

All Granular Borrow placed in the embankment slope under the riprap and within 12 inches of the back side of the riprap areas shall consist of a material containing not more than 10 percent passing a 1/4 inch mesh sieve and not more than 10 percent passing a 200 mesh sieve. The cost of furnishing and placing the material will be paid for under Item 203.25, Granular Borrow.

### SCOPE OF WORK (Whitney Brook Bridge)

Widen superstructure downstream and remove existing upstream sidewalk to facilitate 44 feet curb to curb with a new 5 foot sidewalk located downstream. Remove existing wearing surface to top of existing slab. Add new bituminous wearing surface with membrane waterproofing, 2-bar aluminum bridge railing upstream and 3-bar aluminum bridge railing with poles downstream. Widening to be concrete T-beams as shown. Abutments to be widened downstream. Widened portions to be cantilever type with front batters similar to existing. Abutments are to rest on spread footings.

Stage construction with a minimum of 19 feet for two way traffic shall be maintained.

### SPECIFICATIONS

DESIGN: Load Factor Design per AASHTO Standard Specifications for Highway Bridges 1983 and Interim Specifications 1984 thru 1987.  
CONTRACT: State of Maine Department of Transportation Standard Specifications Highway Bridges, Revision of 1988.

DESIGN LOADING: ... Live Load: ... HS25

### MATERIALS

CONCRETE: ... Footings Class B, All other Class A  
REINFORCING STEEL: ... ASTM A615 Grade 60

### BASIC DESIGN STRESSES

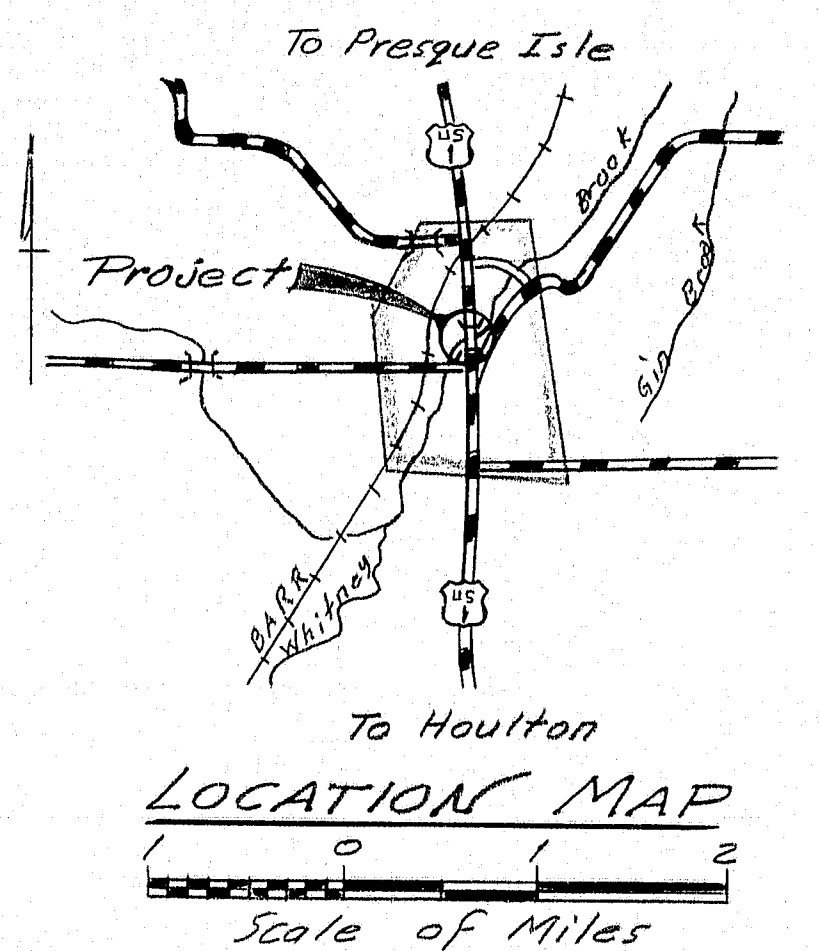
CONCRETE: ...  $f_c = 3,000$  PSI  
REINFORCING STEEL: ...  $f_y = 60,000$  PSI

### INDEX OF BRIDGE PLANS

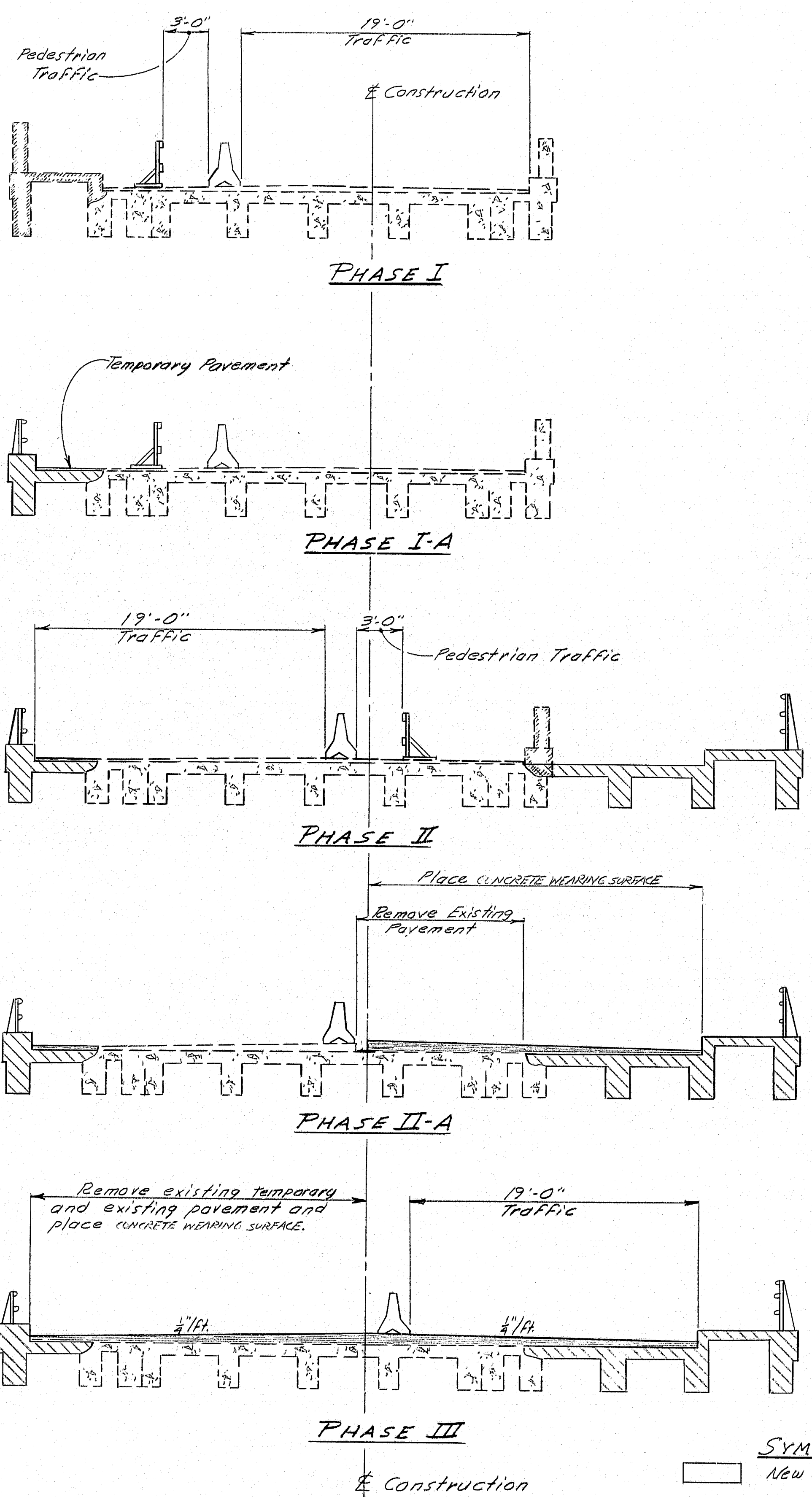
- General Plan
- Foundation Survey
- Abutments
- T-Beams
- Superstructure
- Reinforcing Steel Schedule
- BRIDGE STANDARDS
- BD 401-89 ... Aluminum Bridge Railing 2-bar
- BD 402-89 ... Aluminum Bridge Railing 3-bar
- BD 403-89 ... Aluminum Bridge Railing Pole Panel
- BD 201-89 ... Concrete End Post

### TRAFFIC DATA

AADT... 1989... 3740  
AADT... 2009... 5240  
DHV... 576  
T%... 17  
D%... 55  
V... 4A  
18 kips... P25... 2.17



Plans of the existing bridge are available for the Contractors reference at the Bridge Design Office in Augusta. The plans are reproductions of original drawings as prepared for the construction of the bridge and it is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.



