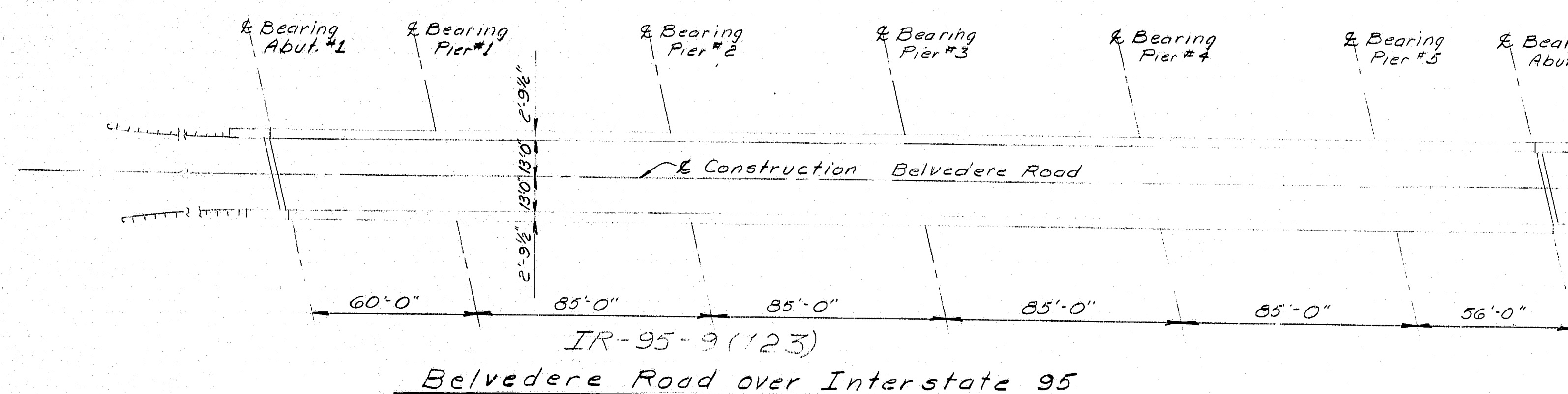
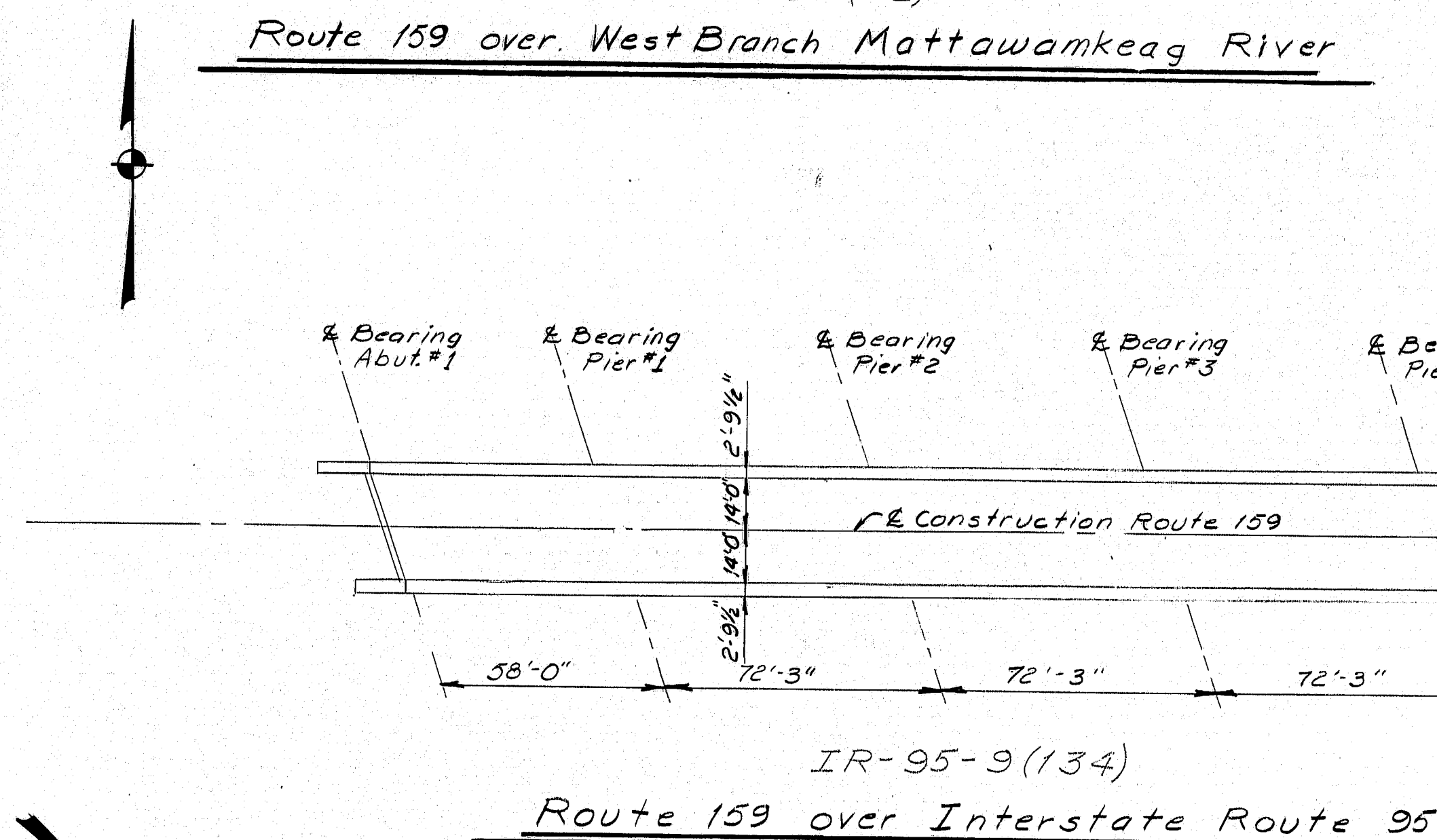
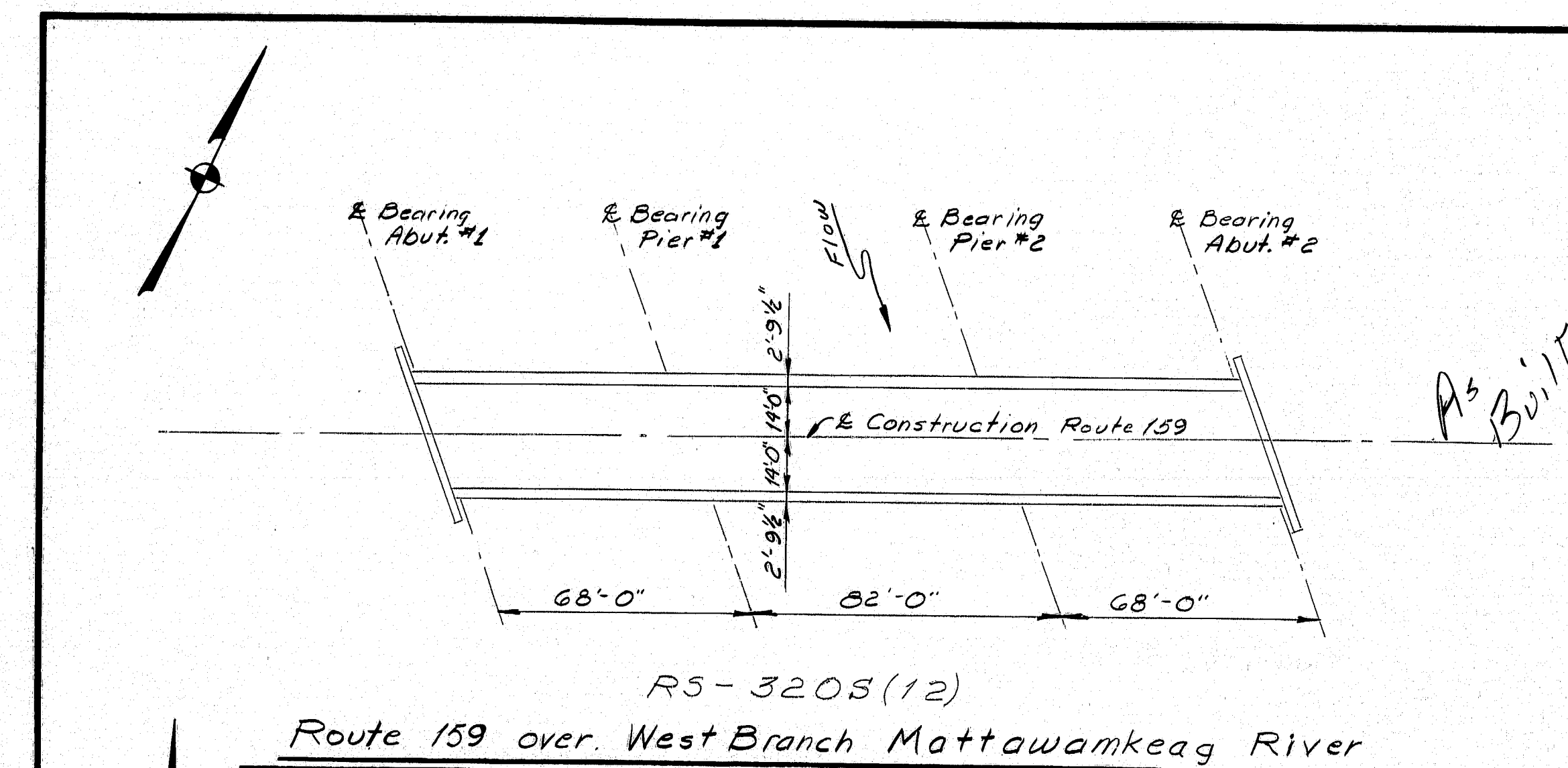


PROJECT DESIGN ENGINEER	DATE
BY	12/90
DESIGN - CHECKED	12/90
REVISIONS	
FIELD CHANGES	
PLANS	

BRWING 45710.1



### SCOPE OF WORK

- All Bridges:**
1. Remove existing wearing surface and membrane and install new membrane waterproofing and 2 1/4" bituminous concrete wearing surface.
  2. Clean and paint existing structural steel.
  3. Repair deteriorated areas of existing structural concrete slab surface before placing new membrane waterproofing.

**Route 159 Bridges:**

4. Maintain traffic on a minimum 11'-0" lane during construction.

**Belvedere Road Bridge:**

5. Close bridge to traffic during construction.
6. Install guardrail type 3 and connect to existing end post. Remove existing cable guardrail.

**NOTE:**  
Plans of the existing bridge 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.

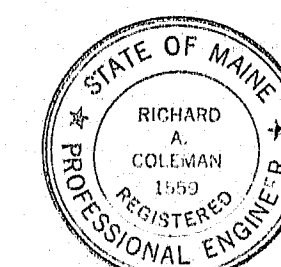
**NOTE:**  
All work contemplated under this contract to be governed by and in conformity with the State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges, Revision of October 1990. And with AASHTO Standard Specifications for Highway Bridges 1989 and Interim Specifications 1990.

### TABLE OF CONTENTS

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PAVEMENT MARKINGS HD-13	9

### TRAFFIC DATA

	Rte. 159 over Mattawamkeag R.	Rte. 159 over Interstate 95	Belvedere Rd. over I-95
Current AADT - 1986 =	2210	2210	245
Future AADT - 2006 =	3090	3090	345
Daily High Volume -	340	390	41
Trucks - % AADT -	10	10	8
18 kips Eq. P2.5 -	76	76	7



APPROVED:

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

COMMISSIONER

1/29/91  
DATE

CHIEF ENGINEER

1/29/91  
DATE

105-1

UNITED STATES  
DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
REGION I

APPROVED:

