

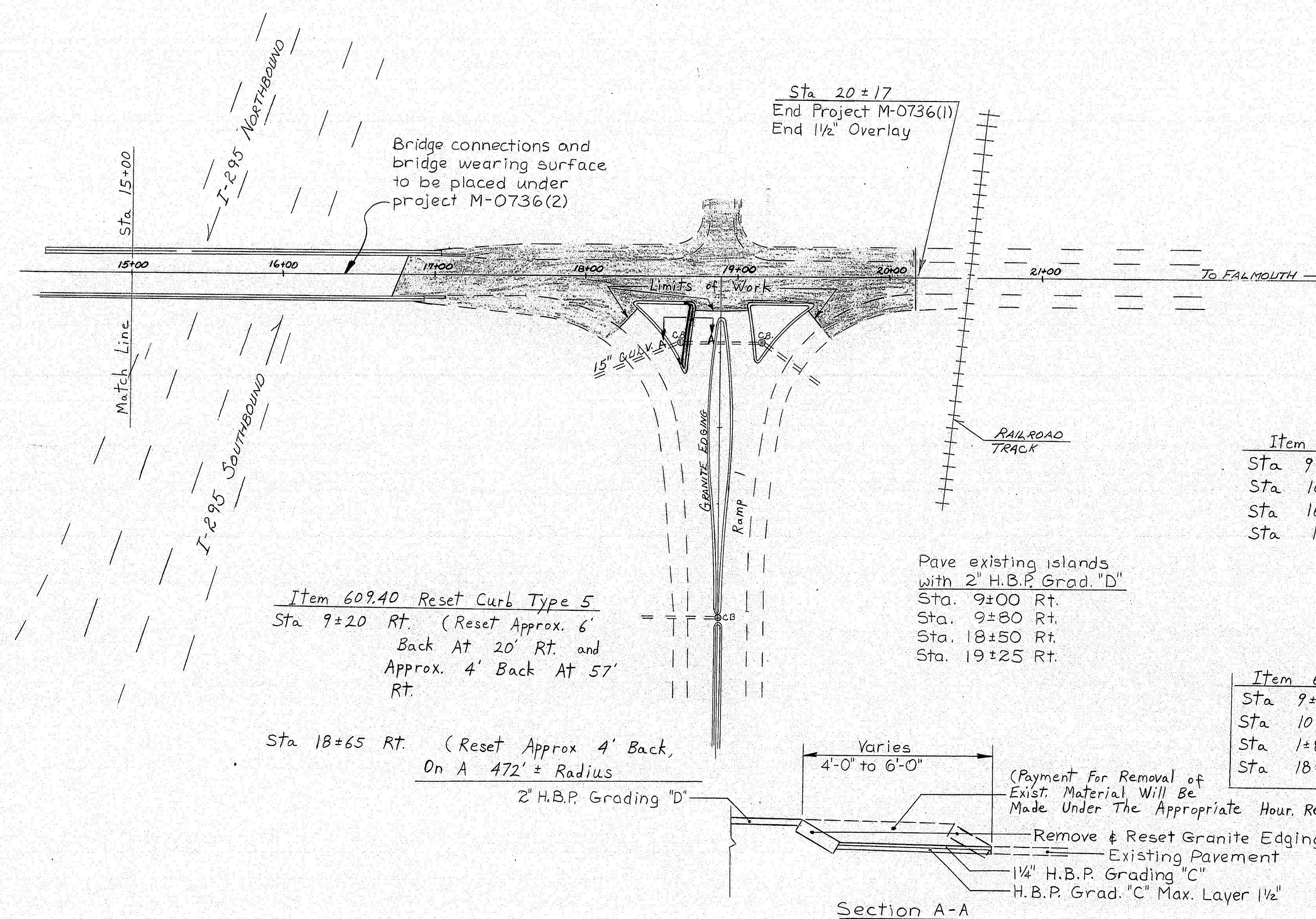
# BUCKNAM ROAD INDEX OF SHEETS

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F.R.W.A. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	M-0736(1)	1	23
		M-0736(2)		

## INDEX OF SHEETS

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Item 606.364 Guard Rail, Remove, Modify And Reset  
Sta 9+62 To 14+37 Lt  
Sta 10+25 To 14+25 Rt  
Sta 16+91 Rt To 1+86, Rt Ramp 1  
Sta 17+05 To 18+30 Lt

Item 606.77 Breakaway Cable Terminal  
Sta 9+57 To 9+62 Lt  
Sta 10+0 To 10+25 Rt  
Sta 1+86 To 2+11, Rt Ramp 1  
Sta 18+30 To 18+55 Lt

Item 609.40 Reset Curb Type 5  
Sta 9+20 Rt. (Reset Approx. 6'  
Back At 20' Rt. and  
Approx. 4' Back At 57'  
Rt.

