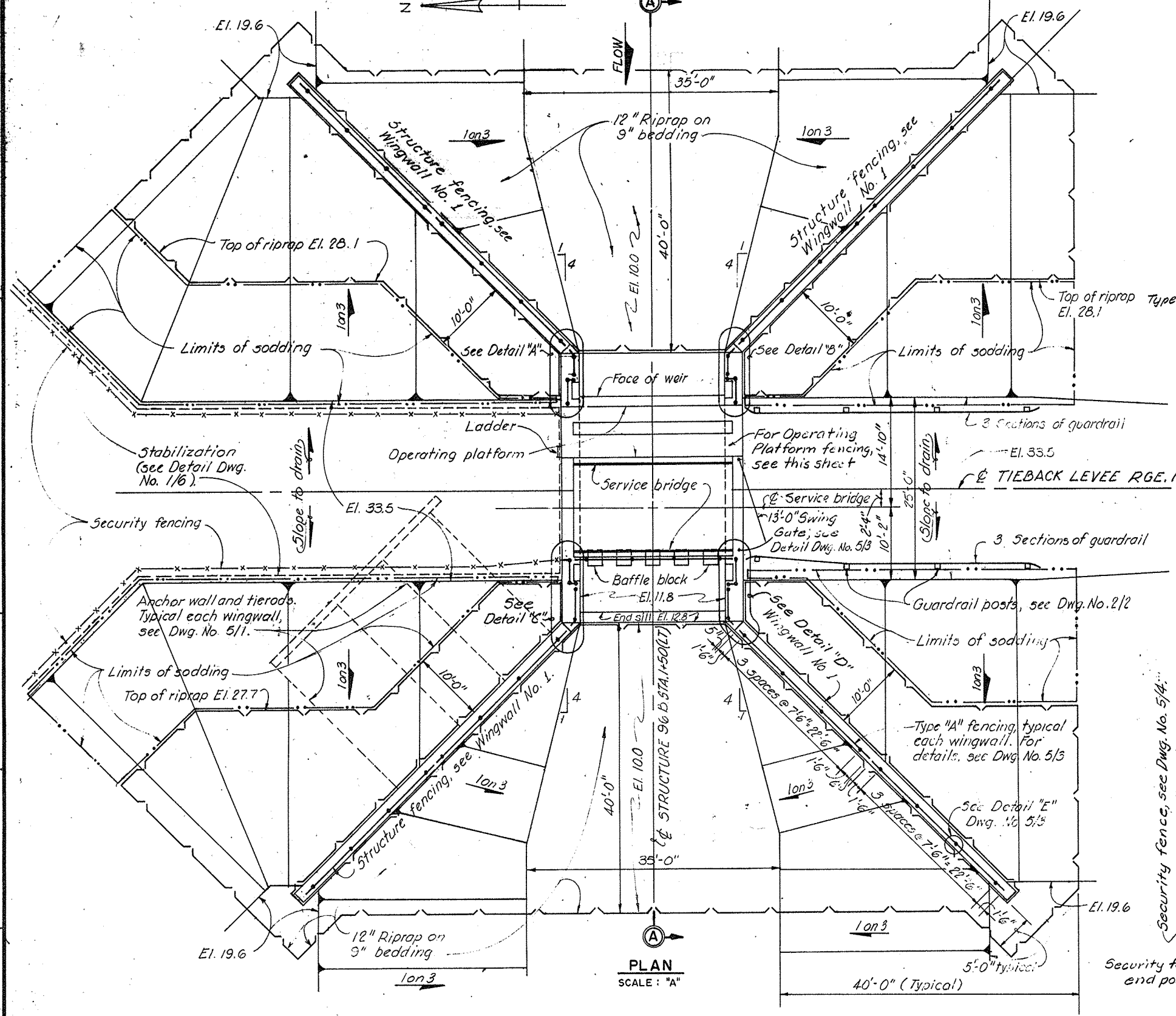
GENERAL
SITE PLAN

DESIGN ENG.: C.B.M., D.N.S.
OWN. BY: E.E.B., D.N.S.
INV. NO.:
DATED:
SCALE: AS SHOWN DATED: JULY 1986 SHEET 6

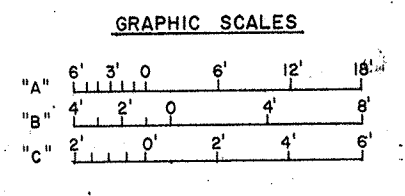
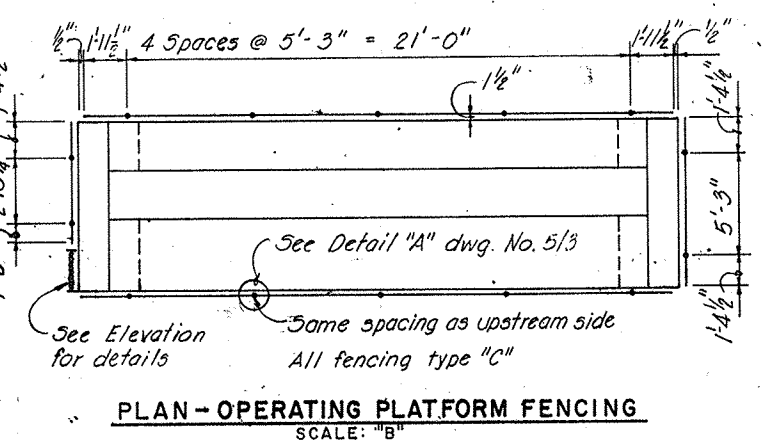
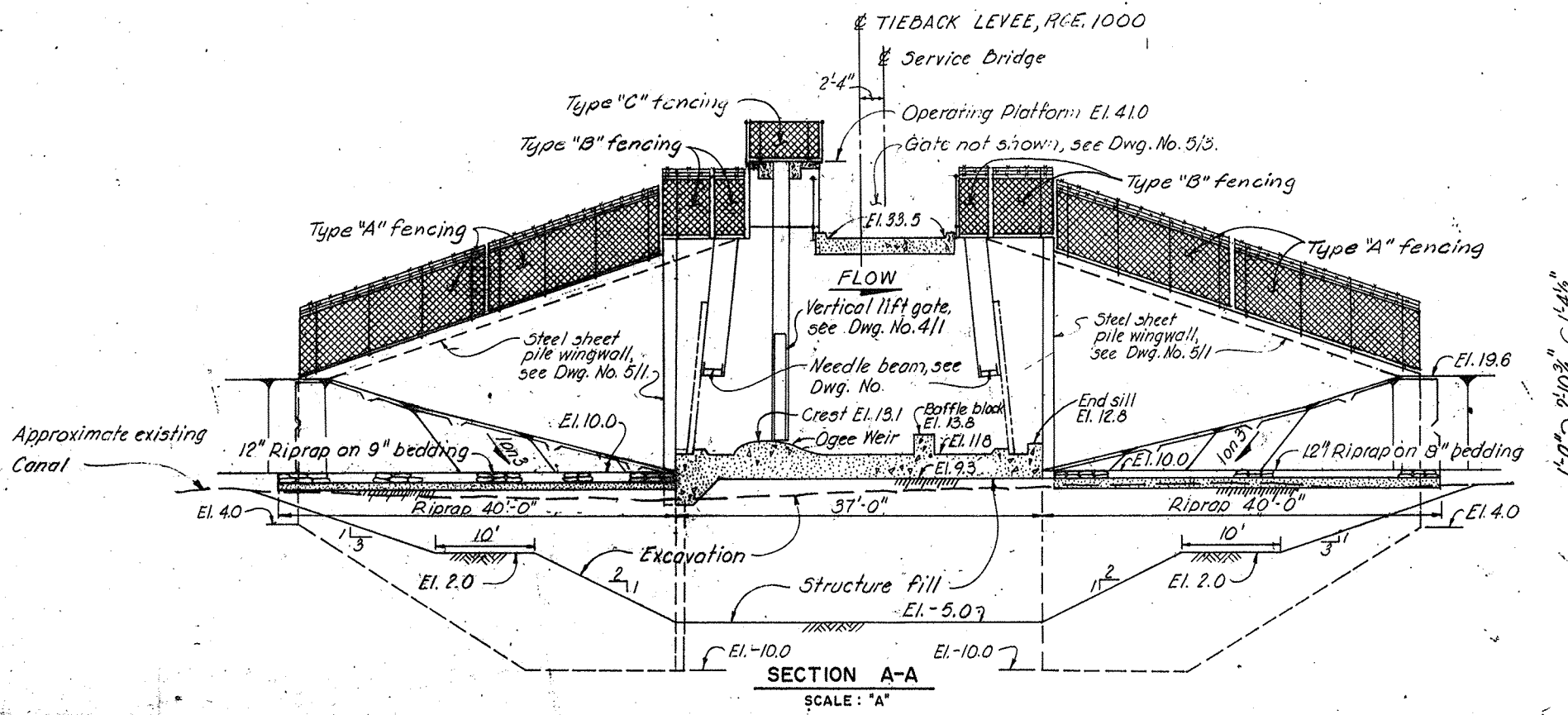
SIZE DWG. NO. F 1/6

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS		DATE	APPROVED
NO.	SYM	ZONE	DESCRIPTION



- NOTES:**
- FOR LEGEND, SEE DWG. NO. 1/6.
 - FOR "GENERAL CONCRETE AND DESIGN NOTES", SEE DWG. NO. 2/1.
 - FOR DETAILS OF GUARDRAIL AND BARRIER POST, SEE DWG. NO. 2/2.
 - FOR STRUCTURE FENCING NOTES AND DETAILS, SEE DWG. NO. 5/3. FOR SECURITY FENCING, SEE DWG. NO. 5/4.
 - GATE HOIST AND HYDRAULIC CYLINDER NOT SHOWN FOR CLARITY. SEE DWG. NO. 6/1 FOR PLAN AND DETAILS.
 - PROVIDE STOP BAR WELDED TO HINGED GATE SO THAT GATE CAN OPEN ONLY BY SWINGING BACK TOWARD THE SERVICE BRIDGE.



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

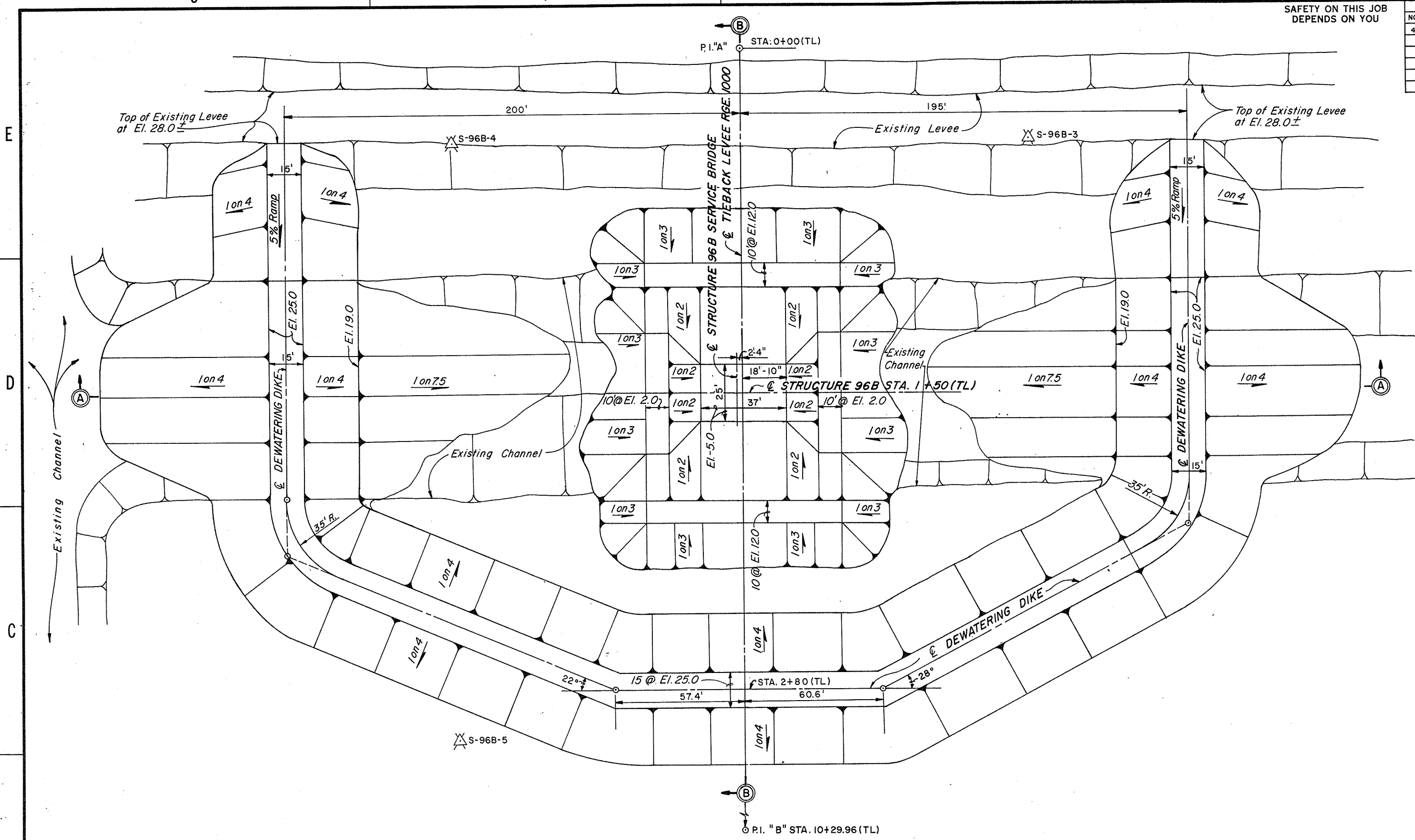
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

GENERAL
GENERAL PLAN AND SECTIONS

DESIGN ENG. D.N.S.	INV. NO.	REV. NO.	SIZE	DWG. NO.
C.B.M. J.N.D.			F	1/8
OWN. BY P.A.W.	DATE	SCALE: AS SHOWN	DATED: JULY 1988	SHEET 7

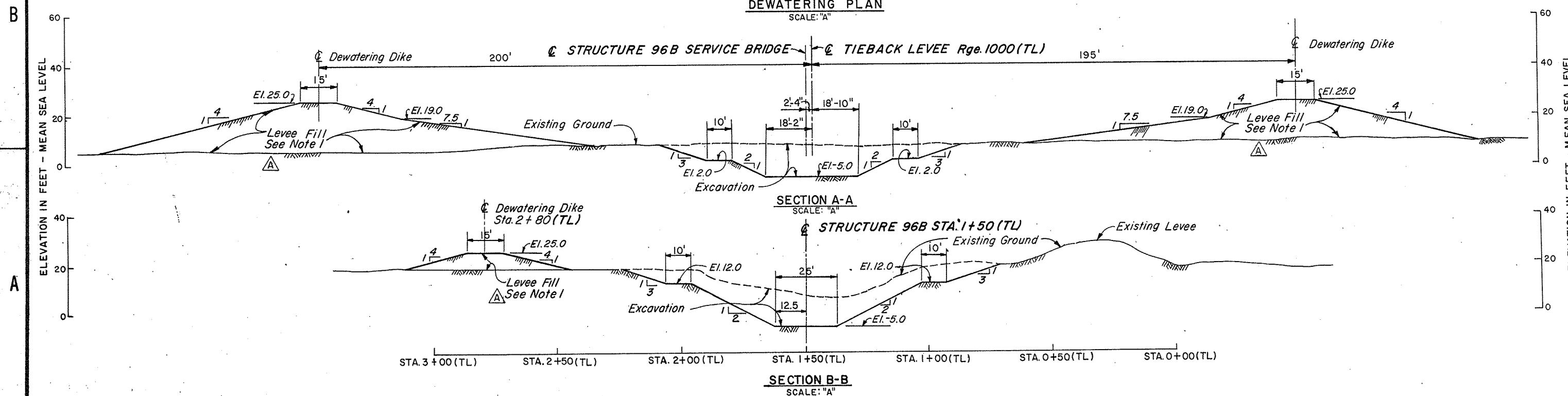
SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED
4	Δ		REVISED TO CONFORM TO AMEND. 0001	3/15/88	PBT



NOTE:
1. Remove levee fill used for dewatering dike down to existing ground upon completion of work required to be performed in the dry except for the Dewatering dike levee fill that falls within the Tieback Levee Prism. This levee fill shall remain as part of the tieback levee.

DEWATERING PLAN
SCALE: "A"



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
GENERAL

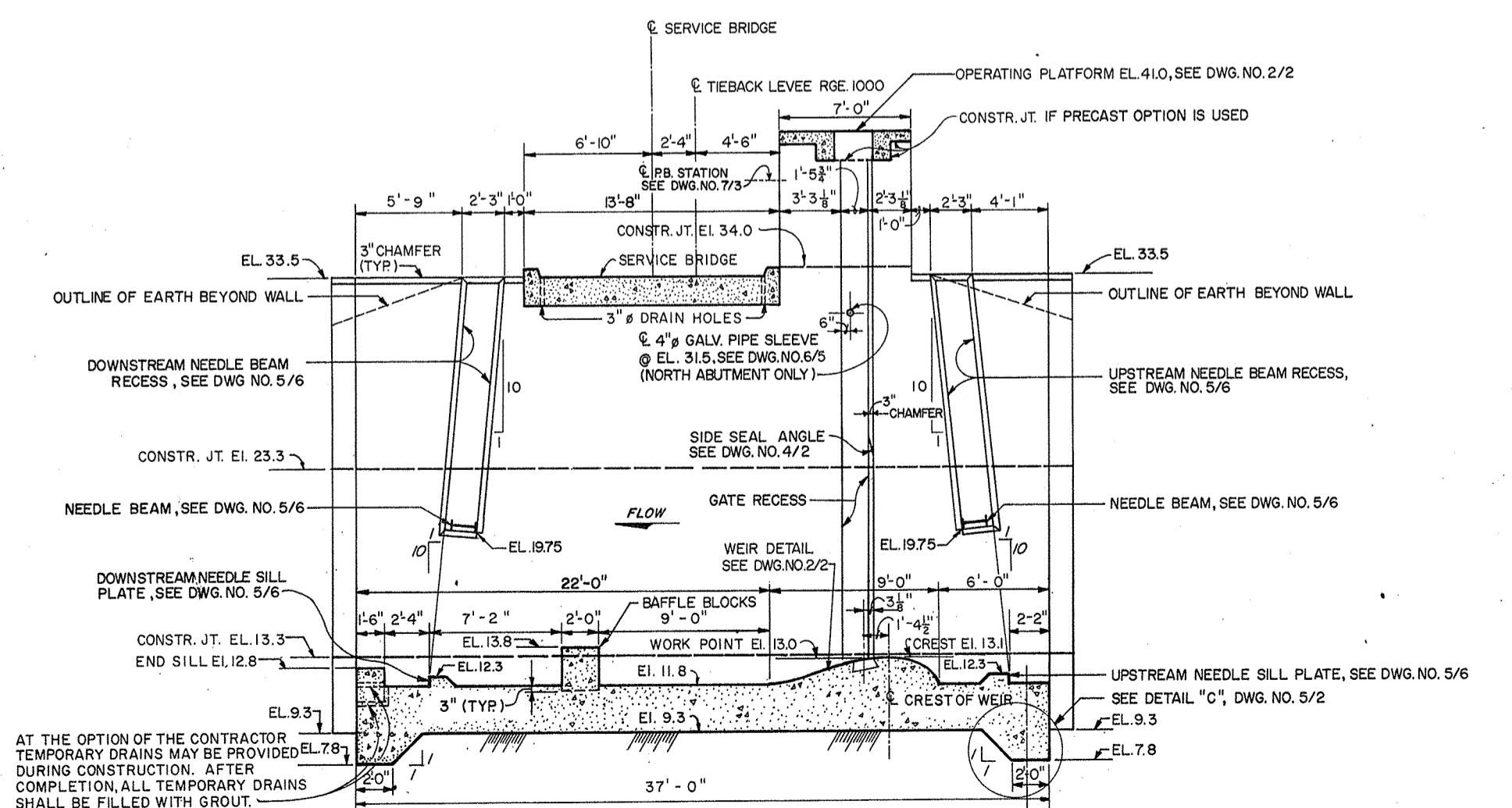
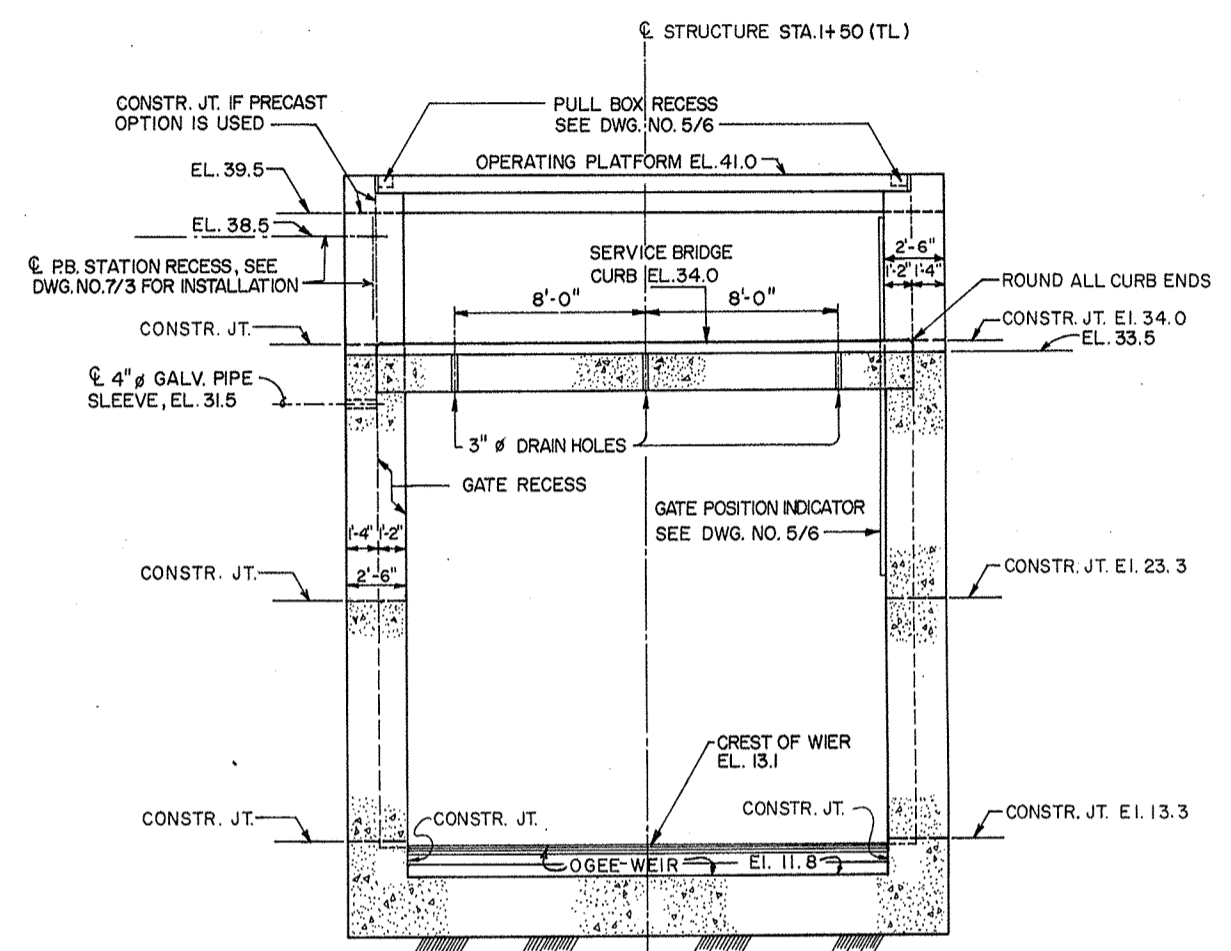
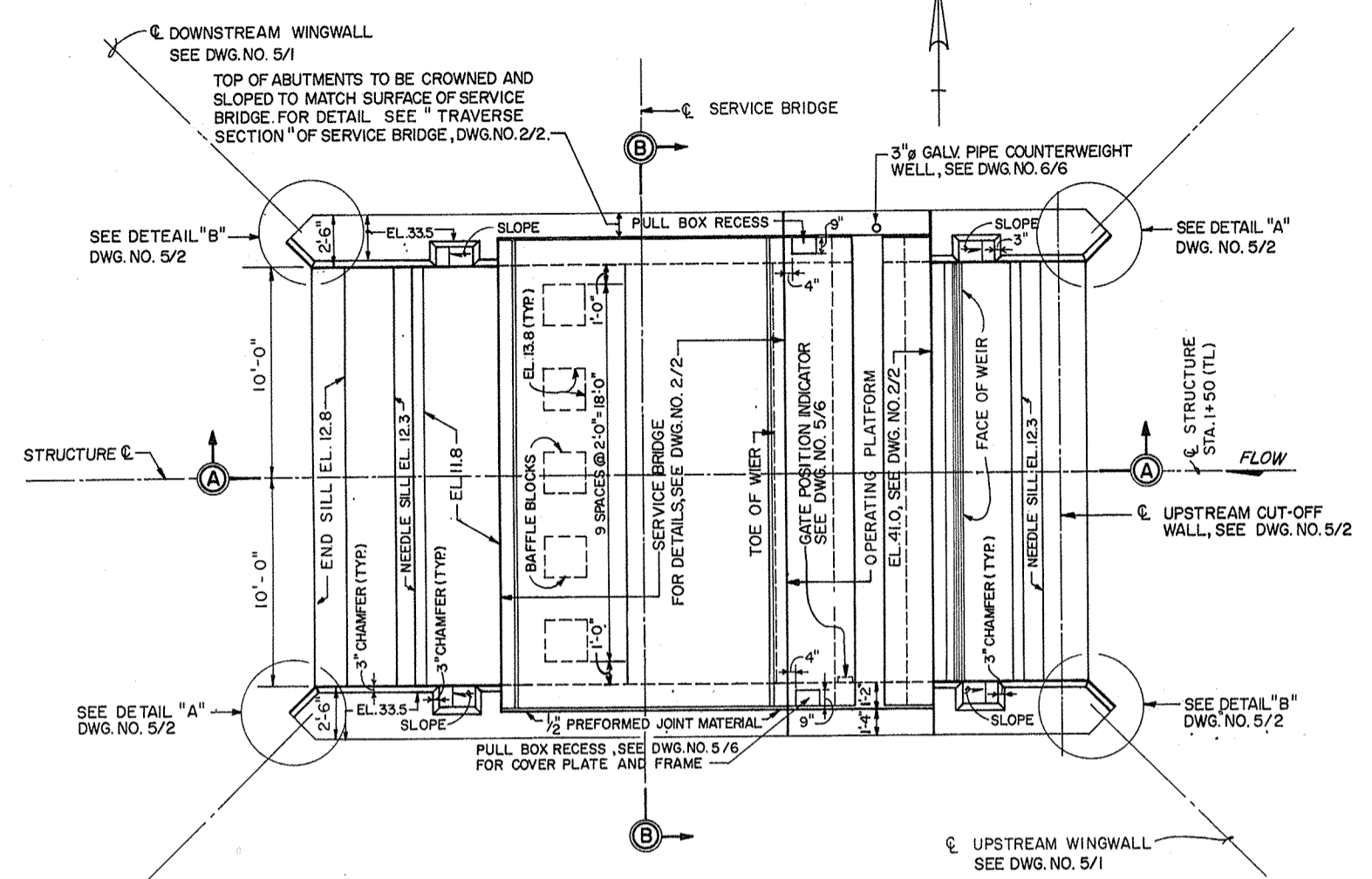
DEWATERING PLAN AND SECTIONS

DESIGN ENG.:	D.N.S.	INV. NO.:	F	SIZE:	DWG. NO.
CHK. BY:		DATED:			1/9
R.A.W.:		SCALE:	AS SHOWN	DATED:	JULY 1986

SHEET 8

SAFETY ON THIS JOB
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REVISIONS			
NO.	SYM	ZONE	DATE APPROVED

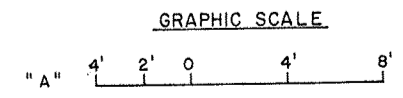


NOTES:

- FOR "GENERAL REINFORCEMENT NOTES", SEE DWG. NO. 3/1.
- FOR DETAILS OF SERVICE BRIDGE, OPERATING PLATFORM AND WEIR, SEE DWG. NO. 2/2.
- FOR EMBEDDED METALS REQUIRED FOR GATE RECESS AND GATE BOTTOM SEAL CONSTRUCTION, SEE DWG. NOS. 4/1 AND 4/2.

GENERAL CONCRETE AND DESIGN NOTES:

- PROVIDE 3/4" CHAMFER ON ALL EXPOSED CONCRETE CORNERS AND EDGES UNLESS OTHERWISE NOTED.
- CONSTRUCTION JOINTS SHALL BE AS SHOWN OR AS APPROVED BY THE CONTRACTING OFFICER PROVIDED THE FOLLOWING CRITERIA ARE MET:
HORIZONTAL CONSTRUCTION JOINTS IN WALLS SHALL BE LIMITED TO A MAXIMUM LIFT OF 10'-0" AND VERTICAL JOINT LOCATIONS LIMITED TO A MAXIMUM LENGTH WHICH WILL ASSURE THAT THE CONCRETE CAN BE PROPERLY PLACED AND VIBRATED TO PREVENT FORMATION OF VOIDS OR HONEYCOMBS WITHIN THE CONCRETE. V-JOINTS SHALL BE PROVIDED AT ALL HORIZONTAL CONSTRUCTION JOINTS NOT COVERED BY BACKFILL FOR THE ABUTMENT WALLS. SEE "TYPICAL V-JOINT DETAIL", DWG. NO. 2/2.
- FOR "GENERAL REINFORCEMENT NOTES", SEE DWG. NO. 3/1.
- UNLESS OTHERWISE NOTED, FINISH FOR FORMED CONCRETE SURFACES SHALL BE AS FOLLOWS:
(1) CLASS-B ALL FORMED SURFACES, EXCEPT AS NOTED IN (2).
(2) CLASS-D SURFACES AGAINST WHICH CONCRETE OR FILL IS TO BE PLACED.
- ALL EXPOSED UNFORMED SURFACES SHALL HAVE A FLOAT FINISH, UNLESS OTHERWISE NOTED.
- WORKING STRESSES FOR STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE REQUIREMENTS OF THE A. I. S. C. ALLOWABLE STRESS UNLESS OTHERWISE SHOWN OR SPECIFIED.



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CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
CONCRETE

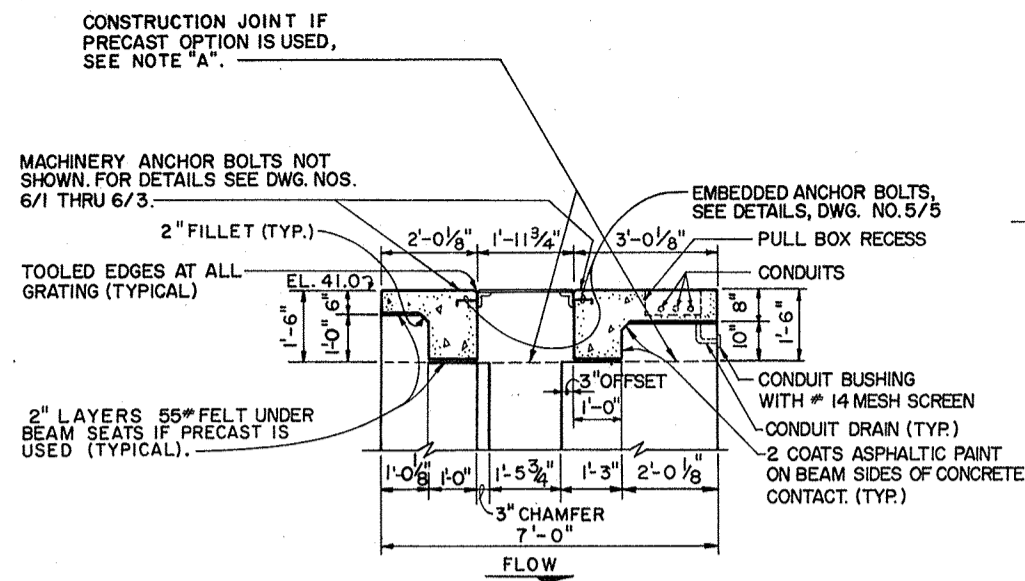
PLAN AND SECTIONS

DESIGN ENGINEER: C.B.M. G.M.V.	INVT. NO.:	DATE:	SHEET NO.:
COR. BY: J.M. C.B.M.	F	2/1	9

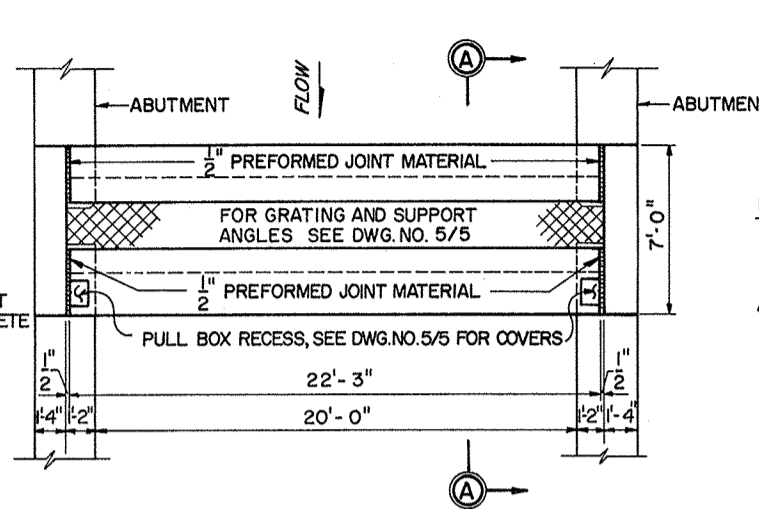
SCALE: AS SHOWN DATED: JULY 1986 SHEET 9

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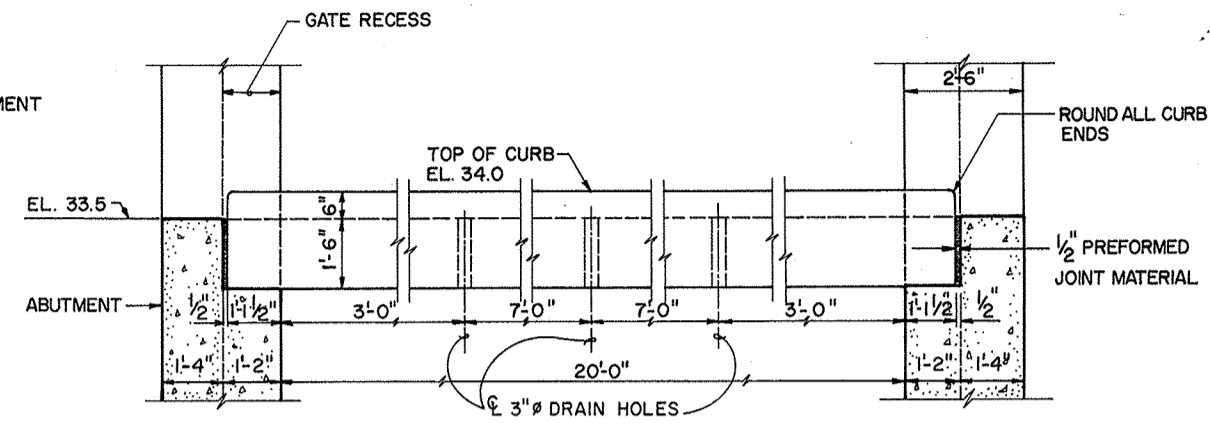
REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED
1	Δ	B-3	ADDED ADDITIONAL LOCATION FOR GUARDRAIL POSTS TO ACCOMPANY MOD. SUPPLY "F"	3/30/89	237



SECTION "A-A"
SCALE: "A"



HALF PLAN
SCALE: "B"

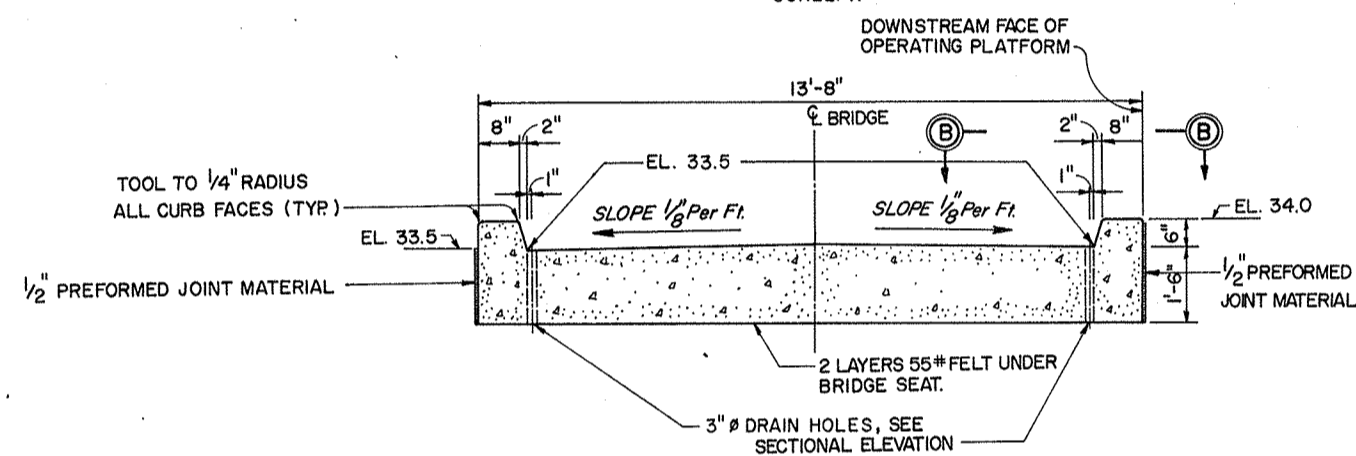


SECTIONAL ELEVATION
SCALE: "A"

NOTE "A":

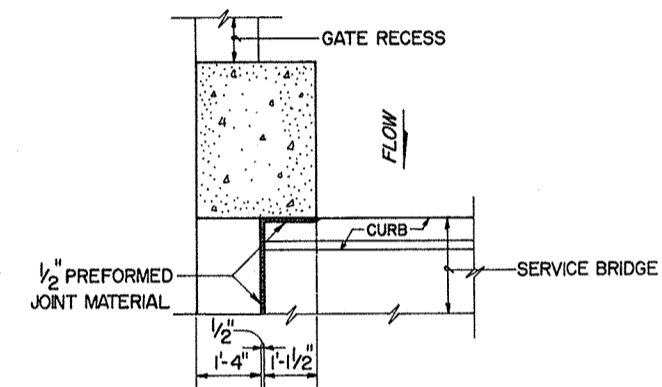
AT THE OPTION OF THE CONTRACTOR
PRECAST OPERATING PLATFORM BEAMS
CAN BE USED, IN LIEU OF CONVENTIONAL
POURED IN PLACE CONSTRUCTION.

OPERATING PLATFORM

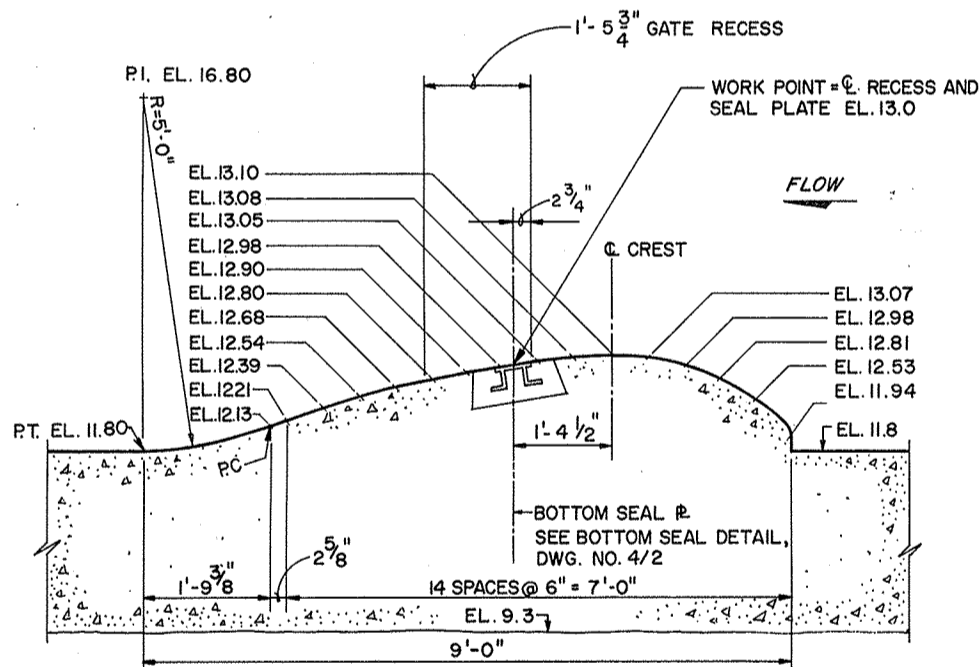


TRANSVERSE SECTION
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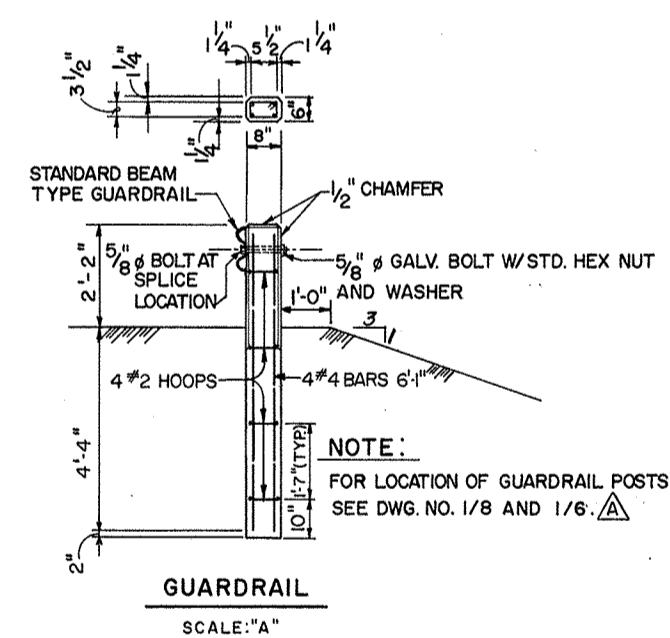
SERVICE BRIDGE



SECTION B-B
SCALE: "A"

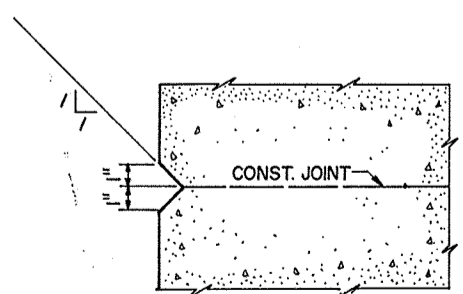


WEIR DETAIL
SCALE: "C"

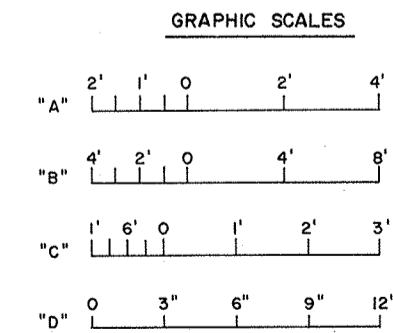


GUARDRAIL
SCALE: "A"

NOTE:
FOR LOCATION OF GUARDRAIL POSTS
SEE DWG. NO. 1/8 AND 1/6. Δ



TYPICAL V-JOINT DETAIL
SCALE: "D"

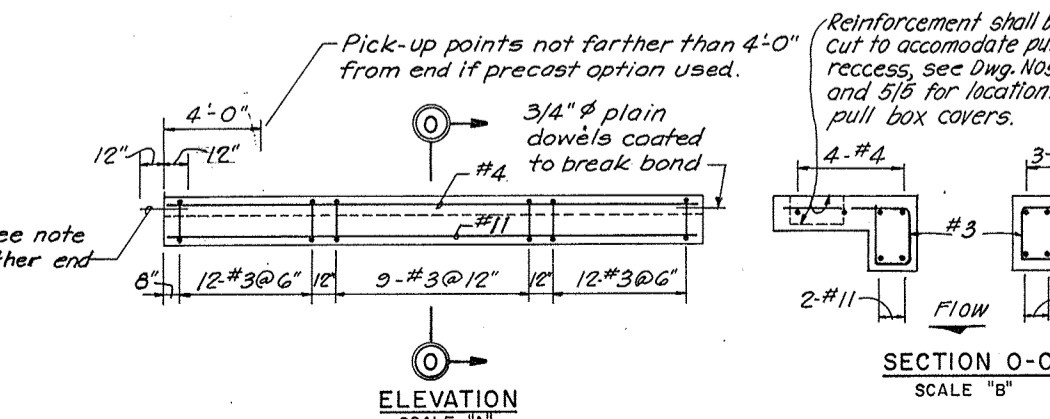
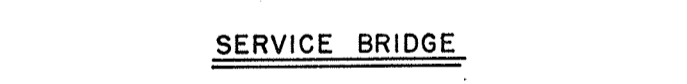
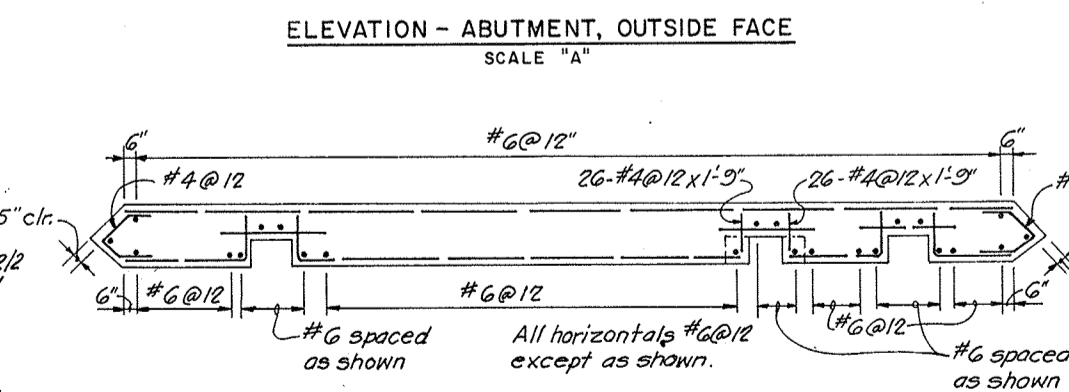
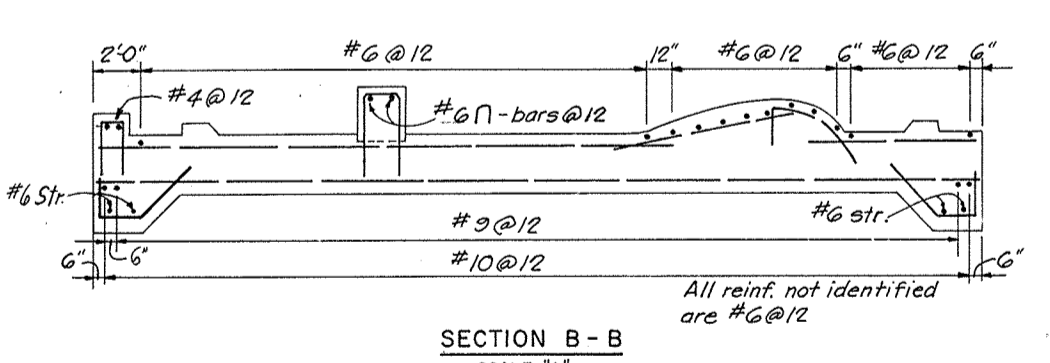
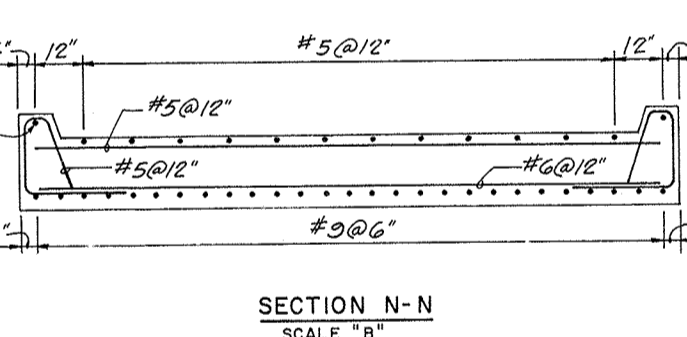
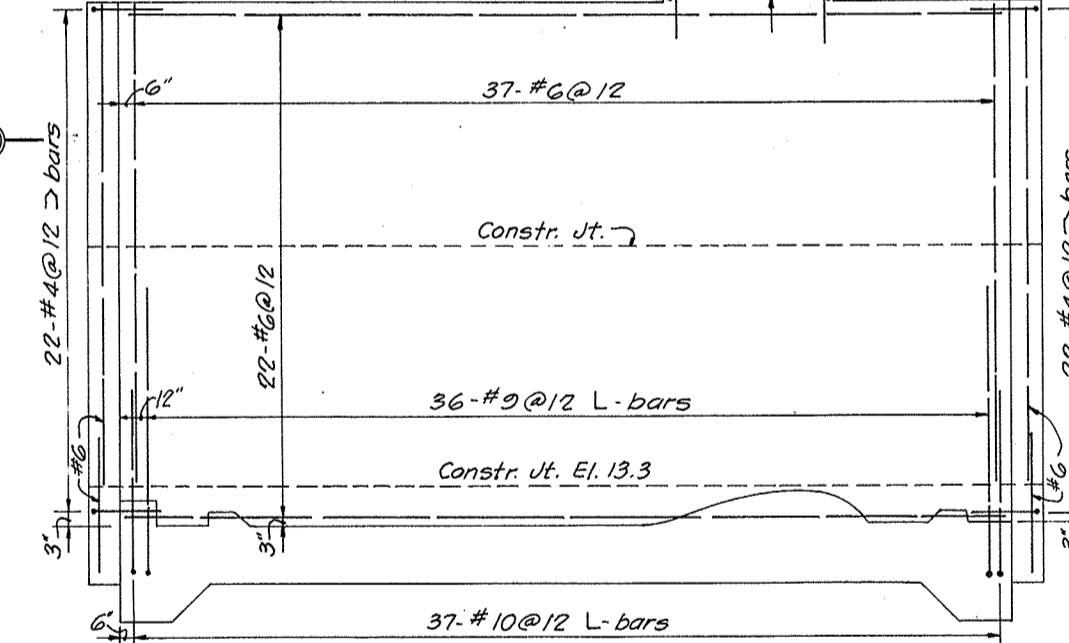
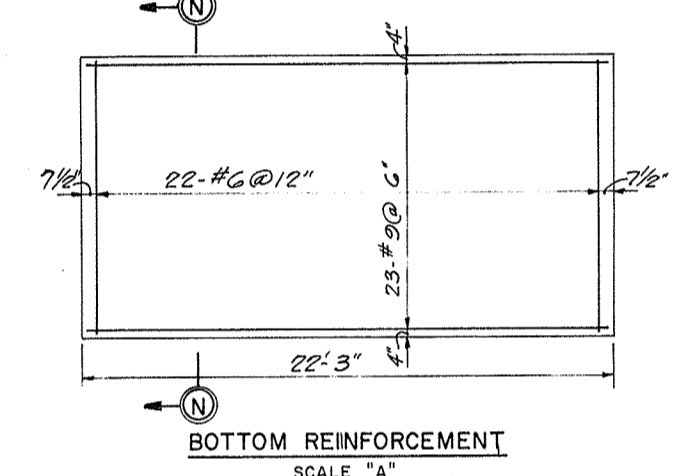
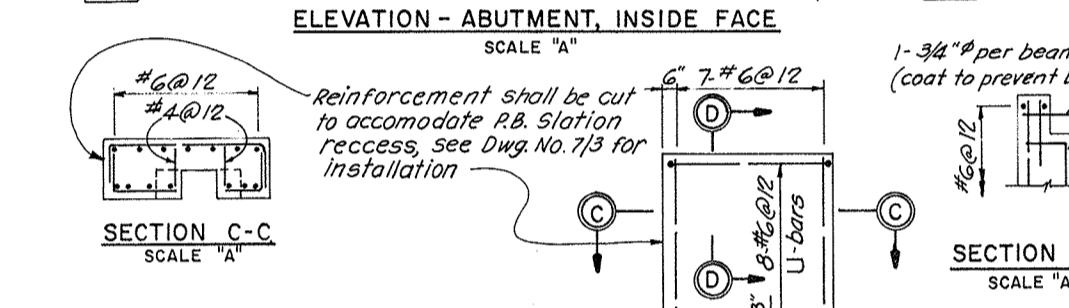
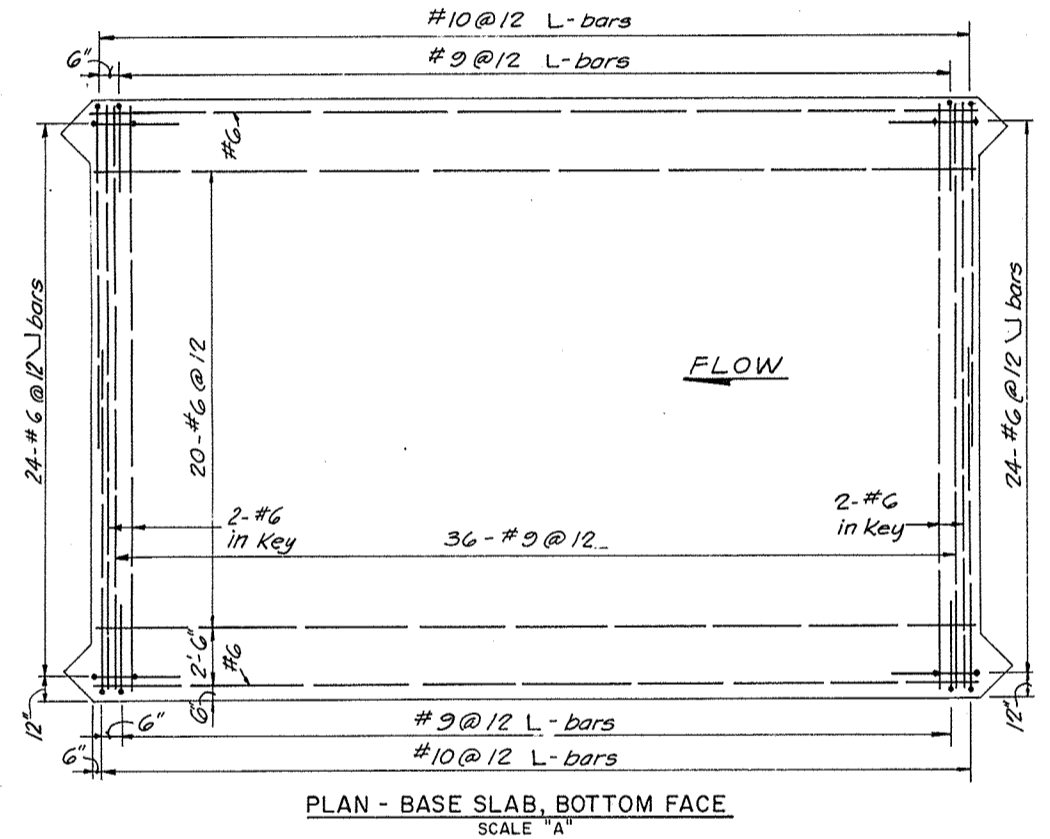
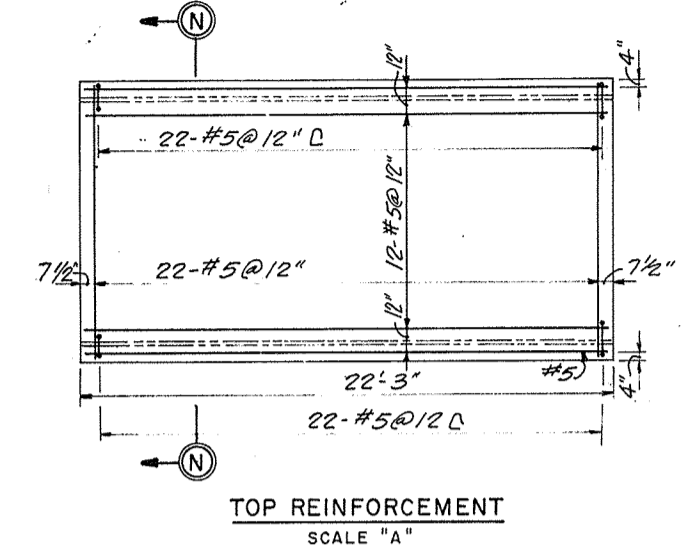
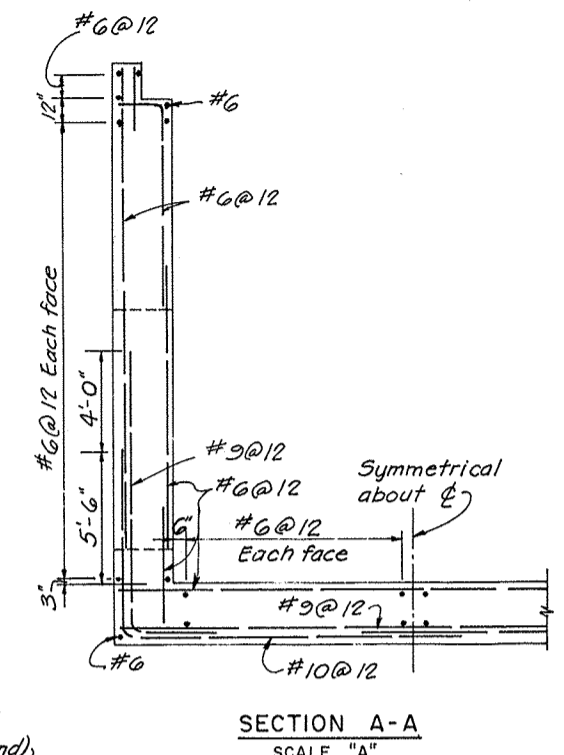
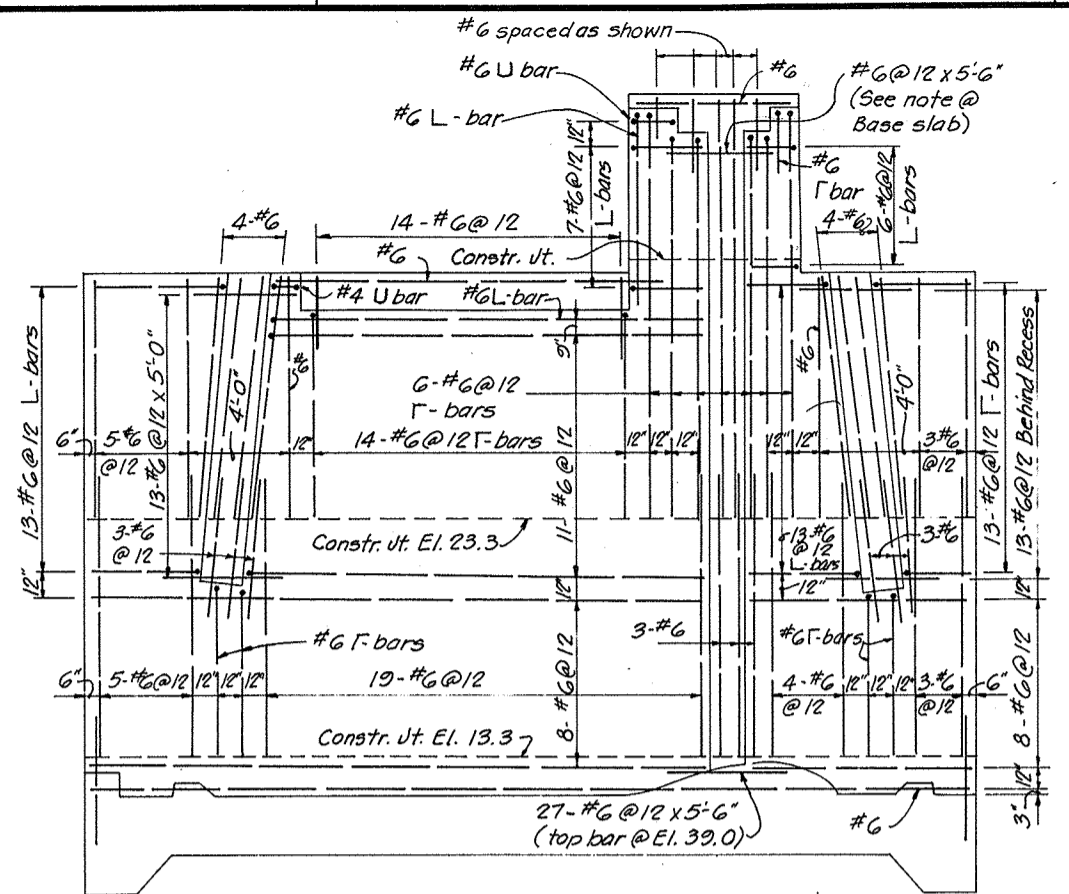
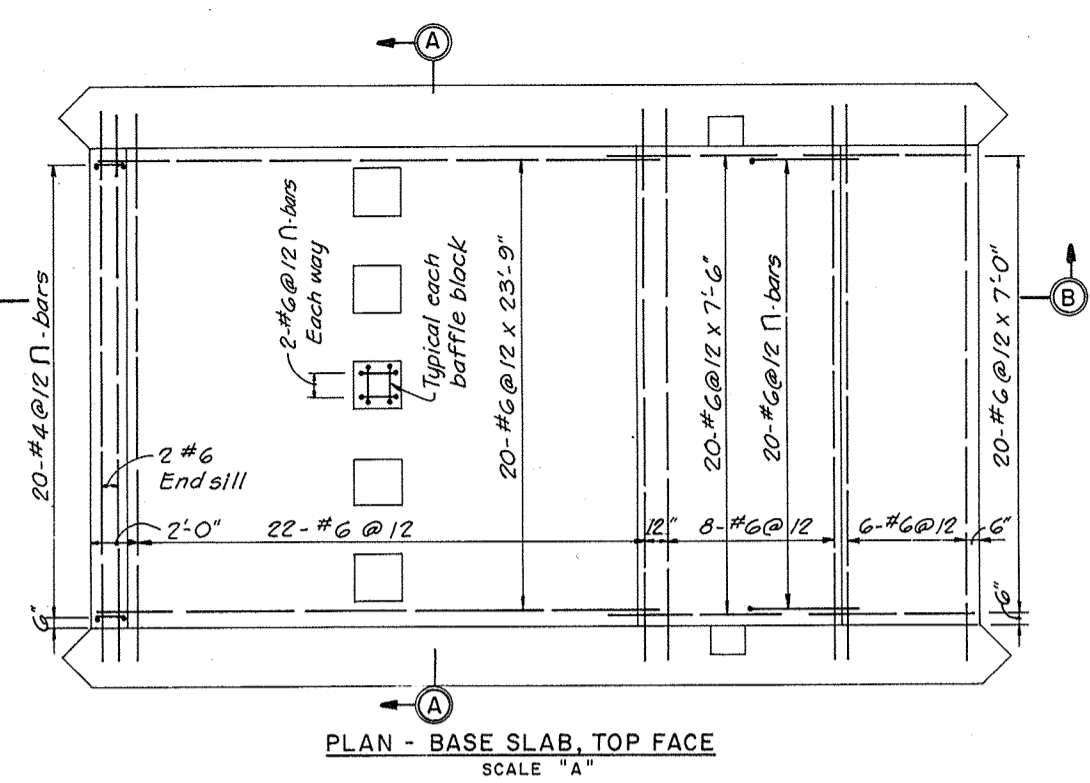


DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
CONCRETE
SECTIONS AND DETAILS

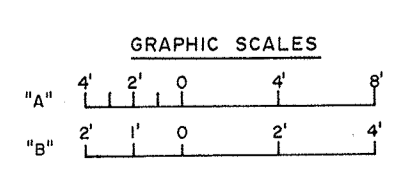
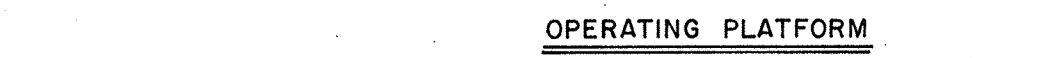
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			F	2/2
DATED:	DATED:	DATED:	SCALE: AS SHOWN	
			DATE: JULY 1986 SHEET 10	

SAFETY ON THIS JOB
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REVISIONS			
NO.	SYN	ZONE	DESCRIPTION



- GENERAL REINFORCEMENT NOTES:
- The clear distance between the face of the concrete and reinforcing bars shall be 2 1/2" for formed surfaces and 4" where concrete is placed against earth or rock unless otherwise shown.
 - Unless otherwise shown, the length of lap and embedment shall be in accordance with table:
- | Bar Size | #3 | #4 | #5 | #6 | #7 | #8 | #9 | #10 | #11 |
|---------------|-------|-------|-------|--------|-------|--------|-------|-------|--------|
| Lapped Splice | 1'-0" | 1'-2" | 1'-6" | 1'-10" | 2'-1" | 2'-6" | 3'-3" | 4'-1" | 5'-0" |
| Embedment | 0'-6" | 1'-0" | 1'-0" | 1'-1" | 1'-6" | 1'-11" | 2'-5" | 3'-1" | 3'-10" |
- A. For different size bars, the splice length shall be based on the smaller bar.
B. Embedment means the amount of bar extension beyond the face of intersecting concrete members.