- ### SYMBOLS
- New Concrete (plan elevation)
  - New Concrete (section)
  - Existing Material (to be removed)
  - Existing Concrete (to remain)
  - Hot Bituminous Pavement

### CONSTRUCTION NOTES

- All utility facilities shall be adjusted by the respective utilities unless noted.
- Place an 18 inch wide strip of sod on the side slopes along the top of the riprap.
- All embankment material, except as otherwise shown, placed below elev. 400 shall be granular borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.
- Reinforcing steel shall have zincs cover unless otherwise indicated.
- Protective coating for concrete surfaces shall be applied to the following areas:  
Bottom and outside face of exterior T-beams.  
Fascia, top and face of sidewalk & curb.  
Exposed areas of concrete end posts.  
End of slab (1 foot down from top of concrete slab).
- Place 4 inch diameter drains in the breastwall and wingwalls at 15 feet maximum spacing. Exact location to be determined.
- Maximum calculated footing pressure is 2.8 tons per sq. ft.
- Adjust reinforcing steel to fit around drains in an approved manner. Do not cut transverse reinforcing bars.
- Mortar for grouting reinforcing steel dowels shall contain an approved non-shrink additive. Payment for drilling and grouting of dowels shall be incidental to Item 503.13, Reinforcing Steel Placement.
- Removal of existing concrete rail and rail posts shall be incidental to Item 202.12, Removing Existing Structural Concrete.
- Excavate a pool in the streambed adjacent to abutment No. 2 downstream wing of similar proportions as the existing part of the existing downstream wing as directed in coordination with the IF&W regional biologist. Payment will be made under Item 203.20 Common Excavation.
- Buildings 12 to 24 inch lying on the stream bottom within the limits of the abutment widenings shall be scattered over the stream channel between the abutments. Payment will be considered incidental to Item 206.082 Structural Earth Excavation-Major Structures.
- A suitable pedestrian barrier shall be provided and maintained as directed. Payment shall be considered incidental to related contract items.
- All base or deteriorated concrete on the exposed faces of the existing T-beams and substructure shall be removed and patched as directed. Payment will be made under the provisions of subsection 104.03, Extra Work.
- W-Beam Terminal Connector (BES-79) shall be incidental to Item 606.55, Guard Rail Type 3- Single Rail.
- In areas where concrete is to be cast against the existing structure, the existing concrete shall be cleaned and etched in a manner approved. Any loose or deteriorated concrete encountered during this process shall be removed. Payment for this work shall be considered incidental to related contract items.

### REFERENCES

Survey Book Nos.: 59485 Topo #1,  
59484 Topo #2, 59780 X-sections #1  
Bridge No. 2942

