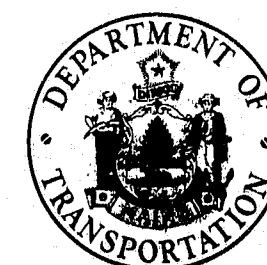


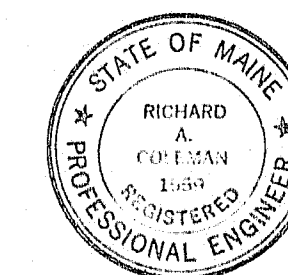
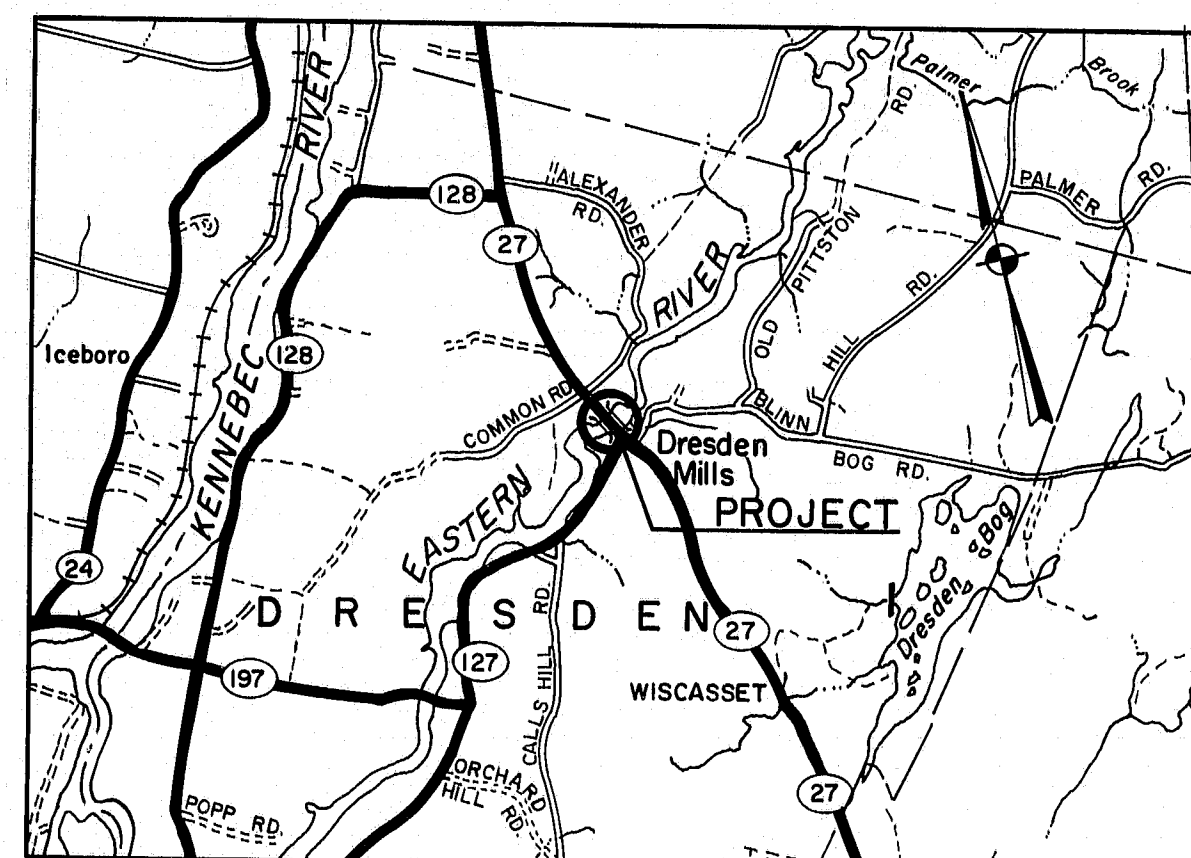
STATE OF MAINE DEPARTMENT OF TRANSPORTATION



PLANS

DRESDEN LINCOLN COUNTY

UPPER BRIDGE OVER EASTERN RIVER PROJECT NO. BR-0163(16) LENGTH 0.085 MILES



APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

COMMISSIONER

Richard A. Conboy
CHIEF ENGINEER

4/5/90

105-101

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 1

APPROVED:

DIVISION ADMINISTRATOR DATE

CONVENTIONAL SIGNS	
COUNTY LINES	TRAVELLED WAY - PROPOSED
TOWN LINES	UNDERGROUND UTILITIES - EXISTING
PROPERTY LINES	UNDERGROUND UTILITIES - PROPOSED
R/W LINES - EXISTING	RAILROAD - SINGLE TRACK
R/W LINES - NEW - ACCESS CONTROL	RAILROAD - DOUBLE TRACK
R/W LINES - NEW - NO ACCESS CONTROL	UTILITY POLE - EXISTING
CULVERT - EXISTING	UTILITY POLE - JOINT OCCUPANCY
CULVERT - PROPOSED	PROPOSED UTILITY POLE - TEMPORARY
CURBING - EXISTING	PROPOSED UTILITY POLE - PERMANENT
CURBING - PROPOSED	TREES
TRAVELLED WAY - EXISTING	WOODS

SPECIFICATIONS

DESIGN - Load Factor Design per AASHTO Standard Specifications for Highway Bridges 1983 and Interim Specifications thru 1988

CONTRACT - State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges, Revision of July 1988

DESIGN LOADING

LIVE LOAD - HS 25

STRESS CYCLES - Truck 500,000
Lane 100,000

MATERIALS

CONCRETE - Cast in place - Class A
Precast - Class P
Pipe Casing Concrete - Class Y

REINFORCING STEEL - ASTM A615 Grade 60

PRESTRESSING STRANDS - ASTM A416 Grade 270, 1/2 Inch, Uncoated, 7 Wire, Stress-Relieved Strand

STRUCTURAL STEEL - H-Piles - ASTM A36
Steel Pile Casings - ASTM A252

BASIC DESIGN STRESSES

CONCRETE - Cast in place - $f'_c = 3000$ psi
Precast - $f'_c = 5000$ psi, $f'_{ci} = 4000$ psi @ Transfer
Pipe Pile Concrete - $f'_c = 3000$ psi

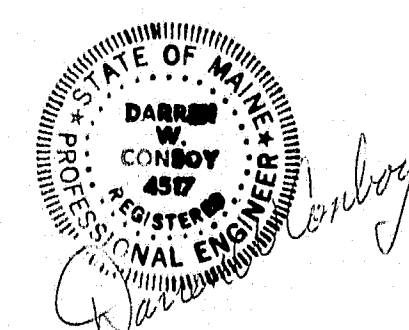
REINFORCING STEEL - $f_y = 60,000$ psi

PRESTRESSING STRANDS - $f_y = 270,000$ psi

STRUCTURAL STEEL - H-Piles $f_y = 36,000$
Steel Pile Casings $f_y = 35,000$ psi

HYDROLOGIC DATA

Design Discharge (Q50) = 2500 cfs
Check Discharge (Q100) = 3000 cfs
Headwater Elev. (Q50) = 5.1'
Headwater Elev. (Q100) = 5.1'
Discharge Velocity (Spring Tide) = 5.3 fps



BARNES AND JARNIS, INC.
216 TREMONT STREET
BOSTON, MASS. 02116

A.D.T.	1987 - 2580
A.D.T.	2007 - 3470
D.H.V.	433
T. (%)	6
D. (%)	60
V.	50 MPH
P.S.D. (%)	
18 KIPS.	P2.5 69

NOTE

All work contemplated under this contract to be governed by and in conformity with the STANDARD SPECIFICATIONS (revision of July 1988) and supplementals thereto, except as modified on the plans and in the special provisions.

F.H.W.A. DIST. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-0163(16)	1	36

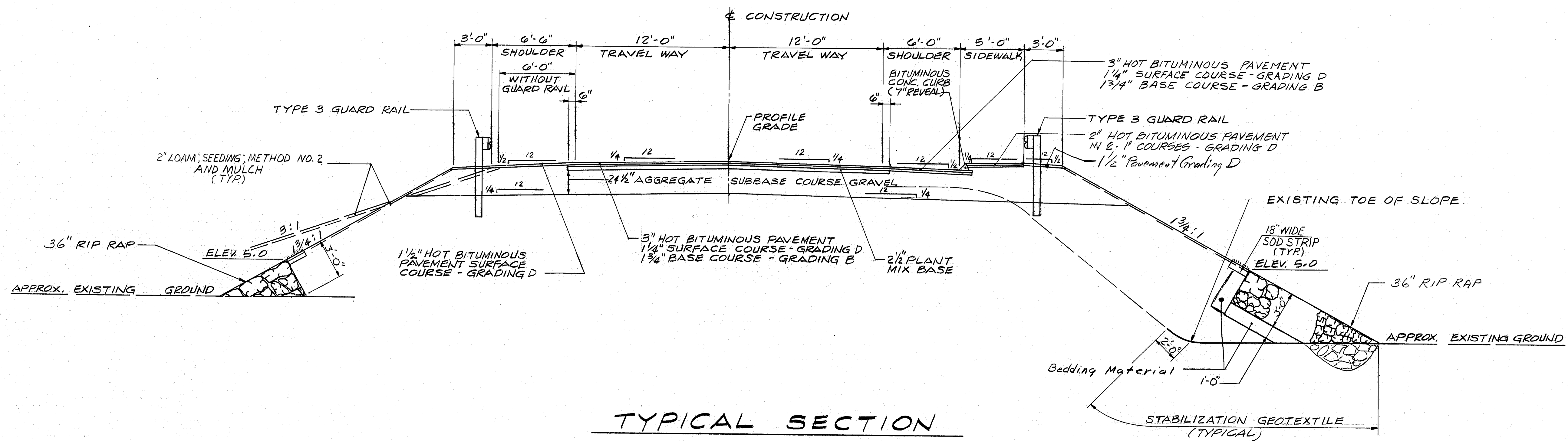
INDEX OF SHEETS

SHEET	NO.	DESCRIPTION
	1	TITLE SHEET
	2	ESTIMATED QUANTITIES
	3	TYPICAL SECTIONS
	4	GENERAL PLAN
	5-7	CROSS SECTIONS
	8	ABUTMENT #1
	9	ABUTMENT #2
	10	ABUTMENT DETAILS
	11	PILE BENT
	12	FRAMING PLAN
	13	SUPERSTRUCTURE
	14	BOX BEAM DETAILS
	15-16	REINFORCING SCHEDULE
	17	FOUNDATION SURVEY
	18	BORING DETAILS
	19-32	STANDARD DETAILS
	33-35	TRAFFIC CONTROL PLANS
	36	RIGHT-OF-WAY MAP

Plans of the existing bridge and hydrologic report of the bridge site are available for the Contractor's 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. The hydrologic report is based on the interpretation by the Department of information obtained for the subject site and no assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.

Plans As Built
12-31-91 Richard W. Law, Jr.

F.R.W.A. DES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-0163(16)	3	36



TYPICAL SECTION

105-103

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

UPPER BRIDGE
OVER
EASTERN RIVER
DRESDEN
LINCOLN COUNTY
TYPICAL SECTIONS

SHEET 3 OF 36 AUGUSTA, MAINE

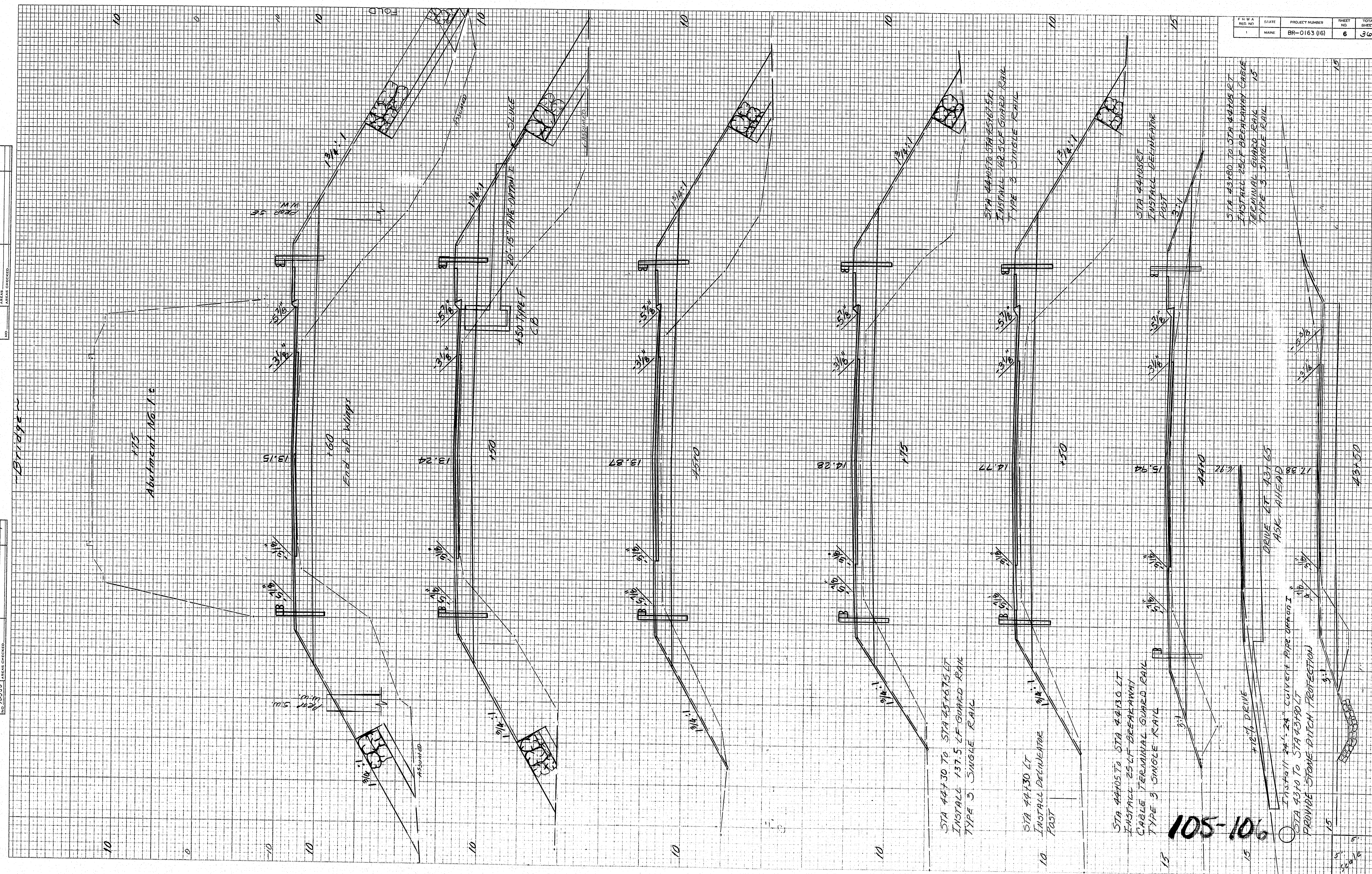
PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	FJC/RLL	3/14/99
CHECKED	RMB	2-90
REVISIONS		
FIELD CHANGES		

PLANS

45710-1

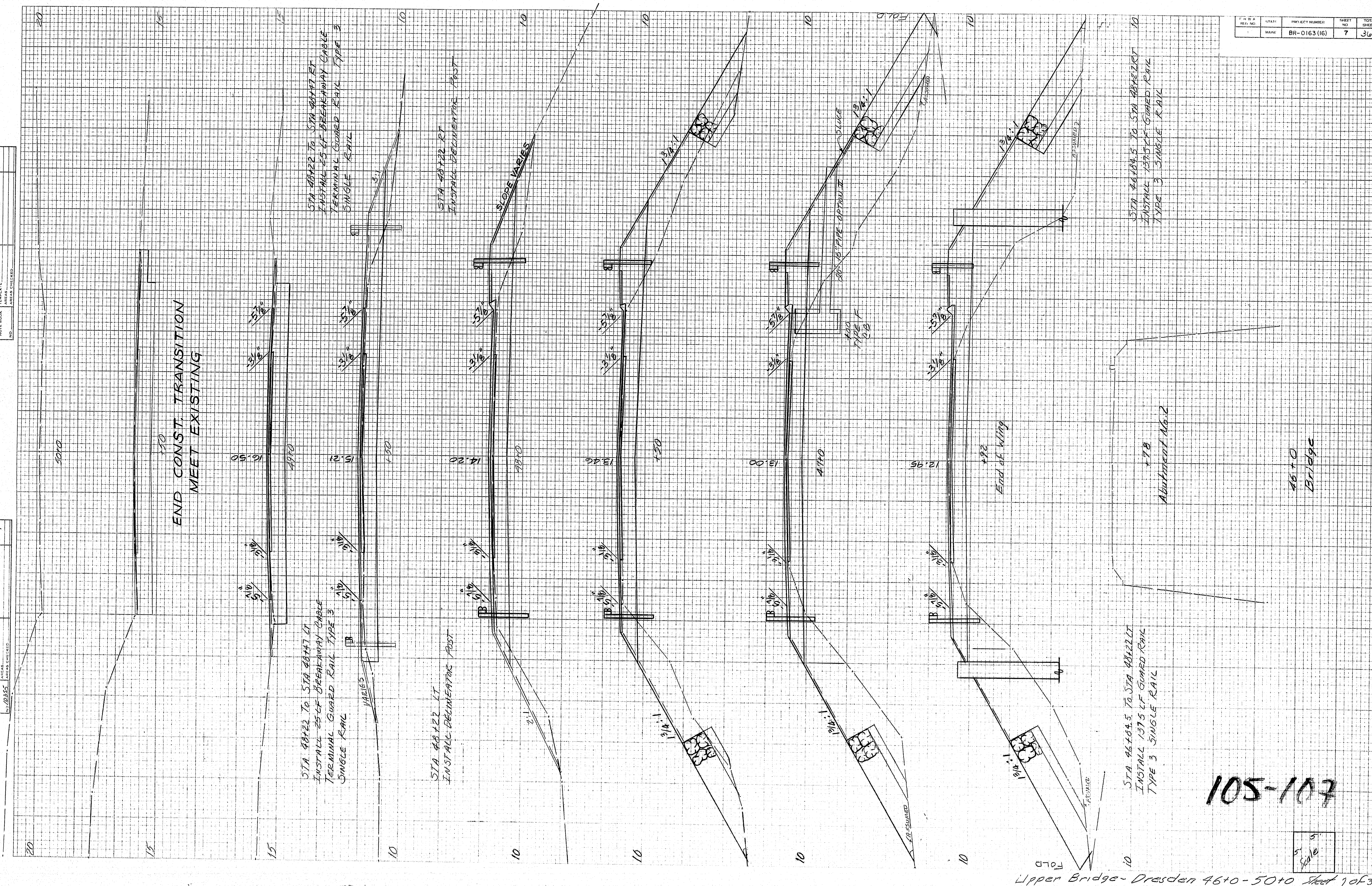
BRIDGE

FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
	TEMPLATE		
	AREAS		
NOTE BOOK			



Upper Bridge - Dresden - 43+50 - 45+75 sheet 6 of 36

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		



Upper Bridge - Dresden 46+0 - 50+0 Sheet 1 of 36

Technical drawing of Wingwall E1 Elevation. The drawing shows the existing structure and proposed construction. Key features include:

- Dimensions:** Overall width of 26'-0", with various offsets and segment lengths (e.g., 9'-10 3/4", 8'-10", 6'-10", 12'-1").
- Reinforcement:** Details for reinforcement bars (e.g., 1-A509 NF #1A705 F.F., 2-A574, 1EF, EL. 13.52; 1-A508 NF #1-A704 F.F.; 1-A573 NF #1-A711 F.F.; 1-A572 NF #1-A710 F.F.; 9-A571 #12 NF # 9-A709 #12 F.F. LAP W/ A700 3 TYPE; 3-A518 @ 12"; A519-A528 @ 12"; 1-A585 F.F. # 1-A586 N.F.; 1-A576; A557-A570 @ 12" EF; 10-A600 @ 18" DRILL & GROUT DOWELS; 1-A555 NF #1-A703; 1-A554 NF #1-A707; 2-A550, 1-EF).
- Construction Joints:** Indicated at EL. 7.70, EL. 9.82, EL. 3.50, EL. -0.25, EL. -1.00, and EL. 5.00.
- Abutments:** Bearing proposed abutment and bearing existing abutment.
- Approach Slab:** Limits of approach slab shown with a 1/10 slope.
- North Arrow:** Located in the upper right quadrant.
- Table:** A table in the top right corner with columns: P.R.W.A. RES. NO., STATE, PROJECT NUMBER. The entry is: 1, MAINE, BR-0163 (16).

PLAN

1-A509 N.F. # 1-A705 F.F.
1-A508 N.F. # 1-A704 F.F.
2-A517 @ 18" LAP W/ A515
28-A516 @ 18"
2-A512 @ 12" F.F.
BOT. PROPOSED ABUT. EL. 0.00
CONSTRUCTION JOINT EL. 9.82
10-A700 @ 12" F.F.
7-A505 @ 18" N.F. LAP W/ A500
1-A701 F.F.
1-A504 N.F.
4-A513 @ 18" N.F.
4-A515 @ 18" F.F.
28-A516 @ 18" F.F.
28-A514 @ 18" N.F.
10-A700 @ 12" F.F.
7-A501 @ 18" N.F.
7-A502 @ 18" N.F. LAP W/ A500
3" TYP.
STEEL HP 14 x 73 PILES (TYP) EXISTING ABUTMENT
1/2" PREFORMED JOINT FILLER (TYP)
2-A510
EL. 13.18
1-A507 N.F. # 1-A703 F.F.
1-A506 N.F. # 1-A702 F.F.
11.54
EL. 10.64
10-A700 @ 12" F.F.
7-A503 @ 18" N.F.
1-A701 F.F.
1-A504 N.F.
10-A515 @ 18" 5 EACH FACE FIELD CUT TO FIT
EL. 13.52
9.82
EL. 7.70
EL. 5.50
5.00
EL. -1.00

ELEVATION

WINGWALL W/ ELEVATION

1-A576
A539-A552 C
A531-A534 @ 12" N.F. # A535-A538 @ 12" F.F.
9-A553 @ 12" N.F. # 9-A706 @ 12" F.F. LA FIELD CUT TO FIT
ROUGHEN, CLEAN & CO. EXIST. W/ APPROVE BONDING AGENT.
16-A500 @ 18" DRILL & GROUT DOWELS
1:9"
1:6"
EL. -1.00
EL. -0.25
3" TYP.