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JACKSONVILLE, FLORIDA
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHN'S RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
REINFORCEMENT
DETAILS NO. 1

DESIGN ENG.: J.N.D.	CHKD. BY: J.N.D.	INVT. NO.:	SHEET NO. NO. 3/1
DRAWN BY: J.N.D.	DATED:		

SCALE: AS SHOWN DATED: JULY 1986 SHEET 11

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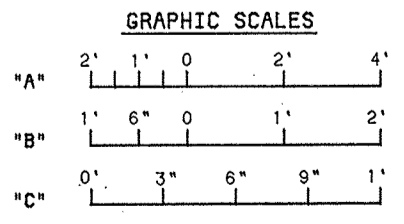
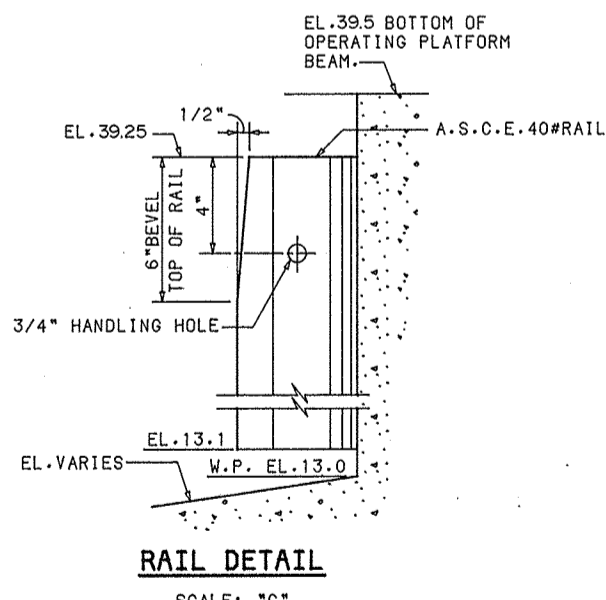
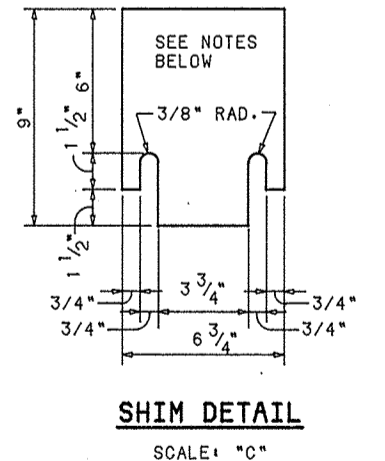
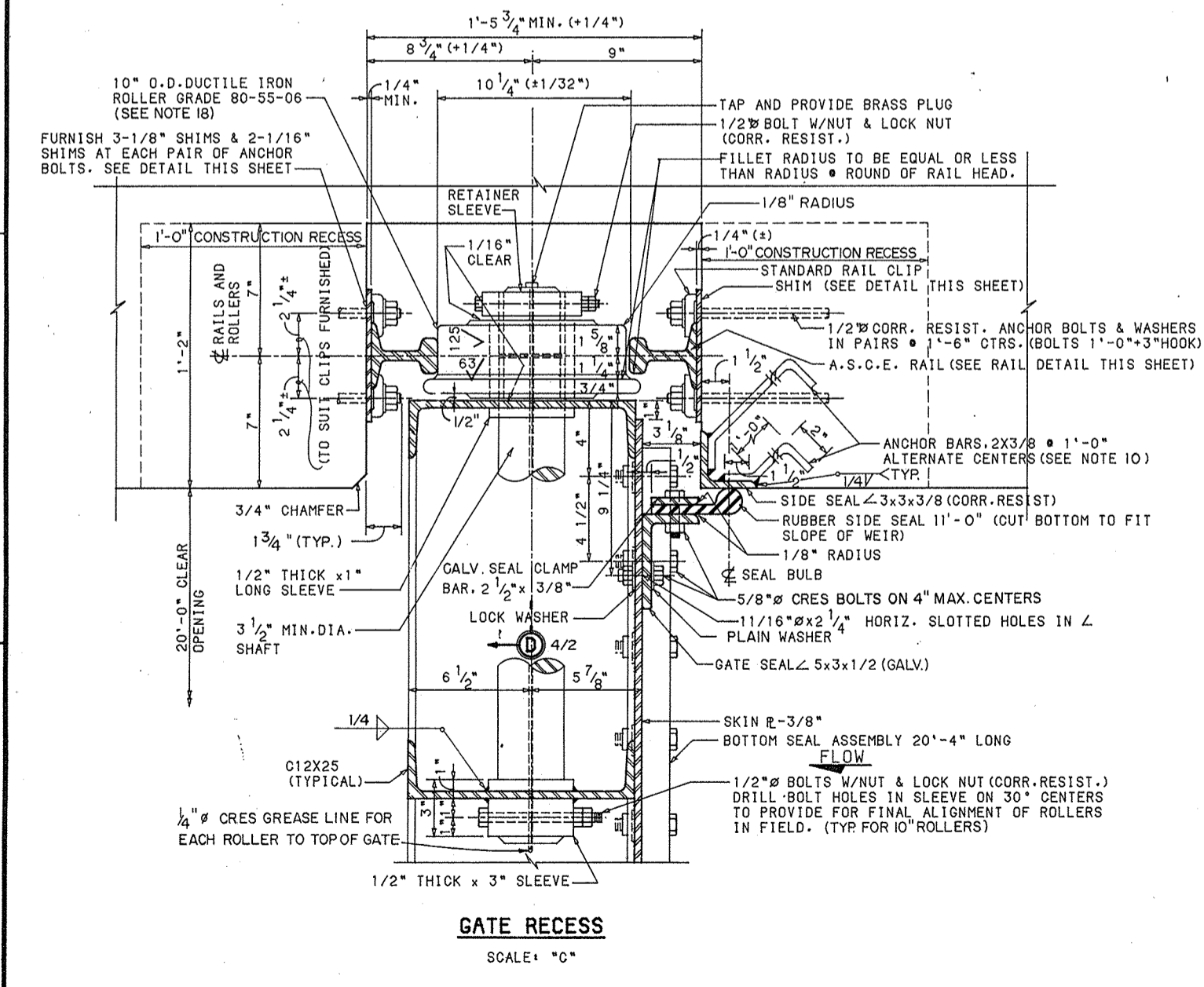
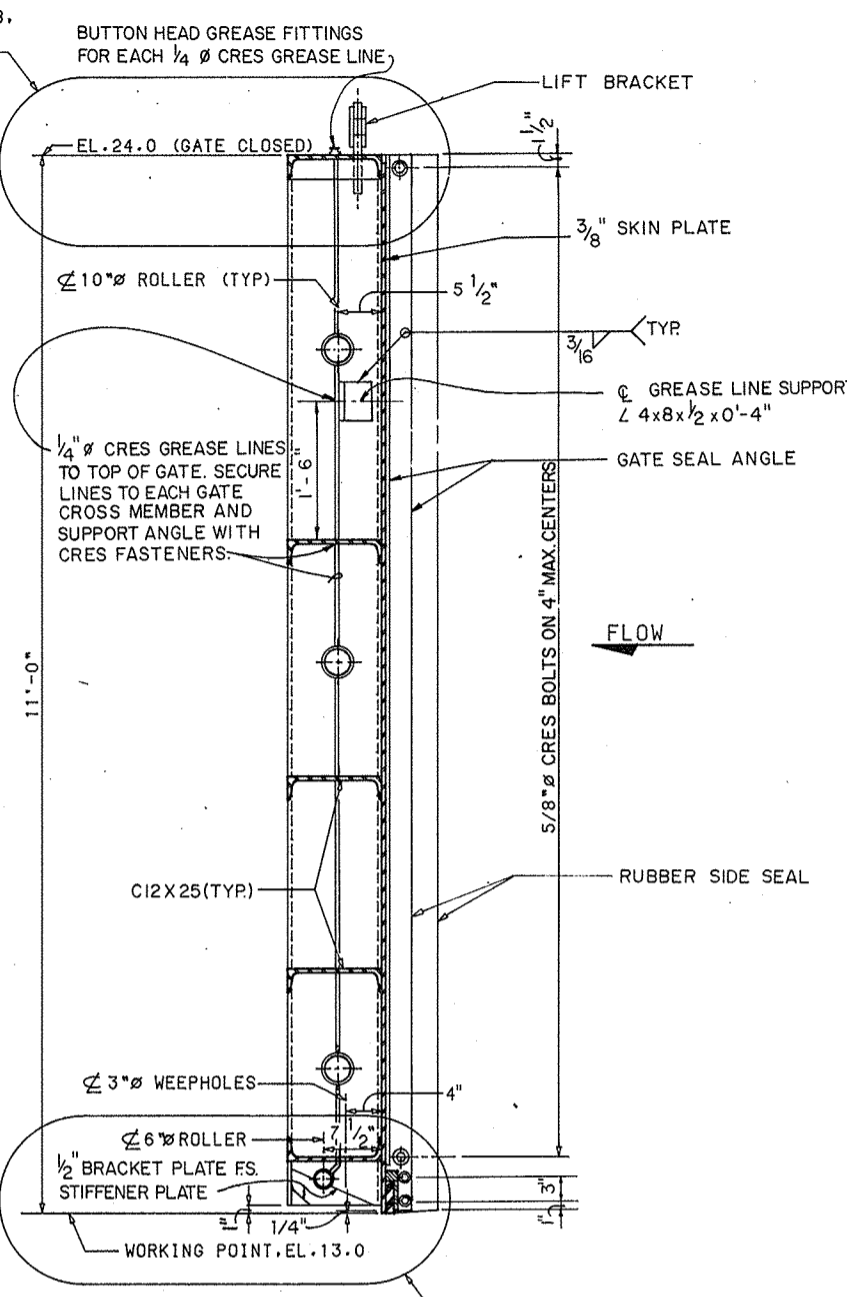
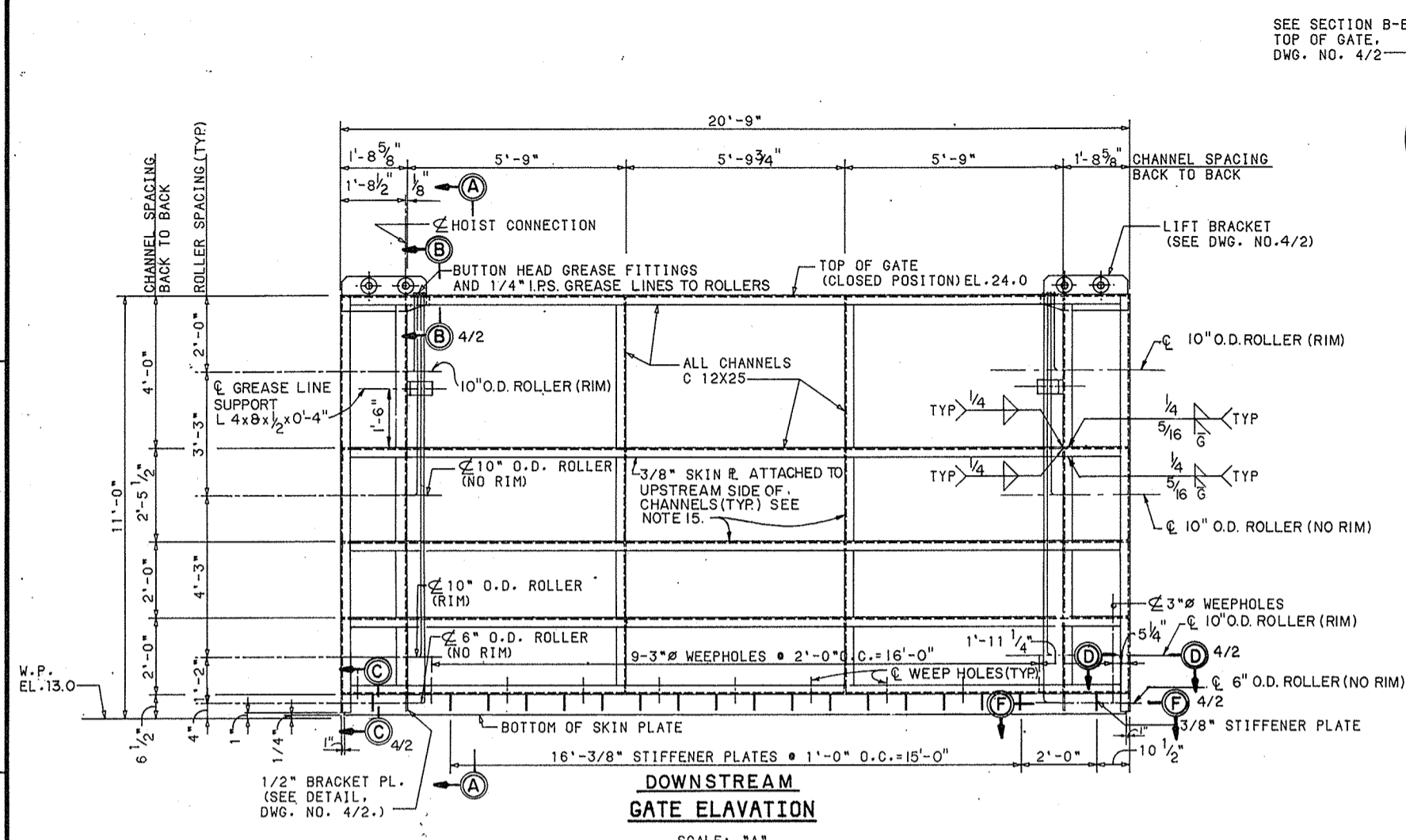
REVISIONS					
NO.	SYM.	ZONE	DESCRIPTION	DATE	APPROVED

GENERAL WELDING NOTES:

- 1A. WELDING SYMBOLS ARE THOSE ADOPTED BY THE AMERICAN WELDING SOCIETY AND INDICATE ONLY SIZE AND TYPE OF WELDS REQUIRED. DETAILED INFORMATION SHALL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL.
- 2A. THE CONTRACTORS' SHOP DRAWINGS SHALL CLEARLY DISTINGUISH BETWEEN SHOP AND FIELD WELDS. LENGTH OF WELD CALLED FOR ON THE DRAWINGS SHALL BE THE EFFECTIVE LENGTH.
- 3A. WHERE CORROSION RESISTING STEEL IS WELDED, FILLER MATERIAL SHALL BE CORROSION RESISTING.
- 4A. WELDING SYMBOL SHOWN THUS, \swarrow TYP. MEANS THAT ALL SIMILAR JOINTS IN THIS VIEW SHALL BE WELDED IN THIS MANNER.
- 5A. ALL JOINTS IN CONTACT WITH OTHER SURFACES (I.E., SKIN PLATE, GUSSET PL'S, ETC.) SHALL BE FLUSH WELDED.

GENERAL NOTES ON VERTICAL LIFT GATE:

1. ALL MATERIAL A-36 STRUCTURAL STEEL UNLESS OTHERWISE NOTED.
2. ALL MATERIAL NOTED AS CORR. RESIST. OR CRES SHALL BE TYPE 304 STAINLESS STEEL.
3. IRREGULARITIES IN THE PLANE OF THE EXPOSED SURFACES OF EMBEDDED METAL SEALS IN CONTACT WITH THE RUBBER SEALS SHALL NOT VARY MORE THAN 1/16" FROM POSITIONS SHOWN.
4. PROVIDE SHIMS TO OBTAIN NECESSARY CLEARANCES.
5. THE ROLLER BUSHING I.D. IS TO BE 1/32" GREATER THAN THE SHAFT SLEEVE O.D.
6. OPTIONS ON EMBEDDED METAL SEALS ARE AS FOLLOWS:
(A) THE 3/8" THICK CORROSION RESISTING SEAL ANGLES MAY BE REPLACED WITH 1/2" THICK BENT CHROME CLAD PLATES.
(B) THE 5/8" THICK CORROSION RESISTING BOTTOM SEAL PLATES MAY BE REPLACED WITH 5/8" THICK CHROME CLAD PLATES.
(C) THE 1/2" THICK CORROSION RESISTING NEEDLE SILL PLATES MAY BE REPLACED WITH 1/2" THICK CHROME CLAD PLATES.
7. ALL BOLTS, NUTS, AND WASHERS (EXCEPT THOSE NOTED AS CORR. RESIST. OR CRES, OR THOSE BOLTS AND NUTS FULLY EMBEDDED IN CONCRETE) SHALL BE GALVANIZED. SEE SPECIFICATIONS FOR QUALITY OF FINISH REQUIRED BY SYMBOLS:
 $\sqrt{25}$ $\sqrt{32}$ AND $\sqrt{63}$
9. FURNISH AND INSTALL ONE VERTICAL LIFT GATE, AS SHOWN ON THIS DRAWING AND DWG. NO. 4/2.
10. AT THE OPTION OF THE CONTRACTOR, 5/8" X 6 3/8" OR EQUAL ANCHOR STUDS MAY BE GENERALLY SUBSTITUTED FOR 2" X 3/8" ANCHOR BARS. HOWEVER, SPECIFIC APPROVAL OF THE SUBSTITUTION FOR EACH INDIVIDUAL EMBEDDED ITEM IS REQUIRED PRIOR TO FABRICATION.
11. SPACE ALL BOLTS CONNECTING RUBBER SEAL ASSEMBLIES TO THE GATE SUCH THAT BOLTS FALL ON THE GAGE LINE OF THE FRAMING MEMBERS +1/4". BEVEL WASHERS SHALL BE FURNISHED AT BOLTED CONNECTIONS TO ALL CHANNEL FLANGES. ALL BOLTS SHALL BE FURNISHED WITH ONE NUT AND WASHER, UNLESS OTHERWISE INDICATED.
12. ALL GALVANIZED ITEMS SHALL BE GALVANIZED AFTER FABRICATION.
13. AT THE OPTION OF THE CONTRACTOR, RUBBER SEAL CORNERS MAY BE (1) STANDARD MOULDED CORNERS, (2) CORNERS SPliced, CAREFULLY FITTED, AND VULCANIZED BY THE RUBBER SEAL MANUFACTURER.
14. PROVIDE A SEPARATE 1/4" I.P.S. CRES. GREASE LINE FROM EACH ROLLER TO TOP OF GATE. AT TOP OF GATE PROVIDE BOTTOM HEAD GREASE FITTING FOR EACH LINE.
15. 3/8" SKIN PLATE TO BE ATTACHED TO FRAME MEMBERS WITH CONTINUOUS 1/4" FILLET WELDS ON BOTH SIDES OF EACH CONTACT FLANGE AND STIFFENER PLATES.
16. 10" O.D. ROLLERS ARE TO HAVE A 12" O.D. RIM AS SHOWN IN THE "GATE RECESS" DETAIL, WHERE A RIM IS INDICATED IN THE "GATE ELEVATION". ALL OTHER ROLLERS ARE NOT TO HAVE A RIM OR FILLET.
17. POSITION INDICATOR IS REQUIRED ON THE ABUTMENT AT THE LOCATION SHOWN ON DRAWING NUMBER 2/1, FOR POSITION INDICATOR AND POSITION MARKER DETAILS. SEE DRAWING NUMBER 5/6.
18. CAST STEEL MAY BE SUBSTITUTED FOR DUCTILE IRON. MATERIAL SHALL CONFORM TO ASTM A 148, CLASS 80-50.
19. SHAFTS, EXCEPT CRES, SHALL BE SAE 1045 OR BETTER.
20. VERTICAL LIFT GATE WILL BE PAID FOR UNDER BID ITEM NO. 9, "VERTICAL LIFT GATE."
21. ALL TYPE 304 STAINLESS STEEL BOLTS SHALL HAVE TYPE 304 STAINLESS STEEL WASHERS AND NUTS MADE FROM NITRONIC 60 STAINLESS STEEL.

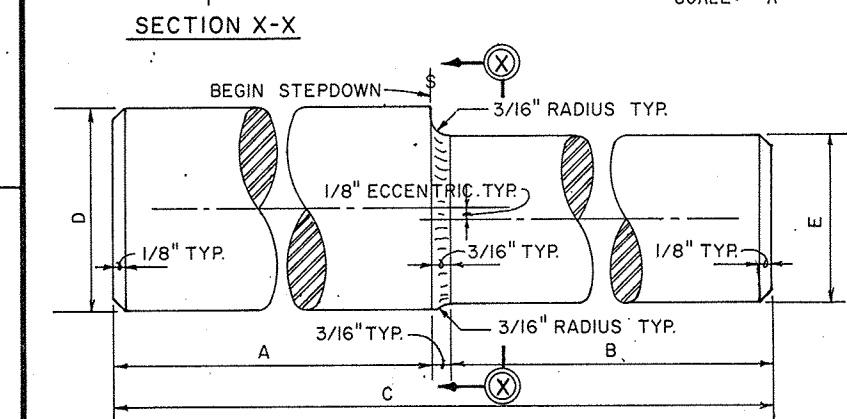
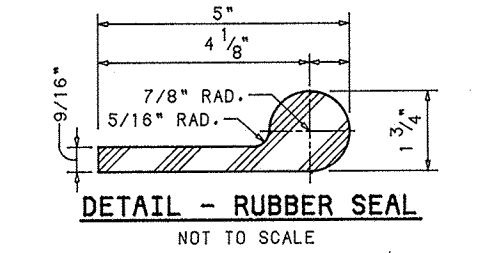
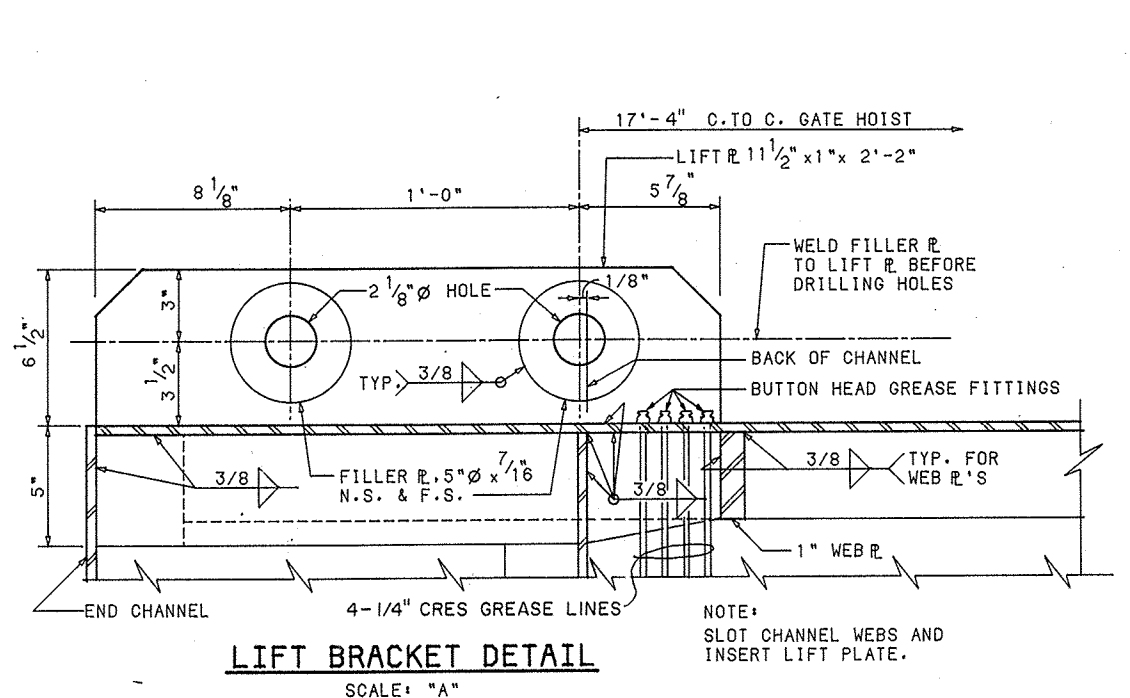
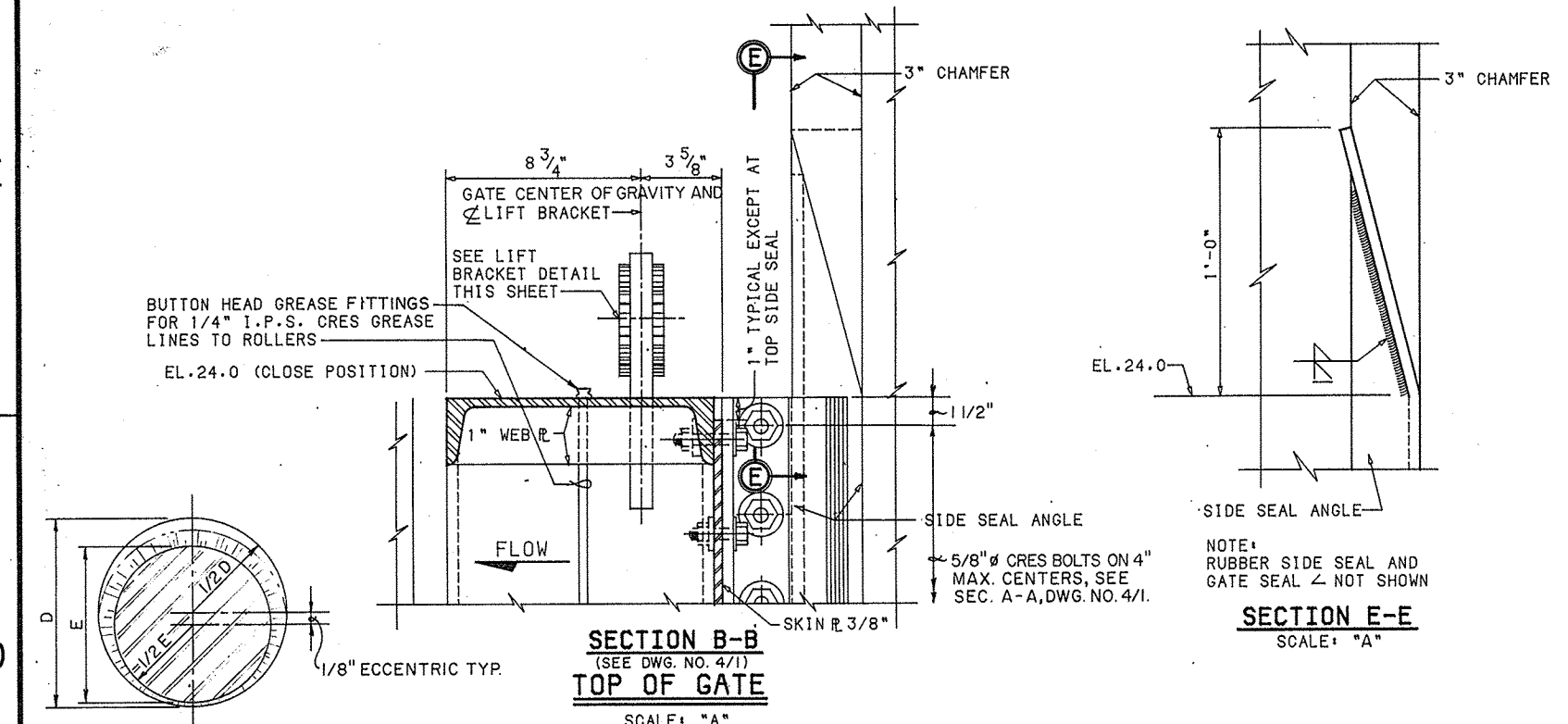


DESIGN ENG. D.N.S.			
G.M.H.			
DWG. BY:	CHK. BY:	INV. NO.	SIZE DWG. NO.
			F 4/1
SCALE: AS SHOWN		DATED: JULY 1986 SHEET 12	

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
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CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
VERTICAL LIFT GATE
ELEVATION AND DETAILS

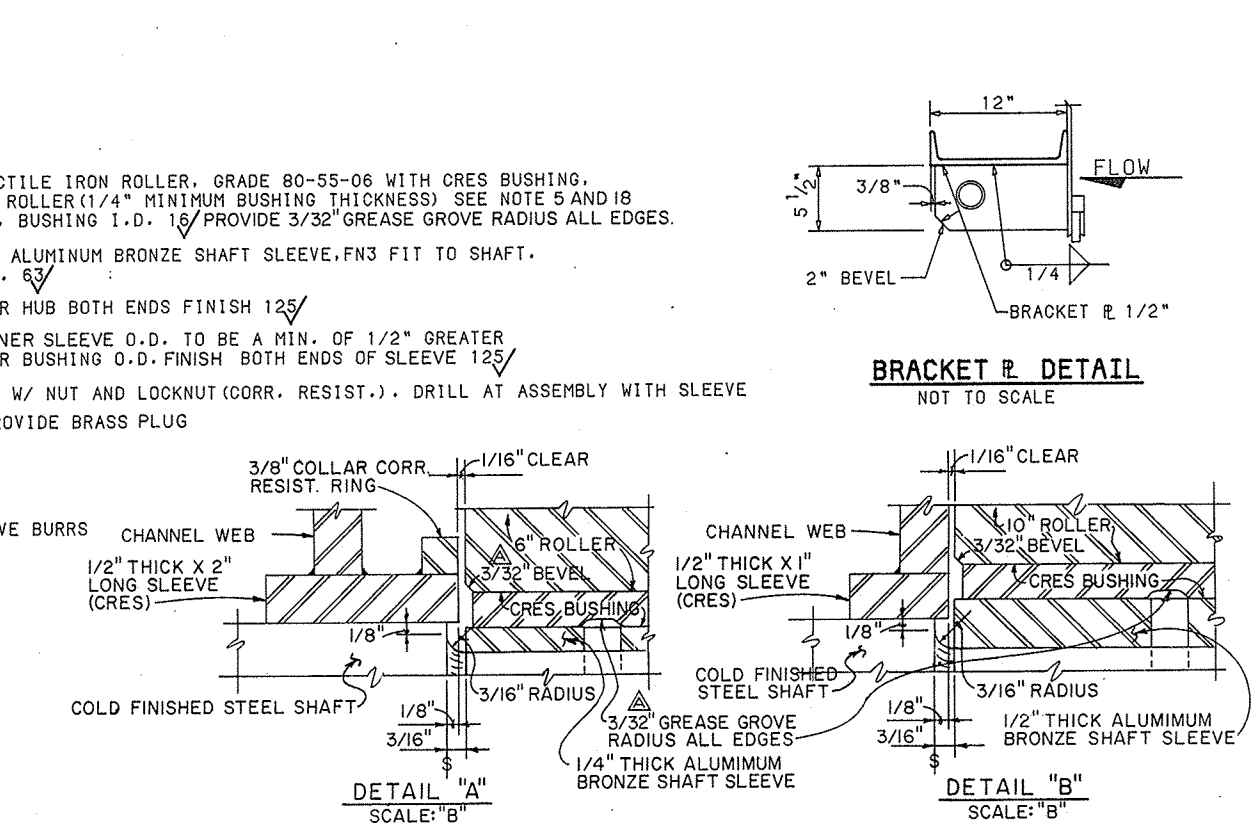
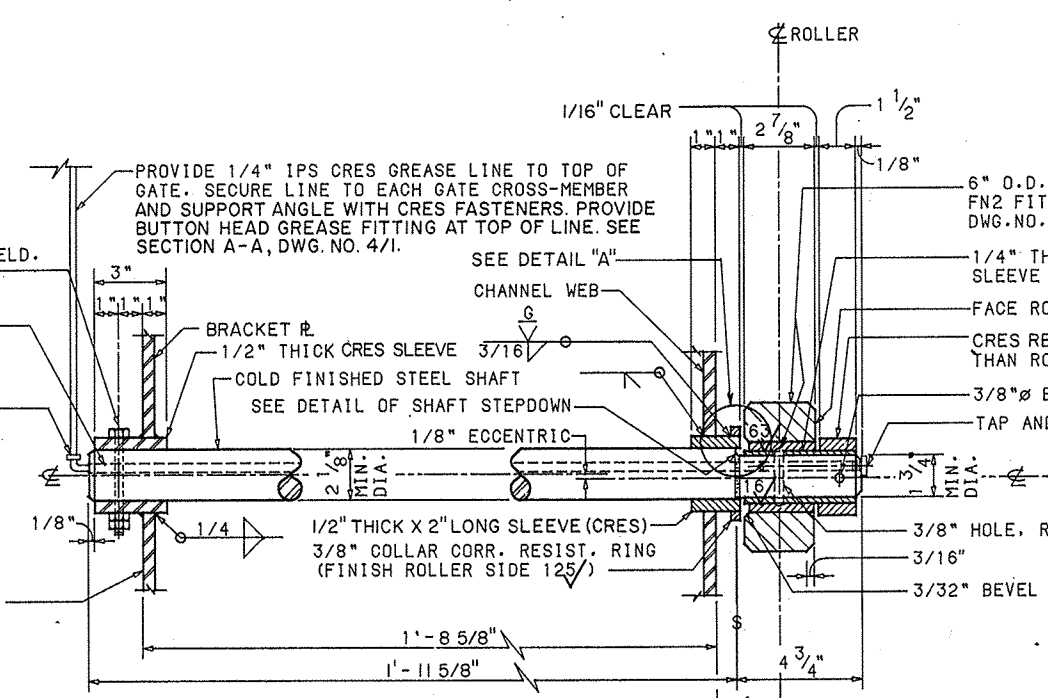
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NO.		SYMBOL		REVISIONS	DATE	APPROVED
				DESCRIPTION		



3/8" BOLT WITH NUT & LOCKNUT (CORR. RESIST.). DRILL BOLT HOLES IN SLEEVE ON 30° CENTERS TO PROVIDE FOR FINAL ALIGNMENT OF ROLLERS IN FIELD. (TYPICAL FOR 6" ROLLERS)

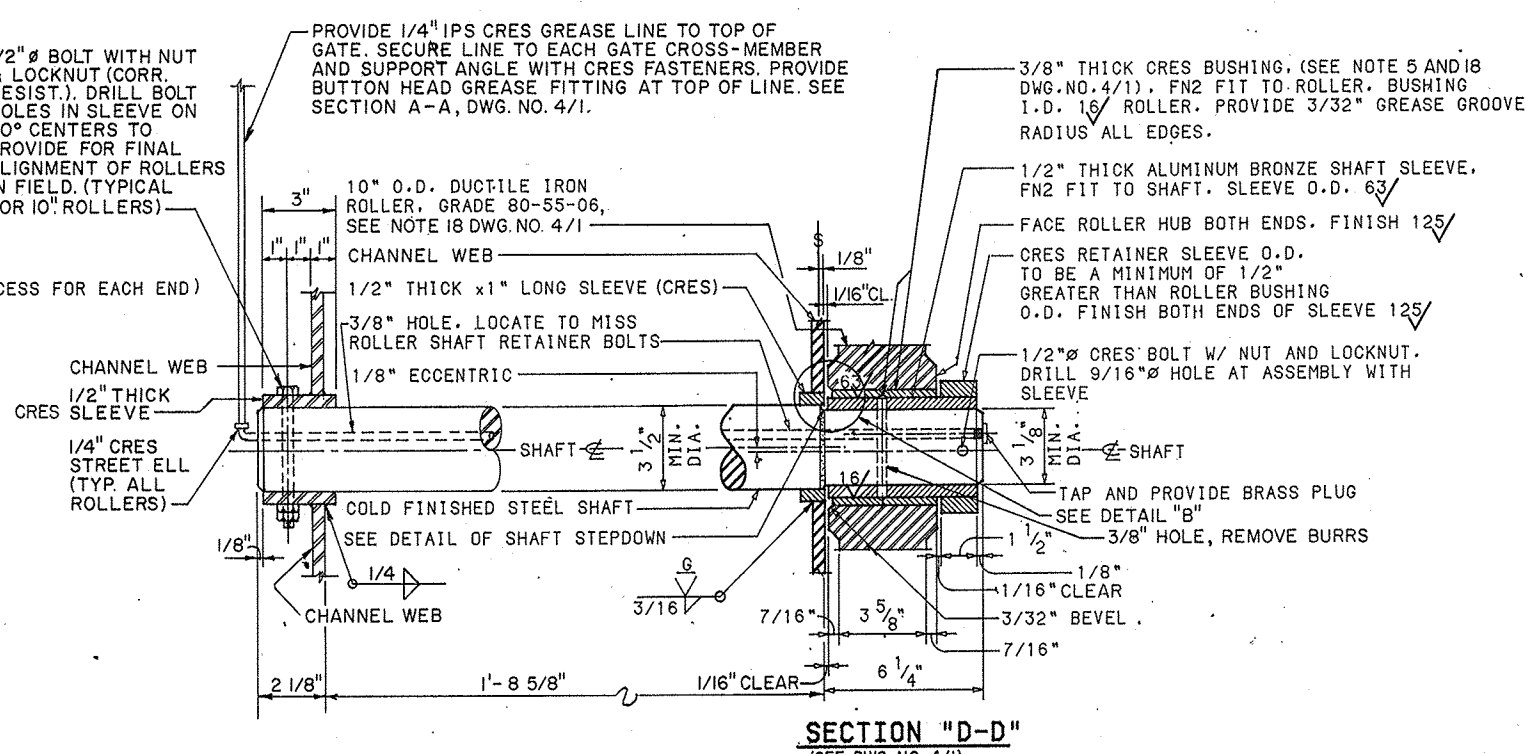
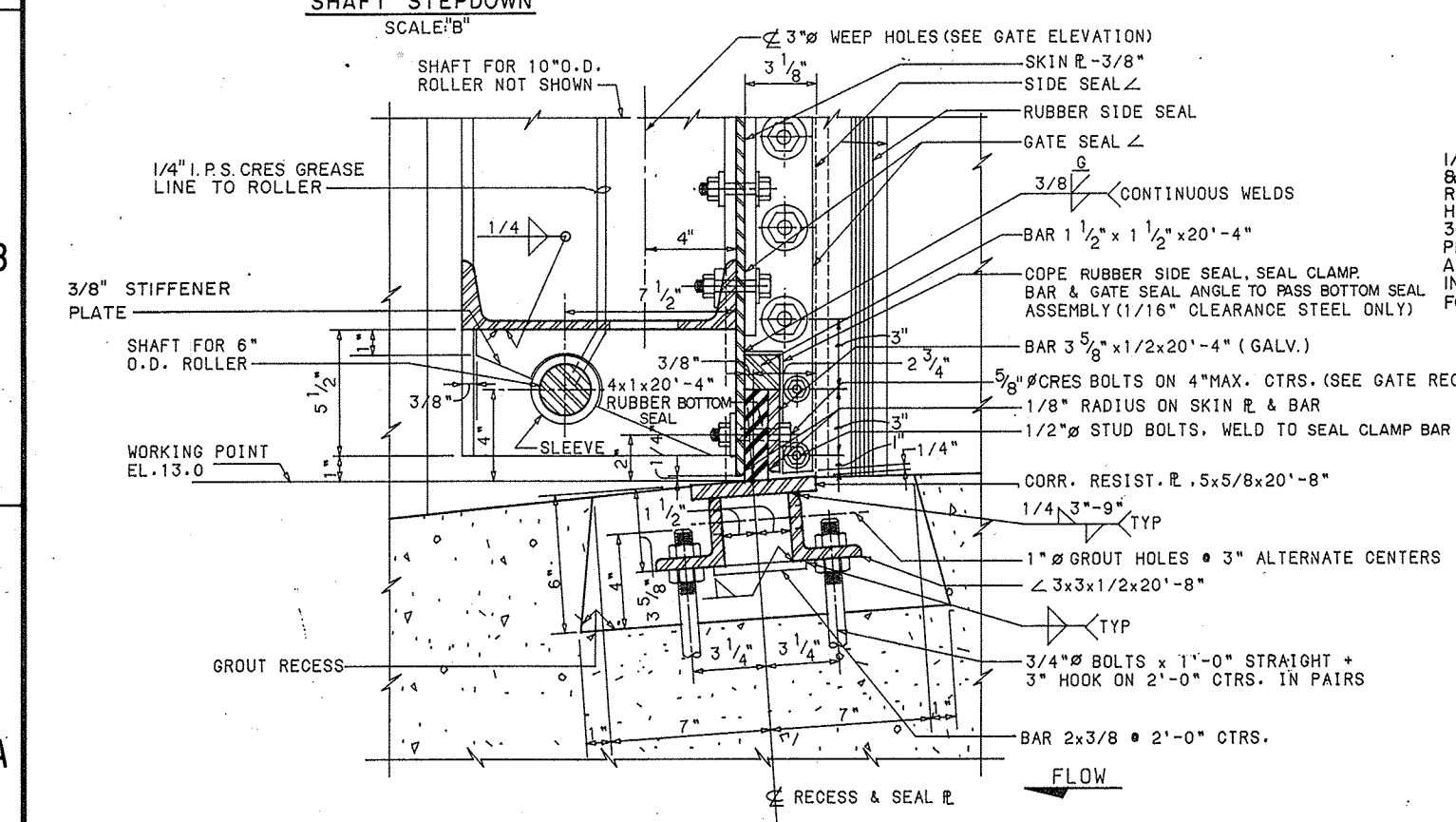
3/8" HOLE. LOCATE TO MISS ROLLER SHAFT RETAINER BOLTS



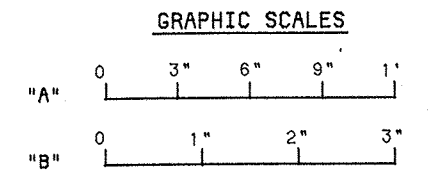
DIMENSION	6" ROLLER	10" ROLLER
A	1'-11 5/8"	1'-10 5/8"
B	4 9/16"	6 3/16"
C	2'-4 3/8"	2'-5"
D	2 1/8"	3 1/2"
E	1 3/4"	3 1/8"

2-6" STEEL ROLLER SHAFTS REQUIRED
6-10" STEEL ROLLER SHAFTS REQUIRED

DETAIL SHAFT STEPDOWN
SCALE: "B"



NOTE: SEE DRAWING NO. 4/1 FOR "GENERAL NOTES ON VERTICAL LIFT GATE" AND "GENERAL WELDING NOTES."



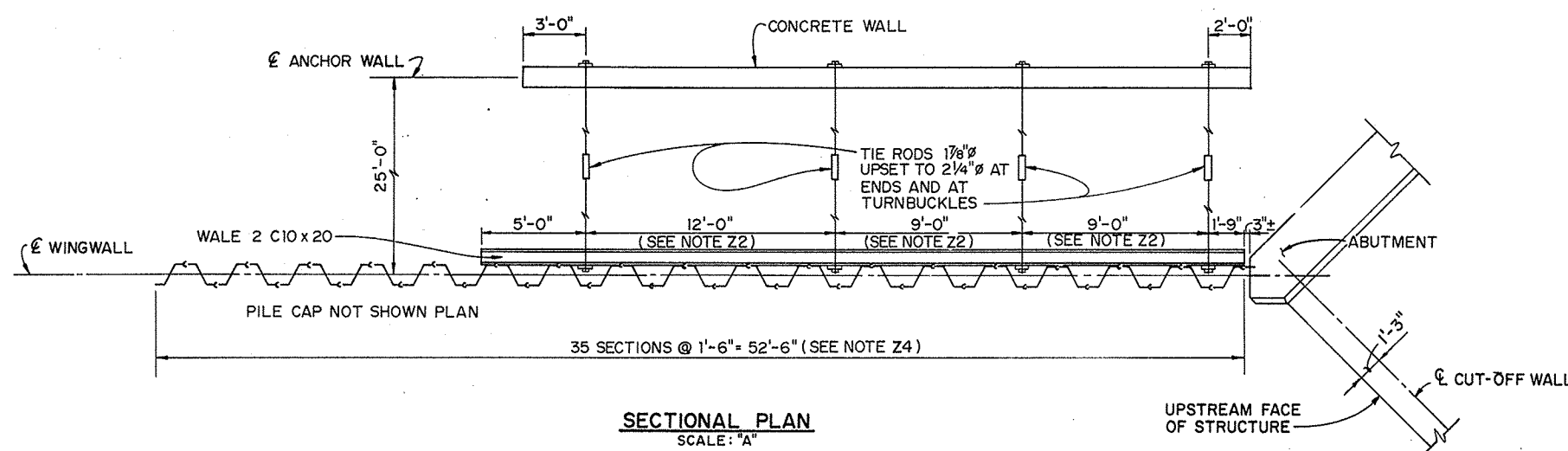
DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
VERTICAL LIFT GATE
MISCELLANEOUS DETAILS

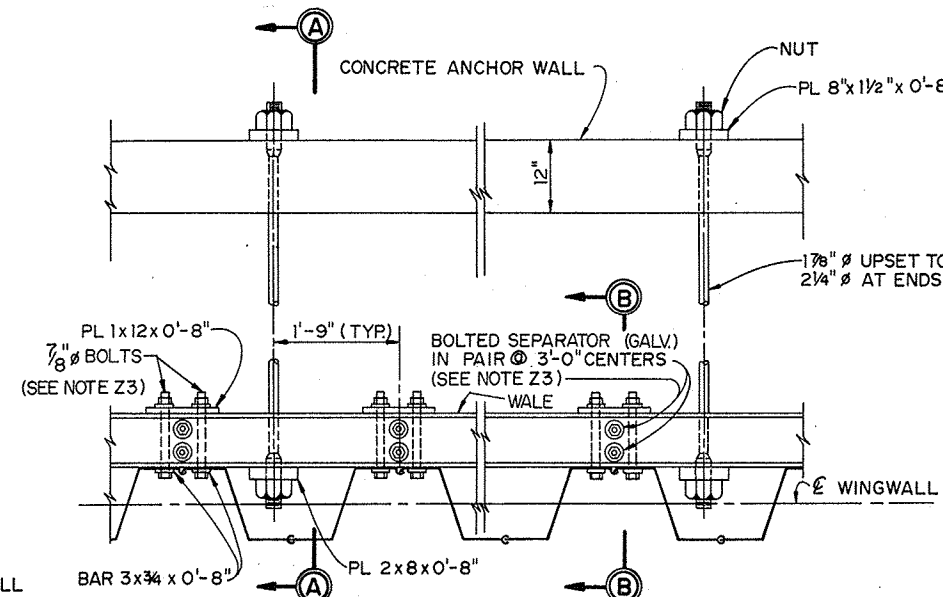
DESIGN: E.M.S., G.M.H.
DWG. BY: EXP. BY: INV. NO.: DATE: JULY 1986
REV. NO.: F SIZE: DWG. NO.: 4/2
SCALE: AS SHOWN SHEET 13

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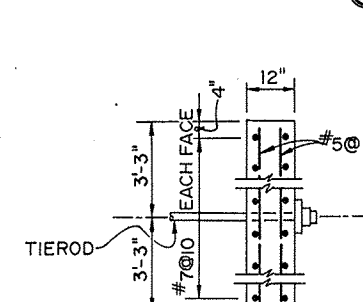
REVISIONS		DATE	APPROVED
NO.	SYM	ZONE	DESCRIPTION



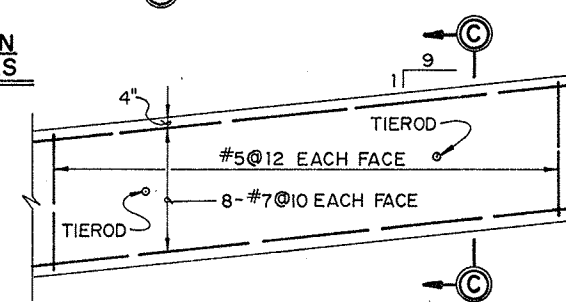
SECTIONAL PLAN
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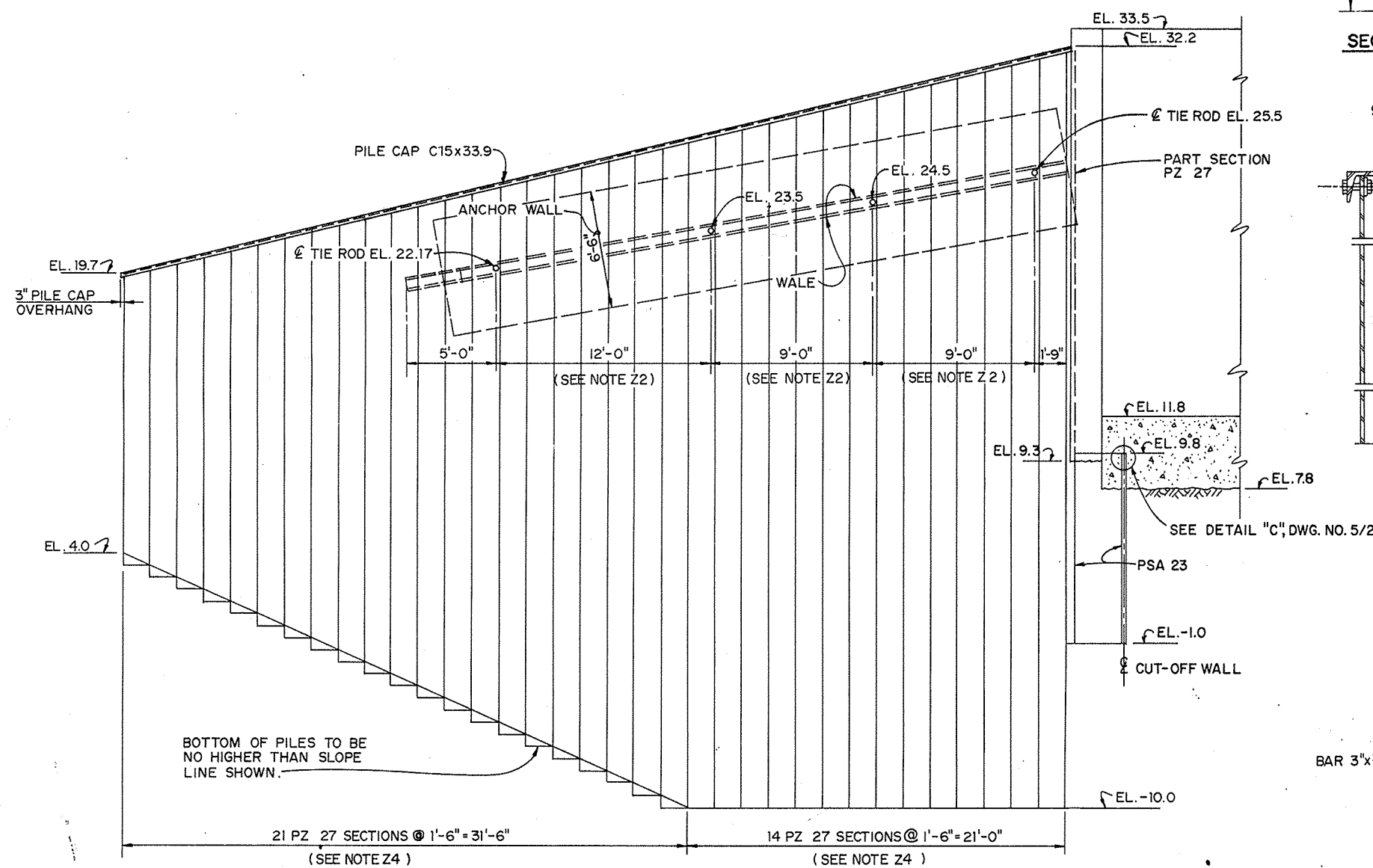
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SCALE: "B"



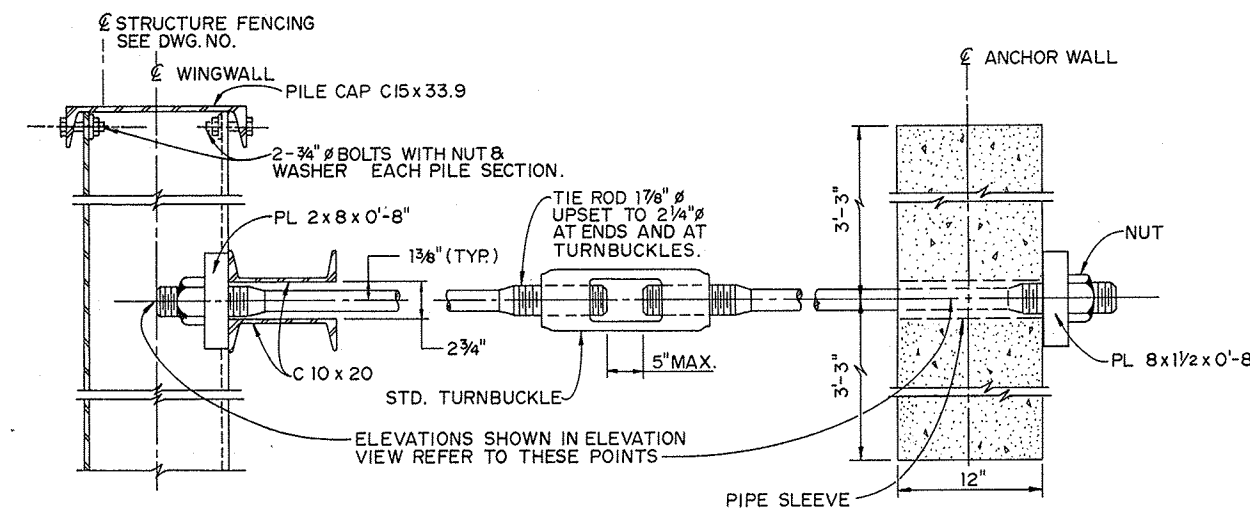
SECTION C-C
SCALE: "C"



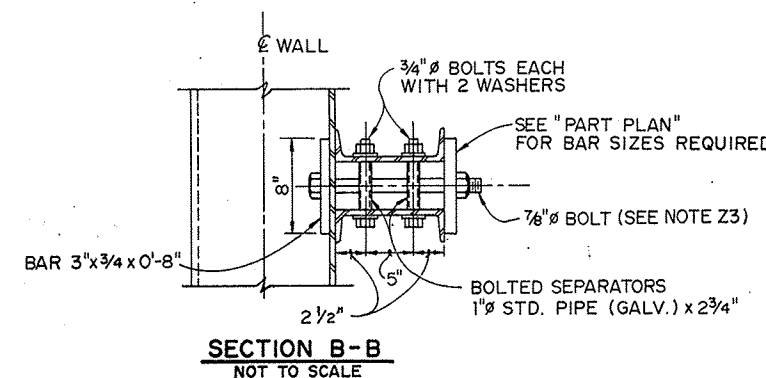
PARTIAL ELEVATION-ANCHOR WALL
SCALE: "A"



SECTIONAL ELEVATION WINGWALLS
SCALE: "A"
4 REQUIRED



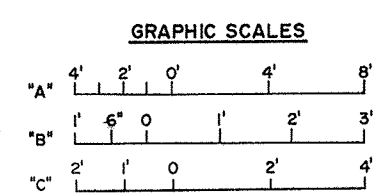
SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

- NOTES:
1. ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED UNLESS SPECIFIED OTHERWISE. ALL BOLTS SHALL BE FURNISHED WITH ONE NUT AND WASHER, UNLESS OTHERWISE INDICATED.
 2. ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL CONFORM TO ASTM A 36.
 3. ALL GALVANIZED ITEMS SHALL BE GALVANIZED AFTER FABRICATION.
 4. WINGWALL STEEL SHEET PILING, STEEL PILE CAPS AND WALES SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS.
 5. OTHER S.S.P. SECTIONS MAY BE USED IN THE WINGWALLS IF THEIR NOMINAL THICKNESS IS EQUAL TO OR GREATER THAN 0.335 IN. AND THEIR SECTION MODULUS PER LIN. FT. OF WALL IS EQUAL TO OR GREATER THAN 30.2 IN³.

- CHANGES TO USE Z PILE SECTION:
21. COLD-FORMED SHEET PILING MAY BE USED INSTEAD OF PZ 27 SHOWN. THE DETAILS SHOWN HERE WILL REQUIRE CHANGES TO ACCOMMODATE THE PILING CHANGE.
 22. DECREASE TIEROD SPACING OF 9'-0" TO 8'-0". MAINTAIN TIEROD SPACING OF 12'-0". MAINTAIN 36'-9" LONG WALE.
 23. INCREASE SPACING OF BOLTED SEPARATORS TO 4'-0" CENTERS. INCREASE DIAMETER OF 7/8" BOLTS TO 1".
 24. DECREASE LENGTH OF EACH WINGWALL TO 52'-0".

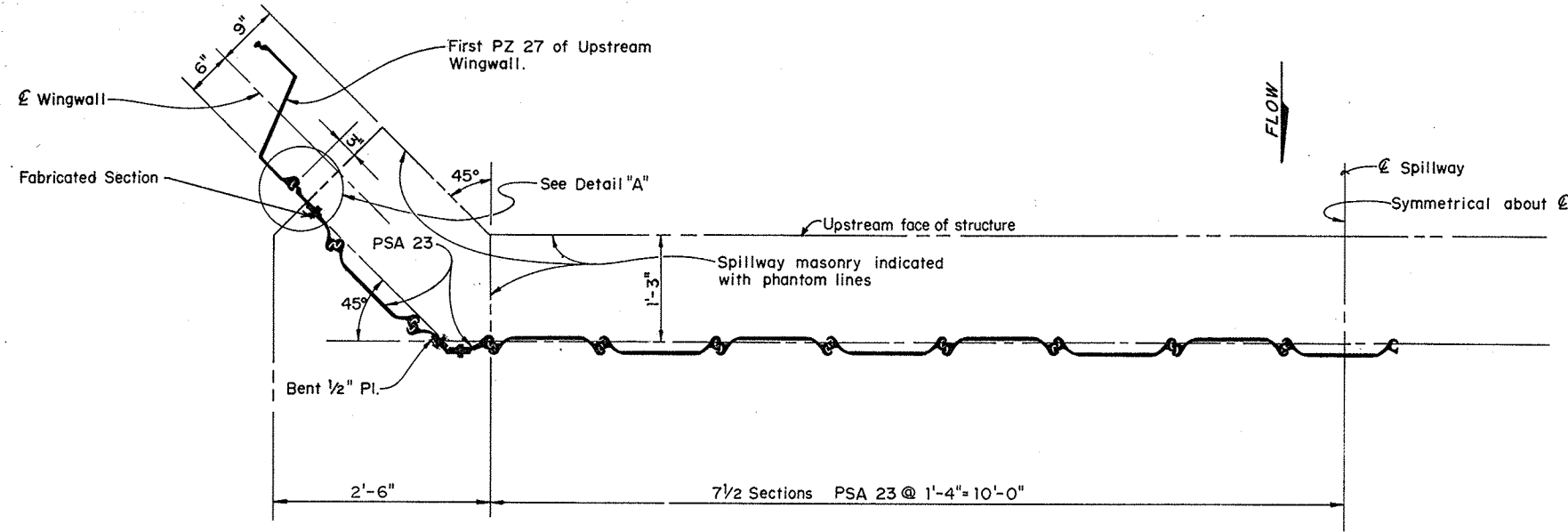


DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
METALS AND MISCELLANEOUS
WINGWALLS

DESIGN ENG.: D.N.S.	CHK. BY:	INV. NO.	SHEET NO.
E.E.B.		F	5/1
DATE: JULY 1966		SCALE: AS SHOWN	

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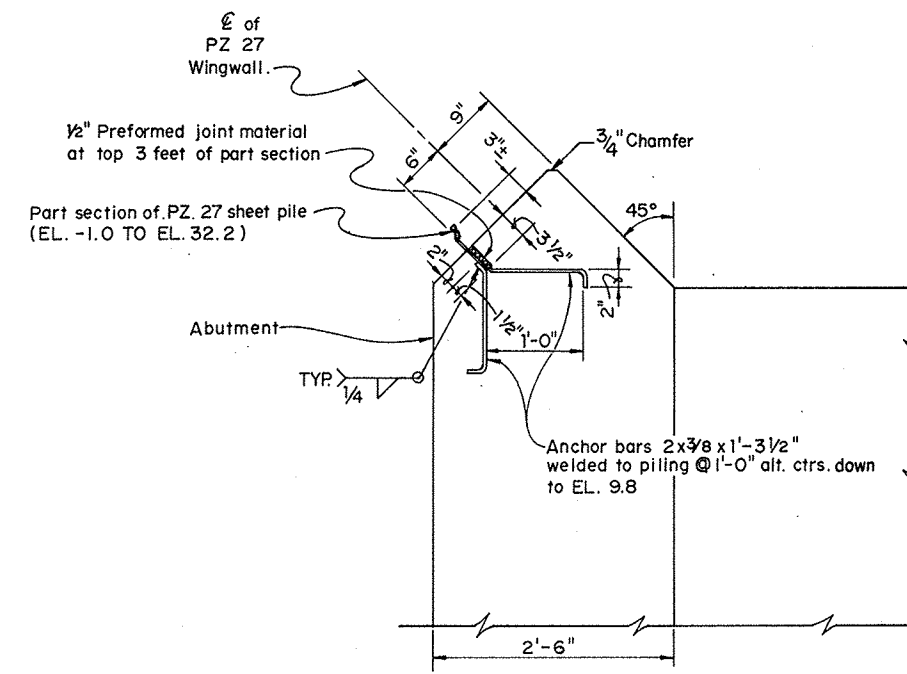
REVISIONS			
NO.	SYM	ZONE	DATE



UPSTREAM CUT-OFF WALL
SCALE: "A"

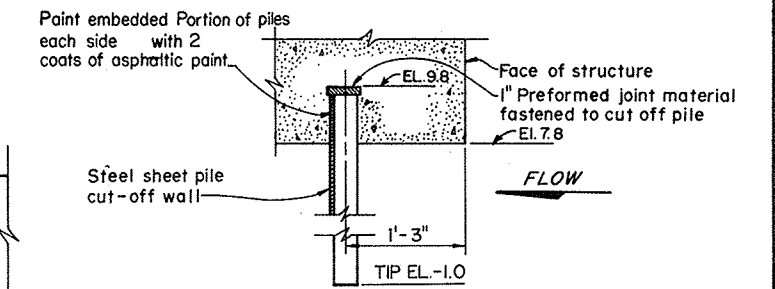
NOTE:

OTHER S.S.P. SECTIONS MAY BE USED IN THE CUT-OFF WALL IF THEIR NOMINAL THICKNESS IS EQUAL TO OR GREATER THAN 0.1644 IN. (8 GAGE).