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

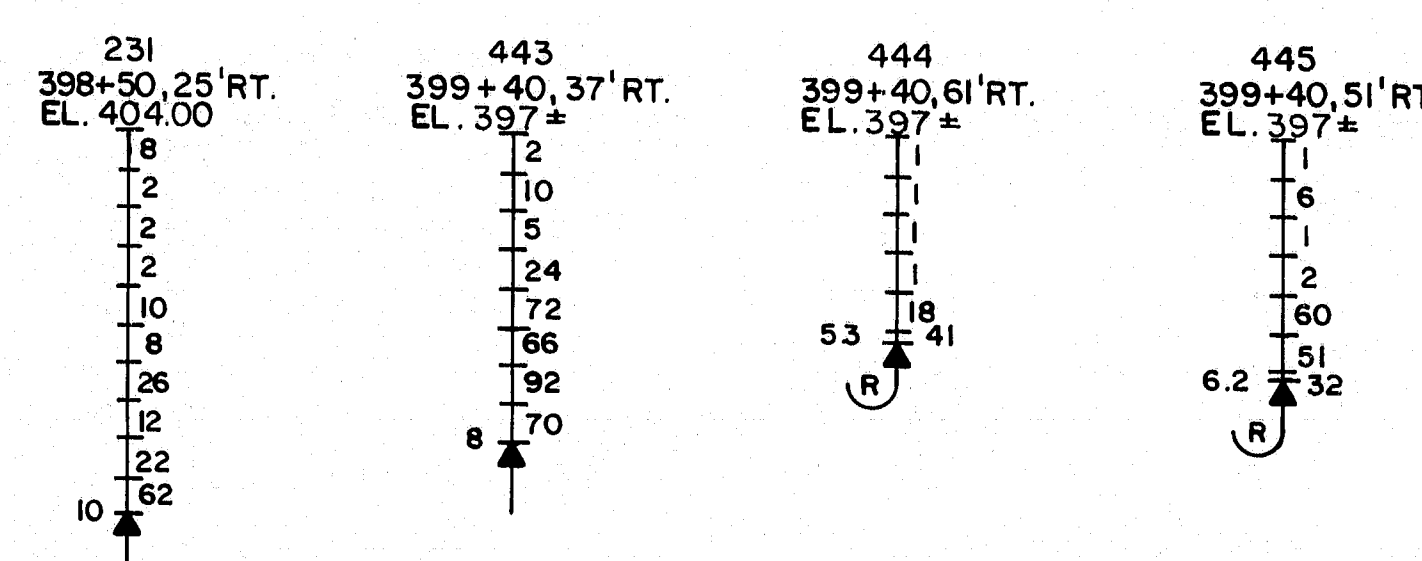
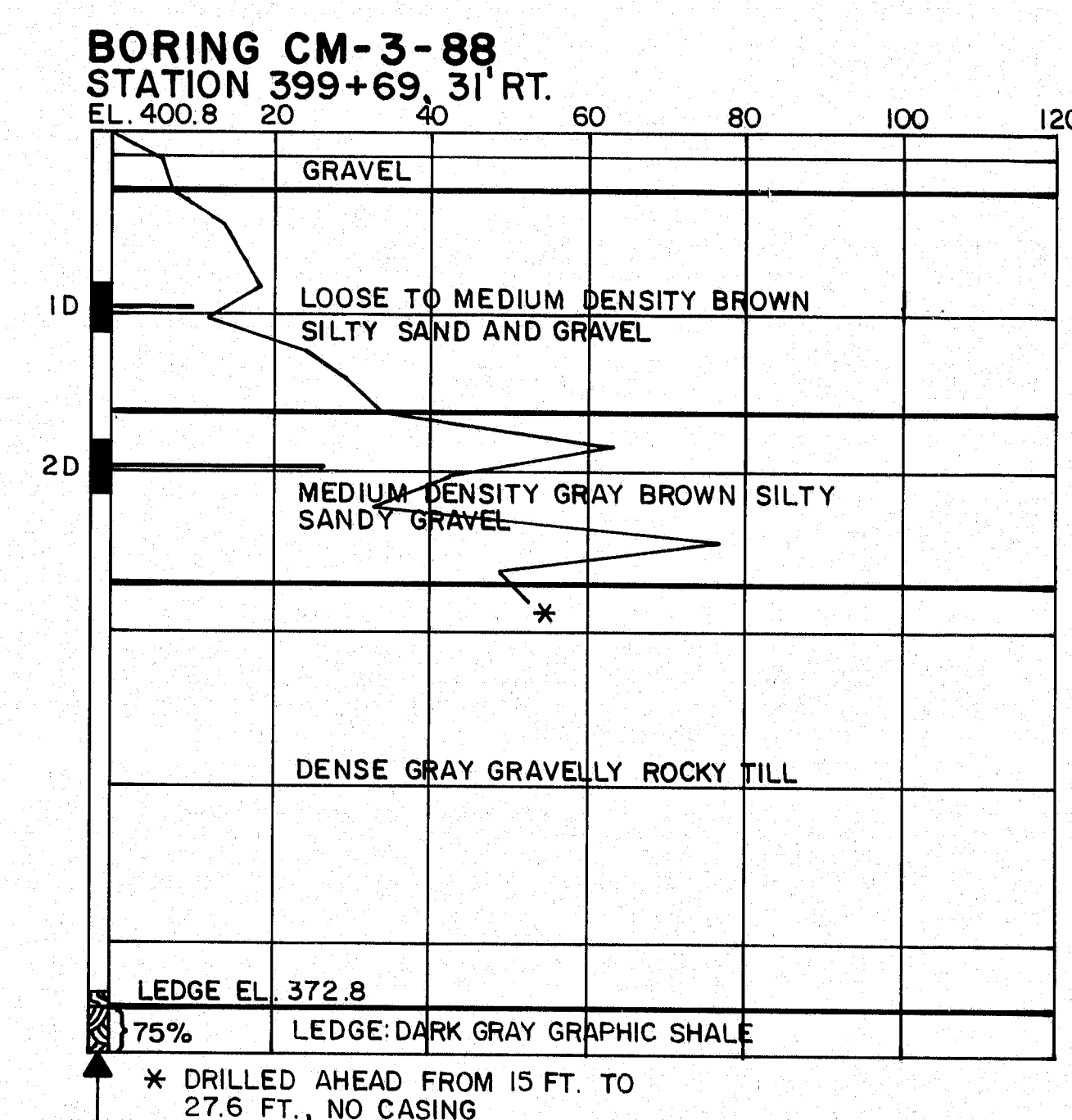
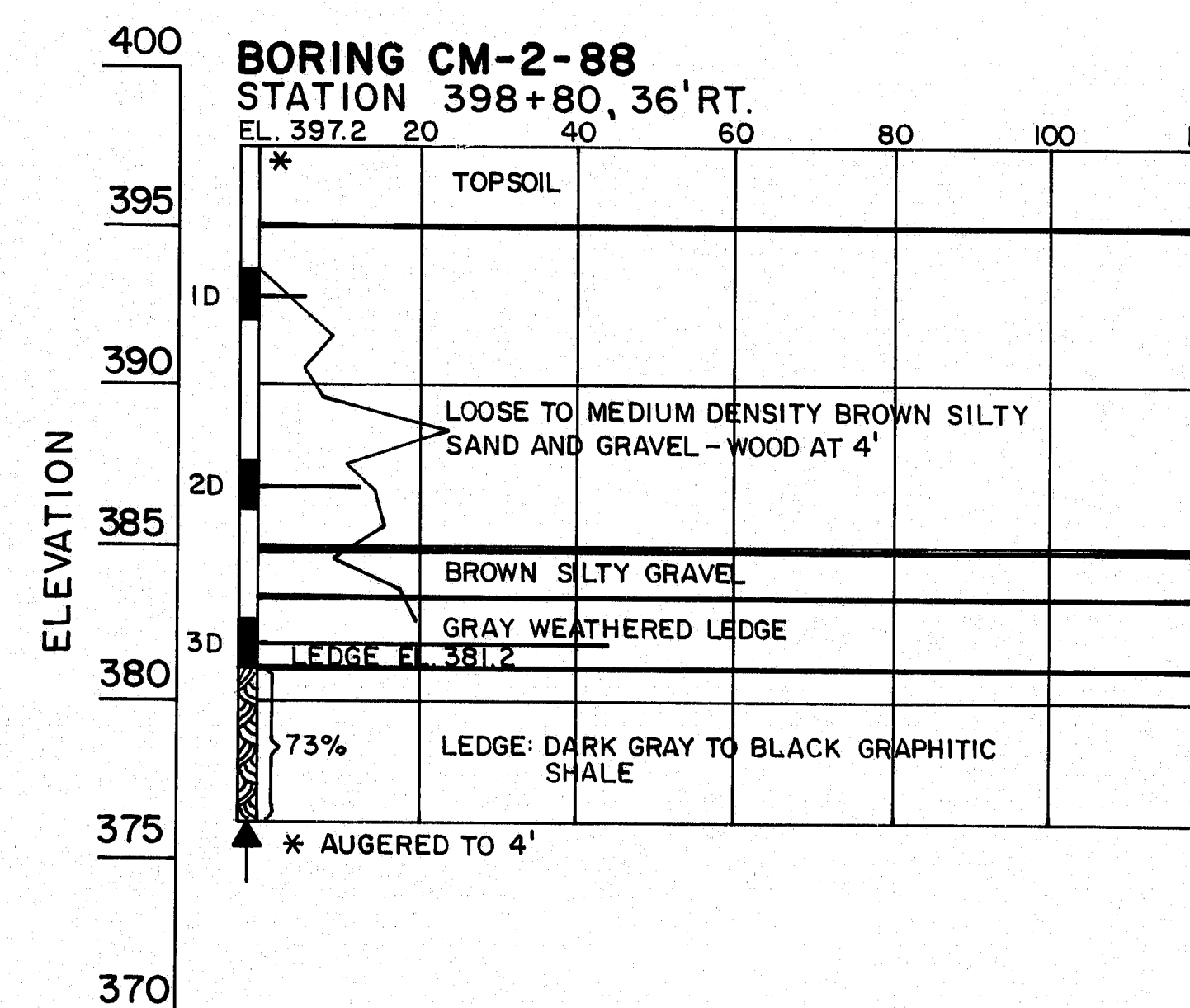