Sta 18+65 Rt. (Reset Approx 4' Back,  
On A 472' ± Radius  
2\" H.B.P. Grading \"D\"

Pave existing islands  
with 2\" H.B.P. Grad. \"D\"  
Sta. 9+00 Rt.  
Sta. 9+80 Rt.  
Sta. 18+50 Rt.  
Sta. 19+25 Rt.

(Payment For Removal of  
Exist. Material Will Be  
Made Under The Appropriate Hour. Rental Items.)

Remove & Reset Granite Edging  
Existing Pavement  
1/4\" H.B.P. Grading \"C\"  
H.B.P. Grad. \"C\" Max. Layer 1/2\"

Section A-A

G19

Sta 1+80 Lt and Rt  
Begin Project M-0736(1)  
Begin 1 1/2\" Overlay

To Portland

U.S. RTE 1

Sta 0+00 Bucknam Rd.  
Sta 18+30 Rt. E

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

BRWING 45701

DITCHING AND MISCELLANEOUS DRAINAGE  
Sta. 0+65, 75' Rt. - Clean Cully Outlet and Ditch  
as directed by the Engineer.

Sta. 0+60, 70' Lt. - Clean Cully Inlet and Ditch as  
directed by the Engineer.

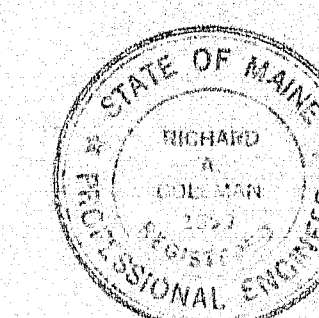
Sta. 9+12, 44 1/2' Rt. - Adjust Exist. Catch Basin to  
Grade

Sta. 10+15, 50 1/2' Rt. - Const. Riprap Downspout

Sta. 18+60, 44 1/2' Rt. - Adjust Exist. Catch Basin to Grade

Sta. 10+15, 50 1/2' Rt. - Install Erosion Control Geotextile

CURVE DATA  
P.I. Sta. 7+86.33  
L = 15' 36' 00"  
R = 3819.92'  
T = 523.24'  
L = 1040.00'  
D = 1° 30' 00"



PROJECT NUMBERS M-0736(1), M-0736(2), M-0732(2) & IR-95-4(58)	
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATOR	
DIVISION ADMINISTRATOR	DATE
APPROVED: STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
COMMISSIONER	7-31-89 DATE
CHIEF ENGINEER	7-31-89 DATE