NOTE:
1. FOR PILE & ABUTMENT NOTES AND SYMBOLS SEE SHEET NO. 10.
2. N.F. = NEAR FACE
F.F. = FAR FACE

105-108

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
UPPER BRIDGE
OVER
EASTERN RIVER
DRESDEN
LINCOLN COUNTY

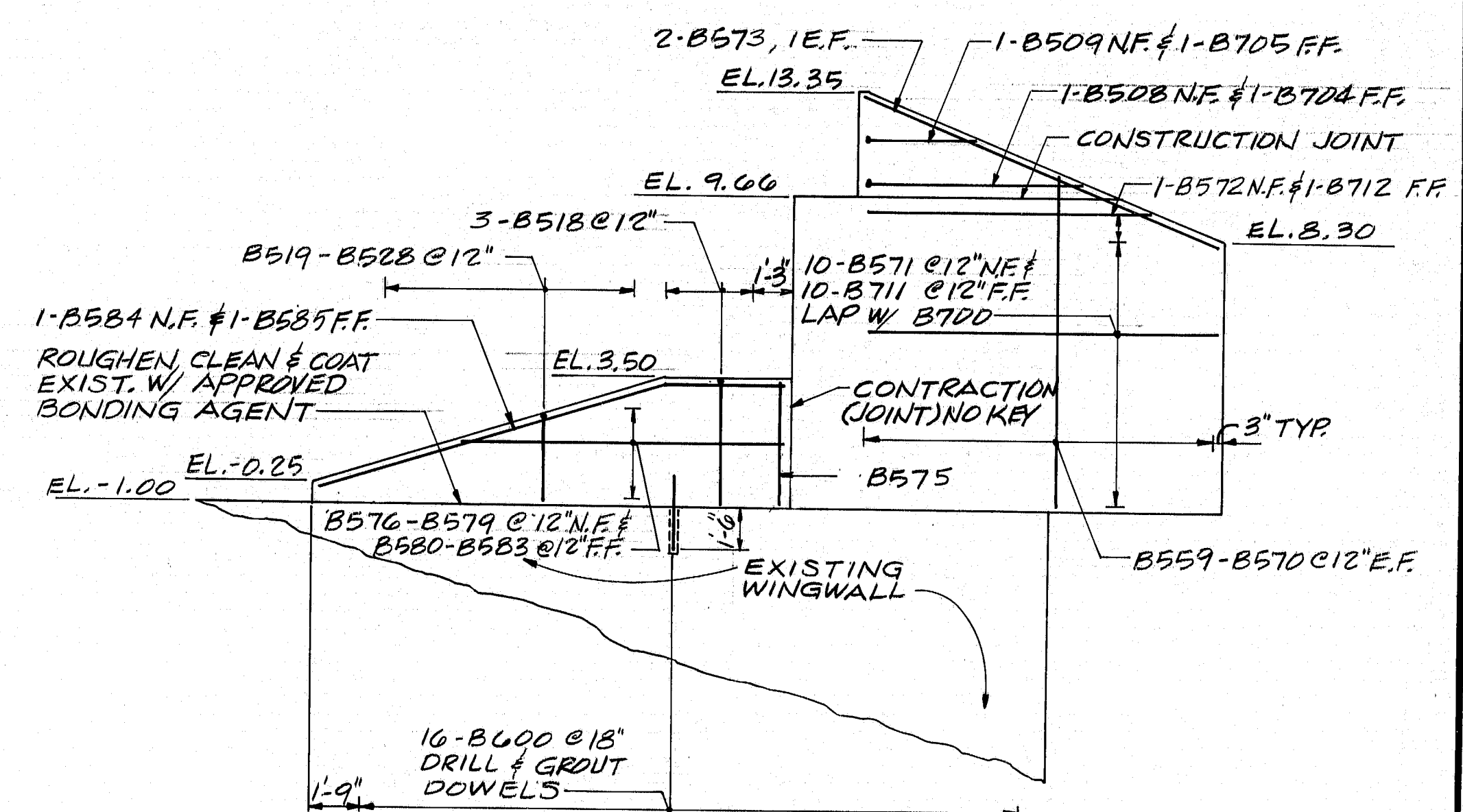
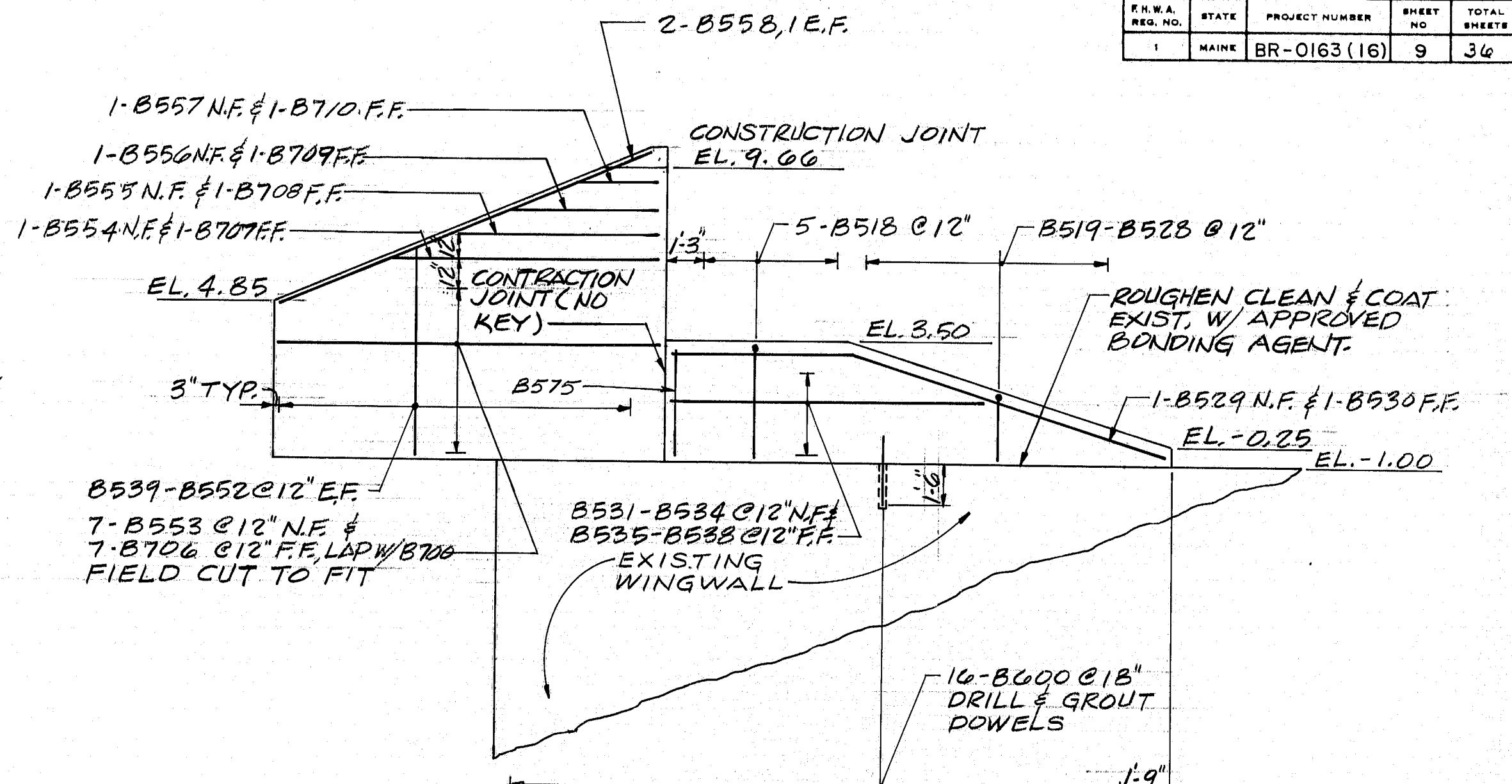
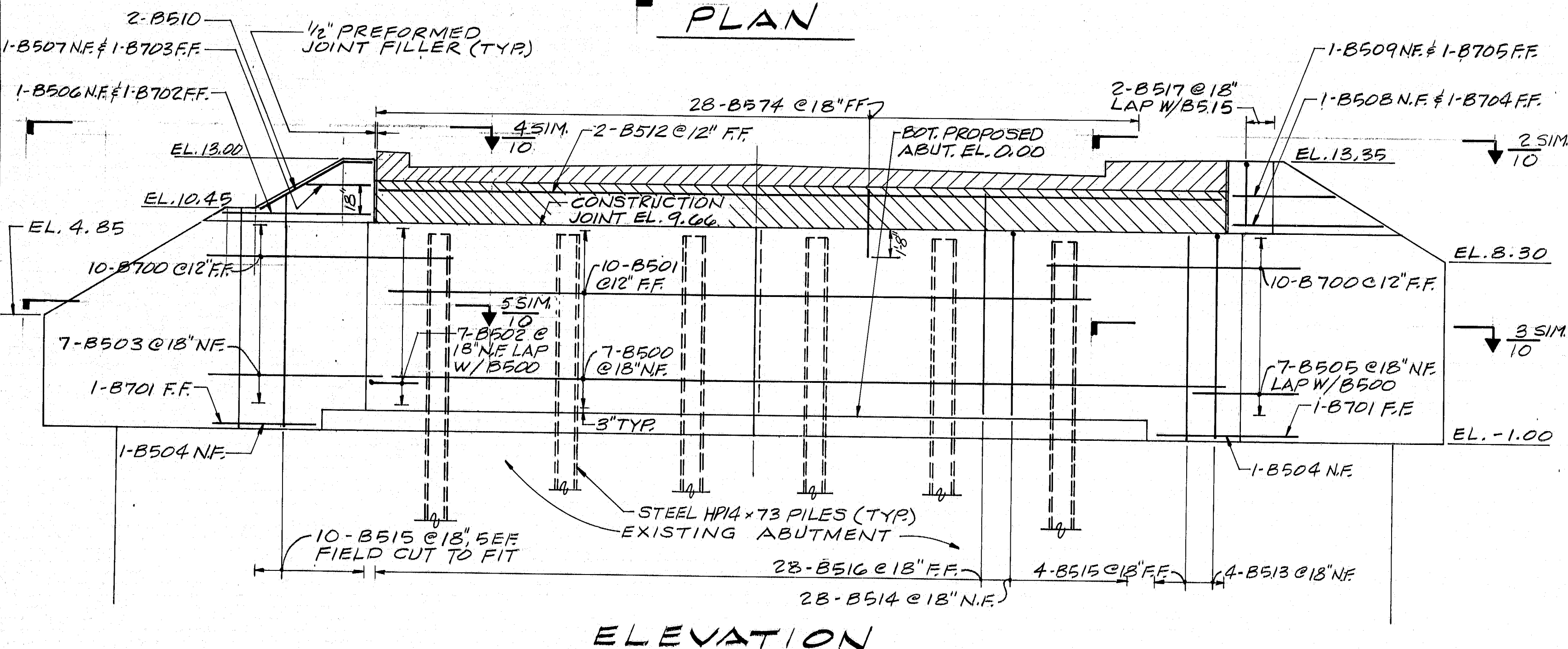
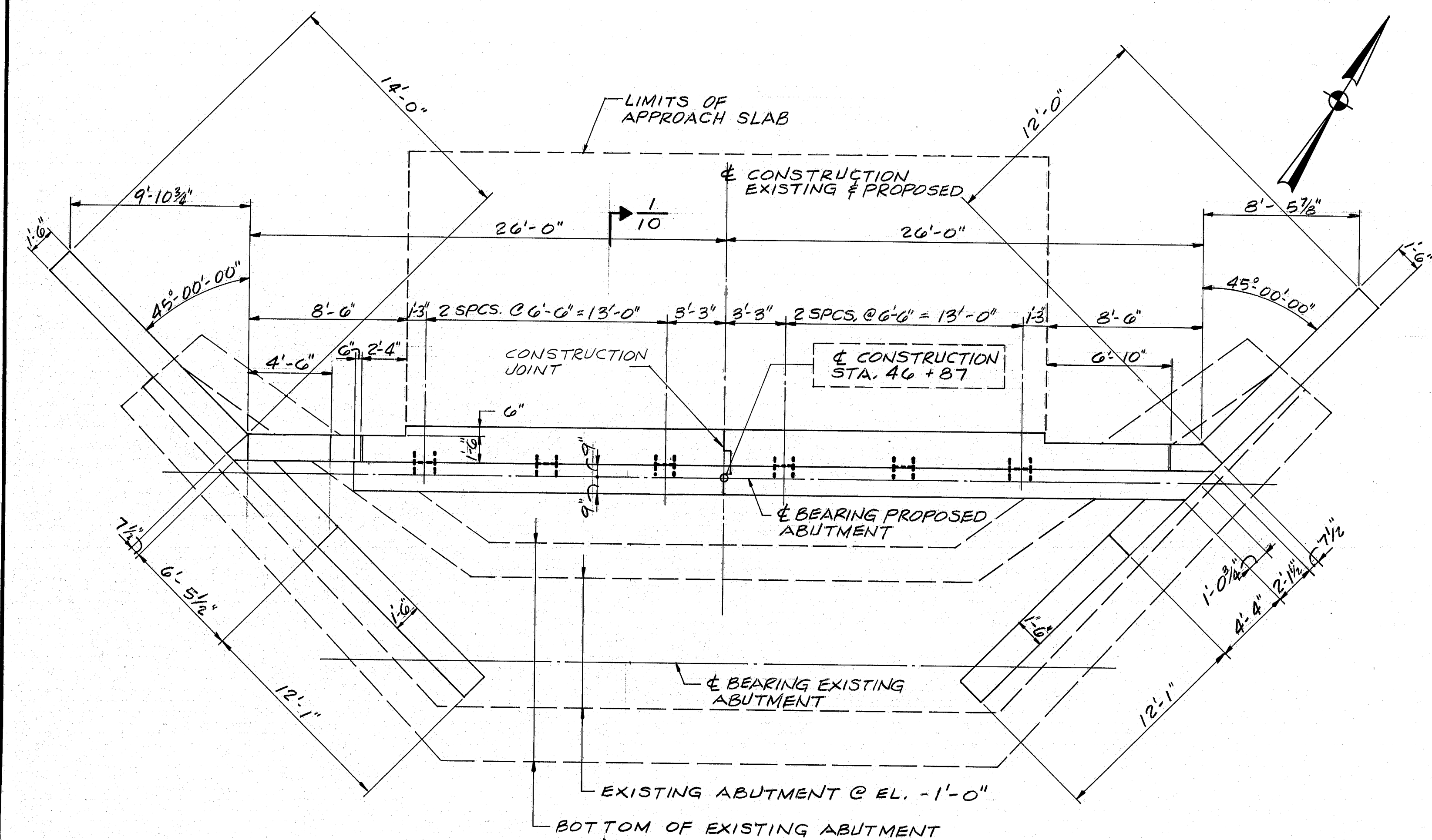
NOTE:
1. FOR PILE & ABUTMENT NOTES AND SYMBOLS SEE SHEET NO. 10.
2. N.F. = NEAR FACE
F.F. = FAR FACE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

UPPER BRIDGE
OVER
EASTERN RIVER
DRESDEN
LINCOLN COUNTY
ABUTMENT 1

SHEET 8 OF 3/0 AUGUSTA, MAINE

F.R.W.A. PROJ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-0163 (16)	9	36



NOTE:
1. FOR PILE & ABUTMENT NOTES AND SYMBOLS SEE SHEET NO. 10.
2. N.F. = NEAR FACE
FF = FAR FACE

105-109

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
UPPER BRIDGE
OVER
EASTERN RIVER
DRESDEN
LINCOLN COUNTY
ABUTMENT 2
SHEET 9 OF 36 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	DATE
BY	2-90
DESIGN - CHECKED	2-90
REVISIONS	
FIELD CHANGES	

F.R.M.A. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-0163 (16)	10	36

SECTION - 1

SECTION - 2

SECTION - 3

SECTION - 4

SECTION - 5

1. MAXIMUM CALCULATED PILE LOADS : 94 TONS
2. ESTIMATE OF PILES REQUIRED: ABUTMENT 1 : 6-HP14x73 @ 55' ±
ABUTMENT 2 : 6-HP14x73 @ 45' ±
3. TOPS OF PILES FOR ABUTMENT 1 SHALL BE @ EL. 9.35,
FOR ABUTMENT NO. 2 @ EL. 9.16.
4. DRIVE PILES TO LEDGE OR PRACTICAL REFUSAL.
5. PILES SHALL NOT BE OUT OF POSITION SHOWN ON PLANS BY MORE THAN 3 INCHES.
6. STEEL HP 13x73 PILES CAN BE SUBSTITUTED FOR THE HP14x73 ABUTMENT PILES AT THE CONTRACTORS OPTION.

1. REINFORCING STEEL SHALL HAVE 2 INCHES OF COVER UNLESS OTHERWISE INDICATED.
2. PLACE REINFORCING STEEL TO CLEAR DRILLING FOR ANCHOR RODS.
3. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" EXCEPT AS NOTED.
4. FOR CONSTRUCTION AND CONTRACTION JOINT DETAILS SEE STANDARD DETAIL SHEET BD 501-89.
5. ANCHOR RODS FOR THE PRECAST CONCRETE BOX BEAMS SHALL BE CORED AND GROUTED AFTER THE BEAMS ARE SET IN PLACE. PLACE REINFORCING STEEL TO CLEAR DRILLING FOR ANCHOR RODS.
6. 1/2" GROUT LEVELING PAD ON BEARING SEAT SHALL BE PLACED PRIOR TO INSTALLATION OF THE PRECAST BEAMS.
7. *All abutment concrete shall contain a silica fume additive.*

	NEW CONCRETE, PLAN OR ELEVATION
	NEW CONCRETE, SECTION
	EXISTING CONCRETE TO BE REMOVED
	EXISTING CONCRETE TO REMAIN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

UPPER BRIDGE
OVER
EASTERN RIVER
DRESDEN
LINCOLN COUNTY
ABUTMENT DETAILS

SHEET 10 OF 36 AUGUSTA, MAINE

PLANS	PROJECT DESIGN ENGINEER		BY	DATE
	DESIGN - DETAILED		RMB	2-90
	CHECKED		EMM	2-90
	REVISIONS			
FIELD CHANGES				

GRUNING	45710-1		REVISIONS	
			FIELD CHANGES	



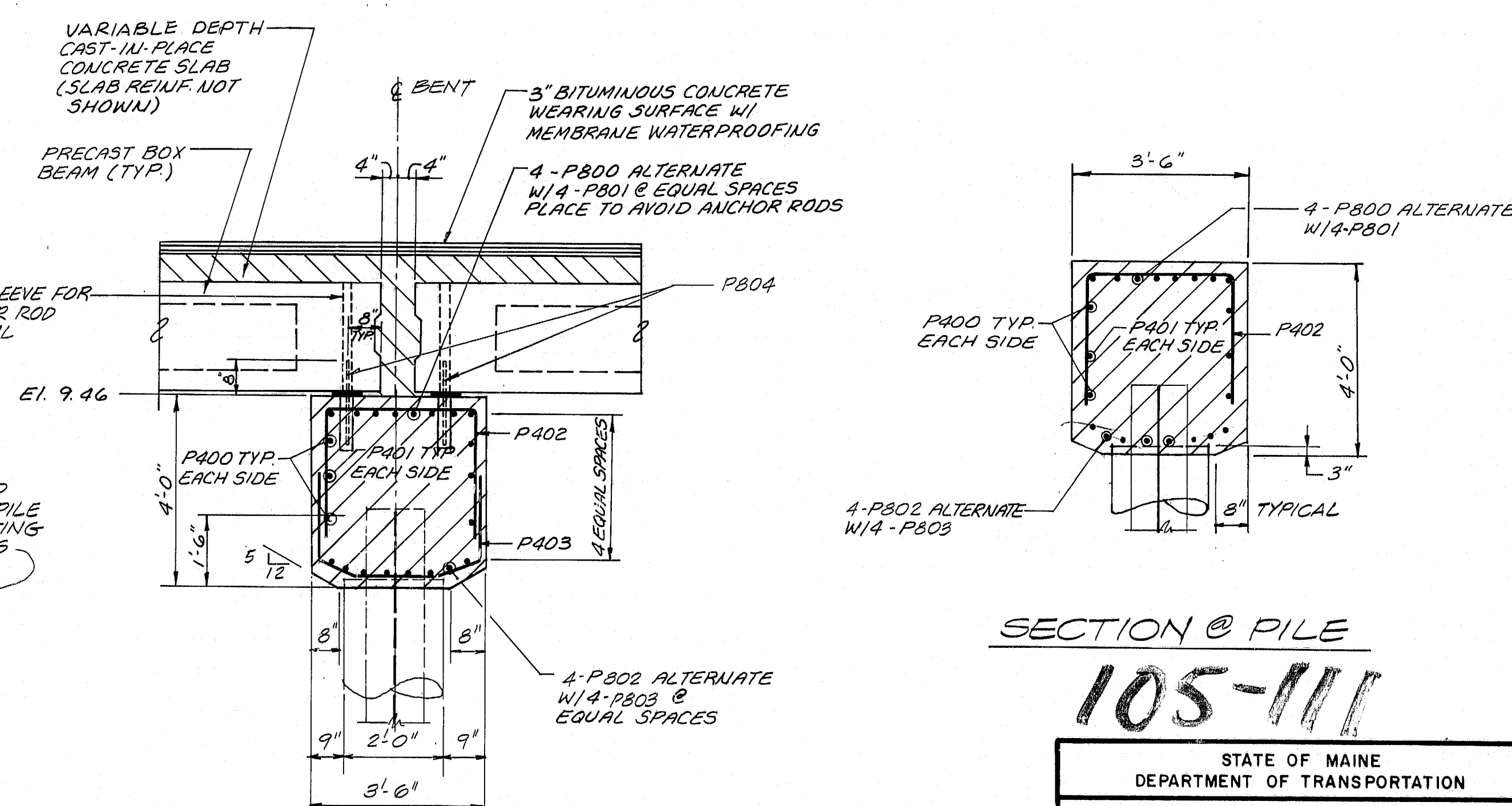
A technical drawing of a bridge pier construction. The drawing shows a cross-section of the pier with multiple piles. The top of the pier is labeled "CONSTRUCTION". The piles are labeled with various codes: P500, P400, P800, P801, P401, P802. Dimensions include a 47" LAP, a 16" LAP, and a 4'-0" height. The ground level is indicated by a line labeled "EL. 946". The soil conditions are labeled "SILT & MUD". A note indicates "APPROXIMATE TOP OF GLACIAL TILL EL. -13±". A detail view of a pile is shown, labeled "24\"

DESIGN CRITERIA:

1. CRITICAL AASHTO LOADING - GROUP IX.
2. STREAM FLOW - VELOCITY OF 5.3 FT./SEC. PARALLEL TO THE LONGITUDINAL CENTERLINE OF THE PIER.
3. WIND - 50 psf.
4. ICE - THICKNESS 18 INCHES, PRESSURE 100 psi AT ELEVATION 5.1.
30 PERCENT OF NOSE FORCE APPLIED TRANSVERSE TO PIER.

PIER NOTES:

1. REINFORCING STEEL SHALL HAVE 2 INCHES MINIMUM COVER UNLESS OTHERWISE INDICATED.
2. PIER CAP SHALL BE DRESSED DOWN TO AND LEVELED OFF AT THE PROPER GRADE FOR BEARING BEFORE BOX BEAMS ARE SET IN PLACE.
3. 24" O.D. STEEL CASINGS SHALL HAVE A MINIMUM WALL THICKNESS OF 3/8".
4. NUMBER OF PIER PILES REQUIRED = 7 - HP 14X17 PILES, ESTIMATED LENGTH 45' EACH.
5. FIELD DRILL 1/4" Ø HOLES IN THE 'HP PILES TO ALLOW PASSAGE OF THE BOTTOM P802 AND P803 REINFORCING BARS. PAYMENT TO BE INCIDENTAL TO ITEM NO. 501.219
6. MAXIMUM CALCULATED PILE LOAD = 117.5 TONS.
7. PLACE REINFORCING STEEL TO CLEAR DRILLING FOR ANCHOR RODS.
8. ANCHOR RODS FOR THE PRECAST CONCRETE BOX BEAMS ARE TO BE CORED AND GROUTED AFTER THE BEAMS ARE SET IN PLACE. PLACE REINF. STEEL TO CLEAR DRILLING FOR ANCHOR RODS..
9. PIPE PILES SHALL BE GIVEN A MINIMUM OF 3' INTO THE VERY DENSE GRAY, PEBBLY, SAND/SILT WITH ROCKS LAYER.



SECTION @ PILE

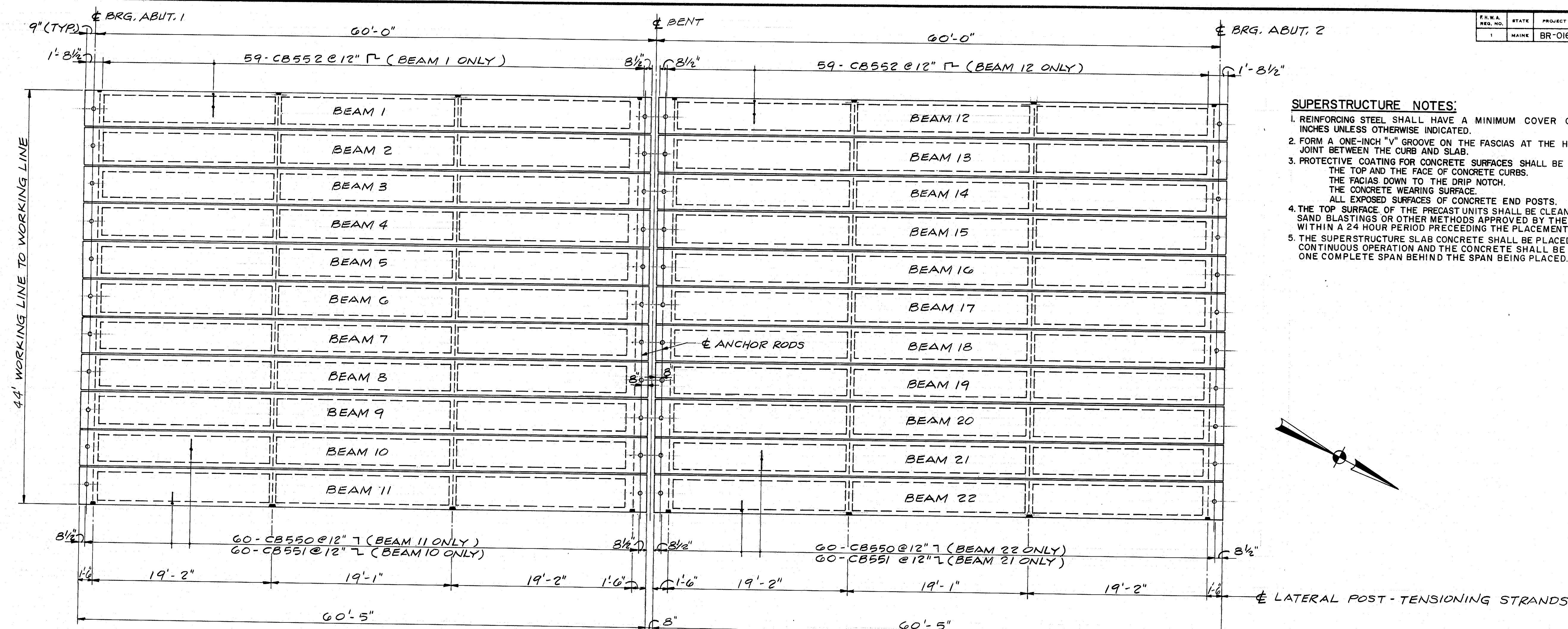
105-111

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

UPPER BRIDGE
OVER
EASTERN RIVER
DRESDEN
LINCOLN COUNTY
PILE BENT

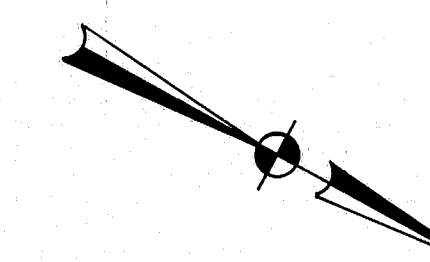
SHEET 11 OF 36 AUGUSTA, MAINE

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	BR-016 (16)	12	36

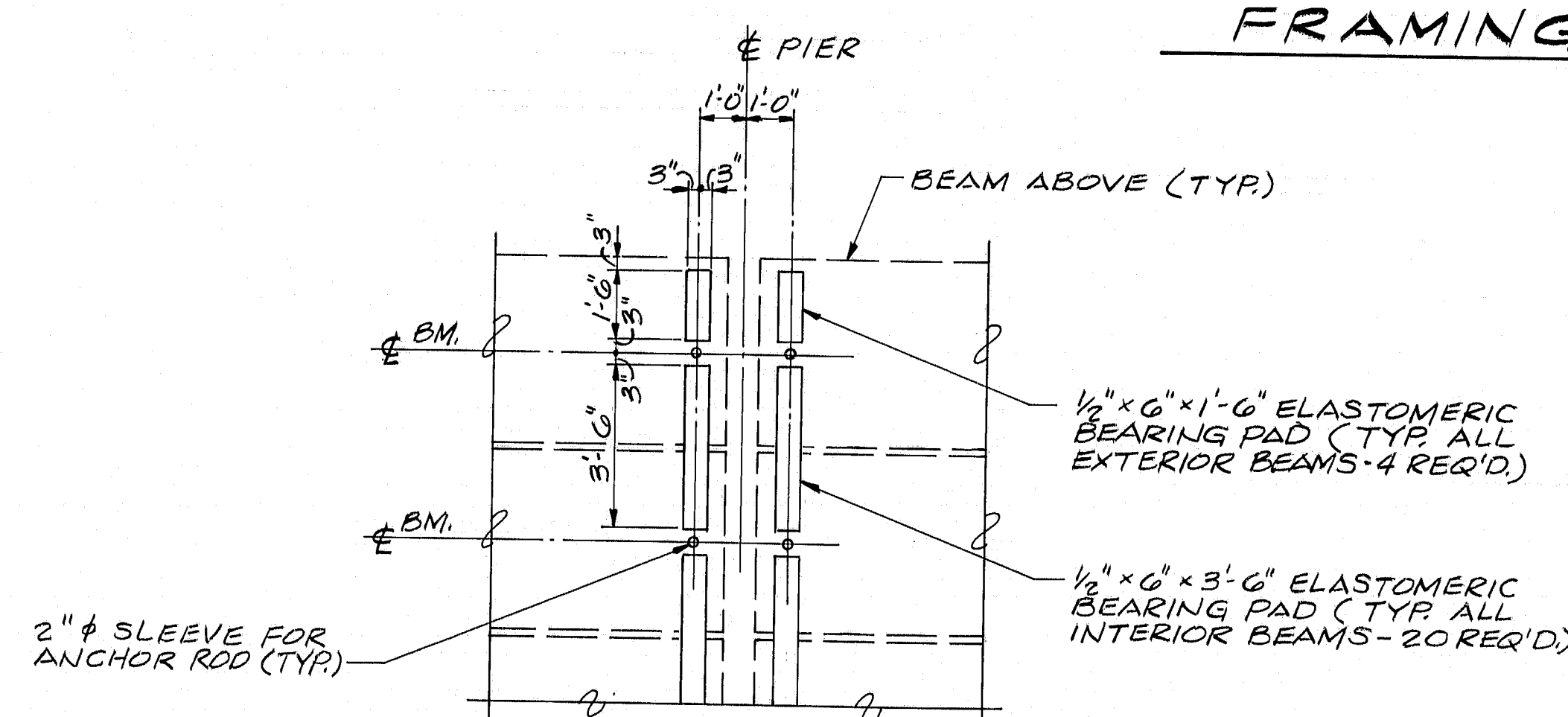


SUPERSTRUCTURE NOTES:

1. REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2 INCHES UNLESS OTHERWISE INDICATED.
2. FORM A ONE-INCH "V" GROOVE ON THE FASCIAS AT THE HORIZONTAL JOINT BETWEEN THE CURB AND SLAB.
3. PROTECTIVE COATING FOR CONCRETE SURFACES SHALL BE APPLIED TO: THE TOP AND THE FACE OF CONCRETE CURBS, THE FASCIAS DOWN TO THE DRIP NOTCH, THE CONCRETE WEARING SURFACE, ALL EXPOSED SURFACES OF CONCRETE END POSTS.
4. THE TOP SURFACE OF THE PRECAST UNITS SHALL BE CLEANED BY DRY SAND BLASTING OR OTHER METHODS APPROVED BY THE ENGINEER WITHIN A 24 HOUR PERIOD PRECEDING THE PLACEMENT OF THE SLAB.
5. THE SUPERSTRUCTURE SLAB CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION AND THE CONCRETE SHALL BE KEPT PLASTIC ONE COMPLETE SPAN BEHIND THE SPAN BEING PLACED.