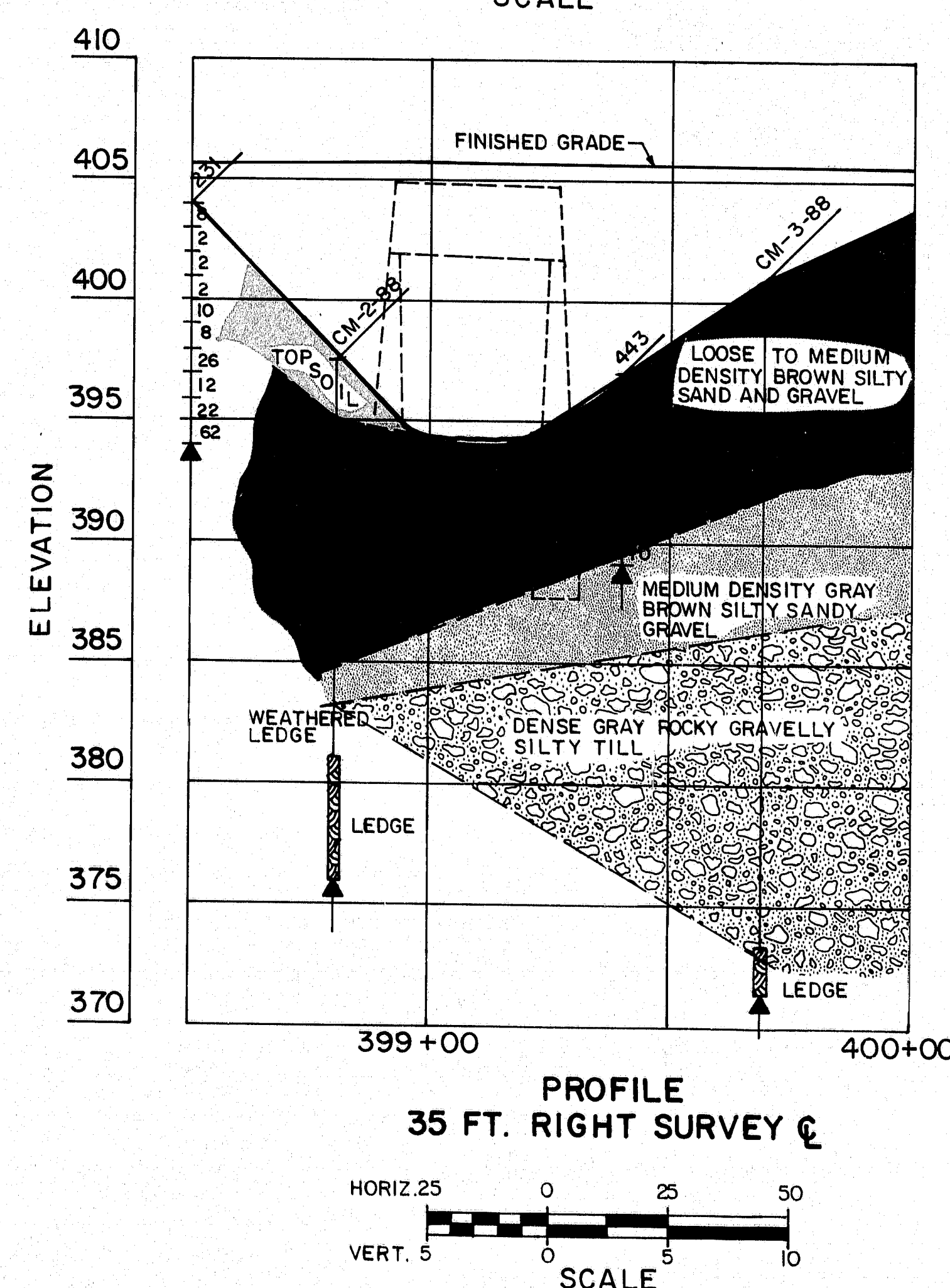
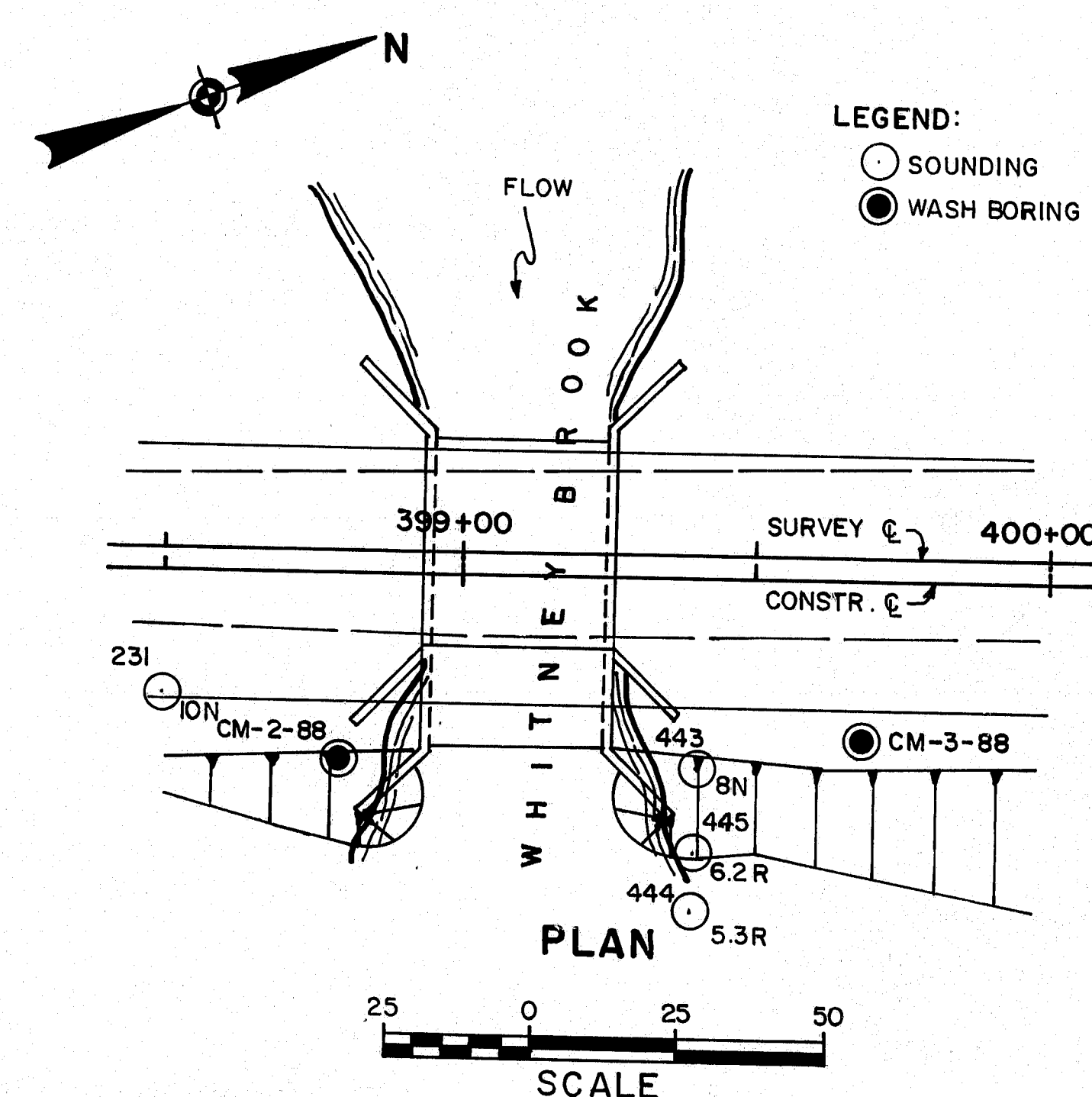
WHITNEY BROOK BRIDGE  
IN THE TOWN OF  
BRIDGEWATER  
ARROOSTOOK COUNTY  
GENERAL PLAN  
SHEET 1 OF 10 AUGUSTA, MAINE