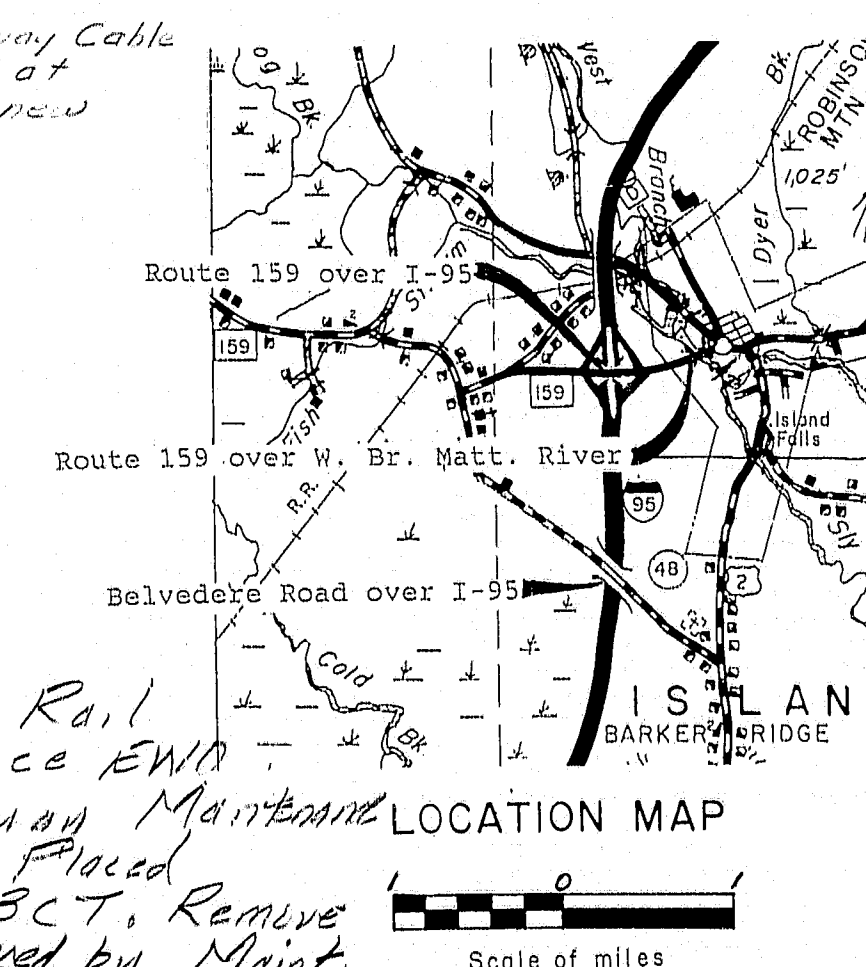
DIVISION ADMINISTRATOR DATE

As Built  
11/91

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

WEARING SURFACE  
REPLACEMENT  
3 BRIDGES  
ISLAND FALLS  
AROSTOOK COUNTY  
GENERAL PLAN

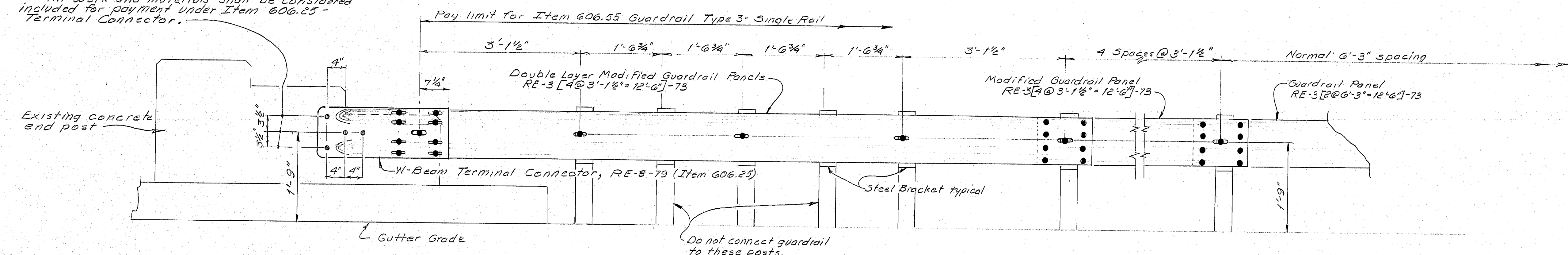
SHEET OF AUGUSTA, MAINE



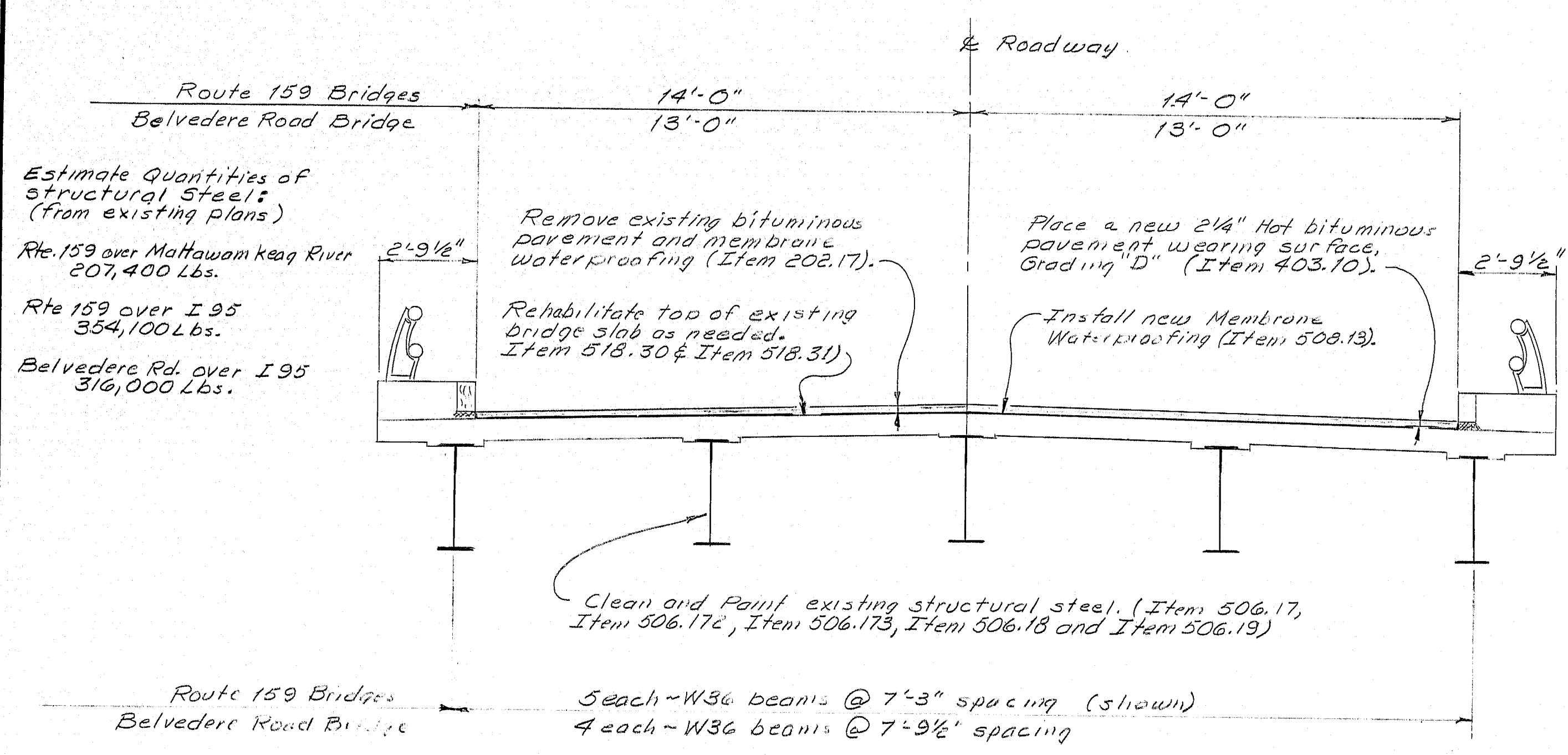
4 Ea. ~ 7/8" Ø x 8' Threaded Steel Anchors with washers and Hex Nuts, ASTM A325, Type 1, Hot Dipped Galvanized. Drill for and install anchors using a high strength polyester resin anchoring material according to the manufacturer's recommendations. Projection of anchors shall be 1 1/2". All materials and procedures used shall be as approved by the Engineer. All work and materials shall be considered included for payment under Item 606.25 - Terminal Connector.

NOTE: For guardrail details not shown refer to Standard Details (HD-6).

F.N.E.A. PROJ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	RS-3806 (12)	2	9
		IR-95-9(154)		
		IR-95-9(123)		



**ELEVATION - EXISTING CONCRETE END POST BELVEDERE ROAD BRIDGE**  
Guardrail installation similar at all (4) concrete end posts.



**EXISTING BRIDGE SECTION**

**Construction Notes - Belvedere Road over I 95:**

- One guardrail delineator post shall be installed at each guardrail end.
- A breakaway cable terminal shall be installed concurrent with the installation of each section of beam guardrail, unless otherwise approved temporary protection has been authorized.
- All hardware used on the cable guardrail which is to be removed, shall be carefully salvaged by the Contractor and will remain the property of the Department. Associated guardrail cable and posts shall become the property of the Contractor.
- The new guardrail shall be offset a distance of 14'-3" from the E of existing road to the face of the new guardrail.
- The shoulder in the new guardrail area shall be reggraded from the edge of the existing pavement to a new normal berm distance of 17'-3" from the E of the existing road. Payment will be made under Item 204.41 and Item 606.751.
- All deck repairs under Section 518, regardless of depth, shall be accomplished using the material described in Subsection 518.02 (c) only. The repairs shall comply with the manufacturer's recommendations for the material being used.
- The bridge will be closed to traffic for a period stated in the Special Provision.

PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAIL	1/9/
CHECKED	LAW
REVISIONS	
FIELD CHANGES	

BRIDGE 4870-1

**105-2**

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
WEARING SURFACE REPLACEMENT 3 BRIDGES ISLAND FALLS AROOSTOOK COUNTY
Details and Notes
SHEET OF AUGUSTA, MAINE



PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	2/22
CHECKED	LTH
BY	LTH
PLANS	
REVISIONS	
FILE NO.	

BRUNING 44-132-457(10-1)

ESTIMATED QUANTITIES					
ITEM NO.	DESCRIPTION	QUANTITY			UNIT
		RS-320S (12) Rte. 159 over Mt. Hallowes Rd.	IR-95-9 (134) Rte. 159 over I 95	IR-95-9 (123) Belvedere Rd. over I 95	Total
202.1271	Removing Existing Bituminous Pavement	1			1 L.S.
202.1272	Removing Existing Bituminous Pavement		1		1 L.S.
202.1273	Removing Existing Bituminous Pavement			1	1 L.S.
204.91	Rehabilitation of Existing Shoulder, Plan Quantity			300	300 SF.
403.10	Hot Bituminous Pavement, Grading D	87	160	167	414 Ton
506.1701	Surface Preparation of Existing Structural Steel	1			1 L.S.
506.1702	Surface Preparation of Existing Structural Steel		1		1 L.S.
506.1703	Surface Preparation of Existing Structural Steel			1	1 L.S.
506.1721	Field Painting Existing Structural Steel - Code ZHP-1	1			1 L.S.
506.1722	Field Painting Existing Structural Steel - Code ZHP-1		1		1 L.S.
506.173	Field Painting Existing Structural Steel - Code XM-1			1	1 L.S.
506.1801	Containment and Pollution Control	1			1 L.S.
506.1802	Containment and Pollution Control		1		1 L.S.
506.1803	Containment and Pollution Control			1	1 L.S.
506.1901	Disposal of Hazardous or Toxic Material	1			1 L.S.
506.1902	Disposal of Hazardous or Toxic Material		1		1 L.S.
506.1903	Disposal of Hazardous or Toxic Material			1	1 L.S.
508.1301	Membrane Water proofing	1			1 L.S.
508.1302	Membrane Water proofing		1		1 L.S.
508.1303	Membrane Water proofing			1	1 L.S.
518.30	Rehabilitation of Str. Conc. Slab - to Reinforcing Steel	250	450	450	1,150 SF.
518.31	Rehabilitation of Str. Conc. Slab - to below Reinforcing Steel	100	200	200	500 SF.
526.301	Temporary Concrete Barrier, Type 1	1			1 L.S.
526.301c	Temporary Concrete Barrier, Type 1		1		1 L.S.

ESTIMATED QUANTITIES					
ITEM NO.	DESCRIPTION	QUANTITY			UNIT
		RS-320S (12) Rte. 159 over Mt. Hallowes Rd.	IR-95-9 (134) Rte. 159 over I 95	IR-95-9 (123) Belvedere Rd. over I 95	Total
606.25	Terminal Connector			4	4 Ea.
606.35	Guardrail Delineator Post			4	4 Ea.
606.55	Guardrail Type 3 - Single Rail			400	400 L.F.
606.751	Widen Shoulder for Breakaway Cable Terminal			4	4 Ea.
606.77	Breakaway Cable Terminal			4	4 Ea.
627.63	4 inch Solid Yellow Pavement Marking Line	1100	1500	0	2600 L.F.
627.65	White or Yellow Pavement and Curb Marking	50	50	0	100 S.F.
627.67	Removing Pavement Markings	250	250	0	500 S.F.
627.68	Tem. 4 inch Painted Pavement Marking Line, White or Yellow	1100	1500	0	2600 L.F.
639.19	Field Office Type B	.33	.33	.34	1 Ea.
639.22	Testing Facilities Bituminous Mixes	.20	.40	.40	1 L.S.
643.7201	Temporary Traffic Signal	1			1 L.S.
643.7202	Temporary Traffic Signal		1		1 L.S.
652.30	Flashing Arrow Board	-	0.5	0.5	1 Ea.
652.31	Type 1 Barricade	10	30	20	60 Ea.
652.312	Type 111 Barricade	-	-	2	2 Ea.
652.33	Drum	10	10	10	30 Ea.
652.34	Cone	10	30	20	60 Ea.
652.35	Construction Signs	250	510	540	1300 SF.
652.361	Maintenance of Traffic Control Devices	.33	.33	.34	1 L.S.
652.38	Flogger	100	100	100	300 MH
659.10	Mobilization	.2	.4	.4	1 L.S.

ESTIMATE OF LUMP SUM QUANTITIES					
202.12++	Removing Existing Bituminous Pavement	681	1,262	1,318	3,261 S.Y.
508.13++	Membrane Waterproofing	686	1,269	1,327	3,282 S.Y.

F.R.W.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	RS-320S (12)	3	9
		IR-95-9 (134)		
		IR-95-9 (123)		

#### TEMPORARY SIGNALS

Item No. 643.72  
The temporary signal controller shall be a two-phase pretimed controller. It shall operate as shown below.