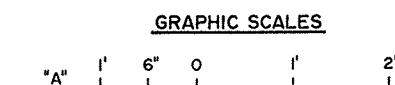


DETAIL "A" - AS SHOWN
SCALE: "A"

DETAIL "B" - OPP. HAND
SCALE: "A"



DETAIL "C"
NOT TO SCALE
FOR LOCATION, SEE DWG. NO. 5/1

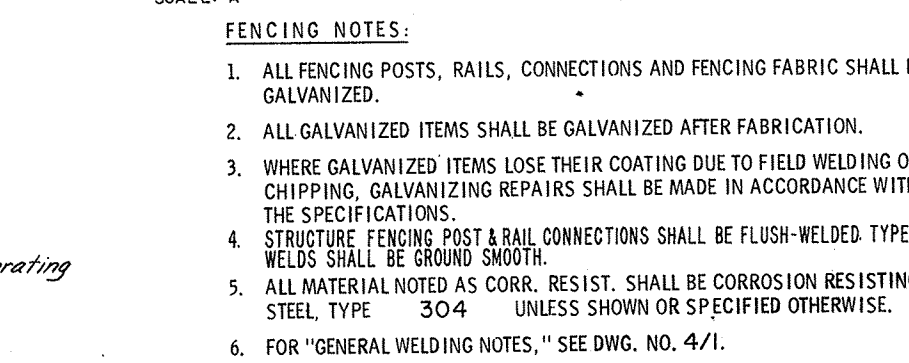
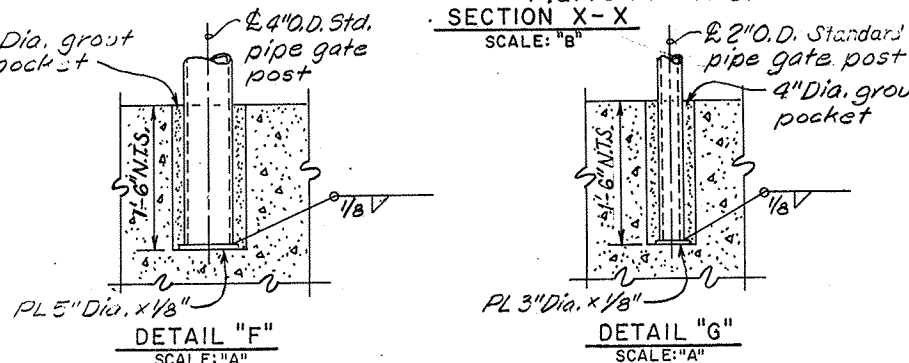
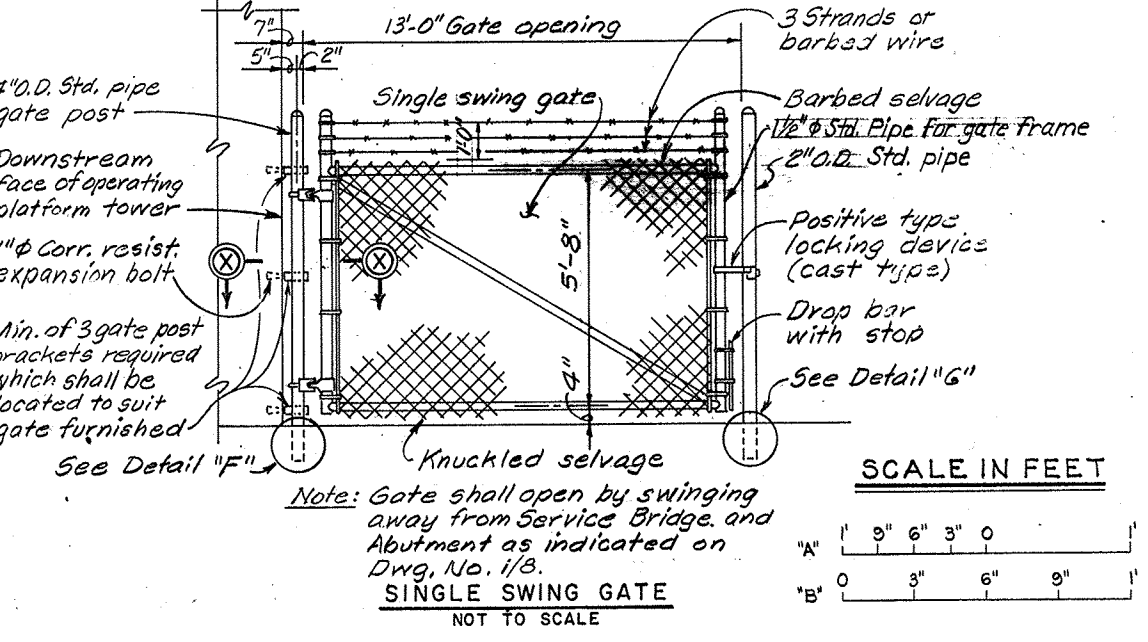
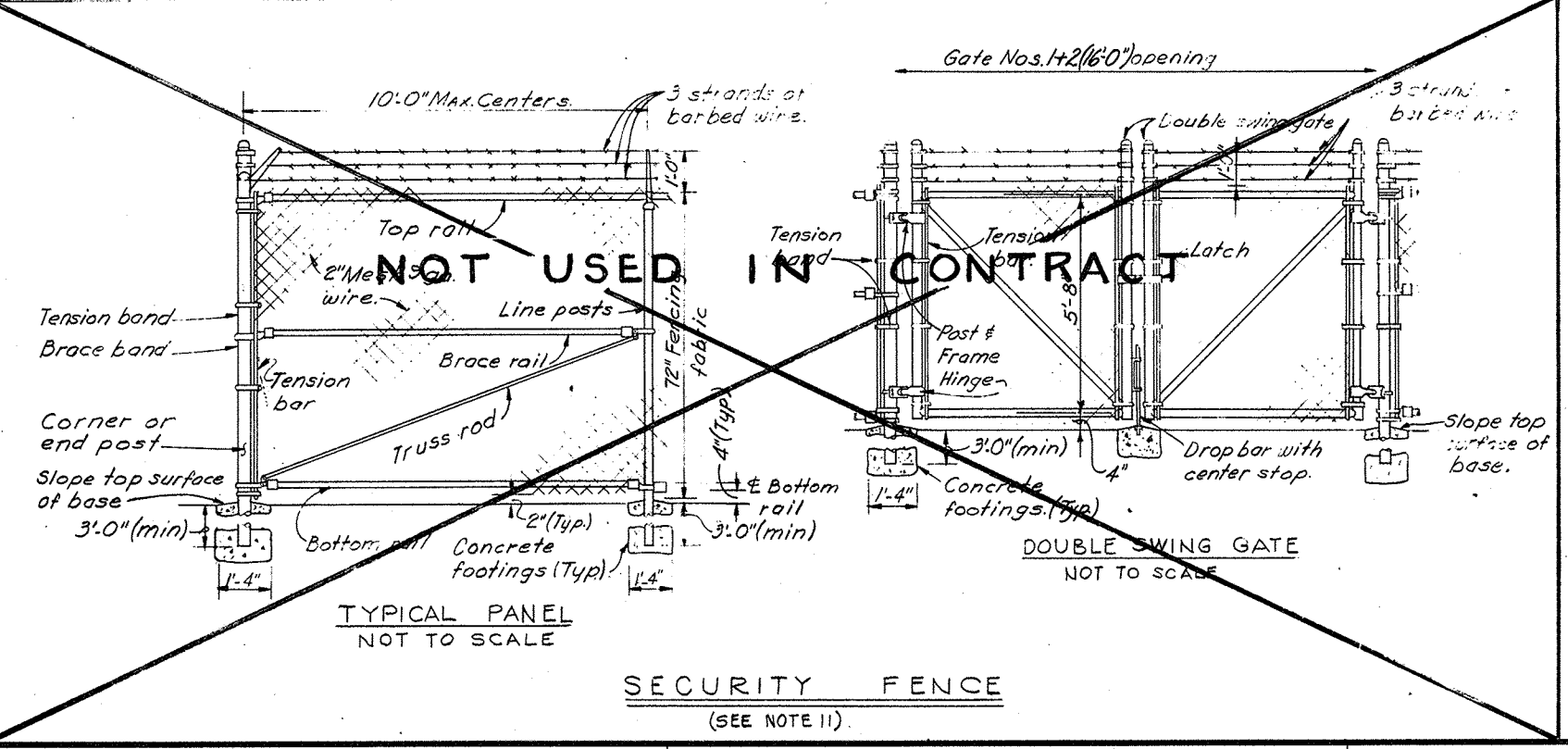
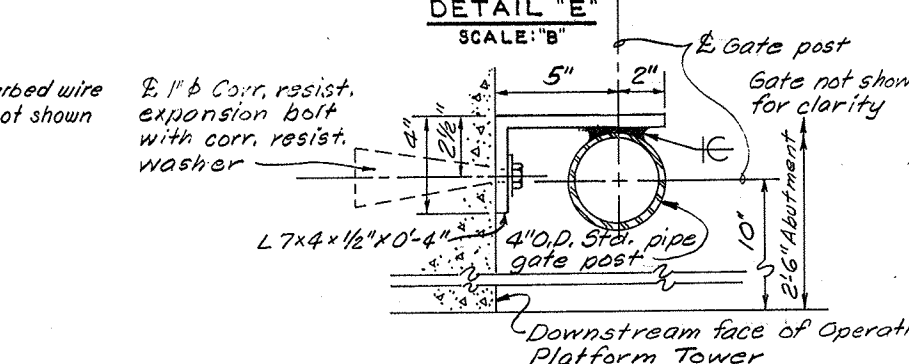
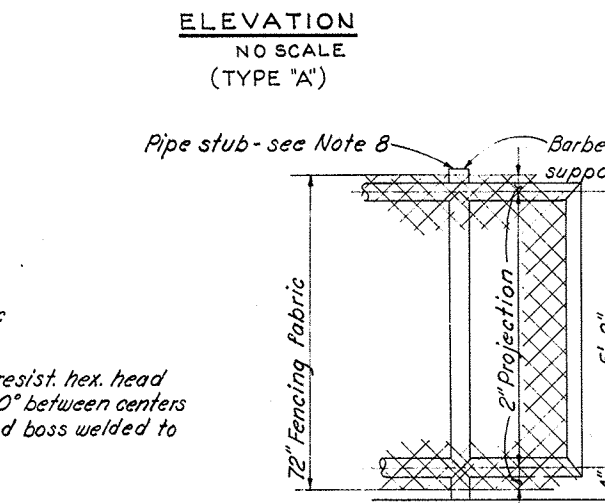
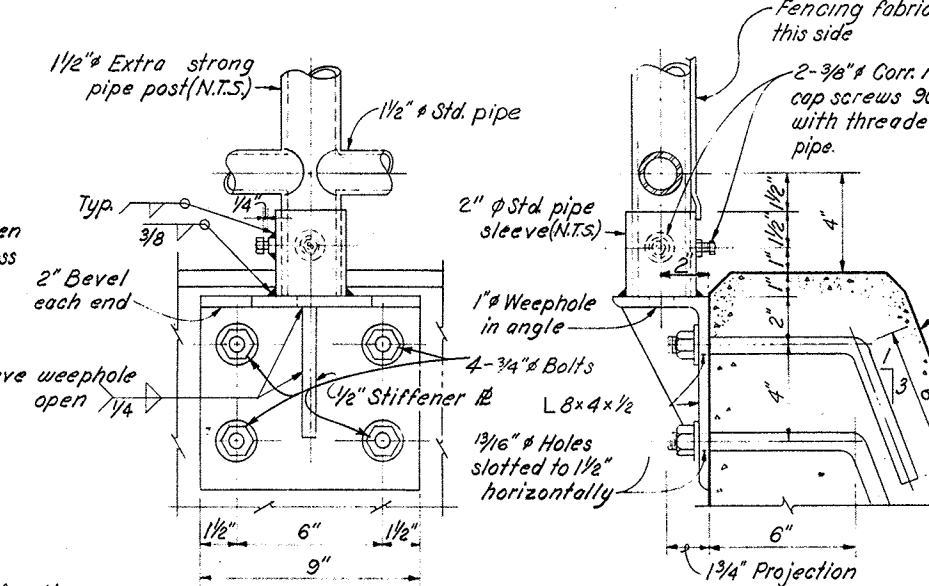
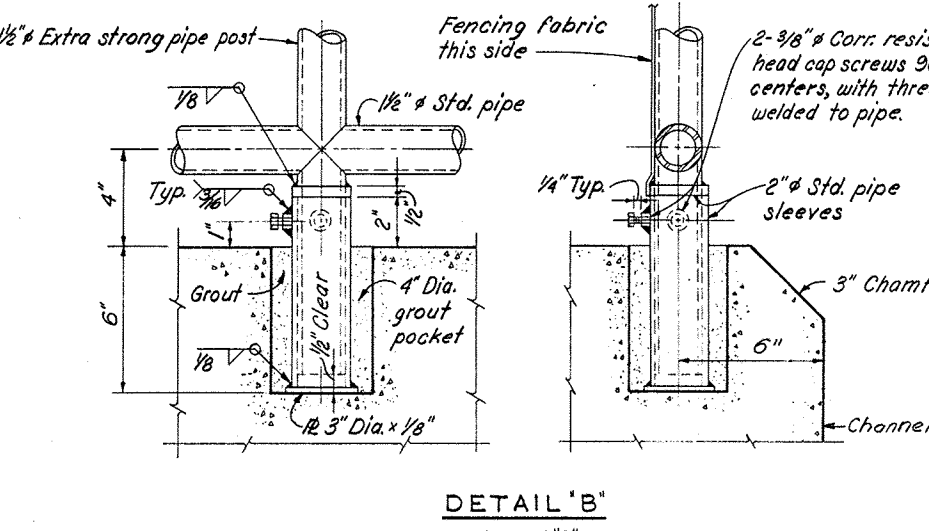
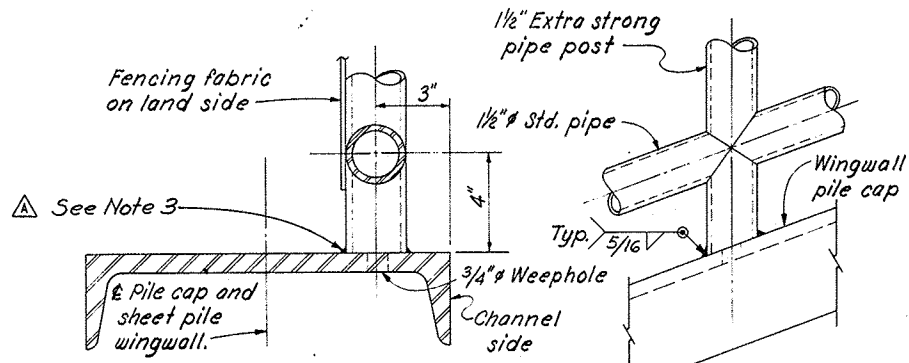
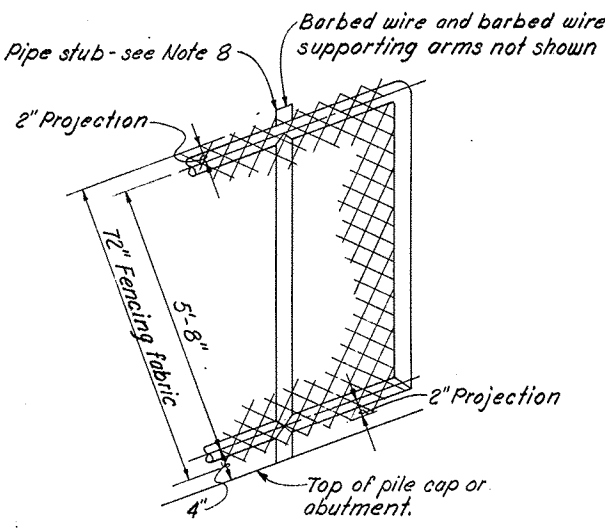
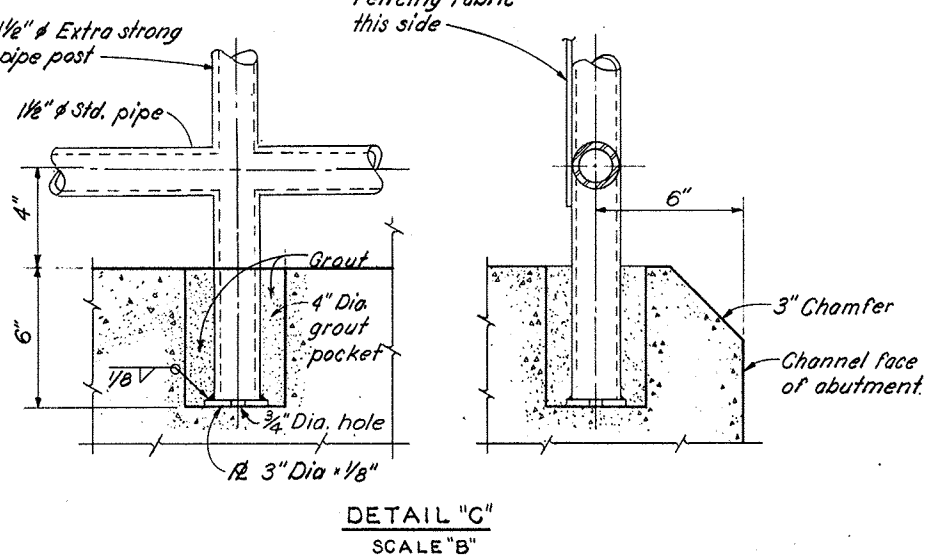
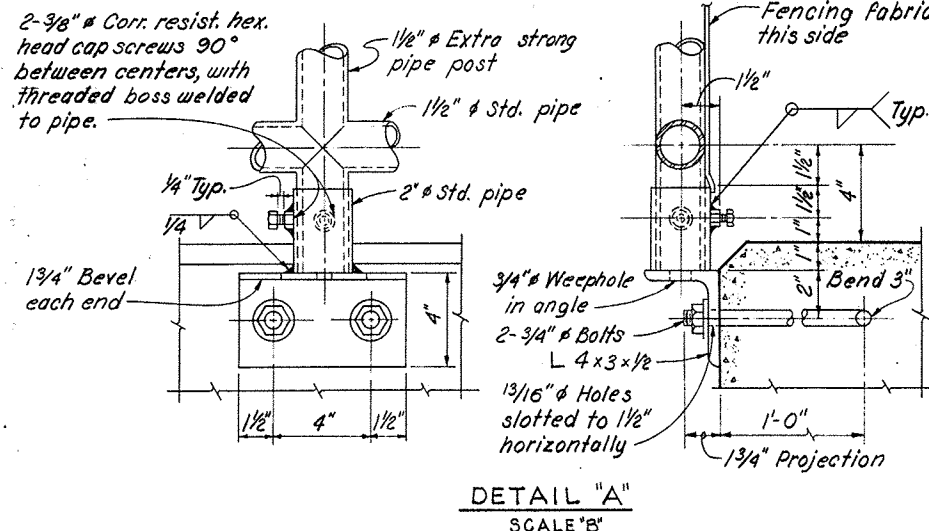


DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA			
CENTRAL AND SOUTHERN FLORIDA PROJECT UPPER ST. JOHNS RIVER BASIN STRUCTURE 96B AND TIEBACK LEVEE			
METALS AND MISCELLANEOUS CUT-OFF WALL			
DESIGN ENG. J.N.D.	C.B.M.	D.N.S.	
OWN. BY: E.E.B.	CD. BY:	INV. NO.	SIZE DWG. NO. F 5/2
DATED:		SCALE: AS SHOWN DATED: JULY 1986 SHEET 15	

SAFETY ON THIS JOB
DEPENDS ON YOU

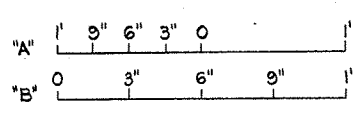
REVISIONS					
NO.	SYM.	ZONE	DESCRIPTION	DATE	APPROVED
1	Δ	E-1	REVISED TO CONFORM TO AMENDMENT NO. 0001.	3/15/88	2 BT

FENCE TYPE	FENCING FABRIC SCHEDULE		
	TOP SELVAGE	BOTTOM SELVAGE	FABRIC HEIGHT
"A"	BARBED	KNUCKLED	72"
"B"	BARBED	KNUCKLED	72"
"C"	KNUCKLED	KNUCKLED	42"
SECURITY FENCING	BARBED	BARBED	72"



- FENCING NOTES:**
- ALL FENCING POSTS, RAILS, CONNECTIONS AND FENCING FABRIC SHALL BE GALVANIZED.
 - ALL GALVANIZED ITEMS SHALL BE GALVANIZED AFTER FABRICATION.
 - WHERE GALVANIZED ITEMS LOSE THEIR COATING DUE TO FIELD WELDING OR CHIPPING, GALVANIZING REPAIRS SHALL BE MADE IN ACCORDANCE WITH THE SPECIFICATIONS.
 - STRUCTURE FENCING POST & RAIL CONNECTIONS SHALL BE FLUSH-WELDED TYPE. WELDS SHALL BE GROUND SMOOTH.
 - ALL MATERIAL NOTED AS CORR. RESIST. SHALL BE CORROSION RESISTING STEEL, TYPE 304 UNLESS SHOWN OR SPECIFIED OTHERWISE.
 - FOR "GENERAL WELDING NOTES," SEE DWG. NO. 4/1.
 - FOR TYPES "A", "B", & "C" FENCING, ALL POSTS SHALL BE 1 1/2 INCH EXTRA STRONG PIPE AND ALL HORIZONTAL AND SLOPING PIPE SHALL BE 1 1/2 INCH STANDARD PIPE.
 - WELD PIPE STUBS TO TOP RAIL AT EVERY POST LOCATION AND AT END OF RUNS WHERE NEEDED FOR BARBED WIRE SUPPORTING ARMS. STUB SIZE SHALL SUIT BARBED WIRE SUPPORTING ARM FURNISHED. THIS NOTE IS APPLICABLE TO STRUCTURE FENCING ONLY.
 - FOR LAYOUT OF STRUCTURE AND SECURITY FENCING, SEE DWG. NOS. 1/6 & 1/8.
 - FOR LOCATION OF SINGLE SWING GATE, SEE DWG. NO. 1/8.
 - ALL BOLTS, NUTS, AND WASHERS (EXCEPT THOSE NOTED AS CORR. RESIST.) BE GALVANIZED.
 - FENCE FABRIC SHALL BE ZINC-COATED OR ALUMINUM-COATED 9-GAUGE WIRE WOVEN IN A 2-INCH-MESH. INSTALL FABRIC SIMILAR TO SECURITY FENCING.
 - SUPPORTING ARMS FOR BARBED WIRE SHALL POINT TOWARDS LAND, UNLESS OTHERWISE SHOWN.

SCALE IN FEET

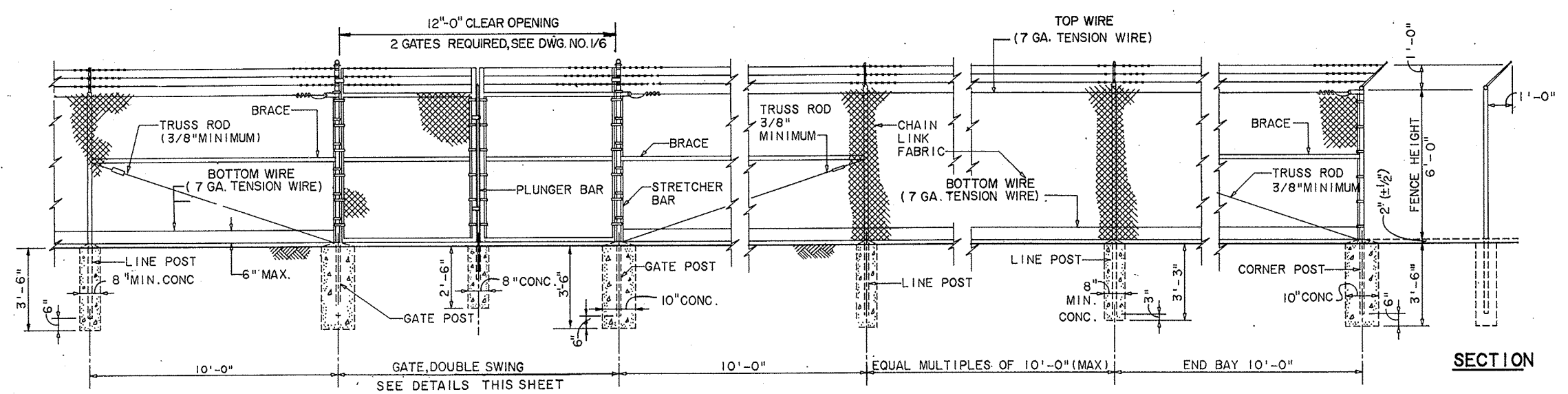


DEPARTMENT OF THE ARMY
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JACKSONVILLE, FLORIDA
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
METALS AND MISCELLANEOUS
FENCING DETAILS

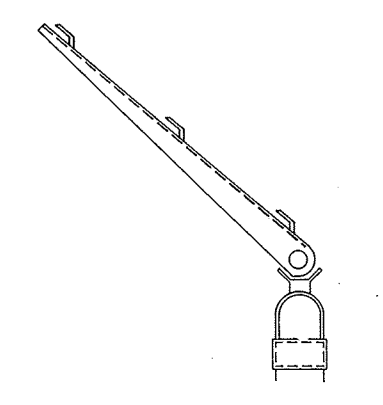
DWN. BY: D. N. S. J. N. D.	INV. NO. DACW 17	SIZE: F	DWG. NO.: 5/3
CRD. BY:	DATED:	SCALE: AS SHOWN	DATED: JULY 1986
			SHEET 16

SAFETY ON THIS JOB
DEPENDS ON YOU

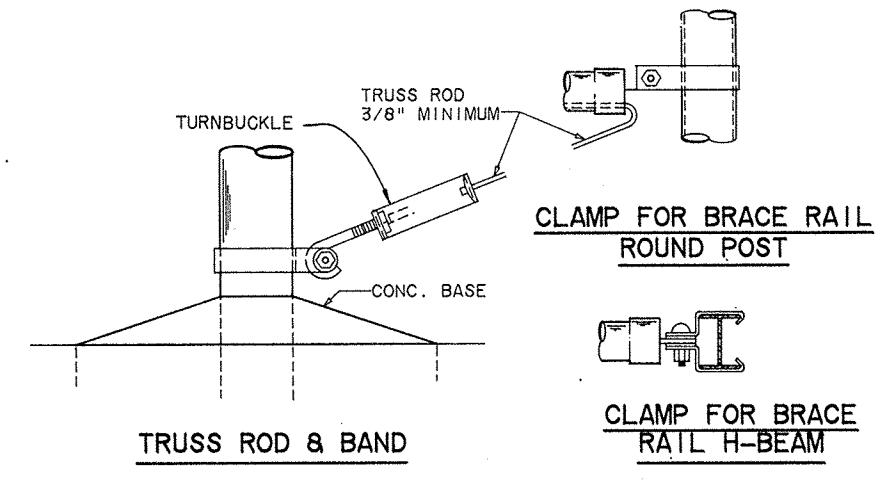
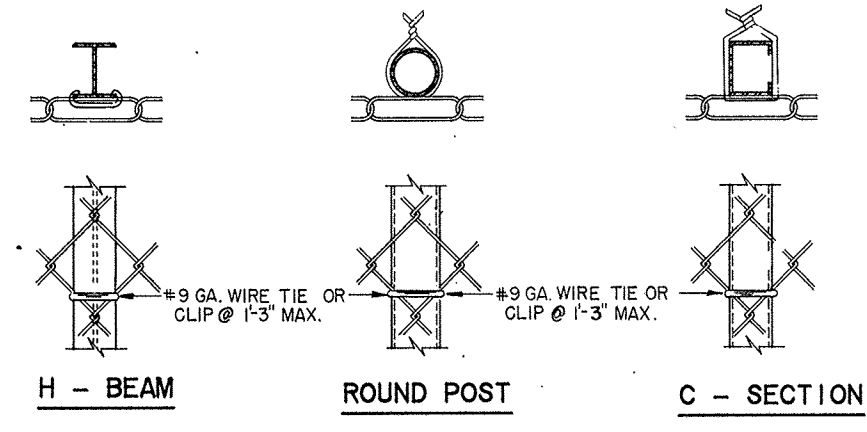
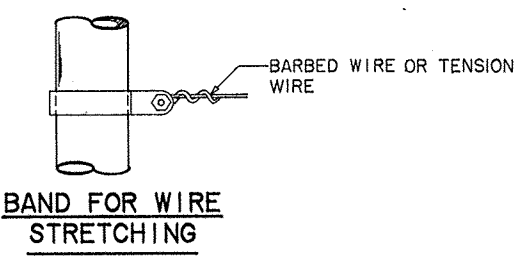
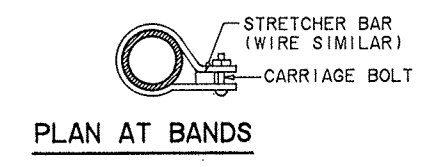
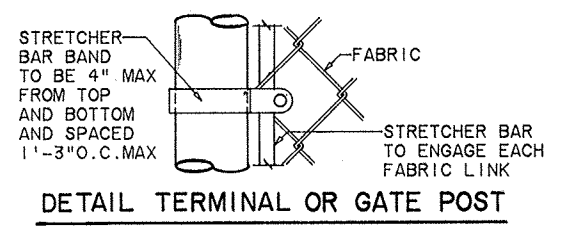
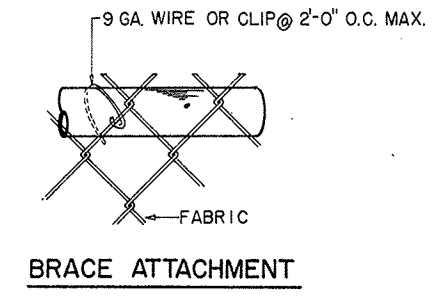
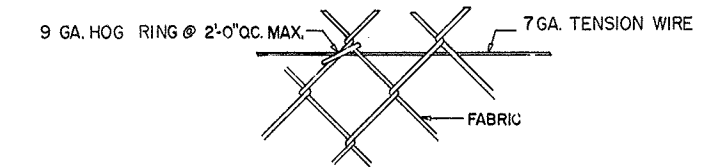
REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED
			REVISION NO. 0003		



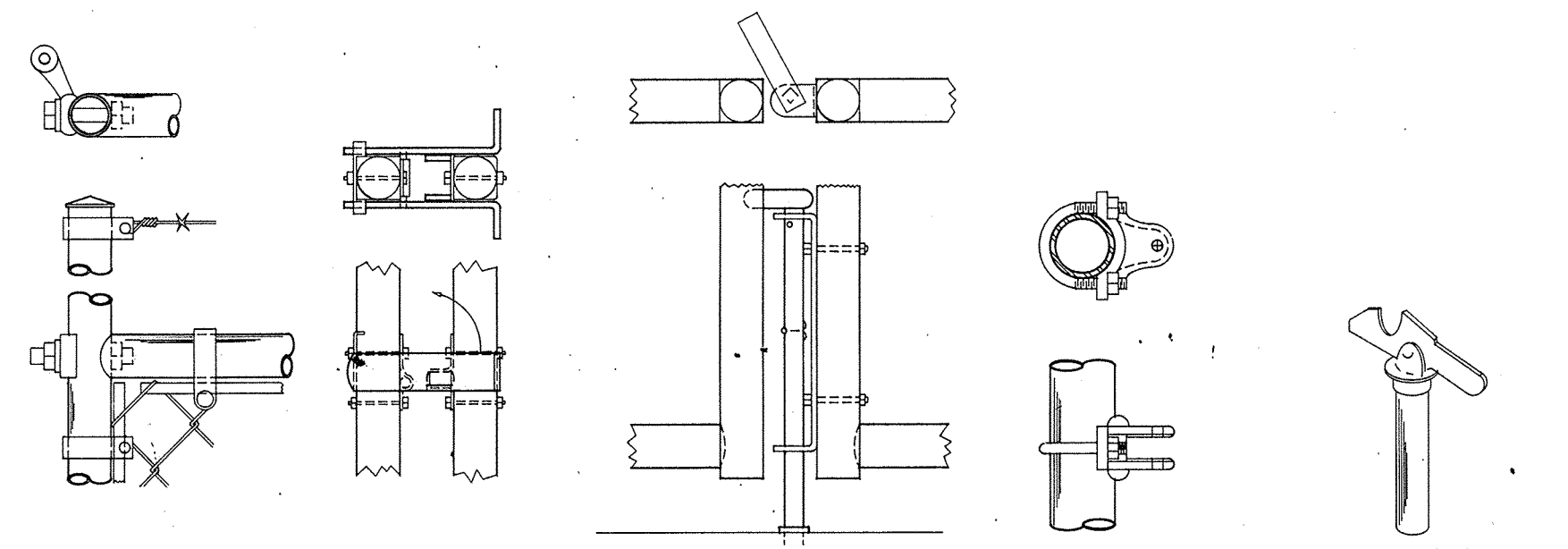
CHAIN LINK FABRIC FENCE



- FOR LAYOUT OF SECURITY FENCE, SEE DWG. NO. 1/6.
- SUPPORTING ARMS FOR BARBED WIRE SHALL POINT OUTWARD OF FENCE ENCLOSED AREAS.
- THE TERM "TERMINAL POST" SHALL APPLY TO END AND CORNER POST.
- FABRIC SHALL BE 9 GAGE WIRE WOVEN IN 2-INCH MESH.
- GATES SHALL BE HINGED TO SWING 90 DEGREES FROM CLOSED TO OPEN.



FASTENING DETAILS - FOR TUBULAR POST OR H - COLUMNS



SWING GATE DETAILS (STEEL PIPE CONSTRUCTION SHOWN)

USE	POST, FRAME AND BRACE SCHEDULE		MIN. WALL THICKNESS (IN)	WEIGHT PER FOOT OF LENGTH
	SECTION	OUTSIDE DIAMETER (IN) / OUTSIDE DIMENSION (IN)		
TERMINAL POSTS	STEEL PIPE	2.375		
	FORMED STEEL SECTION		3.50 X 3.50	5.10
LINE POSTS	STEEL SQUARE SECTION		2.00 X 2.00	2.60
	STEEL PIPE	1.90		
	FORMED STEEL SECTION		1.875 X 1.625	2.40
GATE POSTS	STEEL H-SECTION		2.25 X 1.70	3.43
	STEEL PIPE	4.00		
BRACES	STEEL SQUARE SECTION		2.50 X 2.50	5.10
	STEEL PIPE	1.660		
GATE FRAMES	FORMED STEEL SECTION		1.625 X 1.25	1.35
	STEEL PIPE	1.90		

FENCING FABRIC SCHEDULE			
FENCE TYPE	TOP SELVAGE	BOTTOM SELVAGE	FABRIC HEIGHT
SECURITY FENCE	BARBED	BARBED	72"

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

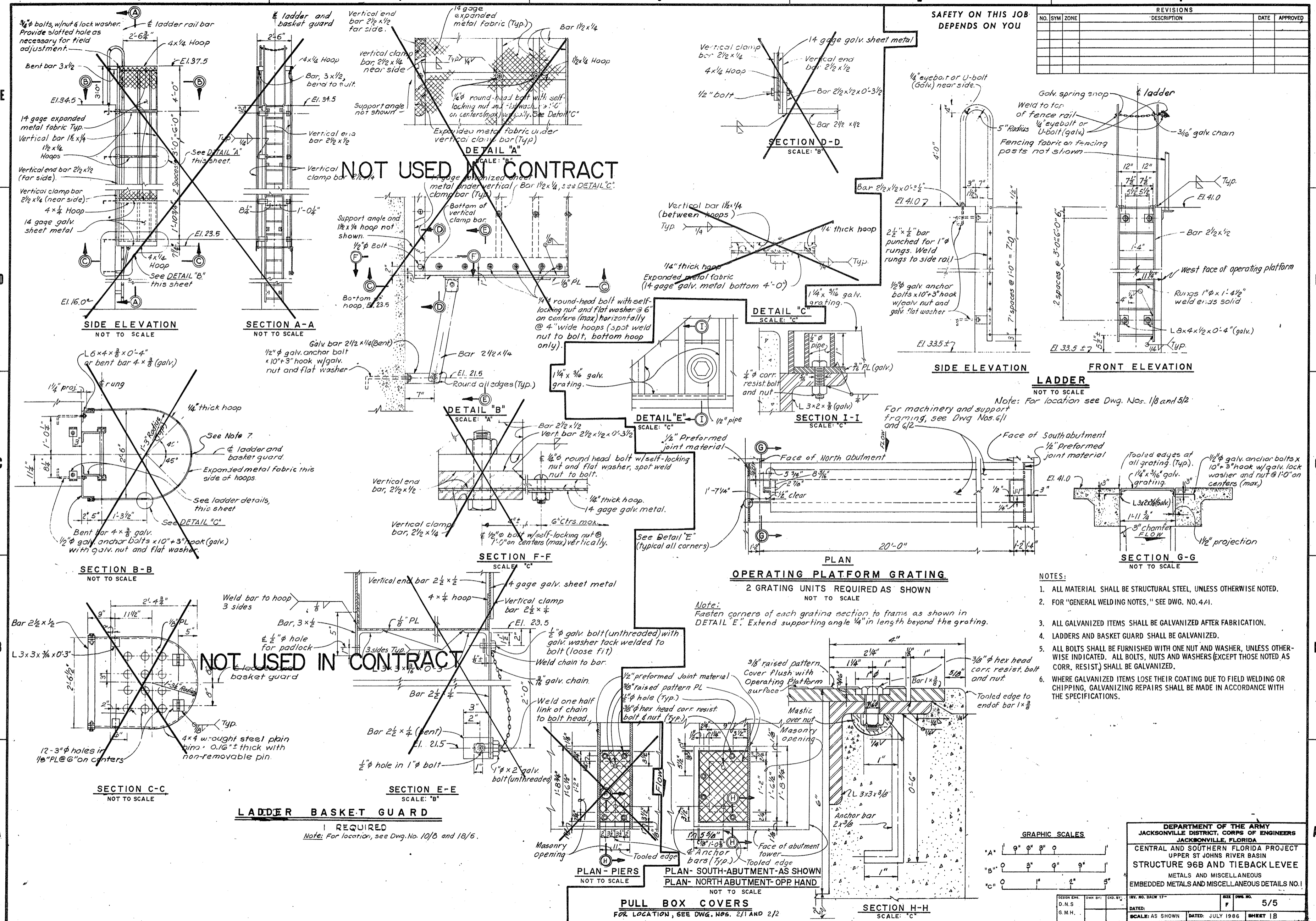
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

METALS AND MISCELLANEOUS
SECURITY FENCING DETAILS

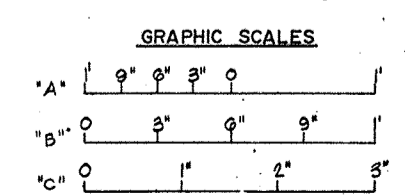
DESIGN ENGINEER: J.N.D.
OWN BY: F
INV. NO.:
DATED: 5/4
SCALE: NONE
DATED: JULY 1986
SHEET 17

**SAFETY ON THIS JOB
DEPENDS ON YOU**

REVISIONS				DATE	APPROVED
NO.	SYM.	ZONE	DESCRIPTION		



- NOTES:**
1. ALL MATERIAL SHALL BE STRUCTURAL STEEL, UNLESS OTHERWISE NOTED.
 2. FOR "GENERAL WELDING NOTES," SEE DWG. NO. 4/11.
 3. ALL GALVANIZED ITEMS SHALL BE GALVANIZED AFTER FABRICATION.
 4. LADDERS AND BASKET GUARD SHALL BE GALVANIZED.
 5. ALL BOLTS SHALL BE FURNISHED WITH ONE NUT AND WASHER, UNLESS OTHERWISE INDICATED. ALL BOLTS, NUTS AND WASHERS (EXCEPT THOSE NOTED AS CORR. RESIST.) SHALL BE GALVANIZED.
 6. WHERE GALVANIZED ITEMS LOSE THEIR COATING DUE TO FIELD WELDING OR CHIPPING, GALVANIZING REPAIRS SHALL BE MADE IN ACCORDANCE WITH THE SPECIFICATIONS.

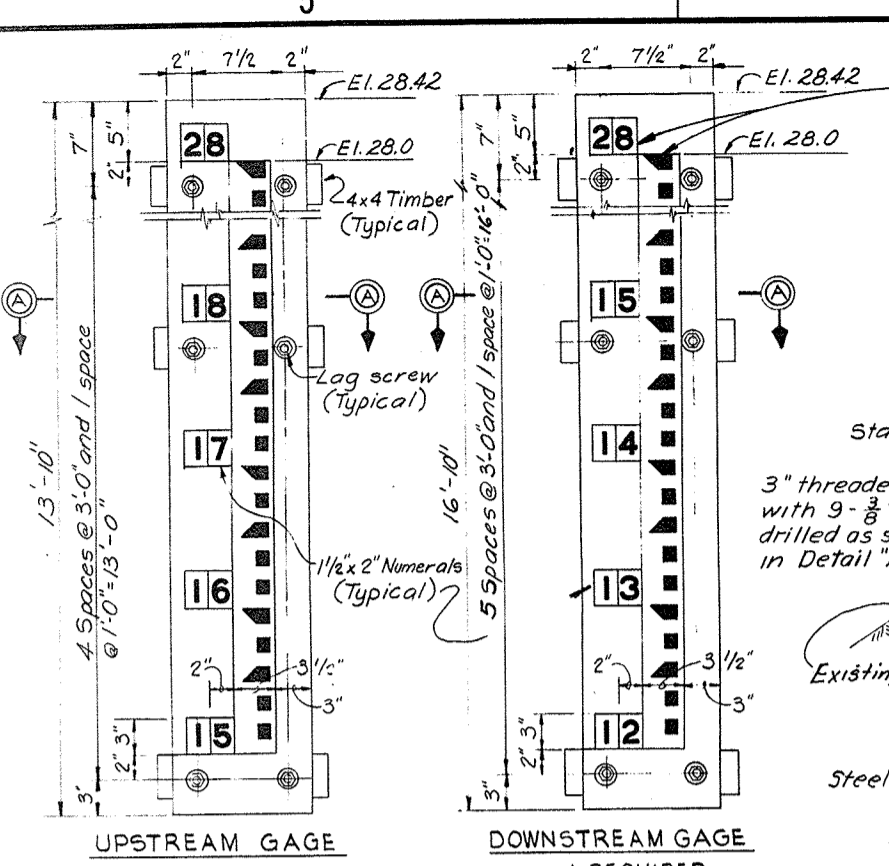


DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
METALS AND MISCELLANEOUS
EMBEDDED METALS AND MISCELLANEOUS DETAILS NO. 1

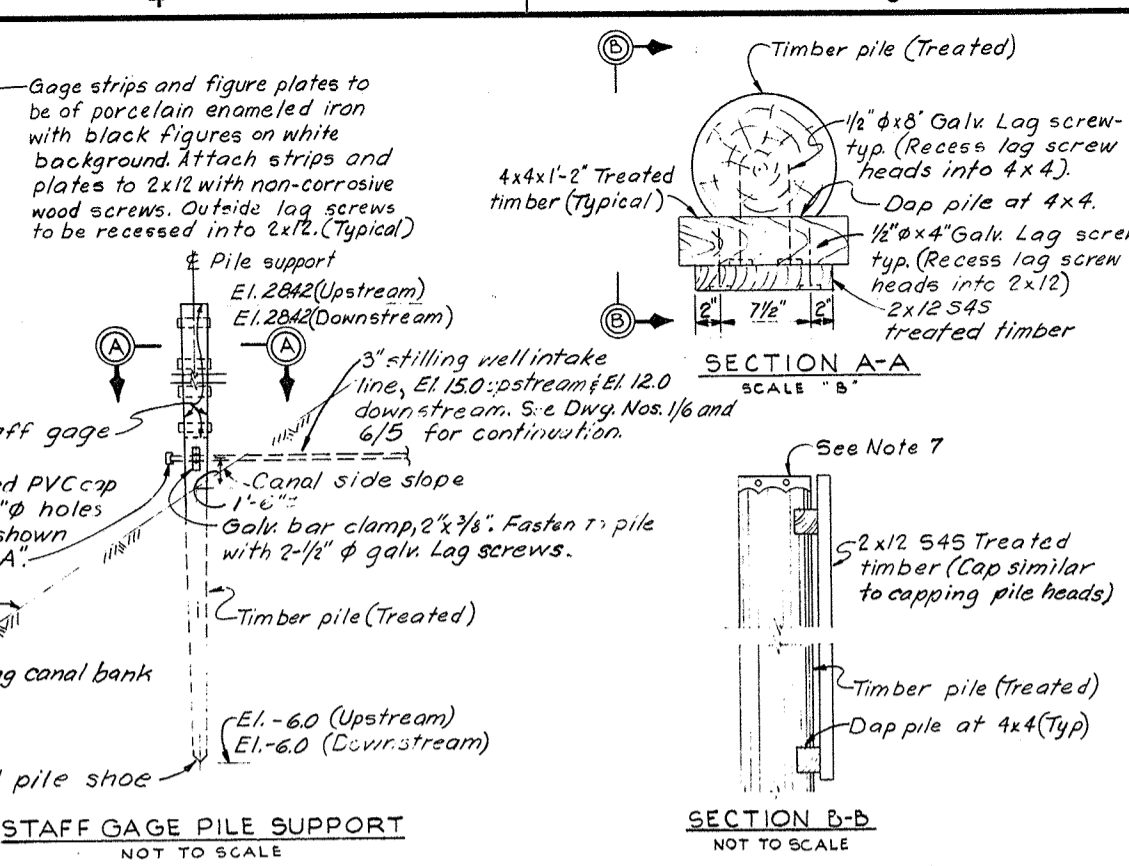
DESIGN ENG. D.N.S.	CHK. BY G.M.H.	DATE JULY 1986	REV. NO. DRAW 17	DATE JULY 1986	SIZE F	PLG. NO. 5/5	SHEET 18
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REVISIONS			
NO.	SYM	ZONE	DATE



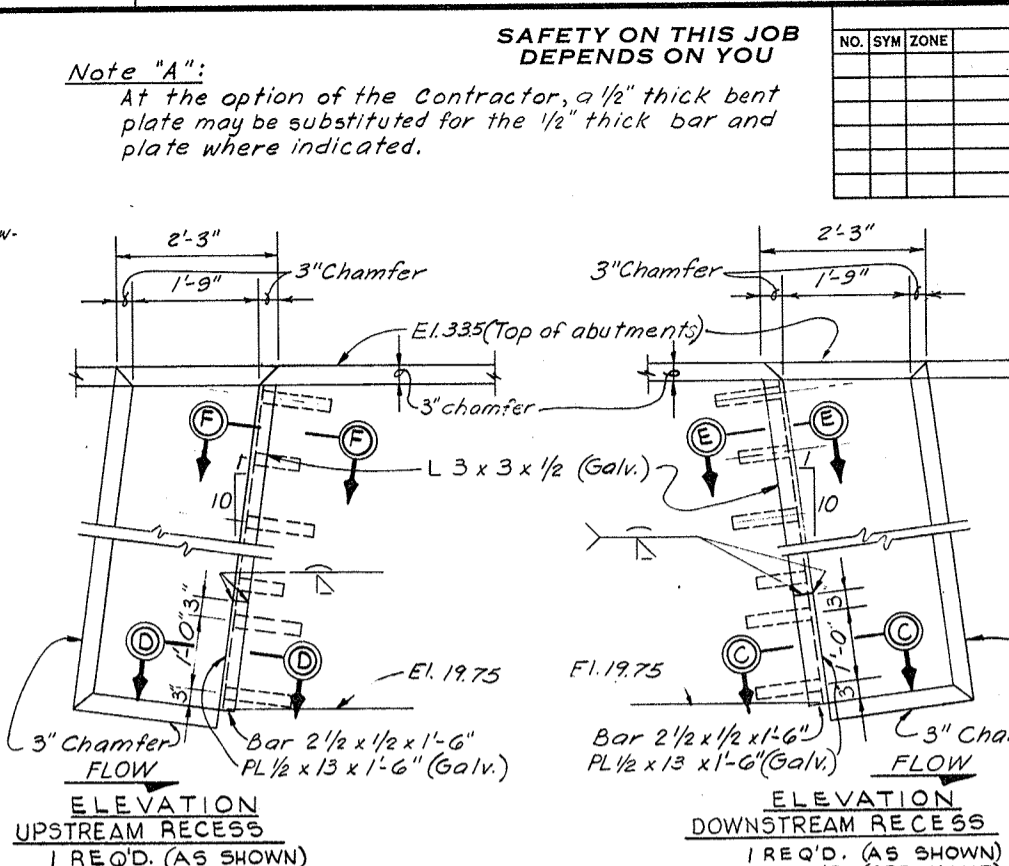
STAFF GAGES
SCALE: "B"

Note: For location and orientation of staff gages and pile supports, see Dwg. No. 1/6.



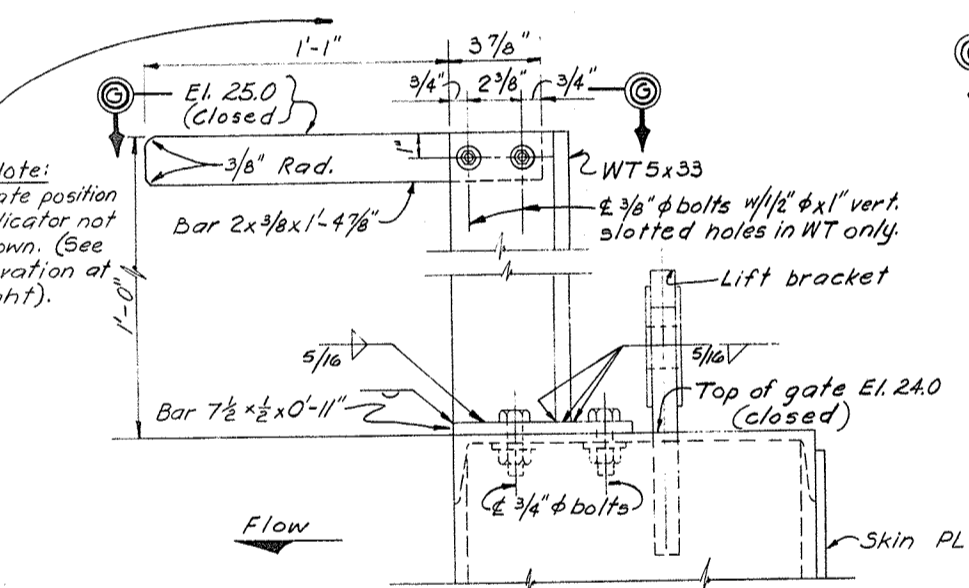
DETAIL "A"
NOT TO SCALE

Drill 9-3/8" holes in channel face of 3" threaded PVC cap.

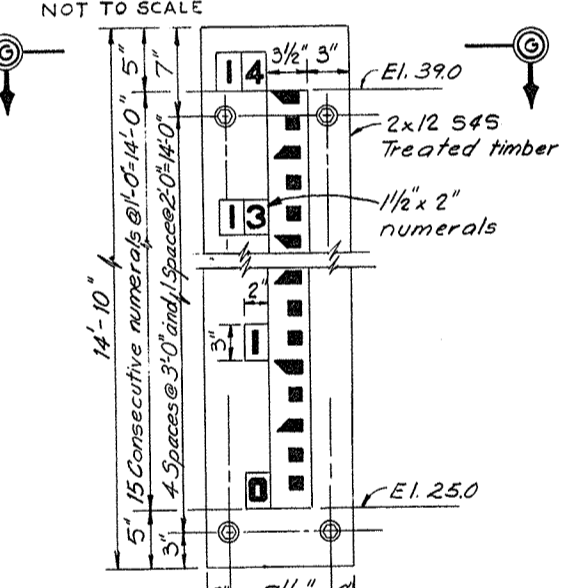


NEEDLE BEAM RECESS
NOT TO SCALE

Note: For location, see Dwg. No. 2/1



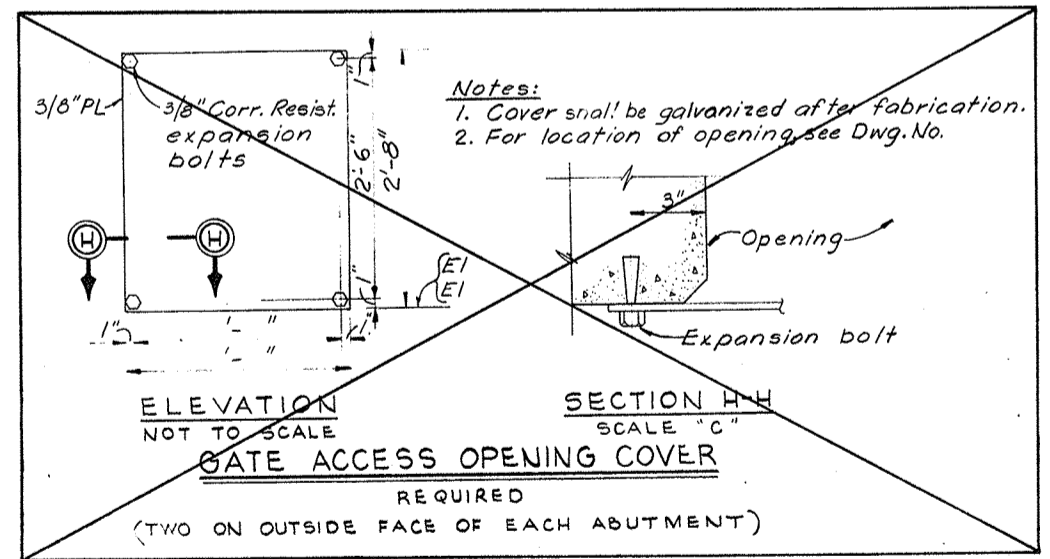
ELEVATION



ELEVATION

Note: For gage strip and figure plates see staff gage detail above.

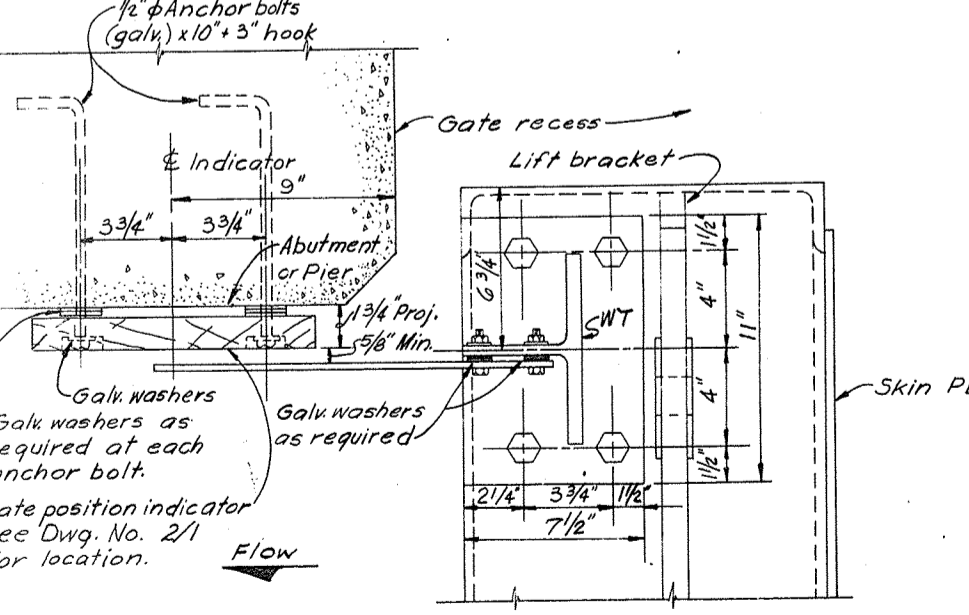
GATE POSITION INDICATOR
1 REQUIRED
SCALE: "B"



ELEVATION
NOT TO SCALE

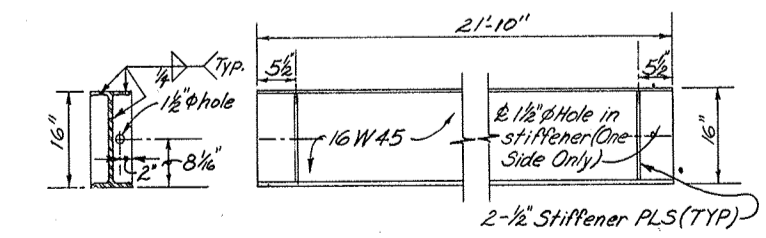
SECTION H-H
SCALE: "C"

Notes:
1. Cover shall be galvanized after fabrication.
2. For location of opening, see Dwg. No.



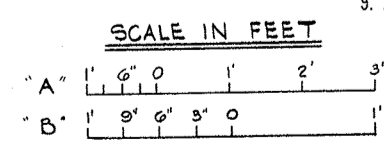
SECTION G-G
SCALE: "A"

1 REQUIRED - AS SHOWN
NOT TO SCALE



NEEDLE BEAM
2 REQUIRED
SCALE: "A"

NOTE: FOR LOCATION SEE DWG. NO. 2/1



- NOTES:**
- ALL MATERIAL SHALL BE STRUCTURAL STEEL, UNLESS OTHERWISE NOTED.
 - ALL MATERIAL NOTED ON THIS SHEET AS CORR. RESIST. SHALL BE CORROSION RESISTING STEEL, TYPE 304 UNLESS SHOWN OR SPECIFIED OTHERWISE.
 - ALL GALVANIZED ITEMS SHALL BE GALVANIZED AFTER FABRICATION.
 - ALL BOLTS SHALL BE FURNISHED WITH ONE NUT AND WASHER, UNLESS OTHERWISE INDICATED. ALL BOLTS, NUTS, WASHERS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED, UNLESS OTHERWISE NOTED.
 - AT OPTION OF THE CONTRACTOR, 5/8" φ X 6-3/8" OR EQUAL ANCHOR STUDS MAY BE SUBSTITUTED FOR 2" X 3/8" ANCHOR BARS. SEE SPECIFICATIONS.
 - WHERE GALVANIZED ITEMS LOSE THEIR COATING DUE TO FIELD WELDING OR CHIPPING, GALVANIZING REPAIRS SHALL BE MADE IN ACCORDANCE WITH THE SPECIFICATIONS.
 - ALL PILE HEADS SHALL BE CAPPED WITH 12 GAGE GALV. SHEET METAL FORMED IN THE FIELD AND FASTENED TO THE SIDE OF THE PILE WITH 2" LARGE HEADED GALV. ROOFING NAILS AT 2" CENTERS AROUND EDGES. PILE CAPS SHALL MEASURE AT LEAST 4 INCHES MORE IN EACH DIMENSION THAN THE DIAMETER OF THE PILE.
 - FOR "GENERAL WELDING NOTES", SEE DWG. NO. 4/1.
 - ALL PILING TO BE 12" DIAMETER.

DEPARTMENT OF THE ARMY
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JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

METALS AND MISCELLANEOUS
EMBEDDED METALS AND MISCELLANEOUS DETAILS NO. 2

DESIGN ENG. D.N.S.
G.M.H.

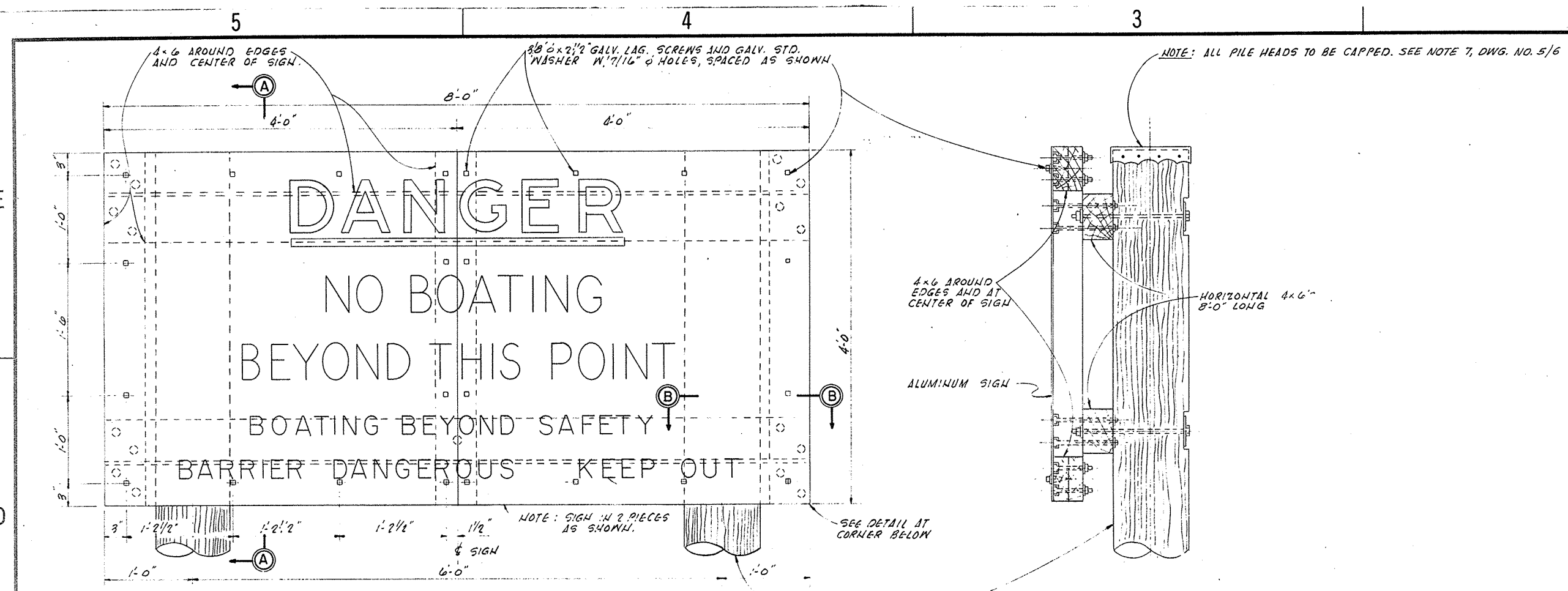
DWN. BY: []
DATE: []
SCALE: AS SHOWN

SIZE DWG. NO. F
5/6

DATED: JULY 1966
SHEET 19

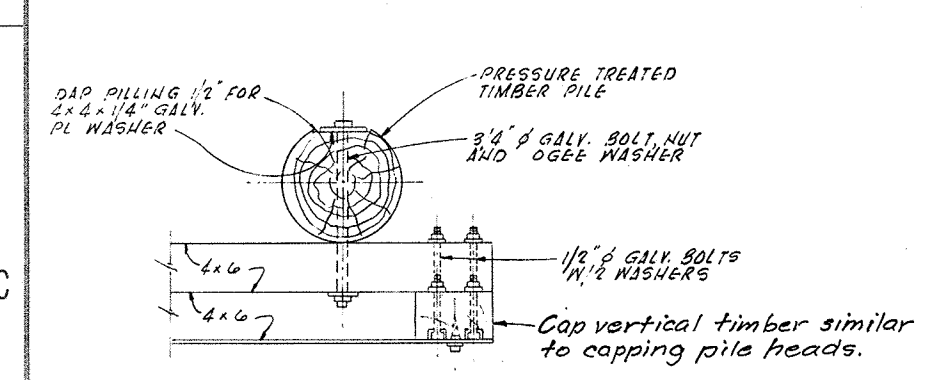
REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED

SAFETY ON THIS JOB
DEPENDS ON YOU



ELEVATION
SCALE: "B"
4 REQUIRED

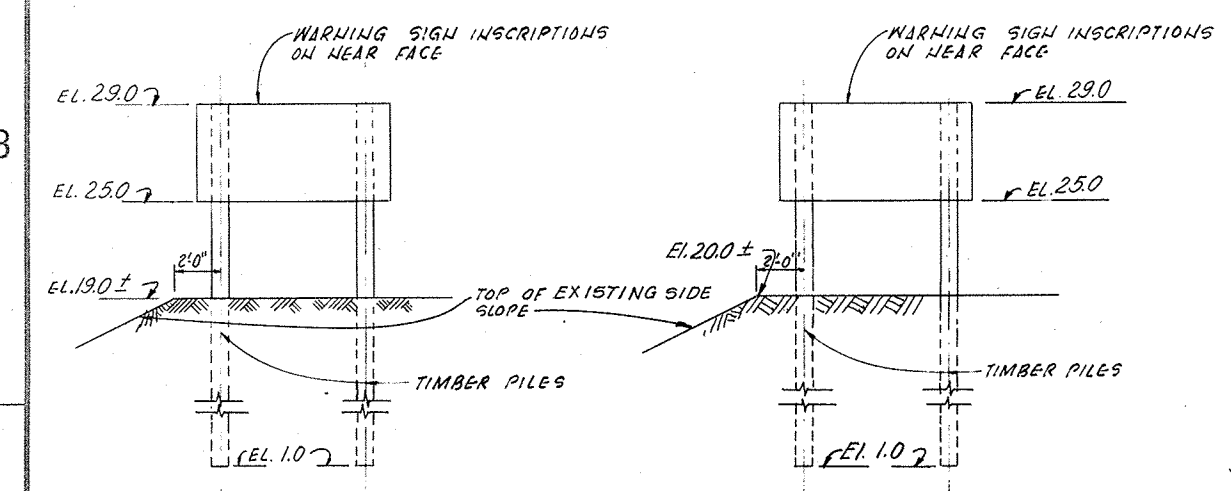
SECTION A-A
SCALE: "B"



SECTION B-B

CORNER ELEVATION

DETAIL AT CORNERS
SCALE: "B"



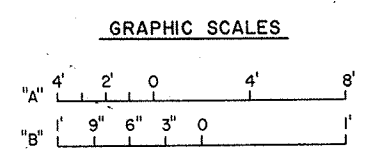
DOWNSTREAM WARNING SIGN SUPPORT (LOOKING UPSTREAM)
SCALE: "A"
1 REQUIRED - SOUTH SIDE OF CANAL

UPSTREAM WARNING SIGN SUPPORT (LOOKING DOWNSTREAM)
SCALE: "A"
1 REQUIRED - NORTH SIDE OF CANAL

DETAILS OF WARNING SIGNS AND SUPPORTS

NOTE: FOR LOCATION OF WARNING SIGNS, SEE DWG. NO. 1/6

- NOTES:**
- ALL MATERIAL SHALL BE STRUCTURAL STEEL, UNLESS OTHERWISE NOTED.
 - FOR "GENERAL WELDING NOTES", SEE DWG. NO. 4/1
 - ALL GALVANIZED ITEMS SHALL BE GALVANIZED AFTER FABRICATION.
 - NOT USED.
 - ALL BOLTS SHALL BE FURNISHED WITH ONE NUT AND WASHER, UNLESS OTHERWISE INDICATED. ALL BOLTS, NUTS AND WASHERS (EXCEPT THOSE NOTED AS CORR. RESIST.) SHALL BE GALVANIZED.
 - WHERE GALVANIZED ITEMS LOSE THEIR COATING DUE TO FIELD WELDING OR CHIPPING, GALVANIZING REPAIRS SHALL BE MADE IN ACCORDANCE WITH THE SPECIFICATIONS.
 - FOR LOCATION OF WARNING SIGNS, SEE DWG. NO. 1/6
 - THE ALUMINUM SIGNS ONLY TO BE FURNISHED BY THE GOVERNMENT AND WILL BE STORED AND AVAILABLE TO THE CONTRACTOR AT CORPS OF ENGINEERS AREA ENGINEER OFFICE, CLEWISTON, FLORIDA.
 - THE CONTRACTOR SHALL FURNISH ALL PILING, TIMBER, AND HARDWARE REQUIRED AND ERECT THE SIGNS AS DETAILED.
 - ALL TIMBER SHALL BE TREATED.
 - ALL PILING TO BE 12" DIAMETER.