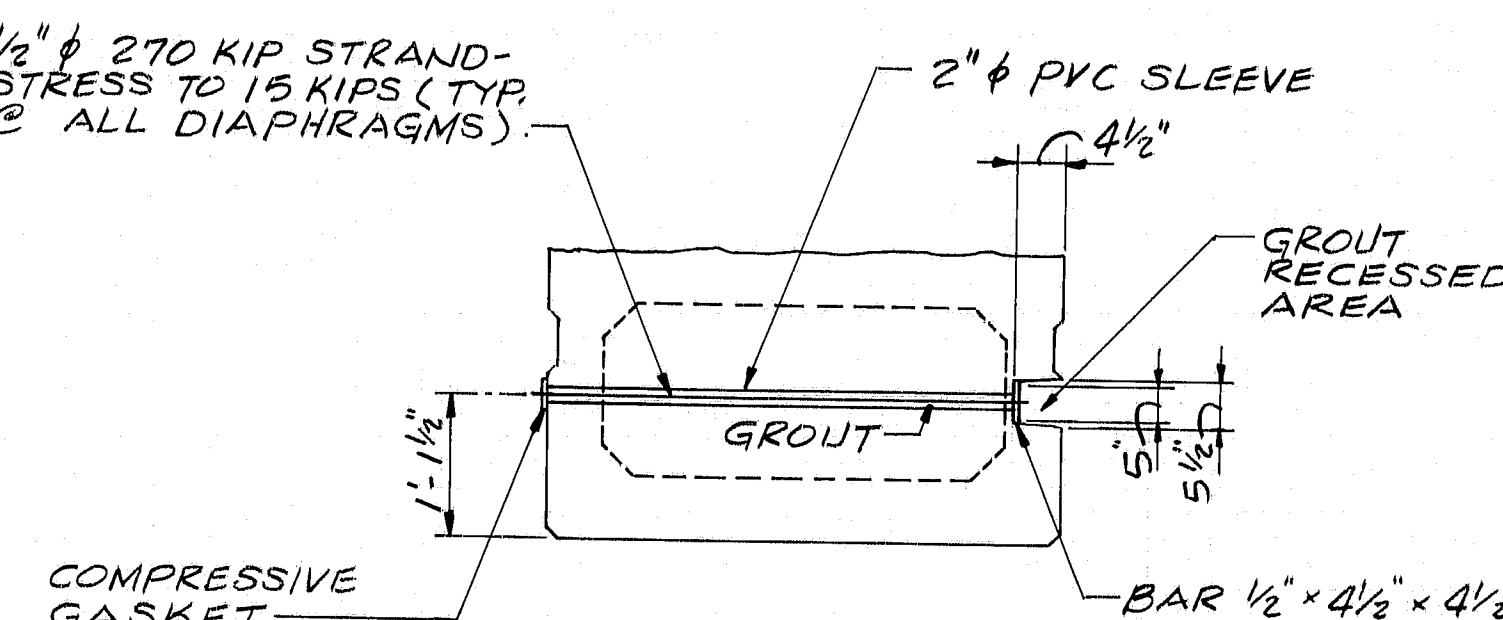
FRAMING PLAN



NOTE:
NEOPRENE FOR ELASTOMERIC
BEARING PAD TO BE 50
DUROMETER HARDNESS

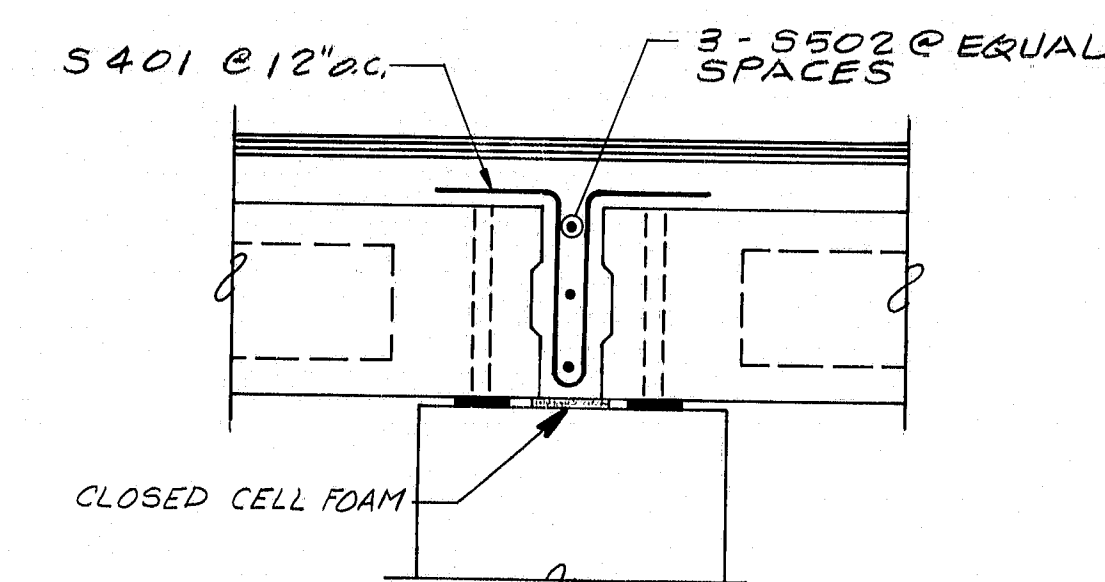
BEARING PAD LAYOUT

1/2" ϕ 270 KIP STRAND-
STRESS TO 15 KIPS (TYP.
@ ALL DIAPHRAGMS)



NOTE:
EXTERIOR BOX IS SHOWN, THE
INTERIOR BOX IS SIMILAR

POST-TENSIONING



BENT DIAPHRAGM DETAIL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

UPPER BRIDGE
OVER
EASTERN RIVER
DRESDEN
LINCOLN COUNTY
FRAMING PLAN

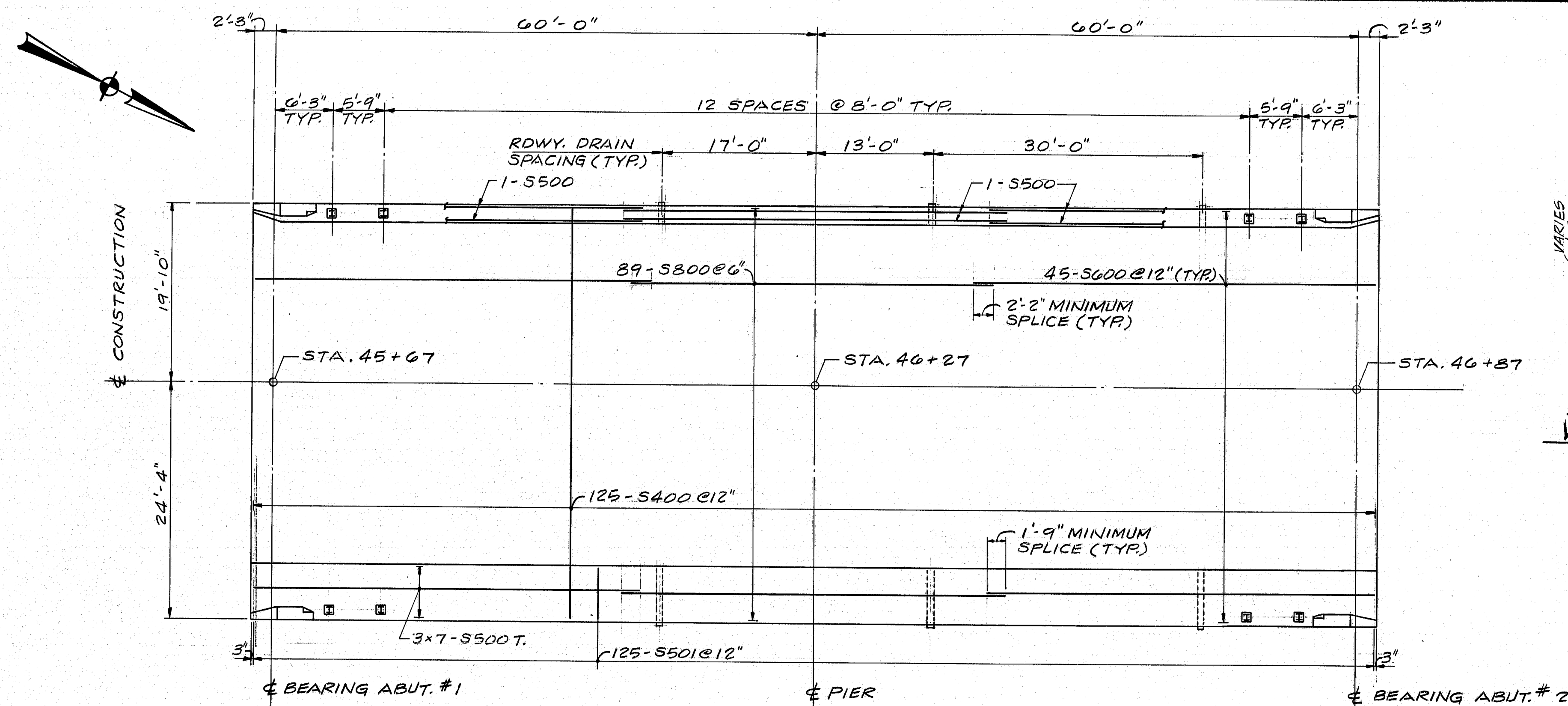
SHEET 12 OF 36 AUGUSTA, MAINE

105-112

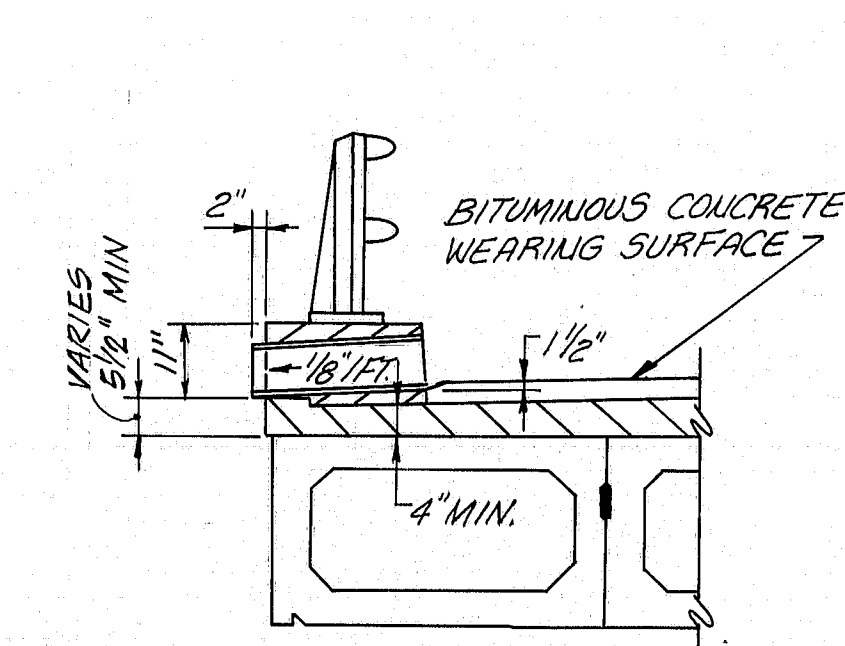
PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	2-79
REVISIONS	
FIELD CHANGES	

BRUNING 45710-1

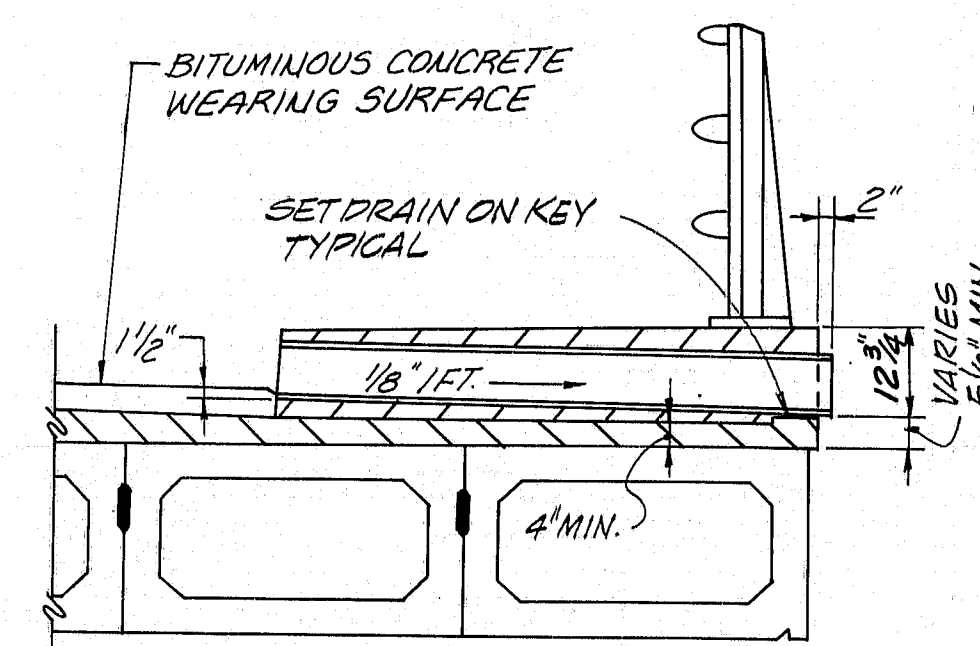
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
MAINE	BR-0163(16)	13	34



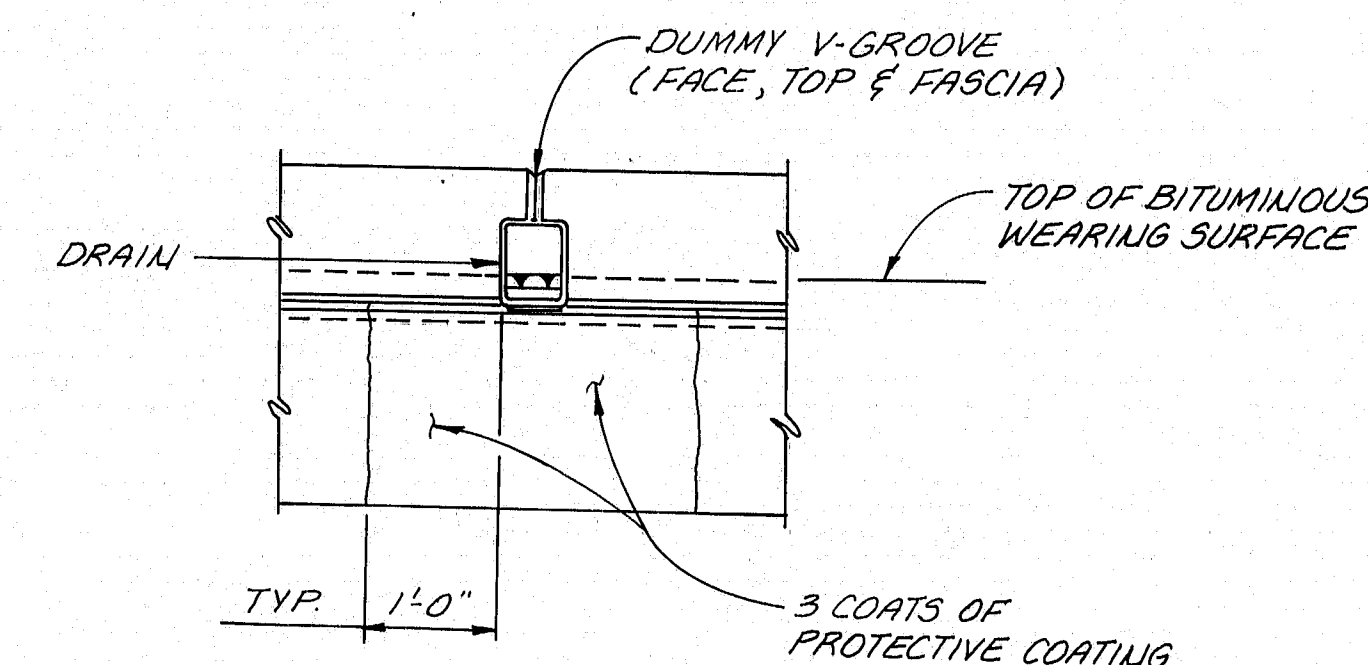
PLAN



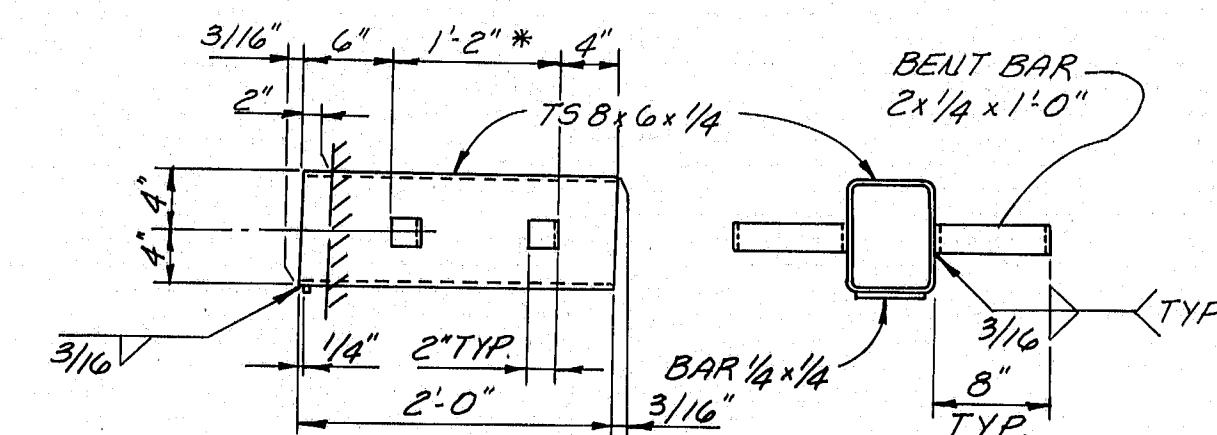
SECTION @ WEST FASCIA



SECTION @ EAST FASCIA



FASCIA ELEVATION



BRIDGE DRAIN

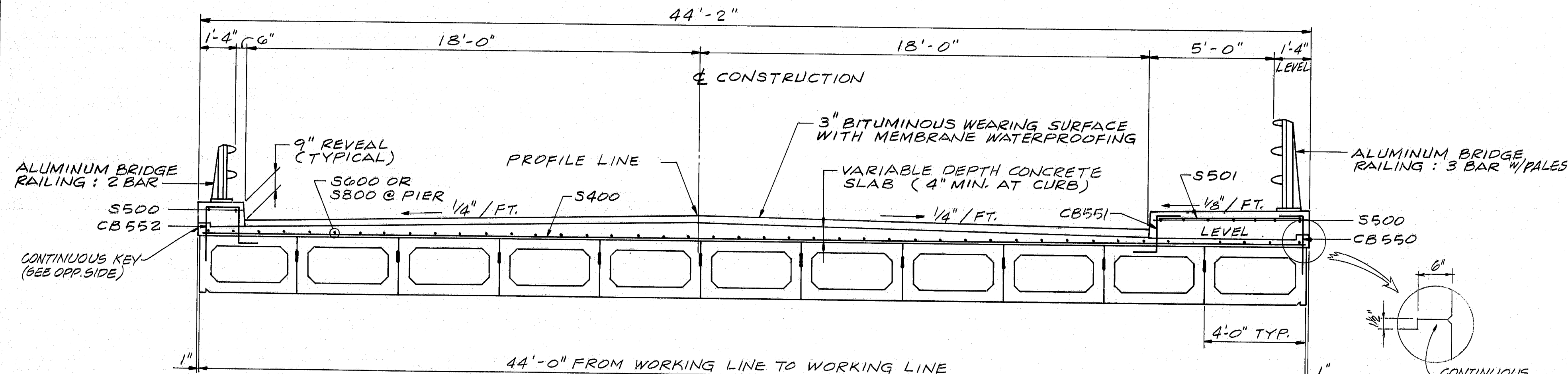
(WEST FASCIA DRAIN SHOWN, EAST FASCIA DRAIN SIMILAR)

* SPACE BENT BARS @ 1'-5" FOR EAST FASCIA DRAINS.

BRIDGE DRAIN DETAILS

- NOTES:
- BRIDGE DRAINS SHALL BE ASTM A36 STEEL.
 - THE INSIDE AND THE PROTECTING END OF THE OUTSIDE OF THE BRIDGE DRAINS SHALL RECEIVE THREE SHOP COATS OF PAINT.

NOTE:
ALL SIDEWALK AND CURB CONCRETE SHALL HAVE A SILICA FUME ADDITIVE. THE SILICA FUME ADDITIVE SHALL BE PROPORTIONED AS PER SECTIONS 502 AND 701 AT A RATE OF 65 lbs./CY.



TRANSVERSE SECTION

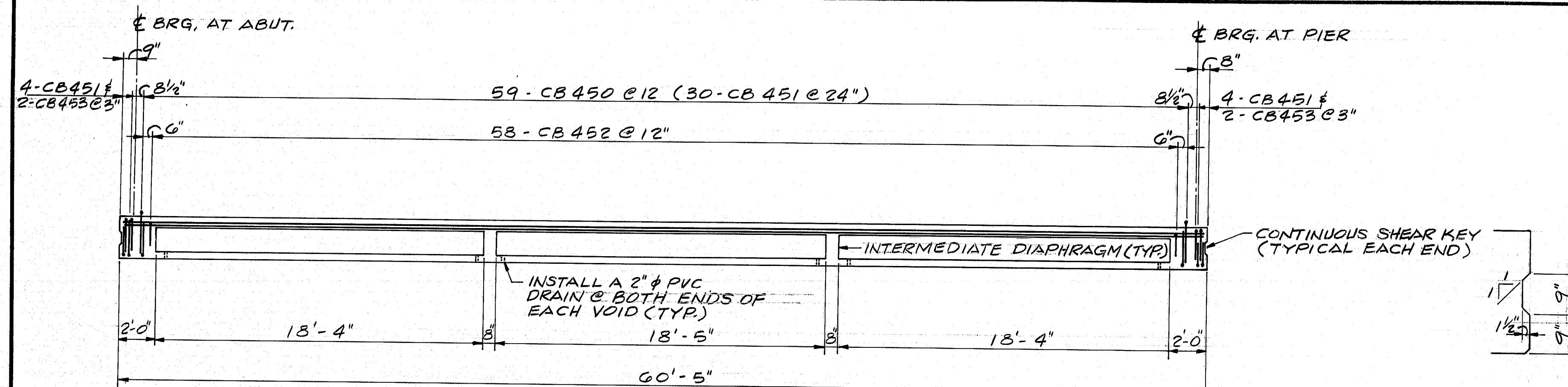
PROJECT DESIGN ENGINEER	DATE
BY: DJC	2-90
CHECKED: RJB	2-90
REVISIONS	
FIELD CHANGES	

PLANS

BRIDGE

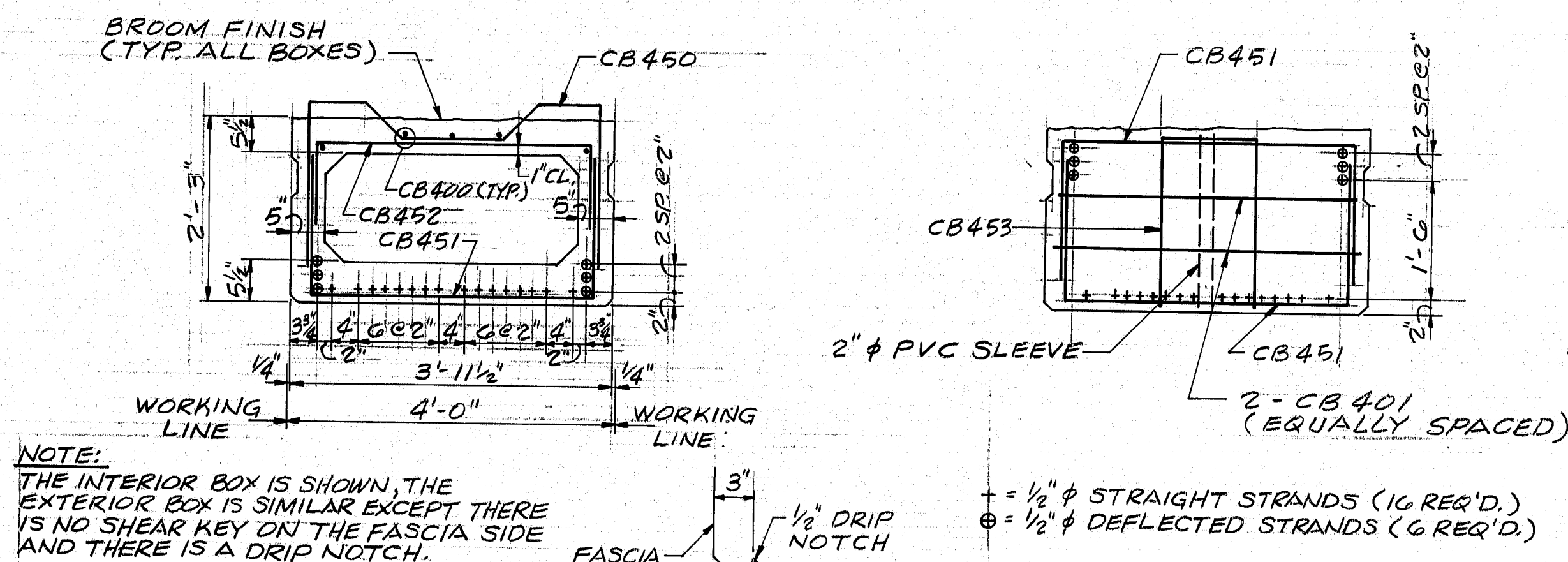
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
UPPER BRIDGE
OVER
EASTERN RIVER
DRESDEN
LINCOLN COUNTY
SUPERSTRUCTURE
SHEET 13 OF 34 AUGUSTA, MAINE

FORM NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-0163 (16)	14	34



NOTE: REINFORCEMENT TYPICAL FOR ALL BEAM. SEE FRAMING PLAN ON SHEET 12 OF 14 FOR LAYOUT OF SIDEWALK AND CURB DOWELS.

LONGITUDINAL SECTION



NOTE: THE INTERIOR BOX IS SHOWN, THE EXTERIOR BOX IS SIMILAR EXCEPT THERE IS NO SHEAR KEY ON THE FASCIA SIDE AND THERE IS A DRIP NOTCH.