#### SEQUENCE OF OPERATION

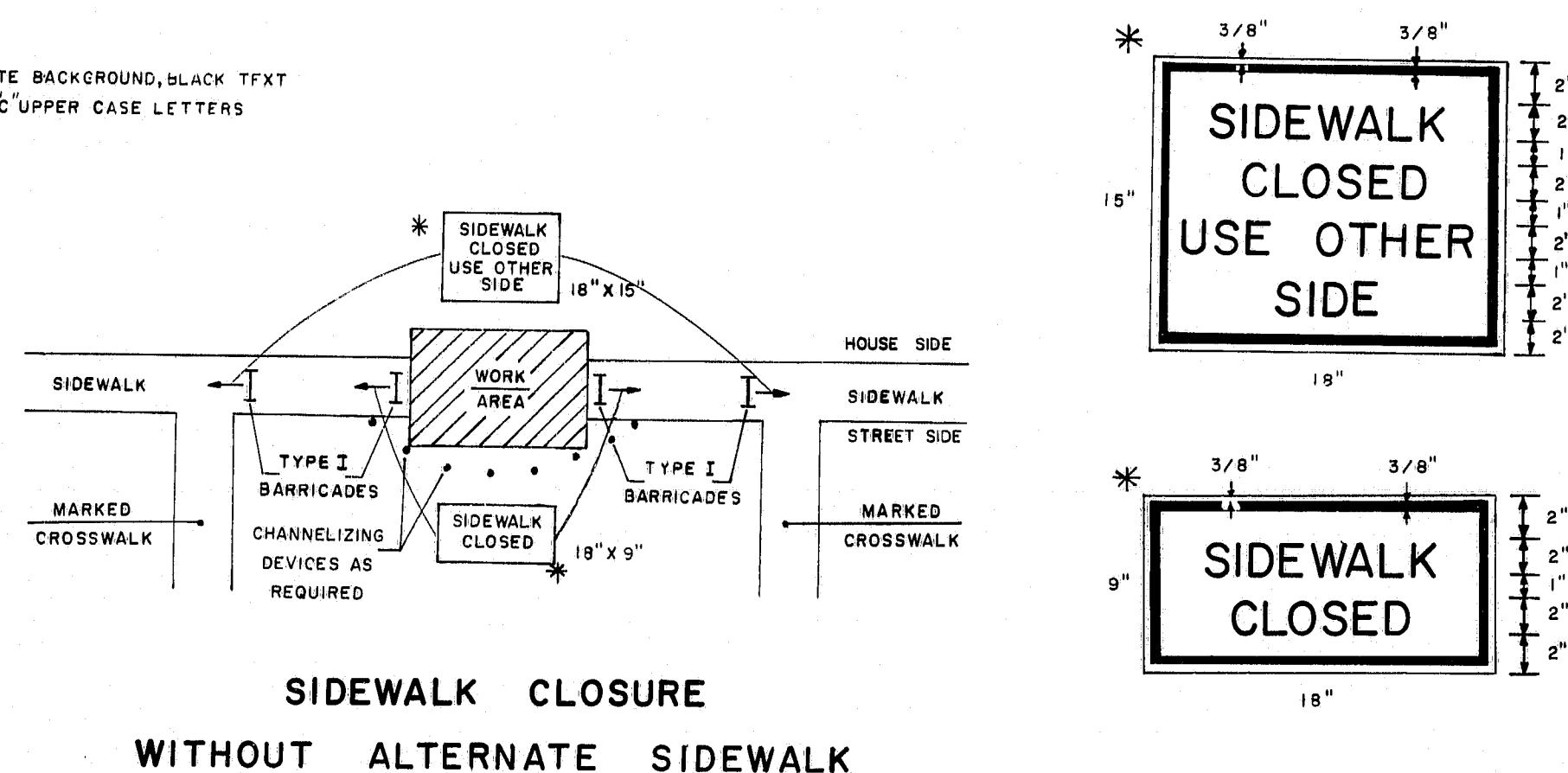
Project	INTERVAL HEADS	1	2	3	4	5	6
		G	Y	R	R	R	R
Rte. 159/Mt. H. RS-320S (12) Rte. 159/I-95 IR-95-9 (134)	EASTBOUND	R	R	R	G	Y	R
	WESTBOUND	R	R	R	G	Y	R
	Timing 70 Second Dial	17	3	15	17	3	15
	Timing 80 Second Dial	17	3	20	17	3	20

G = Green  
Y = Yellow  
R = Red

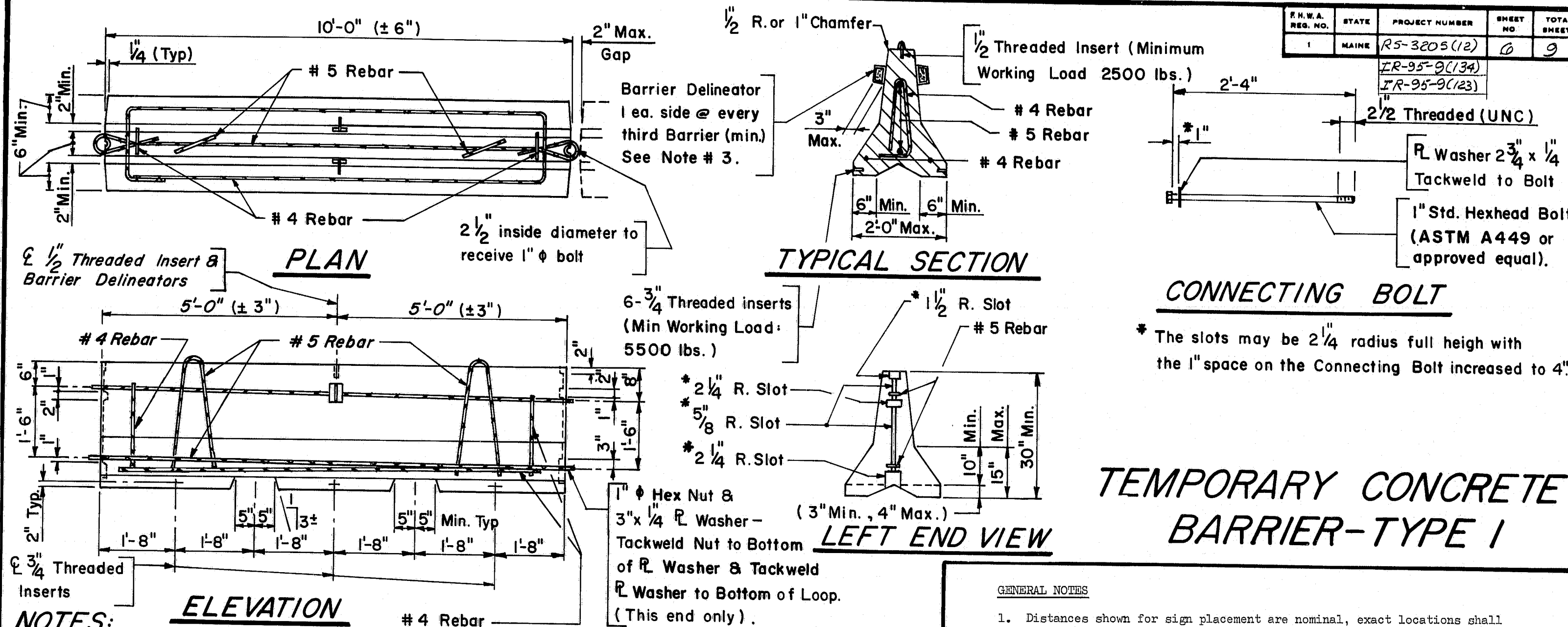
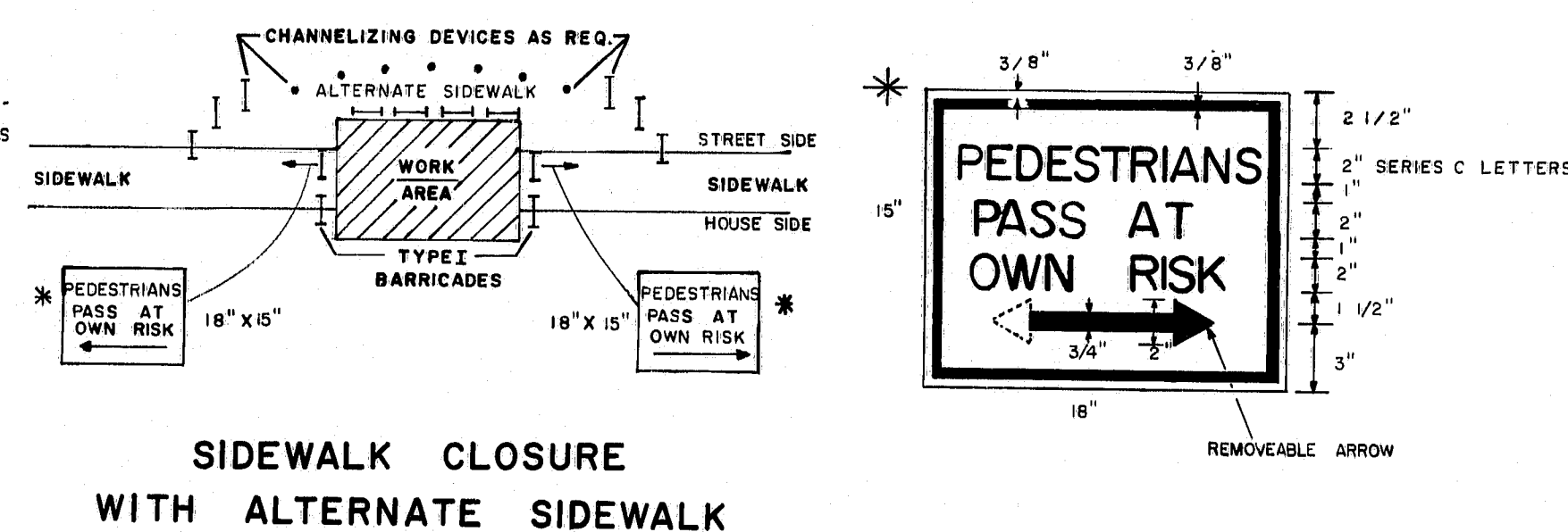
105-3

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
WEARING SURFACE REPLACEMENT 3 BRIDGES ISLAND FALLS AROOSTOOK COUNTY Estimated Quantities
SHEET OF AUGUSTA, MAINE

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



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



- 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.

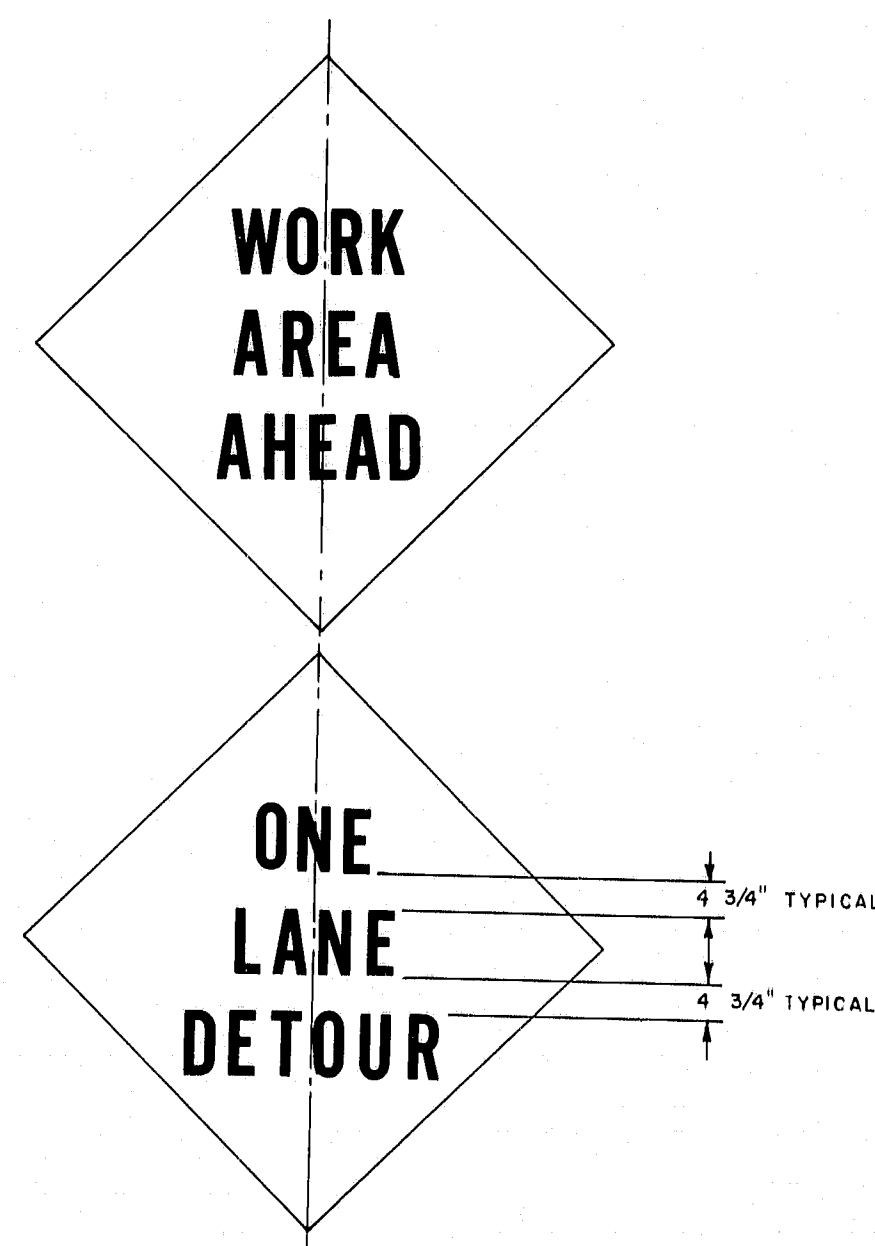
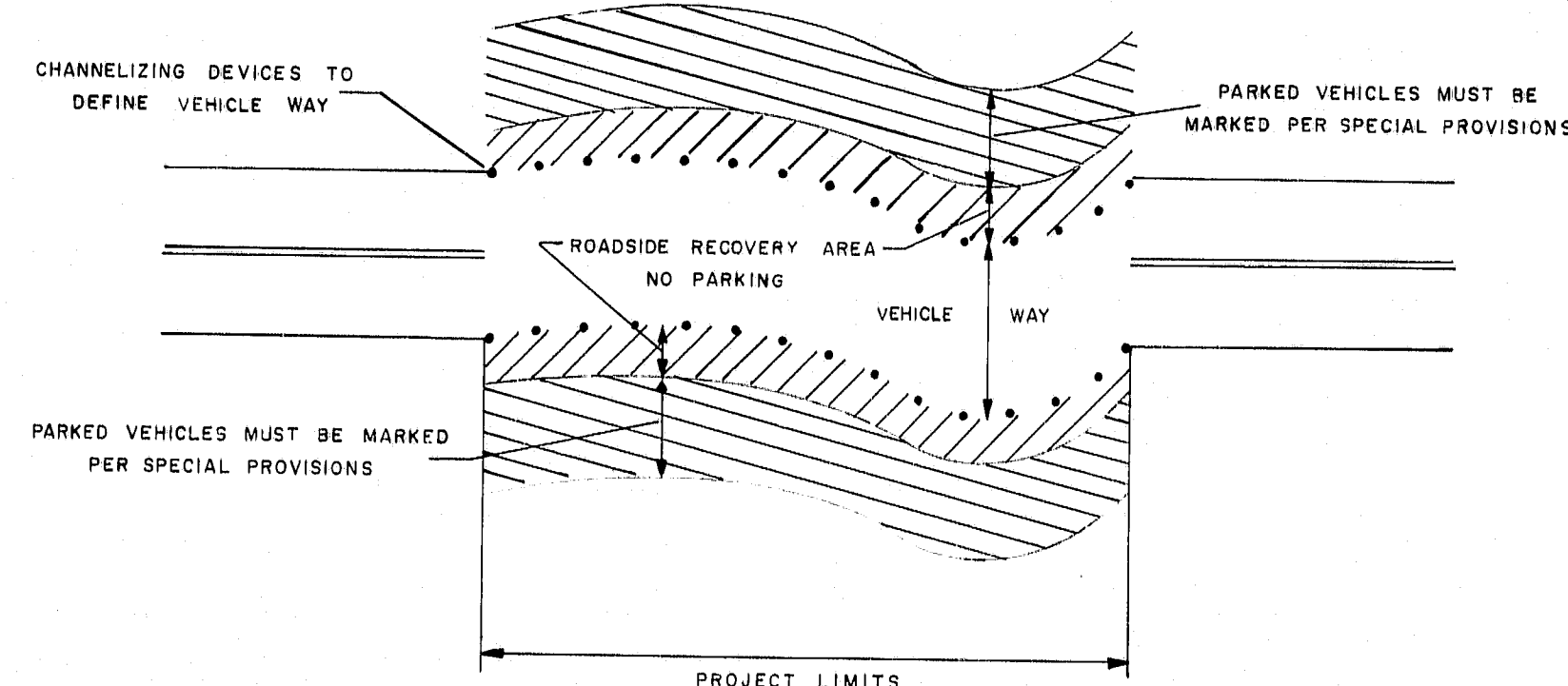
**GENERAL NOTES**

- 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:  
If S is equal to or less than 40 MPH  
 $L = (W \times S \times S) / 60$   
If S is equal to or greater than 45 MPH  
 $L = WS$   
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.