103-469

PROJECT DESIGN ENGINEER	DATE
JTB	8-29-88
CHECKED	DATE
WJA	2-27-89
PLANS	FIELD CHANGES
DESIGN - DETAIL	1/27/89
CHECKED	2/27/89
FIELD CHANGES	



F.R.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	F-050 P(33)	22	126



103-470

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

WHITNEY BROOK BRIDGE  
over  
WHITNEY BROOK  
in the town of  
BRIDGEWATER  
AROOSTOOK COUNTY  
FOUNDATION SURVEY  
SHEET 2 OF 10 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	BY	DATE
PLANS		
DESIGN-DETAILED		
CHECKED		
REVISIONS		
FIELD CHANGES		

BORING 44132 45710-1

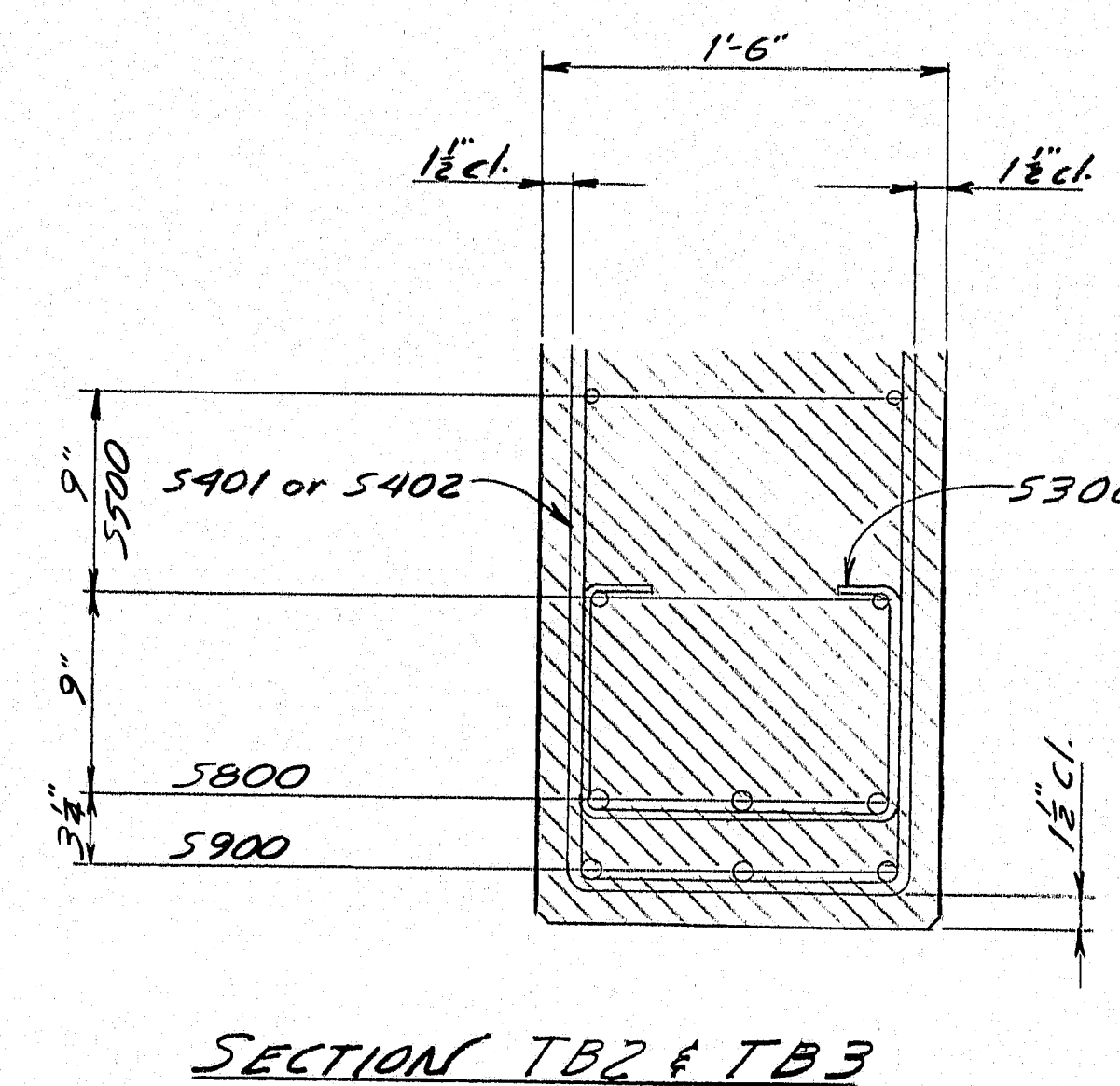
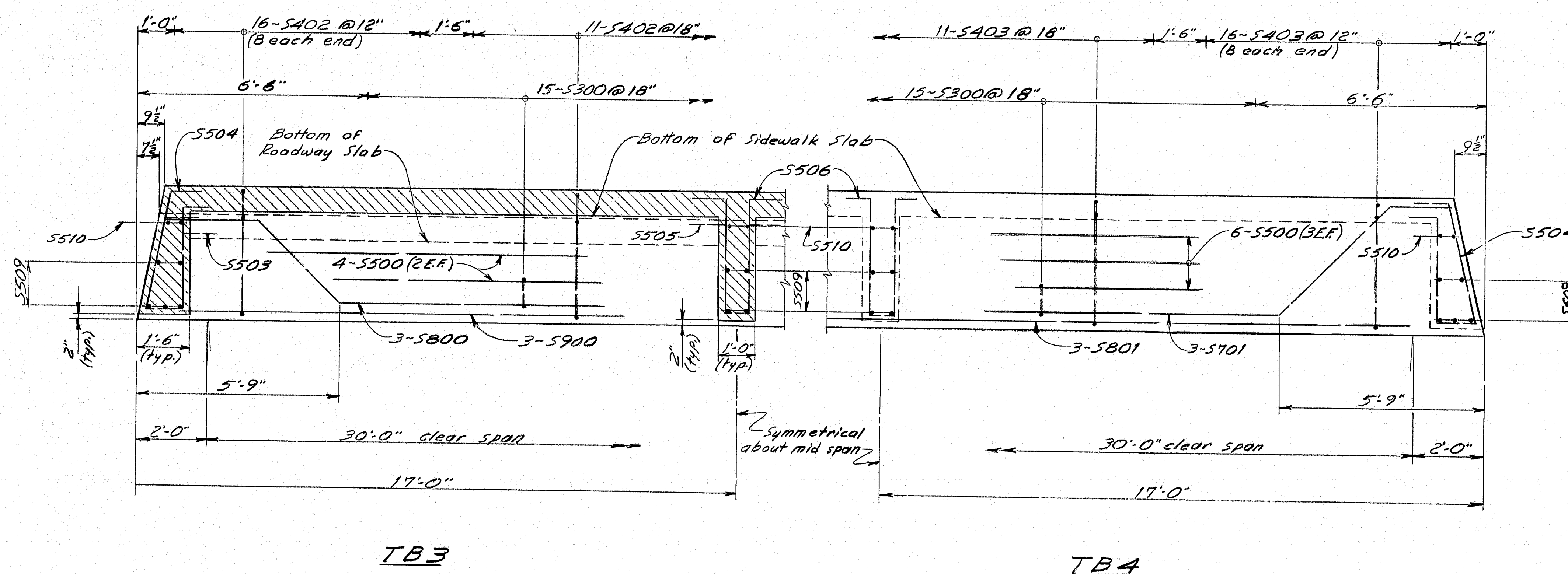
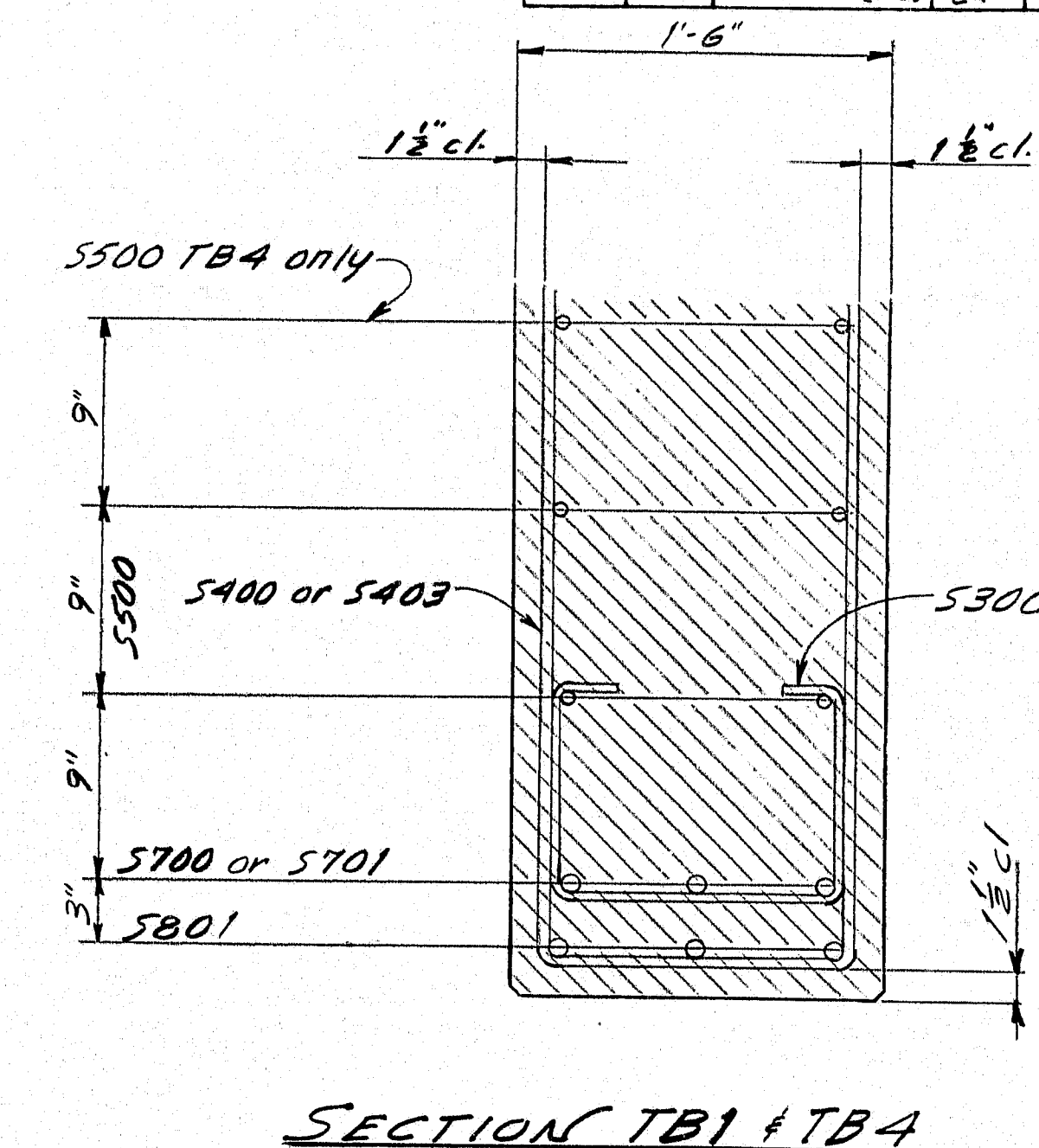
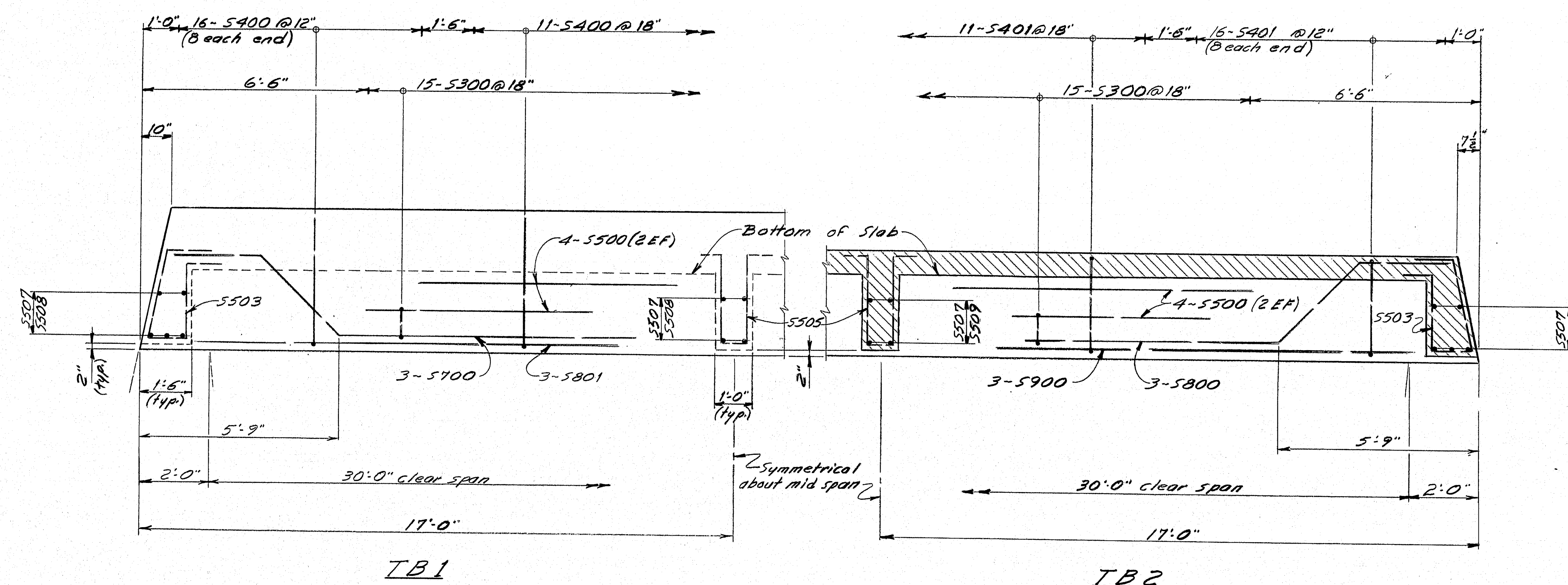