FASCIA 3" 1/2" DRIP NOTCH

+ = 1/2" # STRAIGHT STRANDS (16 REQ'D.)
⊕ = 1/2" # DEFLECTED STRANDS (6 REQ'D.)

NOTES:
1. PLACE ONE MAT OF REINFORCING @ EACH INTERMEDIATE DIAPHRAGM.
2. ADJUST SPACING AS NECESSARY TO CLEAR PRESTRESSING STRANDS.

SECTION @ MIDSPAN

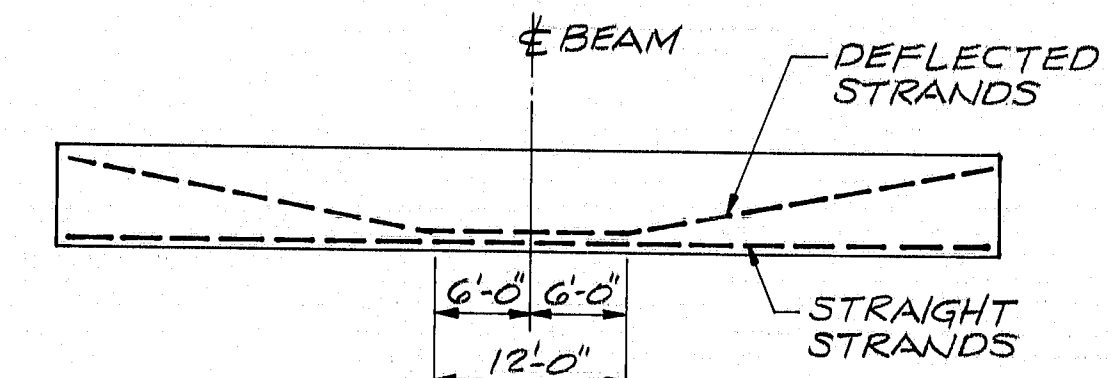
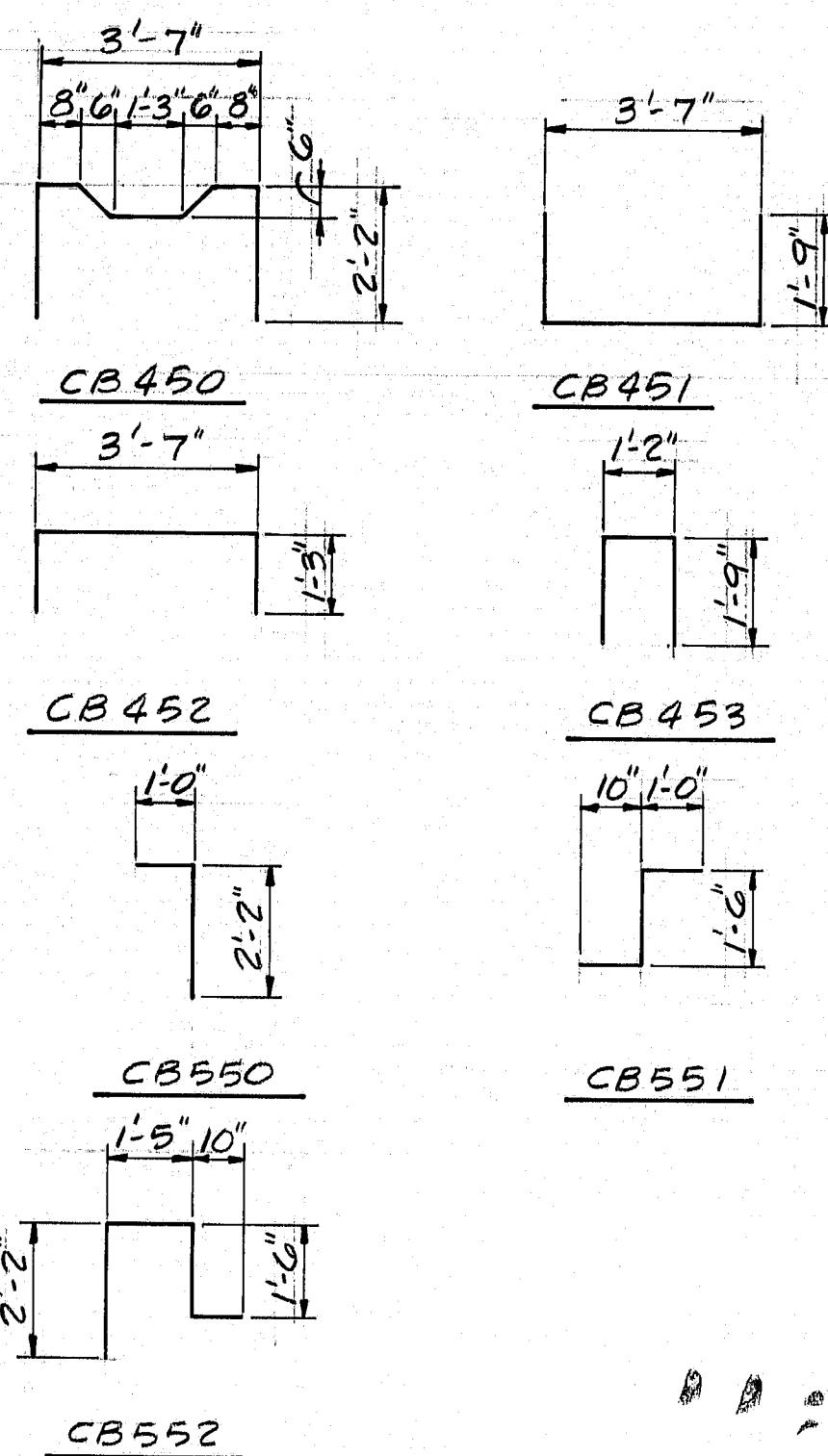
SECTION @ END

TYPICAL BEAM SECTIONS

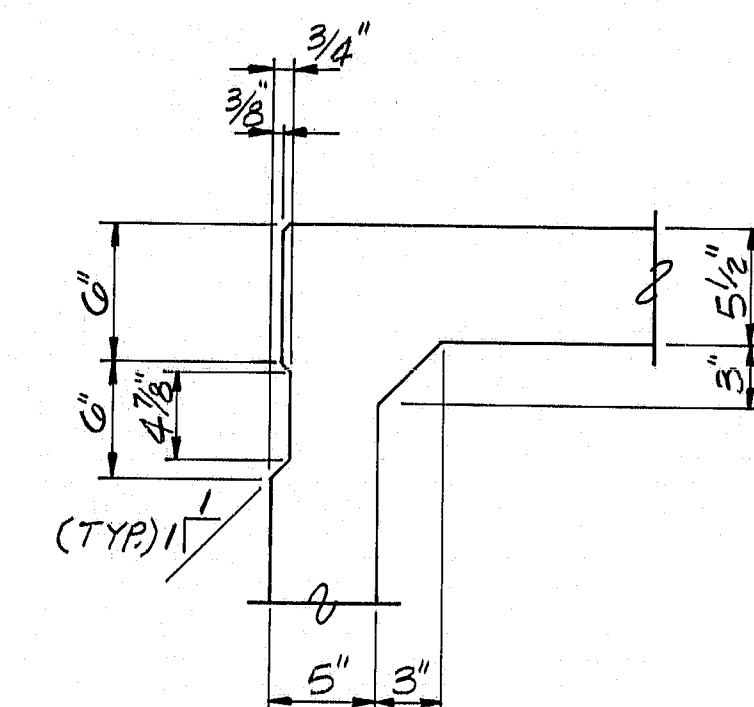
DIAPHRAGM REINFORCING

MARK	QTY.	LENGTH
CB400	110	60'-0"
CB401	176	3'-7"
CB402	264	1'-11"
CB450	1298	8'-4"
CB451	836	7'-1"
CB452	1276	6'-1"
CB453	88	4'-8"
CB550	120	3'-2"
CB551	120	3'-4"
CB552	118	5'-11"

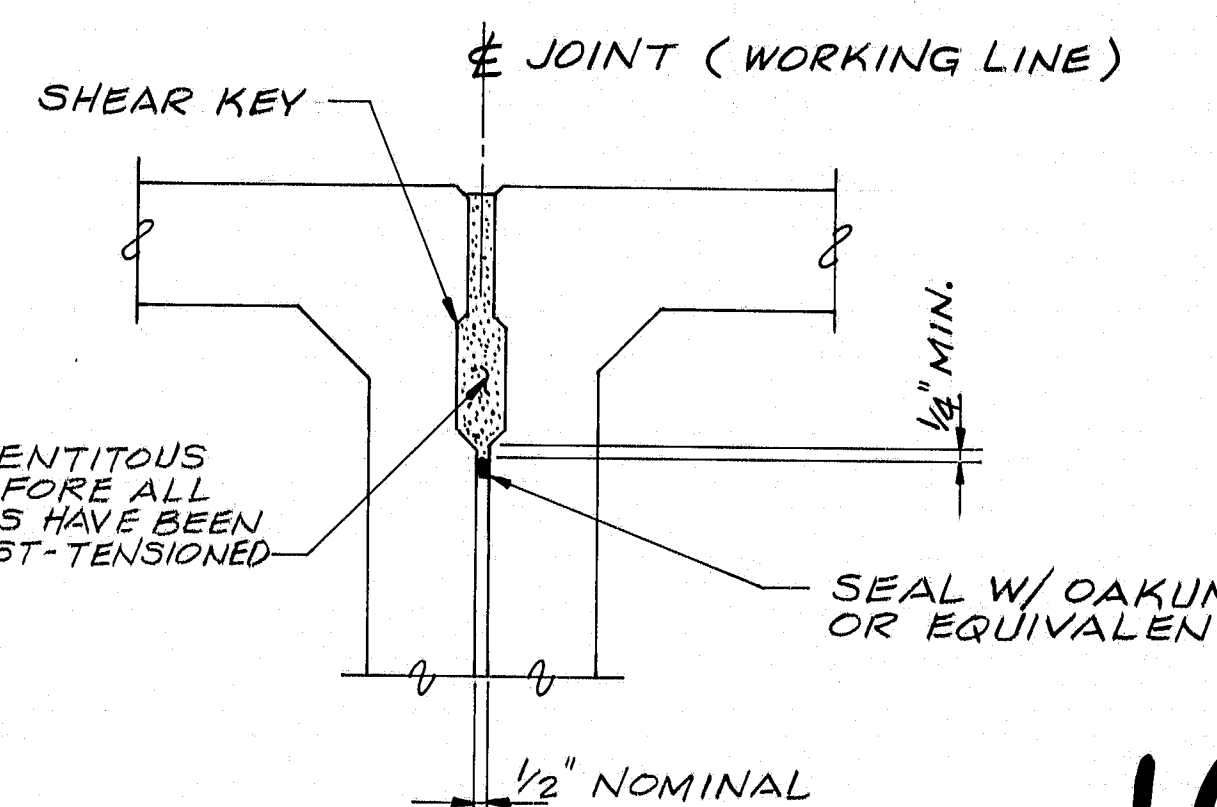
SEE NOTES ON "REINFORCING STEEL SCHEDULE" SHT. NO. 15



DEFLECTED STRAND LAYOUT



SHEAR KEY DETAIL



JOINT DETAIL

BOX BEAM NOTES

1. THE MINIMUM COMPRESSIVE STRENGTH OF PRESTRESSED CONCRETE AT THE AGE OF 28 DAYS SHALL BE 5,000 PSI. MINIMUM COMPRESSIVE STRENGTH AT TRANSFER OF PRESTRESSING FORCE SHALL BE 4,000 PSI.
2. PRESTRESSING STEEL SHALL CONSIST OF STRESS RELIEVED SEVEN WIRE STRANDS, 270 GRADE, WITH A NOMINAL DIAMETER OF ONE-HALF INCH. THE INITIAL TENSILE FORCE APPLIED TO EACH STRAND SHALL BE 28,900 LBS.
3. THE TRANSVERSE POST-TENSIONING TENDONS SHALL BE POLYSTRAND, GALVANIZED STRAND, OR EQUAL.
4. PAYMENT FOR REINFORCING STEEL FOR CONCRETE BOX BEAMS SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 535.62.
5. THE DRIP NOTCH IN THE FASCIA BOX BEAMS SHALL BE TERMINATED 3'-6" FROM THE ENDS OF THE BEAMS.

PROJECT DESIGN ENGINEER	DATE
BY	2-90
CHECKED	2-90
REVISIONS	
FIELD CHANGES	
PLANS	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
UPPER BRIDGE
OVER
EASTERN RIVER
DRESDEN
LINCOLN COUNTY
BOX BEAM DETAILS
SHEET 14 OF 34 AUGUSTA, MAINE

105-114

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 1				ABUTMENT 1 CONT.				ABUTMENT 2 CONT.				ABUTMENT 1														
A500	9	45'-0"	BREASTWALL FRONT									A502	7	4'-3"	L	2'-3"	2'-0"									BREASTWALL FRONT
A501	10	34'-8"	BREASTWALL BACK									A503	7	9'-5"	V				7'-1"	2'-4"				1'-8"		BREASTWALL FRONT
A506	1	7'-6"	ABUT. WEST CORNER									A504	2	6'-7"	V				4'-3"	2'-4"				1'-8"		BREASTWALL FRONT
A507	1	4'-0"	ABUT. WEST CORNER									A505	7	6'-4"	V				4'-4"	2'-0"				1'-5"		ABUT. EAST CORNER
				A600	32	2'-6"	WINGWALL DOWELS	B571	10	11'-9"	WINGWALL E2															
				A702	1	7'-6"	ABUT. WEST CORNER	B572	1	9'-6"	WINGWALL E2															
				A703	1	4'-0"	ABUT. WEST CORNER	B573	2	12'-8"	WINGWALL E2															
A511			NOT USED	A706	9	13'-9"	WINGWALL W1	B574	28	4'-0"	ABUT. BACKWALL															
A512	2	43'-8"	ABUTMENT BACKWALL	A707	1	5'-9"	WINGWALL W1	B575	2	4'-2"	ABUT. RIPRAP WALLS	A508	1	10'-7"	V				8'-6"	2'-1"				1'-5 5/8"		ABUT. EAST CORNER
				A708	1	3'-2"	WINGWALL W1	B576	1	8'-0"	E2 RIPRAP WALL	A509	1	8'-2"	V				6'-1"	2'-1"				1'-5 5/8"		ABUT. EAST CORNER
				A709	9	13'-9"	WINGWALL E1	↓ LENGTH VARIES @			EQUAL INCREMENTS	A510	2	6'-4"	V				4'-10"	1'-6"				0'-9"		ABUT. WEST CORNER
A515	14	12'-10"	ABUTMENT CORNERS	A710	1	12'-5"	WINGWALL E1	B579	1	16'-1"	E2 RIPRAP WALL	A513	4	13'-2"	L	2'-8"	10'-6"									ABUTMENT SEAT
A516	28	9'-6"	ABUTMENT BACKFACE	A711	1	10'-0"	WINGWALL E1	B580	1	6'-6"	E2 RIPRAP WALL	A514	28	12'-2"	L	2'-8"	9'-6"									ABUTMENT SEAT
				A800	11	2'-0"	ABUT. ANCHOR RODS	↓ LENGTH VARIES @			EQUAL INCREMENTS	A517	2	7'-10"	S	—	3'-4"	1'-2"	3'-4"							ABUTMENT CORNER
A531	1	10'-0"	W1 RIPRAP WALLS					B583	1	14'-7"	E2 RIPRAP WALL	A518	8	9'-6"	S	—	4'-2"	1'-2"	4'-2"							ABUT. RIPRAP WALLS
↓ LENGTH VARIES @			EQUAL INCREMENTS				ABUTMENT 2					A519	2	9'-0"	S	—	3'-11"	1'-2"	3'-11"							ABUT. RIPRAP WALLS
A534	1	18'-0"	W1 RIPRAP WALLS	B500	9	45'-0"	BREASTWALL FRONT					↓ LENGTH VARIES @														
				B501	10	34'-8"	BREASTWALL BACK	B600	32	2'-6"	WINGWALL DOWELS	A528	2	3'-6"	S	—	1'-2"	1'-2"	1'-2"							ABUT. RIPRAP WALLS
A535	1	8'-10"	ABUT. RIPRAP WALLS	B506	1	7'-6"	ABUT. WEST CORNER	B702	1	7'-6"	ABUT. WEST CORNER															
↓ LENGTH VARIES @			EQUAL INCREMENTS	B507	1	4'-0"	ABUT. WEST CORNER	B703	1	4'-0"	ABUT. WEST CORNER	A529	1	18'-6"	V				12'-5"	6'-1"				1'-9 5/8"		W1 RIPRAP WALL
A538	1	16'-10"	ABUT. RIPRAP WALLS					B706	7	13'-9"	WINGWALL W2	A530	1	17'-4"	V				12'-5"	4'-11"				1'-5 1/2"		W1 RIPRAP WALL
				B511			NOT USED	B707	1	9'-8"	WINGWALL W2															
A539	2	5'-8"	WINGWALL W1	B512	2	43'-8"	ABUT. BACKWALL	↓ LENGTH VARIES @			EQUAL INCREMENTS	A585	1	16'-9"	V				12'-5"	4'-4"				1'-2"		E1 RIPRAP WALL
↓ LENGTH VARIES @			EQUAL INCREMENTS					B710	1	2'-10"	WINGWALL W2	A586	1	15'-3"	V				12'-5"	2'-10"				0'-10"		E1 RIPRAP WALL
A552	2	11'-3"	WINGWALL W1																							
				B515	14	12'-8"	ABUT. CORNERS	B711	10	11'-9"	WINGWALL E2	A601	45	4'-5"	L	2'-3"	2'-2"									ABUT. BACKWALL
				B516	28	9'-4"	ABUT. BACK FACE	B712	1	9'-6"	WINGWALL E2															
A553	9	13'-9"	WINGWALL W1									A700	20	13'-6"	V				10'-3"	3'-3"				2'-3 1/2"		ABUT. CORNERS
A554	1	5'-9"	WINGWALL W1									A701	2	7'-6"	V				4'-3"	3'-3"				2'-3 1/2"		ABUT. CORNERS
A555	1	3'-2"	WINGWALL W1	B531	1	10'-0"	W2 RIPRAP WALL																			
A556	2	15'-1"	WINGWALL W1	↓ LENGTH VARIES @			EQUAL INCREMENTS																			
A557	2	8'-4"	WINGWALL E1	B534	1	18'-0"	W2 RIPRAP WALL																			
↓ LENGTH VARIES @			EQUAL INCREMENTS																							
A570	2	13'-2"	WINGWALL E1	B535	1	8'-10"	W2 RIPRAP WALL																			
				↓ LENGTH VARIES @			EQUAL INCREMENTS																			
				B538	1	16'-10"	W2 RIPRAP WALL																			
A571	9	13'-9"	WINGWALL E1																							
A572	1	12'-5"	WINGWALL E1	B539	2	5'-6"	WINGWALL W2					B502	7	4'-3"	L	2'-3"	2'-0"									BRIDGE SEAT CORNER
A573	1	10'-0"	WINGWALL E1	↓ LENGTH VARIES @			EQUAL INCREMENTS					B503	7	9'-5"	V				7'-1"	2'-4"				1'-8"		ABUT. WEST CORNER
A574	2	14'-9"	WINGWALL E1	B552	2	11'-1"	WINGWALL W2					B504	2	6'-7"	V				4'-3"	2'-4"				1'-8"		ABUT. CORNERS
A575	28	4'-0"	ABUTMENT BACKWALL									B505	7	6'-4"	V				4'-4"	2'-0"				1'-5"		ABUT. EAST CORNER
A576	2	4'-2"	ABUT. RIPRAP WALLS	B553	7	13'-9"	WINGWALL W2																			
A577	1	8'-0"	E1 RIPRAP WALL	B554	1	9'-8"	WINGWALL W2																			
↓ LENGTH VARIES @			EQUAL INCREMENTS	↓ LENGTH VARIES @			EQUAL INCREMENTS					B508	1	10'-6"	V				2'-1"	8'-5"				5'-11 3/8"		ABUT. EAST CORNER
A580	1	16'-1"	E1 RIPRAP WALL	B557	1	2'-10"	WINGWALL W2					B509	1	8'-2"	V				2'-1"	6'-1"				4'-3 5/8"		ABUT. EAST CORNER
				B558	2	15'-8"	WINGWALL W2					B510	2	6'-4"	V				4'-10"	1'-6"				0'-9"		ABUT. WEST CORNER
A581	1	6'-6"	E1 RIPRAP WALL	B559	2	8'-11"	WINGWALL E2					B513	4	13'-0"	L	2'-8"	10'-4"									ABUTMENT SEAT
↓ LENGTH VARIES @			EQUAL INCREMENTS	↓ LENGTH VARIES @			EQUAL INCREMENTS					B514	28	12'-0"	L	2'-8"	9'-4"									ABUTMENT SEAT
A584	1	14'-7"	E1 RIPRAP WALL	B570	2	13'-0"	WINGWALL E2					MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION

FWA NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-0163(16)	15	36

TYPE-BENDING DIAGRAMS

1. 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

2. Each truss bar, Type B, may be replaced by two (2) straight bars (one top & one bottom) of the same bar size as the truss bar. Payment in either case shall be based on truss bars as scheduled on plans.

105-115

New Bent Bar Type 53
 Revised ACI Standard
 9-26-83
 5-12-83

REVISIONS	DATE

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION

UPPER BRIDGE
 OVER
 EASTERN RIVER
 DRESDEN
 LINCOLN COUNTY
 REINFORCING SCHEDULE

SHEET 15 OF 36 AUGUSTA, MAINE

[illegible][illegible]