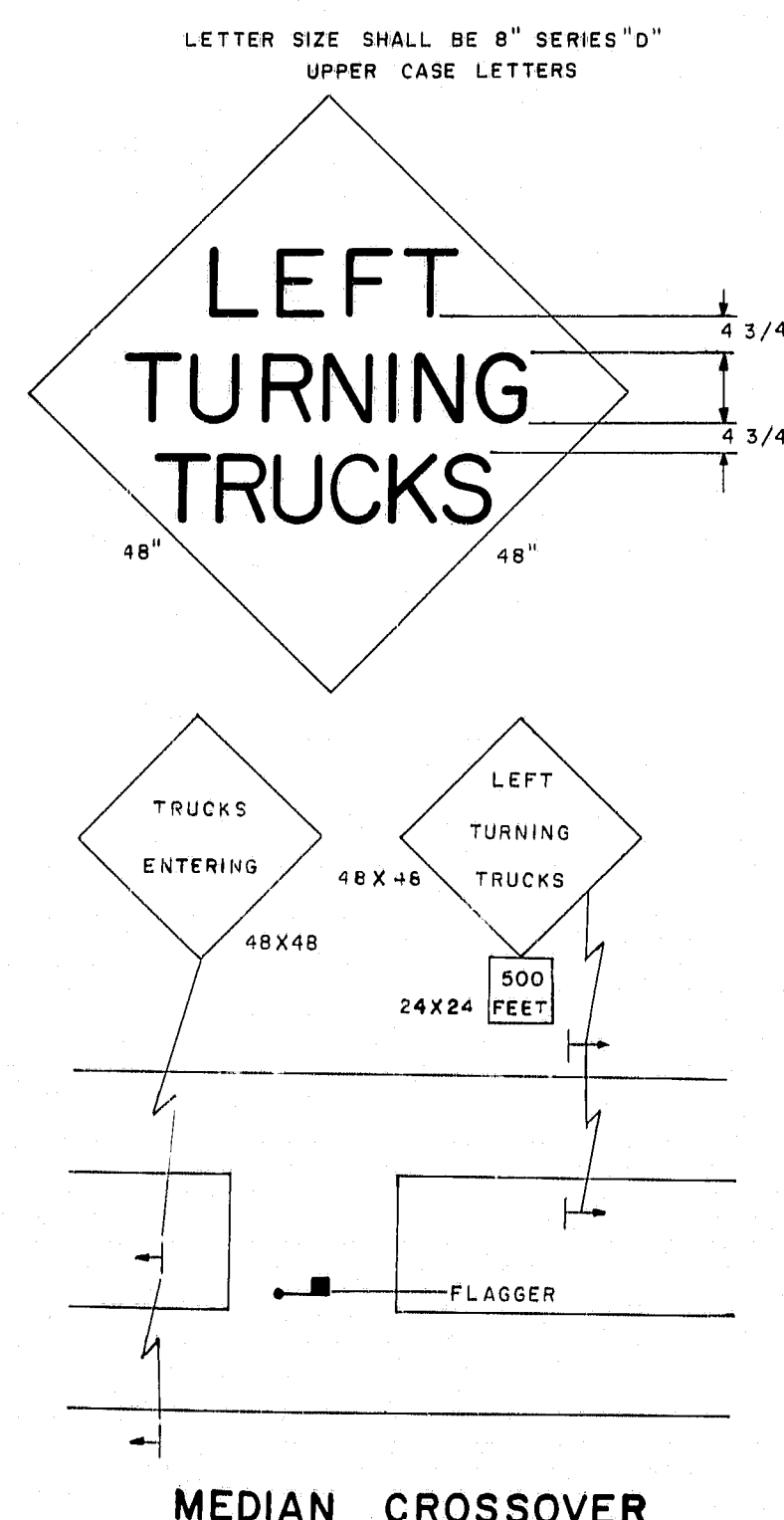
- The maximum longitudinal spacing of channelizing devices shall conform to the following:  
(a) 50 feet through work areas  
(b) A distance in tapers equal to the numerical value of the operating speed, i.e., 40 MPH = 40 feet  
(c) In all areas not covered above maximum spacing shall be as follows:  
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.