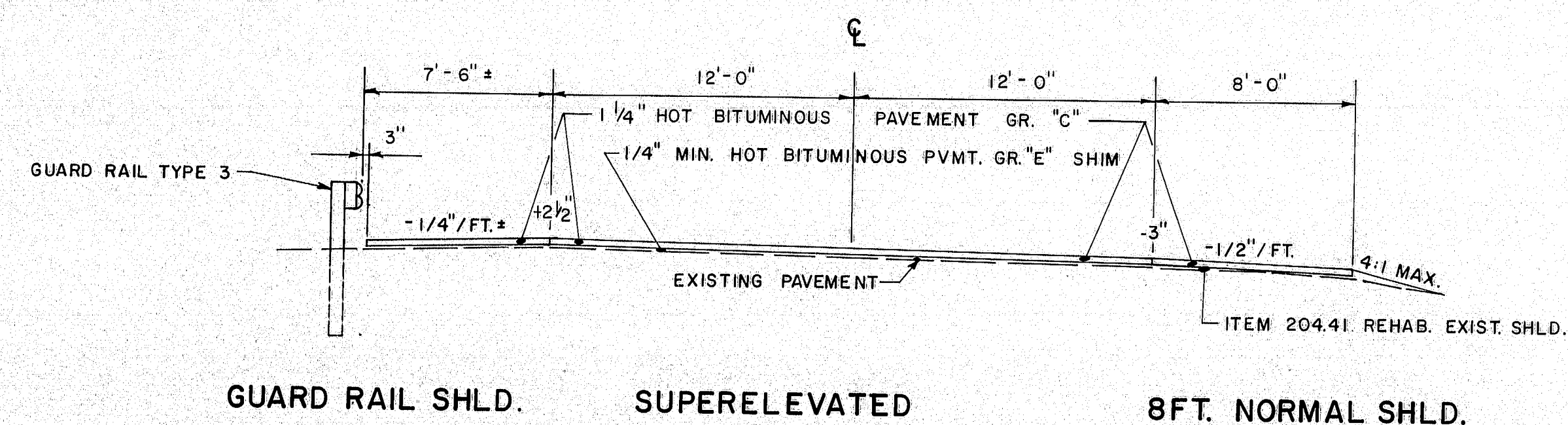
104-955

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
PLAN BUCKNAM ROAD FALMOUTH PROJECT NUMBERS M-0736(1) & M-0736(2)	
INDEX OF SHEETS PROJECT NUMBERS M-0736(1), M-0736(2), M-0732(2) & IR-95-4(58)	
SHEET 1 OF 7 AUGUSTA, MAINE August 1989	

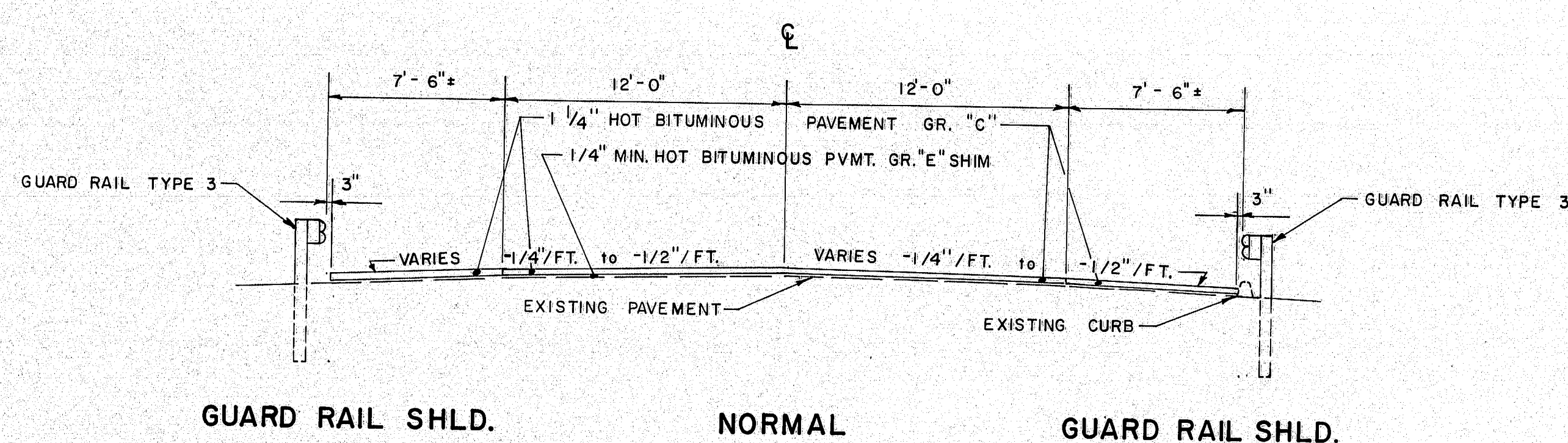
Falmouth Bucknam Rd. 1881.00 Revised As-Built Jeffrey Nelson 3/91