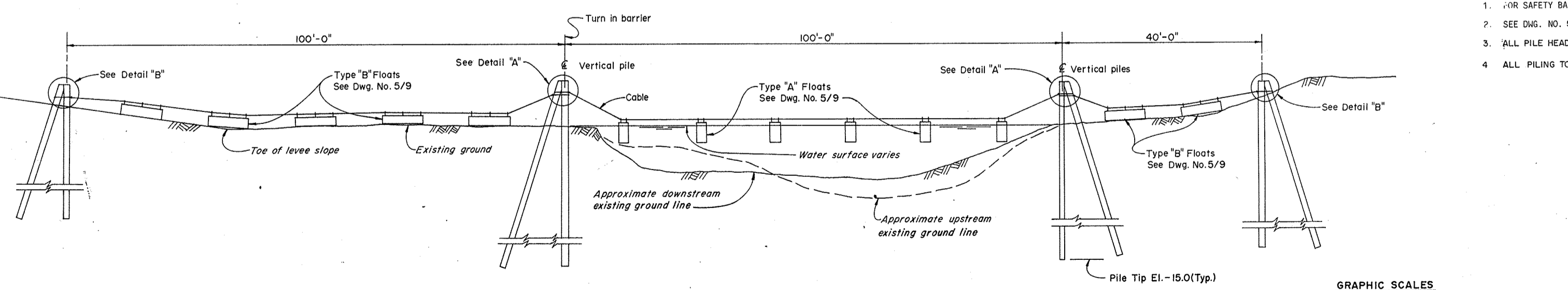
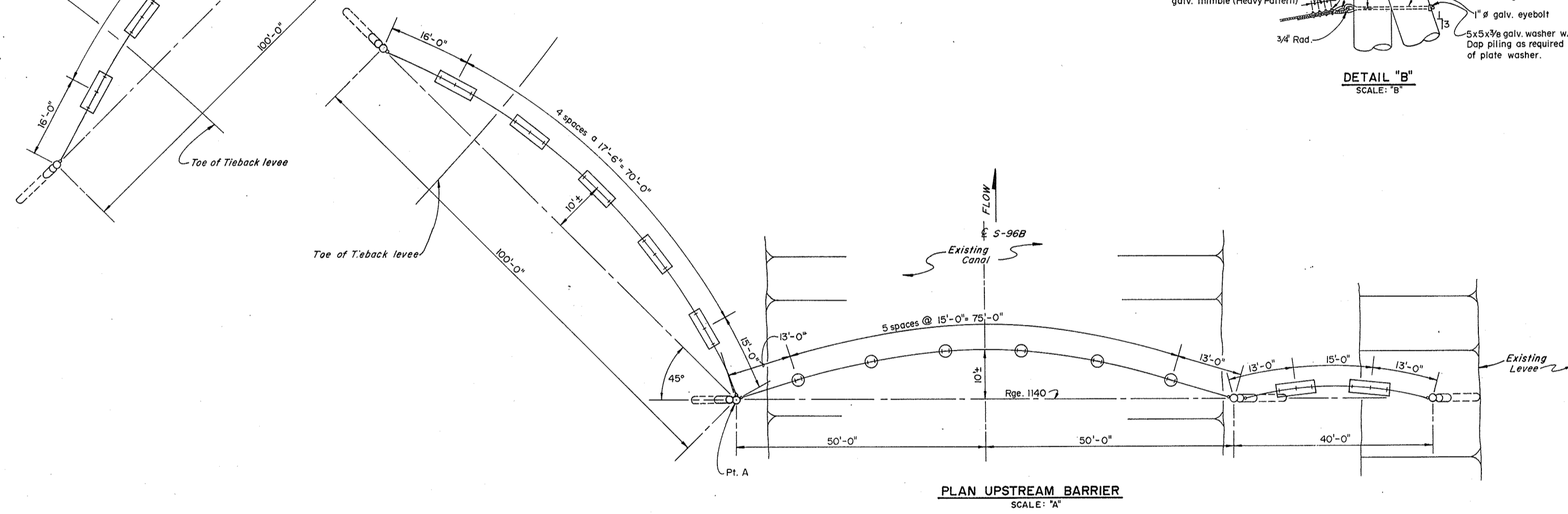
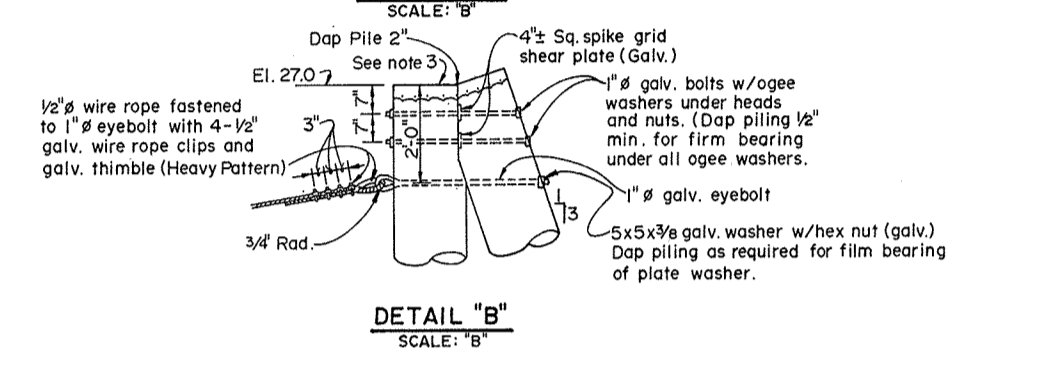
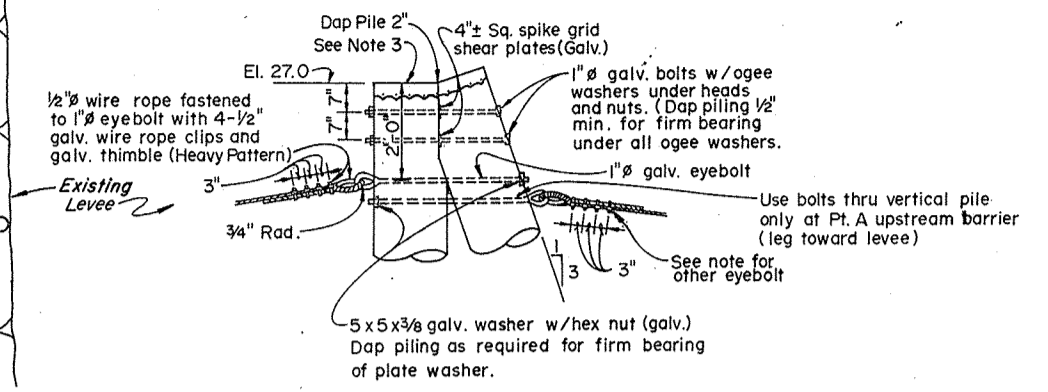
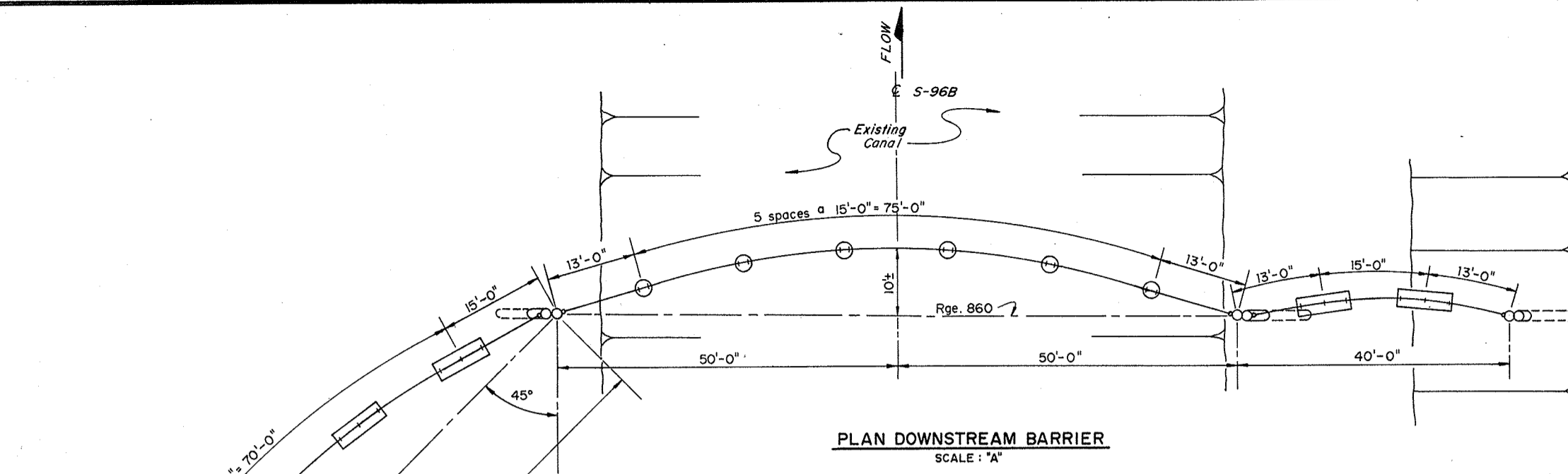
DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
METALS AND MISCELLANEOUS
TIMBER WARNING SIGN DETAILS

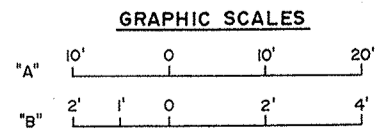
DESIGN BY: D.N.S.	CHK. BY: F	DATE: JULY 1986	DWG. NO. 5/7
SCALE: AS SHOWN		SHEET 20	

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED



- NOTES:
- FOR SAFETY BARRIER AND ANCHOR PILES LOCATIONS, SEE DWG NO. 1/6.
 - SEE DWG. NO. 5/7 FOR NOTES.
 - ALL PILE HEADS SHALL BE CAPPED, SEE NOTE 7 DWG. NO. 5/6
 - ALL PILING TO BE 12" DIAMETER.



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

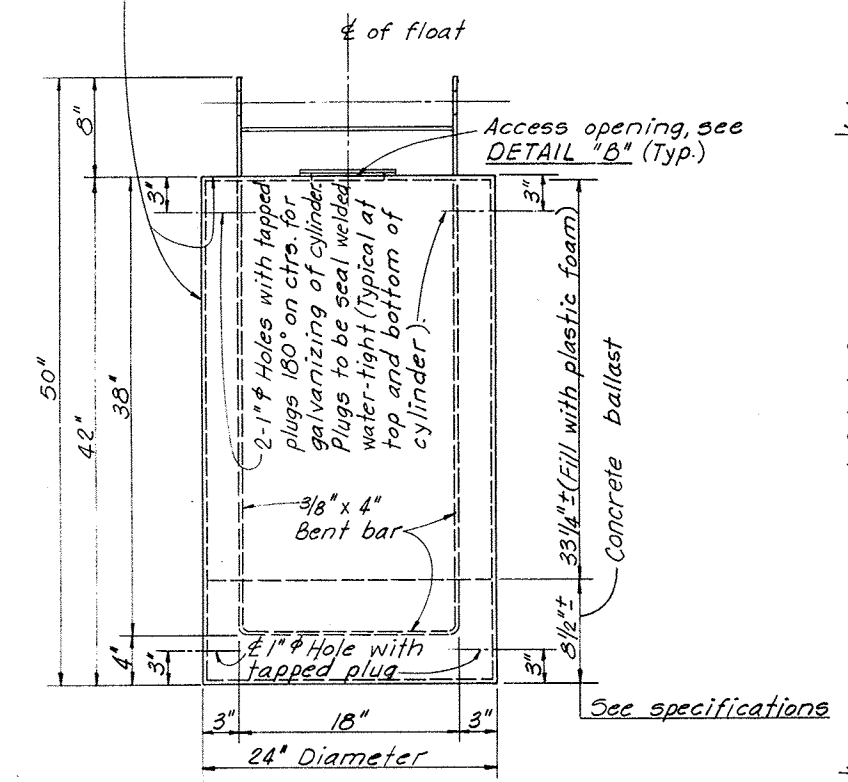
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

METALS AND MISCELLANEOUS
SAFETY BARRIER DETAILS

DESIGN ENG. J.N.D.	INV. NO.	SIZE	DWG. NO.
DWN. BY E.E.B.	CRD. BY	F	5/8
DATED:	DATED: JULY 1966	SHEET	21

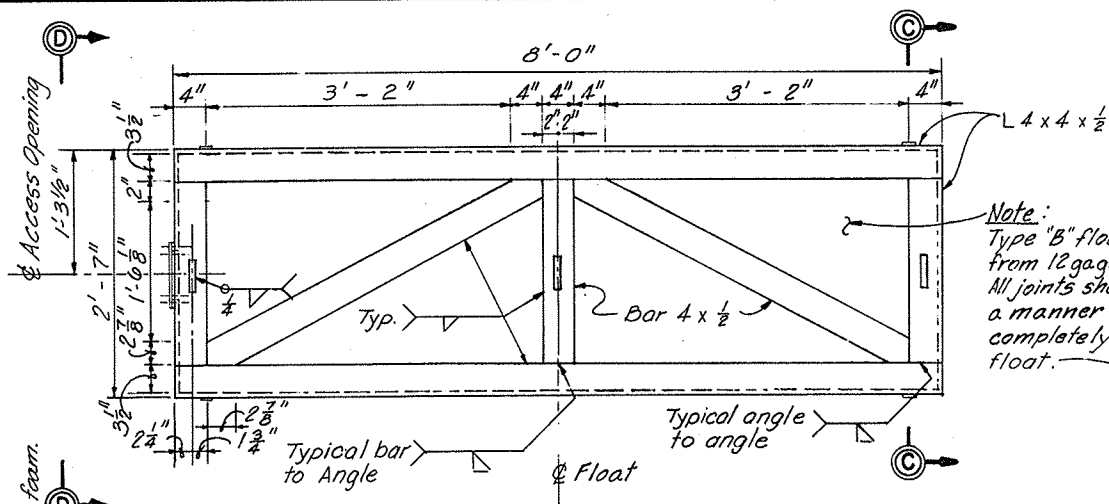
REVISIONS				
NO.	SYM	ZONE	DATE	APPROVED

Note: Cylinder to be fabricated from 12 gage steel plates. All joints shall be welded in such a manner to provide a completely water-tight cylinder.

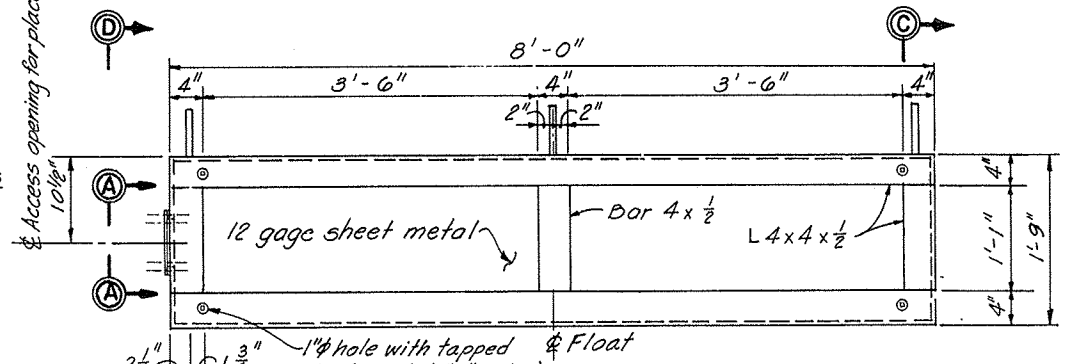


TYPE "A" FLOAT ELEVATION
SCALE: "B"
REQUIRED

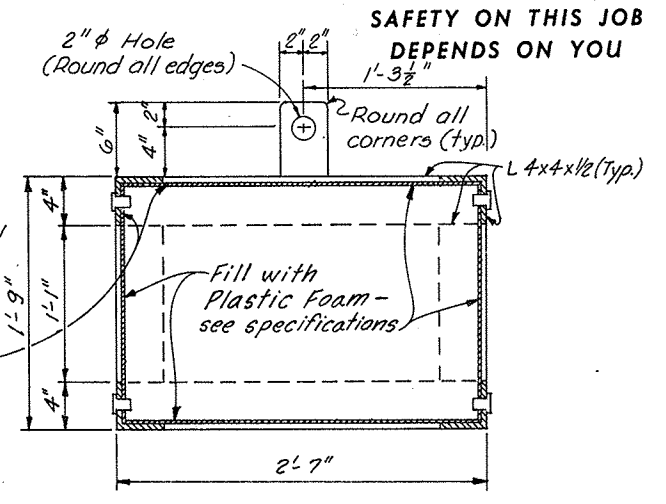
NOTE "A":
IN LIEU OF THE ARRANGEMENT AND NUMBER OF 1" ϕ HOLES FOR GALVANIZING THE CYLINDER SHOWN ABOVE, THE CONTRACTOR MAY USE A MINIMUM OF 2-1" ϕ HOLES OR A MAXIMUM OF 4-1" ϕ HOLES. THE HOLES FOR GALVANIZING THE CYLINDER MAY BE RELOCATED AT THE CONTRACTOR'S OPTION. HOWEVER, ANY CHANGES IN NUMBER OR LOCATION OF HOLES IS SUBJECT TO APPROVAL OF THE CONTRACTING OFFICER.



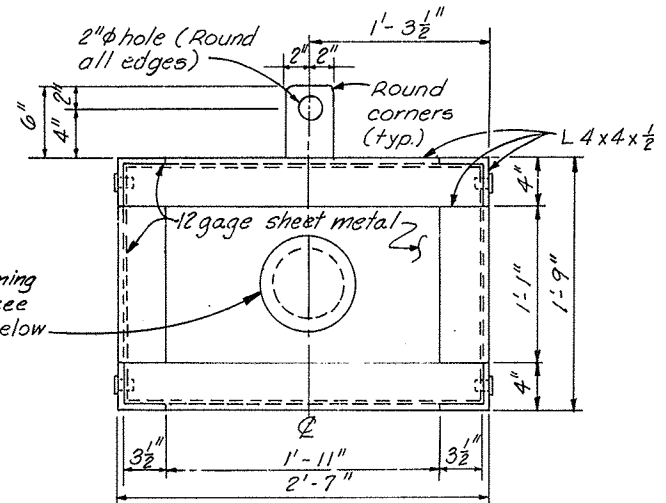
PLAN
SCALE: "A"



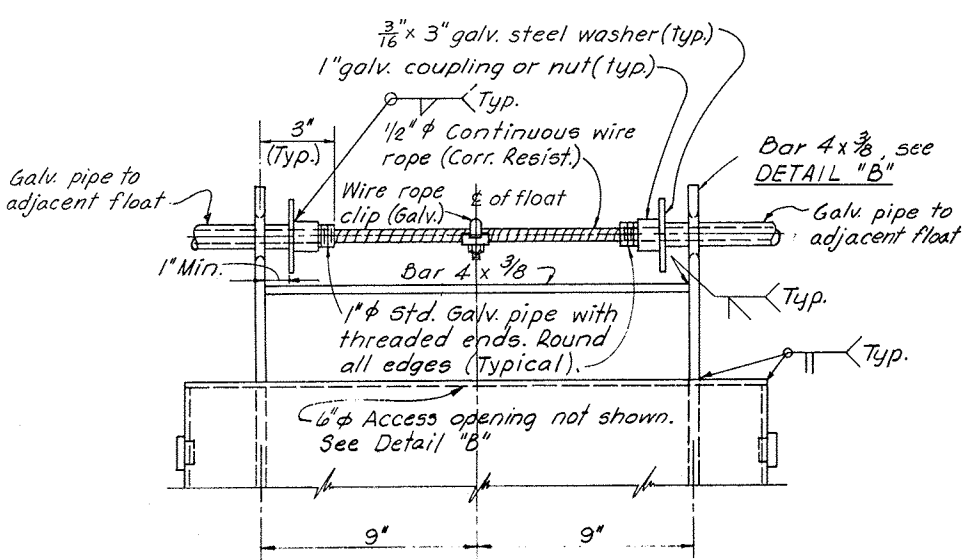
TYPE "B" FLOAT ELEVATION
SCALE: "A"
REQUIRED



SECTION C-C
SCALE: "B"

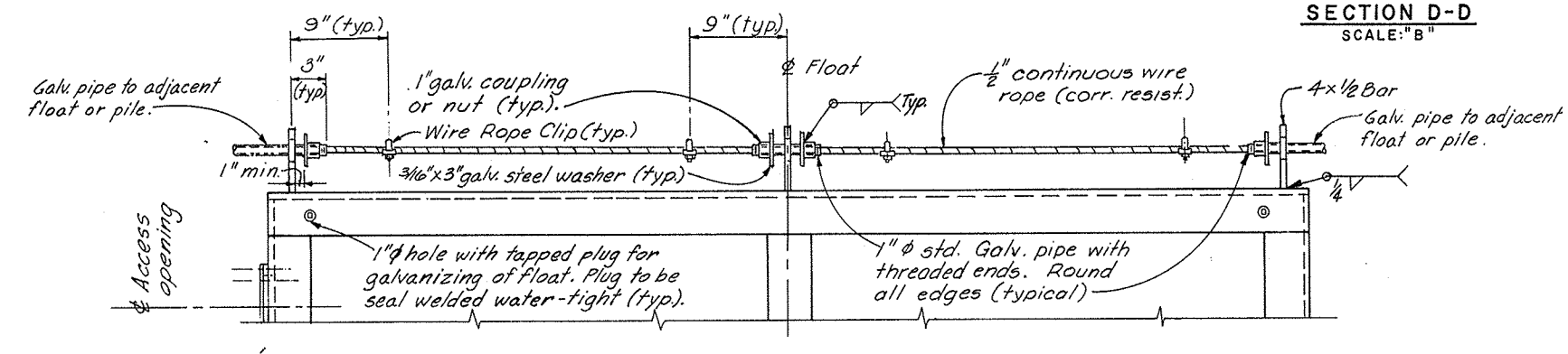


SECTION D-D
SCALE: "B"



DETAIL "A"
SCALE: "C"

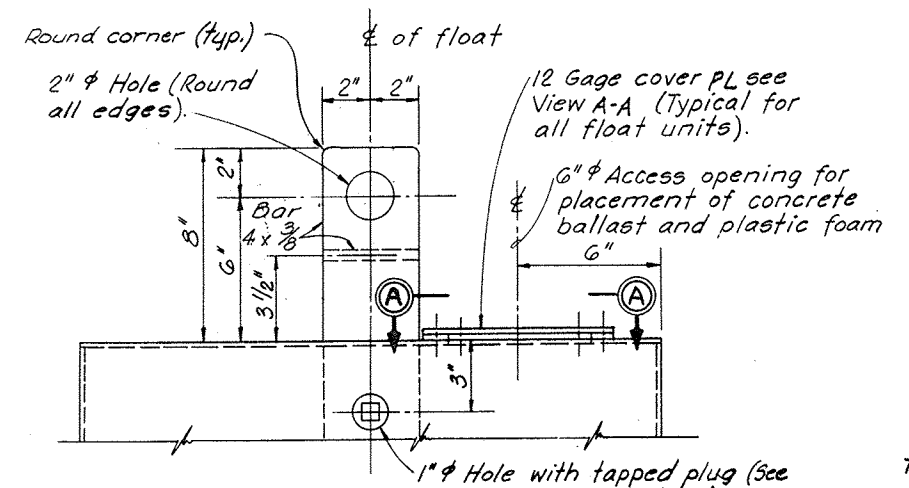
Note: For location, see Dwg. Nos. 1/6 and 5/8.



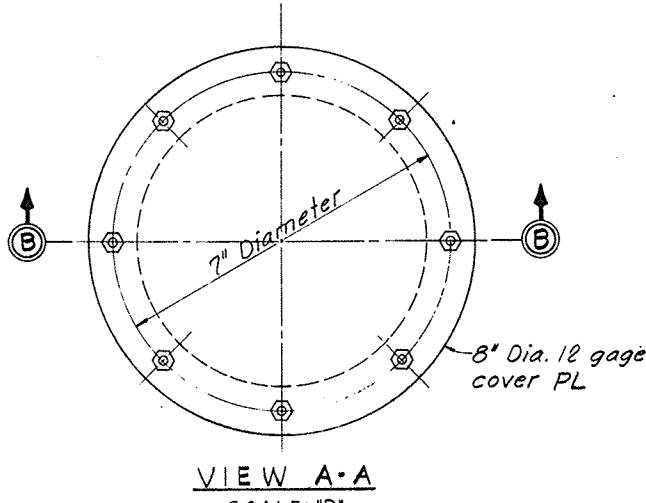
DETAIL "C"
SCALE: "B"

NOTE "B":
IN LIEU OF THE ARRANGEMENT AND NUMBER OF 1" ϕ HOLES FOR GALVANIZING TYPE "B" FLOAT, THE CONTRACTOR MAY USE A MINIMUM OF 4-1" ϕ HOLES OR A MAXIMUM OF 8-1" ϕ HOLES. THE HOLES FOR GALVANIZING THE CYLINDER MAY BE RELOCATED AT THE CONTRACTOR'S OPTION. HOWEVER, ANY CHANGES IN NUMBER OR LOCATION OF HOLES IS SUBJECT TO APPROVAL OF THE CONTRACTING OFFICER.

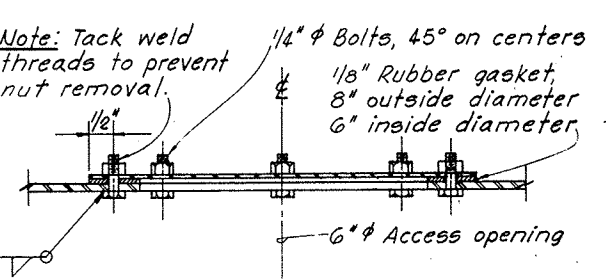
- NOTES:
- FOR SAFETY BARRIER LAYOUT, SEE DWG. NO. 5/8.
 - ALL GALVANIZED ITEMS SHALL BE GALVANIZED AFTER FABRICATION.
 - ALL SAFETY BARRIER FLOATS SHALL BE GALVANIZED. WHERE GALVANIZED ITEMS LOSE THEIR COATING DUE TO FIELD WELDING OR CHIPPING, GALVANIZING REPAIRS SHALL BE MADE IN ACCORDANCE WITH THE SPECIFICATIONS.
 - FOR "GENERAL WELDING NOTES," SEE DWG. NO. 4/1.



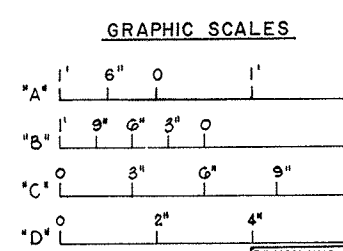
DETAIL "B"
SCALE: "C"



VIEW A-A
SCALE: "D"



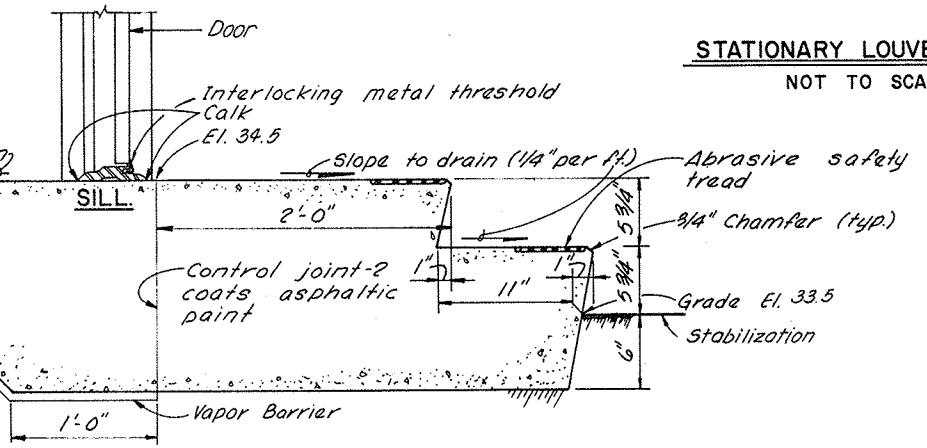
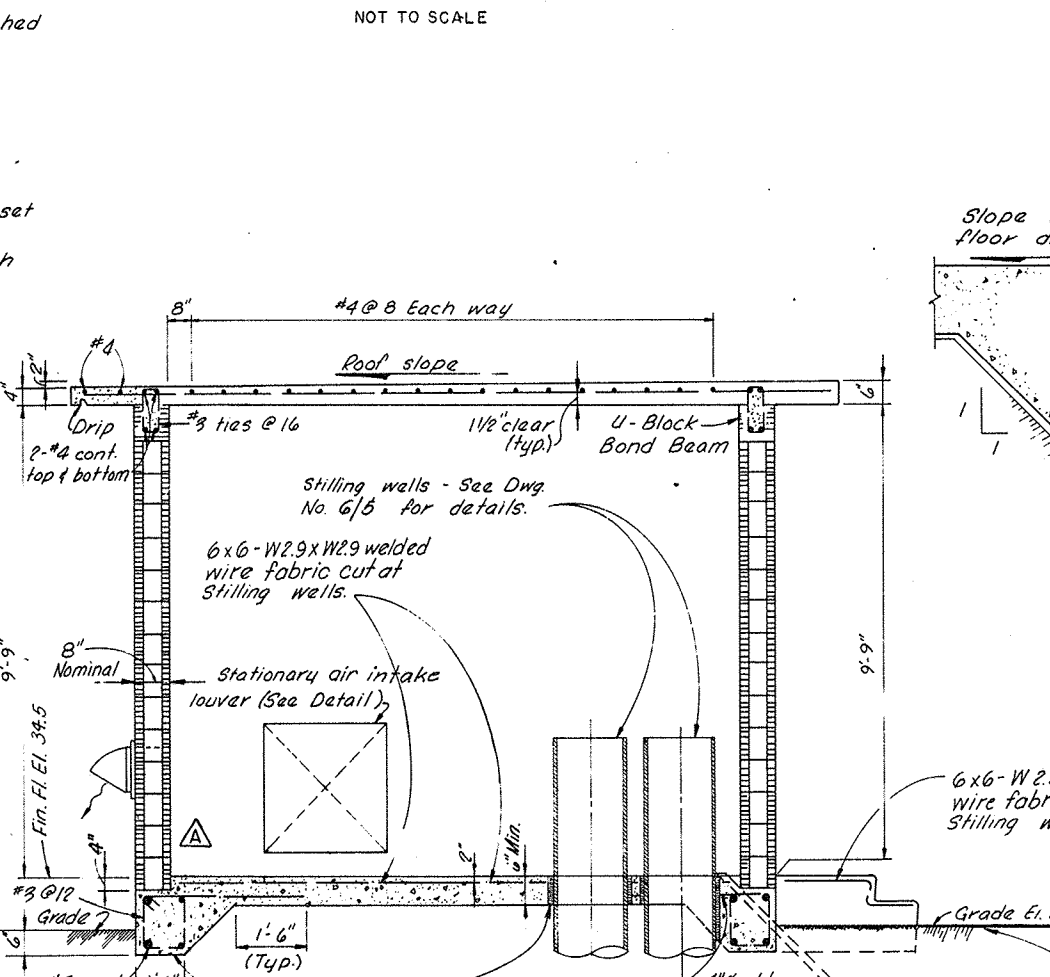
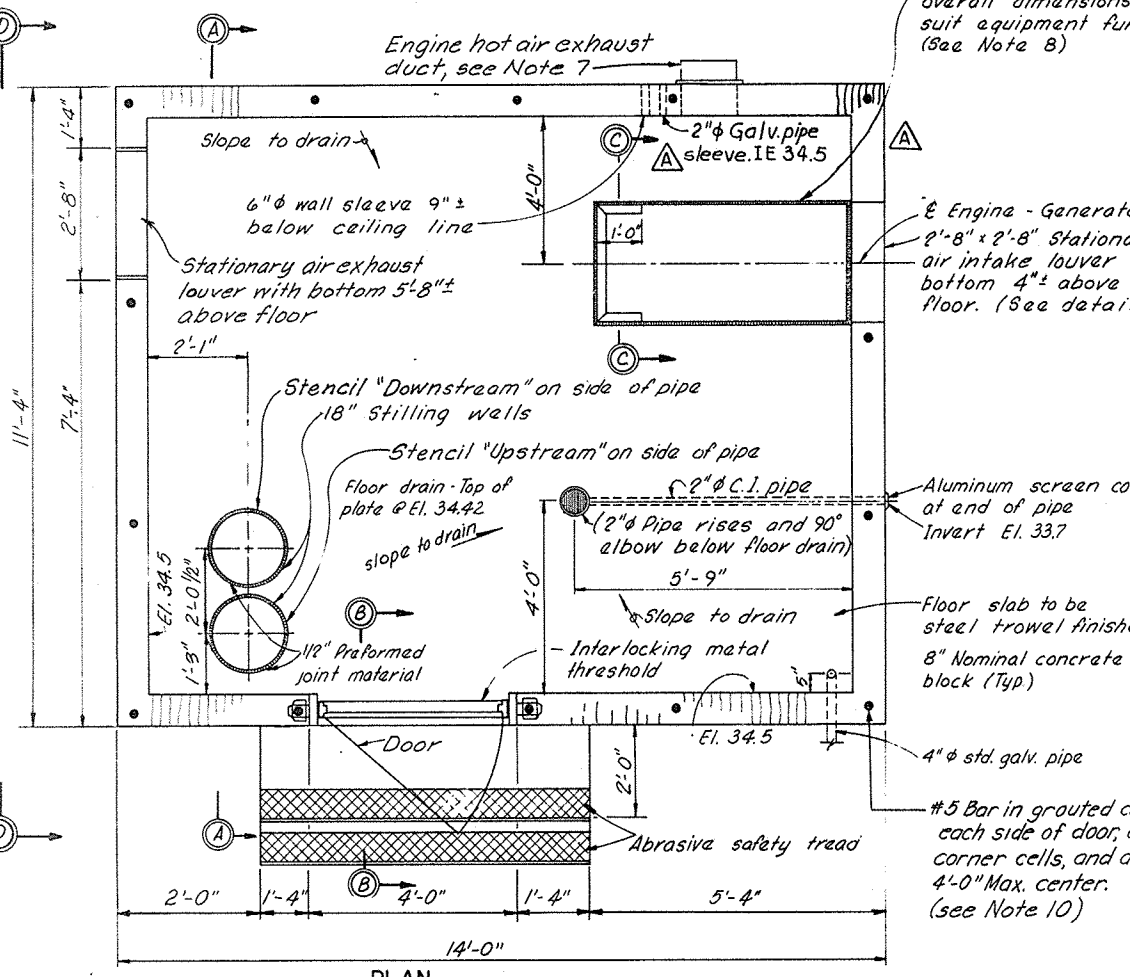
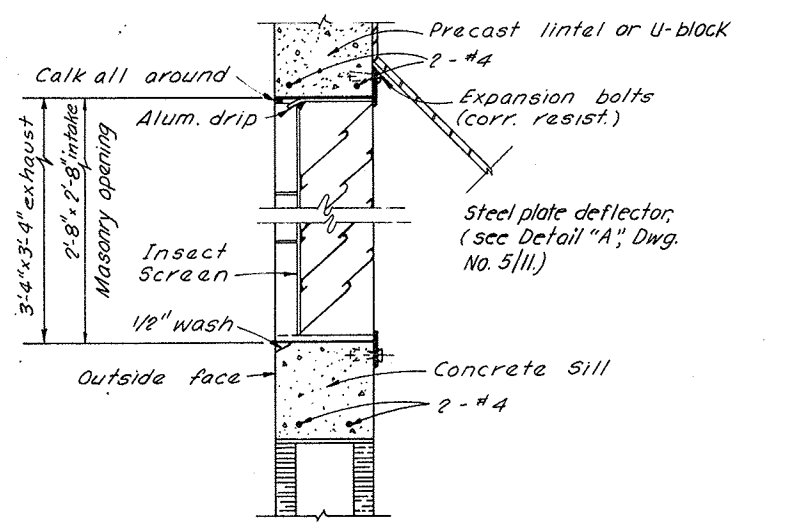
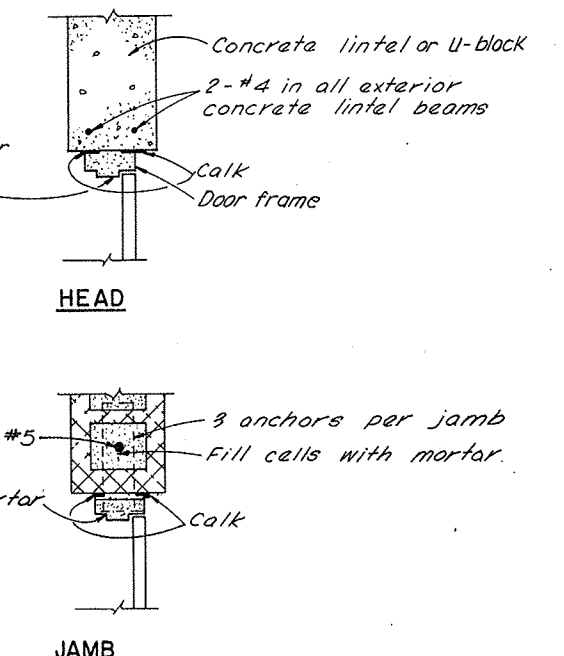
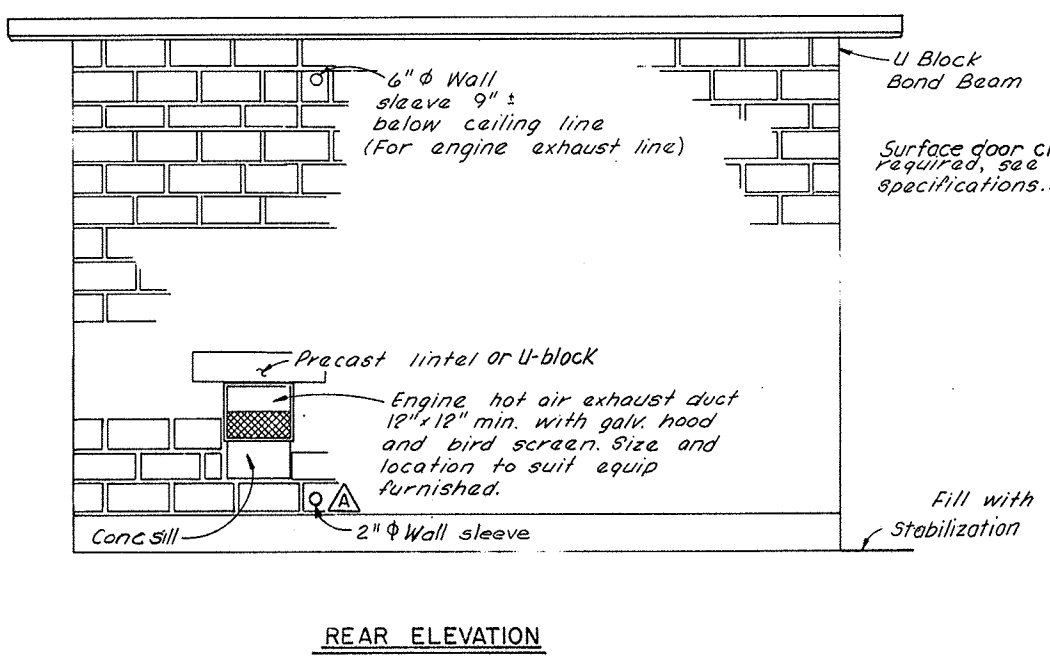
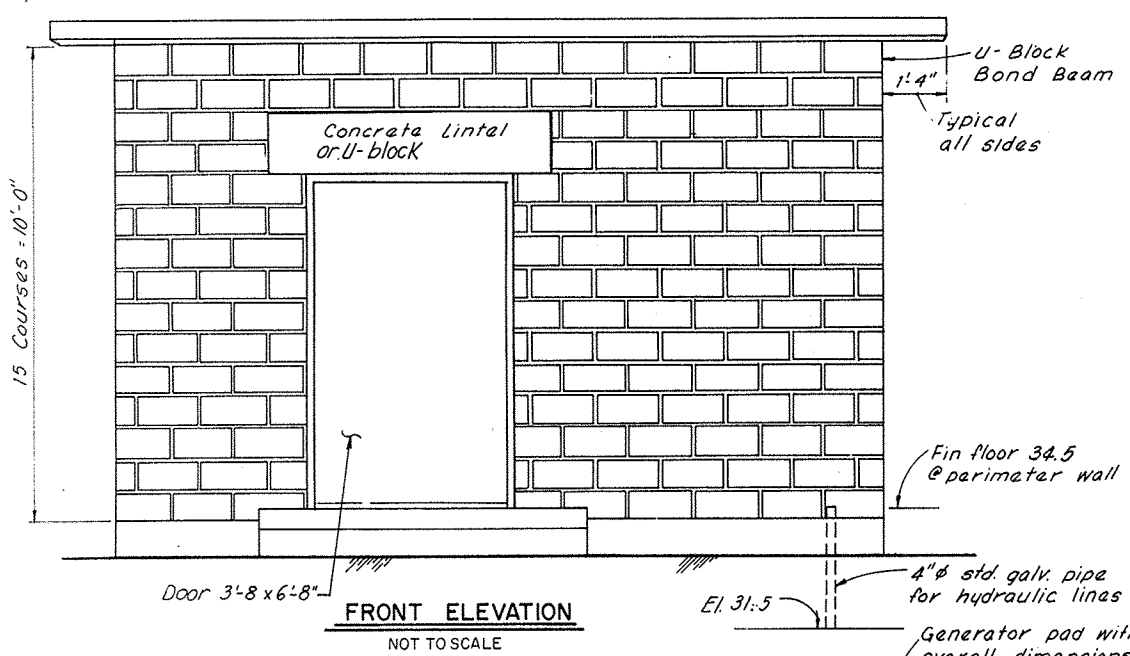
SECTION B-B
SCALE: "D"



DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT CORPS OF ENGINEERS JACKSONVILLE, FLORIDA			
CENTRAL AND SOUTHERN FLORIDA PROJECT UPPER ST JOHNS RIVER BASIN			
STRUCTURE 96B AND TIEBACK LEVEE			
METALS AND MISCELLANEOUS SAFETY BARRIER FLOAT DETAILS			
DESIGN ENG. L.B.T.	INV. NO. DACW 17	DATE	5/9
T.A.R.	DATED:	SCALE: AS SHOWN	DATED: JULY 1986
J.T.L.	G.M.H.		SHEET 22

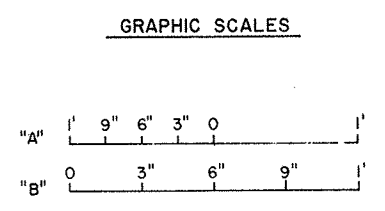
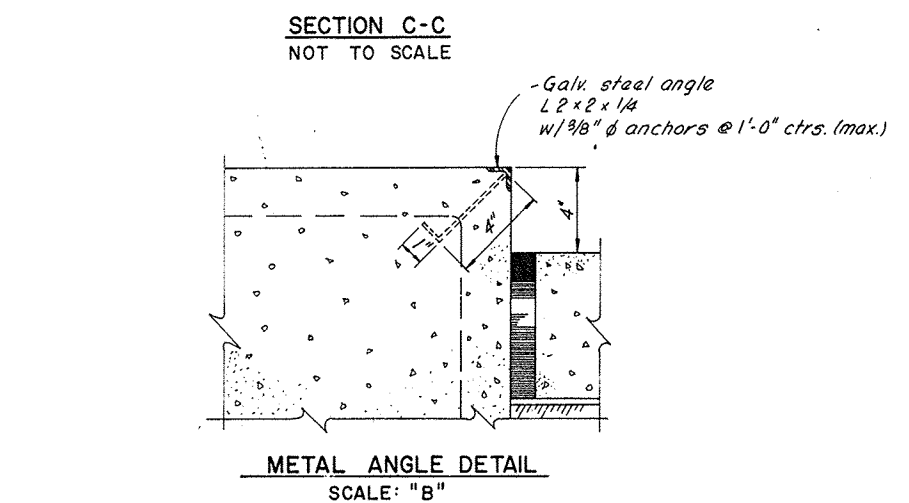
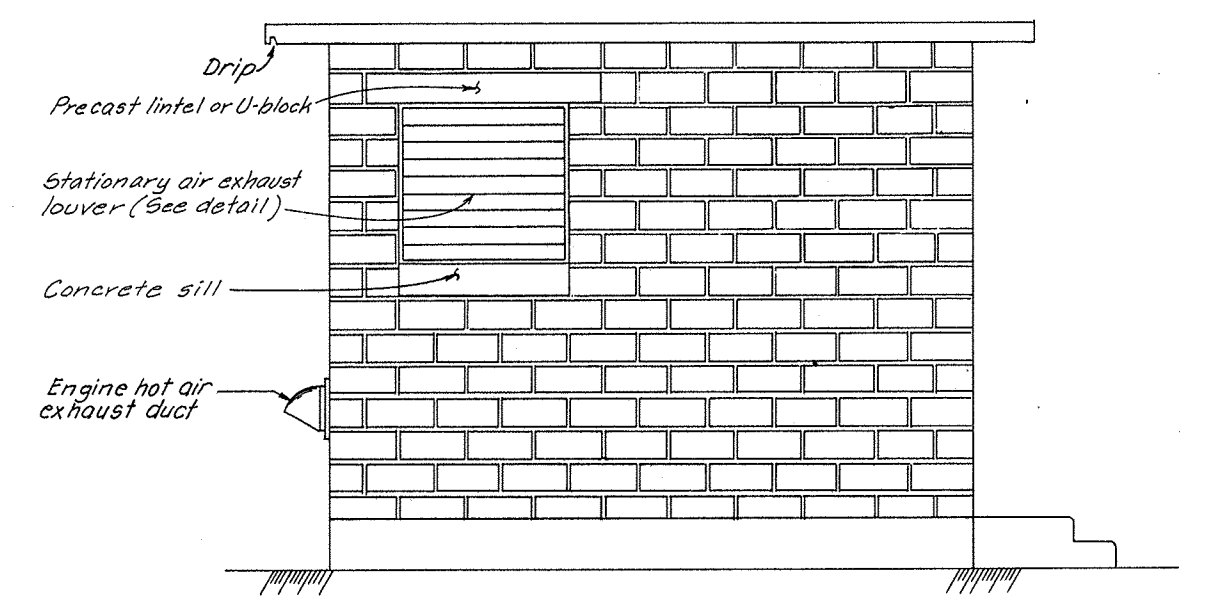
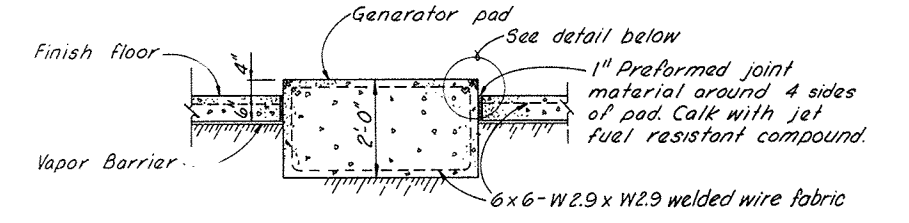
SAFETY ON THIS JOB
DEPENDS ON YOU

NO.		SYMBOL		DESCRIPTION	DATE	APPROVED
4	Δ	-	-	RELOCATED AND CHANGED DIAMETER OF WALL SLEEVE TO MOD. SUFFIX "F"	3/30/89	2 BT



Notes:
 1. Provide aluminum screen under floor drain plate.
 2. For orientation of Control House, see Dwg. No. 1/6.
 3. Stabilization limits not shown in above Plan. For stabilization limits and details, see Dwg. No. 1/6.

- NOTES:**
1. PRINCIPAL LINTEL REINFORCEMENT 1-1/2" CLEAR.
 2. PRINCIPAL FOOTING REINFORCEMENT 1-1/2" CLEAR; IF CONCRETE IS PLACED DIRECTLY AGAINST EARTH 3" CLEAR.
 3. REFER TO DWG. NO. 2/1 FOR "GENERAL CONCRETE AND DESIGN NOTES."
 4. FOR LOCATION OF STILLING WELL LINES AND RECORDERS, SEE DWG. NOS 1/6 AND 1/6.
 5. FOR LOCATION AND ORIENTATION OF CONTROL HOUSE SEE DWG. NOS 1/6 AND 1/8.
 6. ALL GALVANIZED ITEMS TO BE GALVANIZED AFTER FABRICATION.
 7. PROVIDE A GALV. SHEET METAL DUCT WITH A FLEX. SECTION FROM THE ENGINE TO REMOVE HEATED ENGINE AIR AS RECOMMENDED BY THE ENGINE-GENERATOR MANUFACTURER.
 8. OVERALL DIMENSIONS FOR GENERATOR PAD SHALL BE ADJUSTED TO SUIT EQUIPMENT FURNISHED. CONTRACTOR SHALL PROVIDE ANCHOR BOLTS OF SIZE AND LENGTH, NUMBER AND SPACING AS REQUIRED BY GENERATOR MANUFACTURER.
 9. FOR PAINTING REQUIREMENTS, SEE SPECIFICATIONS.
 10. TIE VERTICAL REINFORCEMENT INTO FOOTING AND BOND BEAM.

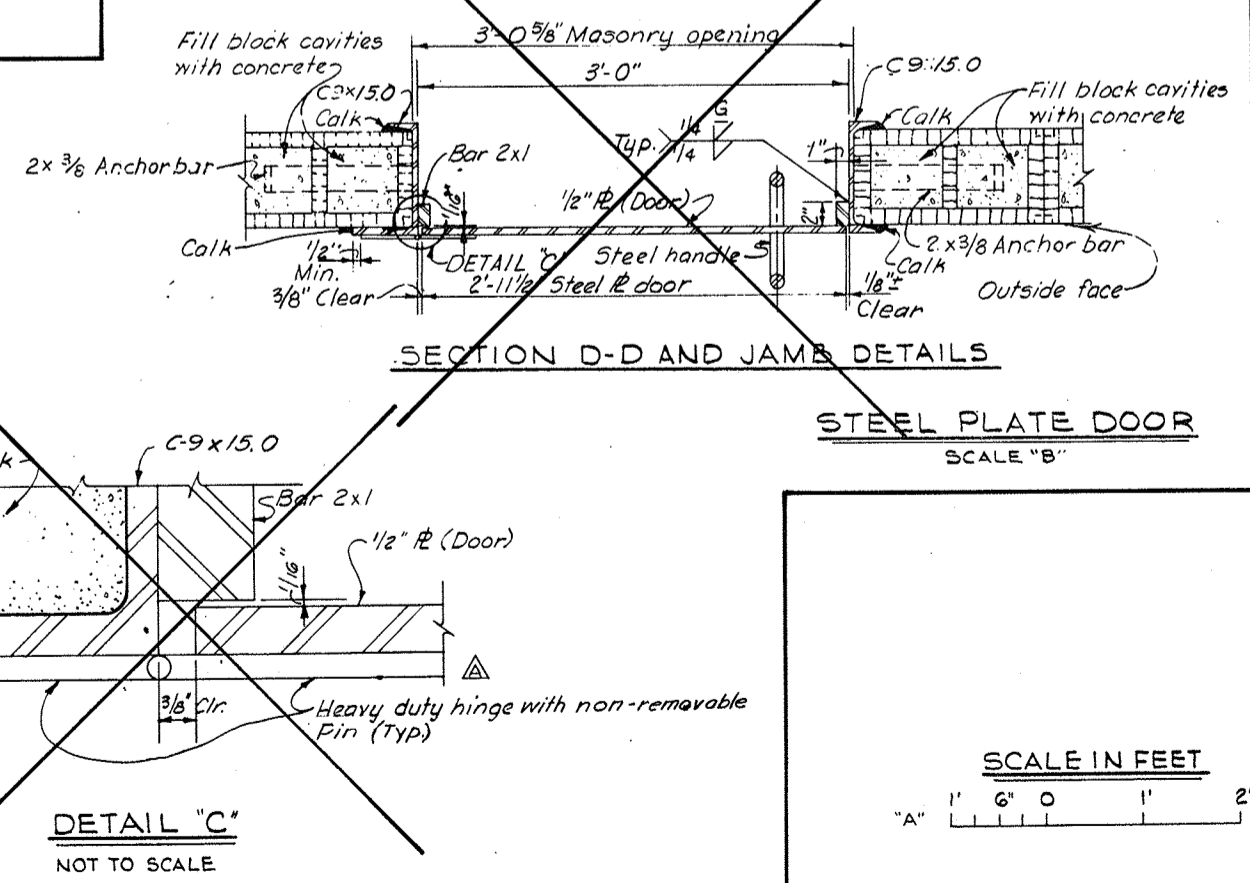
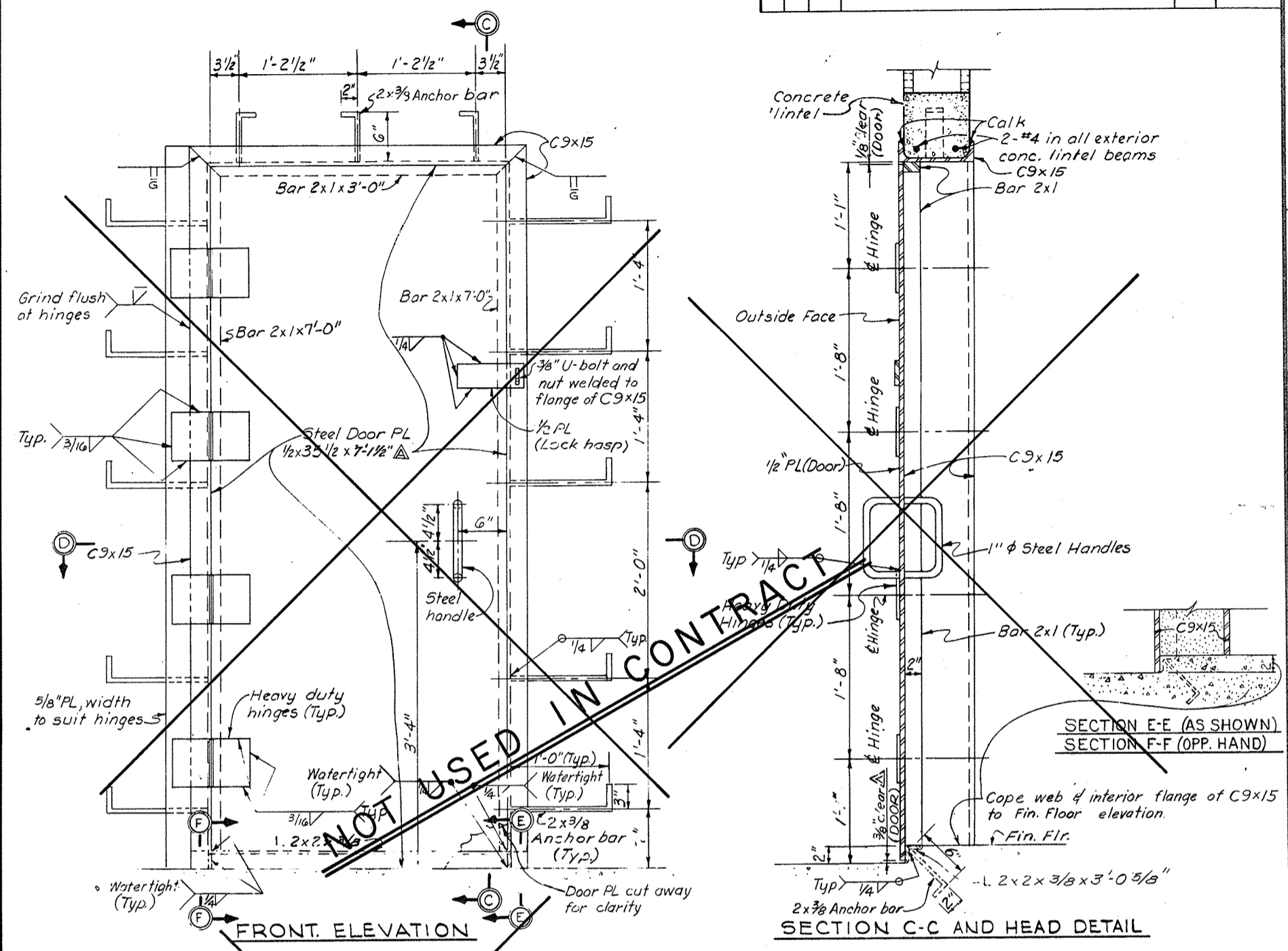
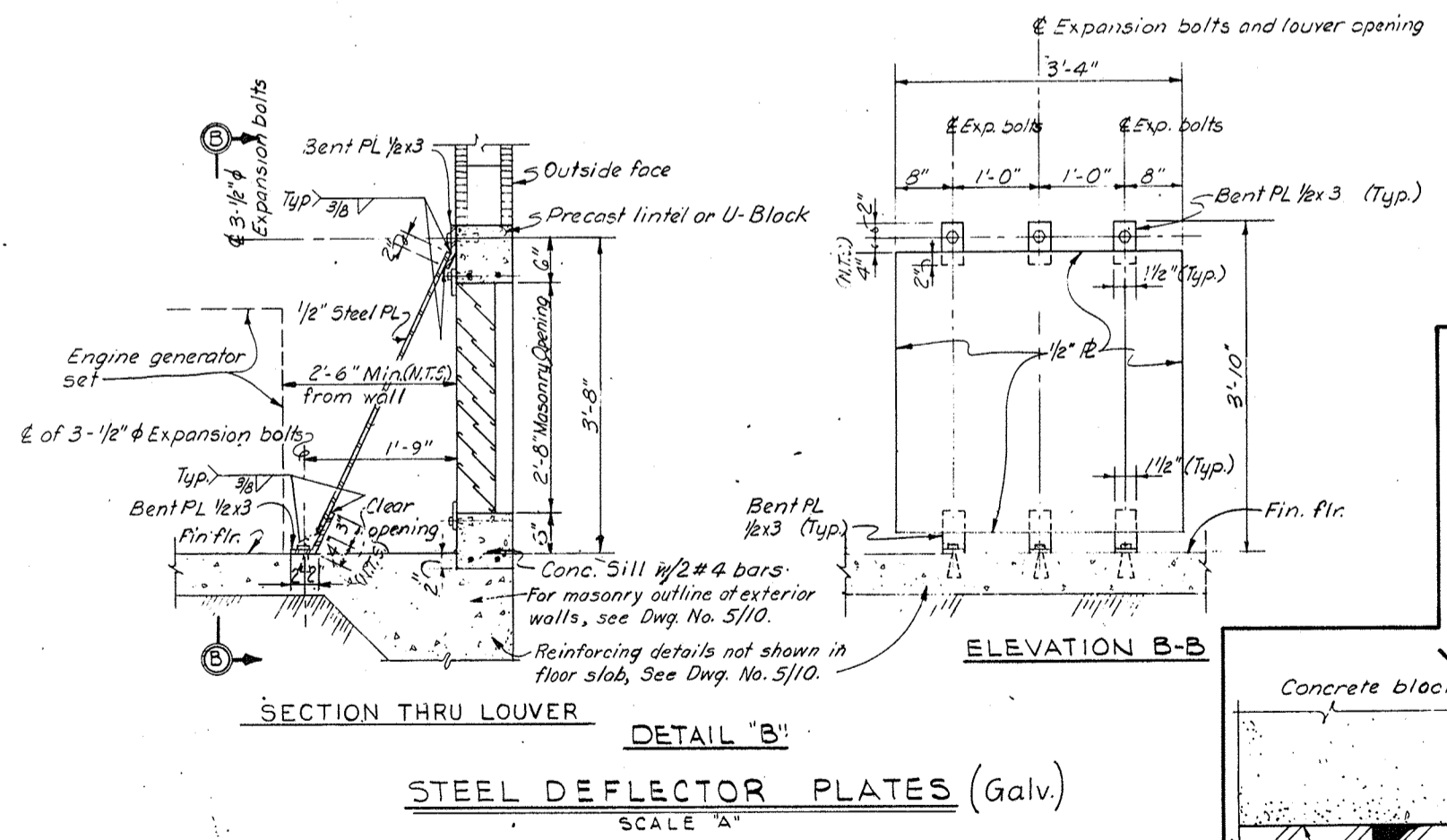
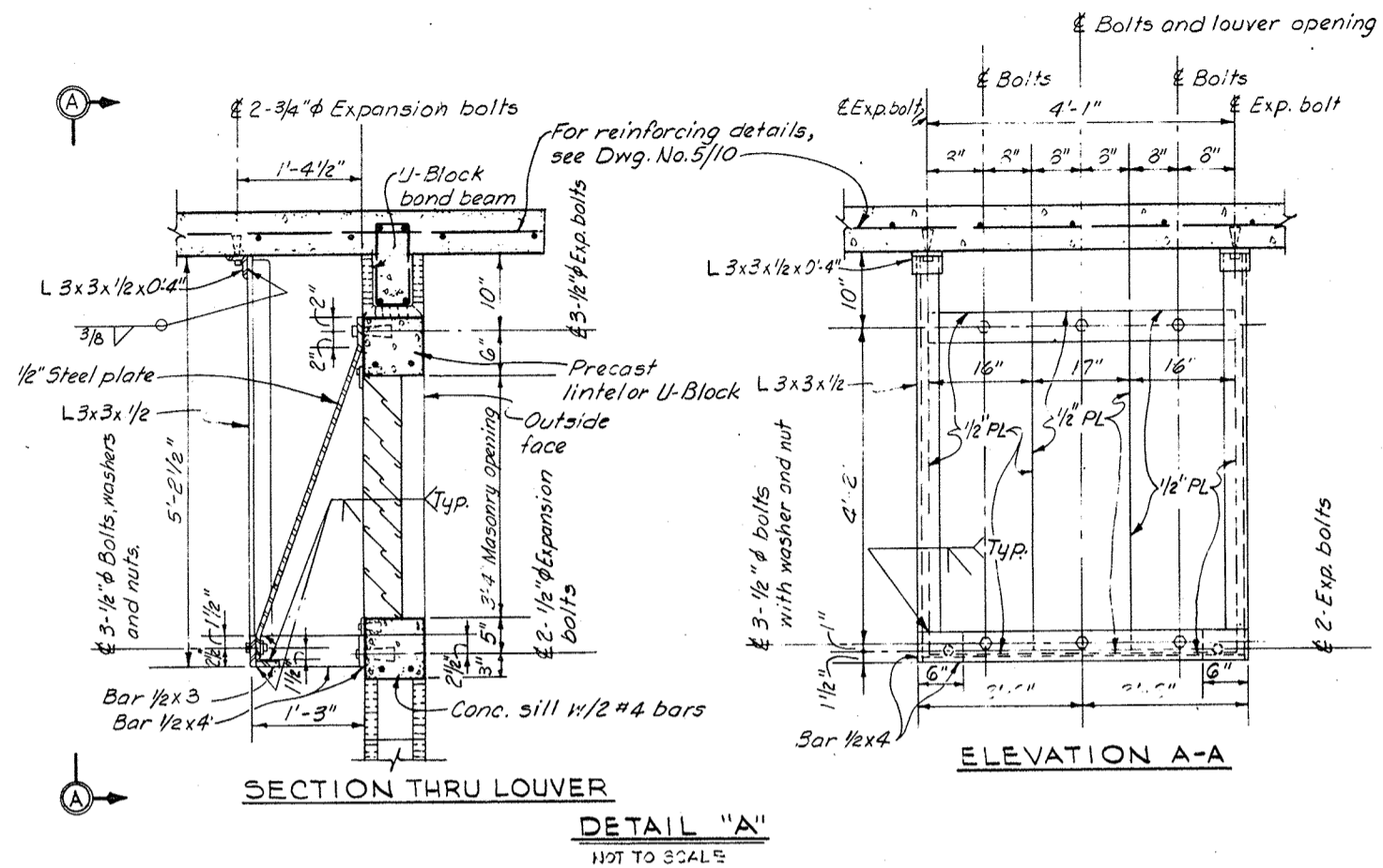


DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA
 CENTRAL AND SOUTHERN FLORIDA PROJECT
 UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
 METAL AND MISCELLANEOUS
CONTROL HOUSE

DESIGN ENG. D.N.S.
 G.M.H., D.C.
 DWG. BY T.L.K. M.S.
 INV. NO. DATE
 F 5/10
 SCALE: AS SHOWN DATED: AUG. 1979 SHEET 23

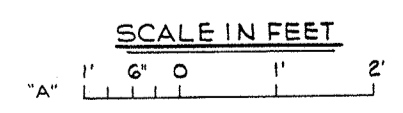
SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS					
NO.	SYM.	ZONE	DESCRIPTION	DATE	APPROVED



NOT USED IN CONTRACT

- NOTES:**
1. FOR PLAN AND DETAILS OF CONTROL HOUSE, SEE DWG. NO. 5/10
 2. FOR GENERAL WELDING NOTES, SEE DWG. NO. 4/1
 3. ALL MATERIALS SHALL BE STRUCTURAL STEEL UNLESS OTHERWISE NOTED.
 4. STRUCTURAL STEEL ITEMS DETAILED ON THIS DRAWING SHALL BE GALVANIZED.