ALL DIMENSIONS AND OTHER REQUIREMENTS AS  
SPECIFIED IN THE SPECIAL PROVISIONS

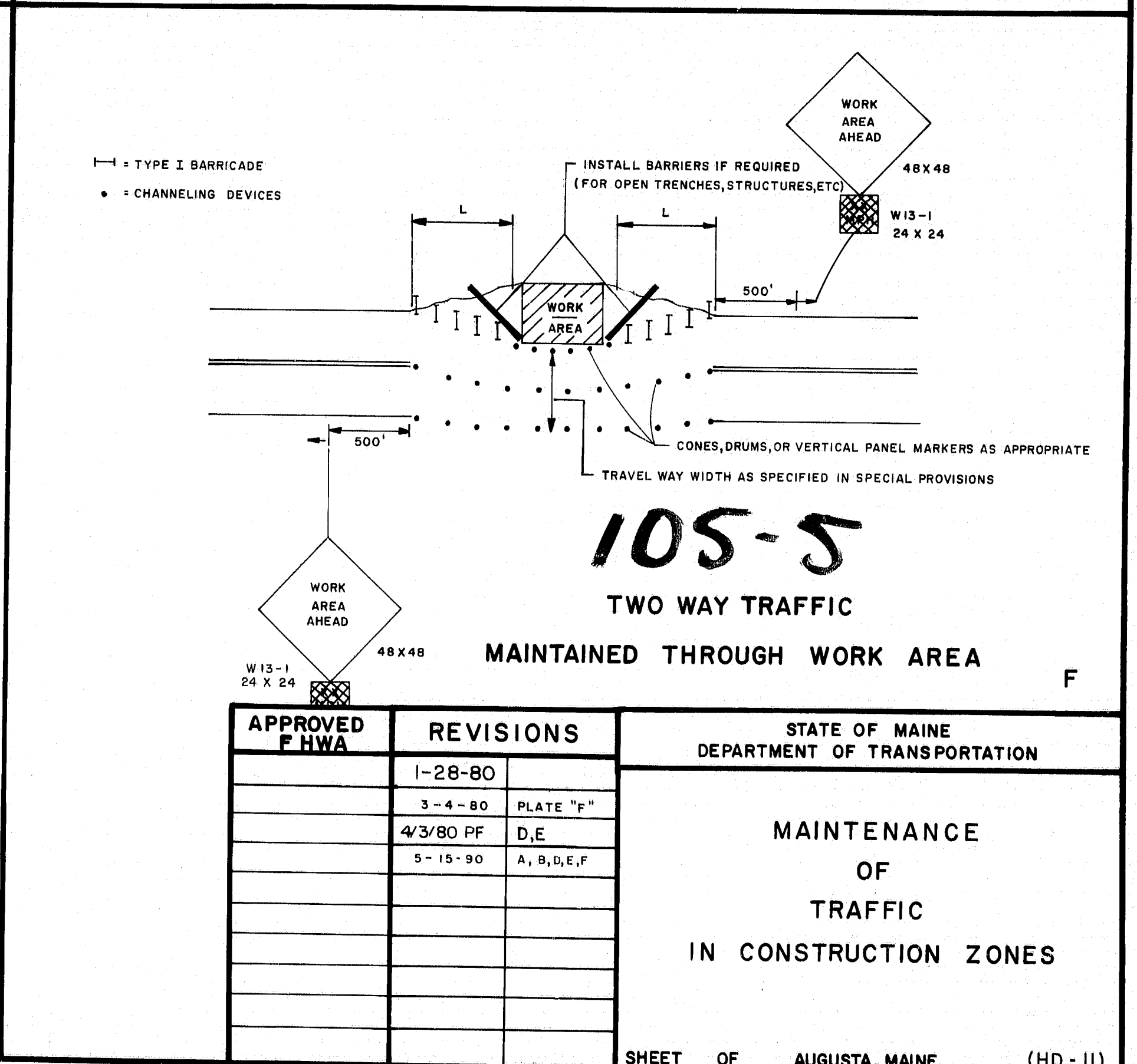
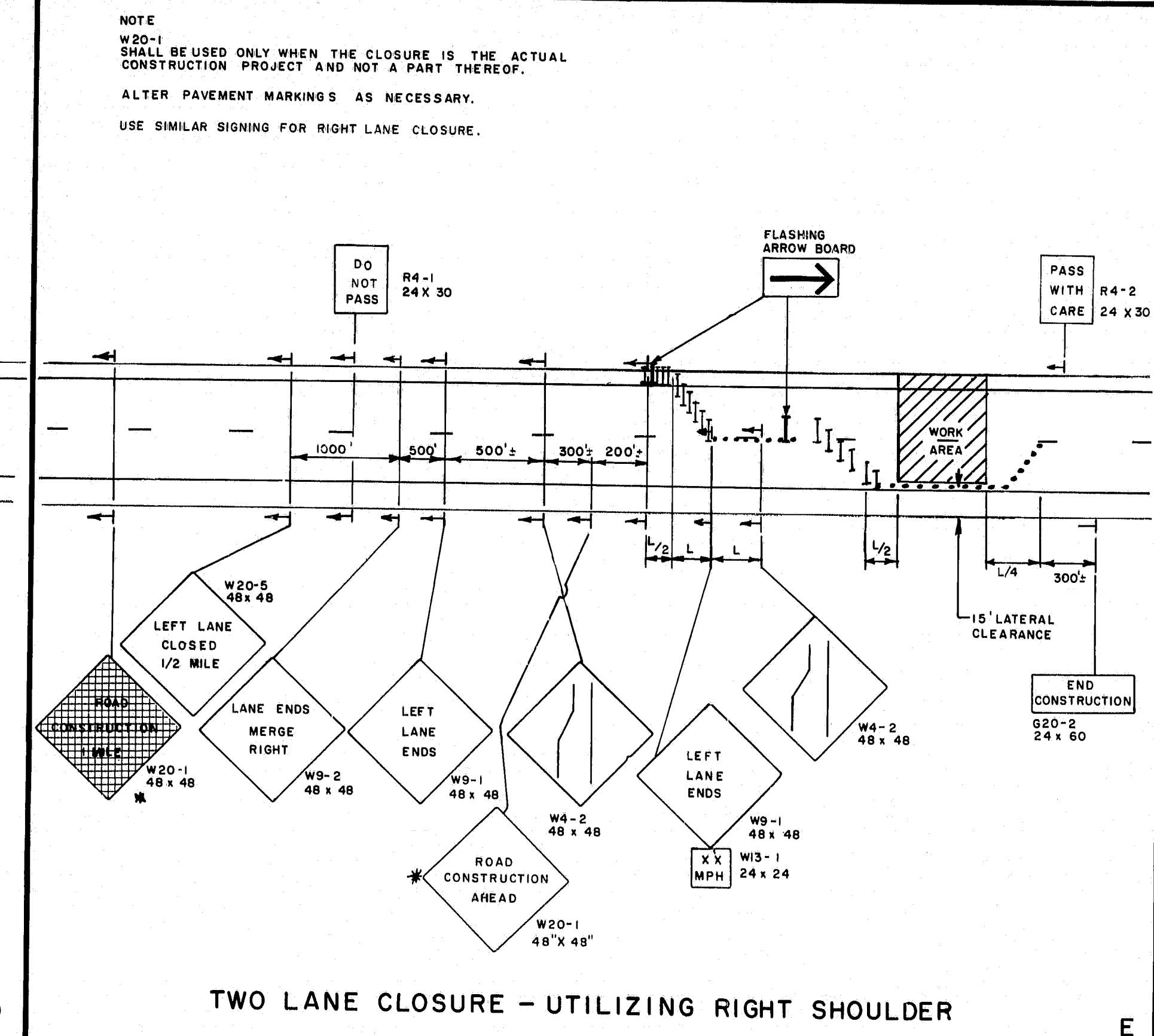
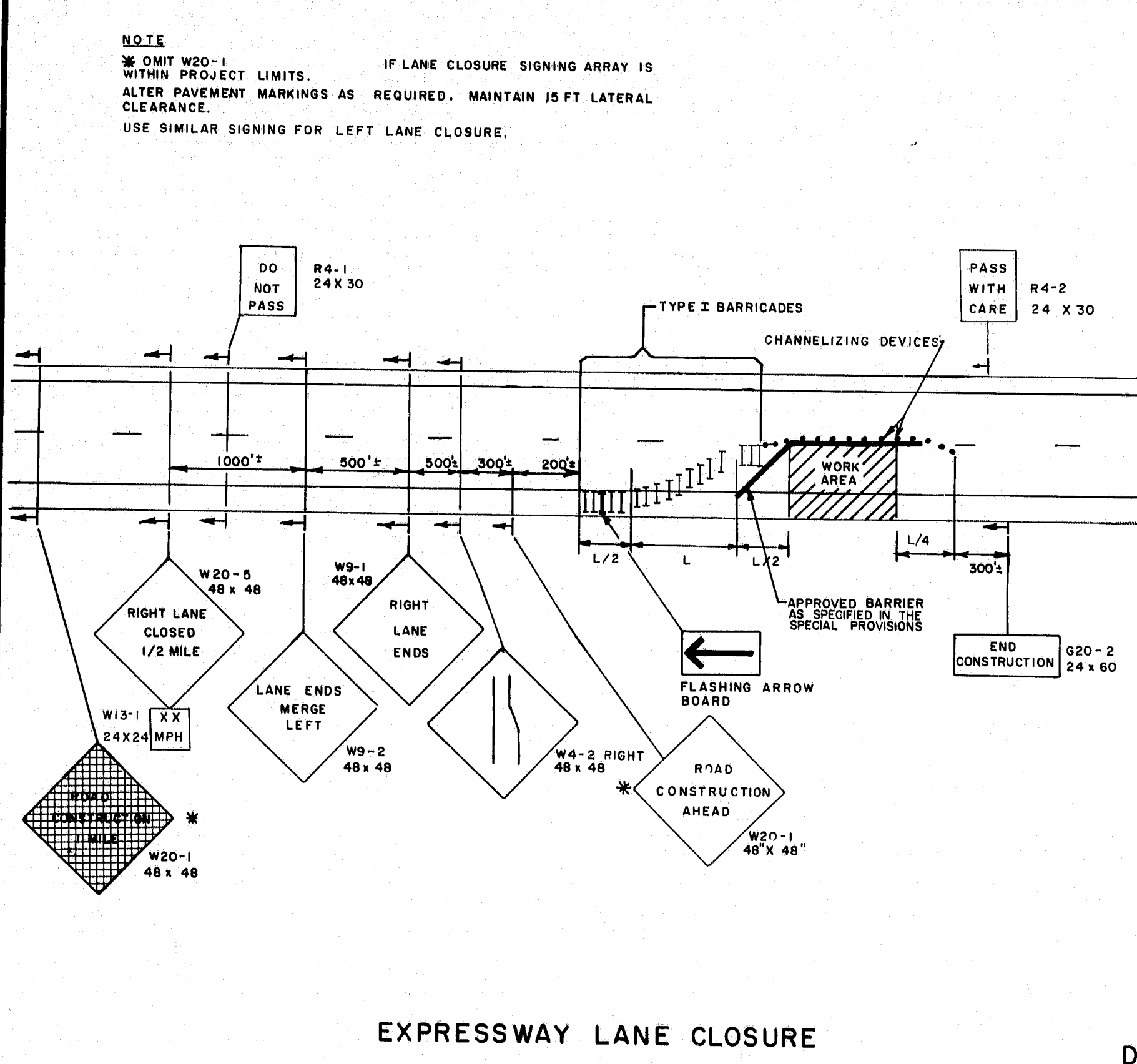
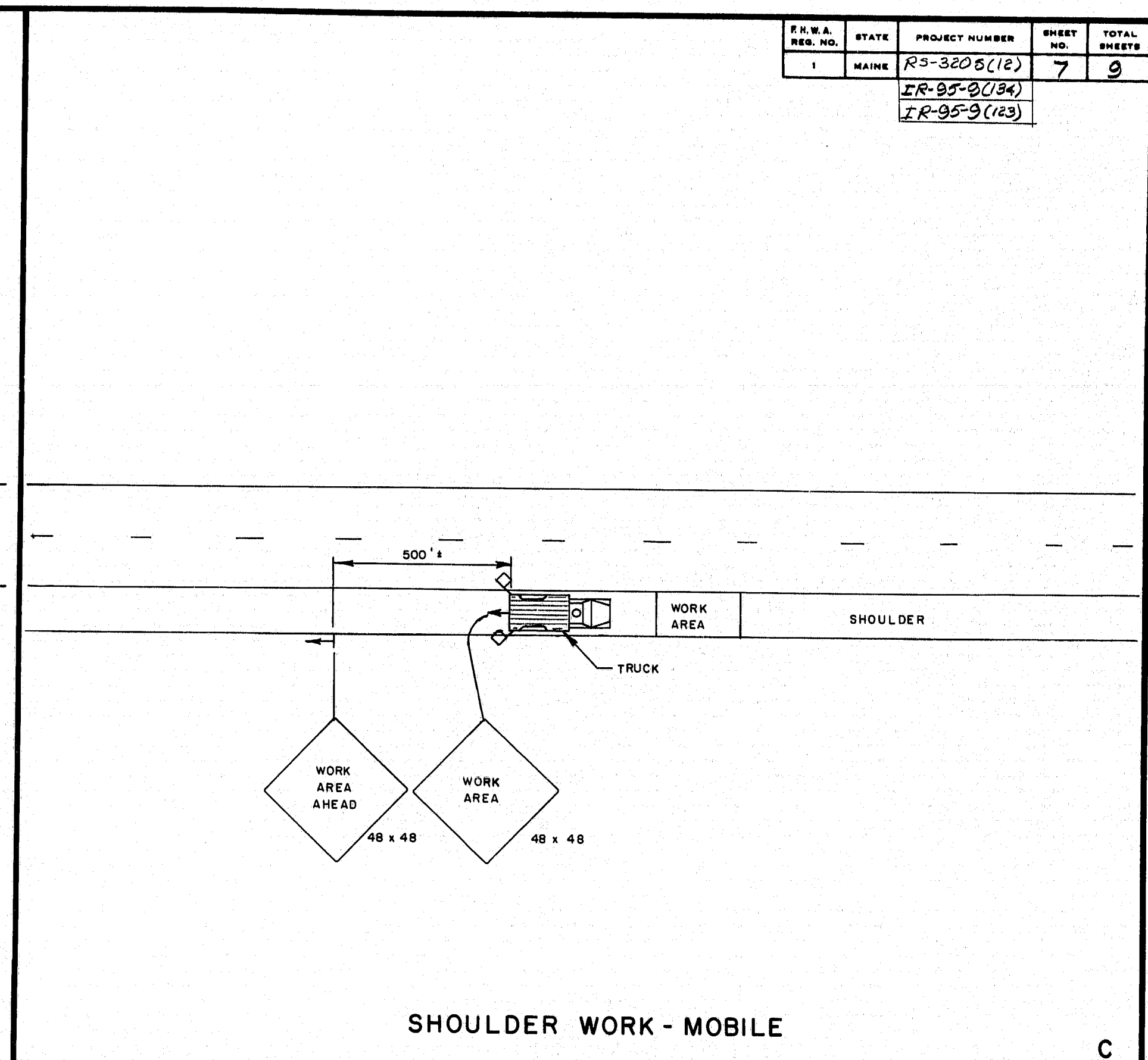
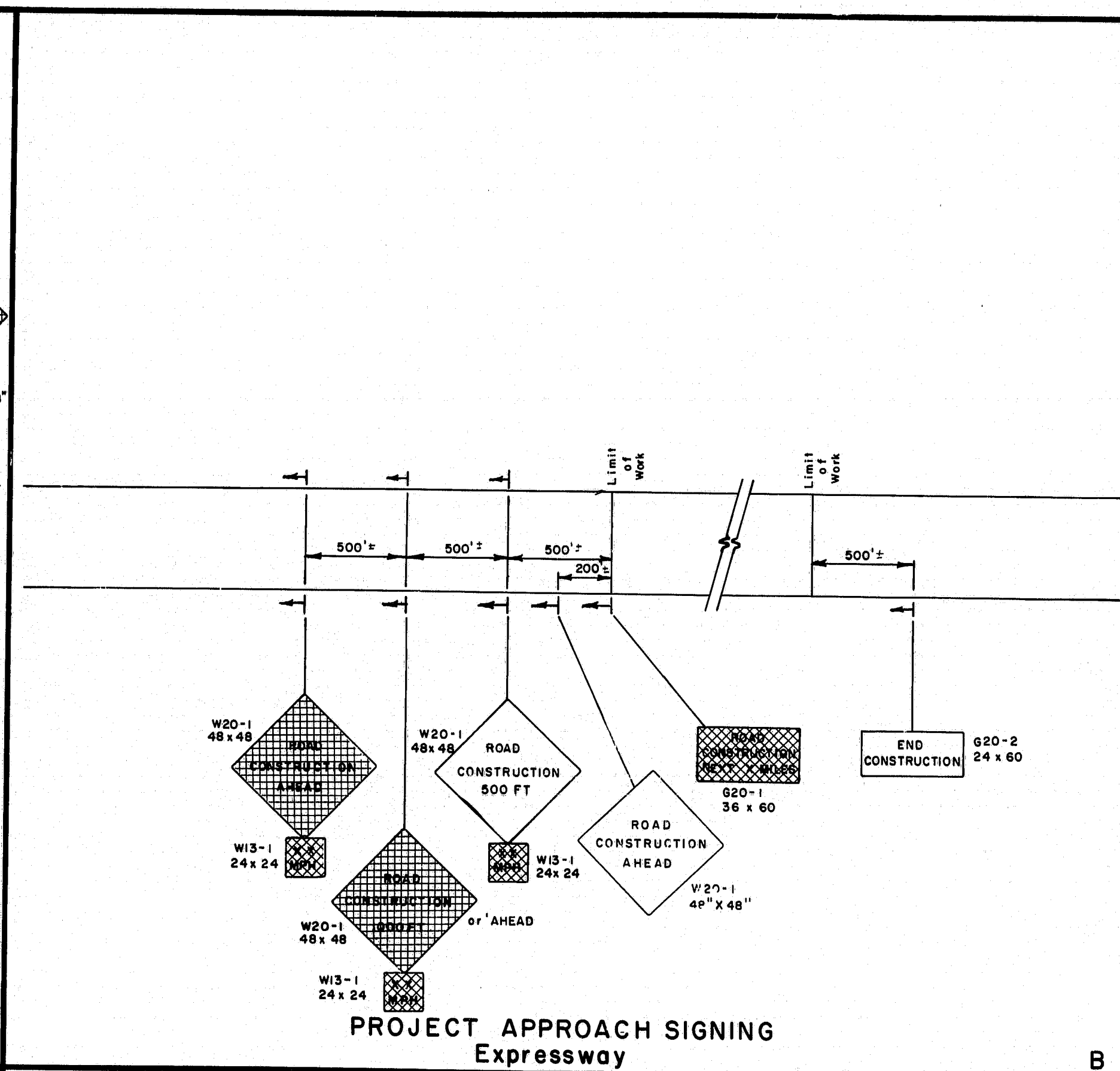
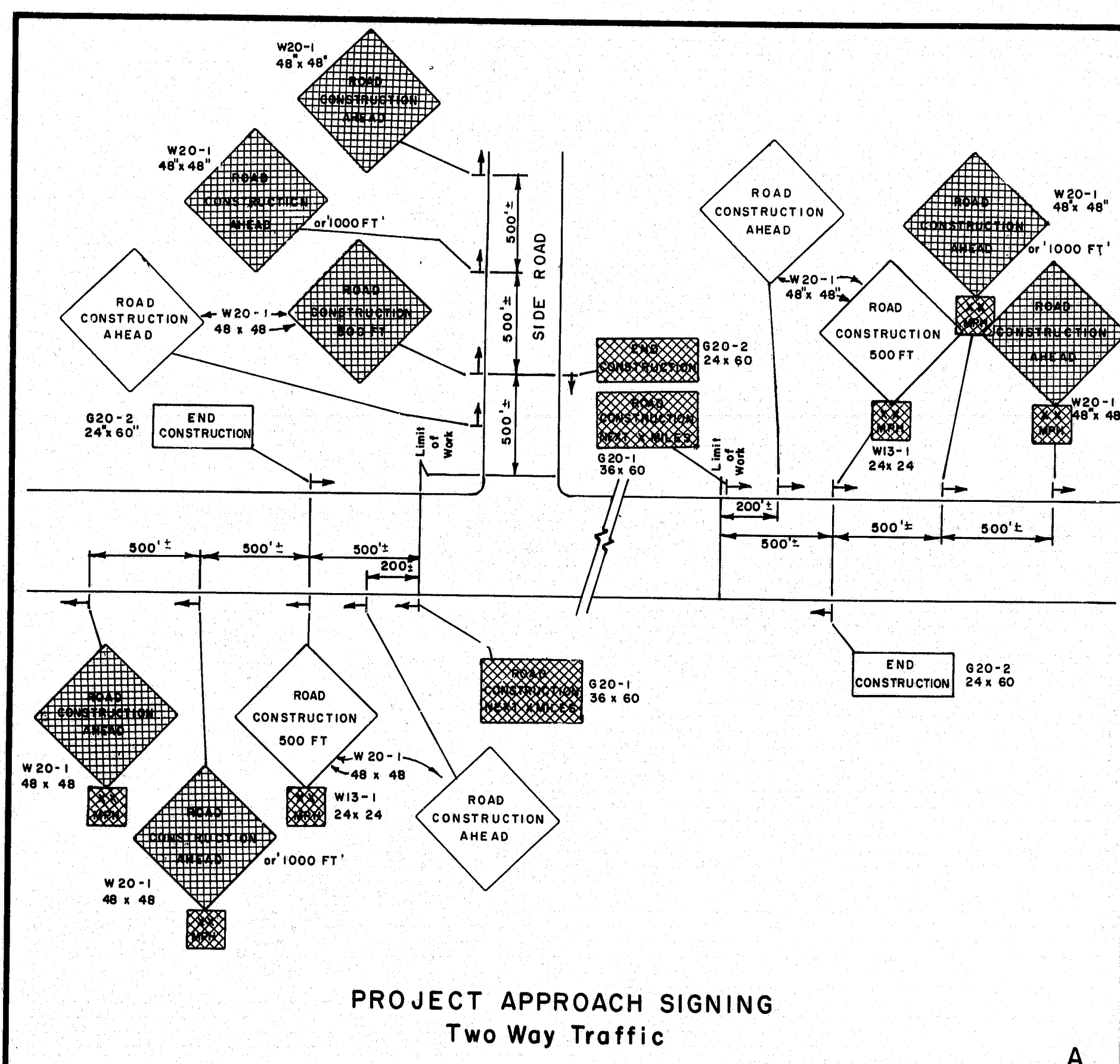


- Letter size shall be 8" Series 'D'.
- Border dimensions and legend design shall conform to "Standard Highway Signs".