PIN002585.00

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO	TOTAL SHEET
1	MAINE	F-050P(53)	24	12



103-472

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

WHITNEY BROOK BRIDGE

IN THE TOWN OF

BRIDGEWATER

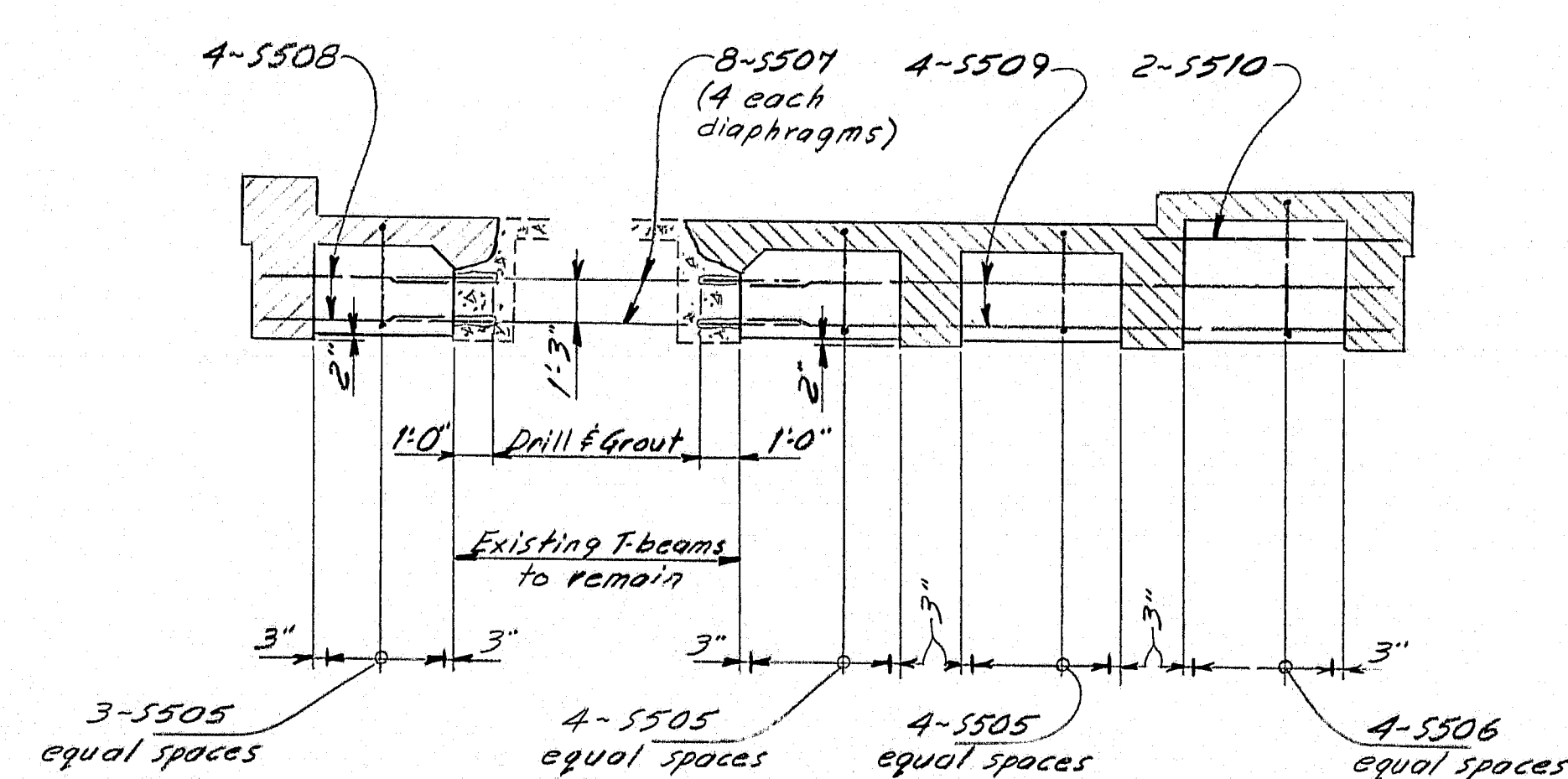
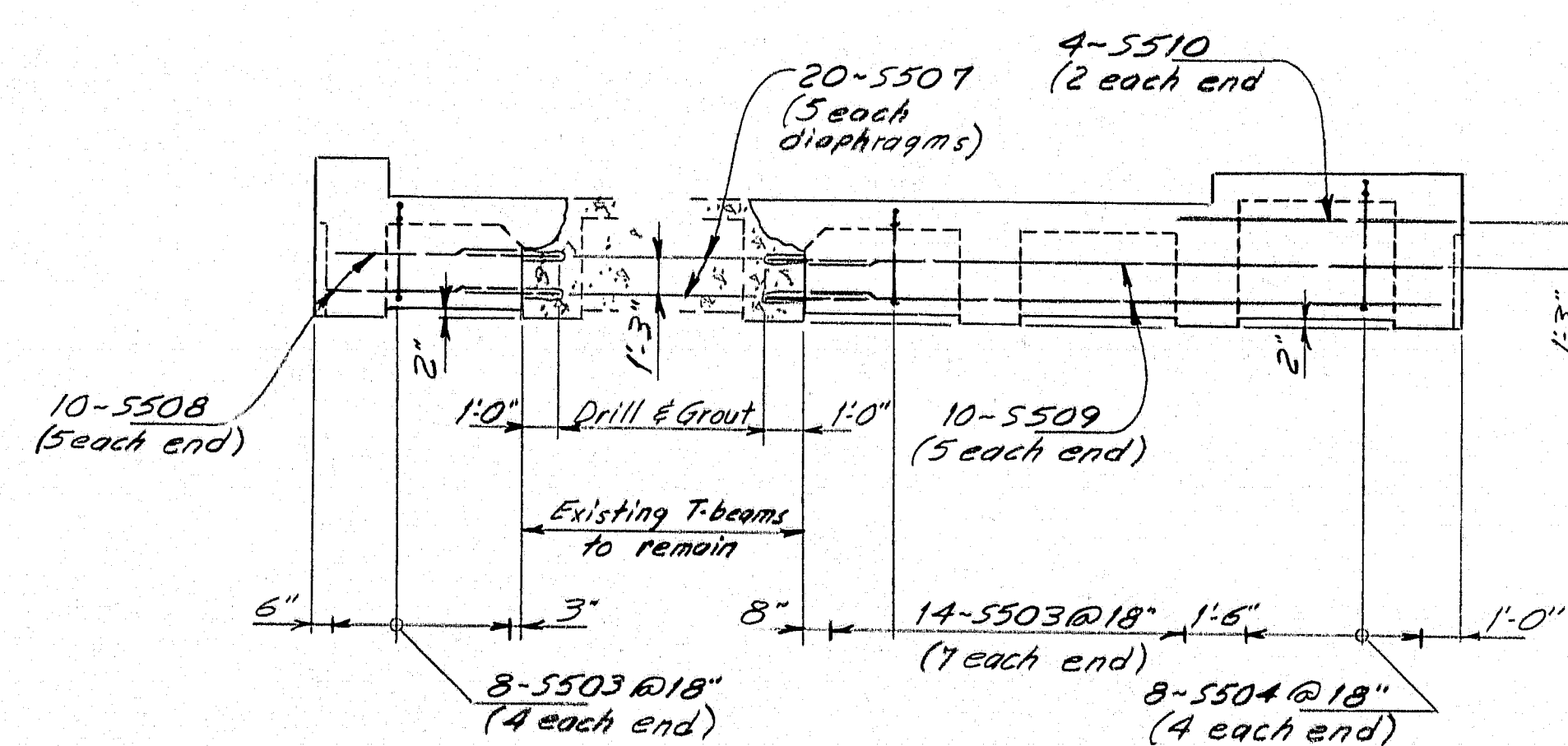
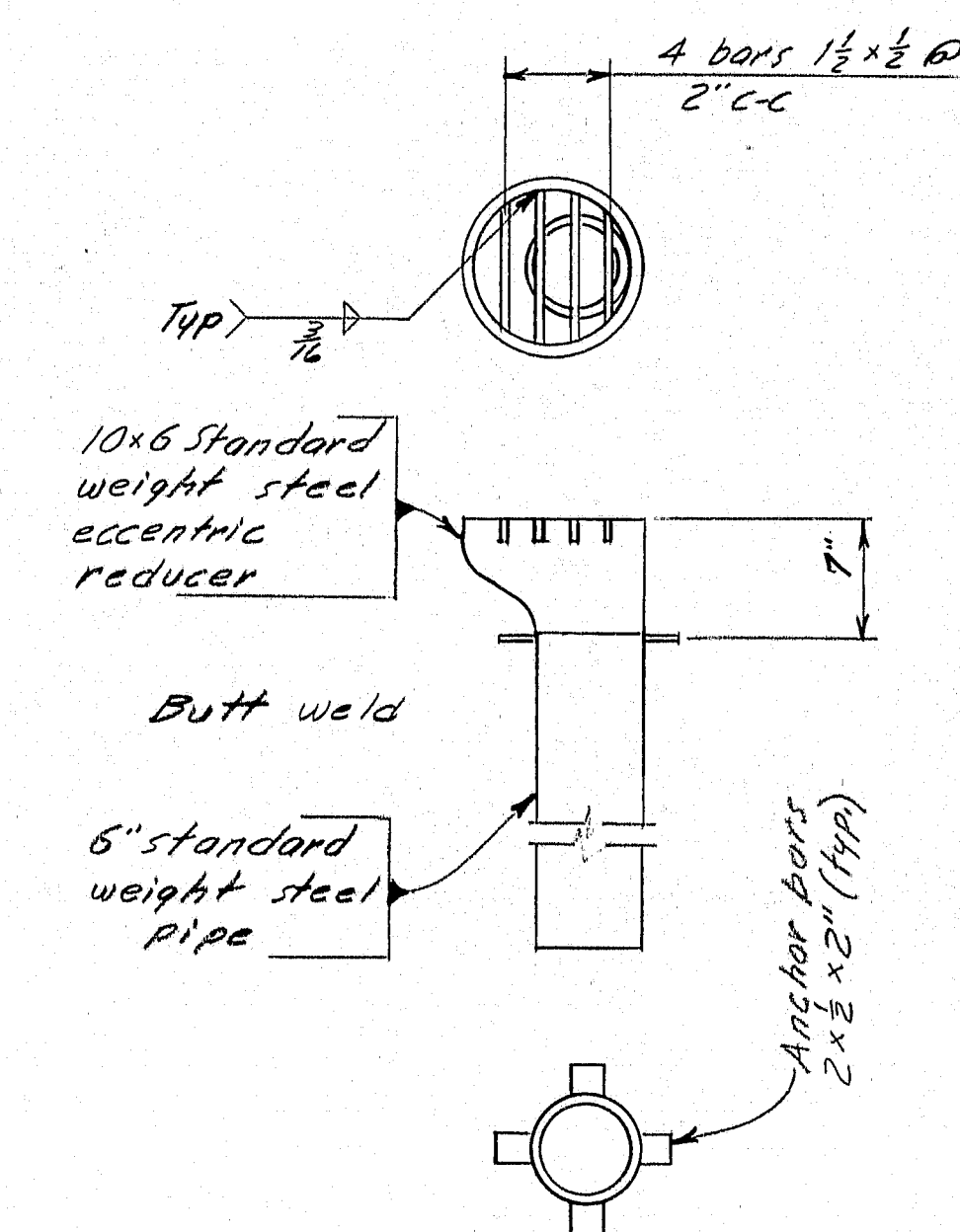
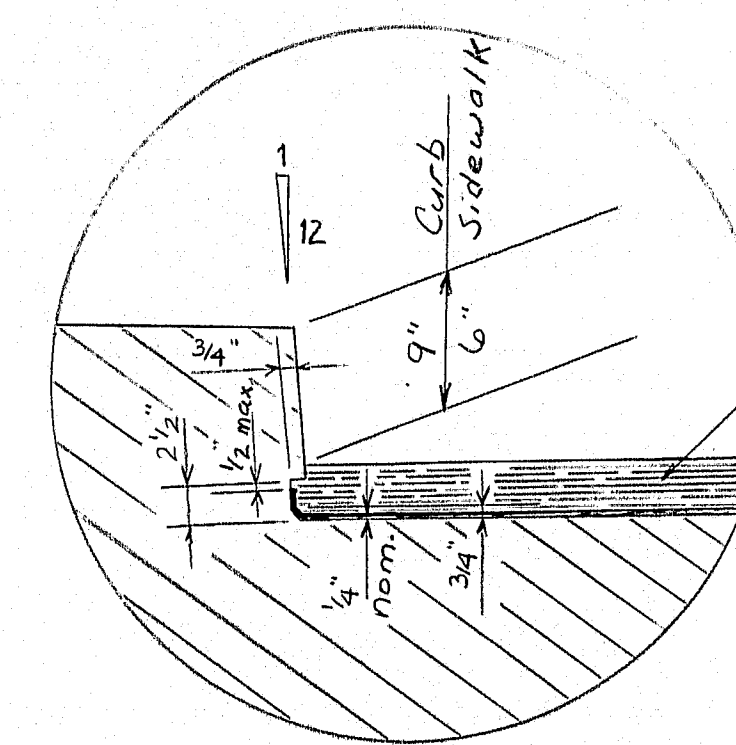
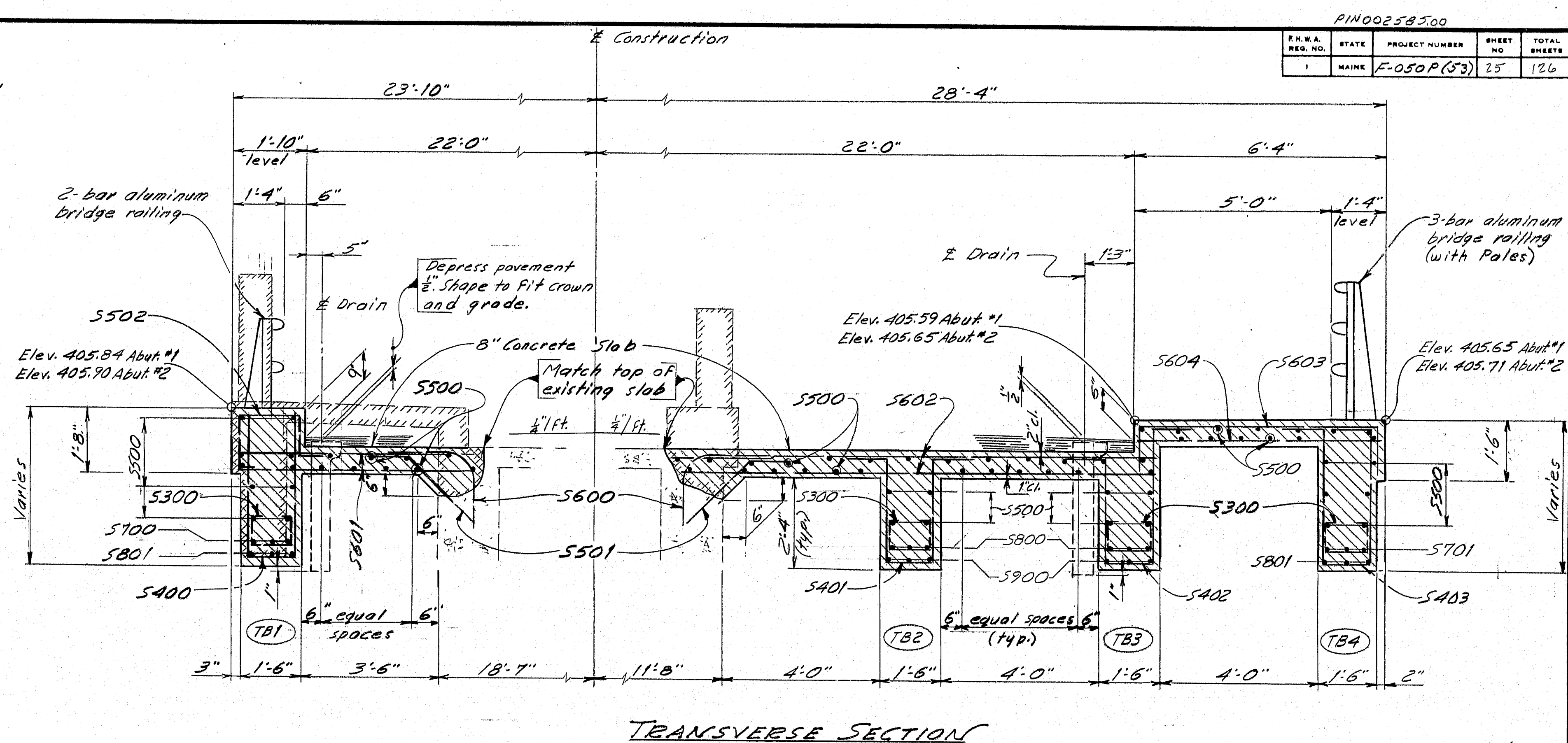
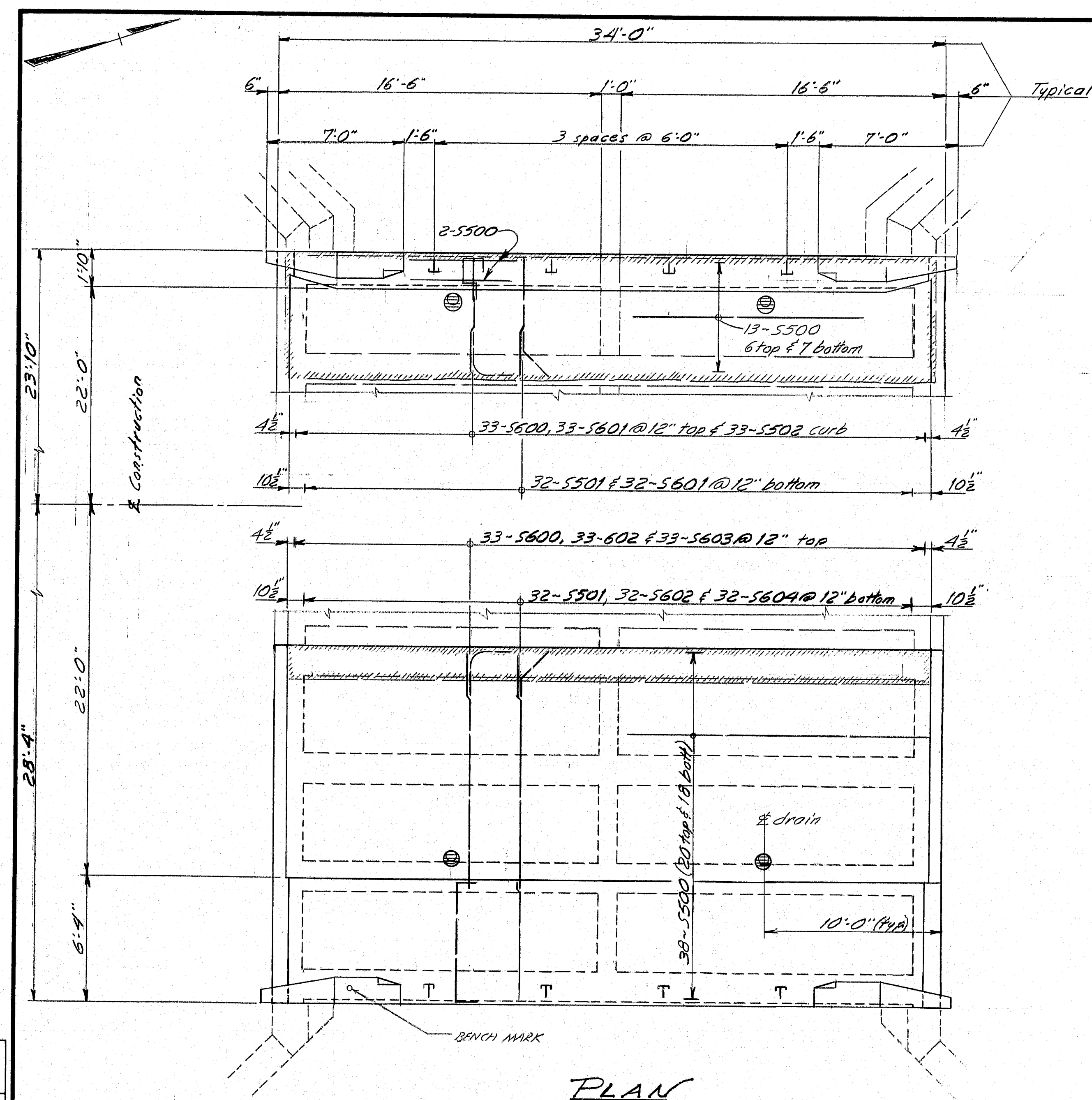
T-BEAMS