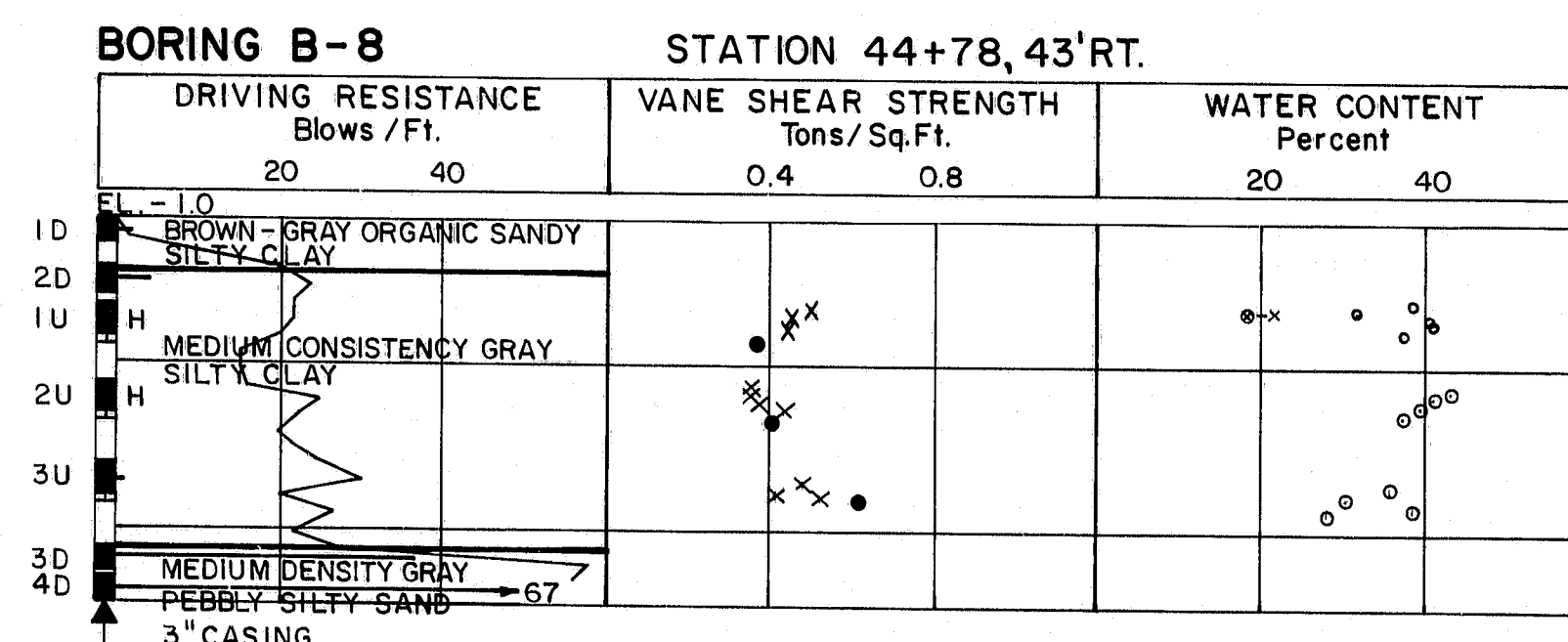
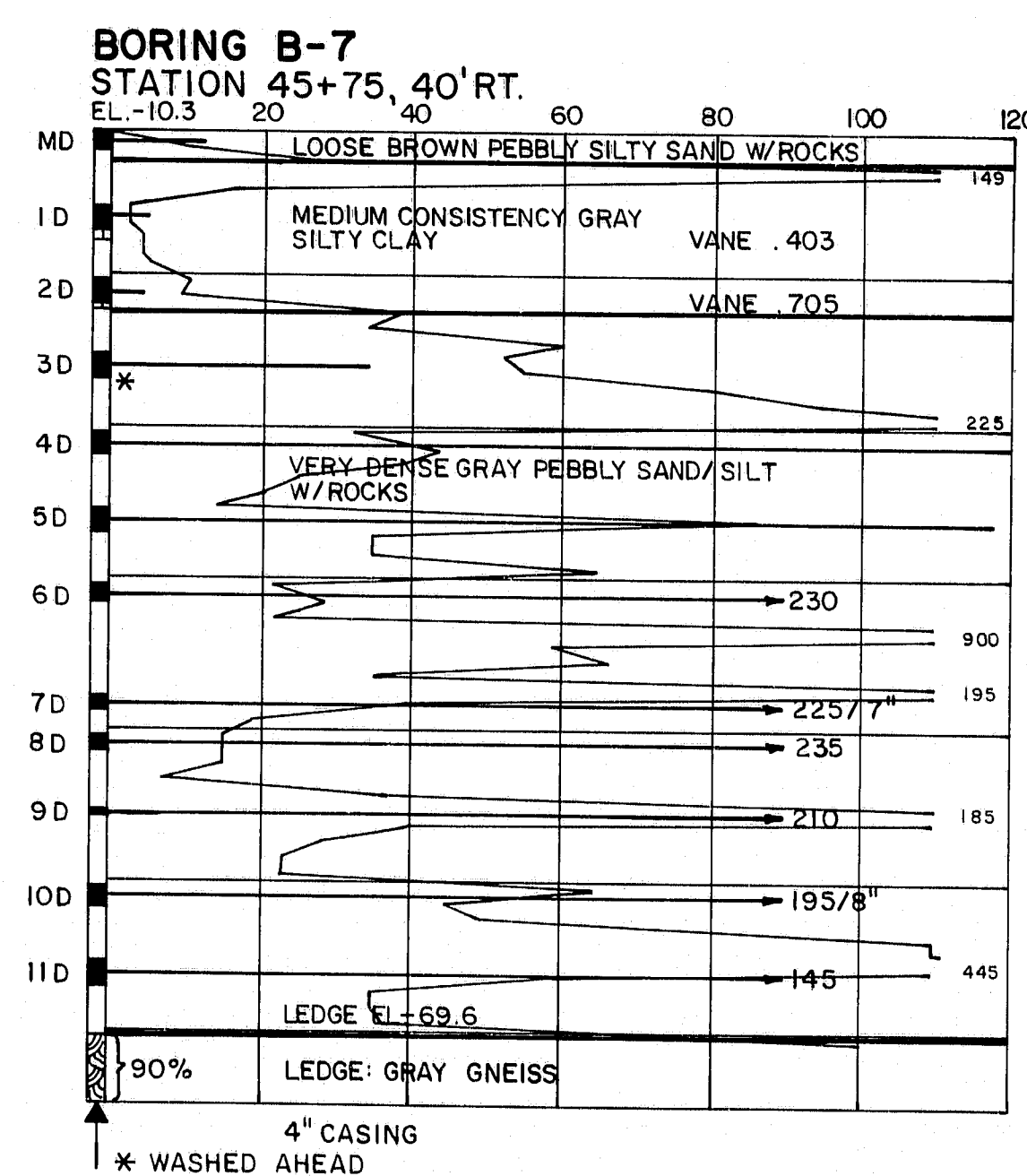
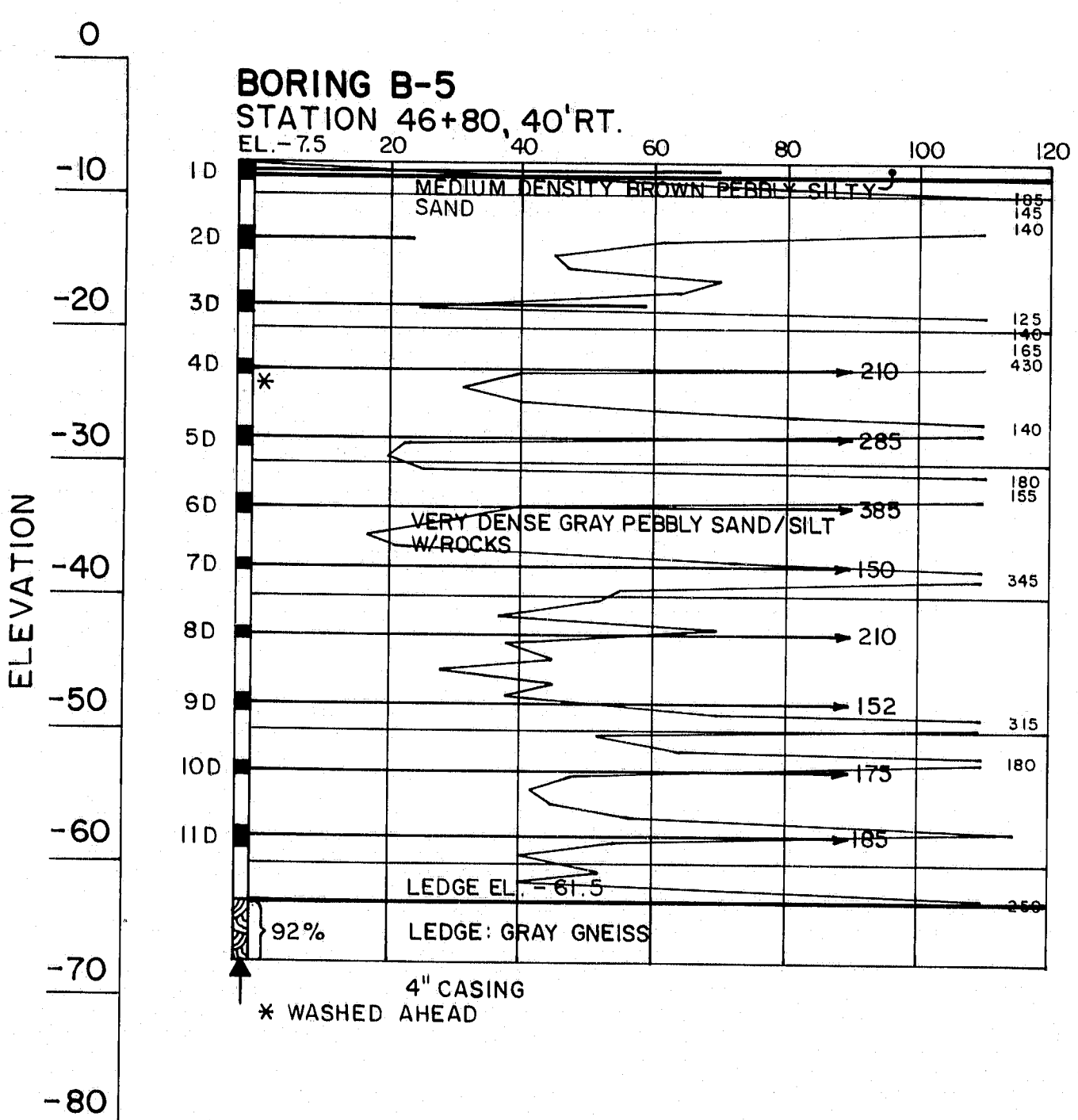
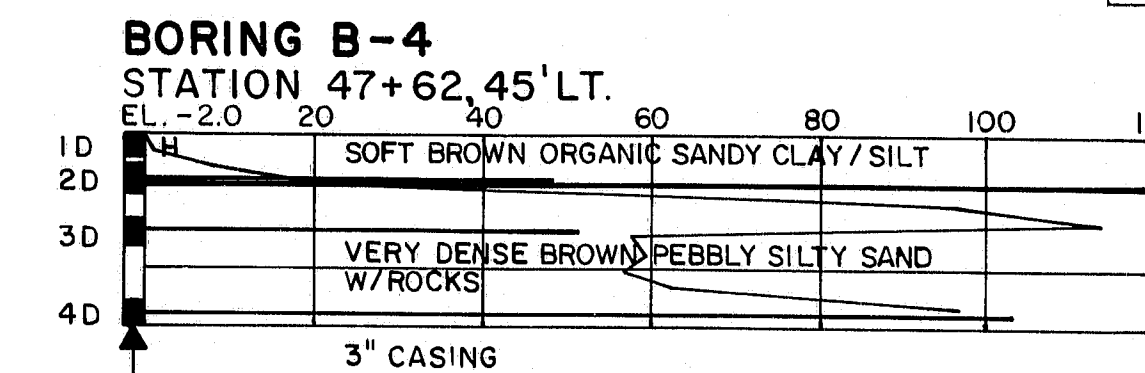
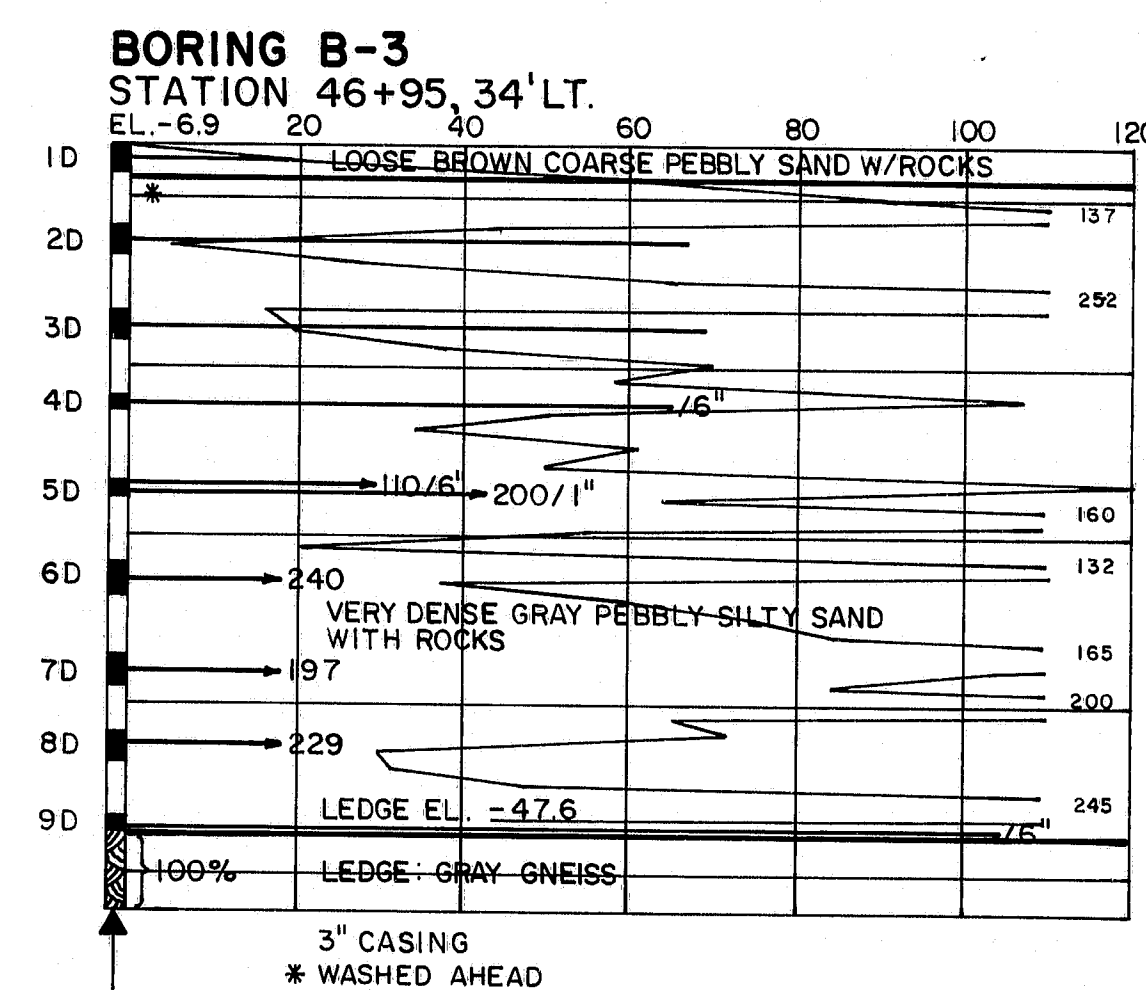
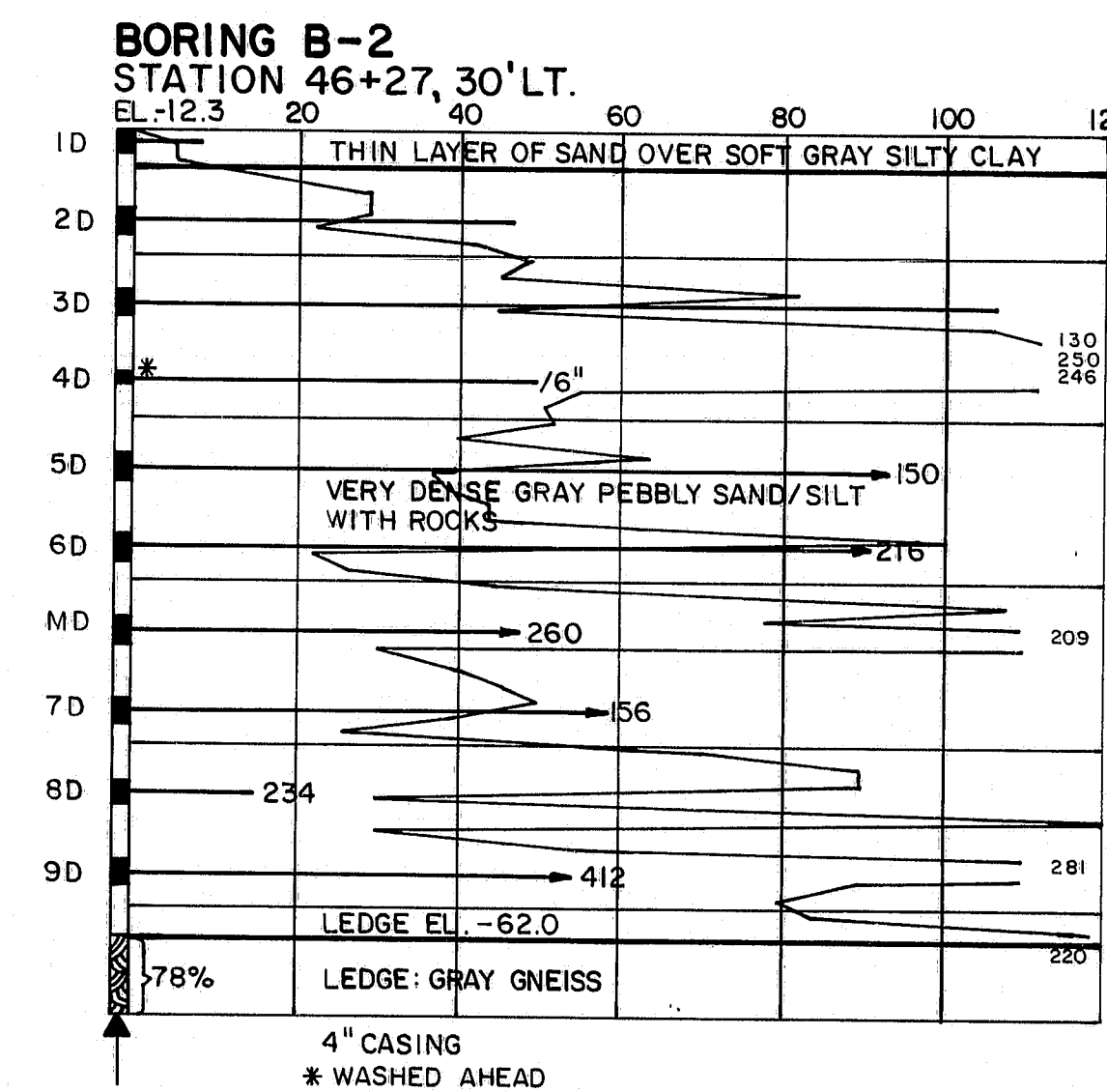
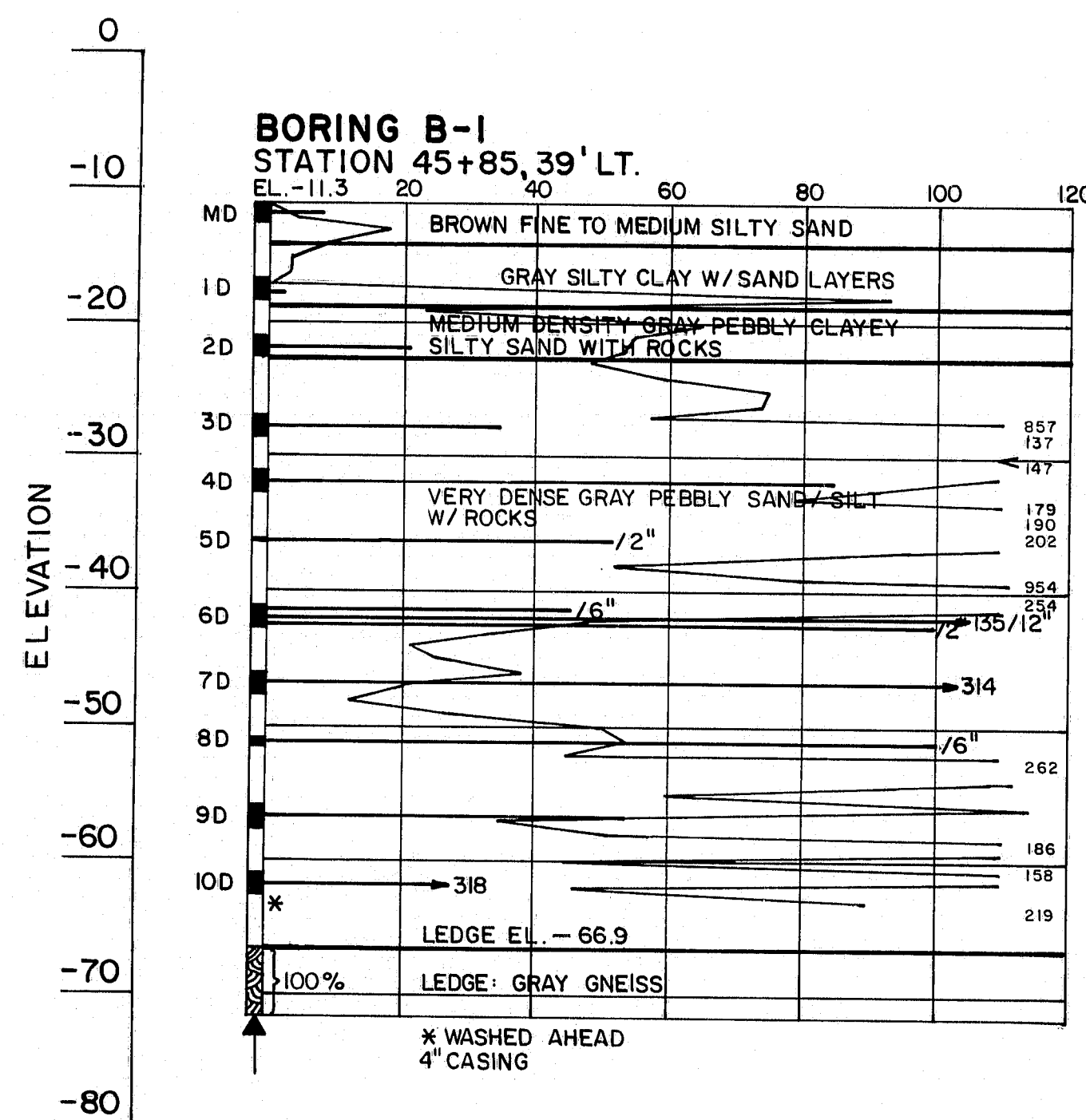
1. First digit(s) following the letter of the Mark indicates size of reinf. bar.
Mark (A 502) bar size - #5
Mark (P 1001) bar size - #10
Mark (S 603) bar size - #6
2. Each truss bar, Type B, may be replaced by two (2) straight bars (one top & one bottom) of the same bar size as the truss bar. Payment in either case shall be based on truss bars as scheduled on plans.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

UPPER BRIDGE
OVER
EASTERN RIVER
DRESDEN
LINCOLN COUNTY
REINFORCING SCHEDULE
SHEET 16 OF 310 AUGUSTA, MAINE

PLANS		BY	DATE
DESIGN - DETAIL		EMM	2-90
CHECKED		RMB	2-90
REVISIONS			
FIELD CHANGES			

F.R.W.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-0163(16)	17	34



BORING NOTES

- All samples and vane are made ahead of casing
- Number of blows required to drive extra heavy casing one foot with 400 ft. lbs. of energy per blow
- Location of sample or sample attempt
- Number and type of dry sample
- S & H Sample # 1290's
- 3 1/2" O.D. 16 ga. seamless tubing
- Unsuccessful sample attempt and type of sampler
- Number of blows required to drive spoon or tubing one foot with 350 ft. lbs. of energy per blow
- Sampling spoon or seamless tubing driven by static weight of drill rods and hammer
- Field vane test
- Bottom of boring (may not be bottom of soil strata)
- Locations cored by diamond bit and percent recovery of rock

NOTE: No B-6 Boring made

SHEAR NOTES

- Field vane shear strengths
- X Laboratory vane shear strengths

WATER CONTENT NOTES

- Natural water contents given as per cent of dry weight
- Plastic and liquid limits