REVISIONS		APPROVED		STATE OF MAINE	
Description	Me. DOT	Me. DOT	FHWA	DEPARTMENT OF TRANSPORTATION	
Original Plan	Feb. 1989			<div>105-4</div> <div>MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES</div>	
SHEET OF AUGUSTA, MAINE (HD-10)					





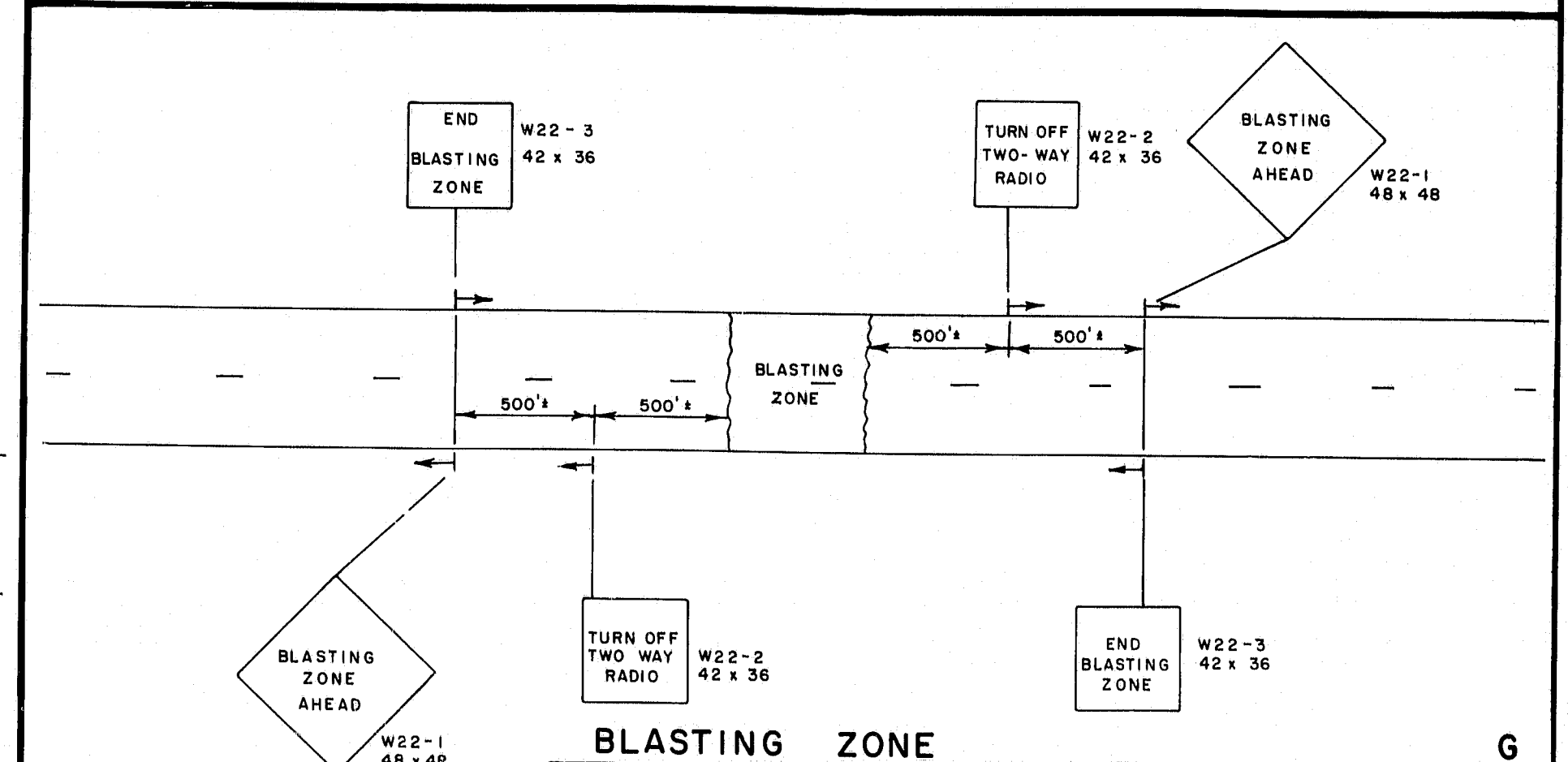
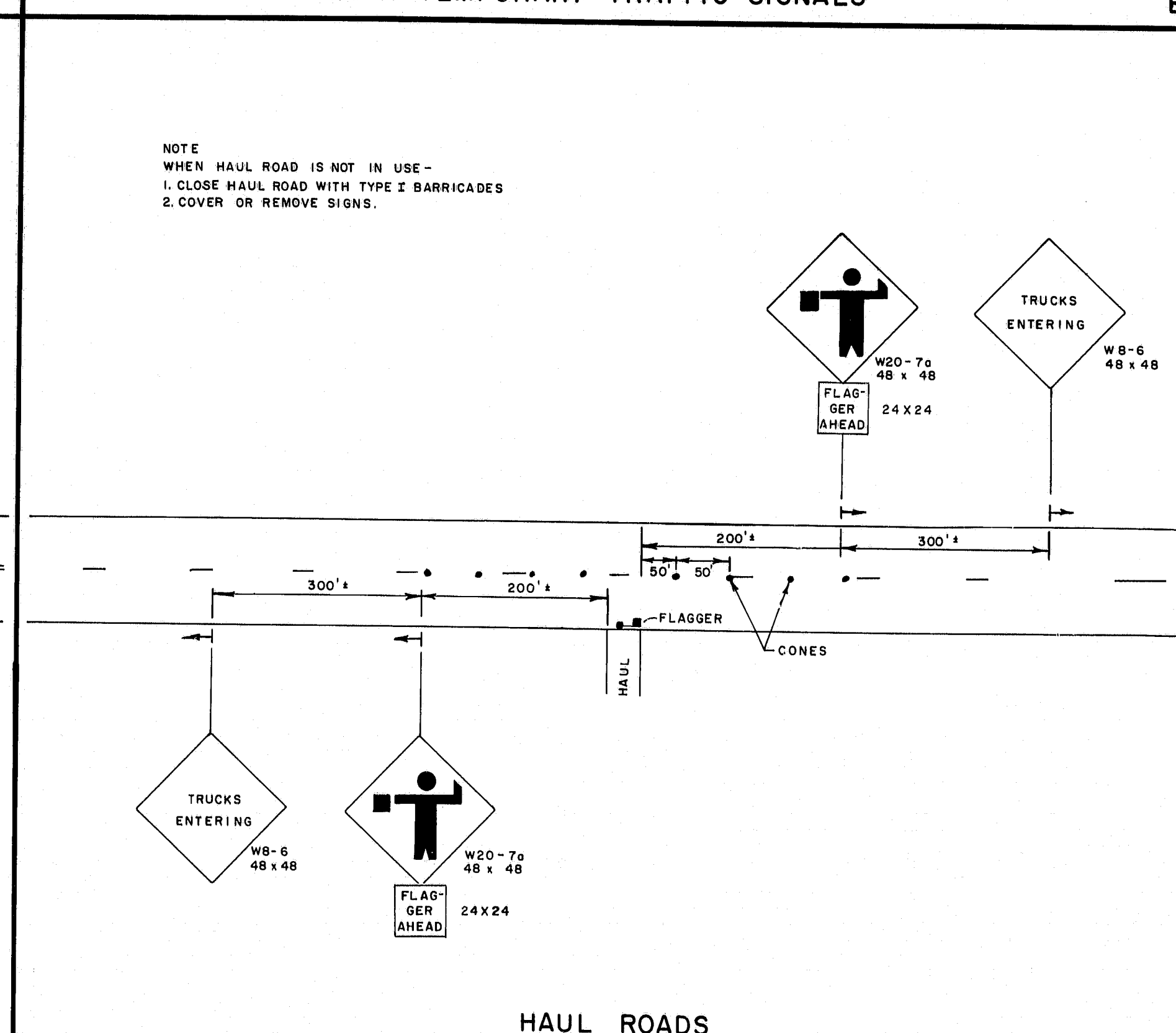