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

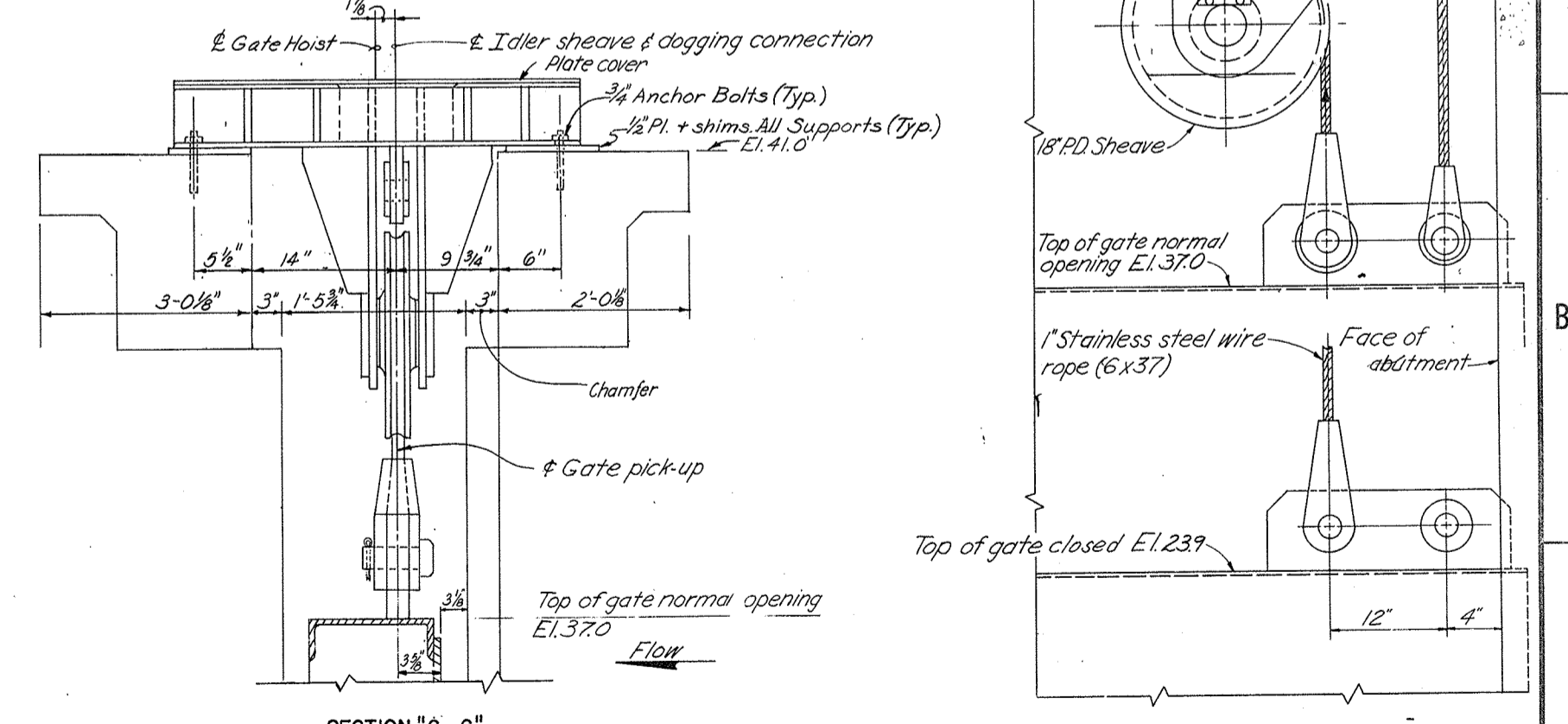
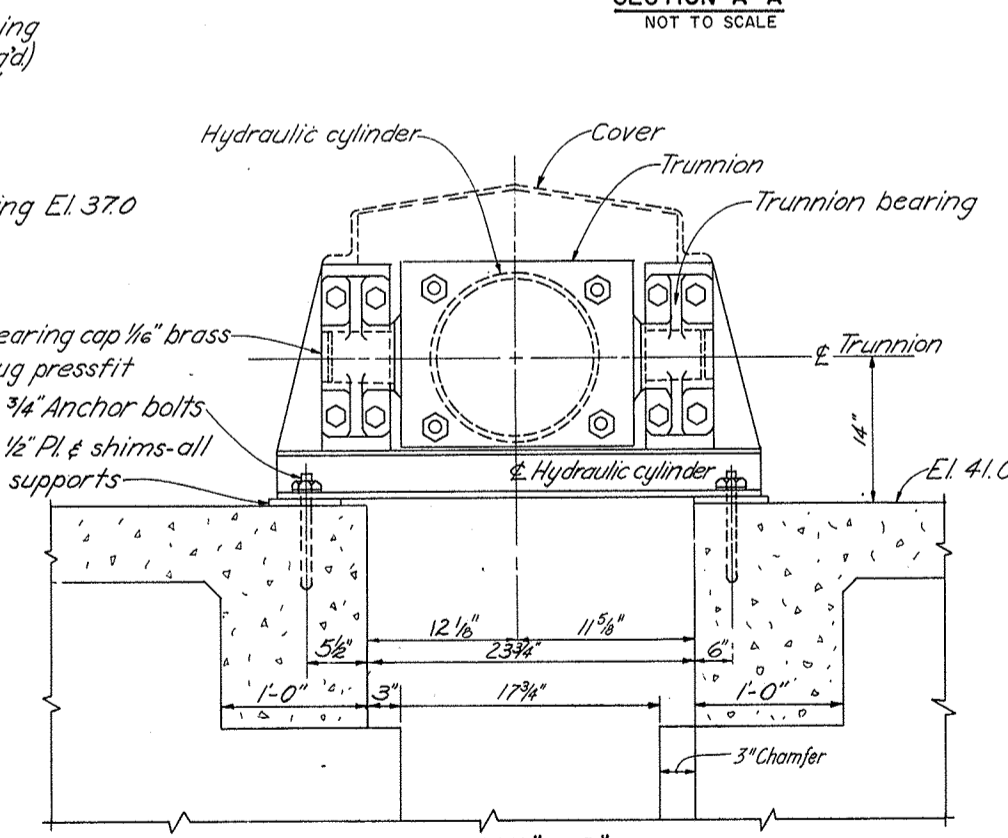
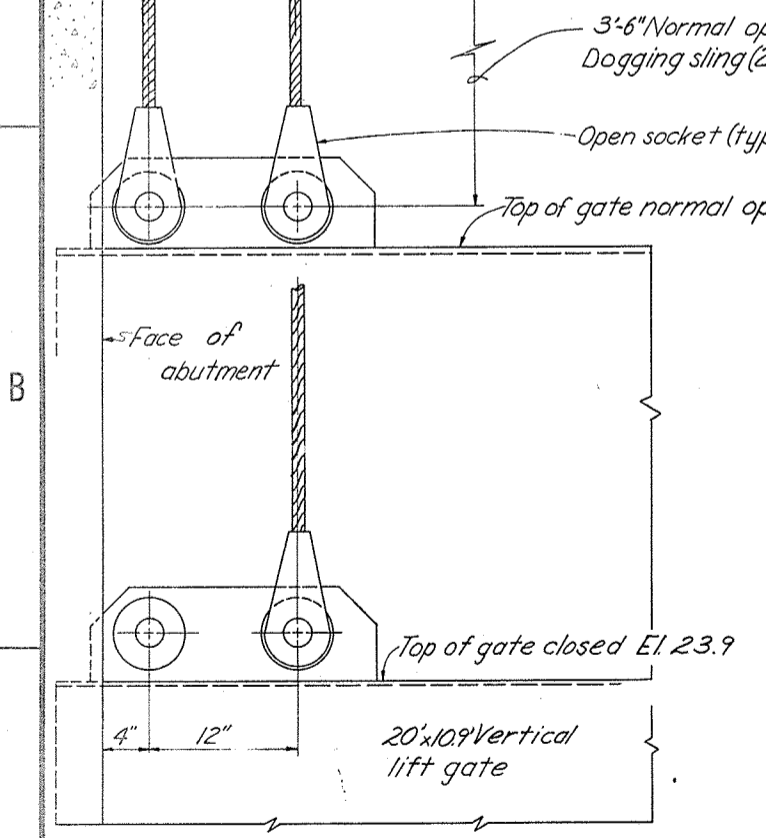
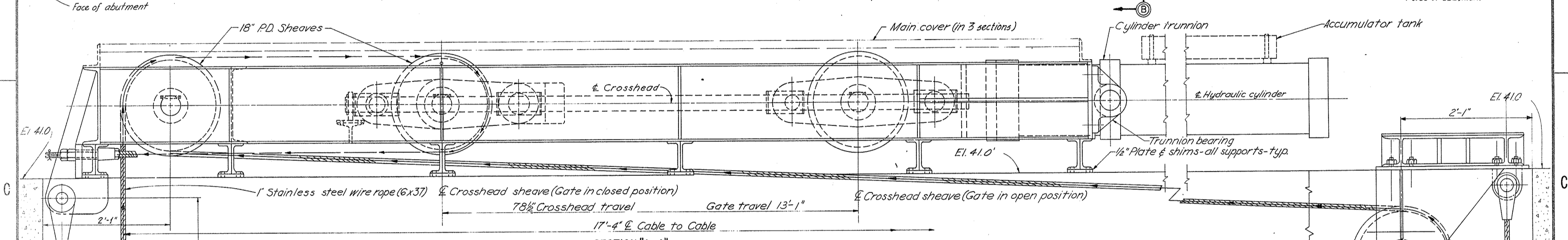
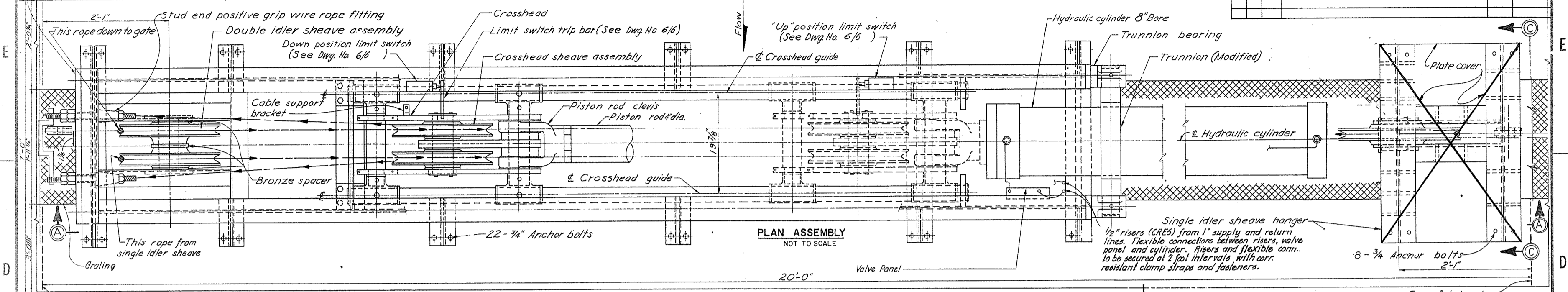
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
METALS AND MISCELLANEOUS
CONTROL HOUSE DETAILS

DWG. BY: D.N.S.	CHK. BY:	REV. NO. DASH	DATE:	REV. NO.	DATE:
				F	5/11
SCALE: AS SHOWN			DATE: JULY 1966	SHEET 24	

SAFETY ON THIS JOB DEPENDS ON YOU

REVISIONS			DATE	APPROVED
NO.	SYM.	ZONE	DESCRIPTION	

Note: Gate position transmitter not shown. Locate on hoist base as shown on Dwg. No. 6/6



- NOTES:
- (a) ESTIMATED GATE WEIGHT 12,000
(b) ESTIMATED HOIST LOAD 20,500
(c) ESTIMATED PISTON LOAD 52,000
 - 8" BORE HYDRAULIC CYLINDER 4 100,785 STROKE.
 - OPERATING PRESSURE 1400 P.S.I.
 - GATE SHALL OPERATE AT 6 INCHES / MINUTE (±10%) WHEN RAISING AND LOWERING
 - DOGGING SLINGS SAME SIZE AND TYPE AS HOIST ROPES.

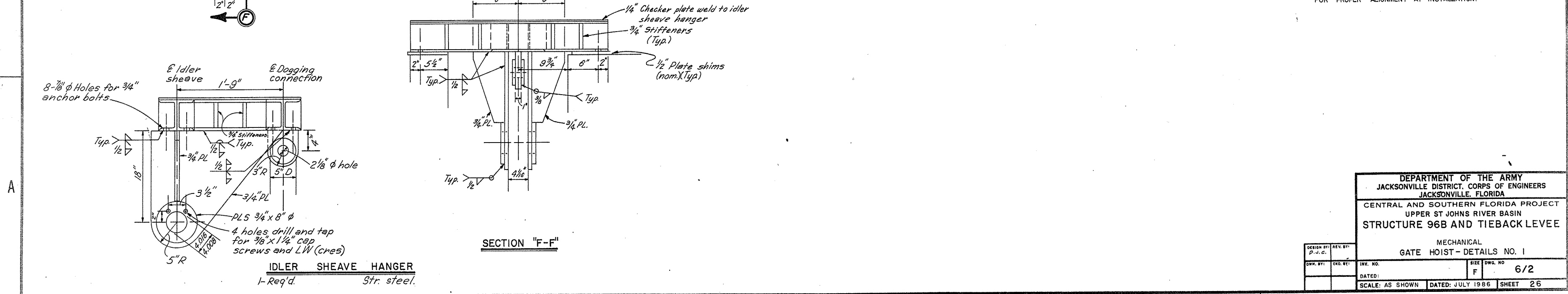
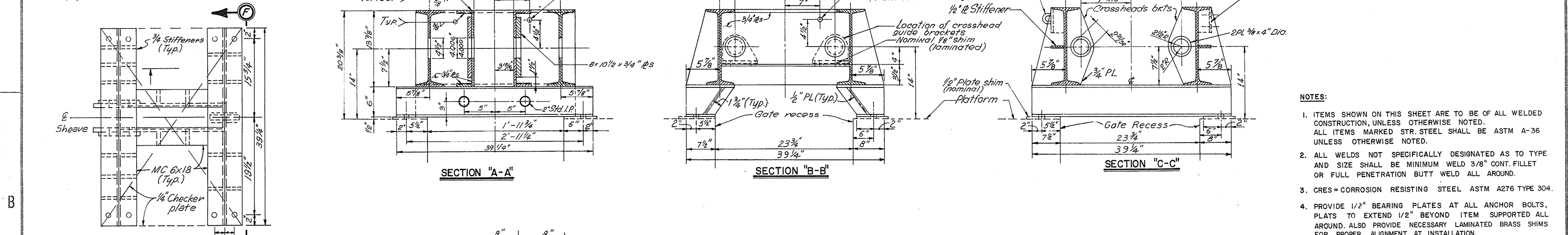
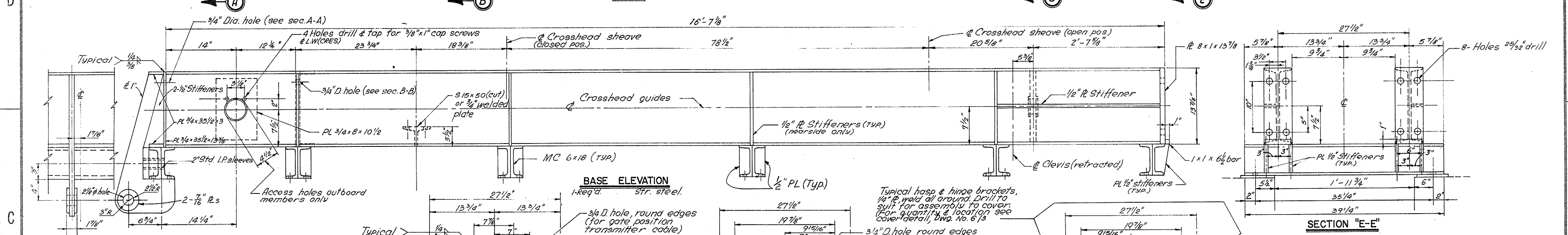
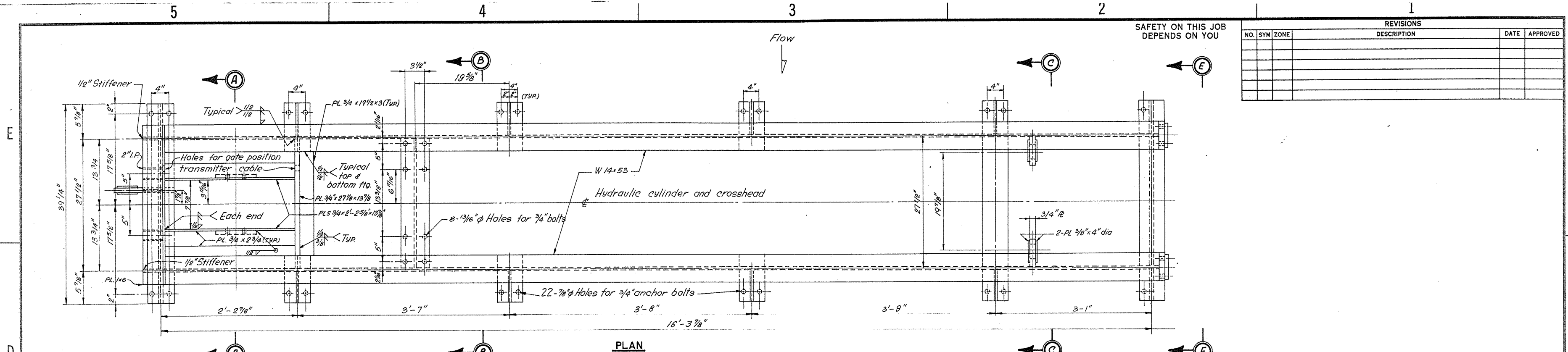
DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA
CENTRAL AND SOUTHERN FLORIDA PROJECT
FOR FLOOD CONTROL AND OTHER PURPOSES

STRUCTURE 96B
MECHANICAL
GATE HOIST - GENERAL ARRANGEMENT

DESIGN ENG.: D.J.C.
OWN. BY: INV. NO.: SIZE: DWG. NO.:
DATE: F 6/1
SCALE: AS SHOWN DATED: JULY 1986 SHEET 25

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS			
NO.	SYM.	ZONE	DESCRIPTION



- NOTES:**
- ITEMS SHOWN ON THIS SHEET ARE TO BE OF ALL WELDED CONSTRUCTION, UNLESS OTHERWISE NOTED. ALL ITEMS MARKED STR. STEEL SHALL BE ASTM A-36 UNLESS OTHERWISE NOTED.
 - ALL WELDS NOT SPECIFICALLY DESIGNATED AS TO TYPE AND SIZE SHALL BE MINIMUM WELD 3/8" CONT. FILLET OR FULL PENETRATION BUTT WELD ALL AROUND.
 - CRES = CORROSION RESISTING STEEL ASTM A276 TYPE 304.
 - PROVIDE 1/2" BEARING PLATES AT ALL ANCHOR BOLTS. PLATES TO EXTEND 1/2" BEYOND ITEM SUPPORTED ALL AROUND. ALSO PROVIDE NECESSARY LAMINATED BRASS SHIMS FOR PROPER ALIGNMENT AT INSTALLATION.

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

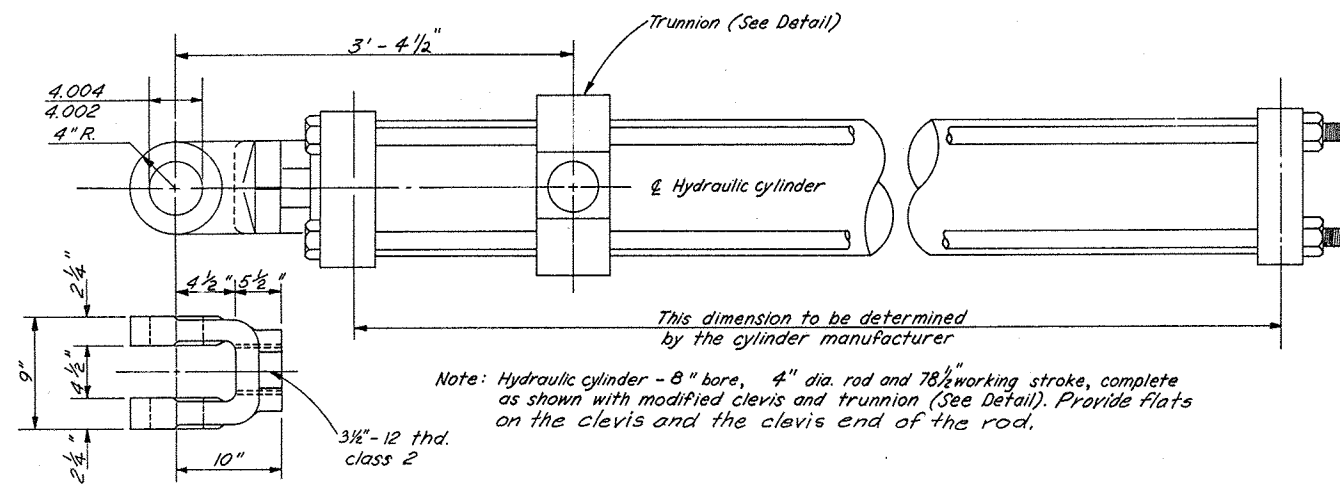
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

MECHANICAL
GATE HOIST - DETAILS NO. 1

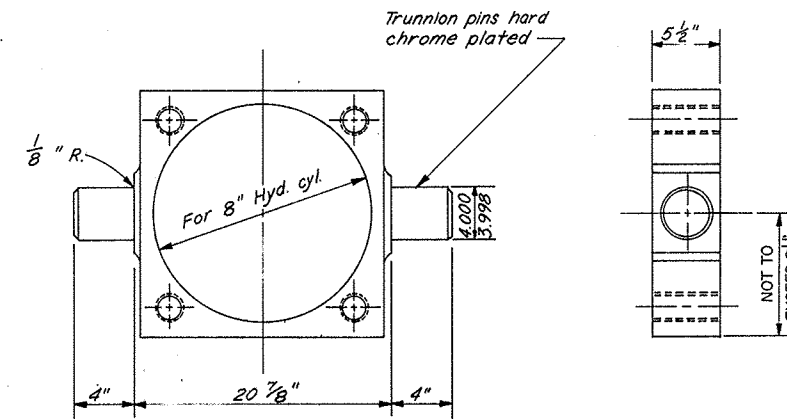
DESIGN BY: P-11-G	REV. BY:	INVT. NO.	SIZE	DWG. NO.
DWN. BY:	CDL. BY:	DATED:	F	6/2
SCALE: AS SHOWN		DATED: JULY 1986 SHEET 26		

SAFETY ON THIS JOB
DEPENDS ON YOU

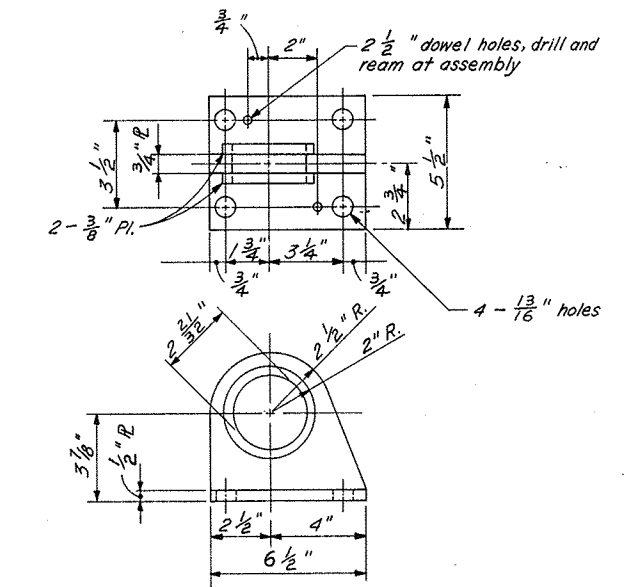
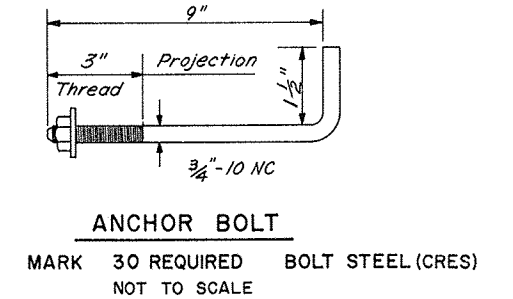
REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED



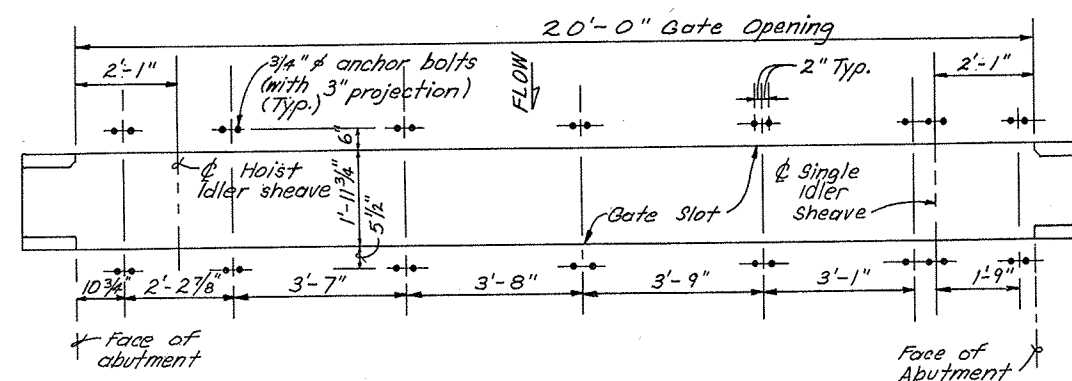
HYDRAULIC CYLINDER
MARK 1 REQUIRED MFRS. STANDARDS
NOT TO SCALE



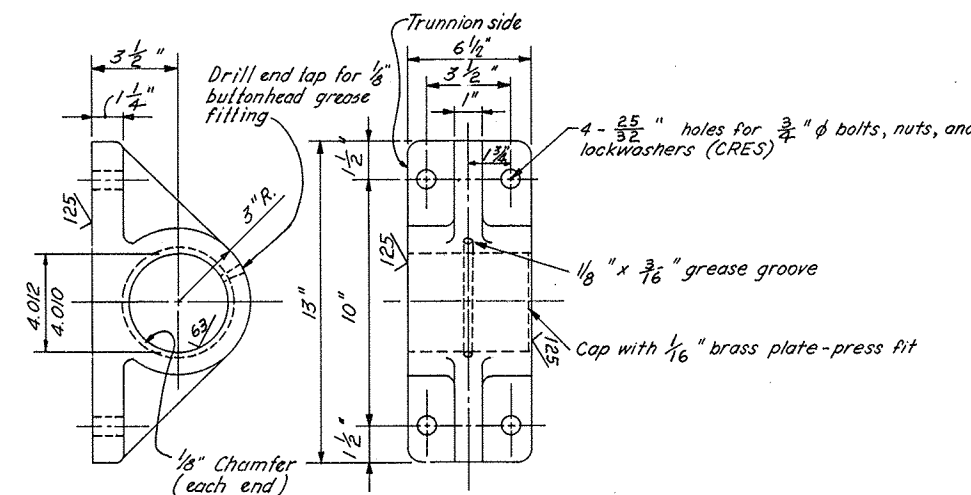
HYDRAULIC CYLINDER TRUNNION
MARK 1 REQUIRED STEEL
NOT TO SCALE



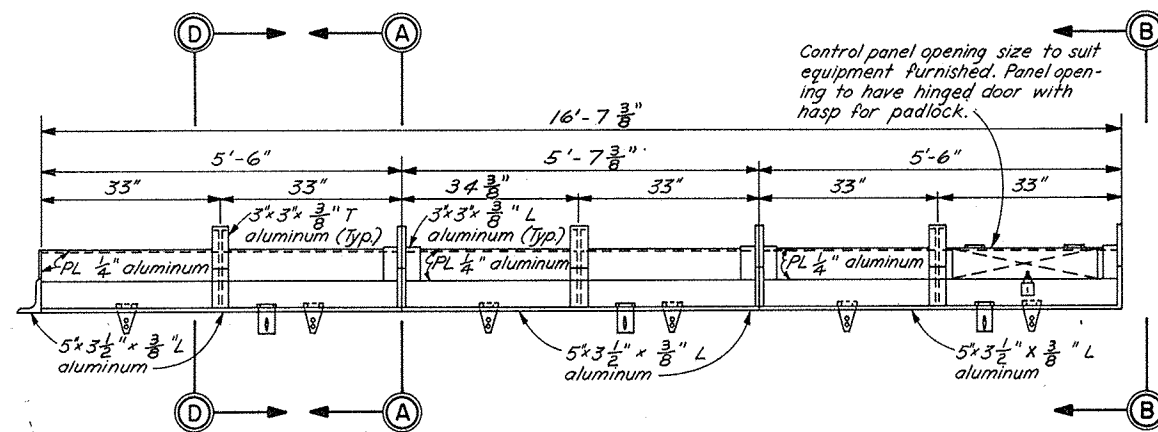
CROSSHEAD GUIDE BRACKET
MARK 2 REQUIRED STR. STEEL
NOT TO SCALE



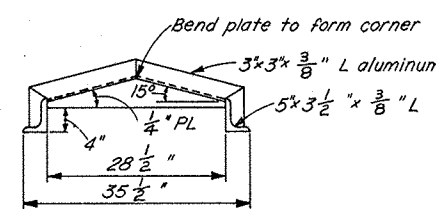
ANCHOR BOLT SETTING
NOT TO SCALE



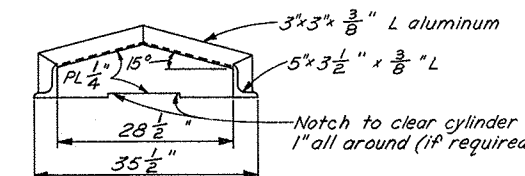
TRUNNION BEARING
MARK 2 REQUIRED DUCTILE IRON OR CAST STEEL
NOT TO SCALE



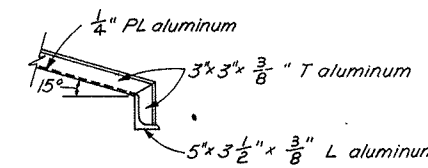
COVER
MARK 1 REQUIRED (3 SECTIONS) ALUMINUM
NOT TO SCALE



SECTION A-A



SECTION B-B



SECTION D-D

Note: Cover, three (3) sections to be all welded construction unless otherwise noted. Each section to have 2 extra heavy stainless steel hinges and 1 extra heavy stainless steel hasp secured to cover with stainless steel countersunk rivets. Cover to be installed on base (see base detail) with stainless steel countersunk rivets or stainless steel bolts and nuts, upset threads after installation. Hinges shall be similar or equal to Hagar #BB-1199, 6"x5".

NOTE:
Notes 1 thru 4 on Drawing No. 6/2, also apply to this sheet.

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96 B AND TIEBACK LEVEE
MECHANICAL
GATE HOIST - DETAILS NO. 2
SCALE: NONE DATED: AUG, 1979 SHEET 27

REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED
3	A	-	REVISED TO ACCOMPANY MOD. SUFFIX "F"	3-30-89	[Signature]

HYDRAULIC SYSTEM

LEGEND:

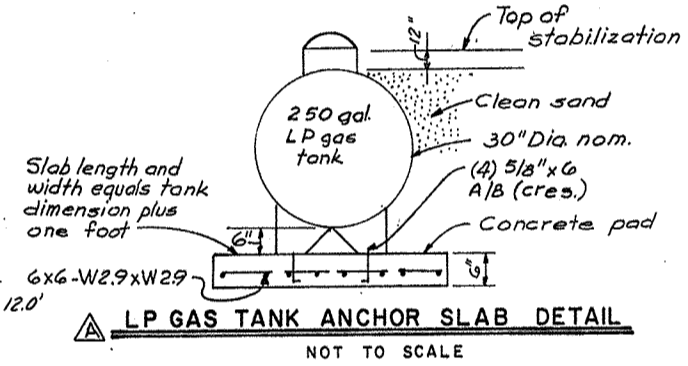
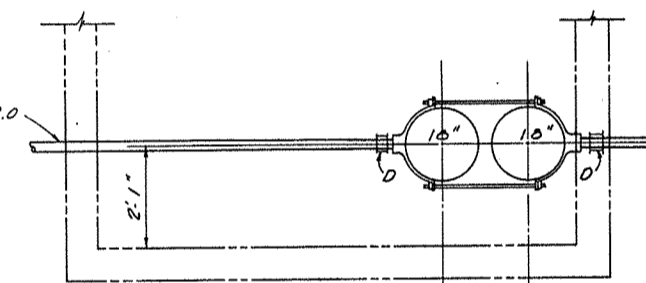
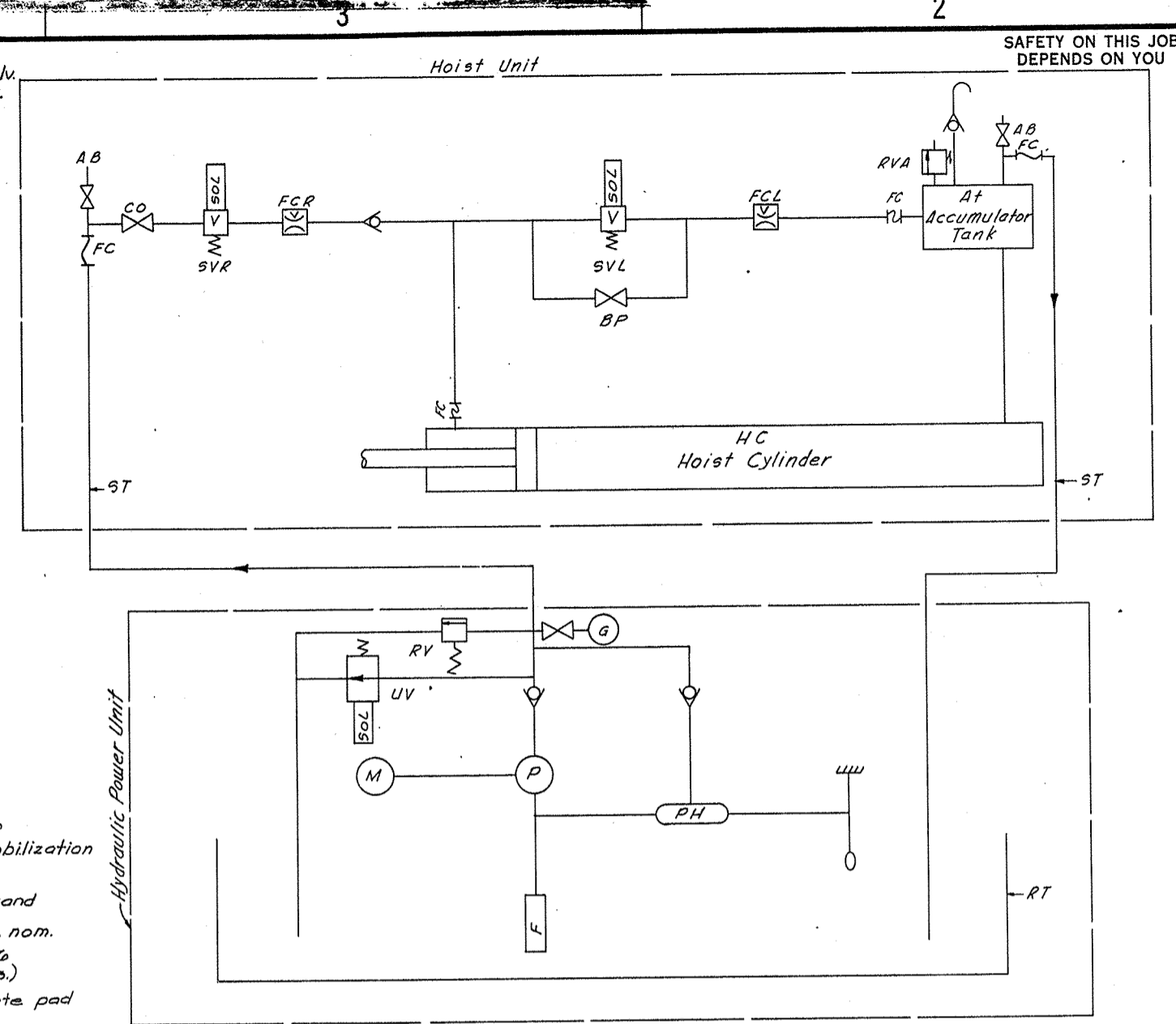
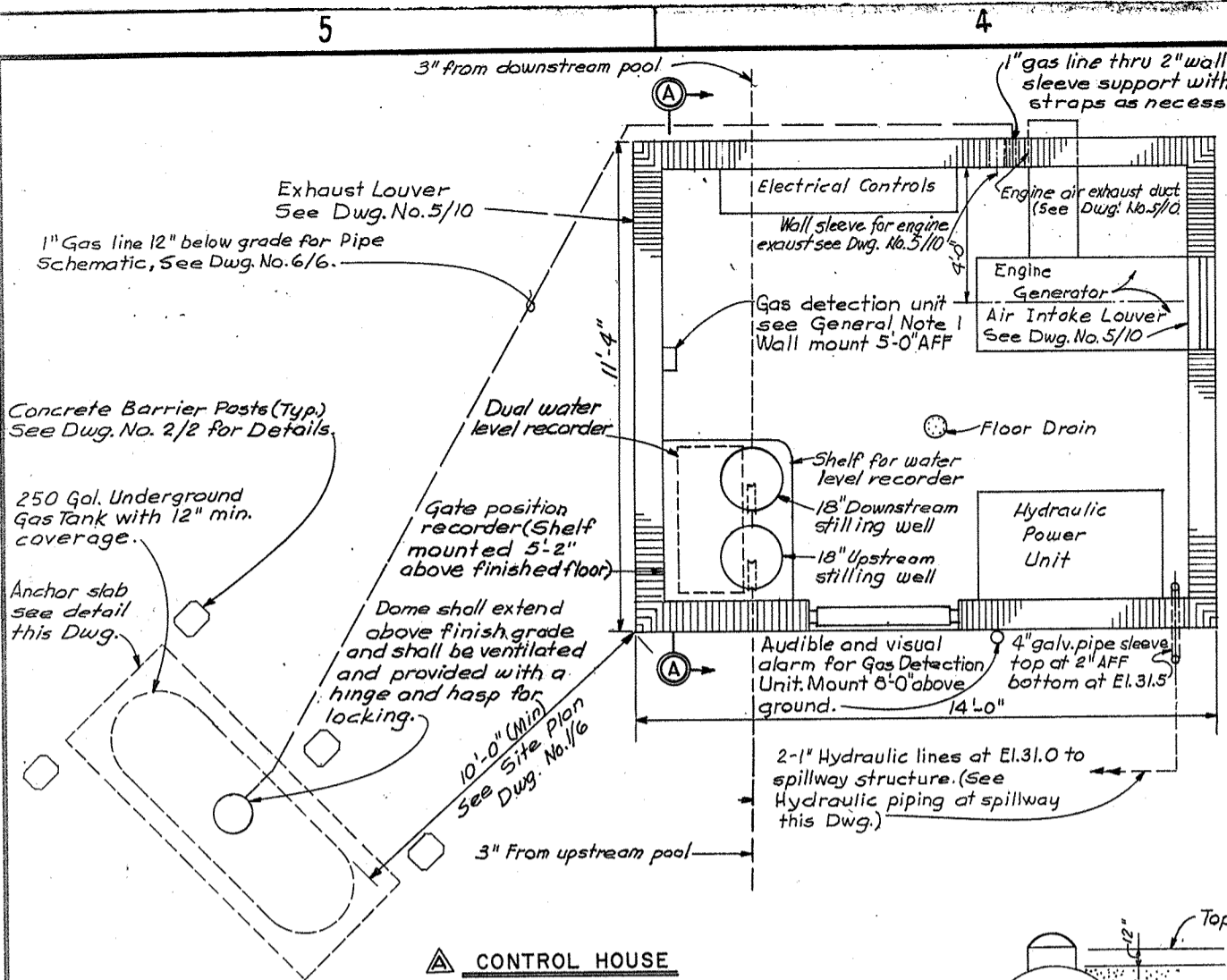
HC - HYDRAULIC HOIST CYLINDER
FC - FLEXIBLE CONNECTION
SOL - SOLENOID
AB - AIR BLEEDER VALVE
AT - ACCUMULATOR TANK
M - ELECTRIC MOTOR 240V, 1Ø, 3 HP, 1800 RPM
P - POSITIVE DISPLACEMENT PUMP 0.5 GPM, 2000 PSI, 1800 RPM
FCR - FLOW CONTROL - RAISE (ADJUST TO RAISE GATE 6 IN./MIN.)
FCL - FLOW CONTROL - LOWER (ADJUST TO LOWER GATE 6 IN./MIN.)
SVR - SOLENOID VALVE - RAISE (NORMALLY CLOSED VALVE, SOLENOID ACTUATED, SPRING RETURN, ENERGIZE TO RAISE GATE.)
SVL - SOLENOID VALVE - LOWER (NORMALLY CLOSED VALVE, SOLENOID ACTUATED, SPRING RETURN, ENERGIZE TO LOWER GATE.)
PH - HAND PUMP
F - FILTER
RV - RELIEF VALVE SET AT 1500 PSI
UV - UNLOADING VALVE (SOLENOID OFFSET, SPRING RETURN) - WILL CLOSE ON STARTING AFTER 3 SEC. TIME DELAY
BP - BYPASS VALVE (NORMALLY CLOSED)
CO - CUT-OFF VALVE (NORMALLY OPEN)
RVA - ACCUMULATOR RELIEF - SET AT 40 PSI
G - PRESSURE GAGE, 0-3000 PSI
RT - RESERVOIR TANK
ST - ALL TUBING TO BE STAINLESS STEEL, SIZE AND WALL THICKNESS AS SHOWN HEREON AND IN SPECIFICATIONS.

NOTES:

- WITH THIS SYSTEM OIL IS PUMPED TO THE CYLINDER ONLY WHEN GATE IS RAISED.
- DRAIN LINES TO COMPONENTS REQUIRING SAME SHALL BE PROVIDED ALTHOUGH NOT SHOWN
- AIR BLEEDING VALVES SHALL BE PROVIDED AT HIGH POINTS OF SYSTEM.
- CRES = CORROSION RESISTING STEEL - ASTM A276 TYPE 304.

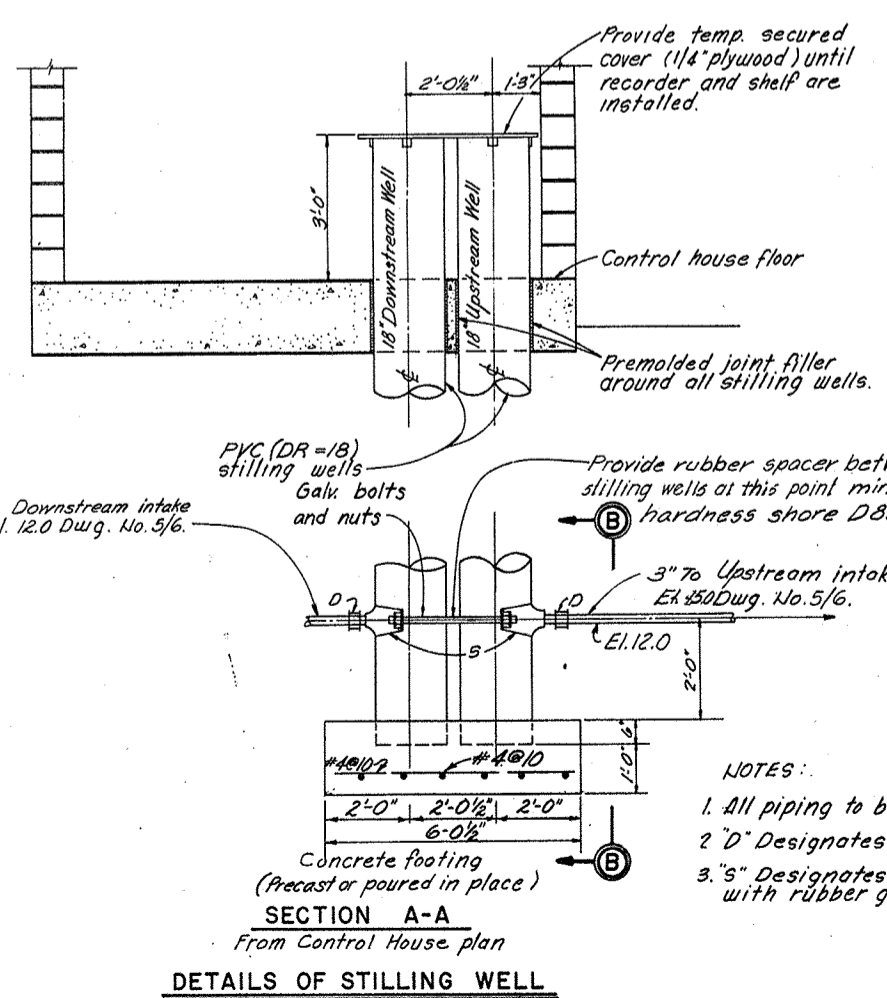
GENERAL NOTES:

- GAS DETECTION UNIT SHALL BE SIMILAR OR EQUAL TO GAS TECH INC. MODEL 1220-10212, (FOR SPECIAL FEATURES SEE DWG. NO. 7/2), AC POWER WITH DC BATTERY BACK-UP, REMOTE AUDIBLE AND VISUAL ALARMS SHALL BE PROVIDED AS SHOWN, SUITABLE FOR EXTERIOR INSTALLATION, PROVIDE 8" x 10" ALUMINUM SIGN PAINTED WHITE WITH BLACK LETTERS, STATING THAT ALARM IS INDICATING DANGEROUS LP GAS CONCENTRATION LEVEL INSIDE BUILDING. LOCATE BELOW ALARM LIGHT. PRESET GAS DETECTION UNIT TO 20% L.E.L. (FIELD VERIFY SETTING).



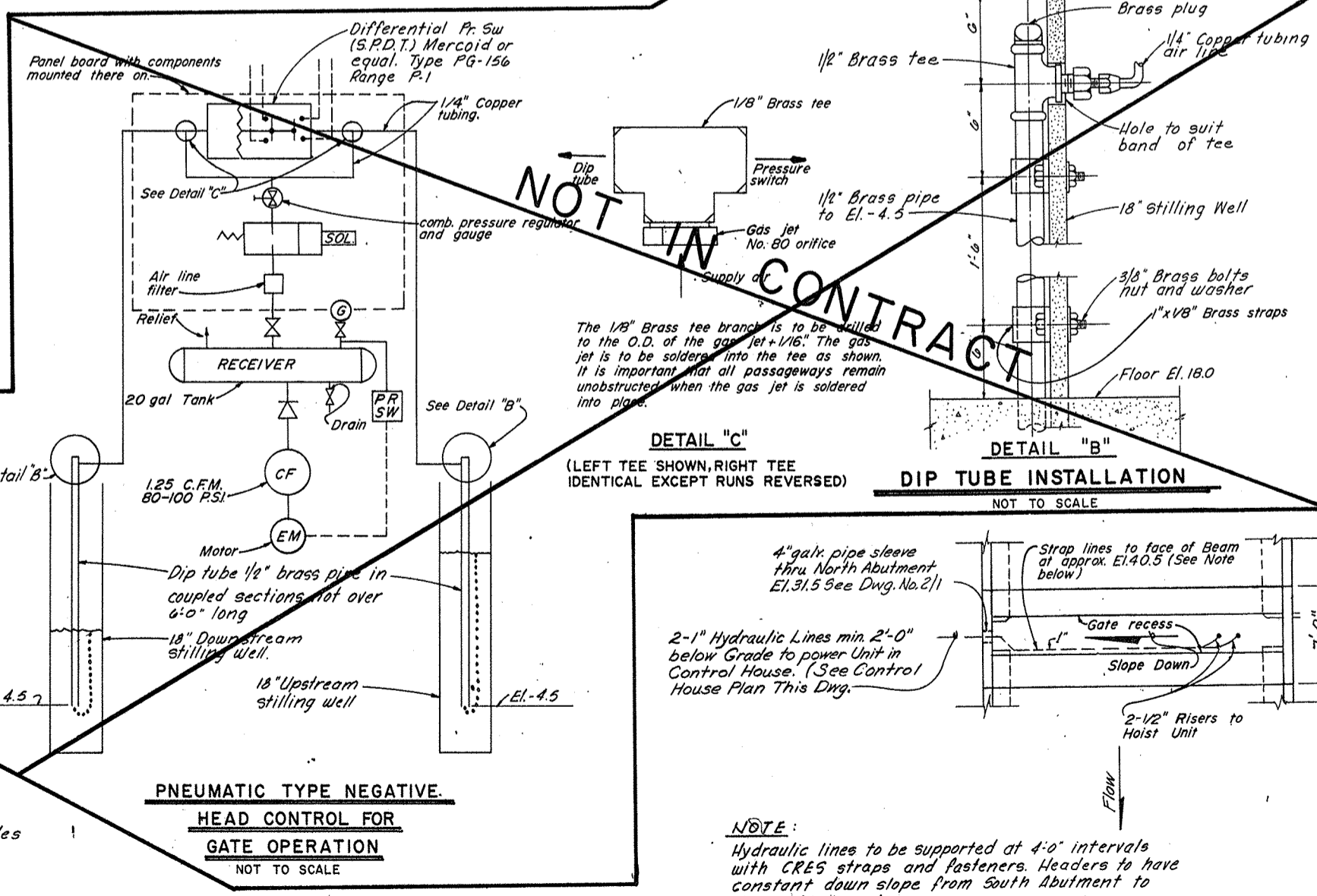
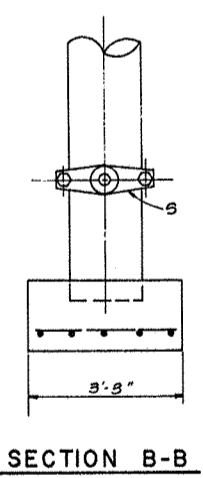
HOIST HYDRAULIC SYSTEM

NOT TO SCALE



NOTES:

- All piping to be 3" Galv. steel.
- "D" Designates dresser couplings
- "S" Designates Galv. C.I. pipe saddles with rubber gasket seals.



NOT IN CONTRACT

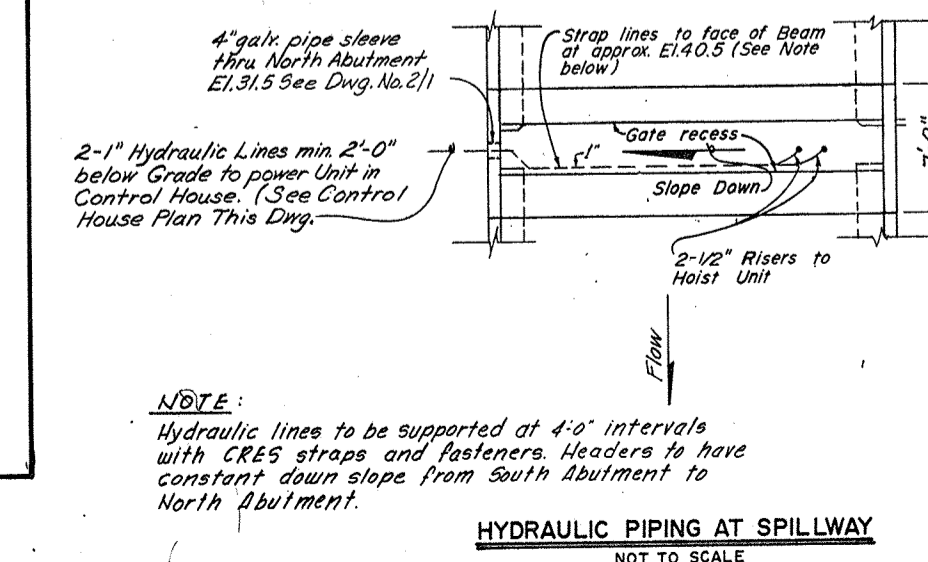
The 1/8" Brass tee branch is to be welded to the O.D. of the gas jet +1/16". The gas jet is to be soldered into the tee as shown. It is important that all passageways remain unobstructed when the gas jet is soldered into place.

DETAIL "C"

(LEFT TEE SHOWN, RIGHT TEE IDENTICAL EXCEPT RUNS REVERSED)

DIP TUBE INSTALLATION

NOT TO SCALE



DEPARTMENT OF THE ARMY
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JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

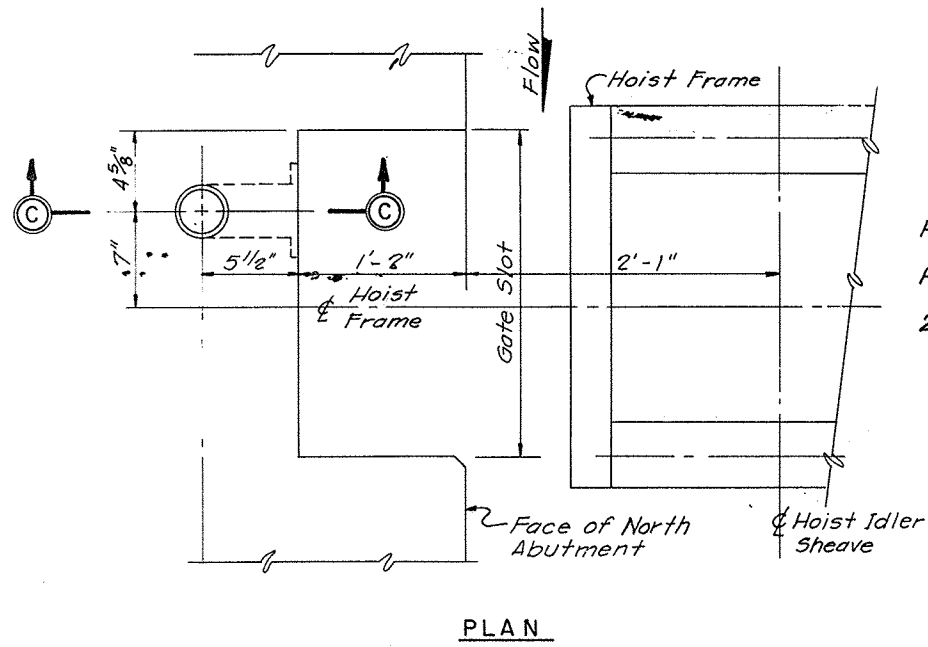
MECHANICAL
HYDRAULIC DIAGRAM AND CONTROL HOUSE

DESIGN. ENG.: D.J.C.
DWG. BY: N.A.B.
CHK. BY: N.A.B.
SCALE: NONE
DATE: JULY 1986
SHEET 29

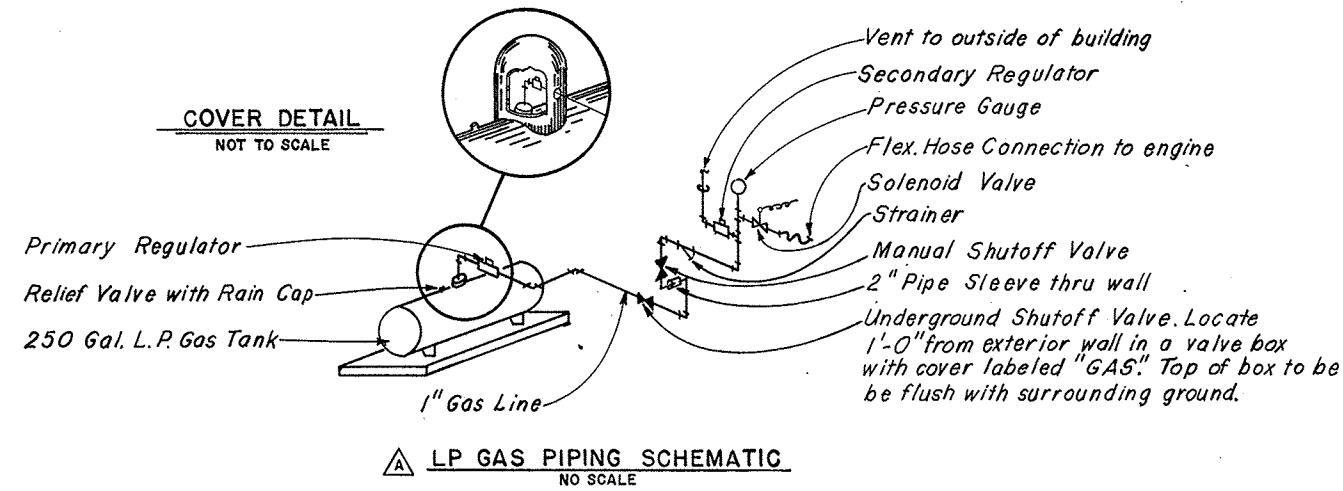
INV. NO. 6/5
SITE F

SAFETY ON THIS JOB
DEPENDS ON YOU

NO.		SYMBOL		REVISIONS	DATE	APPROVED
				DESCRIPTION		
1	A	E-4		REVISED TO ACCOMPANY MOD SUFFIX F	3-20-86	J.R.



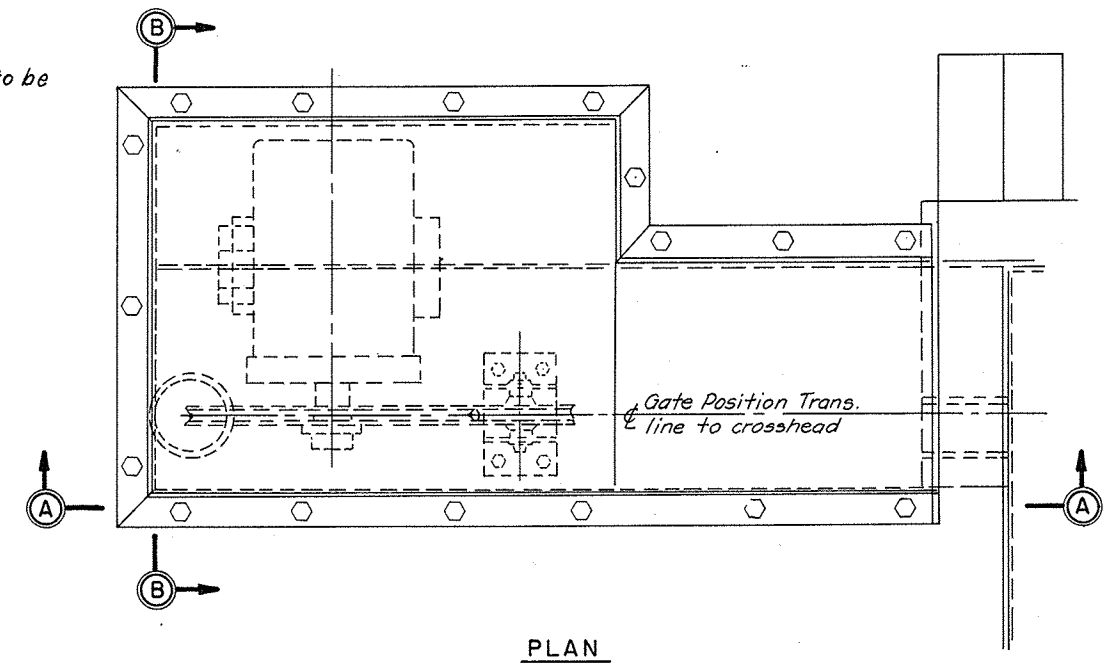
PLAN



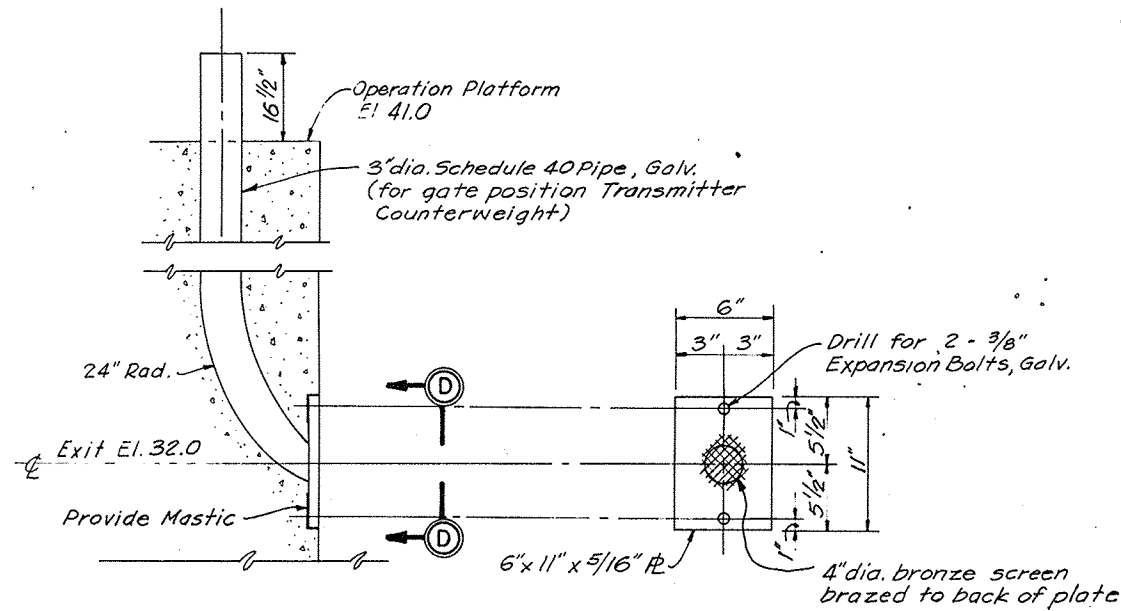
LP GAS PIPING SCHEMATIC
NO SCALE

LIMIT SWITCH NOTES:

- FOR LOCATION AND ORIENTATION, SEE DWG. NO. 6/1.
- MOUNTING HOLES FOR LIMIT SWITCHES SHALL BE SLOTTED TO PERMIT 1/2" ADJUSTMENT TOWARD CENTER OF GATE BAY FROM POSITION INDICATED ON CROSSHEAD ASSEMBLY. (DWG. NO. 6/4).



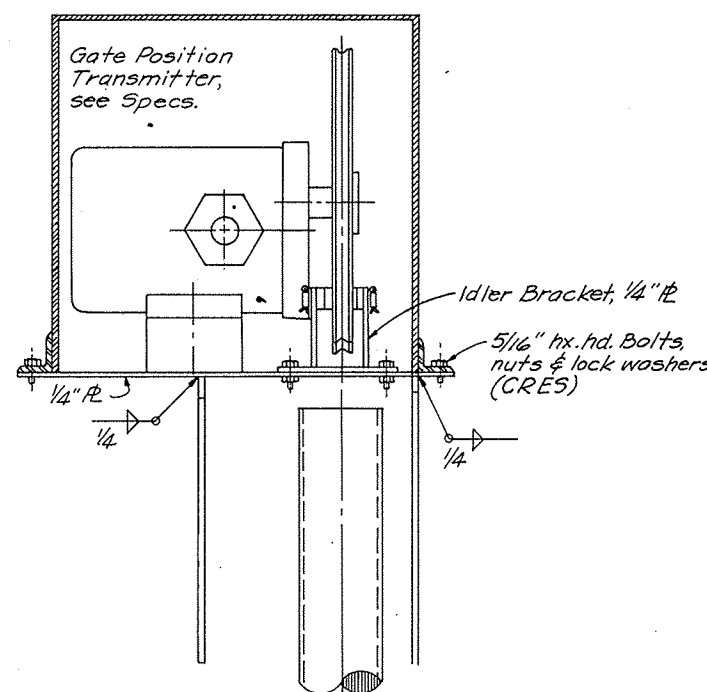
PLAN



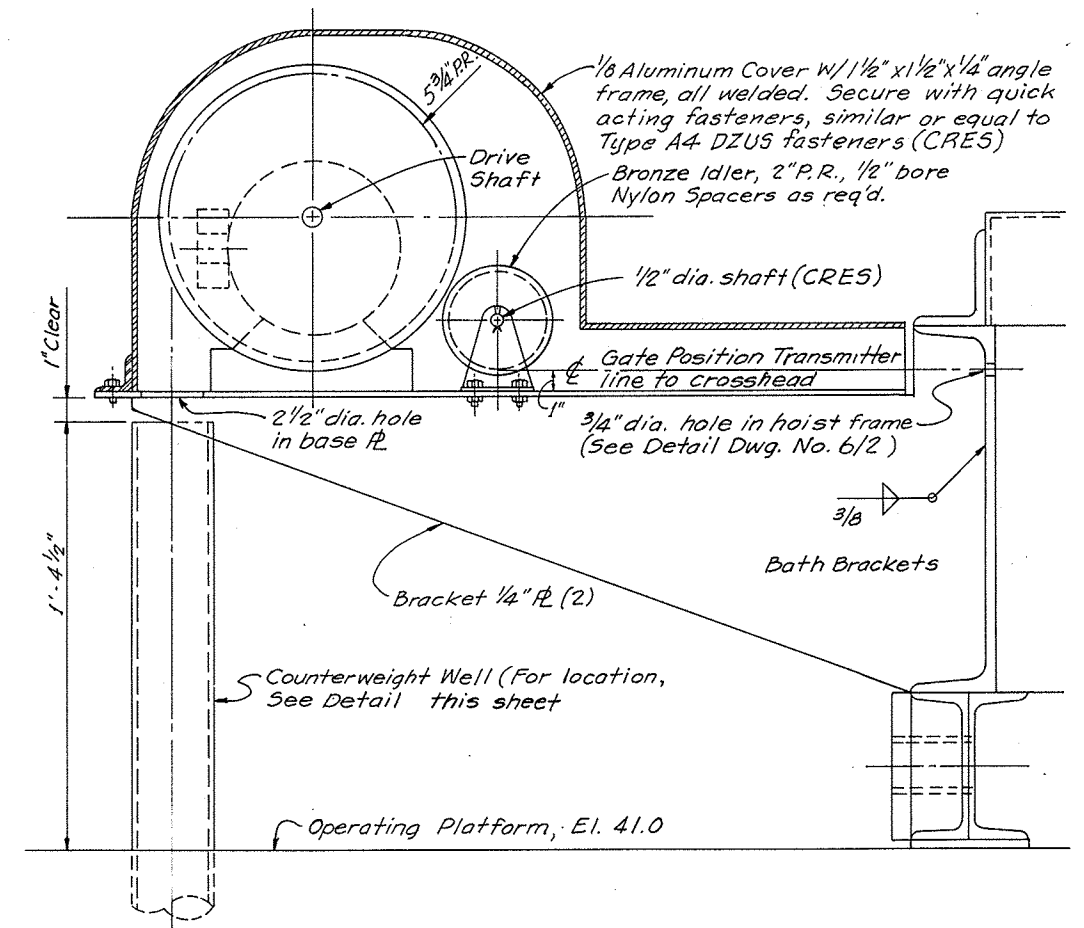
SECTION C-C

SECTION D-D

PIPE WELL FOR COUNTERWEIGHT
NOT TO SCALE



SECTION B-B



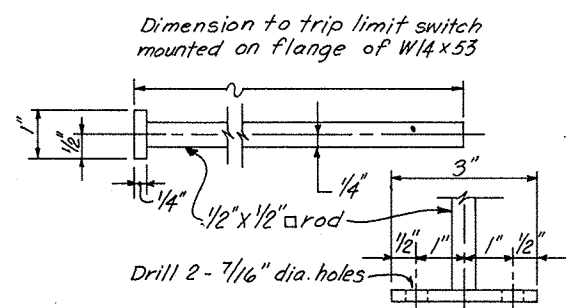
SECTION A-A

NOTES:

- DETAILS OF TRANSMITTER MOUNTING AND DRIVE TO SUIT EQUIPMENT FURNISHED.

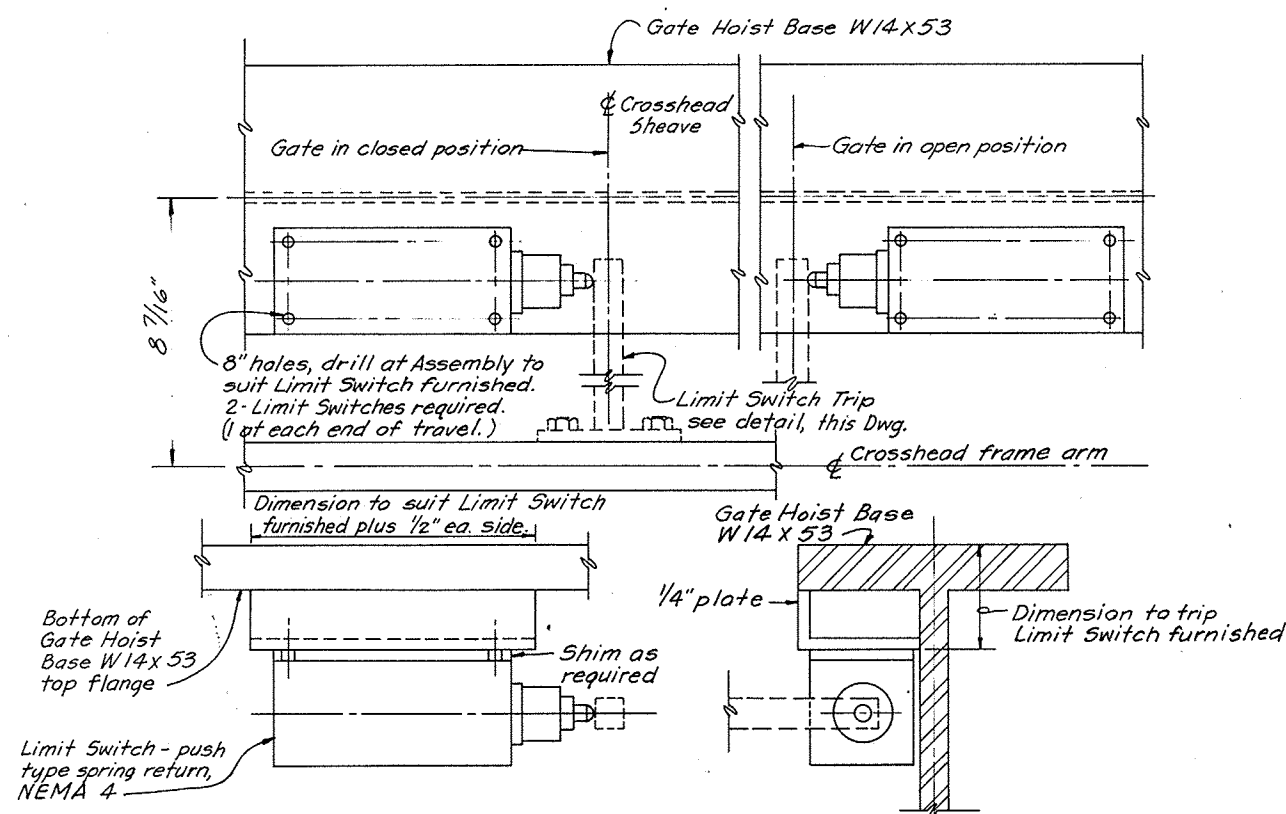
GATE POSITION TRANSMITTER BRACKET ASSEMBLY

SCALE: 3" = 1'-0"



LIMIT SWITCH TRIP

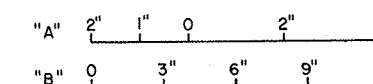
MARK I-REQ'D 1/2" X 1/2" SQUARE
SCALE: "A"



GATE LIMIT SWITCH ARRANGEMENT

NOT TO SCALE

GRAPHIC SCALES



NOTE: NOTE 3 ON DWG. 6/2 ALSO APPLIES TO THIS SHEET.

DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA			
CENTRAL AND SOUTHERN FLORIDA PROJECT UPPER ST. JOHNS RIVER BASIN STRUCTURE 96B AND TIEBACK LEVEE			
MECHANICAL GATE LIMIT SWITCHES AND POSITION TRANSMITTER			
DESIGN ENGR. D.J.C.	INV. NO.	SIZE F	DWG. NO. 6/6
DRAWN BY F	CHECKED BY F	DATE JULY 1986	SHEET 30

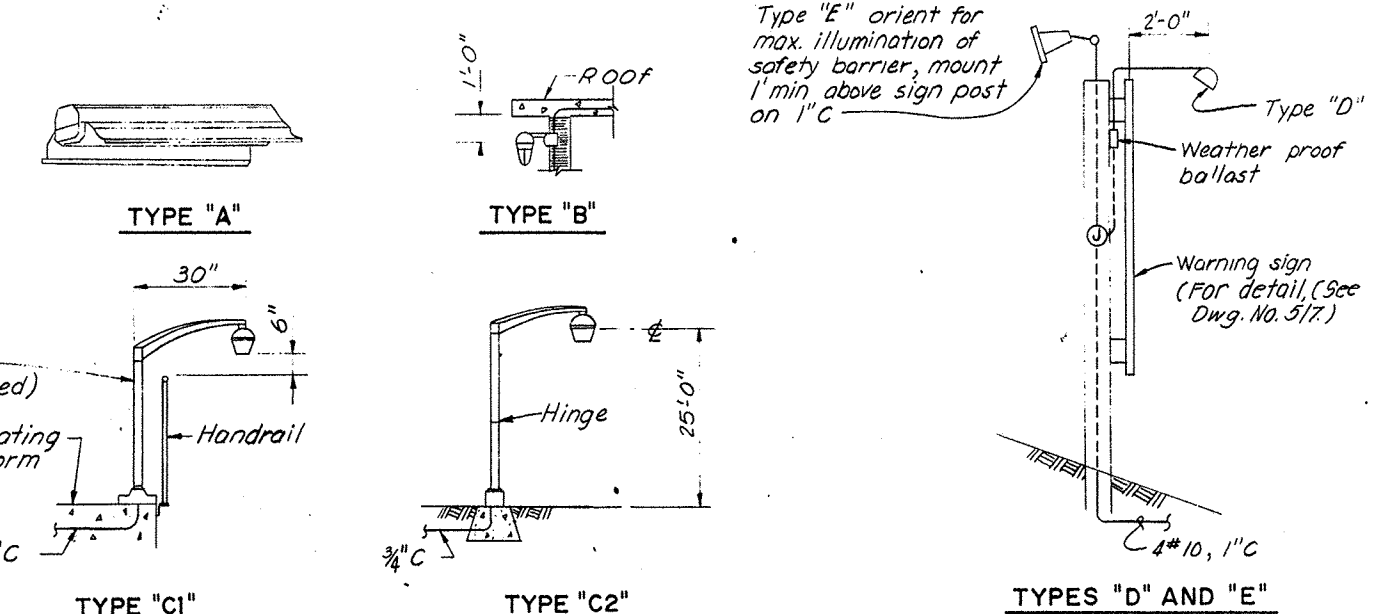
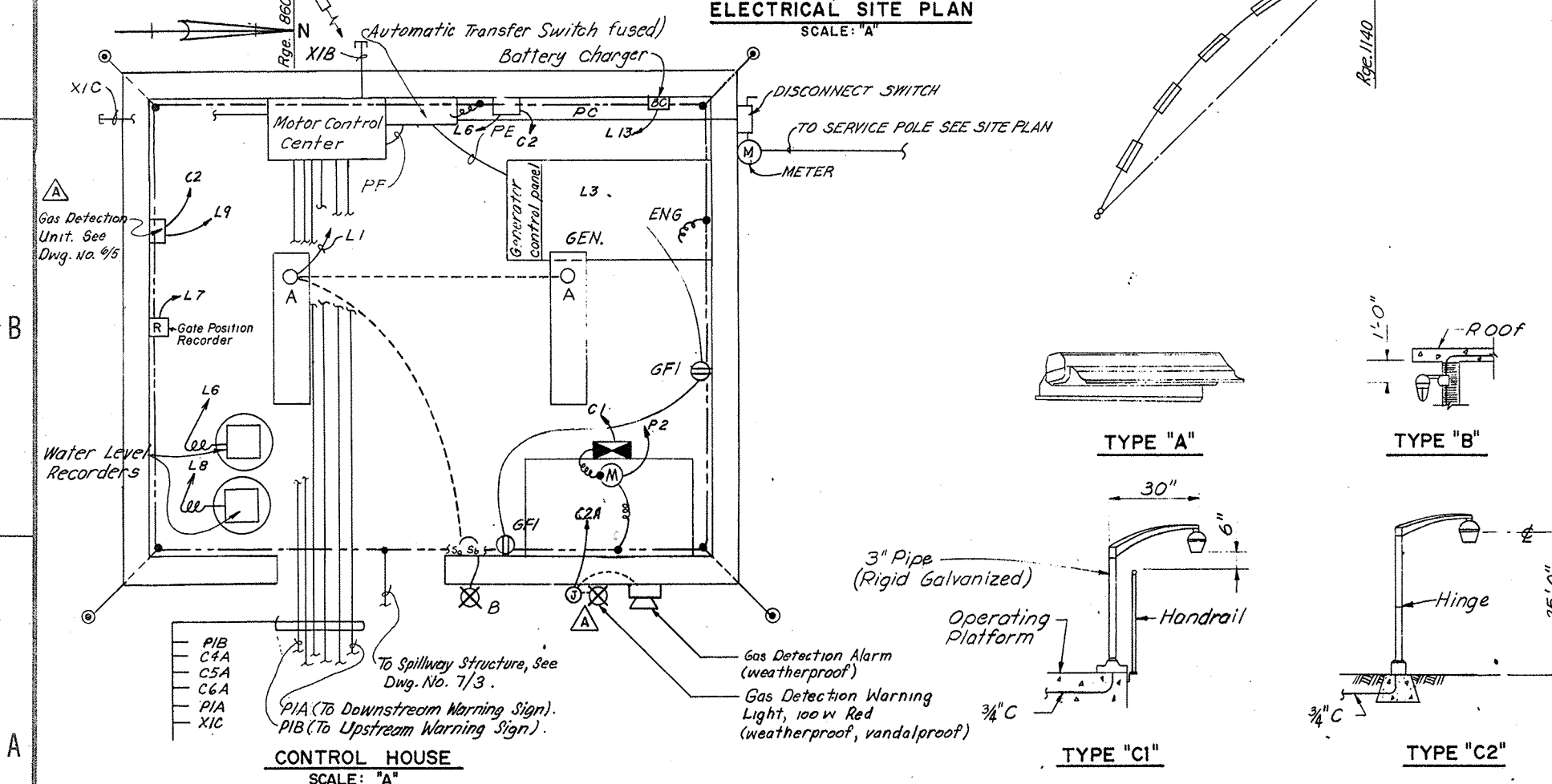
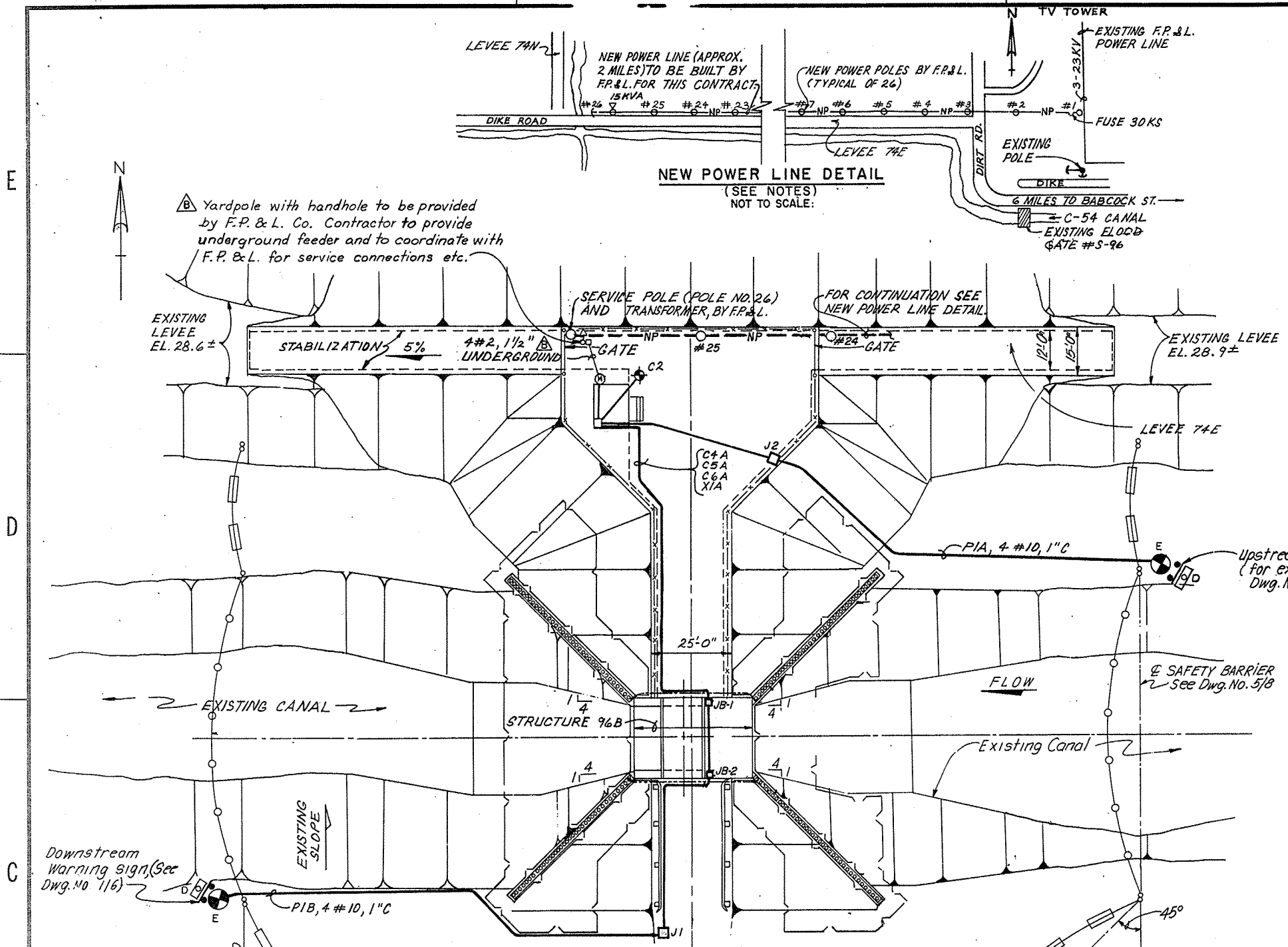
SAFETY ON THIS JOB DEPENDS ON YOU

REVISIONS		DESCRIPTION	DATE	APPROVED
2	AB-5	REVISED TO ACCOMPANY MOD SUFFIX F	3-30-97	[Signature]
4	AB	REVISED TO ACCOMPANY MOD SUFFIX H	5-05-98	[Signature]

REV.	NO.	SYMBOL	ITEM DESCRIPTION
	1	⊗	LIGHTING FIXTURE, INCANDESCENT
	2	⊙	LIGHTING FIXTURE, FLUORESCENT
	3	⊗	AREA LUMINAIRE "TYPE C"
	4	Ⓜ	INDICATOR LIGHT, NEON
	5	Ⓡ	INDICATING LIGHT: R-RED, G-GREEN
	6	Ⓦ	DUPLEX CONVENIENCE OUTLET: W - WEATHERPROOF
	7	Ⓦ	DUPLEX RECEPTACLE - GROUND FAULT INTERRUPTING TYPE
	8	Ⓢ	SWITCH, TOGGLE, SINGLE POLE
	9	Ⓢ	SWITCH, 3 POSITION, H-O-A OR AS NOTED
	10	Ⓛ	LIMIT SWITCH, NEMA 4
	11	Ⓟ	PB CONTACT NORMALLY OPEN
	12	Ⓟ	PB CONTACT NORMALLY CLOSED
	13	Ⓜ	MOTOR STARTER
	14	Ⓜ	PANELBOARD
	15	Ⓜ	CONTACT, CONTROL RELAY, N.O. AND N.C.
	16	---	GROUND WIRE
	17	Ⓜ	MAIN CONTACTOR
	18	Ⓜ	COIL, CONTACTOR, 120V
	19	Ⓜ	PULL BOX OR JUNCTION BOX
	20	Ⓜ	MOTOR
	21	Ⓜ	SOLENOID OPERATED VALVE, 120V
	22	Ⓜ	SOLENOID VALVE PANELBOARD
	23	Ⓜ	GATE POSITION TRANSMITTER
	24	---	HOMERUN TO PANELBOARD OR AS NOTED
	25	---	GROUND CONNECTION
	26	---	CONDUIT EXPOSED
	27	---	CONDUIT CONCEALED IN CEILING
	28	---	CONDUIT CONCEALED IN FLOOR, WALLS OR EARTH
	29	---	CONDUIT, STUB OUT AND CAP
	30	---	CONDUIT EQUIPMENT DRAIN
	31	Ⓜ	SERVICE ENTRANCE WEATHERHEAD AND METER SOCKED
	32	Ⓜ	FUSE, DEAD FRONT INSTALLATION
	33	Ⓜ	LIGHTING FIXTURE, IODINE QUARTZ (TYPE "E")
	34	Ⓜ	PUSH BUTTON STATION, O-C-S WITH 2 INDICATING LTS
	35	Ⓜ	GROUND ROD, 3/4" DIA. x 8' LONG
	36	Ⓜ	EQUIPMENT GROUND CONNECTION
	37	Ⓜ	GROUNDING INSERT WITH EQUIPGROUND STRAP
	38	Ⓜ	MAIN GROUND, SHEET STEEL PILE WINGWALL (SEE NOTE 3)
	39	NP	NEW POWER LINE

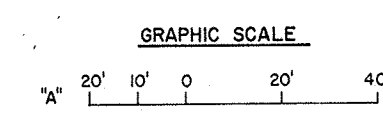
NOTES: (NEW POWER LINE):

- CONTRACTOR SHALL COORDINATE NEW POWER LINE WORK WITH FLORIDA POWER AND LIGHT CO. (CONTACT PERSON: MR. FRED HULL OF FP&L CO., PHONE NO. (305) 727-9547).
- NEW POWER LINE, APPROXIMATELY 2 MILES LONG, WILL BE BUILT BY FP&L AT CONTRACTOR'S EXPENSE (SEE SPECIFICATIONS SEC. 16A). FP&L WILL BUILD POWER LINE FROM POINT OF SOURCE TO SERVICE POLE WITH POWER POLES, POLE LINE HARDWARE, CABLE, TRANSFORMER, YARDPOLE WITH HANDHOLE, SERVICE CONNECTIONS ETC.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY COMPLETION OF THE NEW POWER LINE AND COMPLETE INSTALLATION. CONTRACTOR SHALL COORDINATE WITH FP&L CO. AND PROVIDE UNDERGROUND FEEDER FROM CONTROL HOUSE TO HANDHOLE AND COORDINATE WITH FP&L FOR SERVICE CONNECTION AT HANDHOLE AND METERING ETC.



NOTES:

- SCHEMATIC WIRING DIAGRAMS, CONDUIT AND CABLE SCHEDULE, AND CONDUIT PLANS SHALL BE WORKED TOGETHER AND SHALL TAKE PRECEDENCE IN THAT ORDER IN CASES OF CONFLICT.
- NOT USED.
- PROJECT MAIN GROUNDS SHALL CONSIST OF SHEET PILE WINGWALLS WITH INDIVIDUAL PILES BONDED TOGETHER AND GROUND RODS INSTALLED NEAR EACH CORNER OF THE CONTROL HOUSE.
- PRIMARY GROUNDING SHALL BE PROVIDED BY NO. 1 AWG WIRE INSTALLATIONS CONSISTING OF AN EMBEDDED LOOP IN THE CONTROL HOUSE, EMBEDDED GRID IN THE WEIR CREST AND EACH PIER ON THE SPILLWAY STRUCTURE, AND INTER-CONNECTIONS BETWEEN THE LOOP, GRID AND PROJECT MAIN GROUNDS. SECONDARY GROUND CONNECTIONS AS INDICATED SHALL CONFORM TO SPECIFICATION REQUIREMENTS AND SHALL BE AWG NO. 6 MINIMUM.

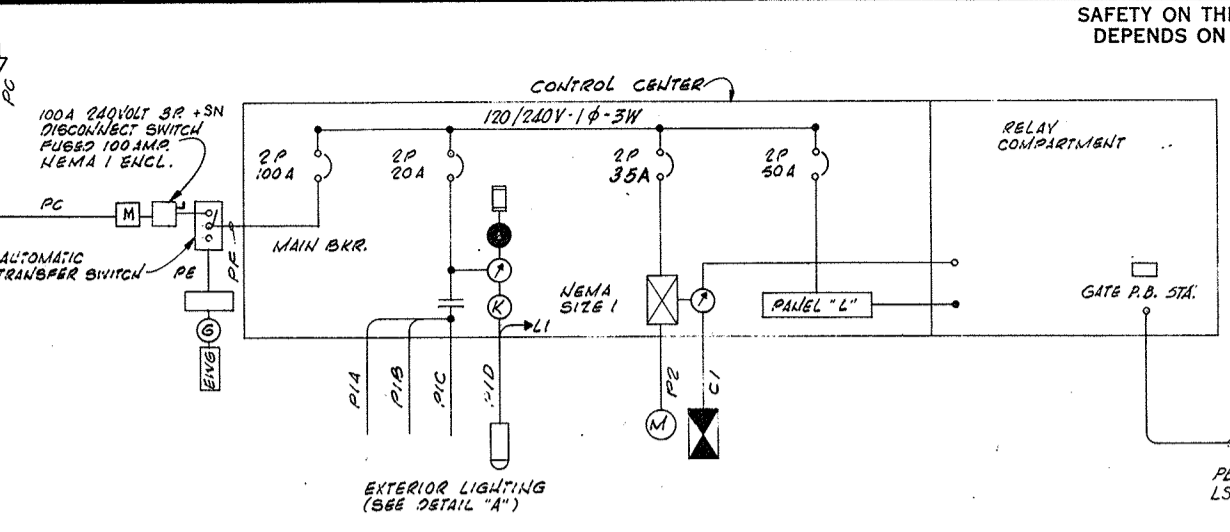
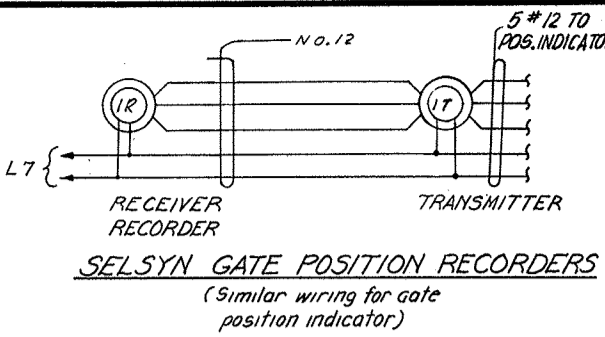


DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA
 CENTRAL AND SOUTHERN FLORIDA PROJECT
 UPPER ST JOHNS RIVER BASIN
 STRUCTURE 96B AND TIEBACK LEVEE

ELECTRICAL SYSTEMS
 CONDUIT PLANS

DESIGN BY: S.M. REV. BY: []
 DWN. BY: [] CDD. BY: []
 INVT. NO. [] DATE: []
 SCALE: AS SHOWN DATED: JULY 1986 SHEET 31

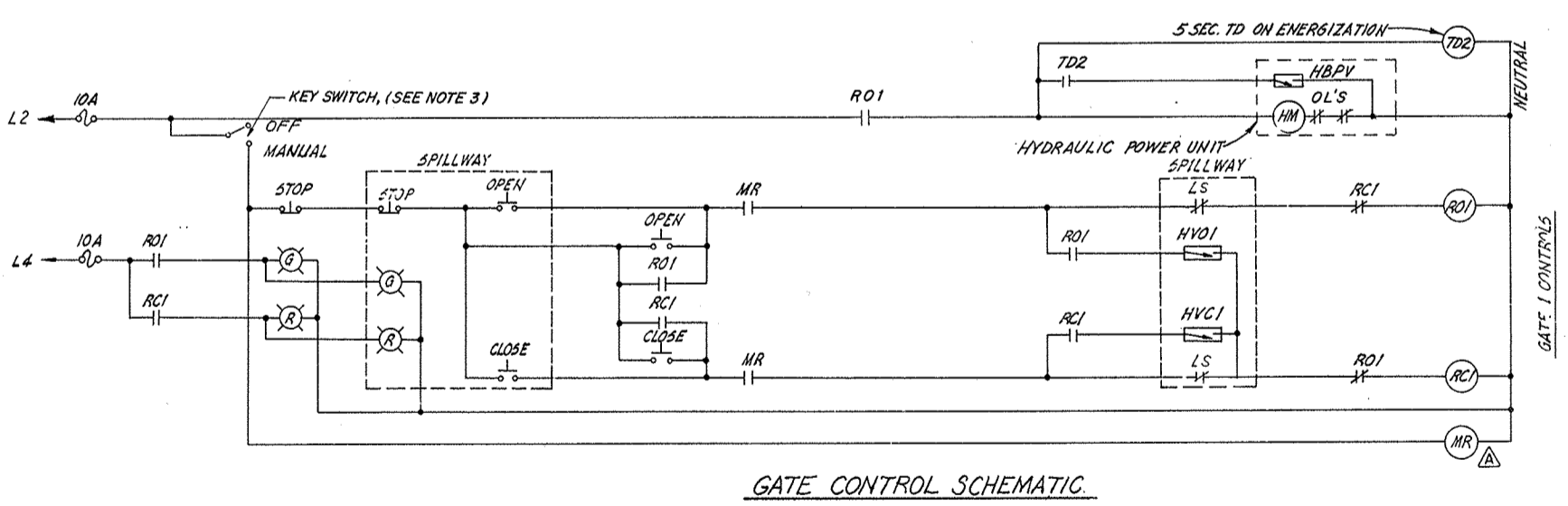
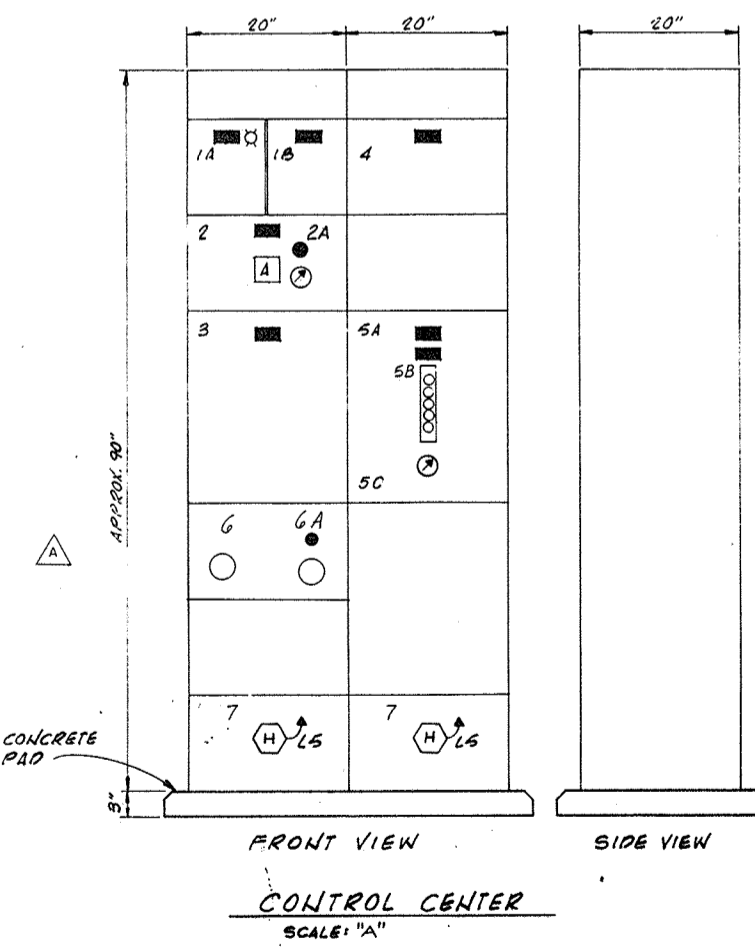
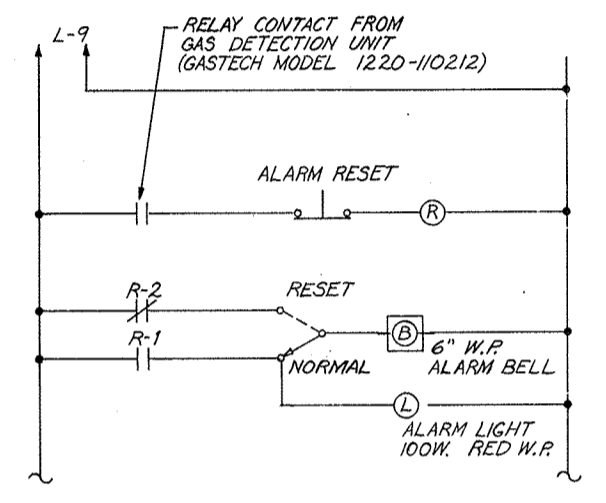
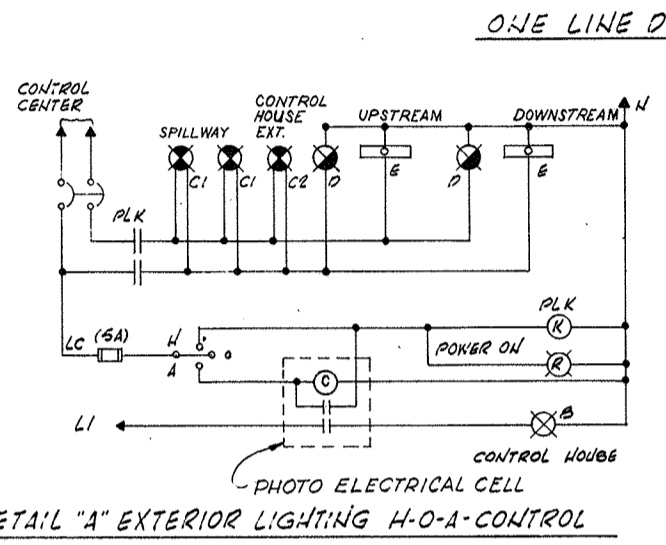
CONTROL CENTER							
EQUIPMENT OR NAMEPLATE DATA	CIRC. NO.	BKR. POLES	MOTOR STARTER TRIP AMPS	AUXILIARY CONTACTS	CONTROL DEVICES		
					SEL. SW.	PUSH BUTTON	IND. LIGHTS
1A MAIN BREAKER		2	100				
1B PANEL BOARD FEEDER		2	50				
2 EXTERIOR LIGHTING FEEDER		2	20				
2A LIGHTING CONTACTOR "PLK"					H-O-A		RED
3 PANEL BOARD "L"							
4 GATE HYDRAULIC POWER UNIT		2	35			H-O-R	
5A GATE CONTROL RELAYS					H-O-A		
5B GATE NO. 1 CONTROL						O-C-S	R&G
5C FUSE BLOCK, IND. LT. CIRCUITS							
6 GAS DETECTION ALARM & HORN CONTROL					2 POS		
6A GAS DETECTION ALARM & HORN RELAY							
7 TERMINAL BLOCK COMPARTMENT							



PANEL BOARD "L"											
MOUNTED IN CONTROL CENTER						CIRCUIT BREAKER TYPE 100 AMP MAINLUGS ONLY					
CKT. NO.	NO. POLES	BR. K. TRIP	WIRE SIZE	COND. SIZE	CIRCUIT IDENTIFICATION	CKT. NO.	NO. POLES	BR. K. TRIP	WIRE SIZE	COND. SIZE	CIRCUIT IDENTIFICATION
1	1	20	4 #12	3"	CONTROL HOUSE LIGHTING	2	1	20	AS REQ'D		GATE CONTROLS
3	1	20			CONTROL HOUSE RECEPTACLES	4	1	20	AS REQ'D		PB STATION INDICATING LIGHTS
5	1	20	2 #1	3"	HEATER IN CONTROL CENTER BGEN	6	1	20			WATER LEVEL RECORDER UPSTREAM
7	1	20	2 #12	3"	* GATE POSITION RECORDER	8	1	20			" " " DOWNSTREAM
9	1	20	2 #12	3"	GAS DETECTION UNIT	10	1	20			SPARE
11	1	20	2 #12	3"		12	1	20	3 #10		RECEPTACLES ON SPILLWAY STRUCTURE
13	1	20	2 #12	3"	BATTERY CHARGER	14	1	20			SPARE

* SEE CONDUIT AND CABLE SCHEDULE △ RUN CKT 12 IN CONDUIT WITH SPILLWAY LIGHTING

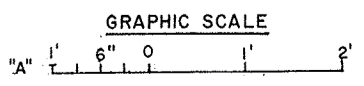
LIGHTING FIXTURE SCHEDULE							
MARK	DESCRIPTION	EST. QUANT.	LAMPS NO.	WATTS	VOLTS	MOUNTING HEIGHT	DESCRIPTION
A	CONTROL HOUSE INTERIOR	2	2	40	120	CEILING	TYPE 215, SHEET 23 DWG. 40-06-04
B	CONTROL HOUSE EXTERIOR	1	1	60	120	WALL MOUNTED 1' BELOW EAVES	TYPE 124, SHEET 15 DWG. 40-06-04
C	AREA LIGHTING SPILLWAY BRIDGE	1	1	100	240		HIGH PRESSURE SODIUM STREET LIGHT UNIT (SEE SPECIFICATIONS)
D	SAFETY BARRIER	2	1	250	120		SYLVANIA CAT. NO. SFL-25010 OR EQUAL
E	WARNING SIGN	2	1	100	120		6' WEATHER PROOF FLUORESCENT SIGN FIXTURE, SIMKAR LIGHTING FIXTURE CO., INC. PHILA., PA. CAT. NO. OSI72 H.O WITH 1-72" 800 M.A. LAMP OR EQUAL



- LEGEND**
- (TD) TIME DELAY
 - (HVO) HYDRAULIC VALVE OPEN
 - (RO) RELAY OPEN NO.
 - (RC) RELAY CLOSE NO.
 - (HYC) HYDRAULIC VALVE CLOSE
 - (HM) HYDRAULIC MOTOR STARTER
 - (HBPV) HYDRAULIC BYPASS VALVE
 - (MR) MANUAL RELAY
 - (G) GREEN IND. LIGHT
 - (R) RED IND. LIGHT

REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED
6	A		REVISED TO ACCOMPANY MOD. SUFFIX F	3-30-39	[Signature]

- NOTES:**
- TIME DELAY RELAY "TD" SHALL PROVIDE A FIVE-SECOND ENERGIZATION DELAY TO A "DUMP" SOLENOID VALVE TO PERMIT NO LOAD STARTING OF THE HYDRAULIC UNIT MOTOR.
 - NOT USED
 - CONTROL POWER CIRCUIT (L-2) SHALL BE CONTROLLED BY A KEY TYPE SWITCH, SUCH THAT IN "ON" POSITION KEY SHALL NOT BE REMOVABLE AND WILL COMPLETE THE CONTROL POWER CIRCUIT. IN THE "OFF" POSITION, THE KEY SHALL BE REMOVABLE AND SHOULD DISCONNECT CONTROL POWER COMPLETELY SO THAT SPILLWAY GATES CANNOT BE OPERATED FROM PUSHBUTTONS LOCATED AT THE SPILLWAY AND IN CONTROL HOUSE.
 - PROVIDE INDICATOR LIGHT FOR COMMERCIAL SERVICE. INSTALL INDICATOR LIGHT (AMBER) IN SECTION 1. OF CONTROL CENTER.
 - GAS DETECTION UNIT SHALL BE AS SPECIFIED ON DWG. NO. 6/5 AND SHALL BE GAS TECH MODEL 1220-110212 OR EQUAL. THE UNIT COMES WITH MANUFACTURER - FURNISHED AUDIBLE ALARM AND LIGHT. THE SPECIAL FEATURE SHALL BE THAT THE UNIT SHOULD INCLUDE A RESET BUTTON TO TURN THE AUDIBLE ALARM OFF, KEEPING THE LIGHT ON TILL THE PROBLEM IS SOLVED. THIS AVOIDS UNNECESSARY NOISE DURING PROBLEM SOLVING.



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

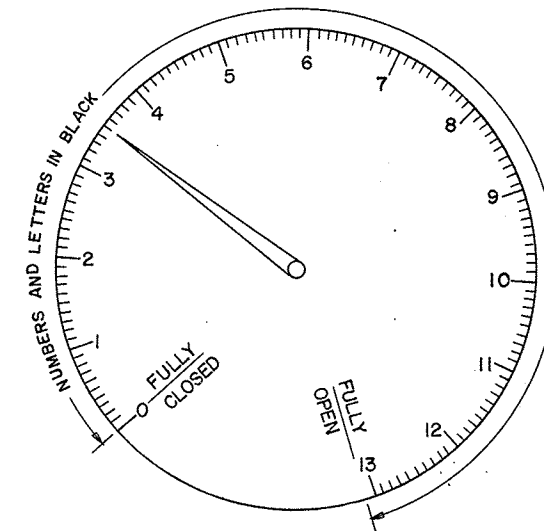
ELECTRICAL SYSTEM
WIRING DIAGRAMS

SCALE: AS SHOWN DATED: JULY 19 66 SHEET 32

SAFETY ON THIS JOB DEPENDS ON YOU

REVISIONS				DATE	APPROVED
NO.	SYM.	ZONE	DESCRIPTION		
1	Δ	E-5	REVISED TO ACCOMPANY MOD SUFFIX F	3-30-86	[Signature]

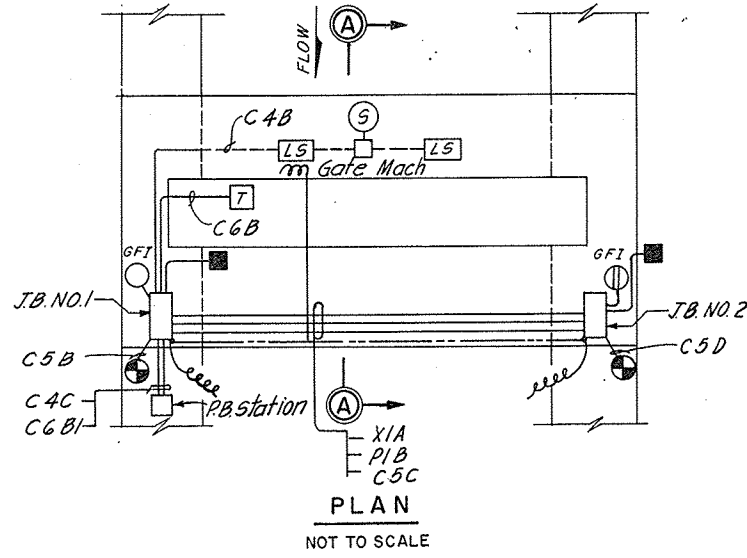
CONDUIT AND CABLE SCHEDULE						
MARK	WIRE SIZE	DATE	CONDUIT SIZE	CIRCUIT	FROM	TO
PC	3 # 2	1 # 2	1 1/2"	COMMERCIAL SERVICE	SERVICE ENTRANCE	AUTO TRANSFER SWITCH THRU 100A DISCONNECT SWITCH
PE	3 # 2	1 # 2	1 1/2"	EMERGENCY SERVICE	ENG. GEN. PANEL	AUTO TRANSFER SWITCH
PF	3 # 2	1 # 2	1 1/2"	FEEDER, CONTROL CENTER	AUTO TRANSFER SWITCH	CONTROL CENTER
PIA	3 # 10	1 # 10	1"	EXTERIOR LTG. UPSTREAM	CONTROL CENTER	LIGHTING FIXTURE "D" & "E" UPSTREAM
PIB	3 # 10	1 # 10	1"	EXTERIOR LTG. DOWNSTREAM	CONTROL CENTER	LIGHTING FIXTURE "D" & "E" THRU JB1 AND JB2
PI C	2 # 10	1 # 10	1"	EXTERIOR LIGHT	CONTROL CENTER	LIGHTING FIXTURE C2
PID	4 # 12	1 # 12	1"	CONTROL	CONTROL CENTER	PHOTO ELECTRIC SWITCH CONTAINS LI
P2	2 # 8	1 # 8	1"	HYDRAULIC POWER UNIT	CONTROL CENTER	HPU
C1	3 # 12	1 # 12	1"	GATE CONTROL	CONTROL CENTER	SOLENOID VALVES ON HYDRAULIC POWER UNIT
C2	2 # 12	1 # 12	1"	GAS DETECTION REMOTE ALARM CKT.	GAS DETECTION UNIT	CONTROL CENTER RELAY POINT OF GAS DETECTION UNIT
C2A	3 # 12	1 # 12	1"	GAS DETECTION REMOTE LIGHT AND ALARM	CONTROL CENTER	ALARM AND HORN POWER AND CONTROL CIRCUIT
C4A	13 # 12	6 # 12	2"	LIMIT SWITCHES & P.B. STATIONS	CONTROL CENTER	JB 1
C4B	6 # 12	1 # 12	1"	LIMIT SWITCHES GATE I	JB 1	GATE NO. 1 LIMIT SWITCHES
C4C	7 # 12	1 # 12	1"	PUSH BUTTON STA. GATE I	JB 1	GATE NO. 1 P.B. STATION
C5A	5 # 10	1 # 10	1"	SPILLWAY LIGHTING	CONTROL CENTER	JB 1 CONTAINS 3 # 10 FOR RECEPTACLES
C5B	2 # 12	1 # 12	2"	SPILLWAY LIGHTING	JB 1	TO LIGHTING FIXTURE
C5C	5 # 10	1 # 10	1"	SPILLWAY LIGHTING	JB 1	JB 2 CONTAINS 3 # 10 FOR RECEPTACLES
C5D	2 # 12	1 # 12	2"	SPILLWAY LIGHTING	JB 1	LIGHTING FIXTURE
C6A	5 # 12	1 # 12	1 1/2"	TRANSMITTER GATE I	CONTROL CENTER	JB 1
C6B	10 # 12	2 # 12	1"	TRANSMITTER GATE I	JB 1	TO GATE TRANSMITTER CONTAINS 5 # 12 FOR POS. INDICATOR
C6B1	5 # 12	1 # 12	1"	POS INDICATOR GATE I, POWER & CONTROL	JB 1	GATE NO. 1 P.B. STATION
X-1A			1 1/2"	SPARE	CONTROL HOUSE	STUB OUT AND CAP-JB 2 THRU JB 1.
X-1B			1"	SPARE	CONTROL HOUSE	STUB OUT AND CAP
X-1C			1"	SPARE	CONTROL HOUSE	STUB OUT AND CAP



POSITION INDICATOR

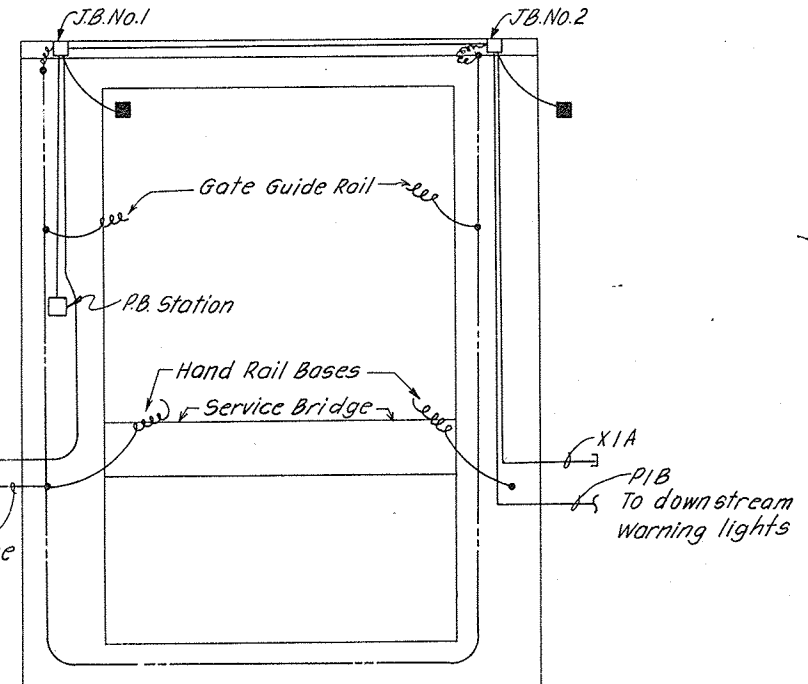
(DIAL DETAIL) NOT TO SCALE

Note:
 All lettering and numbers (except 90°) shown within the indicator circle are a part of the indicator. All other numbers and lettering are instructions to the contractor.



PLAN

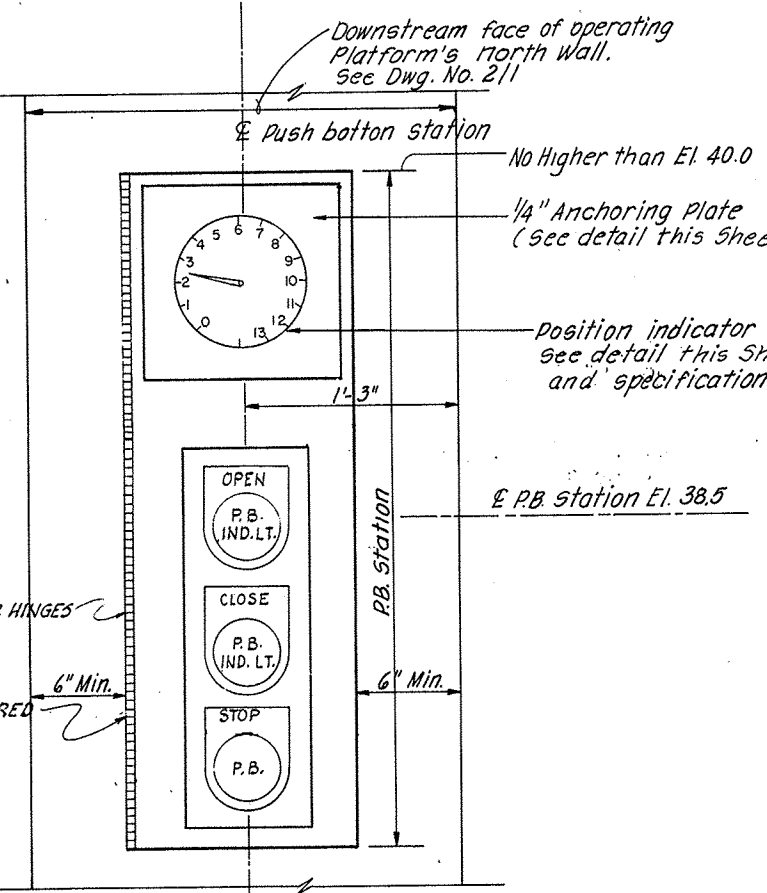
NOT TO SCALE



ELEVATION

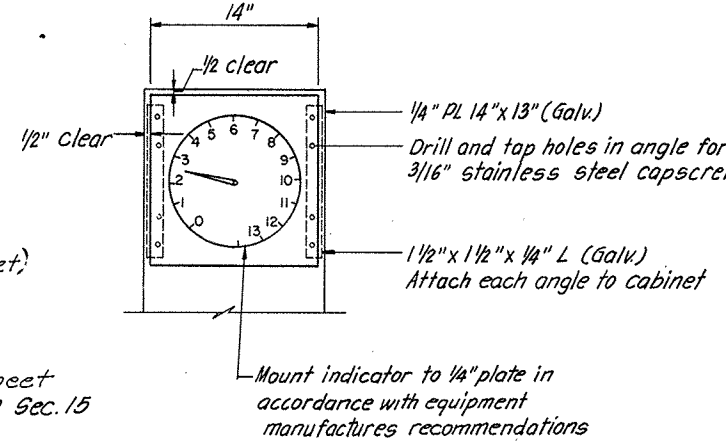
CONDUIT AND GROUNDING-SPILLWAY STRUCTURE

NOT TO SCALE



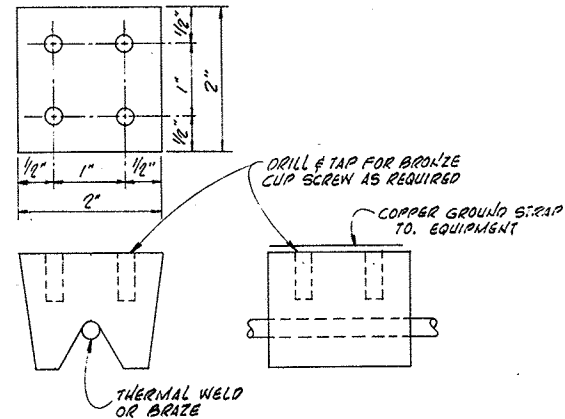
PUSH BOTTOM STATION

NOT TO SCALE



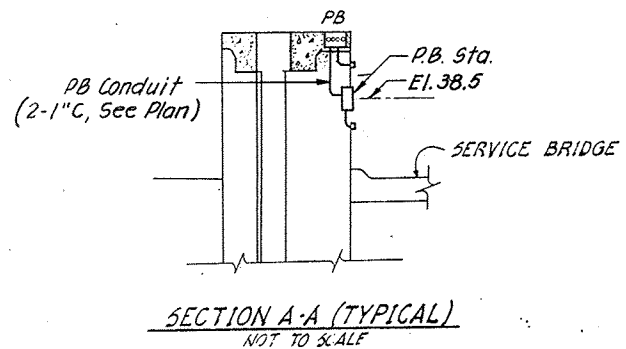
POSITION INDICATOR

(MOUNTING DETAIL) NOT TO SCALE

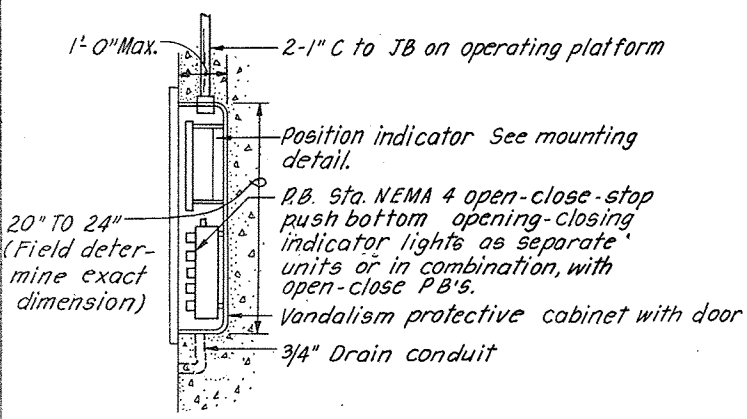


GROUNDING INSERT

(PENN UNION TYPE G1 OR EQUAL) NOT TO SCALE



SECTION A-A (TYPICAL) NOT TO SCALE



TYPICAL P.B. STATION INSTALLATION

NOT TO SCALE (See Note on this sheet)

NOTE:
 SEE DWG. NO. 2/1 FOR EXACT LOCATION OF PUSH BOTTOM RECESS IN PIERS.

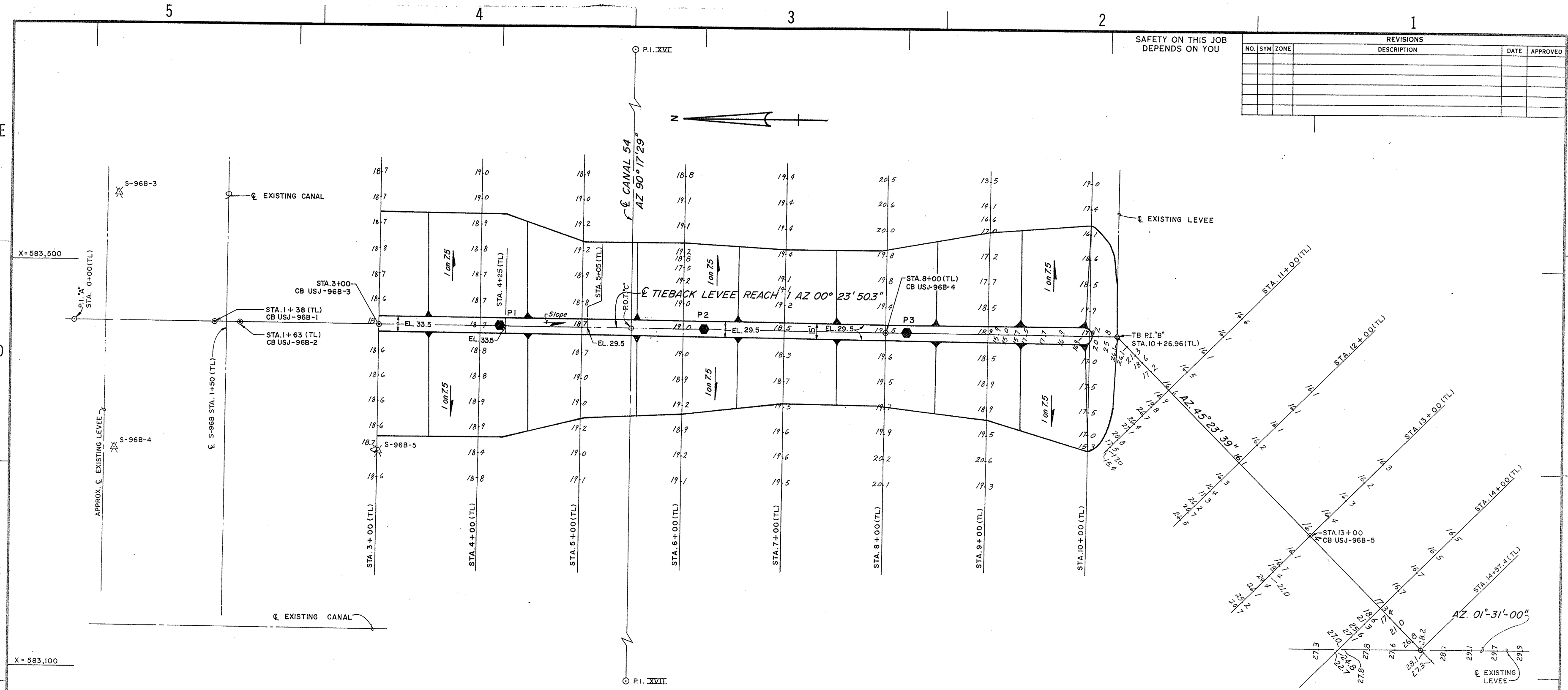
DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA
 CENTRAL AND SOUTHERN FLORIDA PROJECT
 UPPER ST. JOHNS RIVER BASIN
 STRUCTURE 96B AND TIEBACK LEVEE

ELECTRICAL SYSTEM
 DETAILS

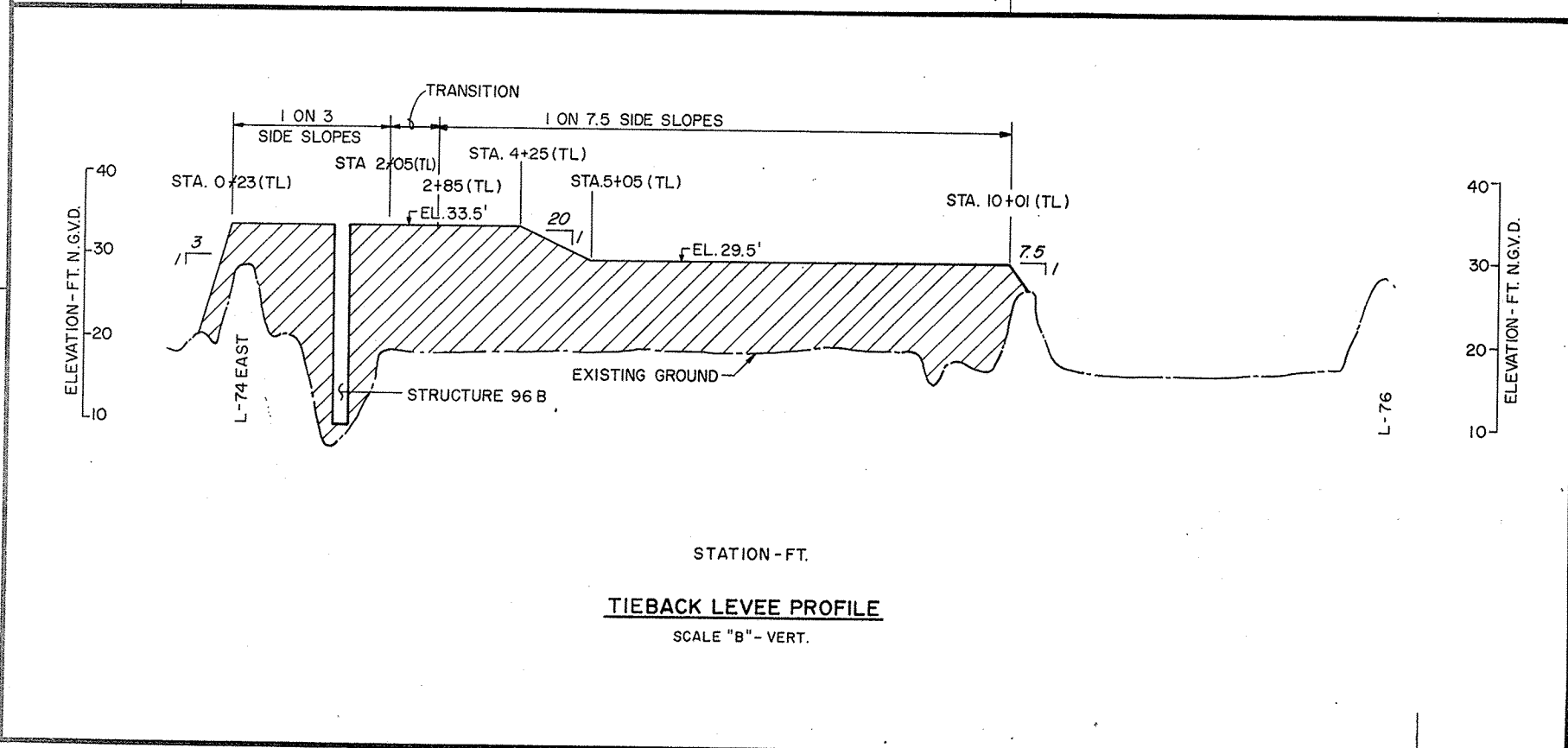
DESIGN NO.:
 INV. NO.:
 DATE: JULY 1986
 SHEET 33

SAFETY ON THIS JOB
DEPENDS ON YOU

NO.		SYMBOL		ZONE		REVISIONS		DATE	APPROVED
						DESCRIPTION			

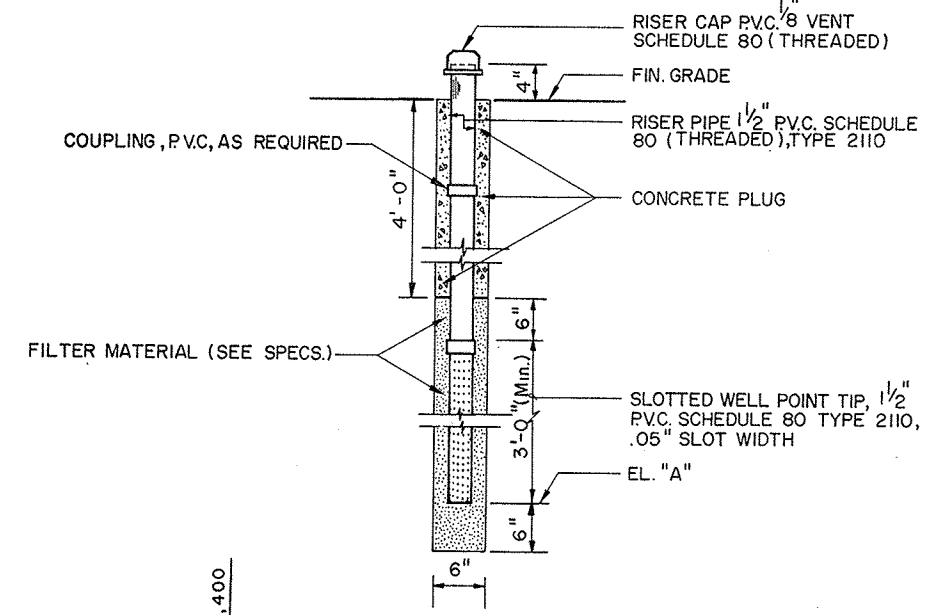


TIEBACK LEVEE PLAN
SCALE: "A"



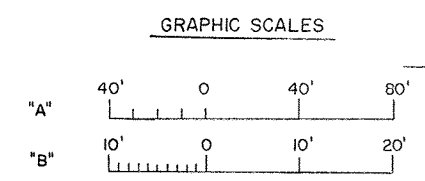
TIEBACK LEVEE PROFILE
SCALE "B" - VERT.

P.I. NO.	PLANE COORDINATES		REACH	STATION
	X	Y		
A	583,440.83	1,269,218.31	I	0+00 (TL)
B	583,433.70	1,268,191.37	I	10+26.96 (TL)
P.O.T. "C"	583,437.018	1,268,669.163	I	5+49.16 (TL)



PIEZOMETER DETAIL
NOT TO SCALE

PIEZOMETER LOCATION			
NO.	X	Y	ELEV "A"
P1	583,438	1,268,798	5.0
P2	583,436	1,268,568	5.0
P3	583,435	1,268,398	5.0

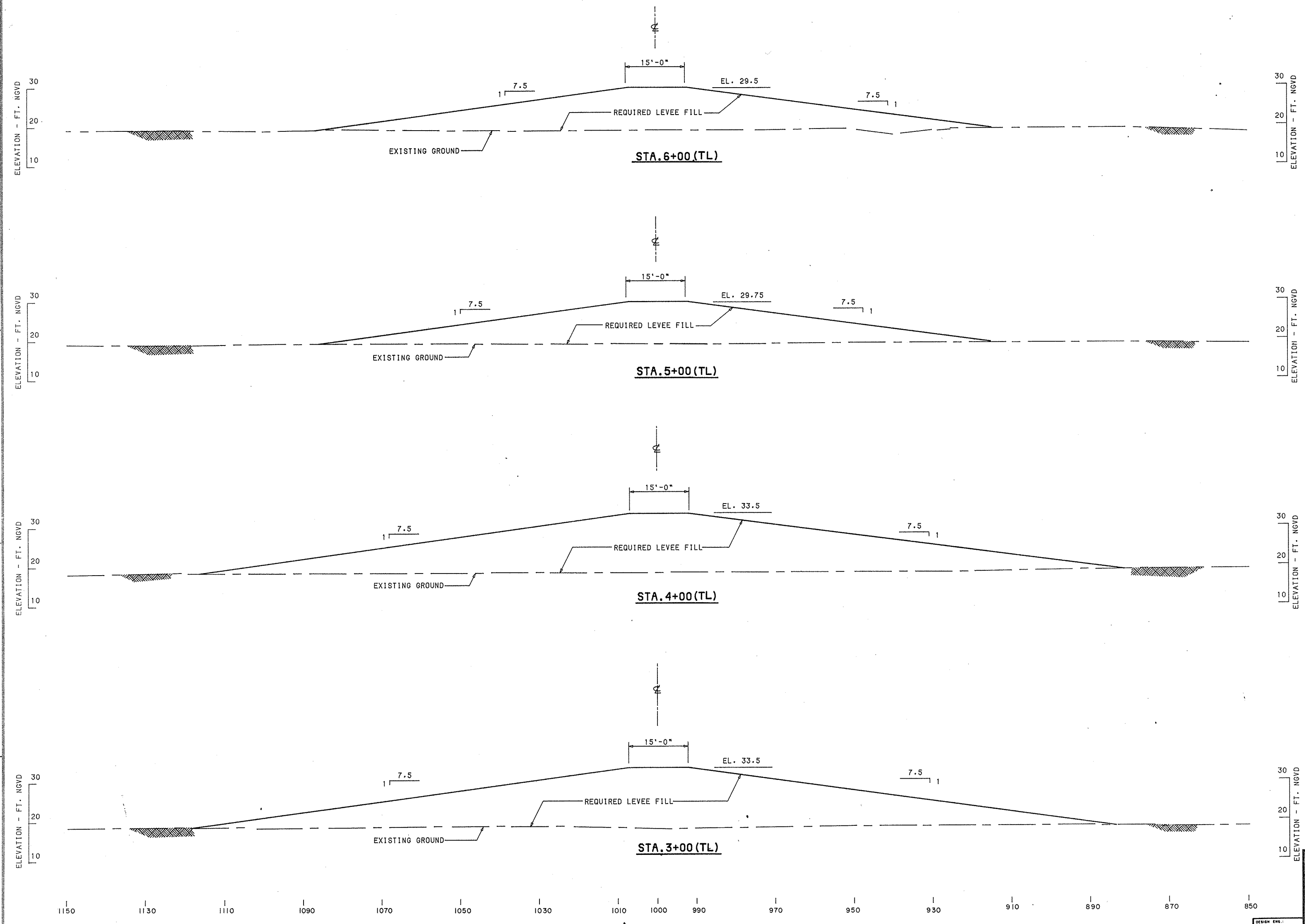


DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
TIEBACK LEVEE
PLAN AND PROFILE

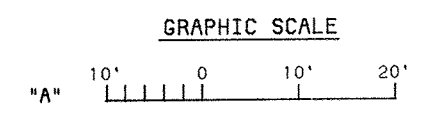
DESIGN ENG. V.A.P.	INV. NO.	DATE	SCALE: AS SHOWN
DRAWN BY J.M.	CHK. BY	DATED	DATED: JULY 1986
			SHEET 34

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS					
NO.	SYM.	ZONE	DESCRIPTION	DATE	APPROVED
1	△	-	REVISED TO ACCOMPANY AMENDMENT NO. 0001	11/7/86	<i>[Signature]</i>



△ RANGE - FT.