105-117

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

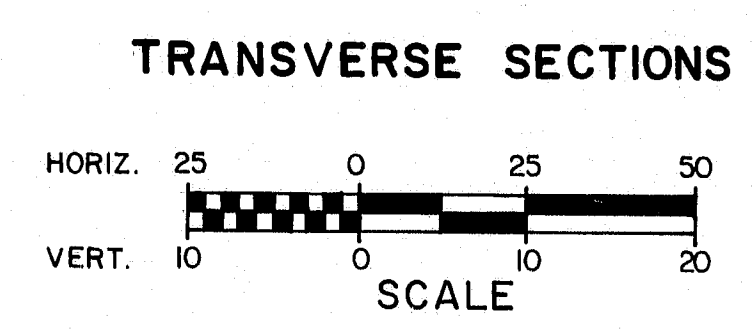
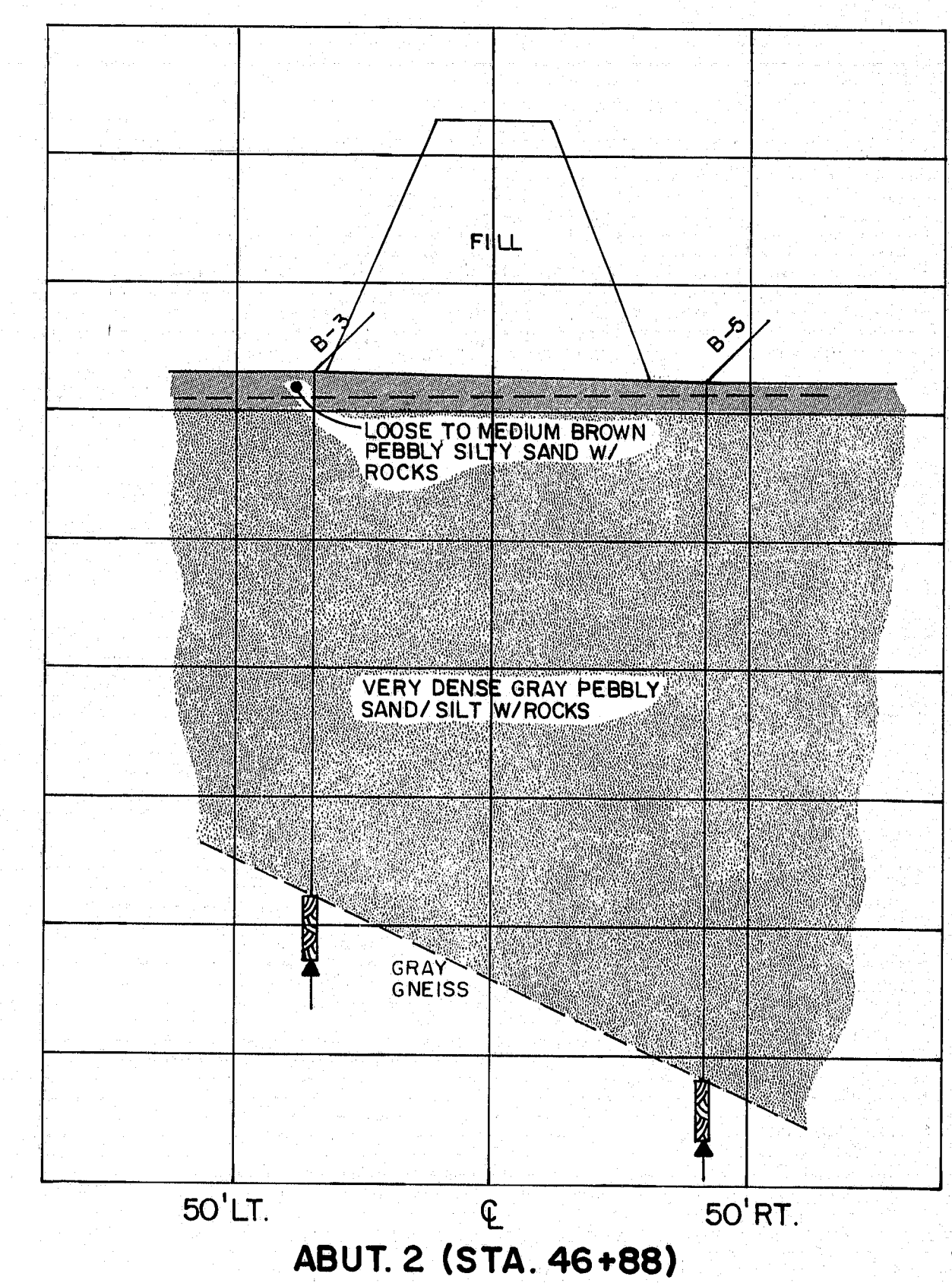
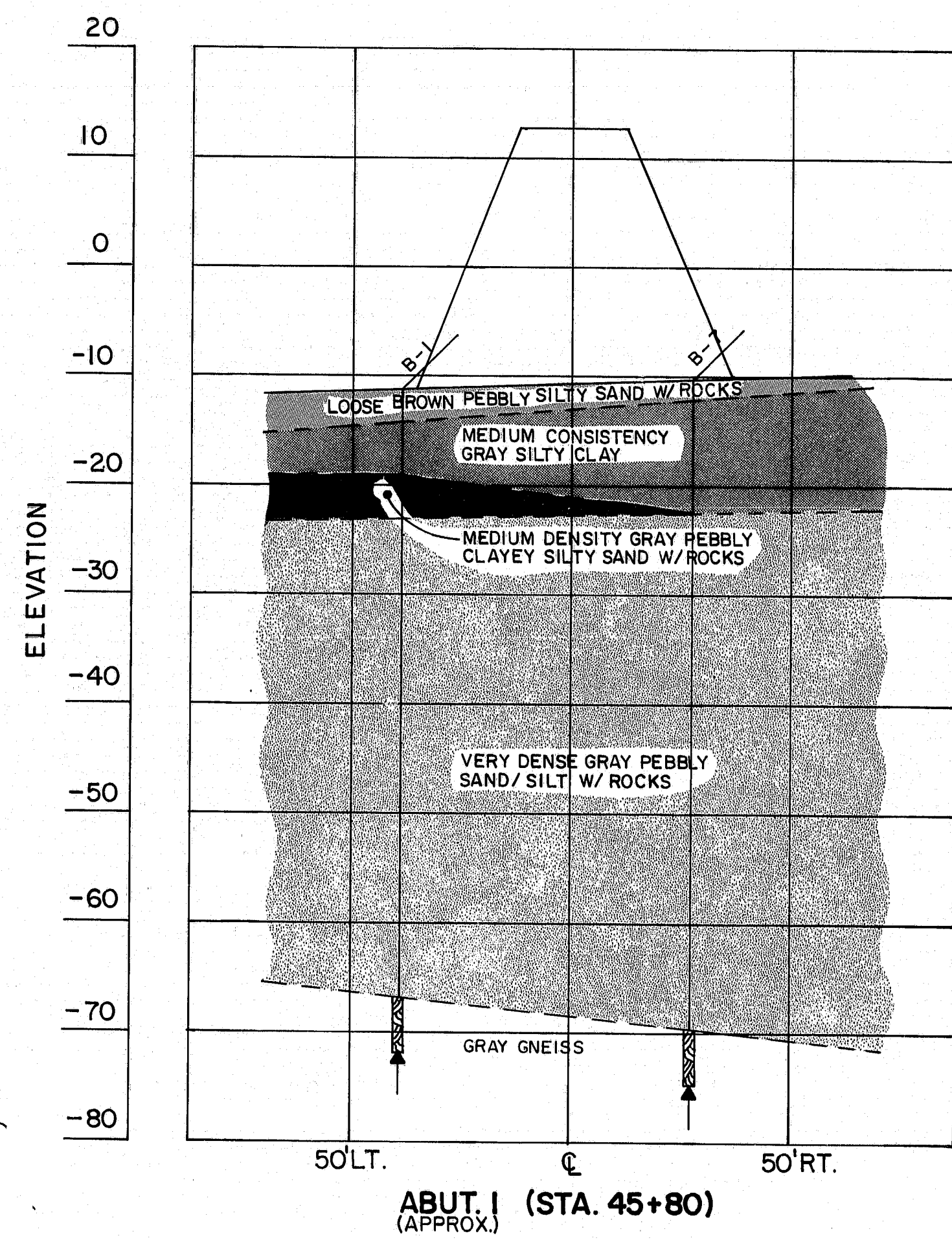
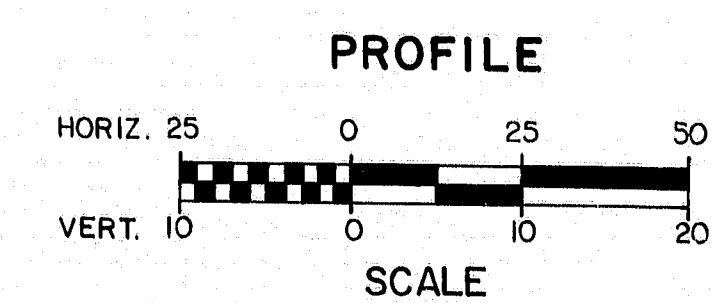
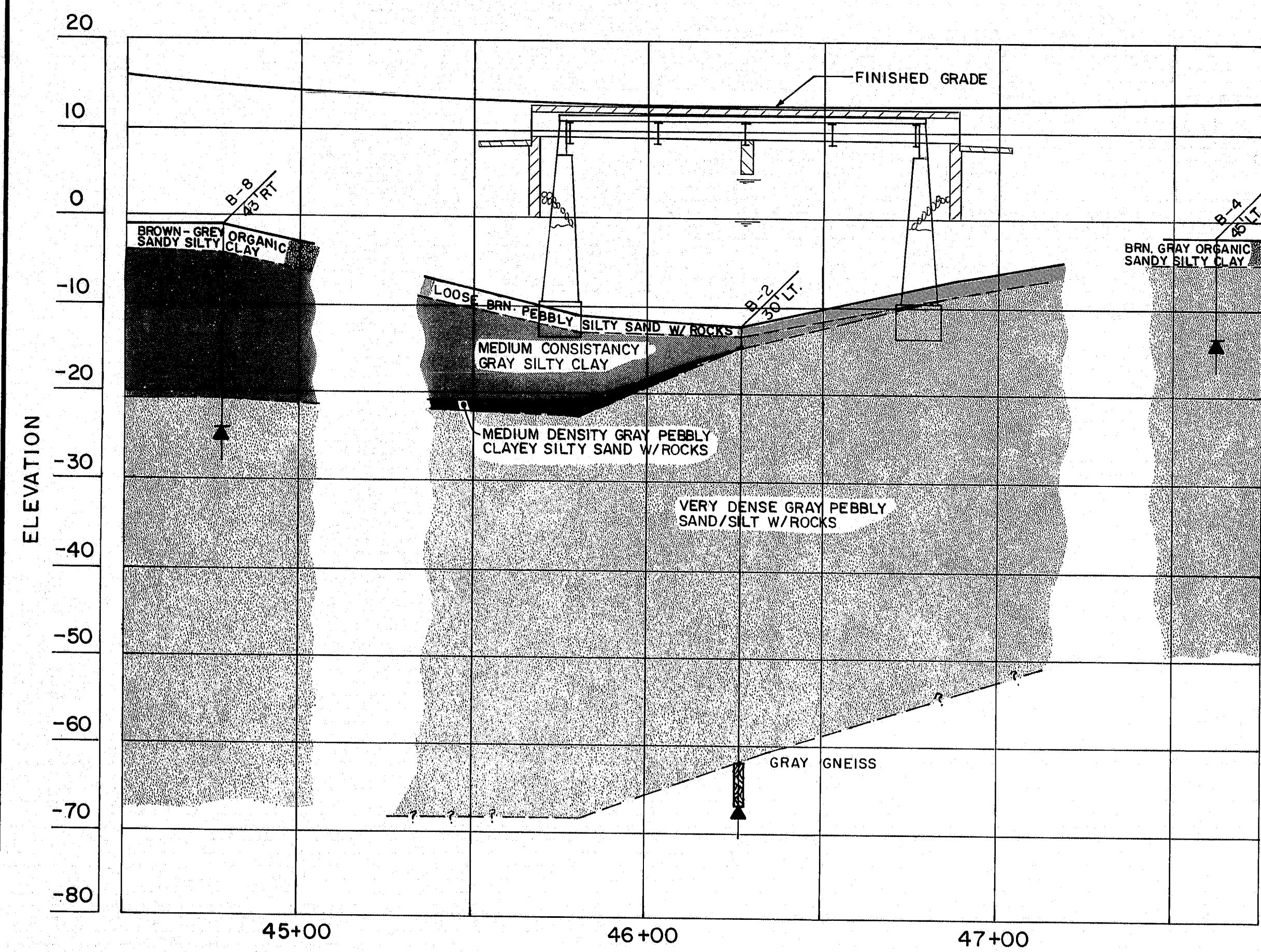
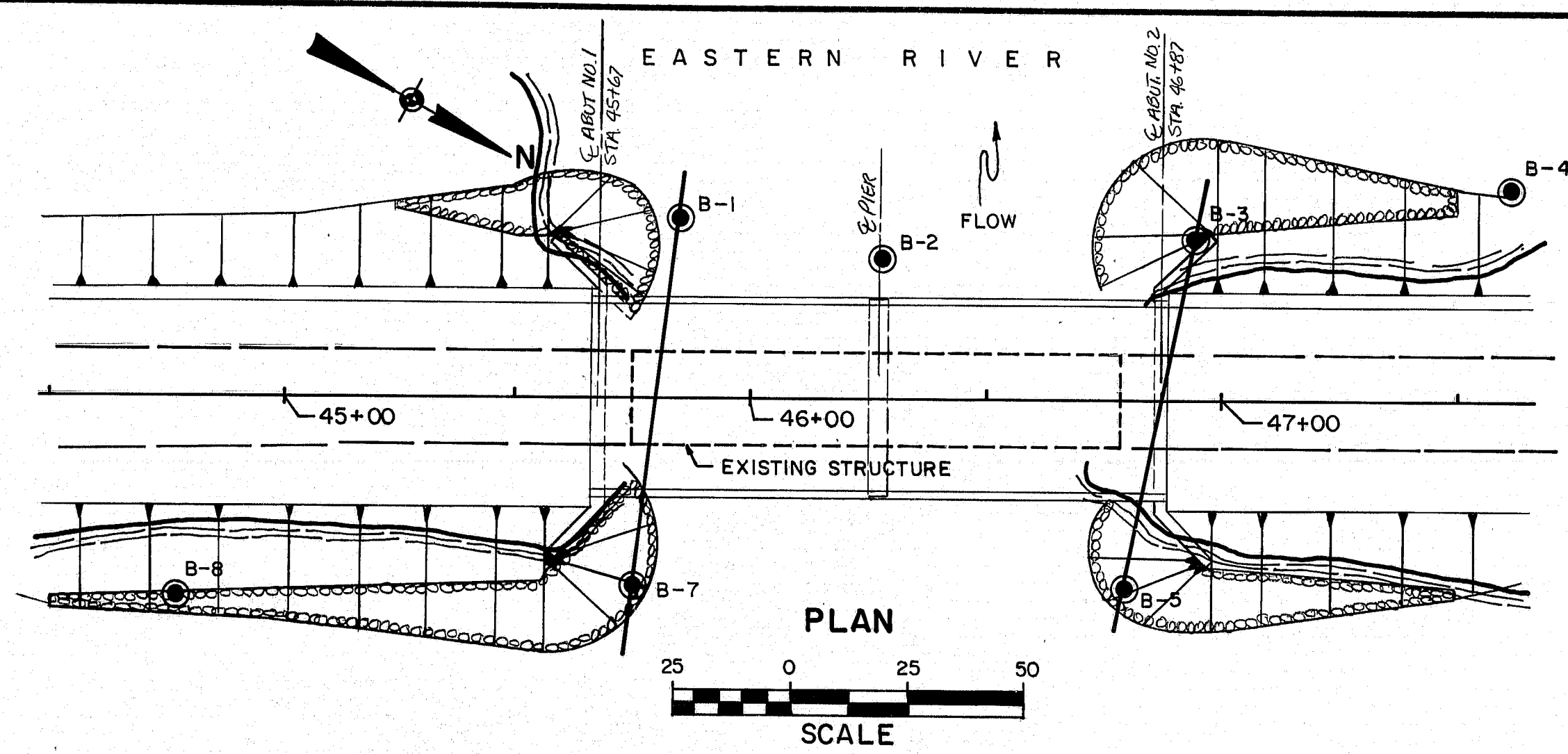
UPPER BRIDGE
over
EASTERN RIVER
in the town of
DRESDEN

LINCOLN COUNTY
BORING DETAILS
SHEET 17 OF 36 AUGUSTA, MAINE

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

BORING 44-132-45710-1

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-0163 (16)	18	36



105-118

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

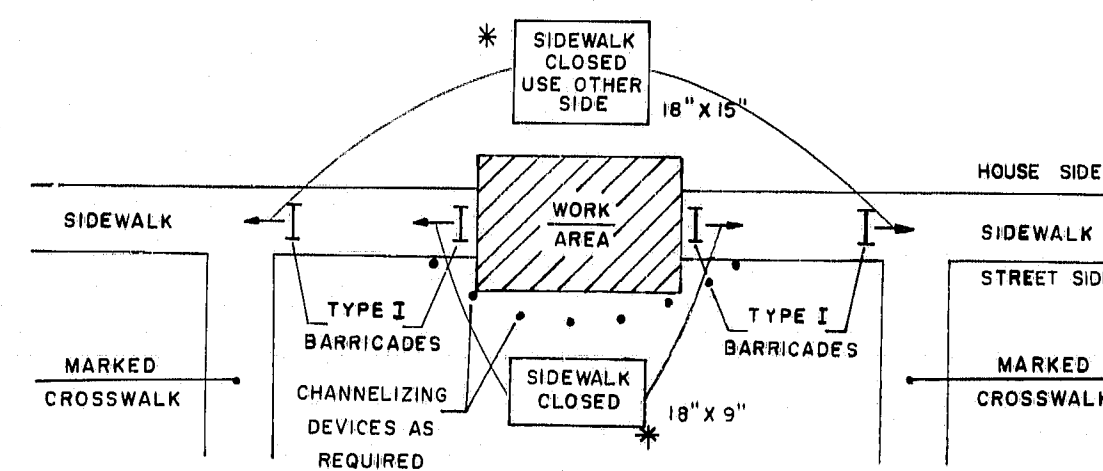
UPPER BRIDGE
over
EASTERN RIVER
in the town of
DRESDEN

LINCOLN COUNTY
FOUNDATION SURVEY
SHEET 18 OF 36 AUGUSTA, MAINE

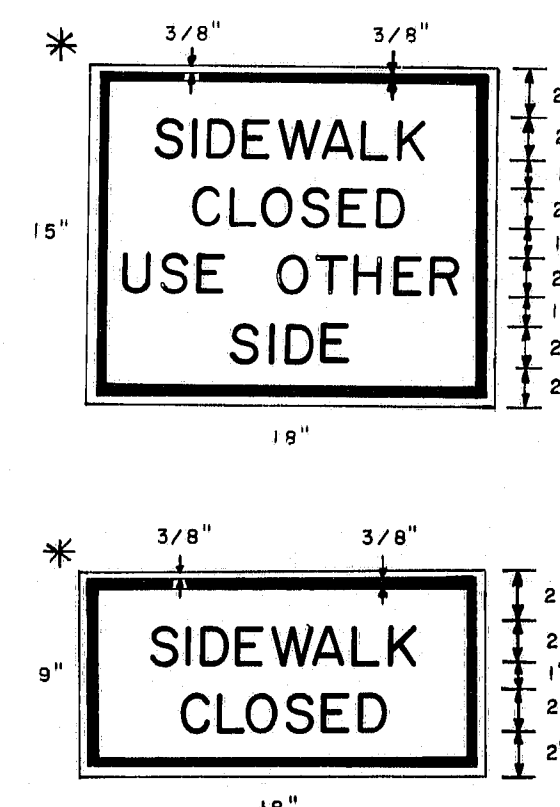
PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED		
REVISIONS		
FIELD CHANGES		

BIRMINGHAM 44-132-45710-1

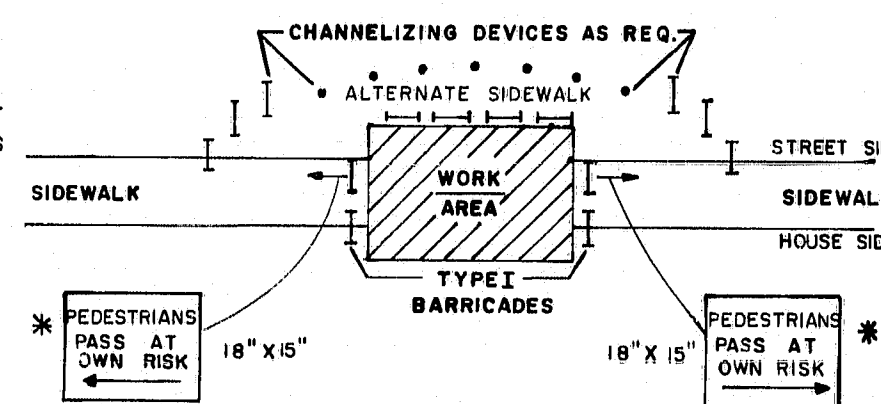
* NON-REFLECTORIZED WHITE BACKGROUND, BLACK TEXT AND BORDER-2" SERIES C UPPER CASE LETTERS



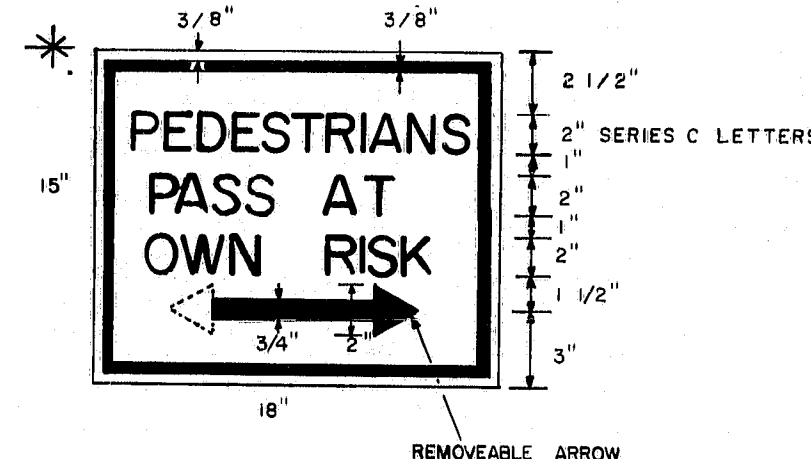
**SIDEWALK CLOSURE
WITHOUT ALTERNATE SIDEWALK**



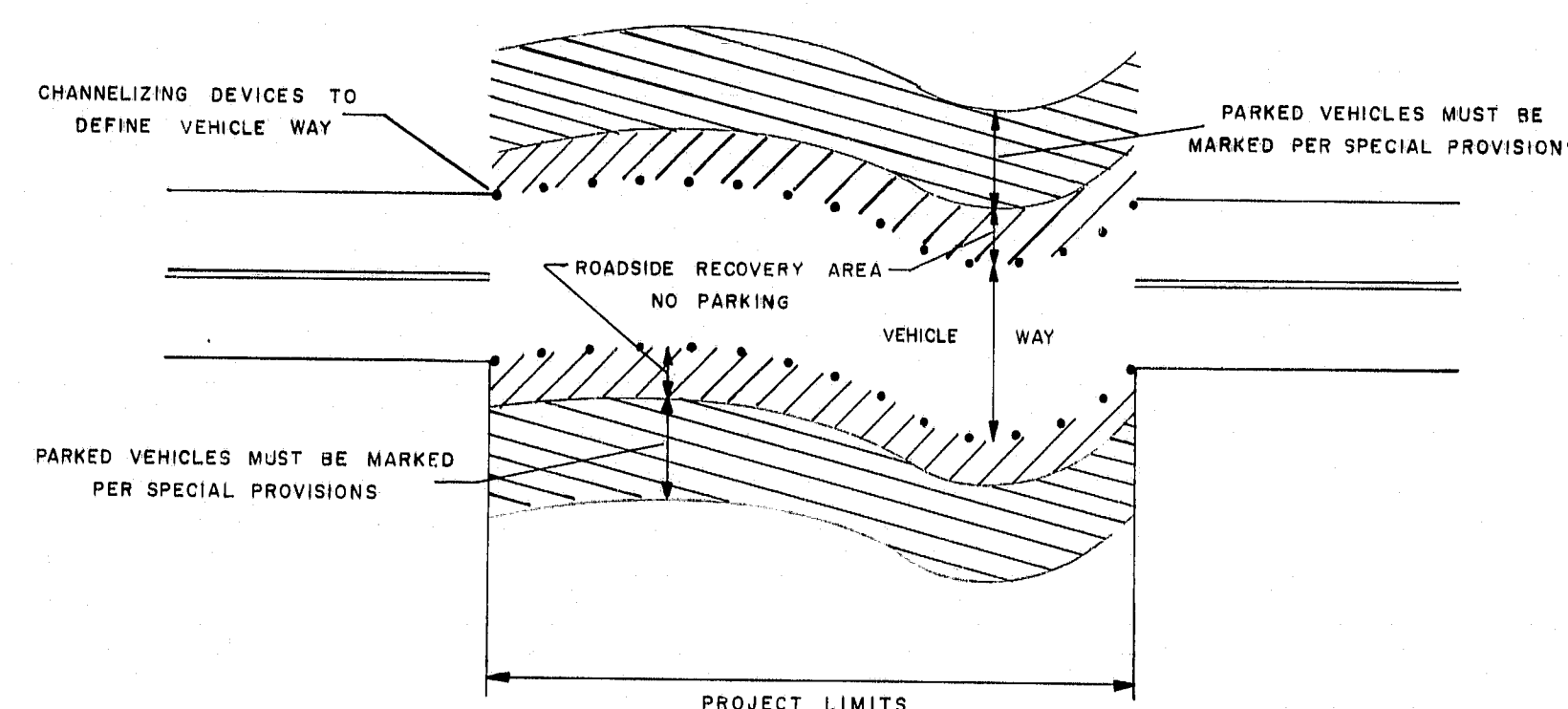
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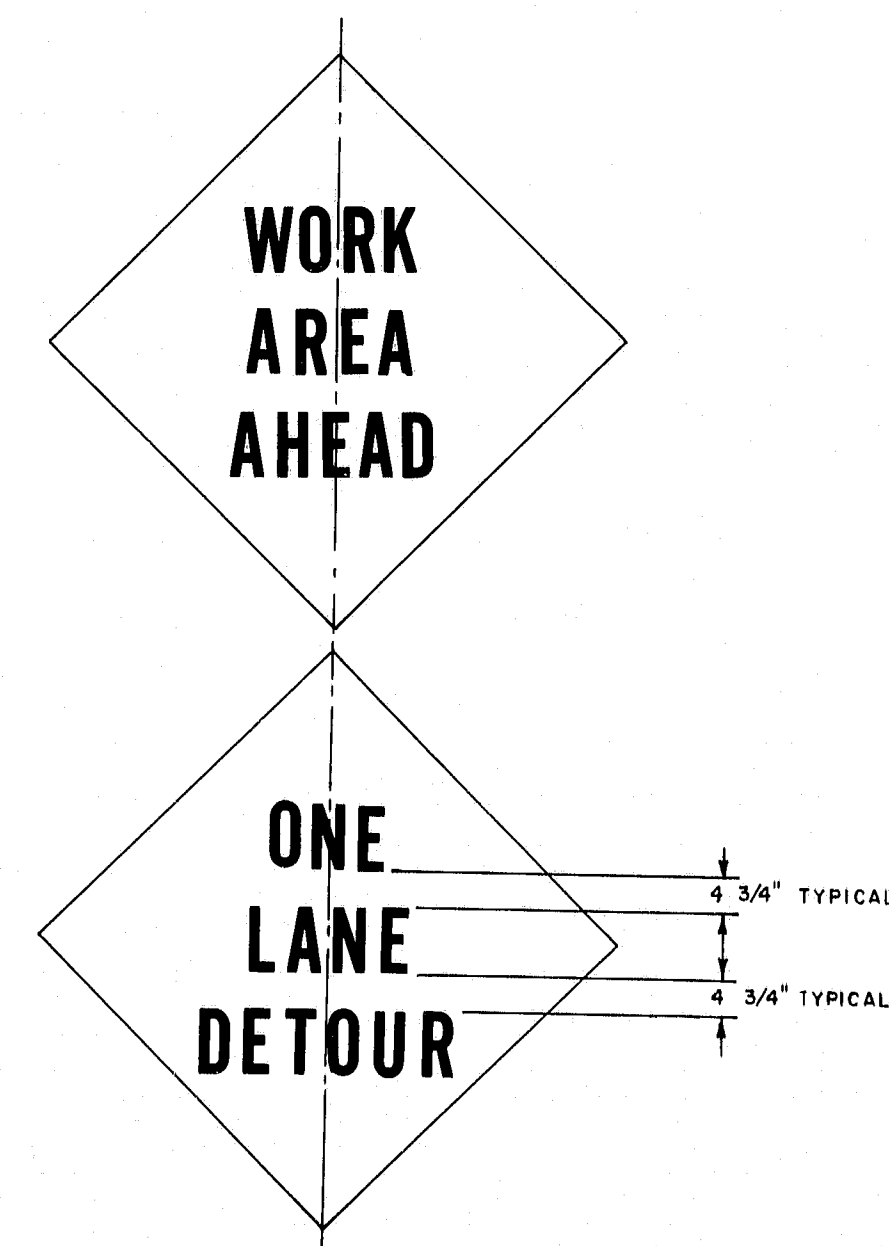
**SIDEWALK CLOSURE
WITH ALTERNATE SIDEWALK**



ALL DIMENSIONS AND OTHER REQUIREMENTS AS SPECIFIED IN THE SPECIAL PROVISIONS

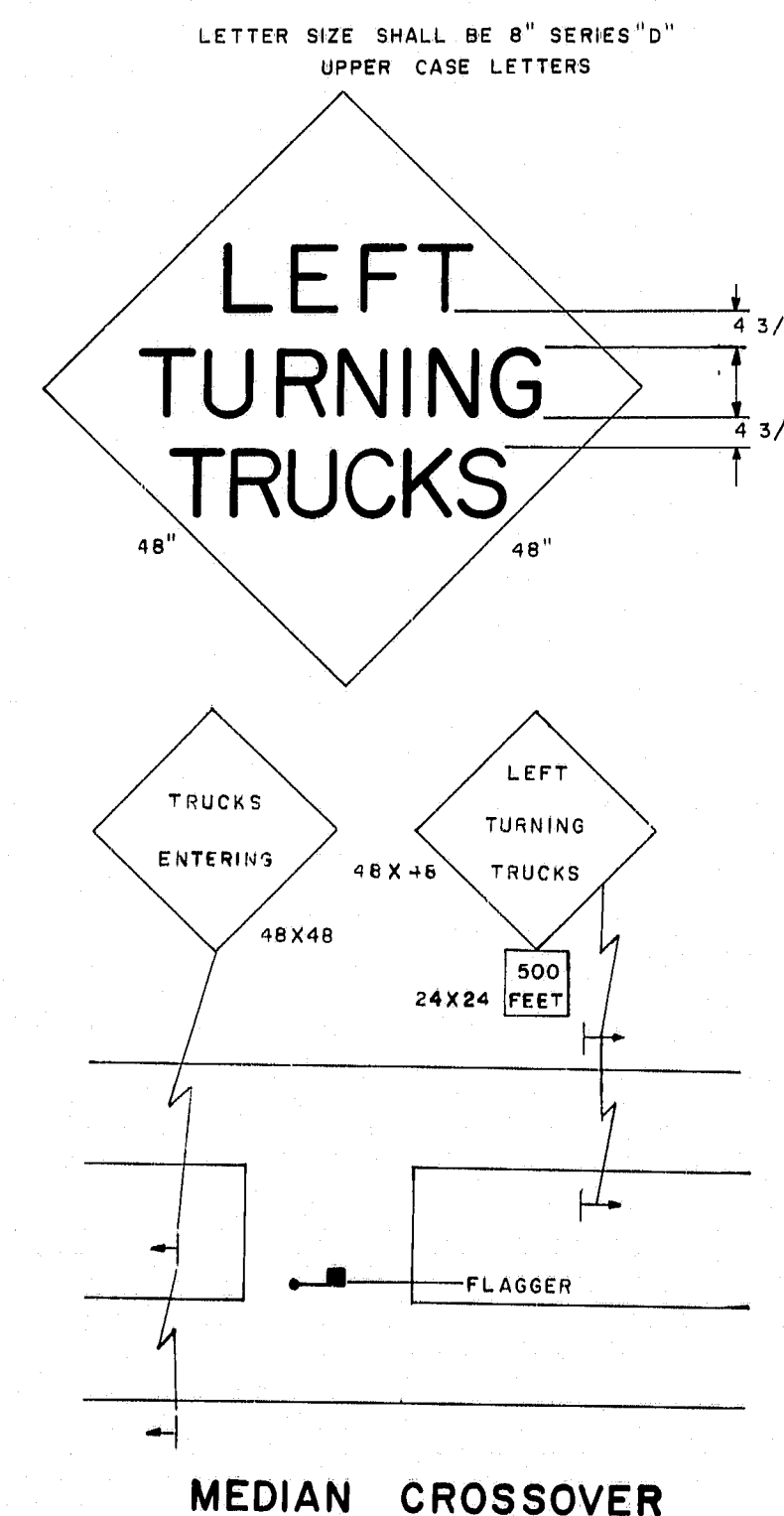


ROADSIDE RECOVERY AREA

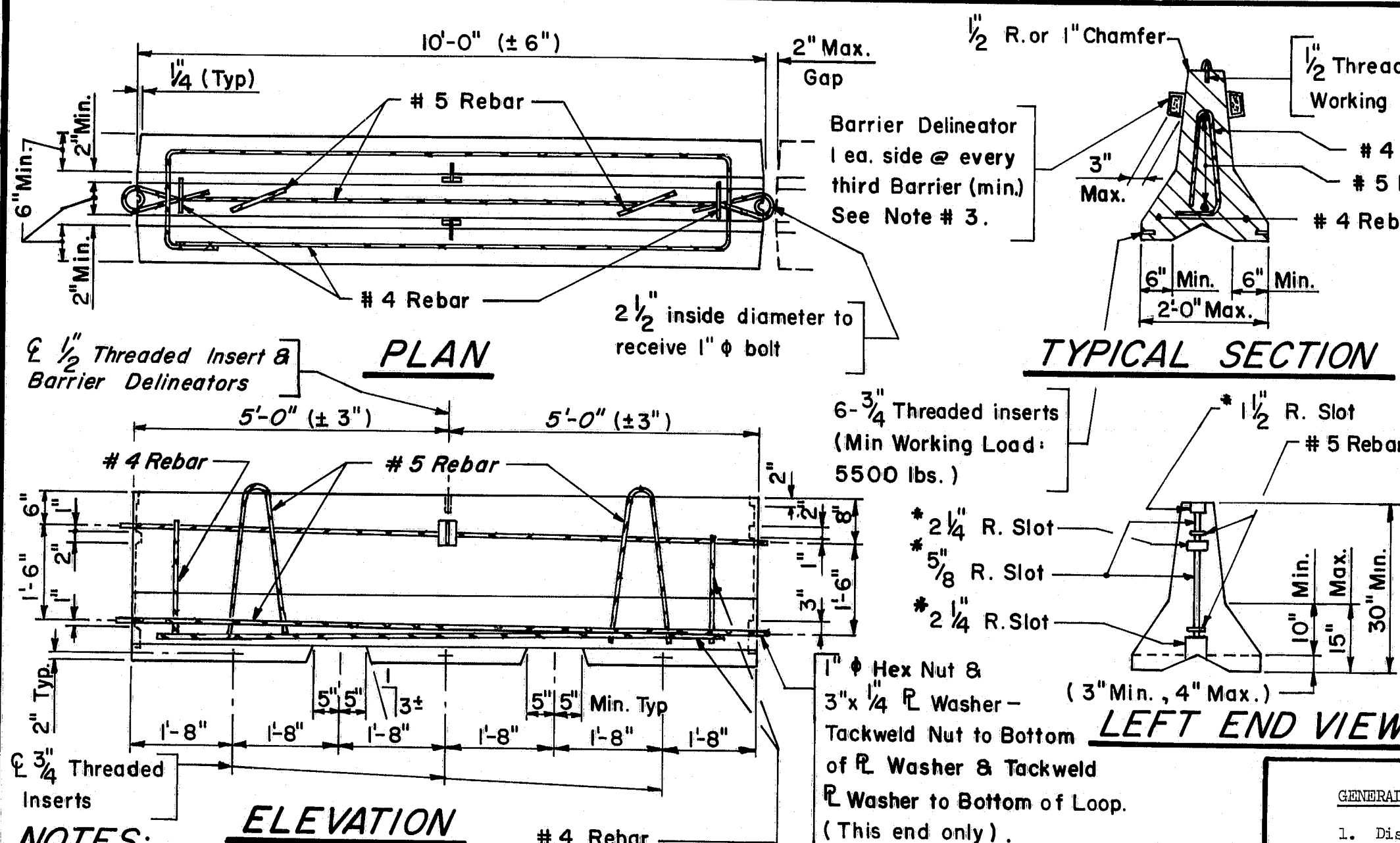


1. Letter size shall be 8" Series 'D'.
2. Border dimensions and legend design shall conform to "Standard Highway Signs".

CONSTRUCTION WARNING SIGN DETAIL



MEDIAN CROSSOVER



NOTES:

- Subject to approval by the Engineer end connections other than the one detailed may be used, provided they are of equivalent or greater strength. All end connections submitted for approval shall incorporate a connecting pin or other locking device that is positively secured against accidentally being dislodged under impact.
- The reinforcing steel shown is the minimum required. Lifting arrangement and size and locations of hold-down inserts are advisory only. It shall be the Contractor's responsibility to provide adequate lifting points and hold-down arrangements.
- Barrier Delineators shall be bi-directional with a minimum effective reflective area of 8.0 square inches as approved by the Engineer. The Reflector shall preferably be of Methyl Methacrylate, and the Housing of Acrylonitrile Butadiene Styrene. As an alternate reflectors may be mounted on the top of the barrier.