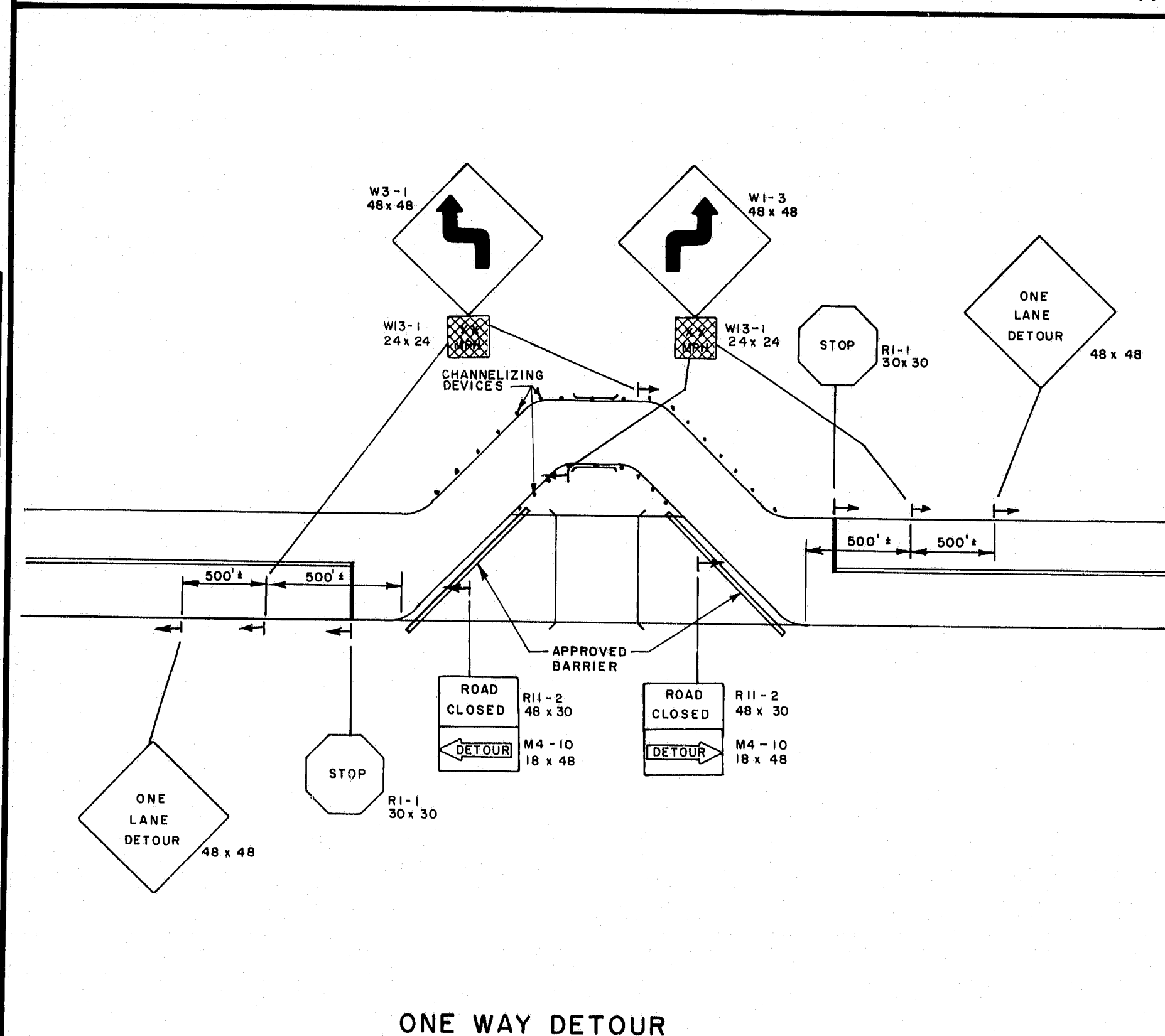
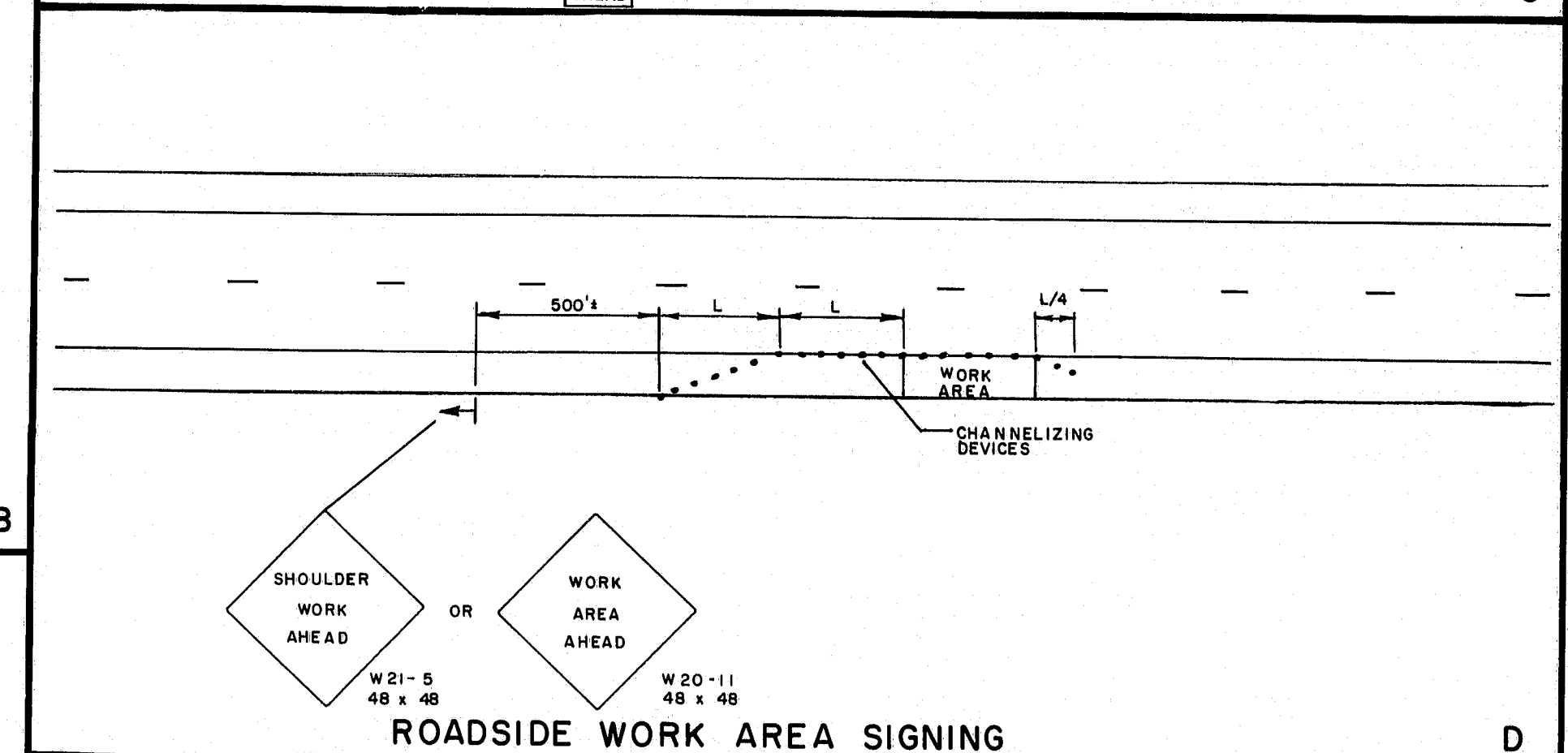
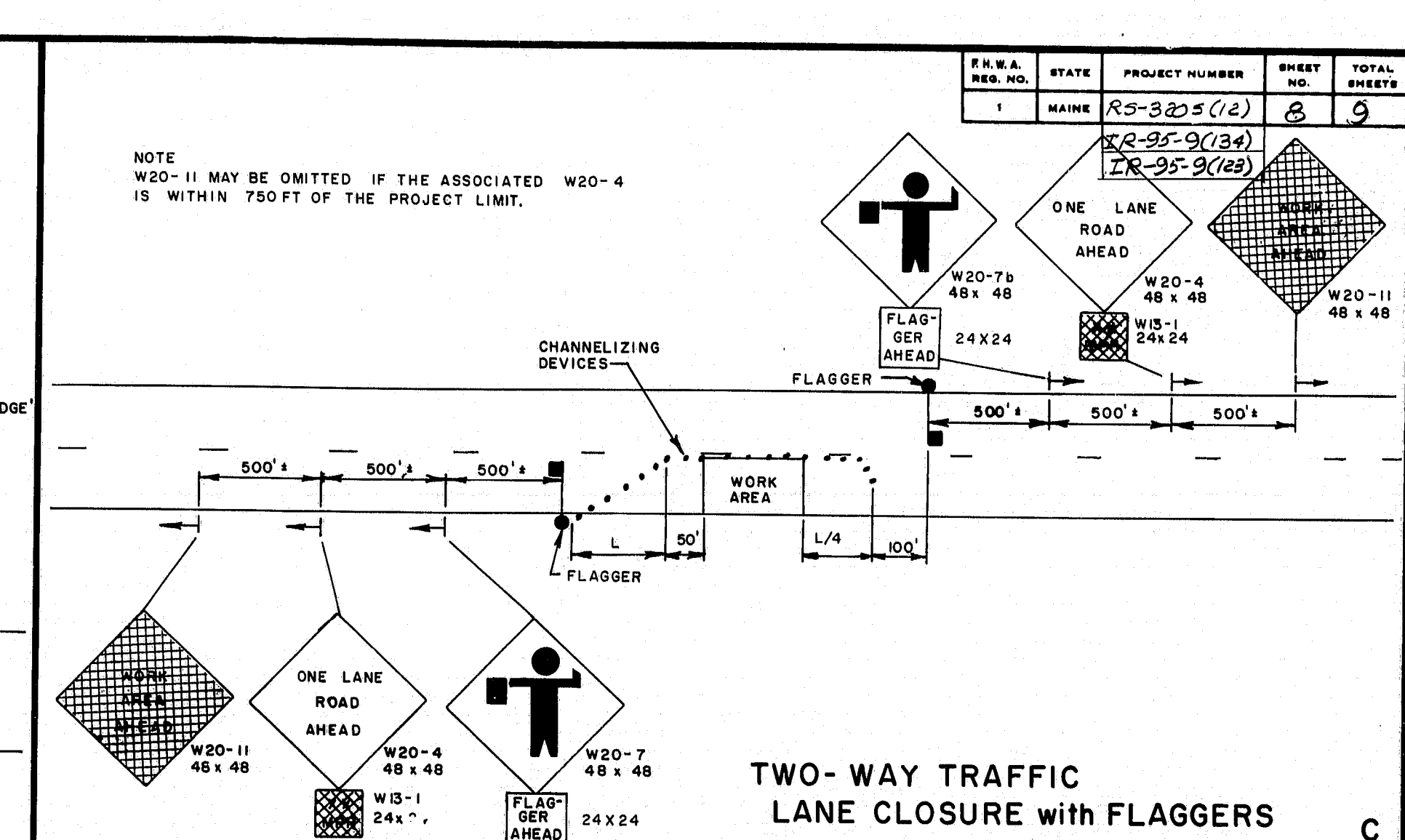
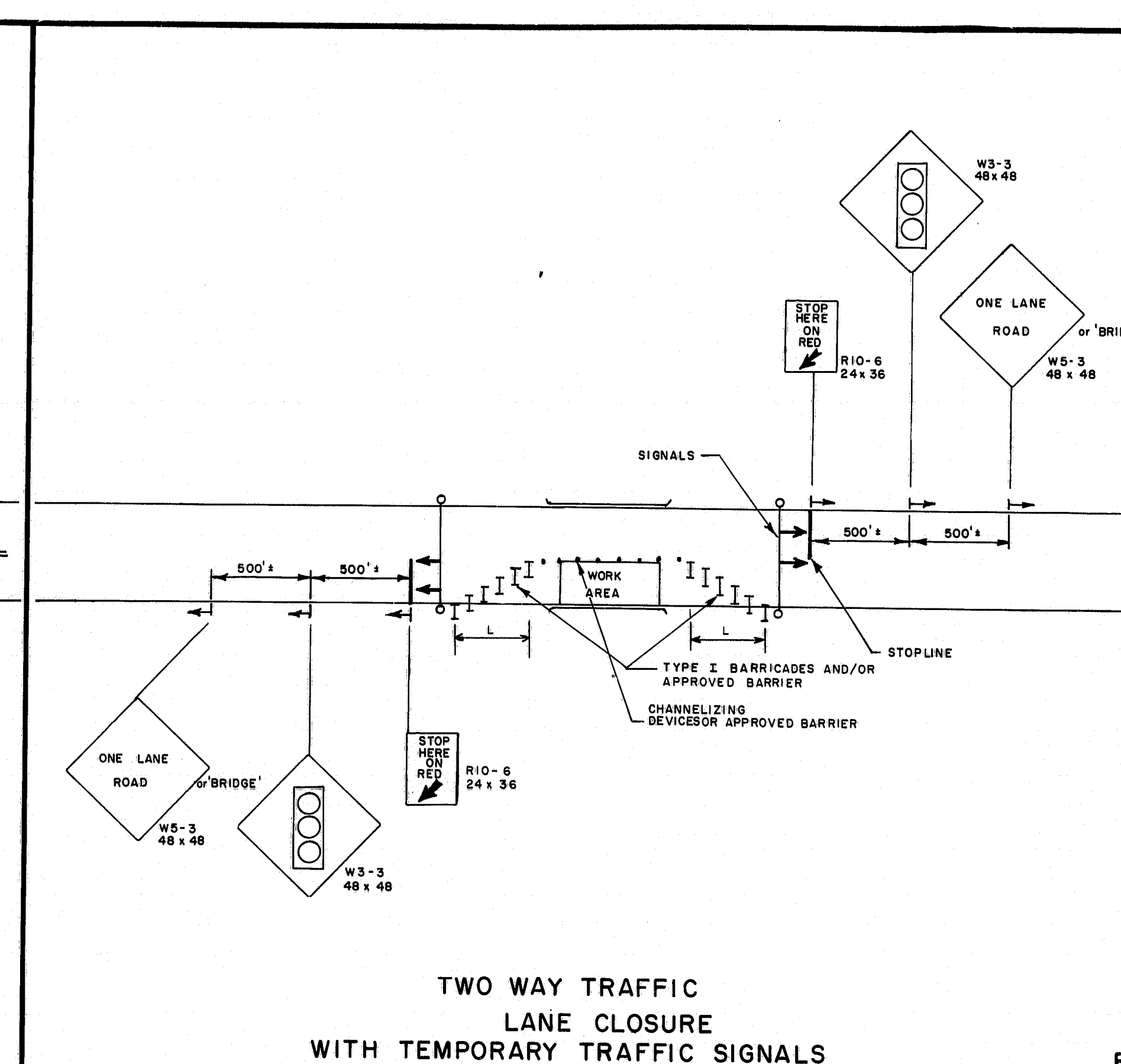
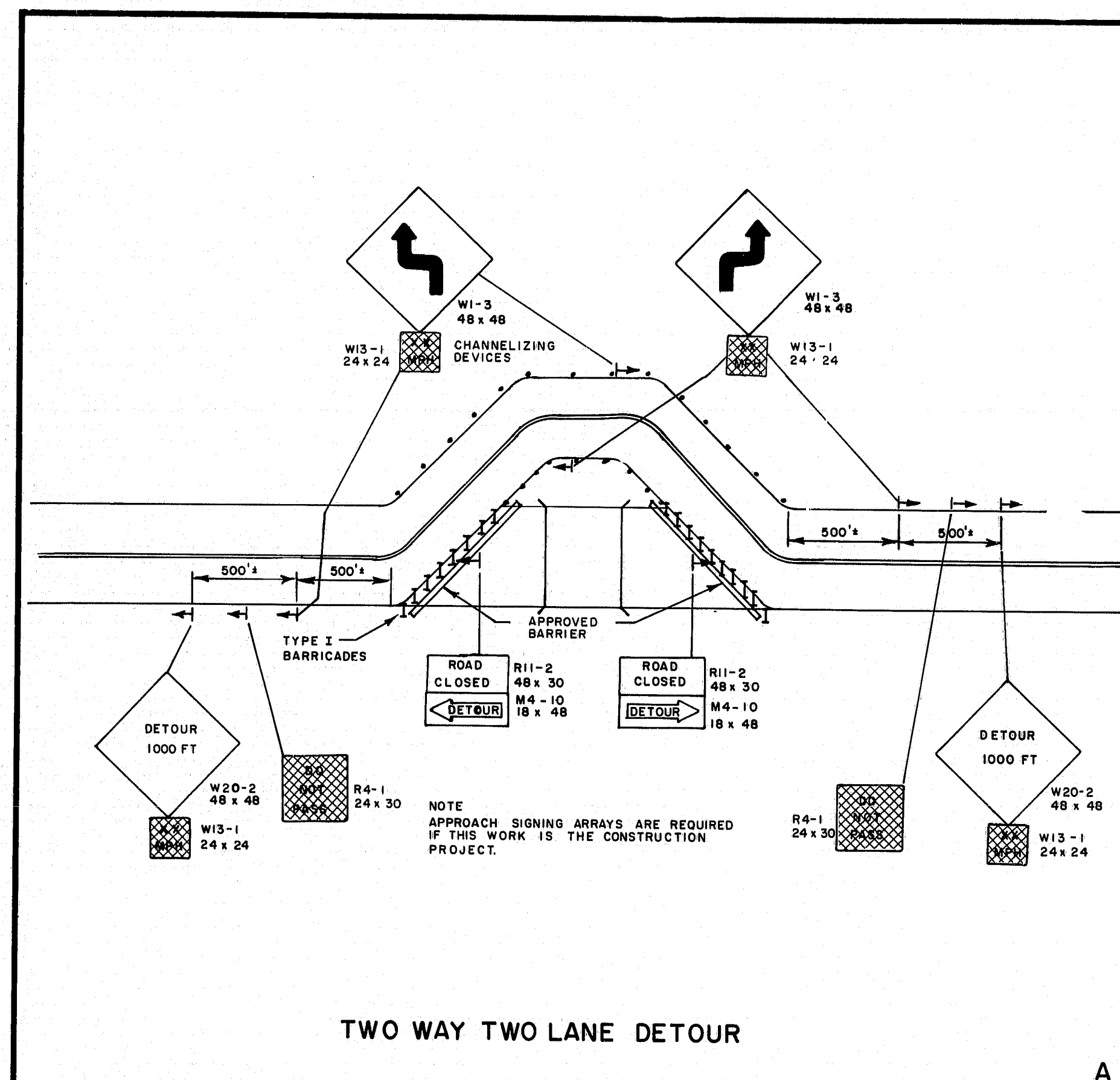
PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED		
	CHECKED		
	REVISIONS		
	FIELD CHANGES		