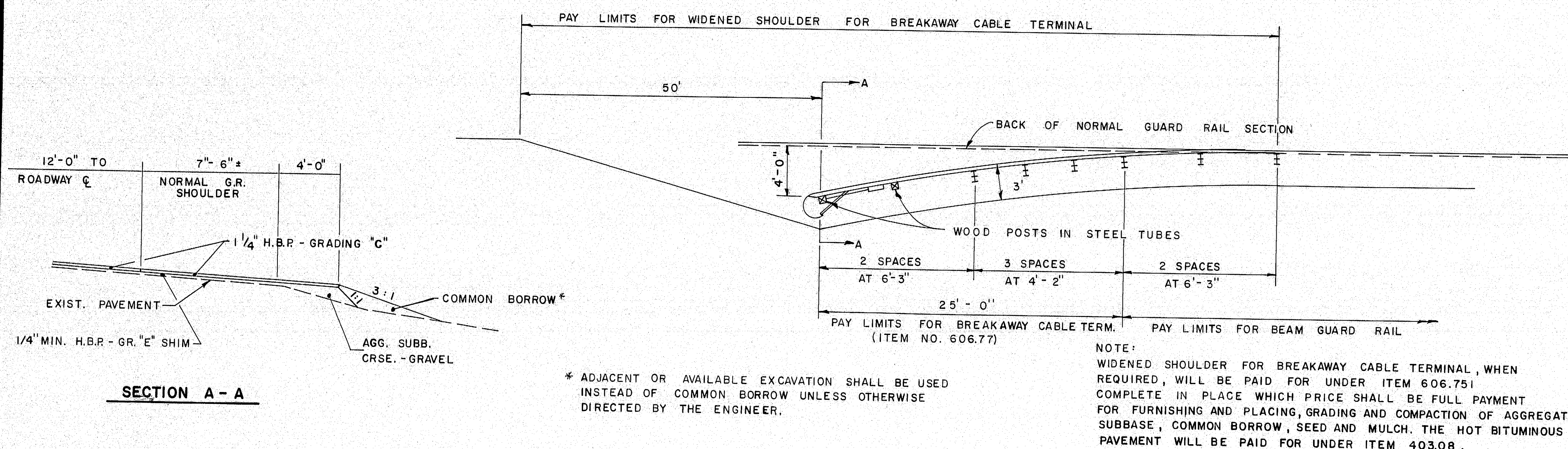
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	M-0786(1)	2	23



GUARD RAIL SHLD. SUPERELEVATED 8FT. NORMAL SHLD.



GUARD RAIL SHLD. NORMAL GUARD RAIL SHLD.



DETAIL OF SHOULDER WIDENING FOR BREAKAWAY CABLE TERMINAL - ITEM NO. 606.751  
(NO SCALE)

### General Notes

- THE UTILITIES INVOLVED IN THIS CONTRACT ARE:  
NORTHERN UTILITIES(GAS)  
TOWN OF FALMOUTH(SEWER)  
CENTRAL MAINE POWER COMPANY  
NEW ENGLAND TELEPHONE COMPANY  
PUBLIC CABLE  
St. Lawrence & Atlantic Railroad Company  
PORTLAND WATER DISTRICT  
ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS NOTED.
- THE ENGINEER WILL DESIGNATE UNSAFE RECOVERY AREAS AT THE TOES OF NON-GUARDRAIL FILL SLOPES TO BE GRADED BY BULLDOZER AND/OR OTHER HOURLY RENTAL ITEMS. BOULDERS, LARGE STUMPS AND OTHER OBJECTS SHALL BE BURIED OR REMOVED. THE USE OF BORROW OR WASTE MATERIAL MAY BE AUTHORIZED FOR SOME AREAS. UPON COMPLETION OF THE GRADING, THE AREAS SHALL BE SEEDDED WITH METHOD NUMBER 2 AND MULCHED.
- ONE GUARDRAIL DELINEATOR POST SHALL BE INSTALLED AT EACH GUARD RAIL END AND UNDERDRAIN OUTLET.
- CURB TYPE 3 TO BE INSTALLED WITH MOLD 2 AND SEALED WITH BITUMINOUS SEALING BLACK, WHEN DIRECTED.
- ACRYLIC LATEX COLOR FINISH GREEN SHALL BE PLACED ON ALL ISLANDS NOTED TO BE PAVED.
- BREAKAWAY CABLE TERMINALS SHALL BE INSTALLED CONCURRENTLY WITH THE PLACEMENT OF EACH SECTION OF BEAM GUARDRAIL.
- ALL JOINTS BETWEEN EXISTING AND PROPOSED HOT BITUMINOUS PAVEMENT SHALL BE BUTTED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT TO BE INCIDENTAL TO ITEM 403.
- A 3' PAVED LIP SHALL BE PLACED AT ALL GRAVEL ENTRANCES EXCEPT WOODS AND FIELD ENTRANCES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- EXISTING CULVERTS TO REMAIN SHALL BE CLEANED AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE UNDER ITEM 631.32 CULVERT CLEANER (INCLUDING OPERATOR).
- ANY NECESSARY CUTTING OF CURB TO BE REMOVED AND RESET WILL NOT BE PAID FOR SEPARATELY AND WILL BE CONSIDERED INCIDENTAL TO ITEM 609.
- DITCHING, AS DIRECTED BY THE ENGINEER, SHALL BE PAID FOR UNDER HOURLY RENTAL ITEMS.
- ANY EXISTING PAVED SIDE ROADS OR SHOULDERS SHALL BE RESURFACED AS DETERMINED IN THE FIELD BY THE ENGINEER.
- EXCESS TERMINAL ENDS AND GUARDRAIL SHALL BE REMOVED AND STOCKPILED FOR PICKUP BY MAINTENANCE PERSONNEL. NO SEPARATE PAYMENT WILL BE MADE FOR REMOVAL AND STOCKPIILING.
- LOAM, SOD, TEMPORARY EROSION CONTROL BLANKET, SEEDING AND MULCH HAVE BEEN ESTIMATED FOR UNDETERMINED LOCATIONS AND SHALL BE PLACED WHEN DIRECTED BY THE ENGINEER.
- LOAM DEPTHS ARE 2" AND ARE CONSIDERED NOMINAL.
- PORTIONS OF THE EXISTING BITUMINOUS CURB ARE MISSING AND SHALL BE REPLACED WITH CURB TYPE 3 AS DIRECTED BY THE ENGINEER.
- WIDEN SHOULDER FOR BREAKAWAY CABLE TERMINAL HAVE BEEN ESTIMATED FOR EACH BCT LOCATION. HOWEVER, IF THE PRESENT SHOULDER IS WIDE ENOUGH TO ACCOMMODATE A BCT, THIS ITEM WILL BE ELIMINATED AS DIRECTED BY THE ENGINEER.