CONNECTING BOLT

* The slots may be 2 1/4" radius full height with the 1" space on the Connecting Bolt increased to 4".

**TEMPORARY CONCRETE
BARRIER-TYPE I**

GENERAL NOTES

- Distances shown for sign placement are nominal, exact locations shall be determined by the Engineer.
- Grades on temporary roadways through the construction zone used by the public shall not exceed 10 percent.
- Advisory speed consistent with prevailing conditions shall be as determined by the Engineer.
- Use shaded signs when specified in the Special Provisions.
- The length of tapers shall be determined from the following formulae:

$$L = \frac{W \times S}{40 \text{ MPH}}$$

$$L = \frac{W \times S}{45 \text{ MPH}}$$

Where:
L = taper length in feet
S = operating speed in MPH
W = width of roadway to be closed in feet

Taper lengths shall be rounded to the nearest five feet.

It may be required to extend lane closure tapers to provide a smooth transition where geometric alignment reduces sight distance.

- The maximum longitudinal spacing of channelizing devices shall conform to the following:
(a) 50 feet through work areas
(b) 4 distance in tapers equal to the numerical value of the operating speed, i.e., 45 MPH = 45 feet
(c) In all areas not covered above maximum spacing shall be as follows:
Radius of curve Spacing
50' to 300' 25'
300' to 700' 50'
700' to 1000' 75'
over 1000' 5 times the operating speed

The maximum transverse spacing in tapers shall be determined from the following formula:

$$D = (W \times S) / L$$

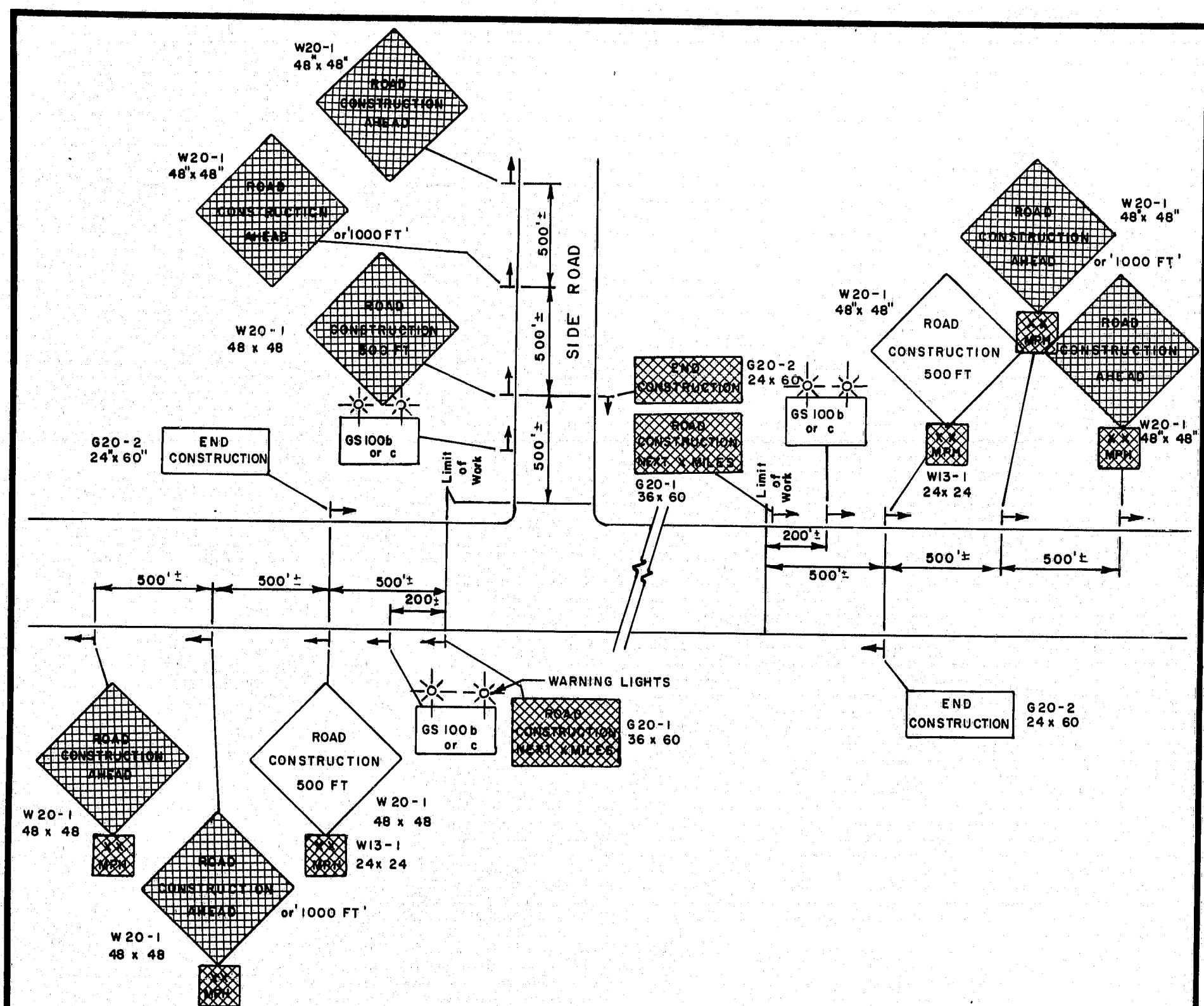
Where:
D = transverse spacing in feet
W = width of roadway to be closed in feet
L = taper length in feet
S = operating speed in MPH

7. BORDER DIMENSIONS AND LEGEND DESIGN SHALL CONFORM TO THE STANDARD HIGHWAY SIGNS BOOKLET.

105-119

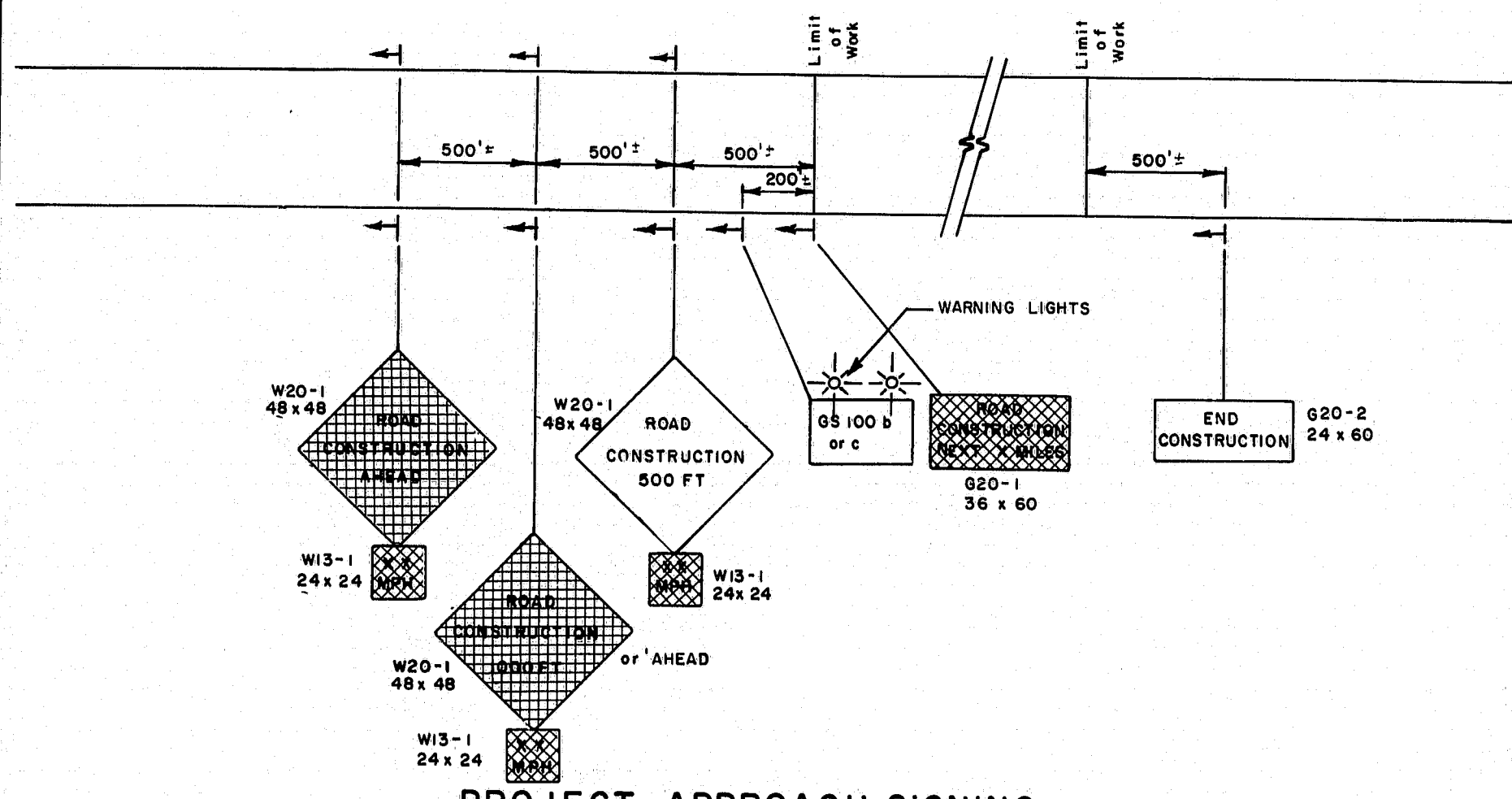
REVISIONS		APPROVED		STATE OF MAINE	
Description	Me. DOT	FWHA		DEPARTMENT OF TRANSPORTATION	
Original Plan	Feb. 1989			MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES	
SHEET OF				AUGUSTA, MAINE (HD - 10)	

F.H.W.A. DES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-0163(16)	34	36



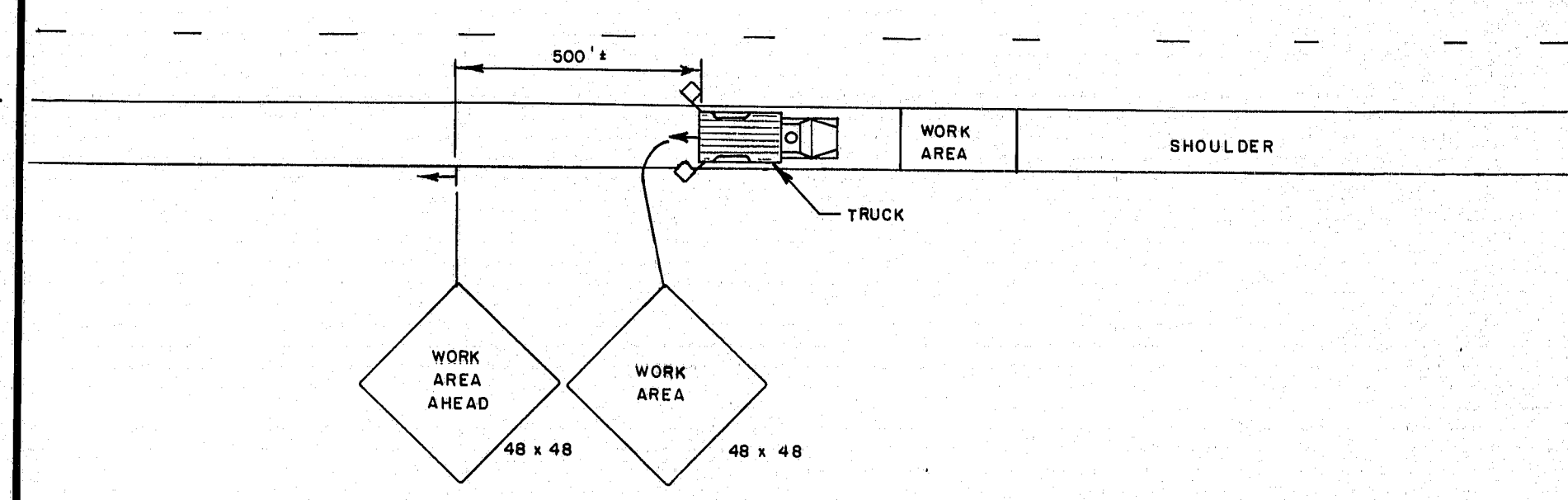
PROJECT APPROACH SIGNING
Two-Way Traffic

A



PROJECT APPROACH SIGNING
Expressway

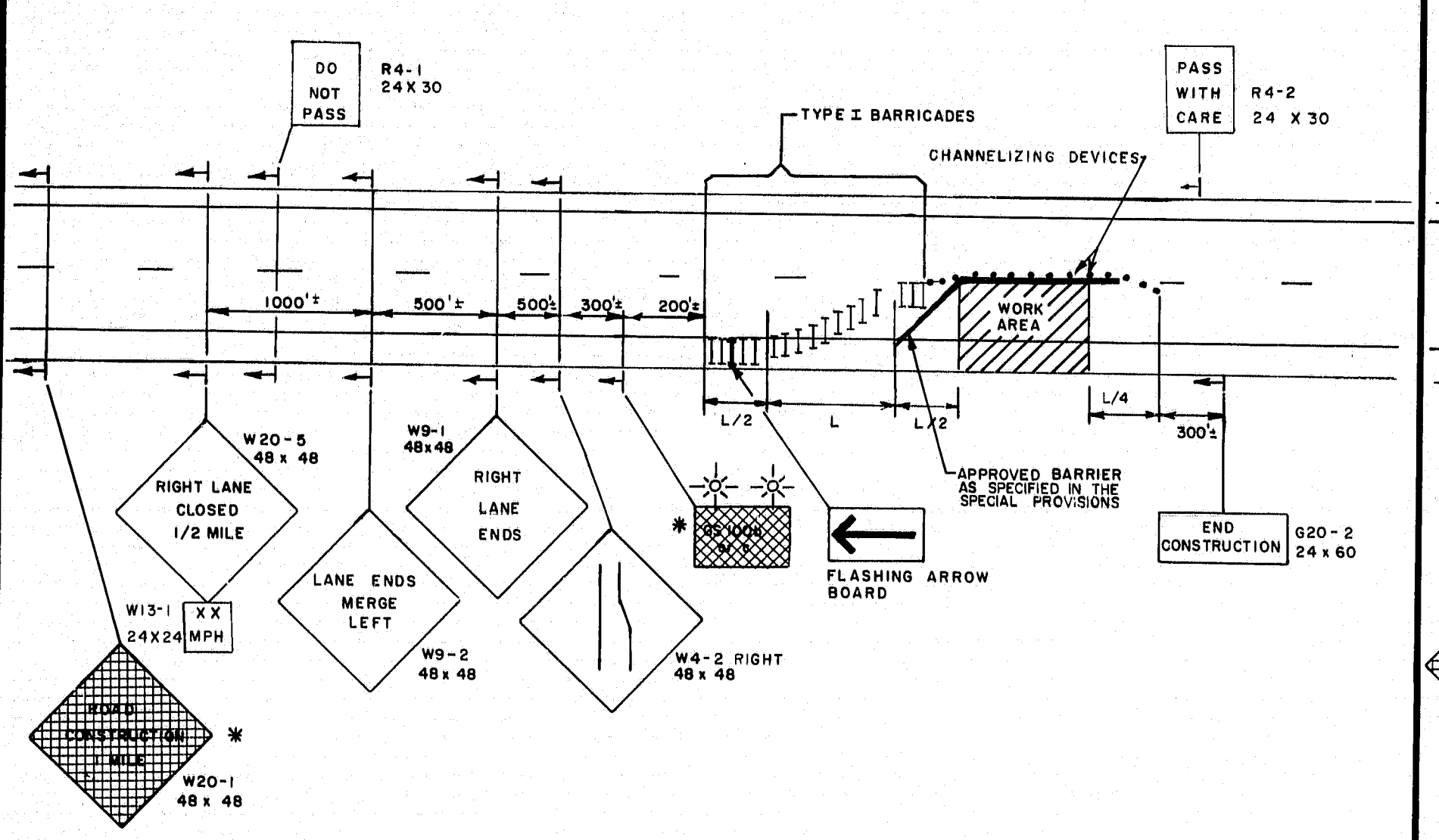
B



SHOULDER WORK - MOBILE

C

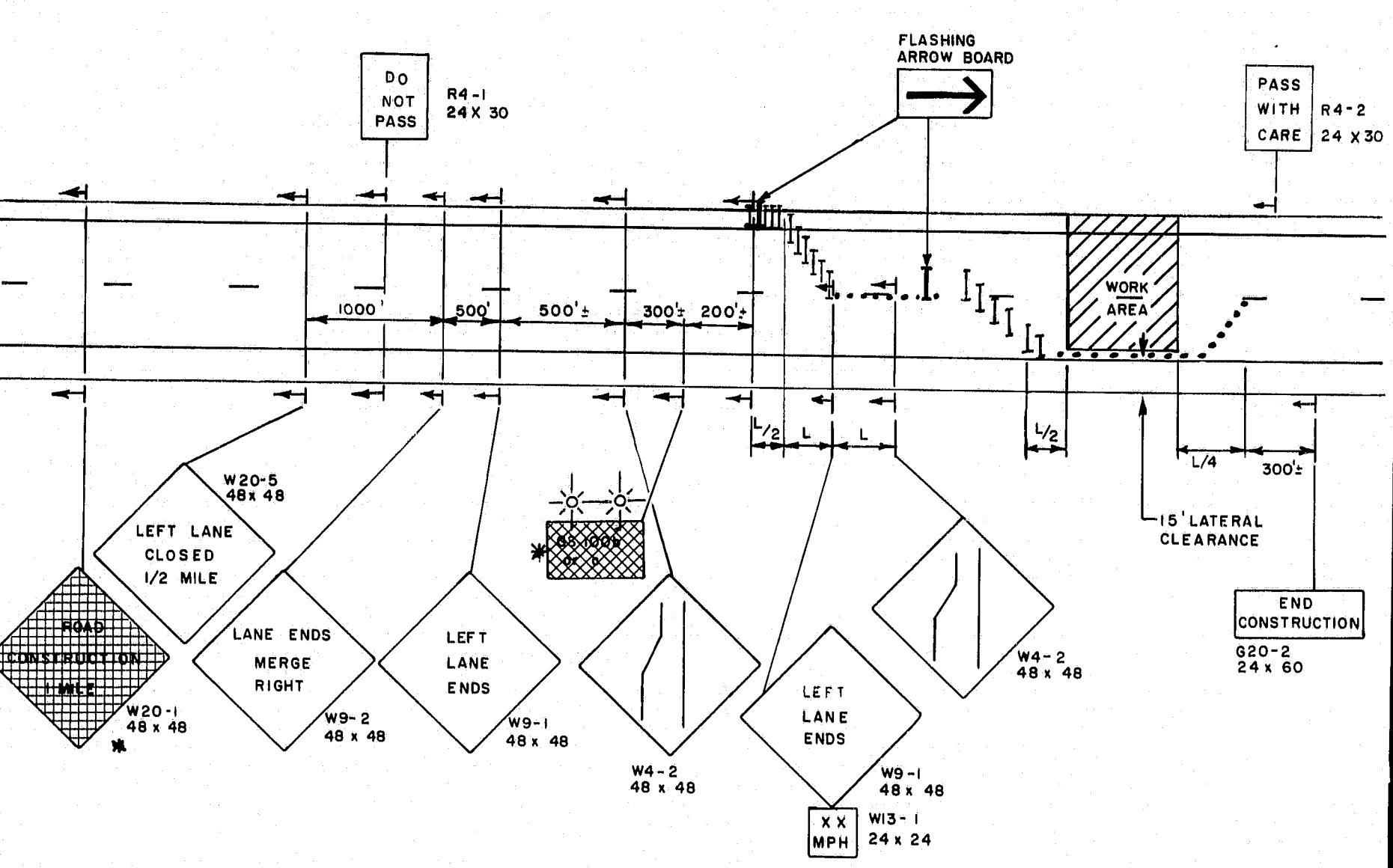
NOTE
* OMIT W20-1 AND G20-1 OR G20-2 IF LANE CLOSURE SIGNING ARRAY IS WITHIN PROJECT LIMITS.
ALTER PAVEMENT MARKINGS AS REQUIRED. MAINTAIN 15 FT LATERAL CLEARANCE.
USE SIMILAR SIGNING FOR LEFT LANE CLOSURE.



EXPRESSWAY LANE CLOSURE

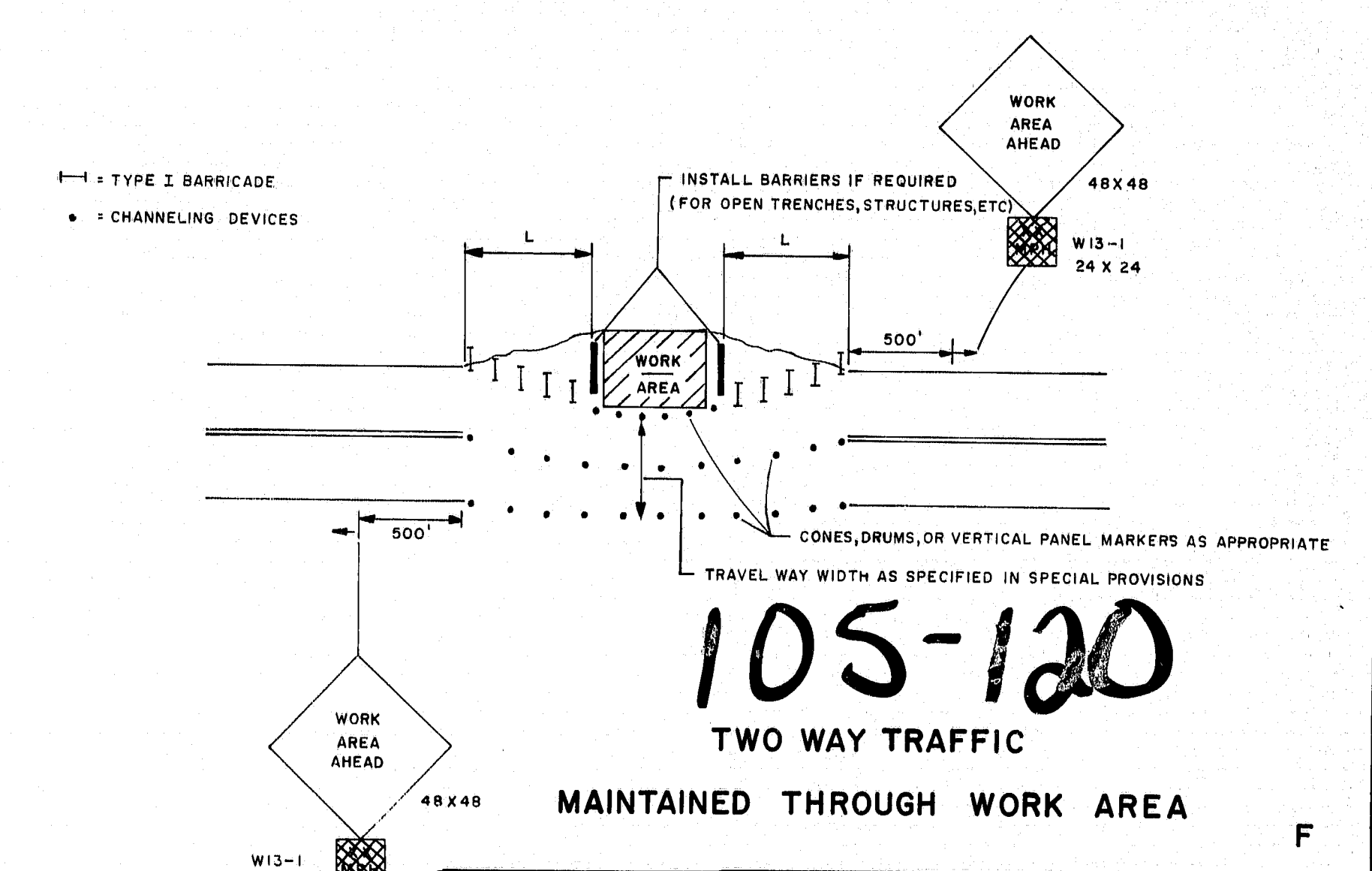
D

NOTE
W20-1 AND G20-1 OR G20-2 SHALL BE USED ONLY WHEN THE CLOSURE IS THE ACTUAL CONSTRUCTION PROJECT AND NOT A PART THEREOF.
ALTER PAVEMENT MARKINGS AS NECESSARY.
USE SIMILAR SIGNING FOR RIGHT LANE CLOSURE.