R.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	R3-3205(12)	7	9
		IR-95-9(134)		
		IR-95-9(123)		

[illegible]

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

MAINTENANCE  
OF  
TRAFFIC  
IN CONSTRUCTION ZONES

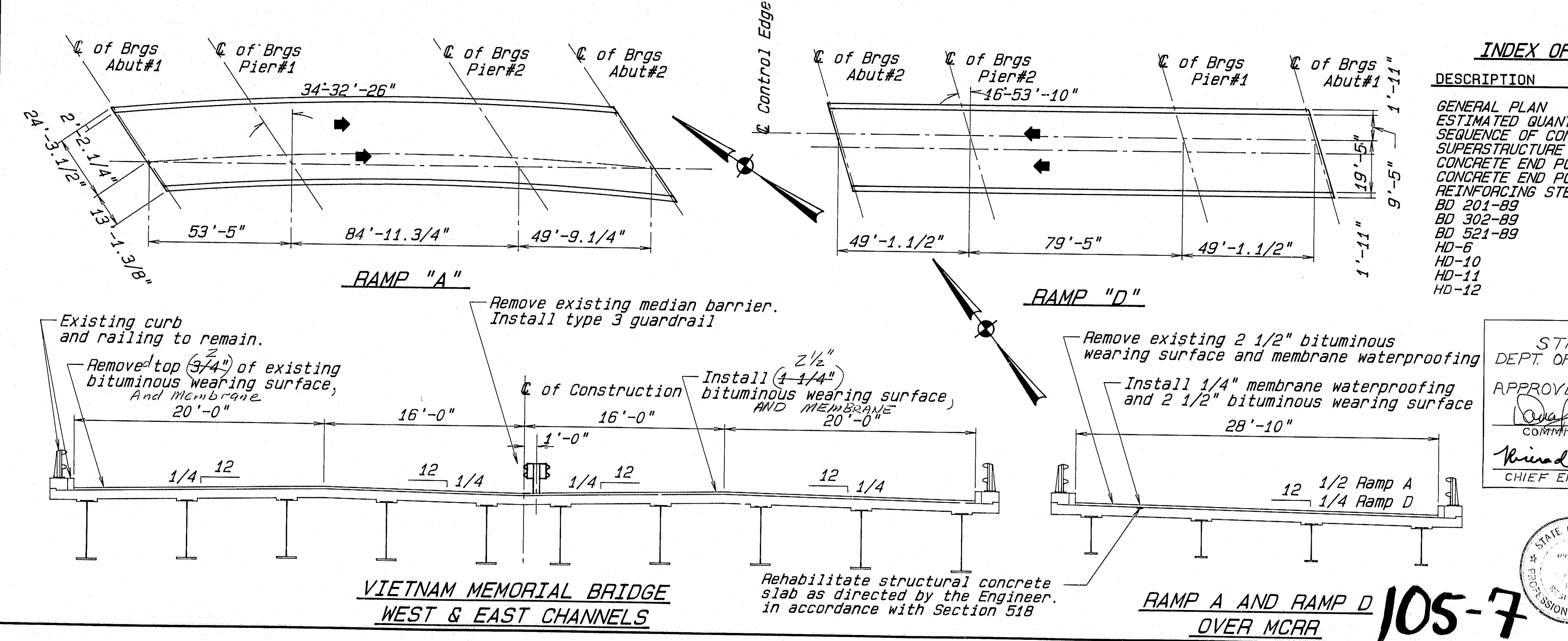
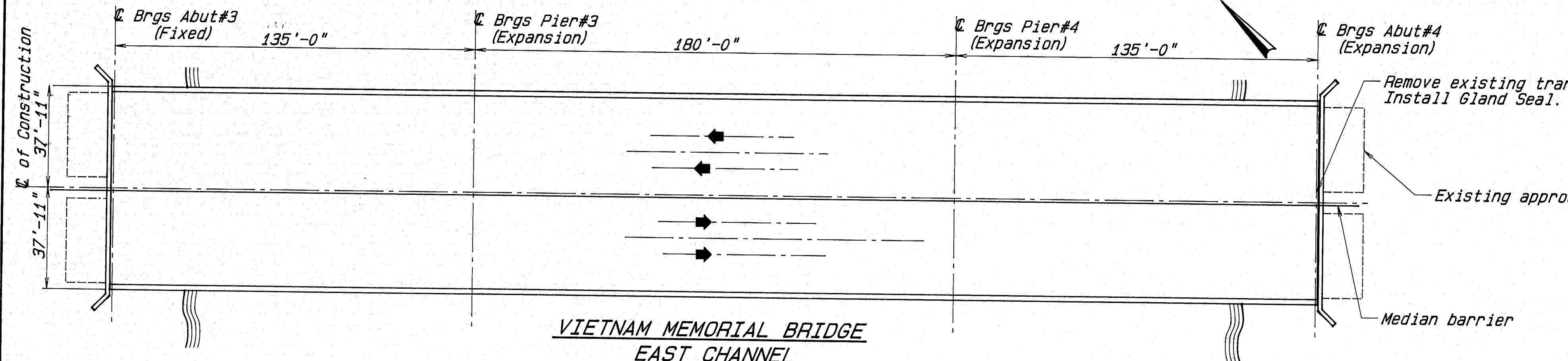
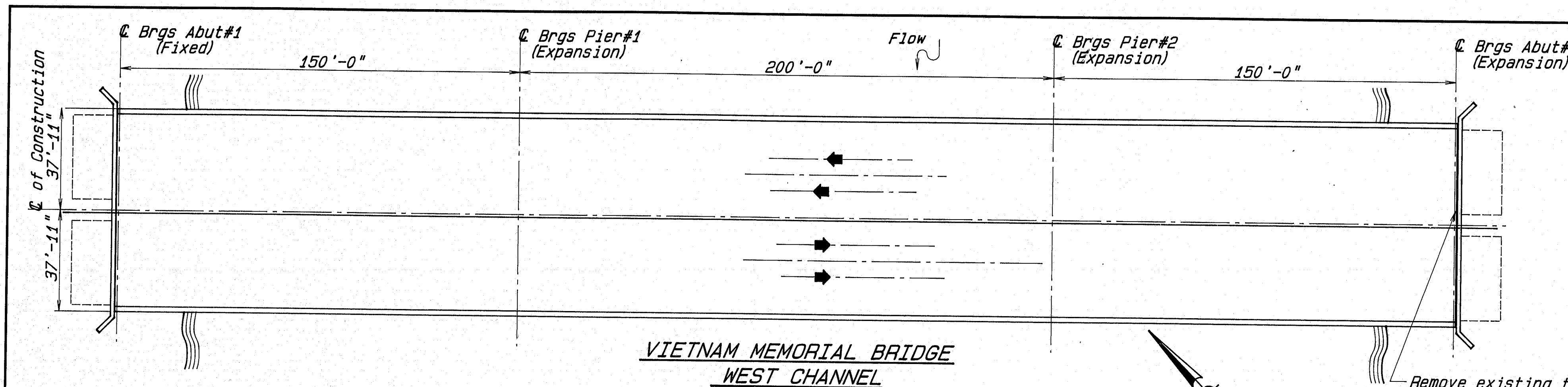
REVISIONS

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

# MAINTENANCE OF TRAFFIC IN CONSTRUCTION ZONES

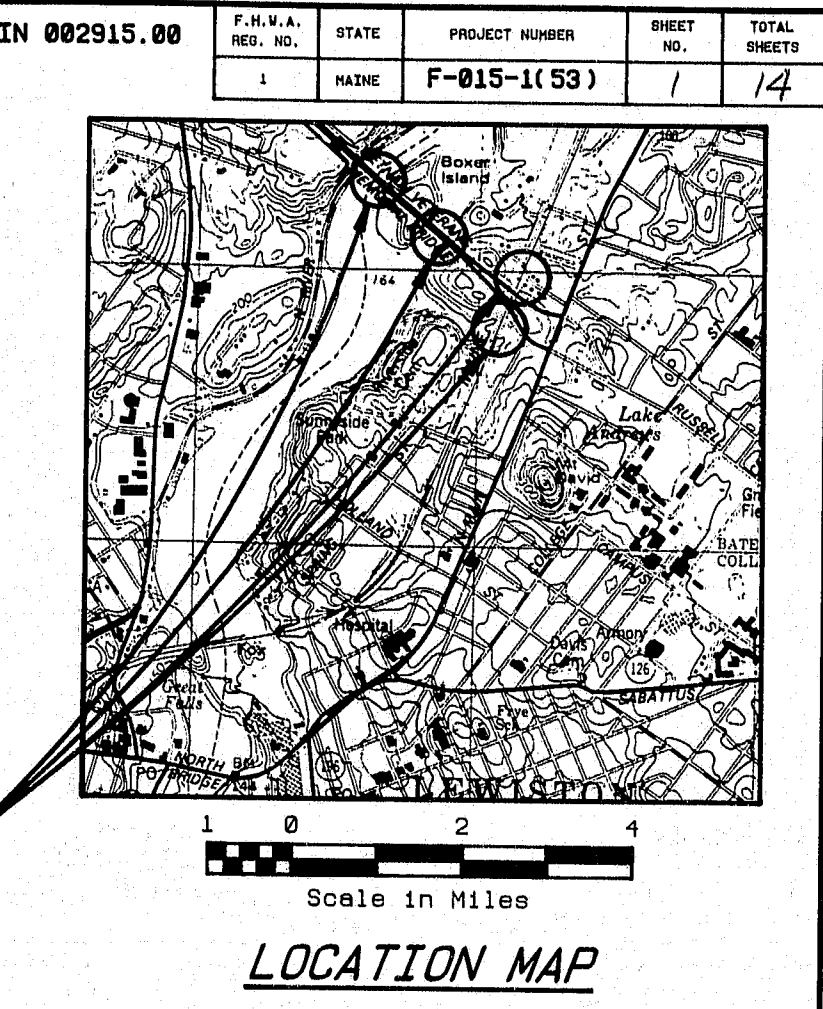
SHEET OF AUGUSTA, MAINE (HD - 12)





Plans of the existing bridge 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.

TRAFFIC DATA	E	W
Current (1991) AADT	11030	11215
Future (2011) AADT	17645	17945
DHV - % of AADT	11	10
Design Hour Volume	1940	1795
% Heavy Trucks (AADT)	6	5
% Heavy Trucks (DHV)	4	4
Directional Distribution	100	100
18 Kip Equivalent P 2.0	500	500
18 Kip Equivalent P 2.5	490	498
(E=Eastbound, W=Westbound)		



**SPECIFICATIONS**  
**DESIGN:** AASHTO Standard Specifications for Highway Bridges, 1989 and 1990 Interims.  
**CONTRACT:** State of Maine, Department of Transportation Standard Specifications for Highways and Bridges, Revisions of October, 1990.

**DESIGN LOADING**  
 EXISTING LOADING HS20

**MATERIALS**  
 CONCRETE (Unless otherwise specified) CLASS A  
 REINFORCING STEEL ASTM A615, GRADE 60  
 STRUCTURAL STEEL ASTM A36

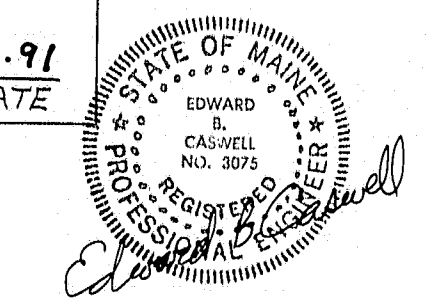
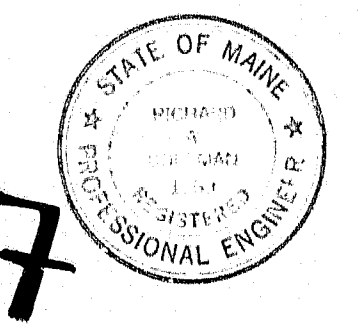
**MATERIALS**  
 CONCRETE  $f_c=3,000$  psi  
 REINFORCING STEEL  $F_y=60,000$  psi  
 STRUCTURAL STEEL  $F_y=36,000$  psi

**INDEX OF SHEETS**

DESCRIPTION	SHEET NO.
GENERAL PLAN	1
ESTIMATED QUANTITIES	2
SEQUENCE OF CONSTRUCTION	3
SUPERSTRUCTURE DETAILS	4
CONCRETE END POSTS	5
REINFORCING STEEL SCHEDULE	6
BD 201-89	7
BD 502-89	8
BD 521-89	9
HD-6	10
HD-10	11
HD-11	12
HD-12	13
	14

**SCOPE OF WORK**  
**EAST AND WEST CHANNELS**  
 Grind 3/4" of existing wearing surface. Remove the existing transflex joints and replace them with Gland Seals. Place 1 1/4" of bituminous wearing surface. Remove existing median rail and replace with type 3 guard rail. Retrofit existing end posts and bridge rail transitions. Clean and paint structural steel at bridge seats and beam ends. Overlay 50' of each approach to match new profile grade on bridges.  
**RAMP A & D**  
 Remove existing 2" bituminous wearing surface and waterproofing membrane. Repair concrete deck as necessary. Place new waterproofing membrane and 2 1/2" bituminous wearing surface. Clean and paint structural steel at bridge seats and beam ends. Retrofit existing end posts and bridge rail transitions. Overlay 20' of each approach to match new profile grade on bridges.  
 As Built Plans Rvw 8/9/92

STATE OF MAINE  
 DEPT. OF TRANSPORTATION  
 APPROVED:  
 [Signature]  
 CHIEF ENGINEER  
 DATE 9-10-91  
 DATE 9-9-91



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
**WEARING SURFACE REPLACEMENT AT VIETNAM VETERANS MEM. BRIDGE RAMP A AND RAMP D IN THE CITIES OF LEWISTON AND AUBURN ANDROSCOGGIN COUNTY**  
**GENERAL PLAN**  
 SHEET 1 OF 14  
 AUGUSTA, MAINE  
 AUGUST 1991