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
TIEBACK LEVEE

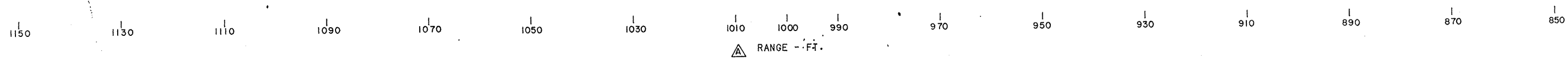
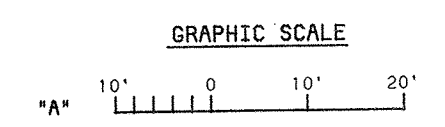
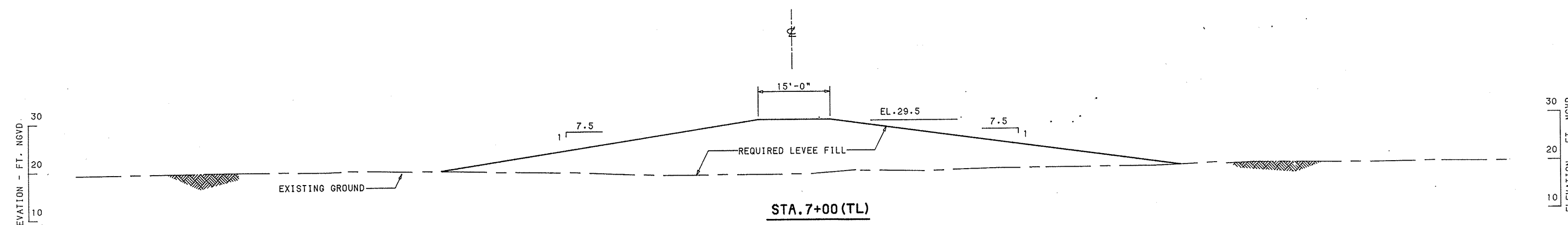
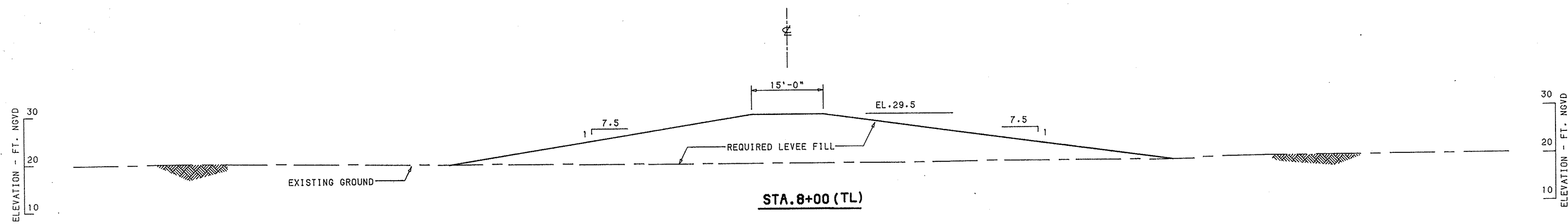
CROSS SECTIONS

DESIGN ENG.	INVT. NO.	SIZE	DWG. NO.
		F	8/2
DRAWN BY	CHKD. BY	DATED:	SCALE: AS SHOWN
			DATED: JULY, 1986
			SHEET 35

D. O. FILE NO. 490-34,813

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS					
NO.	SYM.	ZONE	DESCRIPTION	DATE	APPROVED
1	△	-	REVISED TO ACCOMPANY AMENDMENT NO. 0001	11/7/86	<i>[Signature]</i>



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
TIEBACK LEVEE

CROSS SECTIONS

DESIGN ENG.: C.B.M.	INV. NO.	SHEET NO.
DATE:	SCALE: AS SHOWN	DATED: JULY 1986
DATE:	SCALE: AS SHOWN	DATED: JULY 1986

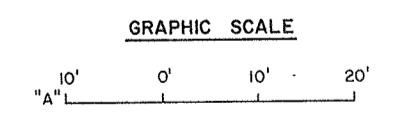
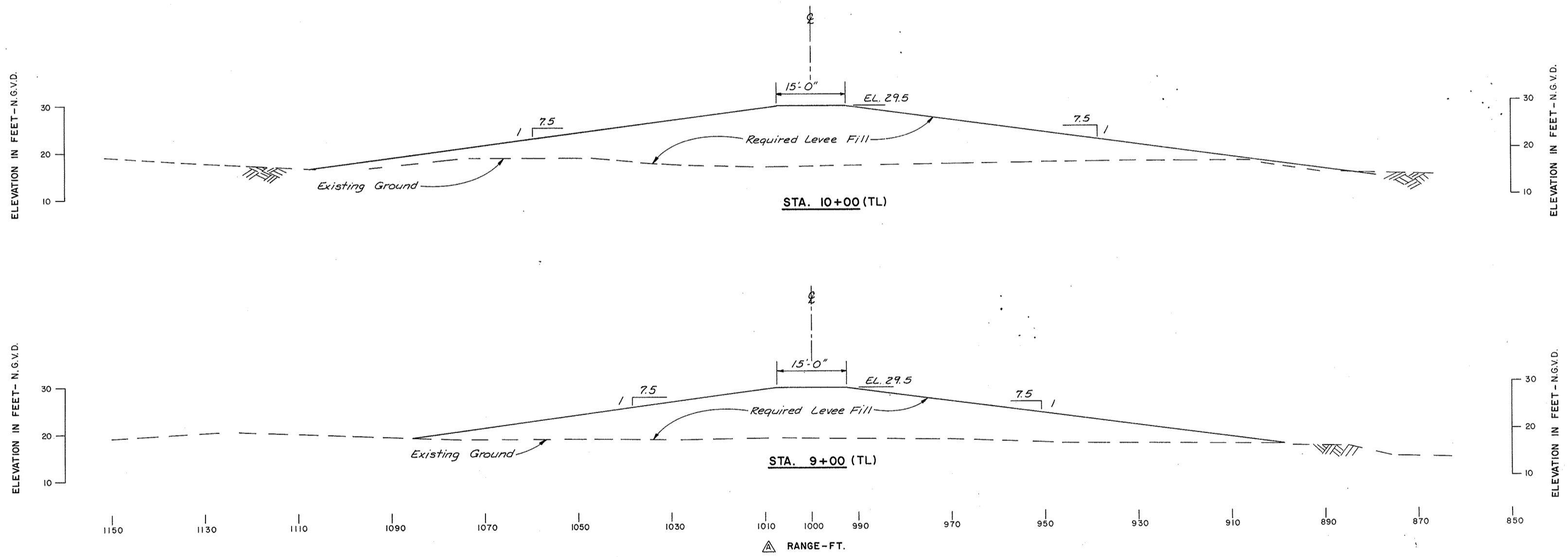
8/3
36

D. O. FILE NO. 490-34,813

D.O. 0079

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED
1	△	-	REVISED TO ACCOMPANY AMENDMENT NO. 0001	11/7/86	<i>[Signature]</i>



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

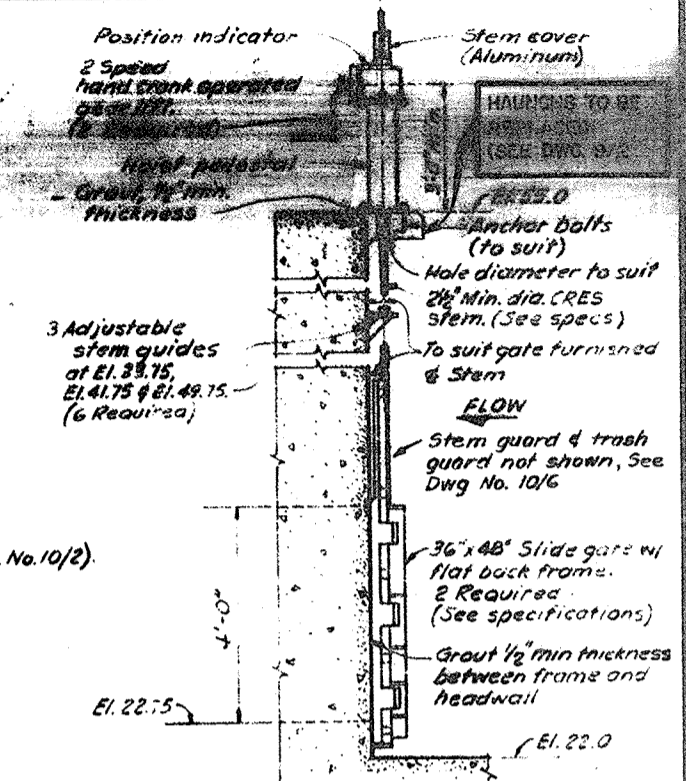
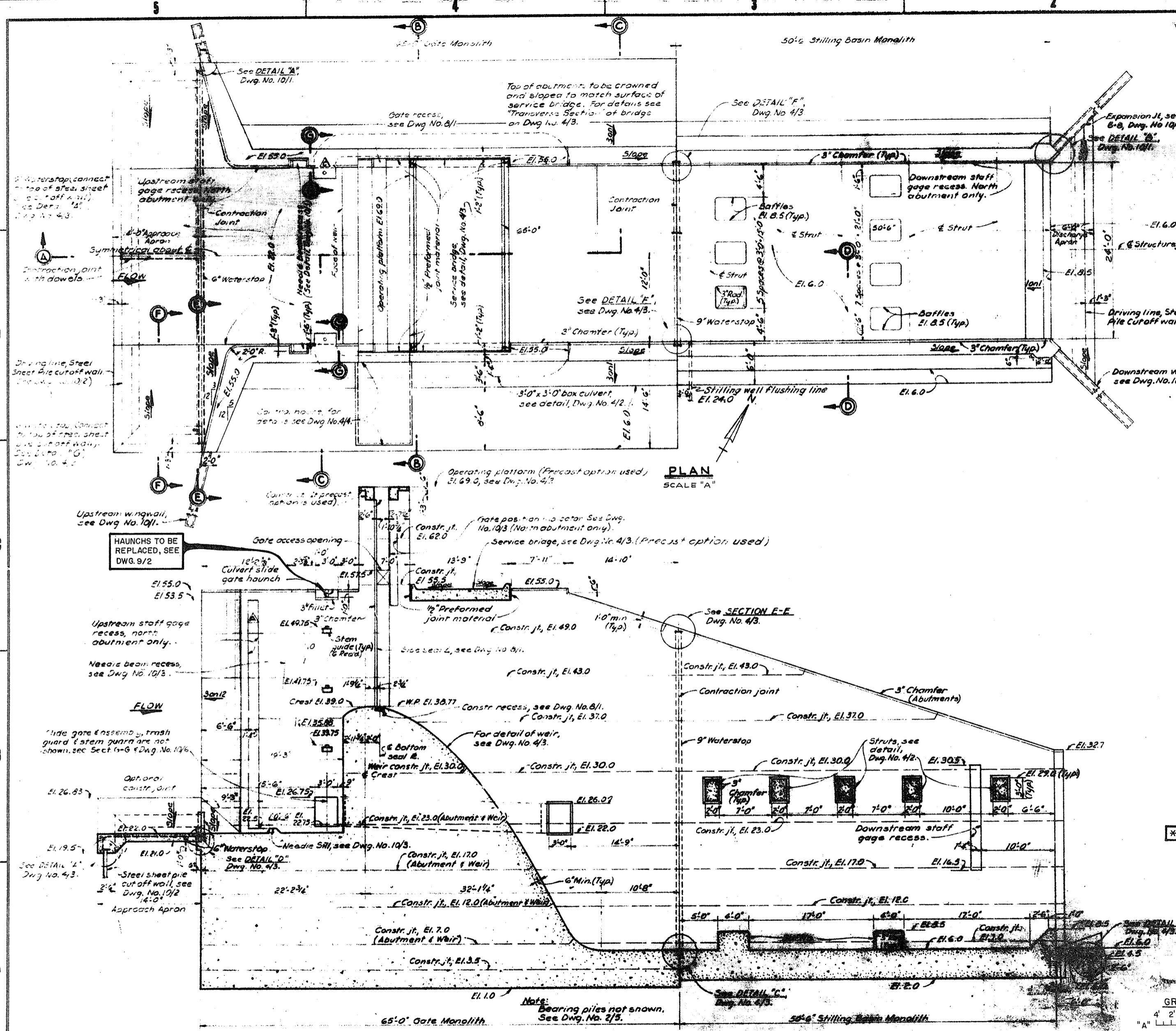
CENTRAL AND SOUTHERN FLORIDA PROJECT
FOR FLOOD CONTROL AND OTHER PURPOSES

STRUCTURE 96B AND TIEBACK LEVEE
TIEBACK LEVEE
CROSS SECTIONS

DESIGN ENGR:	V. A. P.	INV. NO.		SIZE	8/4
DRAWN BY:		DATE:	JULY 1986	SHEET	37

D. O. FILE NO. 490-34,813

REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED

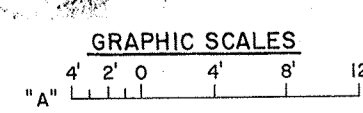


PLAN
SCALE "A"

SECTION A-A
SCALE "A"

- NOTES:**
- FOR "GENERAL MASONRY AND DESIGN NOTES", SEE DWG. NO. 2/4.
 - FOR SECTIONS B-B, C-C, D-D, E-E AND F-F, SEE DWG. NO. 4/2.
 - ALL CONTRACTION JOINTS SHALL BE PAINTED WITH TWO COATS OF ASPHALTIC PAINT AT ALL ABUTTING SURFACES EXCEPT AREAS WHERE PREFORMED JOINT MATERIAL IS SPECIFIED.
 - FOR "GENERAL NOTES" SEE DWG. NO. 1/1.

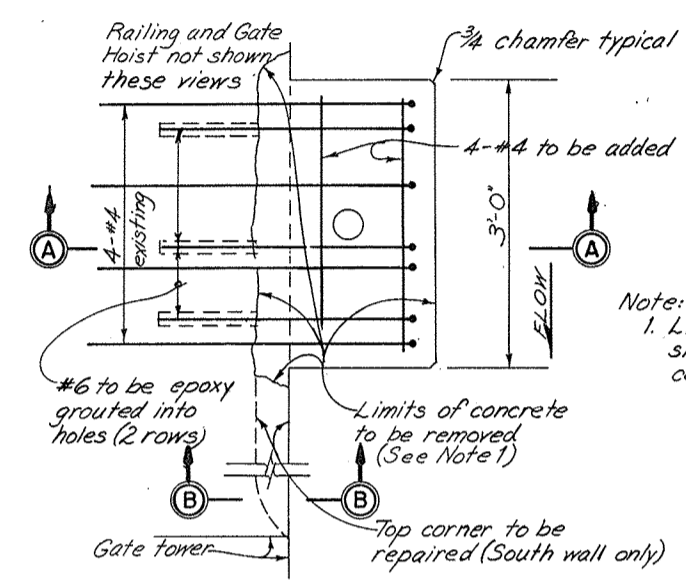
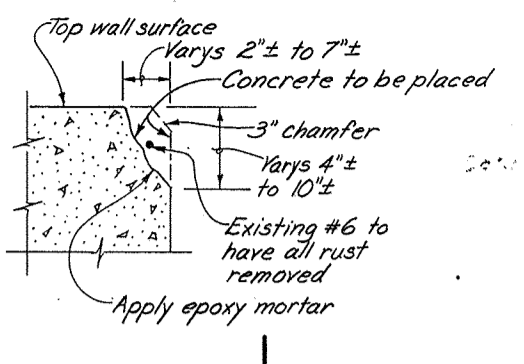
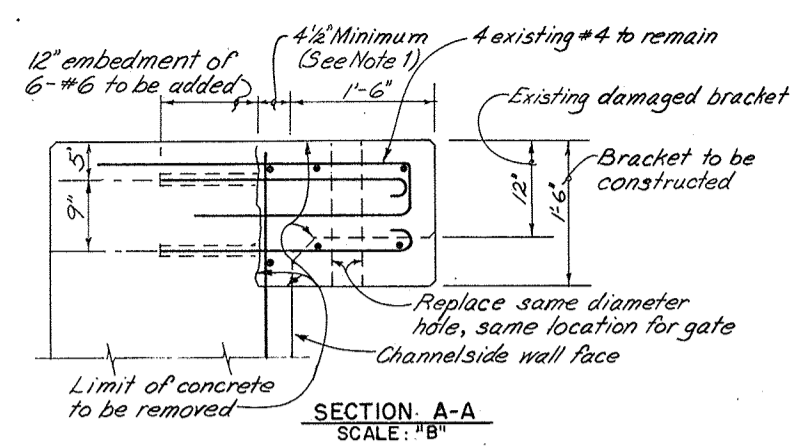
* NOTE
* INDICATES WORK TO BE DONE FOR THE 1986 CONTRACT.



U. S. ARMY
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
S-164 GATE HOIST HAUNCH CONCRETE REPAIRS
AS-BUILT PLAN AND SECTION

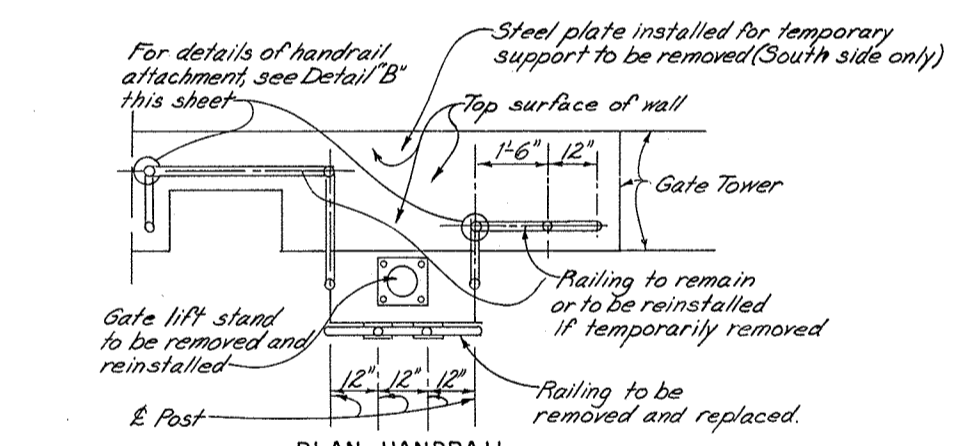
SAFETY
 24 HOUR PROTECT SIGN

NO.	DATE	DESCRIPTION	DATE	APPROVED

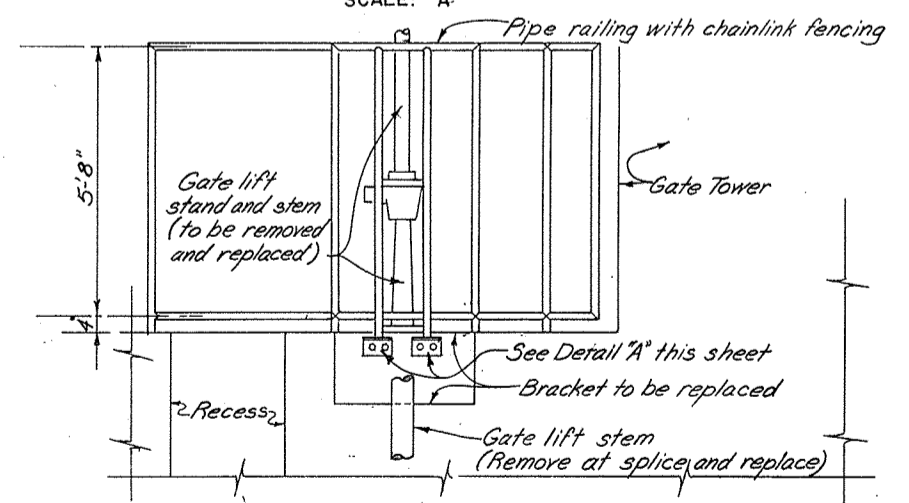


Note:
 1. Limits of concrete to be removed are shown, however all cracked, loose concrete shall be removed.

PLAN BRACKET AREA
 SHOWING CONCRETE AND REINFORCEMENT
 SCALE: "B"

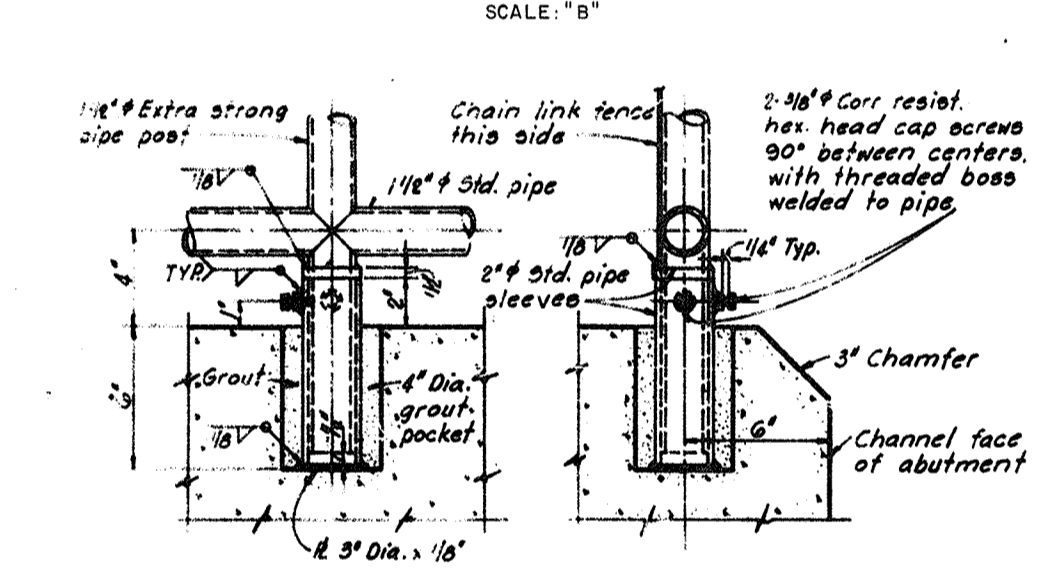
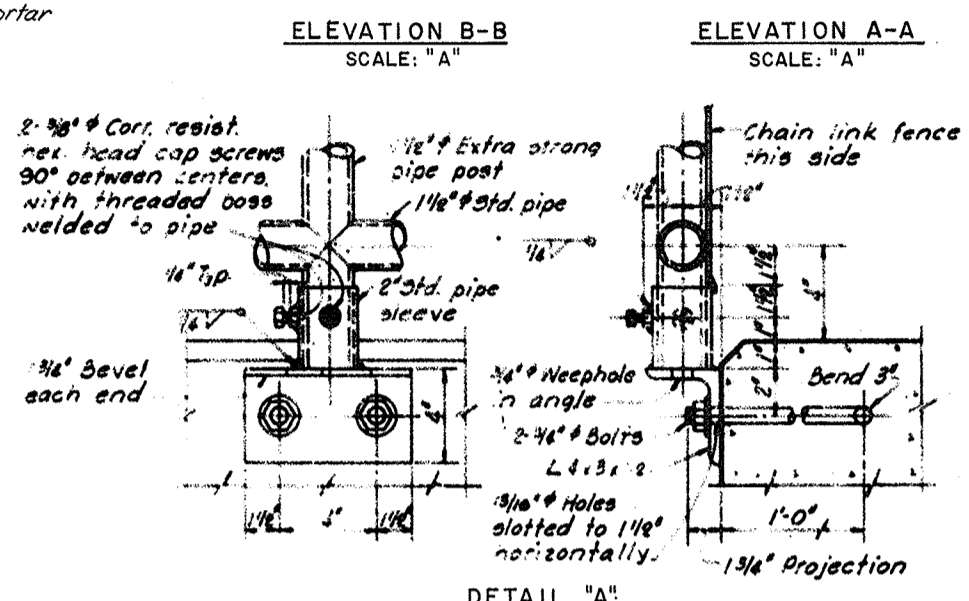
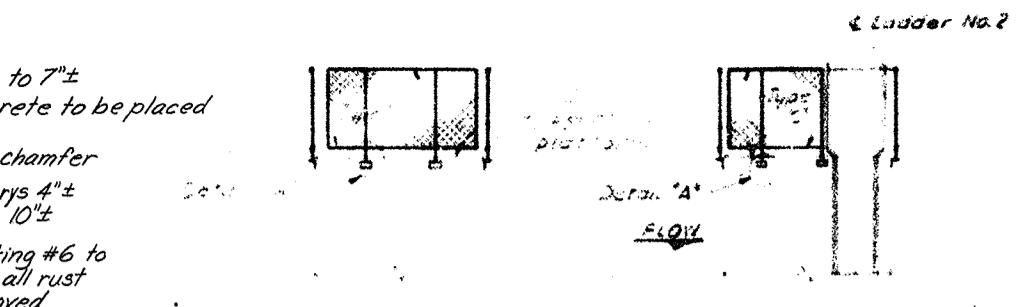
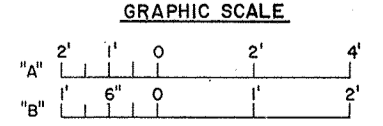


PLAN-HANDRAIL
 SCALE: "A"

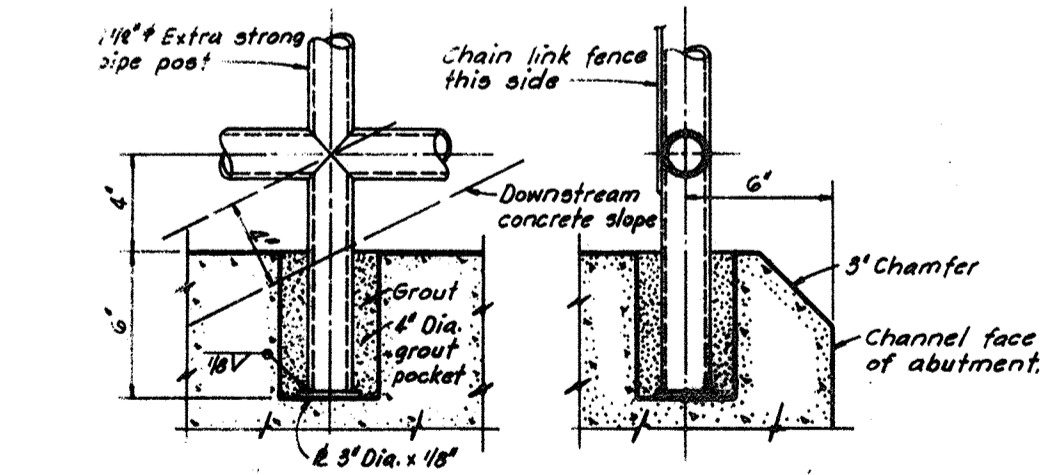


ELEVATION-BRACKET AREA
 HANDRAIL
 SCALE: "A"

DETAILS FOR THIS CONTRACT THIS SIDE OF LINE

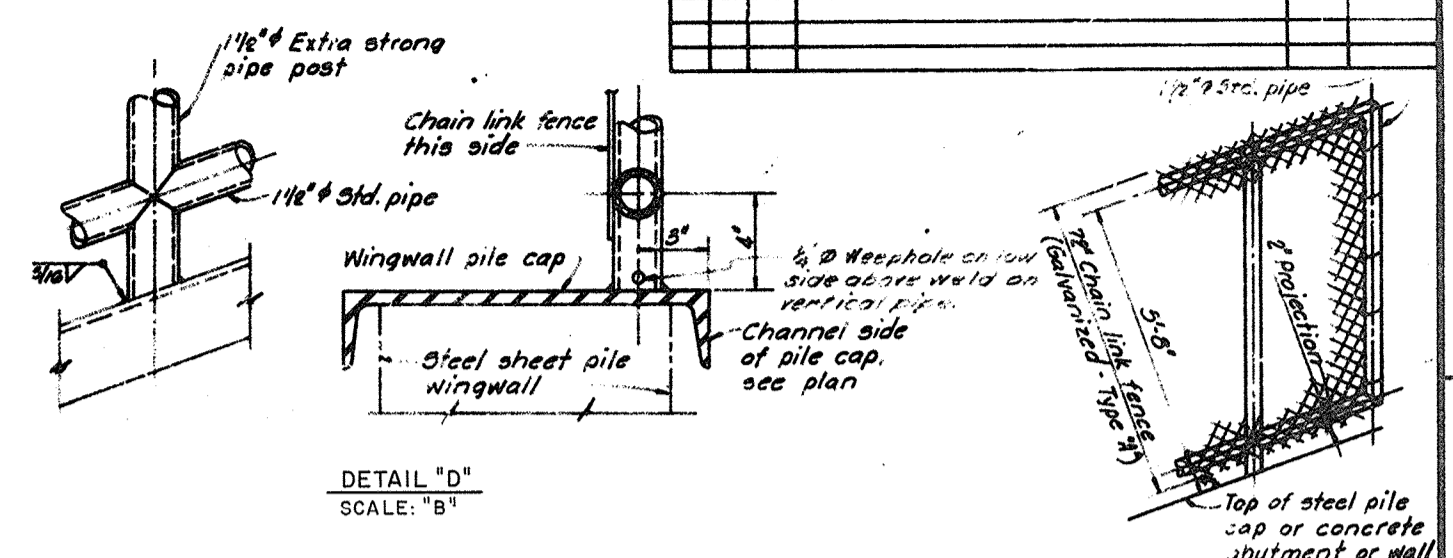


DETAIL "B"
 SCALE: "B"

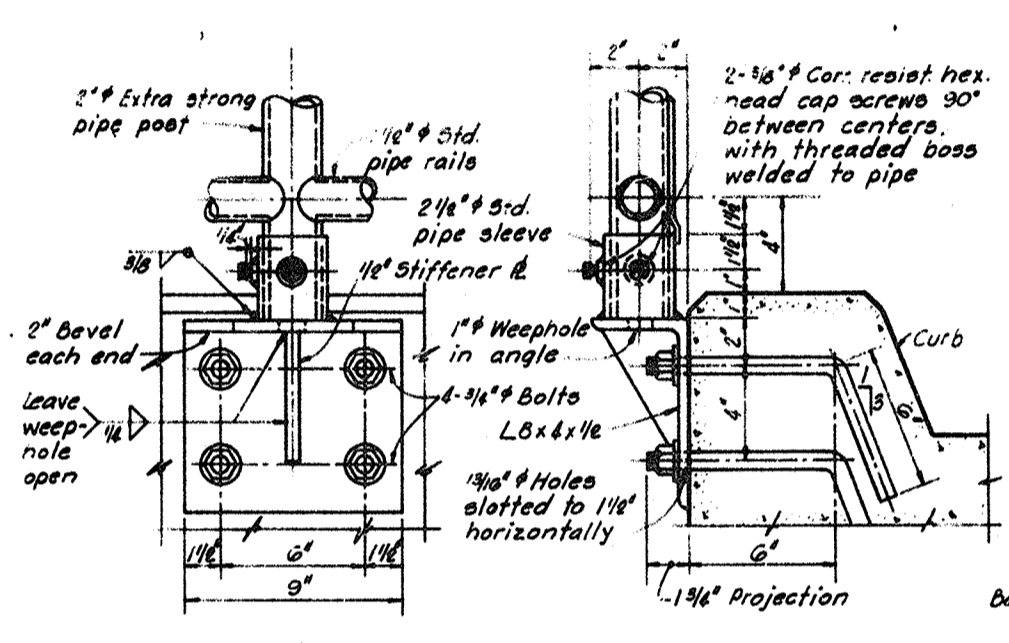


DETAIL "C"
 SCALE: "B"

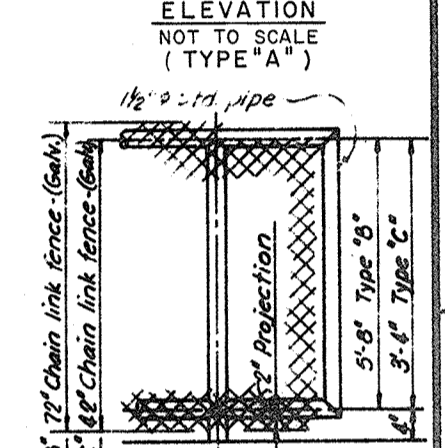
DETAILS THIS SIDE OF LINE FROM ORIGINAL CONTRACT. ONLY SPECIFIC DETAILS REQUIRED FOR THIS CONTRACT



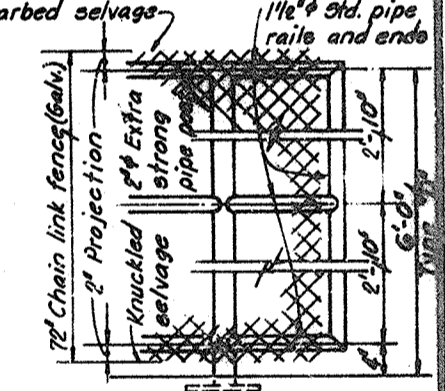
DETAIL "D"
 SCALE: "B"



DETAIL "E"
 SCALE: "B"



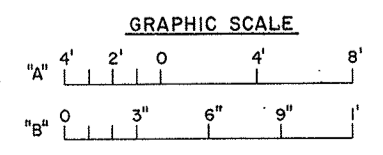
ELEVATION NOT TO SCALE (TYPE "B" & "C")



- HANDRAIL NOTES:**
- ALL HANDRAILS AND CONNECTIONS TO BE GALVANIZED.
 - ALL GALVANIZED ITEMS TO BE GALVANIZED AFTER FABRICATION.
 - WHERE GALVANIZED ITEMS LOSE THEIR COATING DUE TO FIELD WELDING, GALVANIZING REPAIRS SHALL BE MADE IN ACCORDANCE WITH THE SPECIFICATIONS.
 - HANDRAILS TO BE FLUSH WELDED TYPE.
 - ALL MATERIAL NOTED AS COR. RESIST. SHALL BE CORROSION RESISTING STEEL, TYPE 304 OR 316 UNLESS SPECIFIED OTHERWISE.
 - FOR LADDER DETAILS, SEE DNG. NO. 10/3.
 - GALVANIZED CHAIN LINK FENCE TO BE ATTACHED TO ALL HANDRAIL POSTS AND RAILS IN SUCH A MANNER THAT MEETS THE STANDARDS RECOMMENDED BY THE FENCE MANUFACTURER.
 - FOR TYPE "A", "B" AND "C" FENCING ALL POSTS SHALL BE 1 1/2" EXTRA STRONG PIPE AND ALL HORIZONTAL AND SLOPING PIPE SHALL BE 1 1/2" STANDARD PIPE UNLESS OTHERWISE SHOWN. FOR TYPE "D" FENCING, ALL POSTS AND RAILS SHALL BE PIPE OF THE SIZE INDICATED IN THE ABOVE DETAIL.
 - FOR "GENERAL WELDING NOTES", SEE DNG. NO. 2/1.

CHAIN LINK FENCE SCHEDULE			
TYPE	TOP SELVAGE	BOTTOM SELVAGE	FENCE HEIGHT
"A"	BARBED	KNUCKLED	72"
"B"	BARBED	KNUCKLED	72"
"C"	KNUCKLED	KNUCKLED	42"
"D"	BARBED	KNUCKLED	72"

TYPICAL HANDRAIL DETAILS



U.S. ARMY CORP. ENGINEER
 OFFICE OF CHIEF ENGINEER
 JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
 UPPER ST. JOHNS RIVER BASIN
 STRUCTURE 96B AND TIEBACK LEVEE
 S-164 GATE HOIST HAUNCH CONCRETE REPAIRS

HAUNCH CONCRETE REPAIRS DETAILS NO. 1
 SCALE: AS SHOWN DATED: JULY 1986 SHEET 39

SAFETY ON THIS JOB DEPENDS ON YOU

REVISIONS			
NO.	SYN	ZONE	DATE

Make No. CB-USJ96B-1

BORING LOG		DIVISION		INSTALLATION		SHEET	
Upper St. John's S-96B		South Atlantic		Jacksonville District		1 of 1 SHEETS	
1. LOCATION: Upper St. John's S-96B, Y=583,440, X=269,080		2. DATE: 3/27/86		3. ELEVATION: +7.5		4. TOTAL DEPTH: 30.0	
5. DRILLER: J. DeLooff		6. DATE: 3/27/86		7. ELEVATION: +7.5		8. TOTAL DEPTH: 30.0	
9. CLAY, with a trace of sand and shelly, green nodules of soft limestone (CH)		10. CLAY, with a trace of sand and shell, green to brown (CH)		11. SILT, calcareous, slightly sandy, with nodules of soft limestone and sandstone light green (ML)		12. LIMESTONE, very soft with sand, with seams of calcareous silt and sand green to white	
13. SAND, fine, quartz with calcareous silt and soft sandstone light green (SM) very silty -10.5 to -12.0		14. SANDSTONE, soft, quartz with calcareous silt and nodules of hard dense, white to brown limestone		15. LIMESTONE, medium hard slightly porous, slightly fossiliferous, with seams of soft limestone and solution channels, brown		16. SAND, medium to fine, quartz, with calcareous silt and nodules of soft sandstone white (SM)	
17. SILT, slightly sandy, calcareous with nodules and layers of siltstone, light green (ML)		18. 90% water return during drilling		19. 140# hammer with 30" drop used on 2" split spoon (1-3/8" ID x 2" OD)		20. Hole grouted with cement	

Make No. CB-USJ96B-2

BORING LOG		DIVISION		INSTALLATION		SHEET	
Upper St. John's S-96B		South Atlantic		Jacksonville District		2 of 1 SHEETS	
1. LOCATION: Upper St. John's S-96B, Y=583,440, X=269,085		2. DATE: 3/28/86		3. ELEVATION: +9.9		4. TOTAL DEPTH: 31.1	
5. DRILLER: J. DeLooff		6. DATE: 3/28/86		7. ELEVATION: +9.9		8. TOTAL DEPTH: 31.1	
9. PEAT, brown, peat spoil from canal banks		10. CLAY, with a trace of sand and shell, green to brown (CH)		11. SILT, calcareous, slightly sandy, with nodules of soft limestone and sandstone (ML)		12. LIMESTONE, soft, with calcareous silt, sand and shell, light green	
13. SAND, fine, quartz, with calcareous silt, seams of soft sandstone, light green (SM)		14. SILT, sandy, green (ML) nodules of hard, dense, white to brown limestone		15. LIMESTONE, medium hard, slightly porous, slightly fossiliferous, seams of soft limestone and solution channels, brown		16. SAND, medium to fine, quartz, and shell with calcareous silt, light green (SM)	
17. SILT, slightly sandy, calcareous nodules of siltstone light green (ML)		18. 90% water return during drilling		19. 140# hammer with 30" drop used on 2" split spoon (1-3/8" ID x 2" OD)		20. Hole grouted with cement	

Make No. CB-USJ96B-3

BORING LOG		DIVISION		INSTALLATION		SHEET	
Upper St. John's S-96B		South Atlantic		Jacksonville District		3 of 1 SHEETS	
1. LOCATION: Upper St. John's S-96B, Y=583,439, X=269,916		2. DATE: 4/3/86		3. ELEVATION: +18.7		4. TOTAL DEPTH: 58.5	
5. DRILLER: J. DeLooff		6. DATE: 4/3/86		7. ELEVATION: +18.7		8. TOTAL DEPTH: 58.5	
9. PEAT, brown (PT)		10. CLAY, no shell to shelly, gray to green (CH)		11. SILT, sandy, clayey, shelly green (ML)		12. CLAY, gray and brown (CH)	
13. Nodules of medium hard white limestone -1.3 to -2.8		14. SILT, calcareous, nodules of limestone (ML)		15. LIMESTONE, soft, with calcareous silt and sand, gray to white		16. SAND, medium to fine, quartz, very silty, calcareous, white with nodules of hard white limestone (SM)	
17. Hole backfilled		18. Refusal		19. 140# hammer with 30" drop used on 2" split spoon (1-3/8" ID x 2" OD)		20. Refusal	

Make No. CB-USJ96B-4

BORING LOG		DIVISION		INSTALLATION		SHEET	
Upper St. John's S-96B		South Atlantic		Jacksonville District		4 of 1 SHEETS	
1. LOCATION: Upper St. John's S-96B, Y=583,435, X=269,418		2. DATE: 4/4/86		3. ELEVATION: +19.5		4. TOTAL DEPTH: 47.5	
5. DRILLER: R. Randall		6. DATE: 4/4/86		7. ELEVATION: +19.5		8. TOTAL DEPTH: 47.5	
9. PEAT, black to dark brown (PT)		10. CLAY, gray (CH)		11. SILT, calcareous, nodules of limestone (ML)		12. LIMESTONE, soft, with calcareous silt and sand, gray to white	
13. SAND, medium to fine, quartz, very silty, calcareous, white with nodules of hard white limestone (SM)		14. SILT, calcareous, nodules of limestone (ML)		15. LIMESTONE, soft, with calcareous silt and sand, gray to white		16. SAND, medium to fine, quartz, very silty, calcareous, white with nodules of hard white limestone (SM)	
17. Hole backfilled		18. Refusal		19. 140# hammer with 30" drop used on 2" split spoon (1-3/8" ID x 2" OD)		20. Refusal	

(Continued on Dwg. No. 1012)

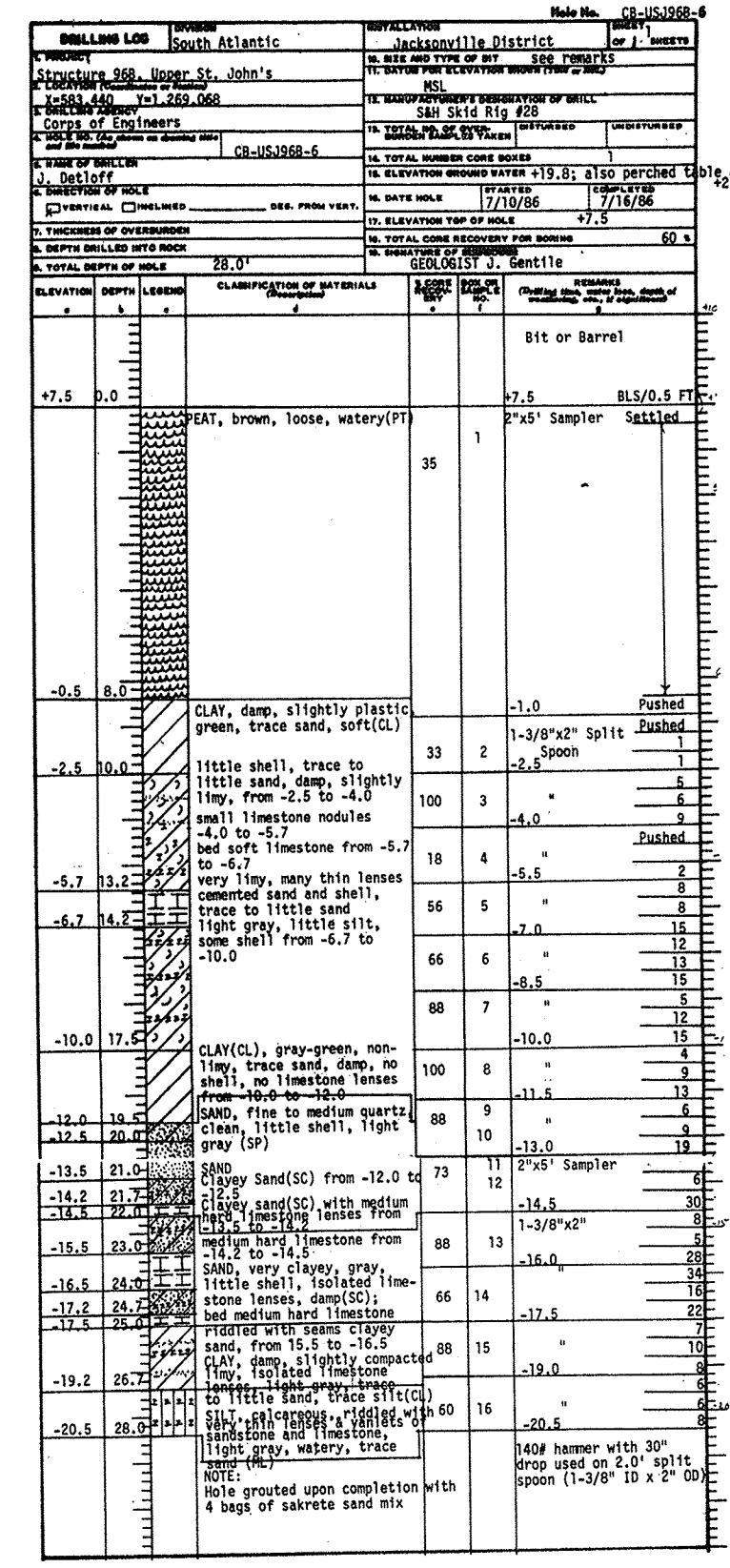
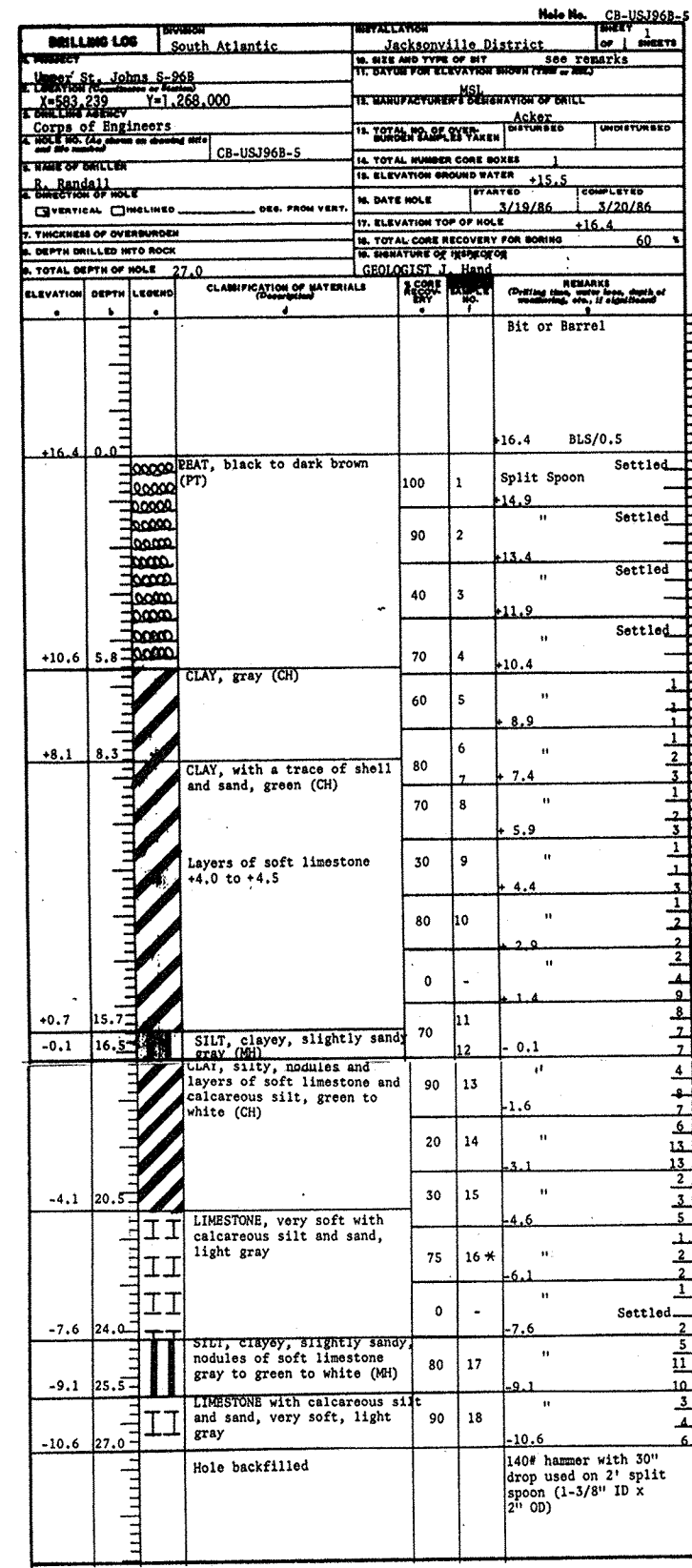
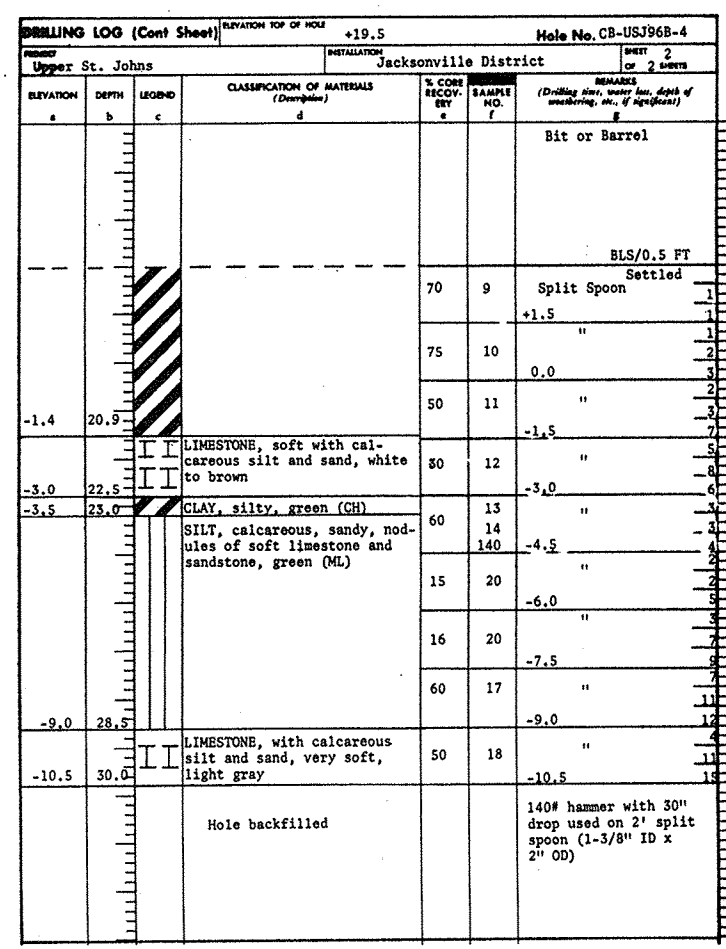
- CORE BORING NOTES**
- BORING LOCATIONS ARE SHOWN ON DWG. NO. 1/5 AND 1/3.
 - BLS/0.5 FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A SPLIT-SPOON (1 3/8" I.D. X 2" O.D.) ONE-HALF FOOT. THE SPOON IS 2.0 FEET LONG AND DRIVEN CONTINUOUSLY ONE AND ONE-HALF FEET WHERE POSSIBLE.
 - (CH) AND (SM) ETC., REFERS TO THE CORPS OF ENGINEERS UNIFIED SOILS CLASSIFICATION SYSTEM. CLASSIFICATION OF MATERIALS IS BASED ON VISUAL EXAMINATION.
 - CORE SAMPLES TAKEN DURING THE BORING OPERATIONS ARE AVAILABLE FOR INSPECTION AT THE CORPS OF ENGINEERS DREDGE DEPOT IN JACKSONVILLE, FLORIDA.
 - ORIGINAL BORING NOTES ARE AVAILABLE FOR INSPECTION AT THE JACKSONVILLE DISTRICT OFFICE.
 - GROUND WATER ELEVATIONS WERE OBSERVED ON THE COMPLETION DATES OF THE BORINGS AND ARE SUBJECT TO FLUCTUATIONS. WHERE GROUND WATER ELEVATIONS WERE NOT OBSERVED OR NOT RECORDED, IT DOES NOT NECESSARILY INDICATE THAT GROUND WATER WILL NOT BE ENCOUNTERED AT THE LOCATION AND THROUGHOUT THE DEPTH OF THE HOLE.
 - ROCK HARDNESS IS DEFINED BY THE FOLLOWING:
SOFT - CAN BE SCRATCHED WITH FINGERNAIL.
MEDIUM HARD - CAN BE SCRATCHED EASILY WITH KNIFE; CANNOT BE SCRATCHED WITH FINGERNAIL.
HARD - DIFFICULT TO SCRATCH WITH KNIFE.
VERY HARD - CANNOT BE SCRATCHED WITH KNIFE.
 - THE SOIL CLASSIFICATION SHOWN ON BORING LOGS IS BASED ON VISUAL INSPECTION.
 - SEE TABLE ON DWG. NO. 10/3 FOR LAB. SOIL CLASSIFICATION.

DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHN'S RIVER BACK
STRUCTURE 96B AND TIEBACK LEVEE
 CORE BORINGS AND MISCELLANEOUS
LOG OF BORINGS

DESIGN ENG. _____
 DWN BY: G.T.S. CD BY: _____ INV. NO. _____
 SIZE: F DWG. NO. 10/1
 SCALE: AS SHOWN DATED: JULY 1986 SHEET 40

SAFETY ON THIS JOB DEPENDS ON YOU

REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED



TEST NO.	BOTTOM OF CASING DEPTH (FT.)	BOTTOM OF HOLE DEPTH (FT.)	GPM/FT. HEAD	REMARKS
1	13.9	17.5	0.45	
2	12.5	17.5	-	LEAKAGE AROUND CASING-NO TEST
3	17.3	22.3	1.03	
4	22.0	28.0	0.65	

NOTES: FOR CORE BORING NOTES, SEE DWG. NO. 10/1.
SEE TABLE ON DWG. NO. 10/3 FOR LAB. SOIL CLASSIFICATION.

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

CORE BORINGS AND MISCELLANEOUS

LOG OF BORINGS

DESIGN ENG. _____
CHKD BY: G.T.S. _____
INV NO. _____
DATED _____
SCALE: AS SHOWN DATED: JULY 1988 SHEET 41

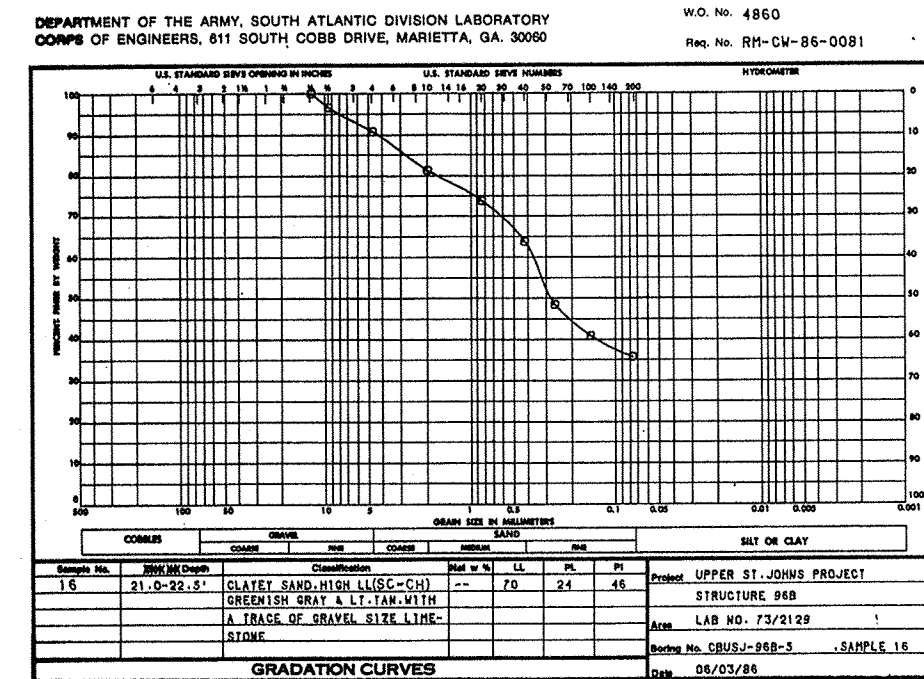
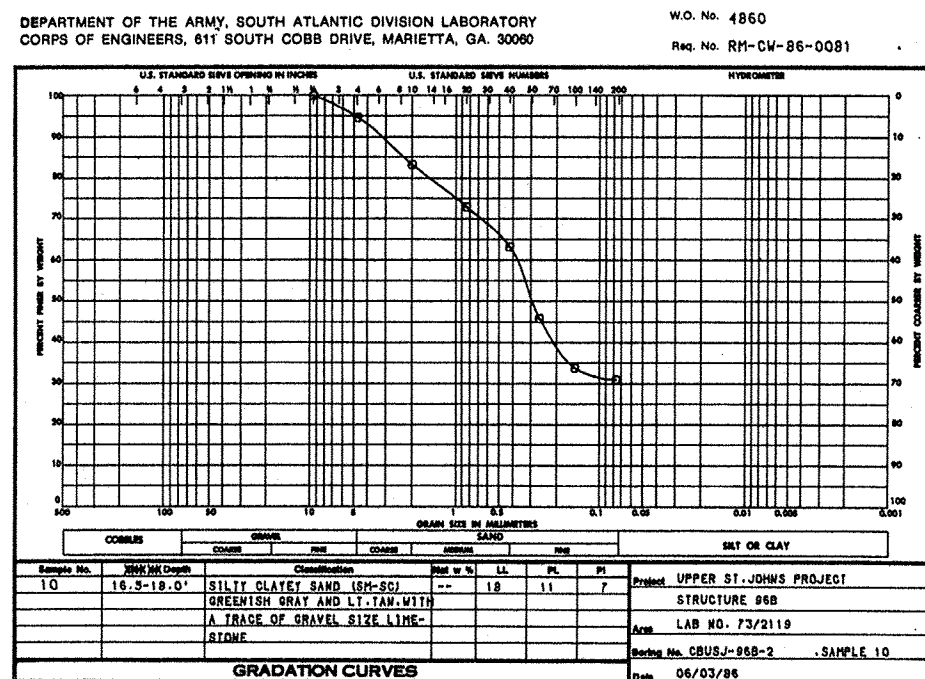
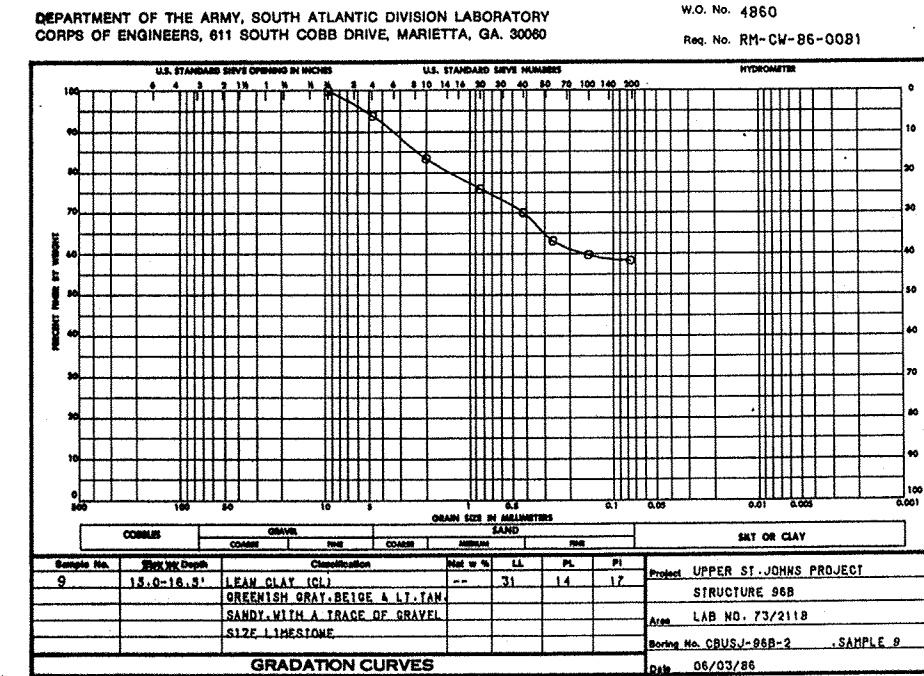
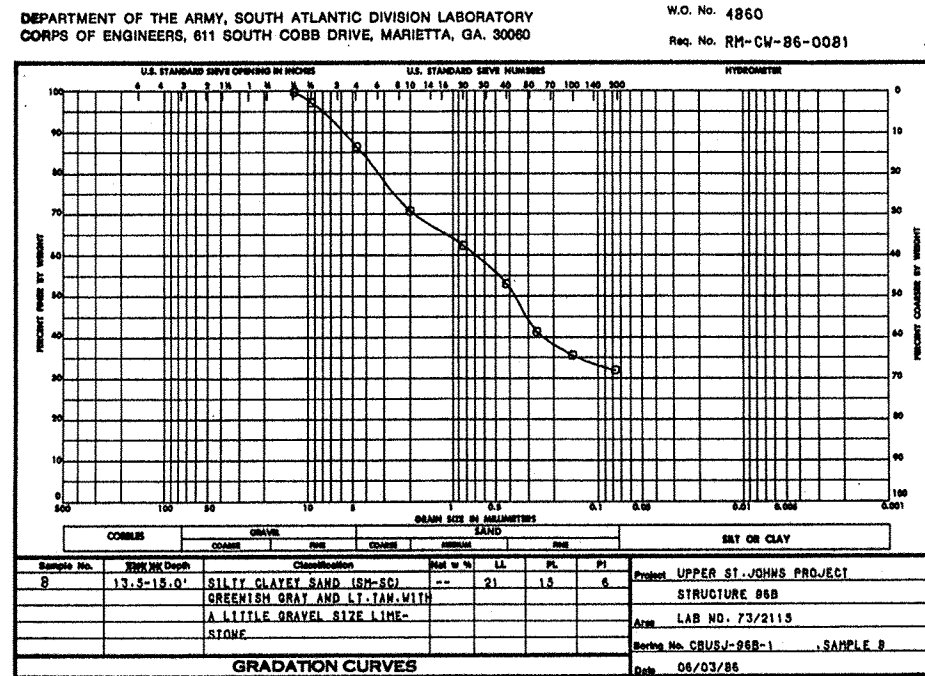
SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS			
NO.	SYM	ZONE	DATE

GENERAL TEST REPORT U.S. ARMY ENGINEER DIVISION LABORATORY, SOUTH ATLANTIC CORPS OF ENGINEERS MARIETTA, GEORGIA		DISTRICT/OFFICE Jacksonville				
PROJECT Upper St. Johns Project Structure 96B		CONTRACT NO. --				
TYPE SAMPLE Jar Samples of Disturbed Soils		DATE REPORTED 5 June 1966				
HOLE NO. CBUSJ-96B-1 thru CBUSJ-96B-5		WORK ORDER NO. 4860				
FOR USE AS Investigation		REGION NO. RM-CW-86-0081				
TESTED FOR Lab Classification and Atterberg Limits		BASE UNIT COST --				
MEETS SPECIFICATIONS N/A		DATE SAMPLE RECEIVED 14 May 1966				
Fails Specifications (See below)		LAB NO. 73/2113-2129				
Lab No.	Hole No.	Sample No.	Depth (ft)	LL	PL	PI
737						
2113	CBUSJ-96B-1	4	6.0-7.5	47	13	34
2114	"	7	12.0-13.5	27	12	15
2115	"	8	13.5-15.0	--	--	--*
2116	CBUSJ-96B-2	4	7.5-9.0	61	23	38
2117	"	7	12.0-13.5	27	13	14
2118	"	9	15.0-16.5	--	--	--*
2119	"	10	16.5-18.0	--	--	--*
2120	CBUSJ-96B-3	7	7.5-9.0	60	25	35
2121	"	9	10.5-12.0	81	28	53
2122	"	13	16.5-18.0	86	19	67
2123	CBUSJ-96B-4	8	13.5-15.0	25	16	9
2124	"	10	18.0-19.5	94	19	75
2125	"	15	24.0-25.5	24	12	12
2126	CBUSJ-96B-5	6	7.5-9.0	79	22	57
2127	"	10	12.0-13.5	68	19	49
2128	"	15	19.5-21.0	47	15	32
2129	"	16	21.0-22.5	--	--	--*

REMARKS:
*See lab classification data on ENG Form 2087.

REPORTED BY: PHONE WIRE TESTED BY: JF, MW CHECKED BY: ES
DATE: _____ SAMPLED BY: District



LABORATORY TEST DATA SUMMARY

CORE BORING	SAMPLE NO.	DEPTH (ft.)	LABORATORY SOIL CLASSIFICATION
CB-USJ96B-1	8	13.5 - 15.0	SM-SC
CB-USJ96B-2	9	15.0 - 16.5	CL
	10	16.5 - 18.0	SM-SC
CB-USJ96B-5	16	21.0 - 22.5	SC-CH

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

CORE BORINGS AND MISCELLANEOUS
GRADATION CURVES

DESIGN: EHS
DWG. NO. 10/3
SCALE: AS SHOWN DATED: JULY 1966 SHEET 42

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS					
NO.	SYM	ZONE	DESCRIPTION	DATE	APPROVED

TP-S968-1
Location: 18,000 ft. East of S-96 on centerline of C-54 North Spoil Bank
Date Excavated: July 1986
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Surface Elevation: +42.3 ft.

Depth (ft.)	Description
0'	SAND, fine to medium, quartz, little clay, tan, (SC), streaks of organic stain
3'	Tan, little clay, trace of shell (SC)
7'	Many seams and irregular masses of gray sand, up to 2-feet thick, clayey, isolated weathered soft limestone nodules and fragments, trace gravel, trace decayed shell (SC)
10'	
14'	

NOTES: 1. Ground water not reached.
2. Hole caved in at 14.0 ft.

TP-S968-2
Location: 18,150 ft. East of S-96 on centerline of C-54 North Spoil Bank
Date Excavated: July 86
Equipment Used: Case 880 Hydraulic Backhoe
Geologist: Joe Gentile

Surface Elevation: +41.3 ft.

Depth (ft.)	Description
0'	SAND, fine to medium grained, quartz, little clay, trace shell, tan (SC)
5'	
10'	Gray, little to some clay, isolated soft weathered limestone fragments and nodules, trace gravel, trace weathered shell, from 5.5 ft. to 10.0 ft. (SC)
11'	

NOTES: 1. Groundwater table not reached.
2. Hole caved in at 10.0 ft.

TP-S968-3
Location: 18,300 ft. East of S-96 on centerline of C-54 North Spoil Bank
Date Excavated: July 1986
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Surface Elevation: +40.6 ft.

Depth (ft.)	Description
0'	SAND, fine to medium, quartz, little clay, tan, isolated irregular masses of sandy (CL) clay, trace shell, (SC)
5'	
11'	Gray, some clay, isolated soft limestone nodules and fragments, trace gravel, trace shell from 9' to 11' (SC)
11'	

NOTES: 1. Groundwater not reached.
2. Hole caved in at 11.0 ft.

TP-S968-4
Location: 18,450 ft. East of S-96 on centerline of C-54 North Spoil Bank
Date Excavated: July 1986
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Surface Elevation: +40.9 ft.

Depth (ft.)	Description
0'	SAND, fine to medium, quartz, little clay, tan, some irregular masses of stiff fat clay, some clay (SC)
5'	
10'	
15'	CLAY, plastic, gray, sandy, many seams clayey sand, nodules of weathered soft limestone, (CH)
15'	

NOTES: 1. Groundwater not reached.
2. Hole stayed open to 15.0 ft.

TP-S968-5
Location: 18,600 ft. East of S-96 on centerline of C-54 North Spoil Bank
Date Excavated: July 1986
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Surface Elevation: +40.8 ft.

Depth (ft.)	Description
0'	SAND, fine to medium, quartz, little clay with seams very clayey sand, tan, many seams of (SP) sand, irregular masses of sandy (CL) clay, trace clay, (SC)
8.6'	
10'	CLAY, plastic, stiff, sandy, with seams clayey sand, gray, slightly limy, with trace gravel, limestone fragments, (CH)
15'	

NOTES: 1. Groundwater not reached.
2. Hole stayed open to 15.0 ft.

TP-S968-6
Location: 18,750 ft. east of S-96 on centerline of C-54 North Spoil Bank
Date Excavated: July 86
Equipment: Case 880 Hydraulic Backhoe
Geologist: Joe Gentile

Surface Elevation: +41.8 ft.

Depth (ft.)	Description
0'	SAND, fine to medium grained, quartz, little clay, brown, organic stain (SC)
1.5'	SAND, fine to medium grained, quartz, white, trace clay, some shell (SP)
5'	
10'	CLAY, slightly plastic, stiff, trace sand and gravel, yellow (CL)
10'	

NOTES: 1. Ground water table not reached.
2. Hole caved in at 10.0 ft.

TP-S968-7
Location: 18,900 ft. East of S-96 on centerline of C-54 North Spoil Bank
Date Excavated: July 86
Equip. Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Surface Elevation: +42.3

Depth (ft.)	Description
0'	SAND, fine to medium, quartz, little clay, brown, organic stain (SC)
1.5'	SAND, fine to medium, quartz, trace to little shell, trace clay, tan (SP)
5'	
10'	Seam of Clay (CL) from 7.0 to 8.0 ft.
10'	

NOTES: 1. Ground water table not reached.
2. Hole caved in at 10.0 ft.

TP-S968-8
Location: 19,000 ft. East of S-96 on centerline of C-54 North Spoil Bank
Date Excavated: July 1986
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Surface Elevation: +42.8 ft.

Depth (ft.)	Description
0'	SAND, fine to medium quartz, little to some clay, brown, organic stain (SC)
2'	SAND, fine to medium quartz, little shell, trace clay, tan (SP)
5'	
12'	Shelly, yellow - brown, clean from 4.5' to 12'
12'	

NOTES: 1. Groundwater not reached.
2. Hole caved in at 12.0 ft.

TP-S968-9
Location: 19,250 ft. east of S-96 on centerline of C-54 North Spoil Bank
Date Excavated: July 1986
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Surface Elevation: +46.8 ft.

Depth (ft.)	Description
0'	SAND, fine to medium, quartz, clayey, brown, organic stain, seams and lumps of sandy (CL) clay, (SC)
3'	SAND, fine to medium, quartz, clean, some shell, tan, (SP)
5'	
10'	
15'	

NOTES: 1. Groundwater not reached.
2. Hole stayed open to 15.0 ft.

TP-S968-10
Location: 19500 ft. east of S-96 on centerline of C-54 North Spoil Bank
Date Excavated: July 1986
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Surface Elevation: +46.2 ft.