TWO LANE CLOSURE - UTILIZING RIGHT SHOULDER

E

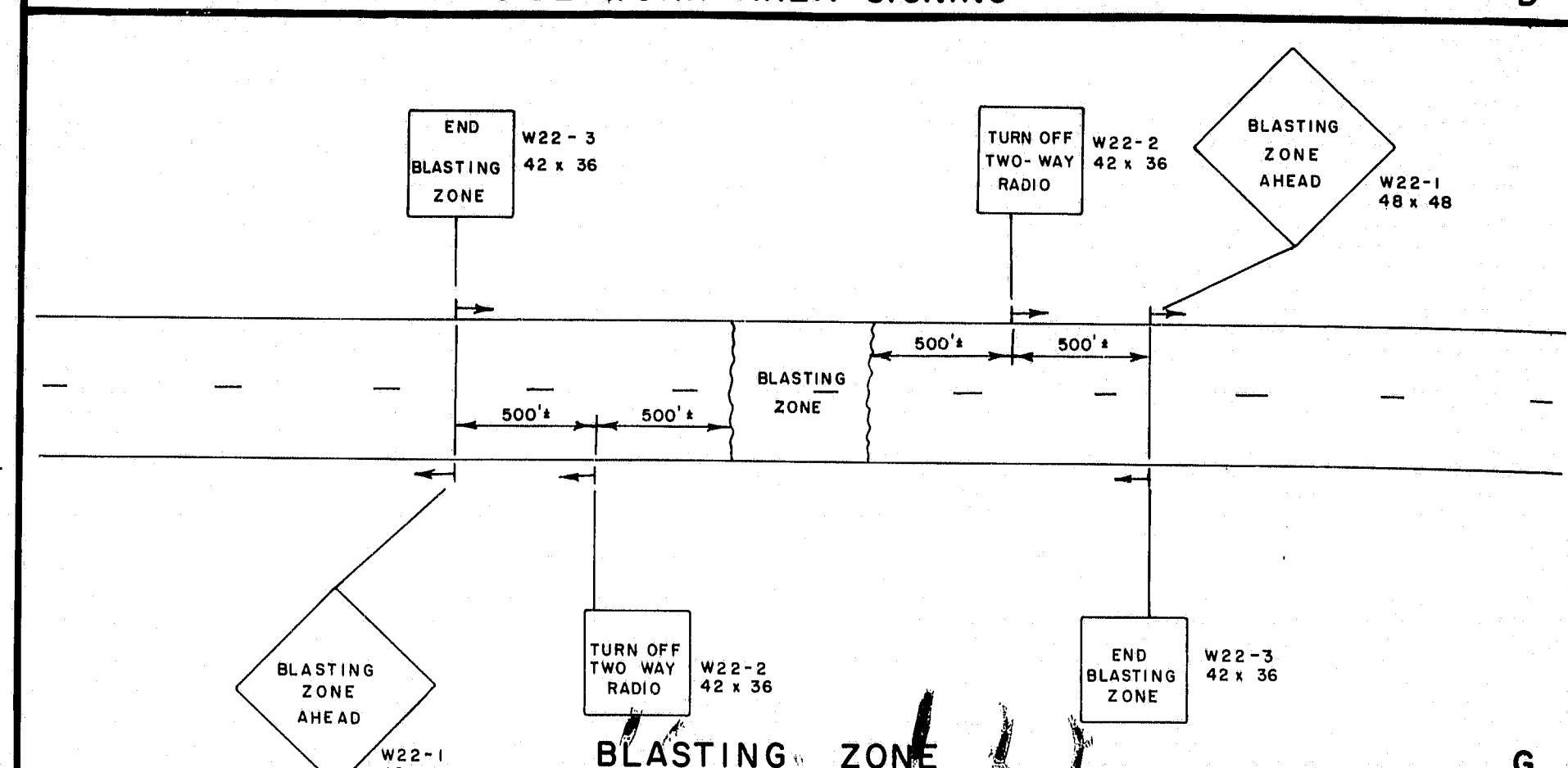
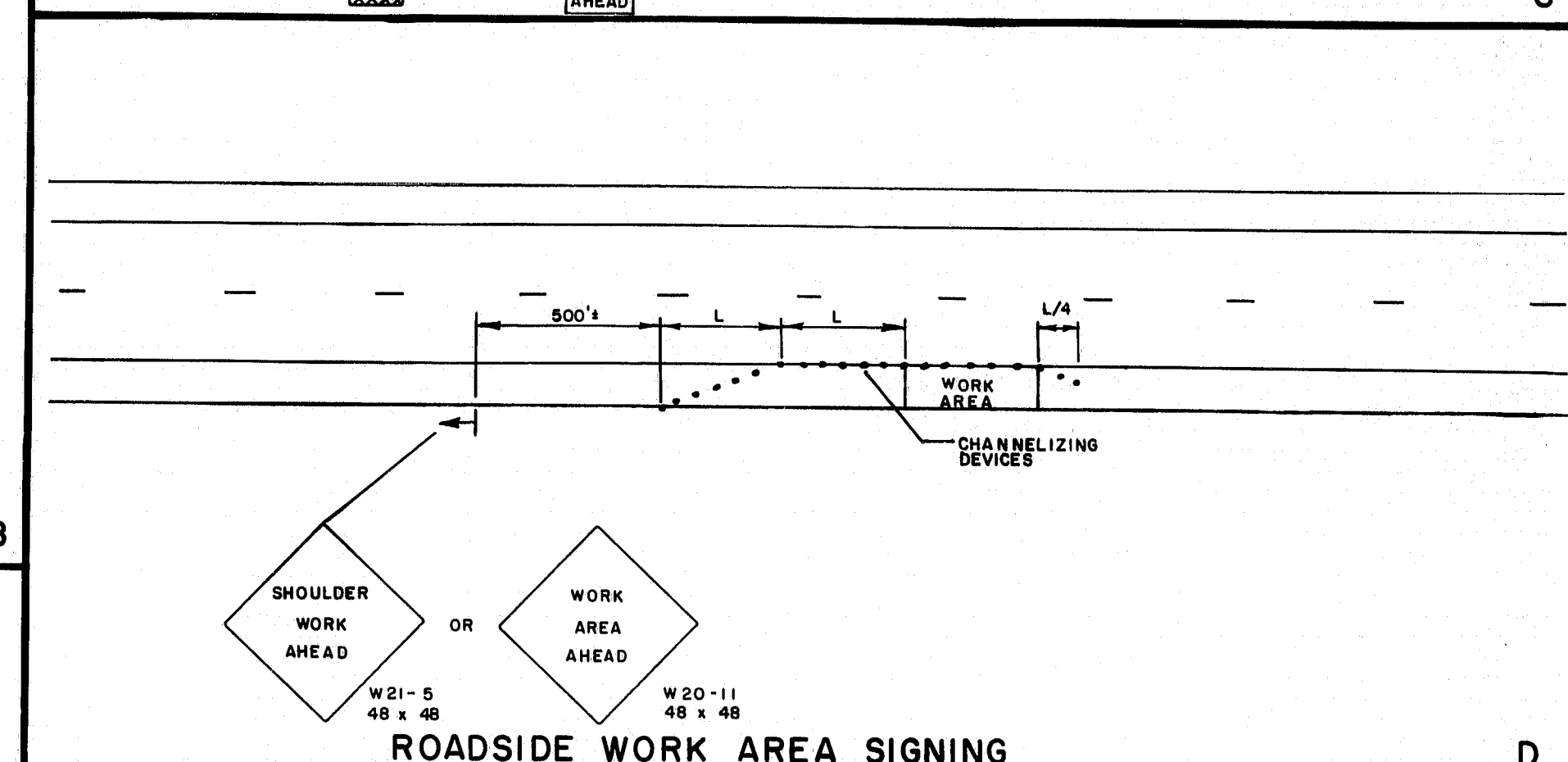
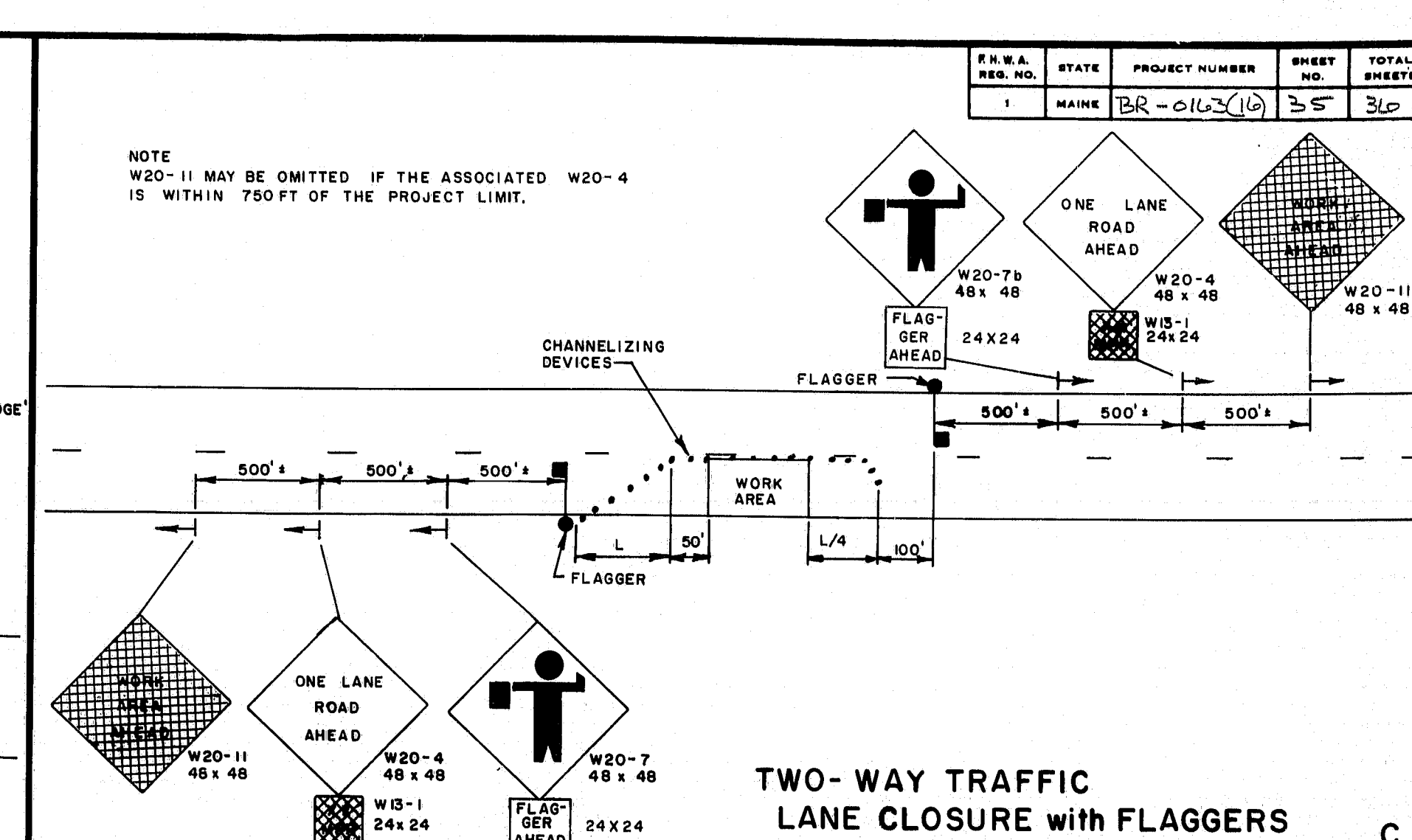
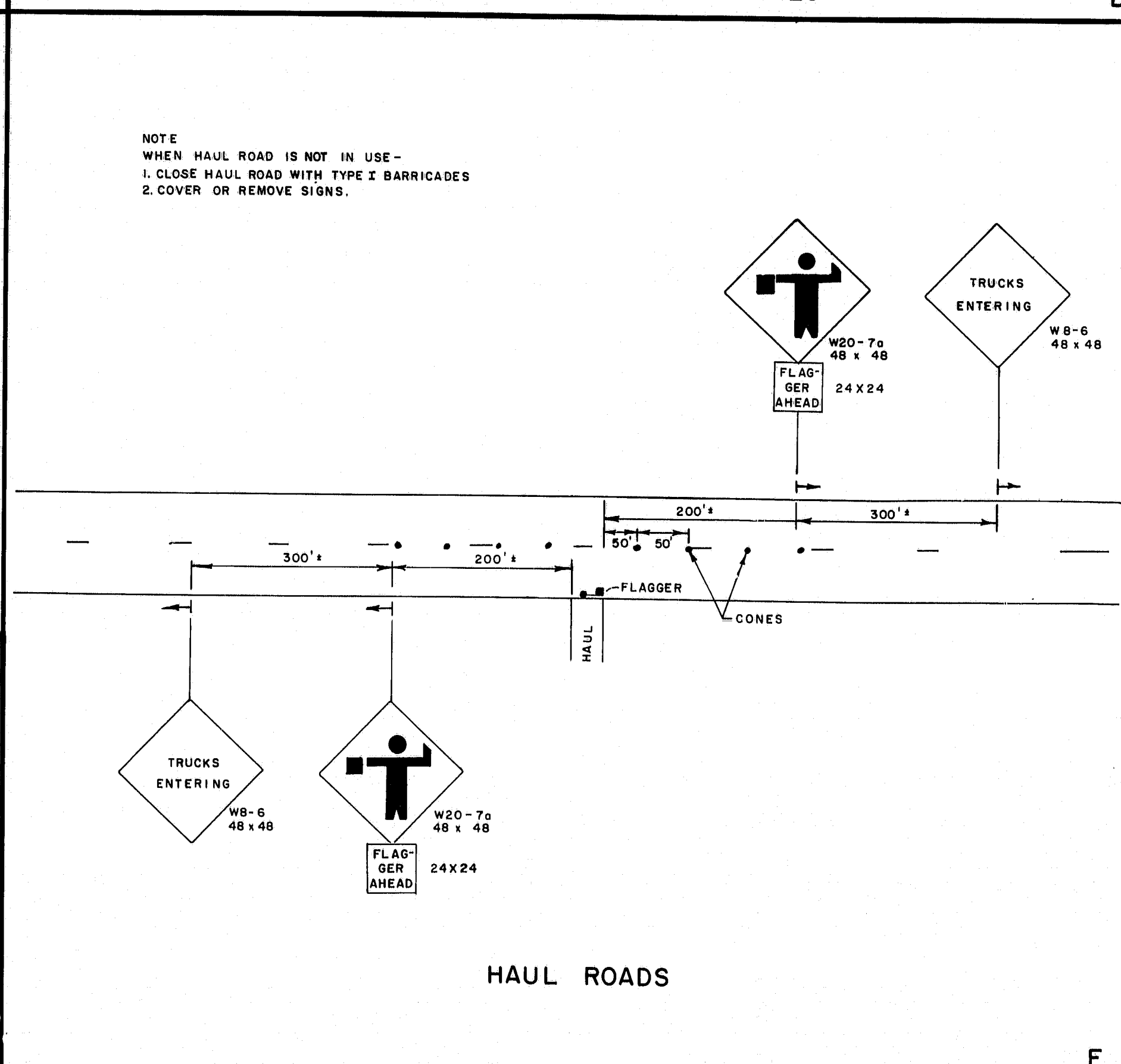
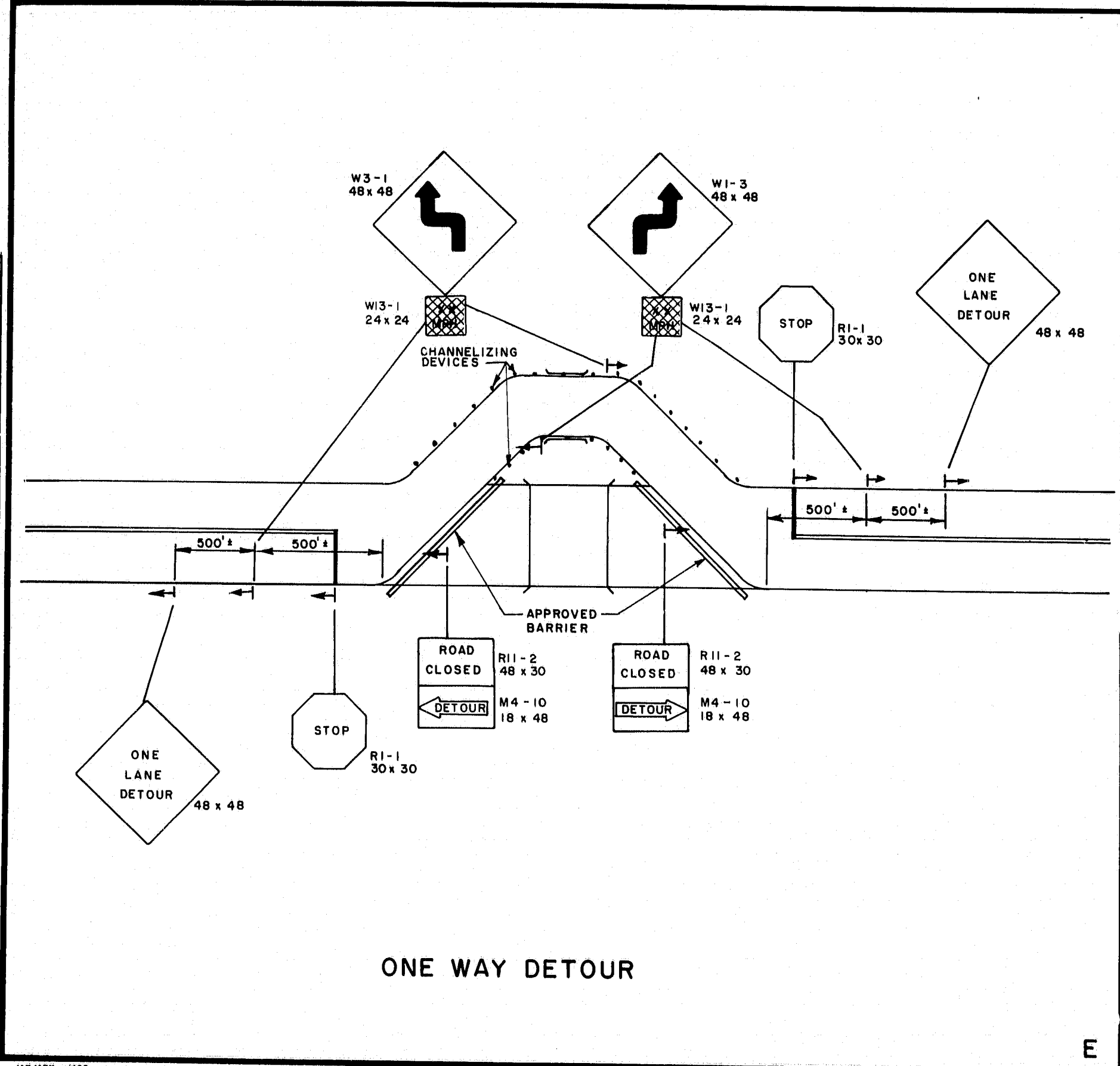
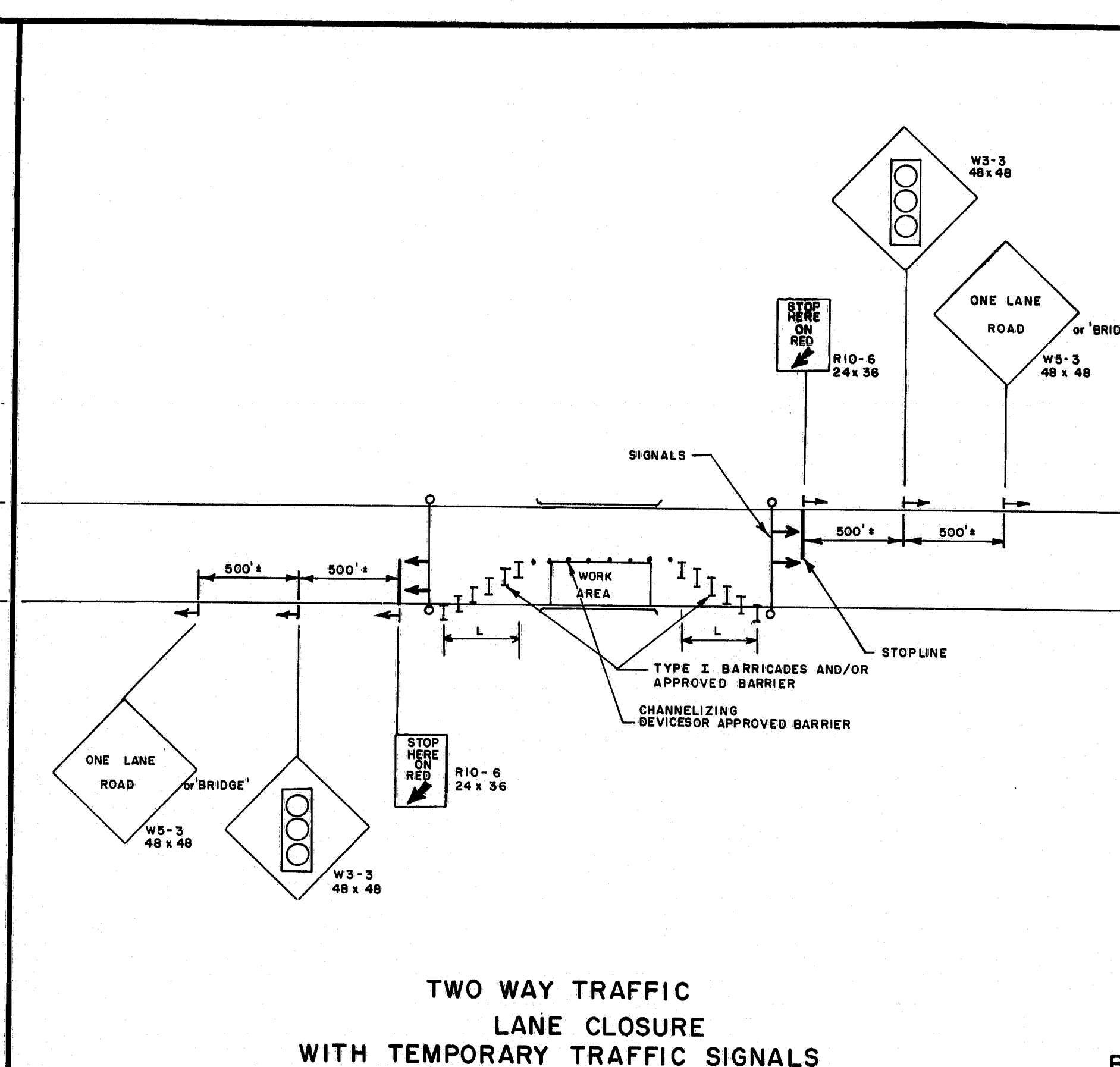
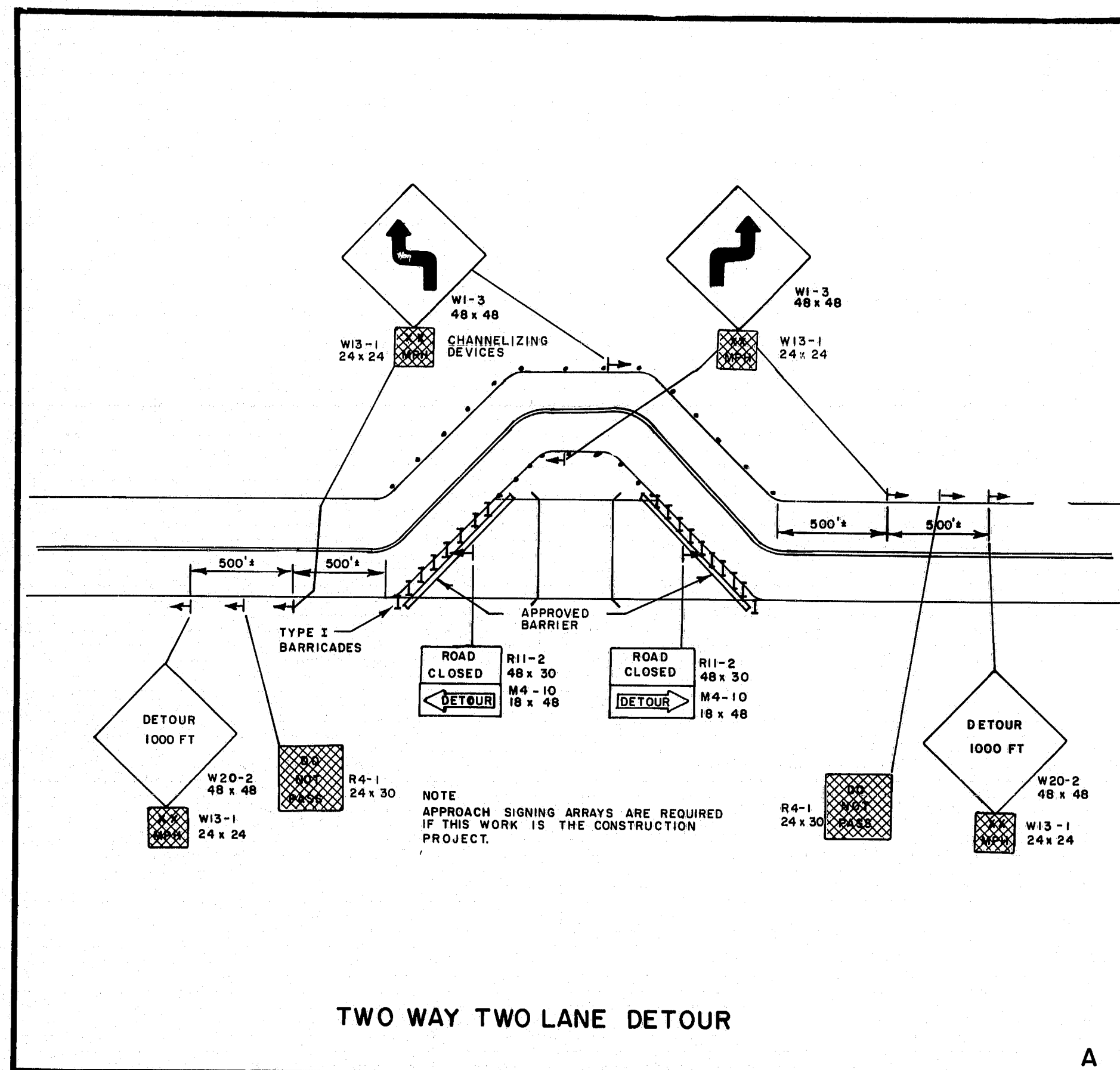


105-120
TWO WAY TRAFFIC
MAINTAINED THROUGH WORK AREA

F

REVISIONS		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
1-28-80		MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES	
3-4-80	PLATE "P"		
4/3/80 PF	D,E		
		SHEET OF AUGUSTA, MAINE (HD-11)	

PROJECT DESIGN ENGINEER	DATE
DESIGN CHECKED	DATE
PLANS	DATE
REVISIONS	DATE
FIELD CHANGES	DATE



PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	
REVISIONS	
FIELD CHANGES	

REVISIONS	STATE OF MAINE DEPARTMENT OF TRANSPORTATION
4/3/80 PF B,C,D	MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES
	SHEET OF AUGUSTA, MAINE (HD - 12)

105-121

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO	TOTAL SHEETS
		BR-0163(16)	36	36