SHEET 4 OF 10 AUGUSTA, MAINE

<b>PLANS</b>	<b>PROJECT DESIGN ENGINEER</b>		<b>BY</b>	<b>DATE</b>
	DESIGN - DETAILED		JEB	P.T.A. 11-88
	CHECKED			
	REVISIONS		HA	2-89
ELECT. & COMM. NOTES				

RUNNING 44-132 45710 1





Note: Payment for concrete  
End Posts shall be paid for  
under Item 502.21, Structural  
Concrete Superstructure T-beam  
Type

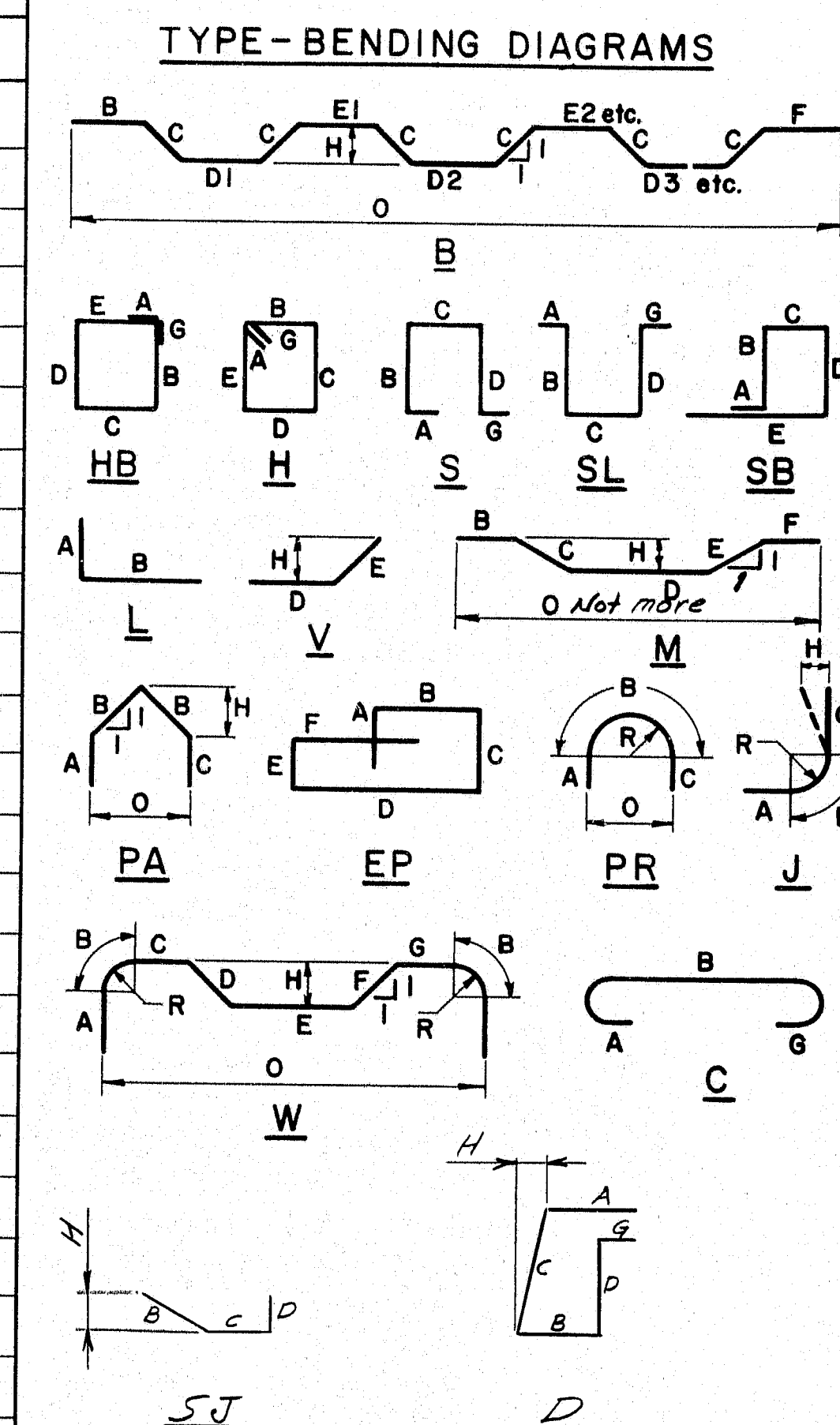
DRAIN DETAIL  
4 required)  
103-473  
"REFUSED AS BUILT" BY *JOHN J. JACOBI* 1-9-91  
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
WHITNEY BROOK BRIDGE  
IN THE TOWN OF  
BRIDGEWATER  
SUBSTRUCTURE  
SHEET 5 OF 10 AUGUSTA, MAINE



DATE	2-29
BY	JJ
DESIGN - DETAIL	
CHECKED	
REVISIONS	
FIELD CHANGES	
PLANS	

REINFORCING STEEL SCHEDULE																											
STRAIGHT BARS													BENT BARS														
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION	
ABUTMENT NO. 1				ABUTMENT NO. 2				SUPERSTRUCTURE				ABUTMENT NO. 1															
A500	33	9'-6"	Footings	B500	33	9'-6"	Footings	S500	71	32'-6"	Longitudinal	A503	14	8'-0"	V				4'-0"	4'-0"			2'-10"				Footings
A501	8	10'-0"		B501	8	10'-0"		S507	28	3'-0"	Dowels	A507	9	5'-4"	L	1'-0"	4'-4"										Dowel
A502	6	11'-9"		B502	6	11'-9"		S508	14	4'-6"	U.S. Diaphragm	A518	10	5'-0"	V				2'-6"	2'-6"			1'-9"				Parapet
A504	4	7'-0"		B504	4	7'-0"		S509	14	16'-2"	D.S. Diaphragm	A519	10	5'-6"	V				2'-9"	2'-9"			1'-11 1/2"				Parapet
A505	4	11'-0"		B505	4	11'-0"		S510	6	7'-0"	D.S. Diaphragm	A526	14	4'-0"	V				2'-9"	1'-3"			10 1/2"				Dowel
A506	4	15'-0"	Footings	B506	4	15'-0"	Footings					A528	11	5'-4"	J	1'-0"	0	4'-4"					4 1/4"		0		Dowel
A508	3	10'-0"	Wing	B508	3	10'-0"	Wing	S601	65	5'-9"	Transverse	A602	34	8'-8"	L	1'-0"	7'-8"										Dowel
A509		12'-0"		B509		12'-0"		S602	65	12'-0"	Transverse																
A510		13'-9"		B510		13'-9"		S604	32	6'-0"	Sidewalk	ABUTMENT NO. 2															
A511		8'-0"		B511		8'-0"						B503	14	8'-0"	V				4'-0"	4'-0"			2'-10"				Footings
A512	3	10'-0"		B512	3	10'-0"		S801	6	33'-4"	T-beam #1 & T-beam #4	B507	9	5'-4"	L	1'-0"	4'-4"										Dowel
A513	2	11'-0"	Wing	B513	2	11'-0"	Wing					B518	10	5'-0"	V				2'-6"	2'-6"			1'-9"				Parapet
A514	2	12'-6"	Breastwall	B514	2	12'-6"	Breastwall	S900	6	33'-4"	T-beam #2 & T-beam #3	B519	10	5'-6"	V				2'-9"	2'-9"			1'-11 1/2"				Parapet
A515	7	8'-0"		B515	7	8'-0"						B526	14	4'-0"	V				2'-9"	1'-3"			10 1/2"				Dowel
A516	2	15'-0"		B516	2	15'-0"						B528	11	5'-4"	J	1'-0"	0	4'-4"					4 1/4"		0		Dowel
A517	11	11'-0"	Breastwall	B517	11	11'-0"	Breastwall					B602	34	8'-8"	L	1'-0"	7'-8"										Dowel
A520	7	11'-3"	Wing	B520	7	11'-3"	Wing					SUPERSTRUCTURE															
A521	7	13'-2"		B521	7	13'-2"						S300	60	3'-6"	HB	3"	10 1/2"	1'-3"	10 1/2"	3"		0					T-beams
A522	2	10'-6"		B522	2	10'-6"						S400	27	8'-2"	SL	0"	3'-6"					0					T-beam #1
A523	2	6'-9"		B523	2	6'-9"						S401		8'-8"	SL	1'-0"	2'-8 1/2"		2'-8 1/2"			1'-0"					T-beam #2
A524	2	14'-0"	Wing	B524	2	14'-0"	Wing					S402		9'-5"	SL	1'-0"	2'-8 1/2"		3'-5 1/2"			1'-0"					T-beam #3
A525	16	16'-6"	Breastwall	B525	16	16'-6"	Breastwall					S403	27	10'-4"	SB	1'-0"	3'-6 1/2"	1'-3"	3'-6 1/2"	1'-0"							T-beam #4
A527	2	4'-0"	Bridge Seat	B527	2	4'-0"	Bridge Seat					S501	64	3'-11"	V				2'-5"	1'-6"			1'-0 3/4"				Dowel
A600	11	5'-0"	Footings	B600	11	5'-0"	Footings					S502	33	5'-0"	S	6"	1'-5"	1'-6"	1'-0"				7"				Curb
A601	33	9'-6"	Footings	B601	33	9'-6"	Footings					S503	22	8'-0"	D	1'-1"	1'-1"	2'-6"	2'-3"				1'-0"	6"			Diaphragm
												S504	8	9'-6"	D	1'-2"	1'-1"	3'-3"	3'-0"				8"				
												S505	11	7'-6"	SL	1'-0"	2'-5"	8"	2'-5"								
												S506	4	8'-11"	SL	1'-0"	3'-1 1/2"	8"	3'-1 1/2"				1'-0"				Diaphragm
												S600	66	4'-2"	J	1'-6"	1'-2"	1'-6"								9"	Dowel
												S603	33	8'-0"	S	0	1'-0"	6'-0"	1'-0"				0				Sidewalk
												S700	3	34'-6"	M		2'-8"	3'-4"	22'-6"	3'-4"	2'-8"		2'-4 1/2"	32'-5"			T-beam #1
												S701	3	34'-10"	M		1'-8"	4'-6"	22'-6"	4'-6"	1'-8"		3'-2 1/2"	32'-1"			T-beam #4
												S800	6	34'-5"	M		2'-8"	3'-3 1/2"	22'-6"	3'-3 1/2"	2'-8"		2'-4"	32'-5"			T-beam #2 & T-beam #3
												END POST															
												EP401	8	4'-11"	S	0	2'-0"	11"	2'-0"			0					Vertical
												EP402	4	4'-6"	I	I	2'-0"	6"	2'-0"				I				
												EP451	8	4'-5"			3'-3"	11"	3'-3"								
												EP452	4	4'-0"	I	I	3'-3"	6"	3'-3"				I				Vertical
												EP500	18	7'-10"	S	0	5'-6"	7"	1'-9"			0					Horizontal
												EP501	18	6'-8"	SJ		3'-1"	2'-7"	1'-0"				8"				Horizontal
												EP502	16	4'-7"	S	0	1'-10"	11"	1'-10"								Vertical
												EP503	8	4'-2"	S	0	1'-10"	6"	1'-10"			0					Vertical
												MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION	

FHWA	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	F-050 P(33)	26	126



All dimensions are out to out of reinf. bar.  
Bending details and hooks shall conform to the recommendations of ACI Standard 315-63.  
Reinforcing Bar: ASTM A615 Grade 60

- GENERAL NOTES
- First digit(s) following the letter of the Mark indicates size of reinf. bar.  
Mark (A502) bar size - #5  
Mark (P1001) bar size - #10  
Mark (S603) bar size - #6
  - Letter of Marks A, P & S locates bars of Abutments, Piers, and Superstructure parts respectively.

103-474

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

WHITNEY BROOK BRIDGE  
IN THE TOWN OF  
BRIDGEWATER

REINFORCING STEEL SCHEDULE

SHEET 6 OF 10 AUGUSTA, MAINE