104-856

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

GENERAL NOTES

MISCELLANEOUS DETAILS

SHEET 2 OF 7 AUGUSTA, MAINE August 1989

Falmouth Bucknam Rd. Revised As-Built Jeffrey Peterson 3/91



ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.127	REMOVAL OF EXISTING BITUMINOUS PAVEMENT	0.24	L.S.
204.41	REHAB. EXISTING SHOULDER, PLAN QUANTITY.	1100	S.Y.
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	200	CY.
403.08	HOT BITUMINOUS PAVEMENT, GRADING C.	650	T.
403.10	HOT BITUMINOUS PAVEMENT, GRADING D.	107	T.
403.101	HOT BIT PAVE, GRADD(SDWLKS, SHMS, DRIVES, INCD).	70	T.
403.121	HOT BITUMINOUS PAVEMENT, GRADING E (SHIMMING)	350	T.
409.15	BITUMINOUS TACK COAT, APPLIED.	150	G.
503.12	REINFORCING STEEL FAB & DELIVERED.	220	L.B.
503.13	REINFORCING STEEL PLACING.	220	L.B.
504.700	STRUCTURAL STEEL FAB. & DELIVERED	1	L.S.
504.710	STRUCTURAL STEEL ERECTION	1	L.S.
504.801	TEMPORARY SUPPORT SYSTEM- BUCKNAM ROAD	1	L.S.
506.142	FIELD PAINTING EXIST. STRUT STEEL	0.24	L.S.
508.13	MEMBRANE WATERPROOFING.	0.24	L.S.
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES.	0.03	L.S.
518.21	REHAB. OF STRUCTURAL CONCRETE SUBSTRUCTURE.	155	S.F.
518.30	REHAB. OF STR. CONC. SLAB-TO REIN. STEEL.	294	S.F.
518.31	REHAB. OF STR CONC SLAB-TO BELOW REIN. STEEL.	118	S.F.
518.34	REHAB. OF CONC. CURBS & SIDEWALKS-INCLINED SURF.	168	S.F.
518.35	REHAB. OF CONC. CURBS & SIDEWALKS-HORIZ SURFACES	194	S.F.
520.2401	BRIDGE JOINT MODIFICATION-BUCKNAM ROAD	2	EA.
526.300	TEMPORARY CONCRETE BARRIER TYPE I	2800	L.F.
526.400	RESETTING TEMPORARY CONCRETE BARRIER TYPE I	600	L.F.
527.310	ENERGY APOSBORING SYSTEM (TEMP)	1	EA.
527.320	PORTABLE CRASH BARRELS	15	EA.
604.18	ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	2	EA.
606.178	GUARD RAIL BEAM	100	L.F.
606.35	GUARD RAIL DELINEATOR POST	2	EA.
606.351	GUARD RAIL DELINEATOR POST REMOVE & RESET.	2	EA.
606.364	GUARD RAIL, REMOVE, MODIFY AND RESET	1400	L.F.
606.367	REPLACE UNUSABLE EXISTING GUARD RAIL POST	10	EA.
606.751	WIDEN SHOULDER FOR BREAKWAY CABLE TERMINAL	4	EA.