Depth (ft.)	Description
0'	SAND, fine to medium, quartz, some clay, brown, some dark brown (CL) clay lumps, (SC)
3'	SAND, fine to medium, quartz, little shell, trace clay, many lumps, seams and irregular masses of sandy (CL) clay, some clay lumps, (SP)
11'	CLAY, stiff, sandy, gray, many seams of clayey sand, trace gravel (Limestone fragments), (CL)
15'	

NOTES: 1. Ground water not reached.
2. Hole caved in at 15.0 ft.

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
CORE BORINGS AND MISCELLANEOUS
TEST PITS

DESIGN ENG	CHK BY	INVT NO	DWG NO
G.T.S.	F		10/4
DATED	SCALE AS SHOWN	DATED JULY 1986	SHEET 43

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS					
NO.	SYM.	ZONE	DESCRIPTION	DATE	APPROVED

TP-S968-11 Date Excavated: July 1986
Location: 20,500 ft. East of S-96 on centerline of C-54 North Spoil Bank
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Surface Elevation: +43.2 ft.

Depth (ft.)	Description
0'	
1.5'	SAND, fine to medium, quartz, little clay, brown, (SC)
5'	SAND, fine to medium, quartz, trace clay, scattered clay lumps, tan, shelly, (SP)
10'	
11'	

NOTES: 1. Ground water not reached.
2. Hole caved in at 11.0 ft.

TP-S968-12 Date: July 1986
Location: 21,500 ft. east of S-96 on C of C-54 North Spoil Bank
Surface Elevation: +43.1 ft.
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Depth (ft.)	Description
0'	
3'	SAND, fine to medium, quartz, clayey, scattered clay lumps, tan (SC)
10'	SAND, fine to medium, quartz, trace of clay, shelly, tan, isolated clay lumps (SP)
10'	

NOTES: 1. Ground water not reached.
2. Hole caved in at 10.0 ft.

TP-S968-13 Date Excavated: July 1986
Location: 22,500 ft. East of S-96 on centerline of North Spoil Bank
Surface Elevation: +41.6 ft.
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Depth (ft.)	Description
0'	
2'	SAND, fine to medium, quartz, some clay, some clay lumps, trace of gravel (SC)
5.5'	SAND, fine to medium, quartz, trace clay, trace of stiff brown clay lumps, tan, some shell, (SP)
7.5'	SEAM of clayey sand (SC), with stiff clay lumps from 5.5' to 7.5'
10'	SAND, gray to tan, some shell, clean (SP) from 7.5' to 12'
12'	

NOTES: 1. Ground water not reached.*
2. Hole caved in at 12.0'.

TP-S968-14 Date Excavated: 7/31/86
Location: 23,500 ft. East of S-96 on C of C-54 North Spoil Bank
Surface Elevation: +40.6 ft.
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Depth (ft.)	Description
0'	
10'	SAND, fine to medium, quartz, little to some clay, many seams of shelly (SP) sand, scattered fat clay lumps (SC)
10'	

NOTES: 1. Ground water not reached.
2. Hole caved in at 10.0 ft.

TP-S968-15 Date Excavated: 8/1/86
Location: 24,350 ft. East of S-96 on centerline of C-54 North Spoil Bank
Surface Elevation: +44.5 ft.
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Depth (ft.)	Description
0'	
5'	SAND, fine to medium, quartz, little clay, tan, (SC)
14'	SAND, clayey, gray-blue, some lumps and seams of stiff blue clay, (SC)
14'	

NOTES: 1. Groundwater not reached.
2. Hole caved in at 14.0 ft.

TP-S968-16 Date Excavated: 8/1/86
Location: 17,100 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Surface Elevation: +39.8 ft.
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Depth (ft.)	Description
0'	
3'	SAND, fine to medium, quartz, some clay, brown, (SC)
8'	SAND, fine to medium, quartz, light brown, trace clay, some shell, scattered clay lumps (SP)
14'	CLAY, stiff, slightly plastic, sandy, gray, seams of silty sand, (CL)
14'	

NOTES: 1. Ground water not reached.
2. Hole caved in at 14.0 ft.

TP-S968-17 Date Excavated: 8/1/86
Location: 15,000 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Surface Elevation: +40.1 ft.
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Depth (ft.)	Description
0'	
6'	SAND, fine to medium, quartz, trace to little clay, some (CH) stiff clay lumps, trace shell, (SP)
14'	GRAY, shelly, clean, some fat clay lumps from 6' to 14'
14'	

NOTES: 1. Ground water not reached.
2. Hole stayed open to 14.0 ft.

TP-S968-18 Date Excavated: 8/1/86
Location: 14,000 ft. east of S-96 on centerline of C-54 North Spoil Bank
Surface Elevation: +41.3 ft.
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Depth (ft.)	Description
0'	
5'	SAND, fine to medium, quartz, some clay, scattered stiff clay lumps, tan (SC)
11'	SAND, fine to medium, quartz, trace clay, brown-yellow, some shell, few clay lumps (SP)
15'	CLAY, sandy, many seams of silty (SM) gray sand, stiff, slightly plastic, blue-gray (CL)
15'	

NOTES: 1. Groundwater not reached.
2. Hole stayed open at 15.0 ft.

TP-S968-19 Date Excavated: 8/4/86
Location: 13,000 ft. east of S-96 on centerline of C-54 North Spoil Bank
Surface Elevation: +38.9 ft.
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Depth (ft.)	Description
0'	
8'	SAND, fine to medium, quartz, clayey, trace shell, tan, some stiff clay lumps (SC)
13'	Many seams of shelly (SP) sand, many clay lumps
15'	CLAY, stiff, plastic, sandy, grey (CL)
15'	

NOTES: 1. Ground water not reached.

TP-S968-20 Date Excavated: 8/4/86
Location: 12,000 ft. East of S-96 on C and top of C-54 North Spoil Bank
Surface Elevation: +37.5 ft.
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile

Depth (ft.)	Description
0'	
3'	SAND, fine to medium, quartz, very clayey, numerous stiff fat clay lumps, tan (SC)
10'	SAND, fine to medium, quartz, trace shell, tan, scattered stiff clay lumps (SP)
10'	

NOTES: 1. Ground water not reached.
2. Hole caved in at 10.0 ft.

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

CORE BORINGS AND MISCELLANEOUS
TEST PITS

DESIGN ENG	CHK BY	INV NO	SHEET	DWG NO.
G.T.S.			F	10/5

SCALE: AS SHOWN DATED: JULY 1986 SHEET 44

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS			
NO.	SYM	ZONE	DATE

TP-S96B-21 Date Excavated: 8/4/86
Location: 11,350 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile
Surface Elevation +40.4 ft.

Depth (ft)	Description
0'	SAND, fine to medium, quartz, clayey, many stiff (CH) clay lumps, tan, trace gravel (SC)
5'	SAND, fine to medium, quartz, tan, some (CH) clay lumps, trace shell (SP)
9'	CLAY, stiff, plastic, sandy, gray, many seams of silty gray sand (CH)
16'	

NOTES: 1. Groundwater not reached.
2. Hole stayed open to 16.0 ft.

TP-S96B-22 Date Excavated: 8/4/86
Location: 10,000 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile
Surface Elevation: +37.4 ft.

Depth (ft)	Description
0'	SAND, fine to medium, quartz, little clay, trace shell, tan, some fat clay lumps (SC)
6'	CLAYEY SAND, blue-gray, riddled with seams gray silty sand (SC)
12'	

NOTES: 1. Groundwater not reached.
2. Hole caved in at 12.0'.

PT-S96B-23 Date Excavated: 8/4/86
Location: 8,000 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile
Surface Elevation: +31.1 ft.

Depth (ft)	Description
0'	SAND, fine to medium, quartz, clayey, tan, little shell, trace gravel, many fat clay (CH) lumps (SC)
4.0'	Green-gray, some clay lumps, little shell from 4' to 9.5'
9.5'	SAND, fine, to medium, quartz, tan-gray, trace silt, trace clay (SP)
14'	

NOTES: 1. Groundwater not reached.
2. Hole caved in at 14.0'.

TP-S96B-24 Date Excavated: 8/4/86
Location: 7,000 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile
Surface Elevation: +35.0 ft.

Depth (ft)	Description
0'	SAND, fine to medium, quartz, trace clay, trace shell, little gravel, trace cobble, tan, isolated streak of clay (CL), one foot thick (SP)
9'	CLAY, sandy, tan-gray, damp, trace gravel and cobble (CL)
12'	

NOTES: 1. Groundwater not reached.
2. Hole caved in at 12.0 ft.

TP-S96B-25 Date Excavated: 8/5/86
Location: 6,000 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile
Surface Elevation: +36.1 ft.

Depth (ft)	Description
0'	SAND, fine to medium, quartz, clayey, many stiff clay lumps, some gravel (SC)
5'	SANDY, dark brown, little gravel, many clay lumps from 5' to 10.5'
10'	
13'	SAND, fine to medium, quartz, some silt, trace clay, dark gray, some clay lumps (SH)
13'	

NOTES: 1. Groundwater not reached.
2. Hole caved in at 13.0 ft.

TP-S96B-26 Date Excavated: 8/5/86
Location: 5,000 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile
Surface Elevation: +35.6 ft.

Depth (ft)	Description
0'	SAND, fine to medium, quartz, clayey, gravelly (Limestone fragments), some shell, tan, some stiff clay lumps (SC)
3'	CLAY, stiff, slightly plastic, sandy, some gravel, grey-tan, many shell (SP) sand seams (CL)
9.6'	SAND, fine to medium, quartz, trace clay, silty, scattered clay lumps, organic stain (SM)
11'	

NOTES: 1. Groundwater not reached.
2. Hole caved in at 11.0 ft.

TP-S96B-27 Date Excavated: 8/5/86
Location: 4,000 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile
Surface Elevation: +36.6 ft.

Depth (ft)	Description
0'	SAND, fine to medium, quartz, trace clay, isolated clay lumps, some shell, some gravel, isolated Limestone cobbles and boulders, light tan (SP)
7'	SAND, fine to medium, quartz, clayey, gravelly, limy, little shell, tan (SC)
10'	CLAY, stiff, sandy, gray-blue, many seams of silty sand (CL)
12'	

NOTES: 1. Groundwater not reached.
2. Hole caved in at 12.0 ft.

TP-S96B-28 Date Excavated: 8/5/86
Location: 2,000 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile
Surface Elevation: +32.4 ft.

Depth (ft)	Description
0'	CLAY, plastic, stiff, tan-brown, sandy, many seams of silty sand with organic stain, little gravel (CL)
6'	SAND, fine to medium, quartz, trace clay lumps, tan-gray (SP)
11'	

NOTES: 1. Groundwater not reached.
2. Hole caved in at 11.0 ft.

TP-S96B-29 Date Excavated: 8/5/86
Location: 1,000 ft. east of S-96 on centerline and top of C-54 North Spoil Bank
Equipment Used: Hydraulic Backhoe (Case 880)
Geologist: Joe Gentile
Surface Elevation: +31.7 ft.

Depth (ft)	Description
0'	CLAY, stiff, tan-green, little sand, trace gravel (Limestone fragments), (CL)
6'	SAND, fine to medium, quartz, little silt, dark gray, organic stain (SM)
12'	

NOTES: 1. Groundwater not reached.
2. Hole stayed open to 12.0 ft.

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA
CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE
CORE BORINGS AND MISCELLANEOUS
TEST PITS

DESIGN NO. _____
SCALE: AS SHOWN DATED: JULY 1988 SHEET 45

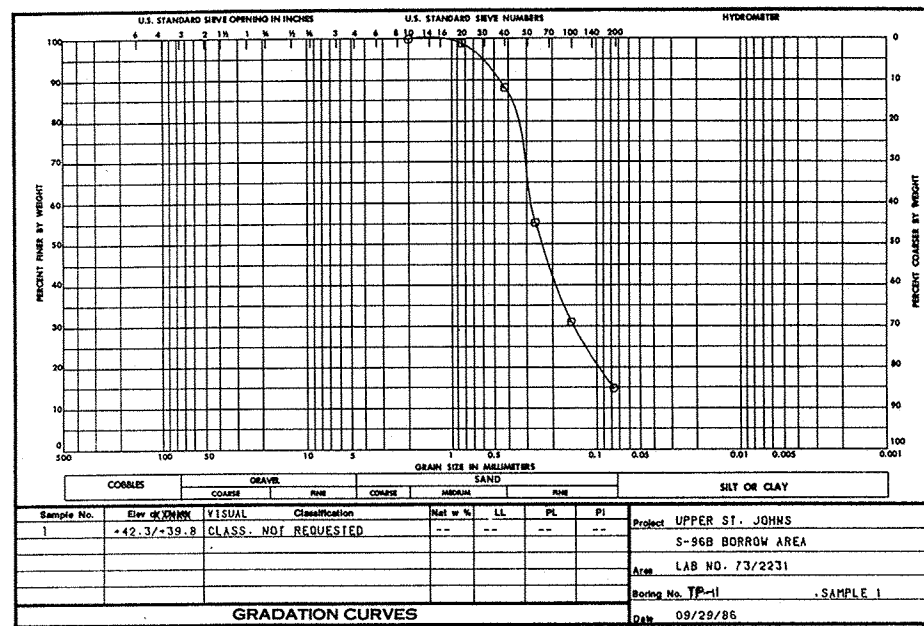
DATE: 10/6

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS			
NO.	SYM	ZONE	DATE

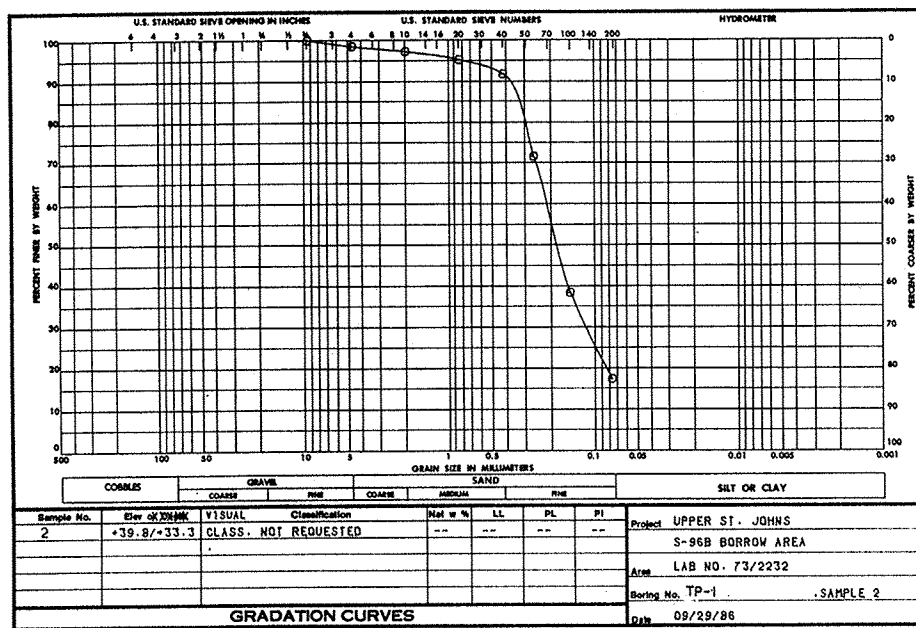
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CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

W.O. No. 4995
Req. No. RM-CW-86-0119



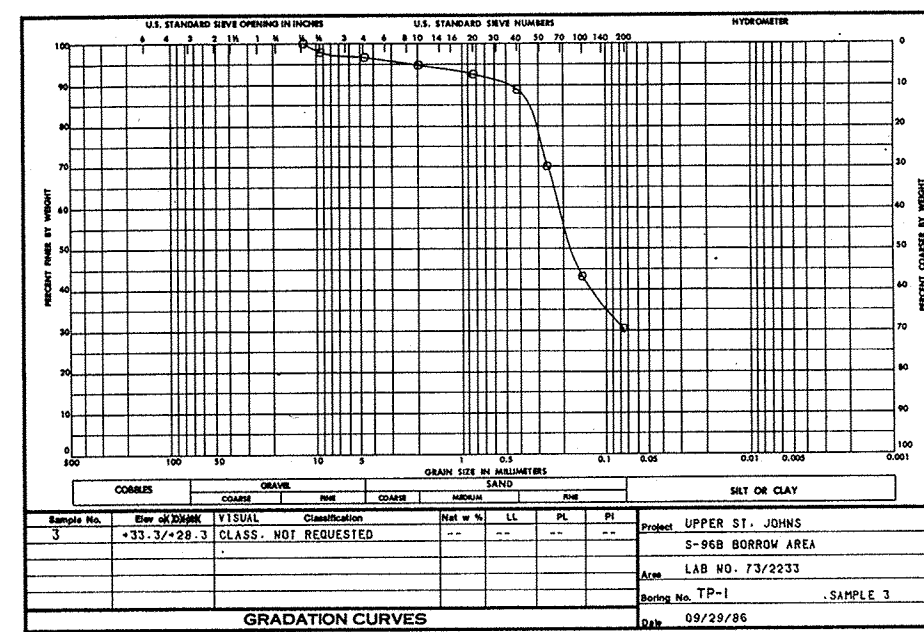
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Req. No. RM-CW-86-0119



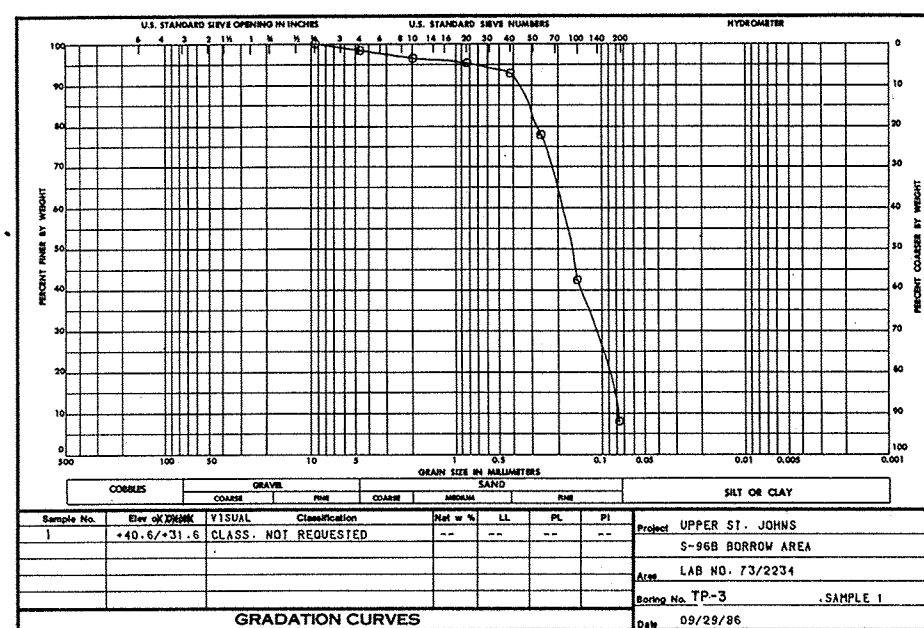
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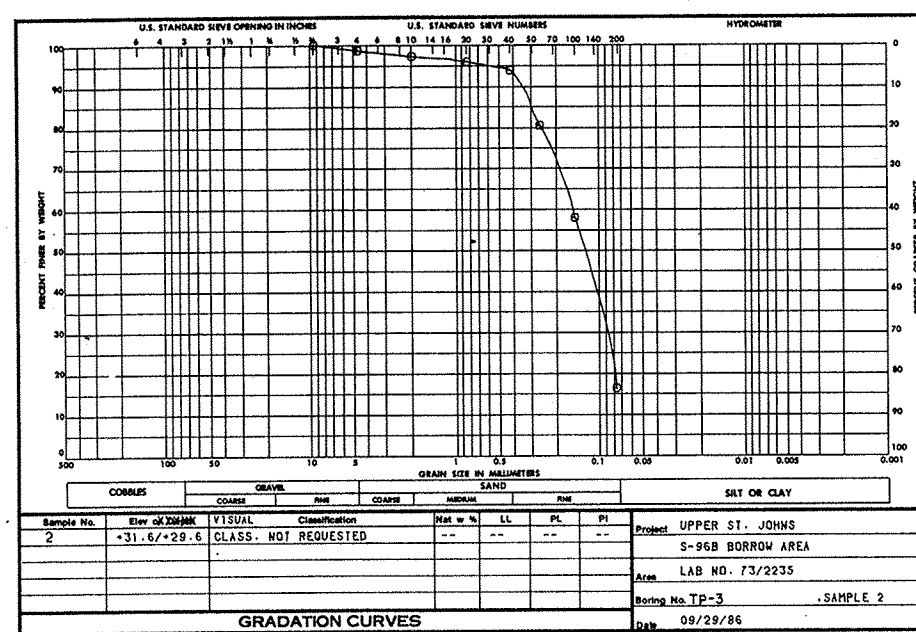
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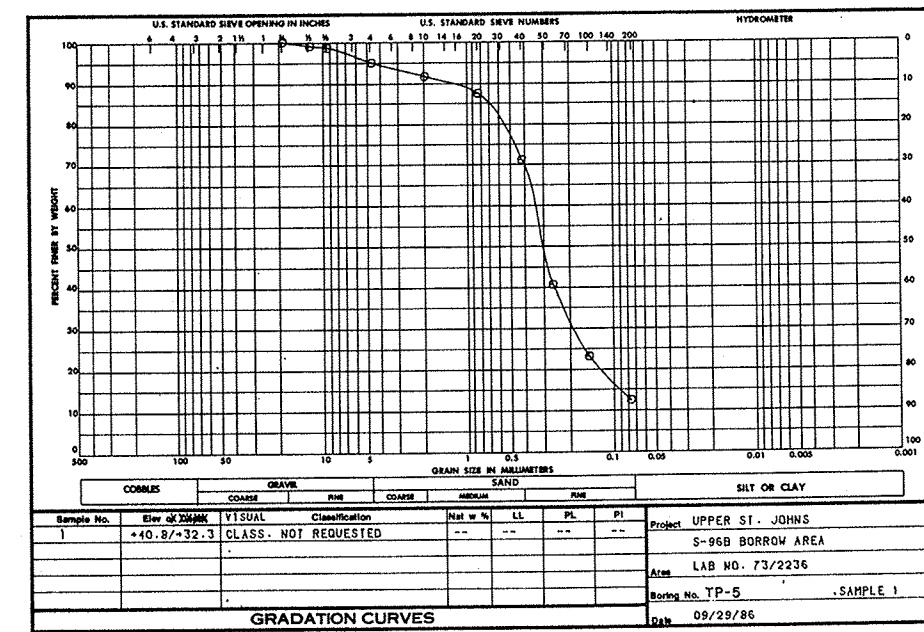
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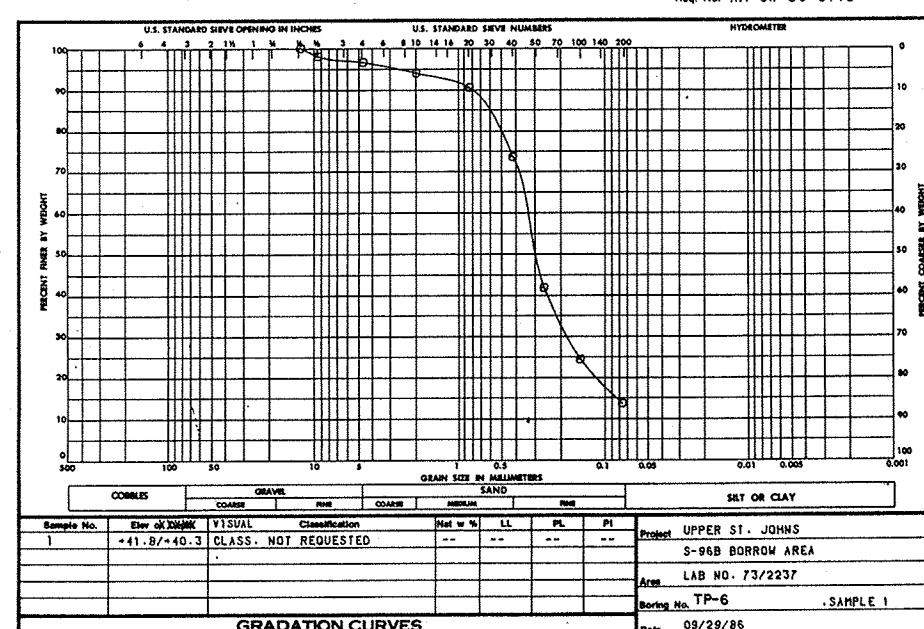
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CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

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Req. No. RM-CW-86-0119



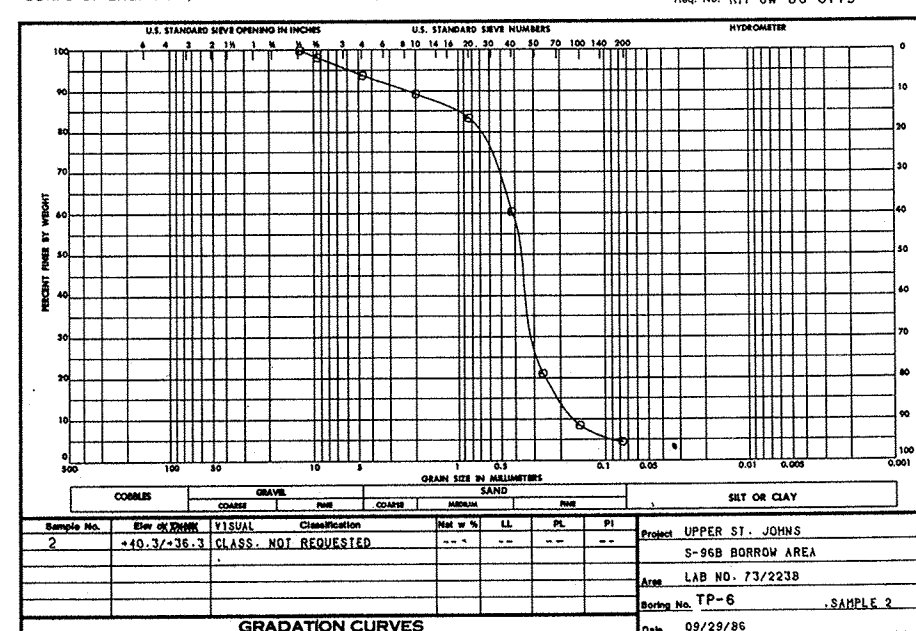
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CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

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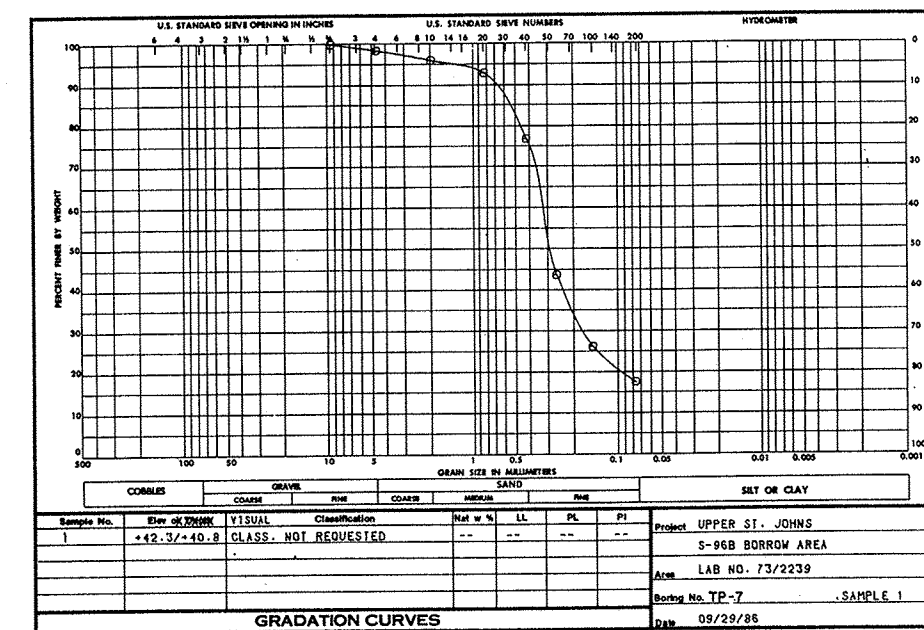
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CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE, MARIETTA, GA. 30060

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Req. No. RM-CW-86-0119



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DEPARTMENT OF THE ARMY
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JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

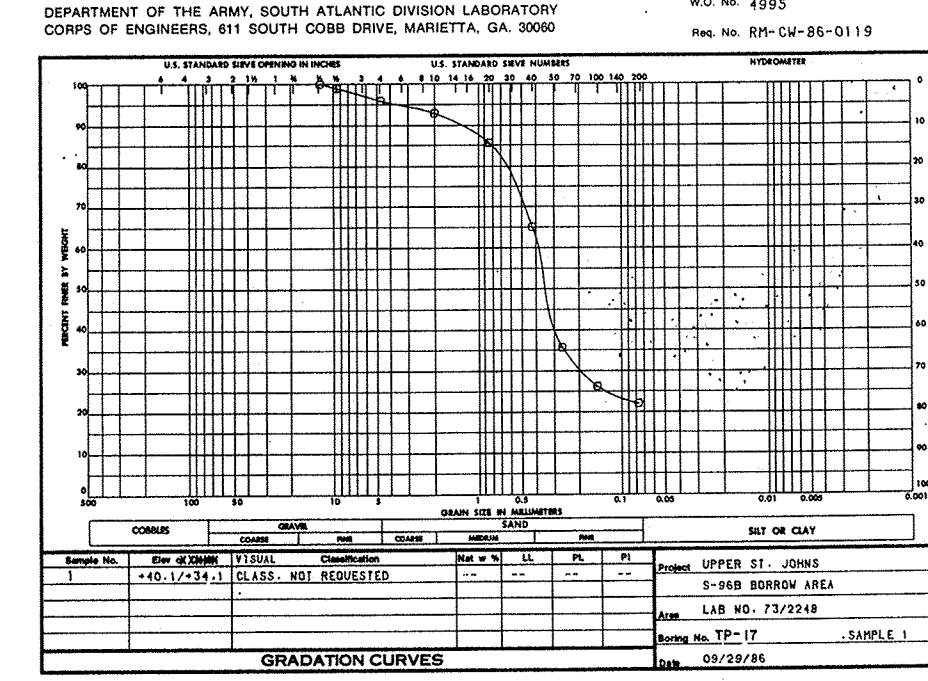
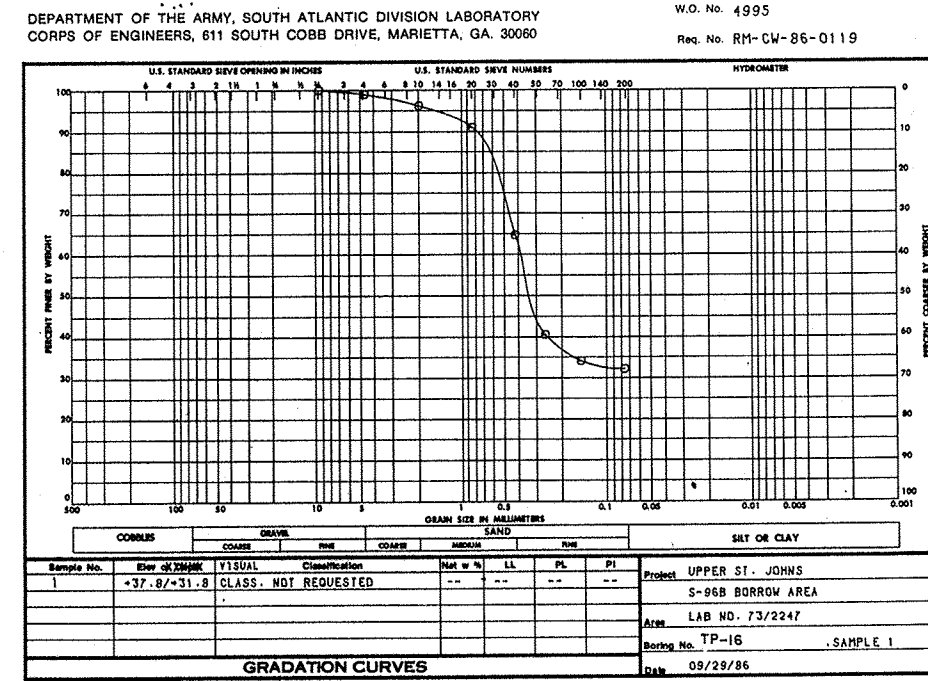
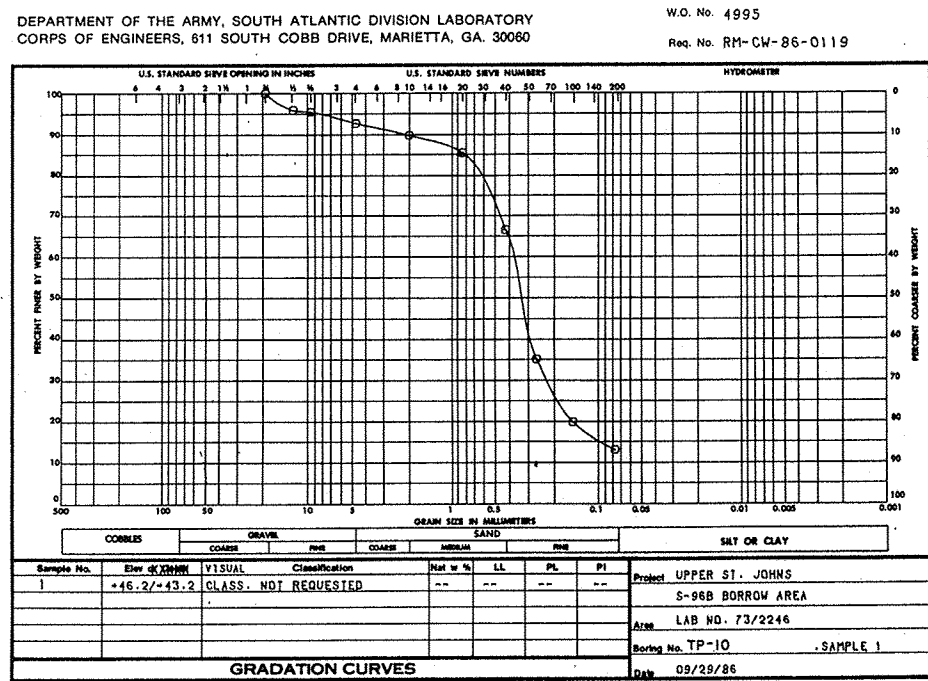
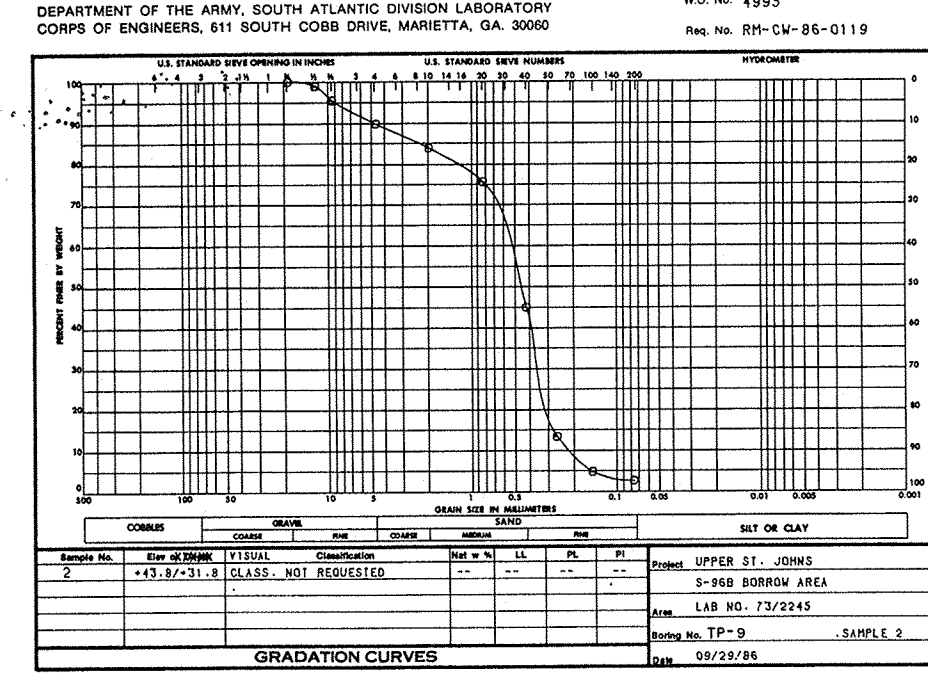
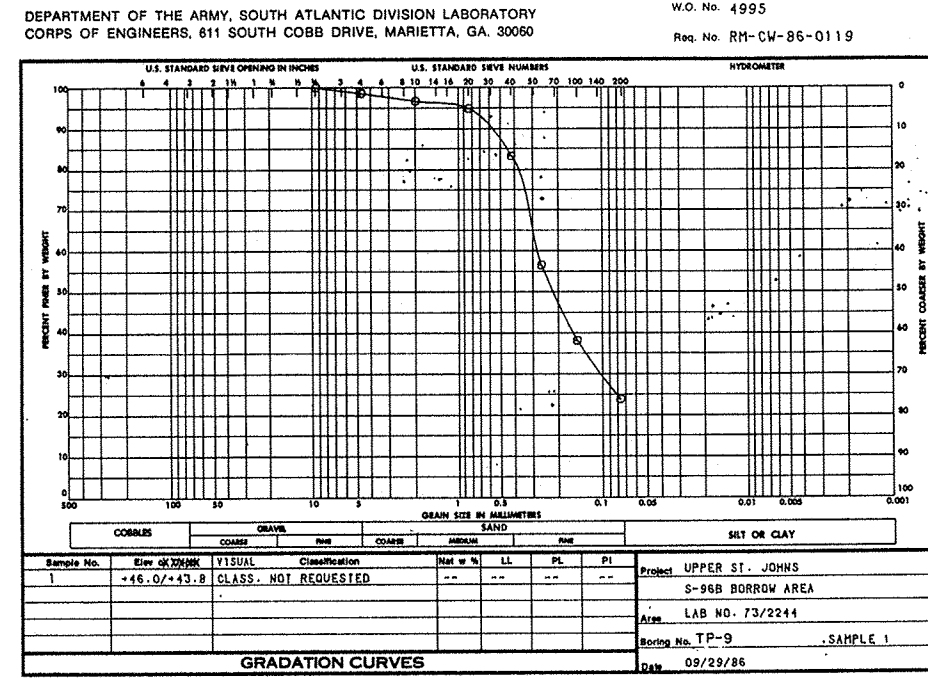
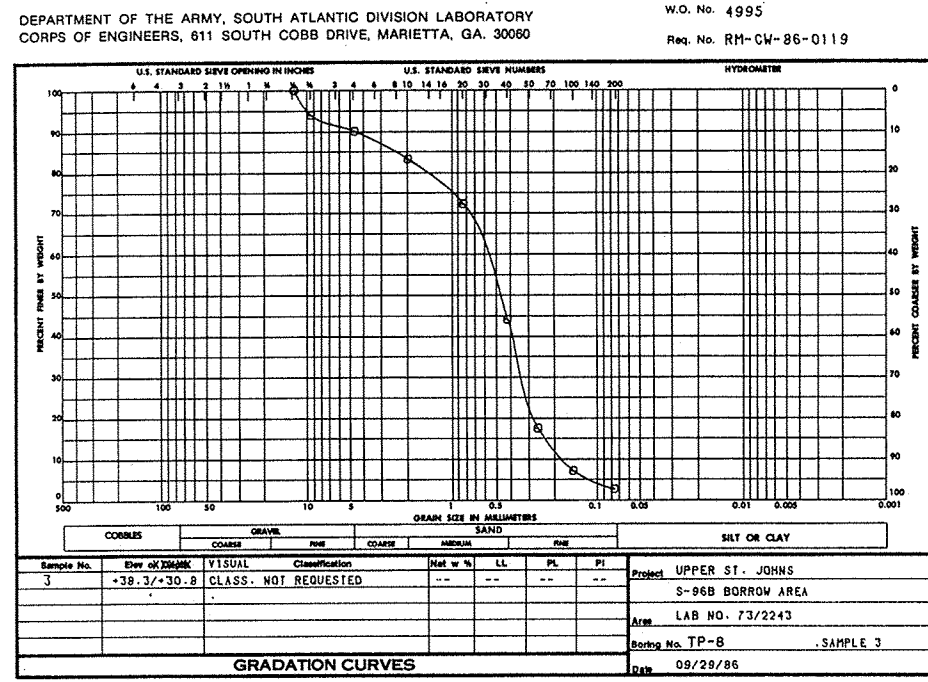
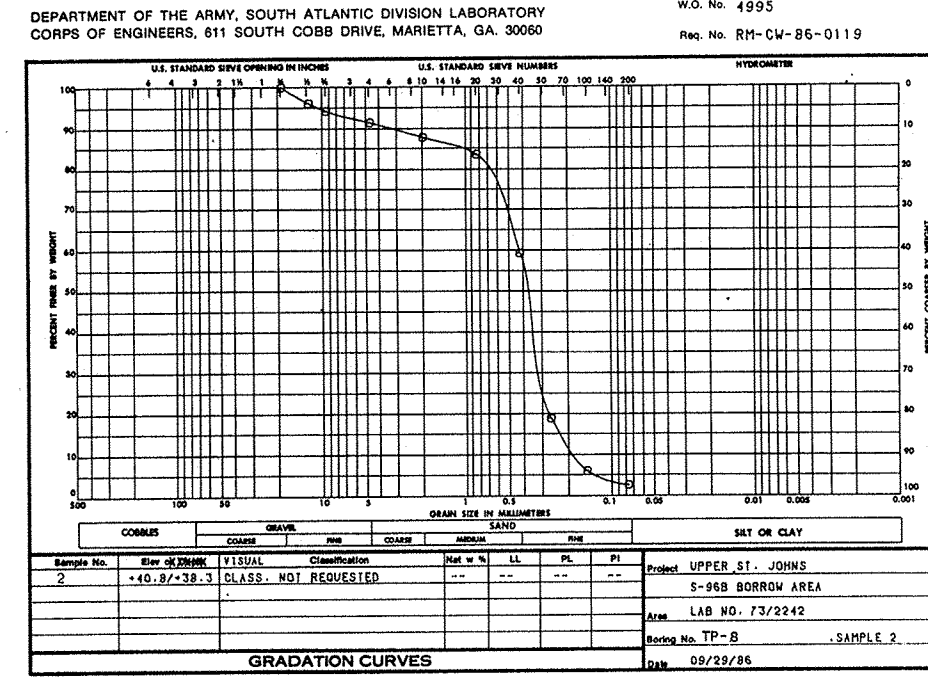
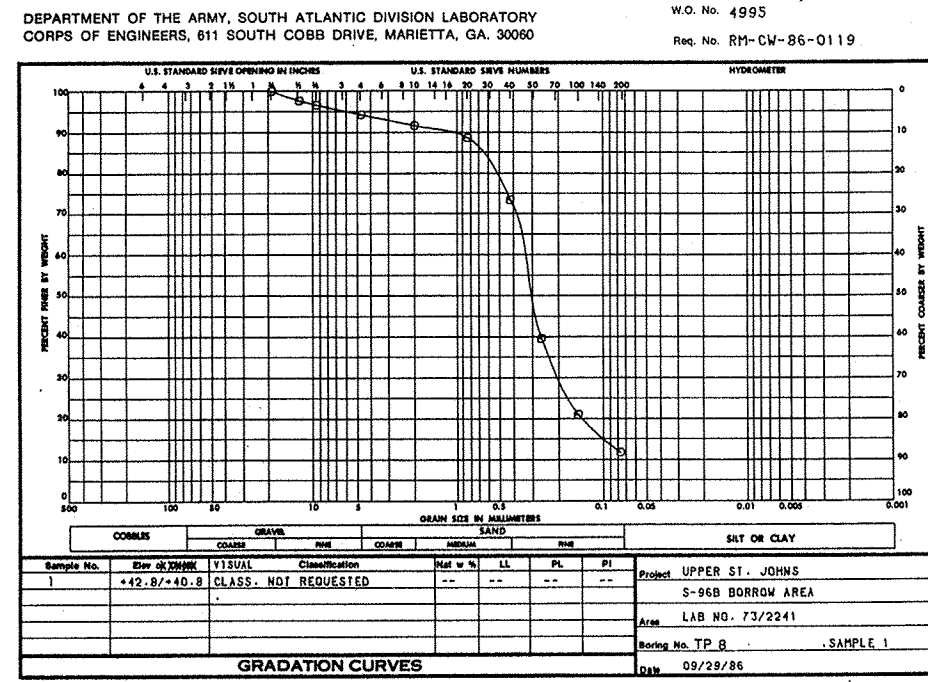
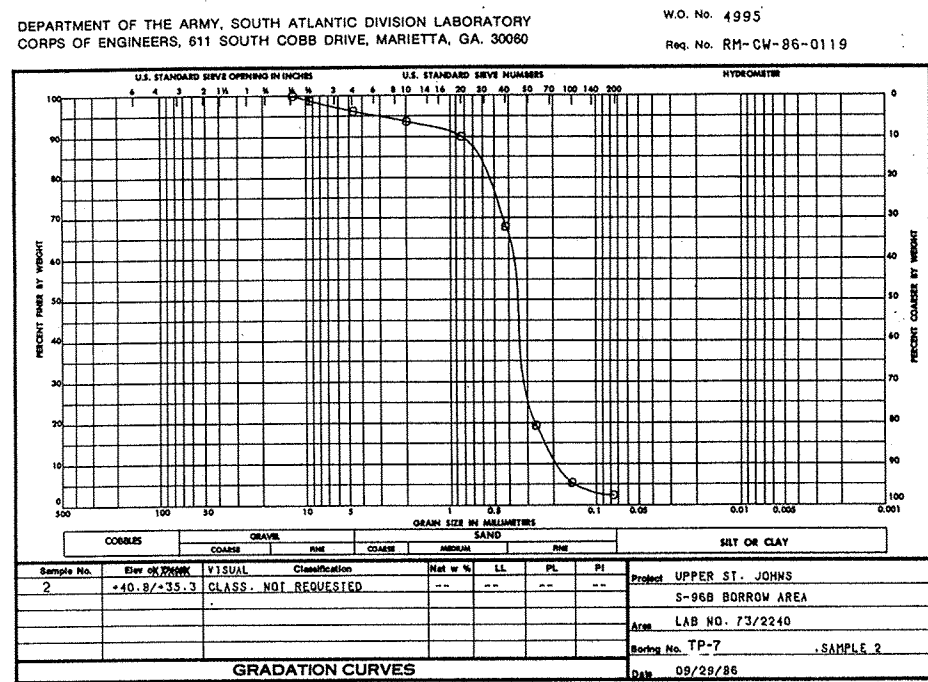
CORE BORINGS AND MISCELLANEOUS
GRADATION CURVES

DATE: 09/29/86
SCALE: AS SHOWN
DATED: JULY 1986
SHEET 46

SIZE: 10/7
G.T.S. F

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS			
NO.	SYM	ZONE	DATE



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST JOHNS RIVER BASIN
CORE BORINGS AND MISCELLANEOUS

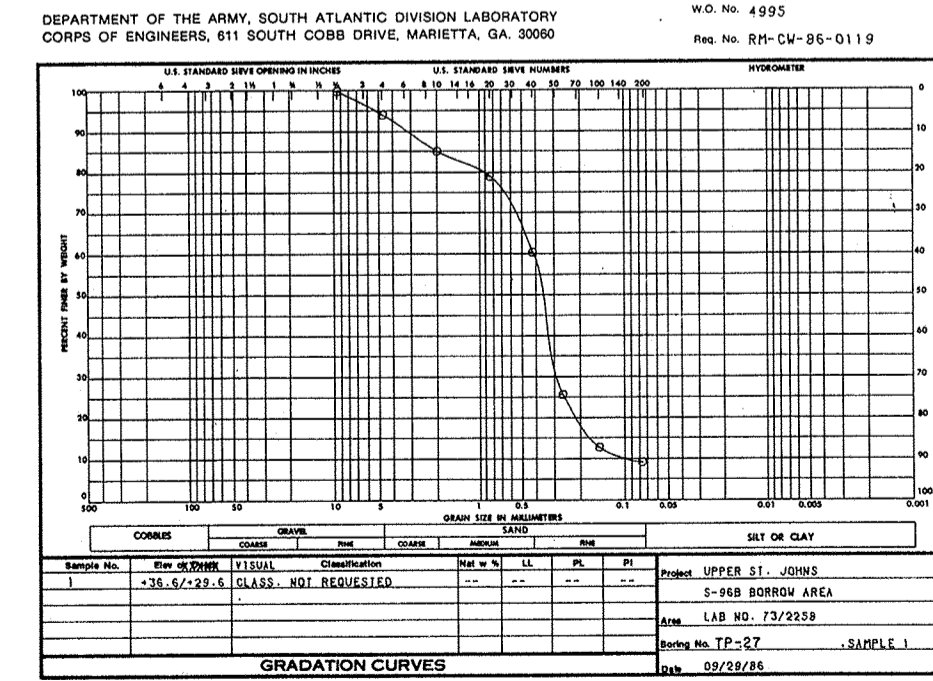
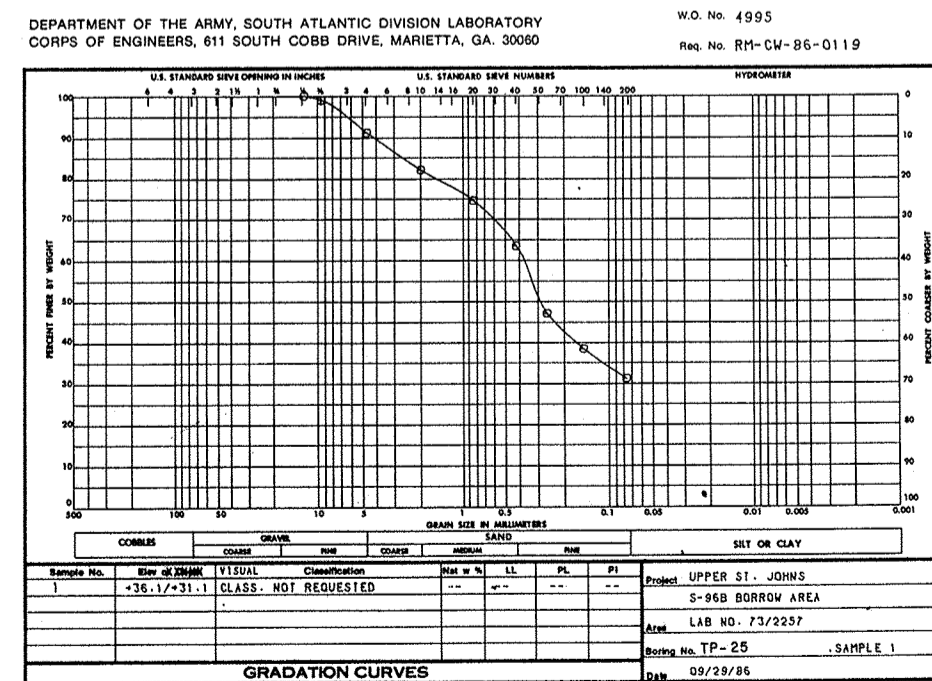
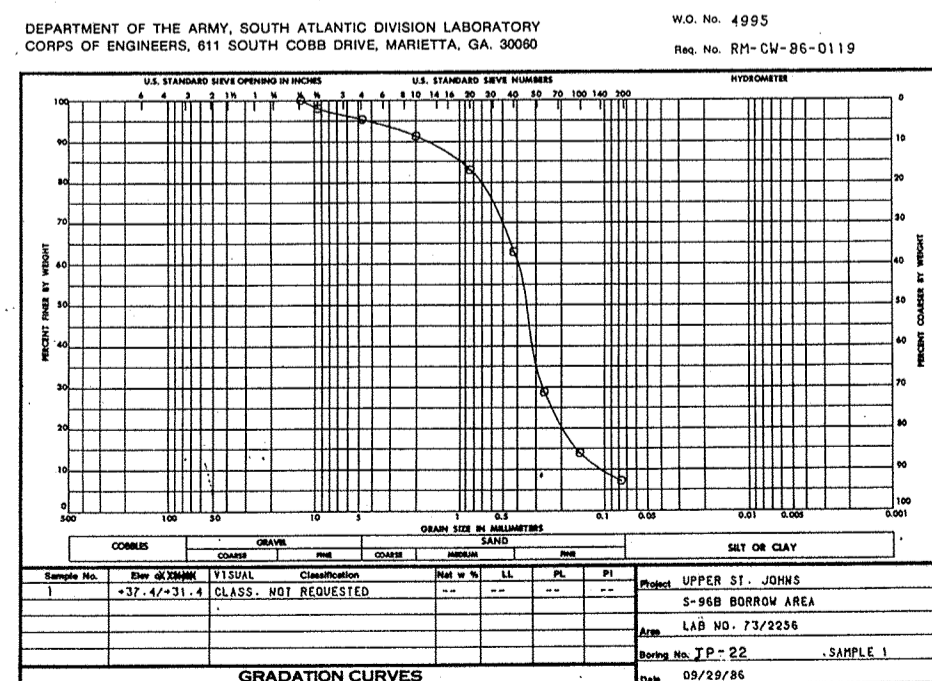
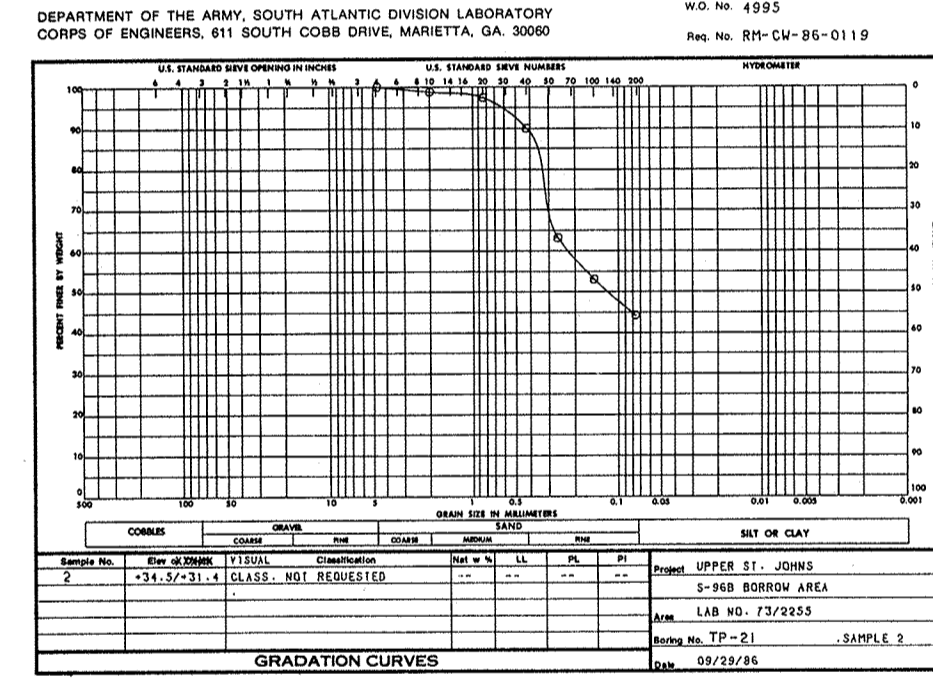
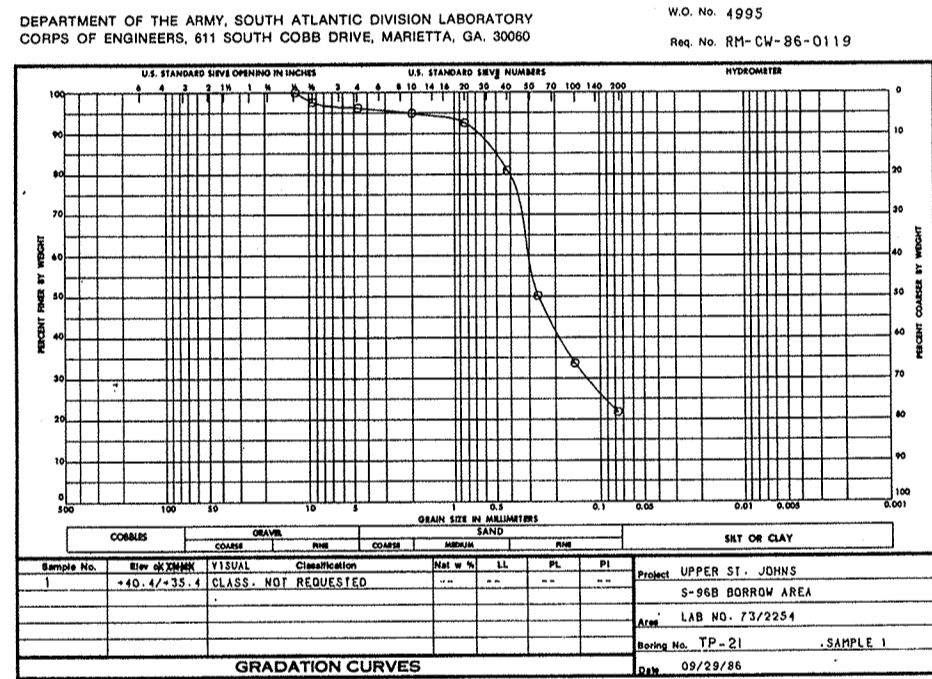
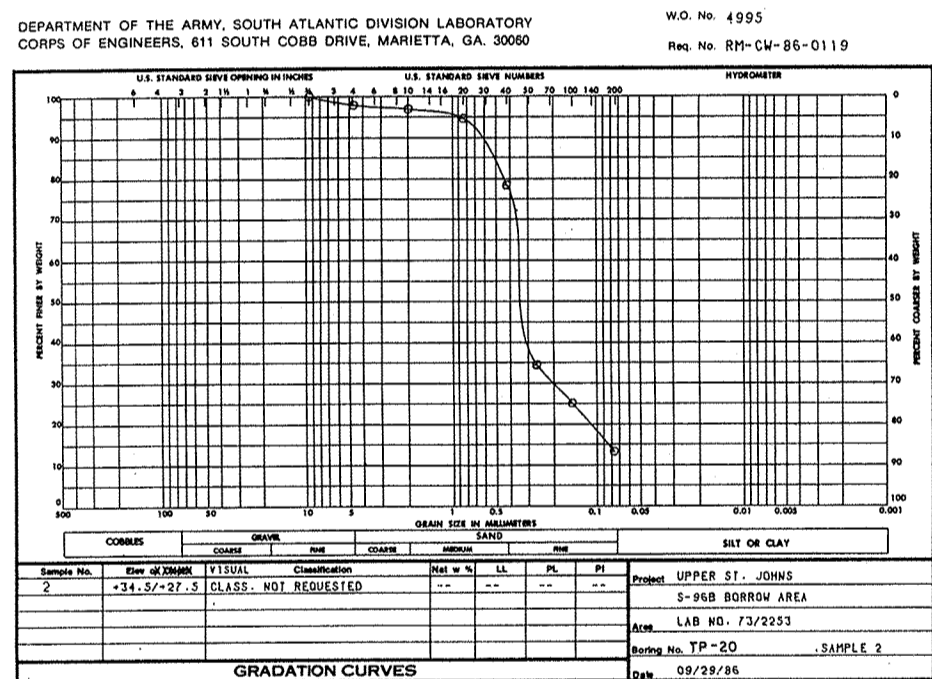
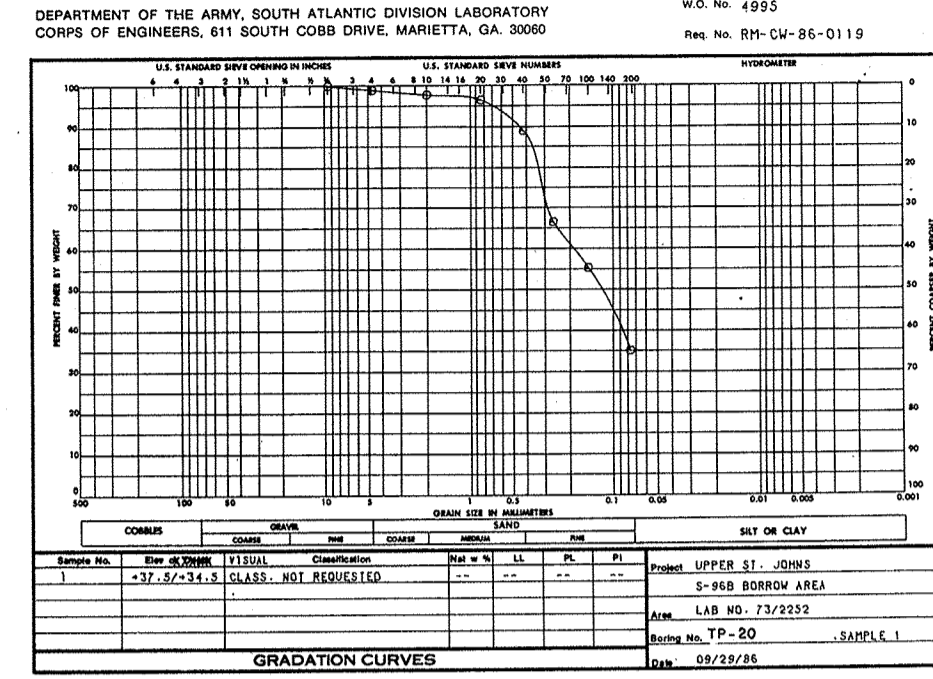
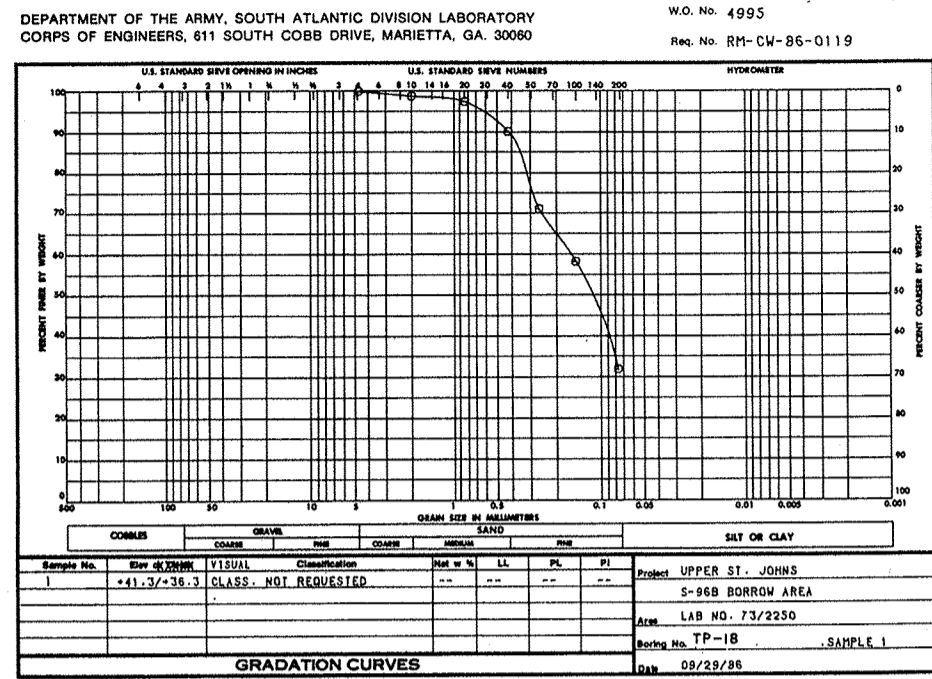
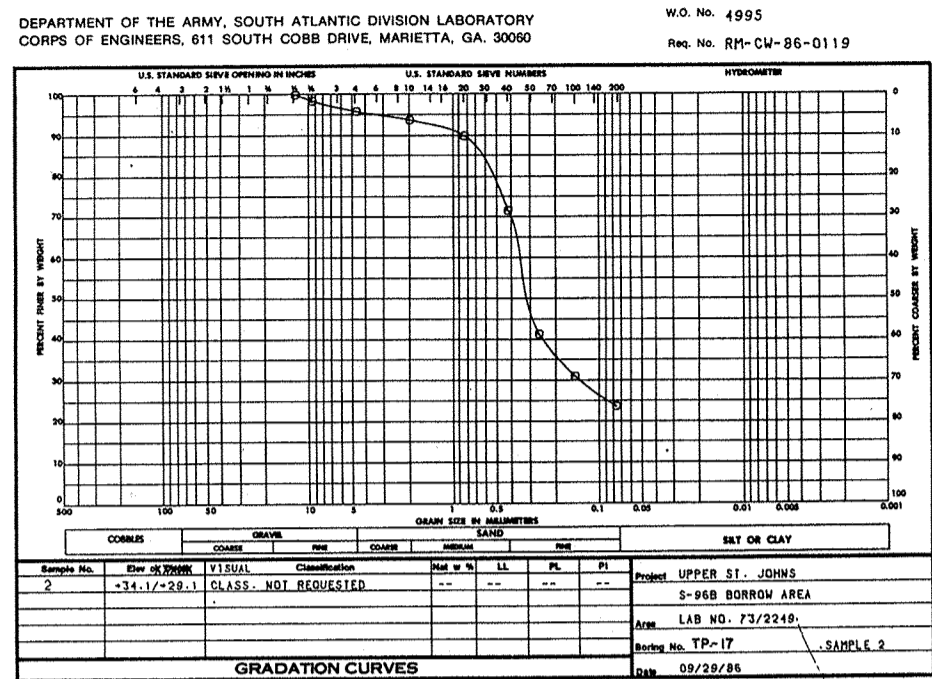
GRADATION CURVES

DESIGN NO.	
DRAWN BY	
CHECKED BY	
INVT. NO.	
DATE	
SCALE AS SHOWN	
DATED	JULY 1986
SHEET	47

SIZE: 10/8

SAFETY ON THIS JOB
DEPENDS ON YOU

REVISIONS		DATE	APPROVED
NO.	SYM. ZONE	DESCRIPTION	



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

CENTRAL AND SOUTHERN FLORIDA PROJECT
UPPER ST. JOHNS RIVER BASIN
STRUCTURE 96B AND TIEBACK LEVEE

CORE BORINGS AND MISCELLANEOUS
GRADATION CURVES

SCALE: AS SHOWN DATED: JULY 1986 SHEET 48

DESIGN NO. _____
REV. NO. _____
G.T.S. _____
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