[illegible]

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

BUCKNAM ROAD  
over  
I-295

FALMOUTH, MAINE  
CUMBERLAND COUNTY  
ESTIMATED QUANTITIES

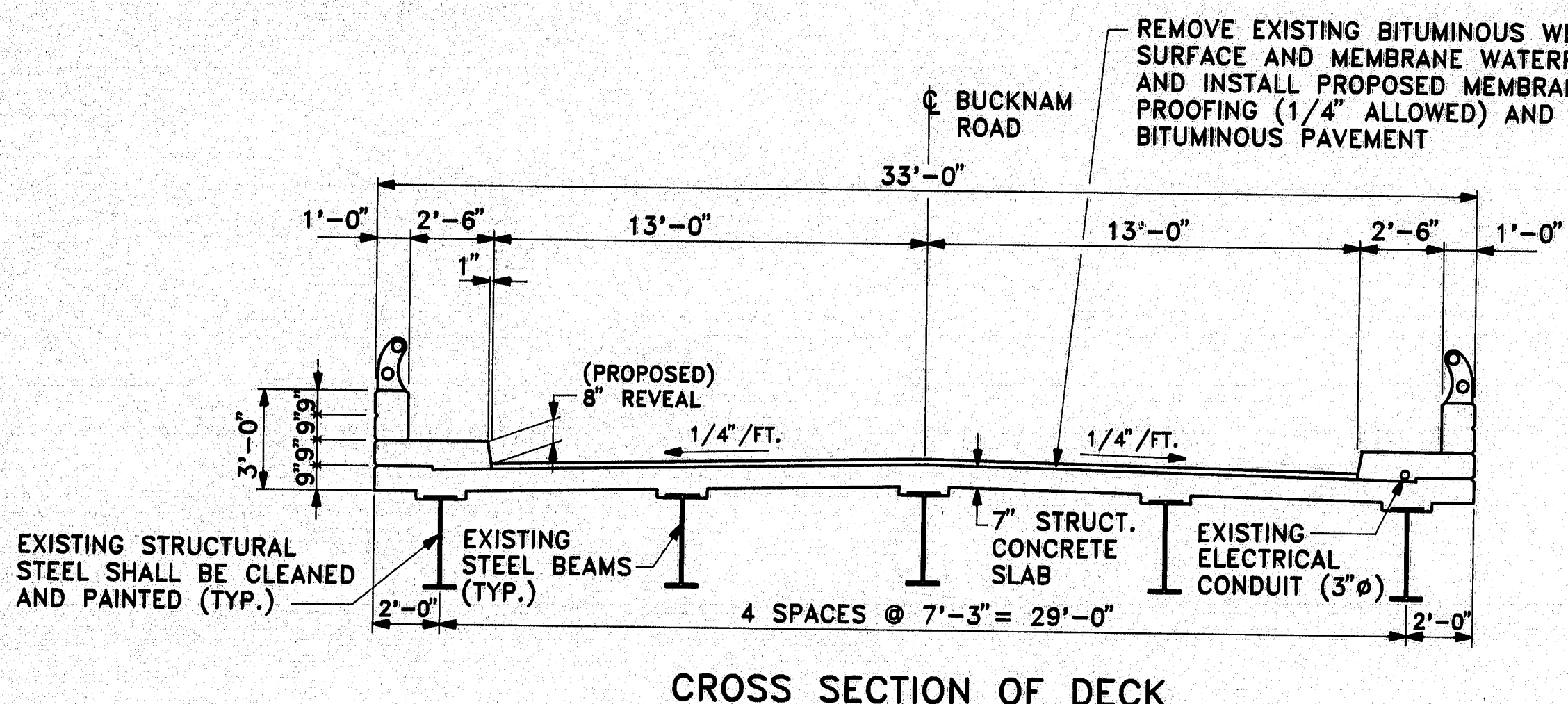
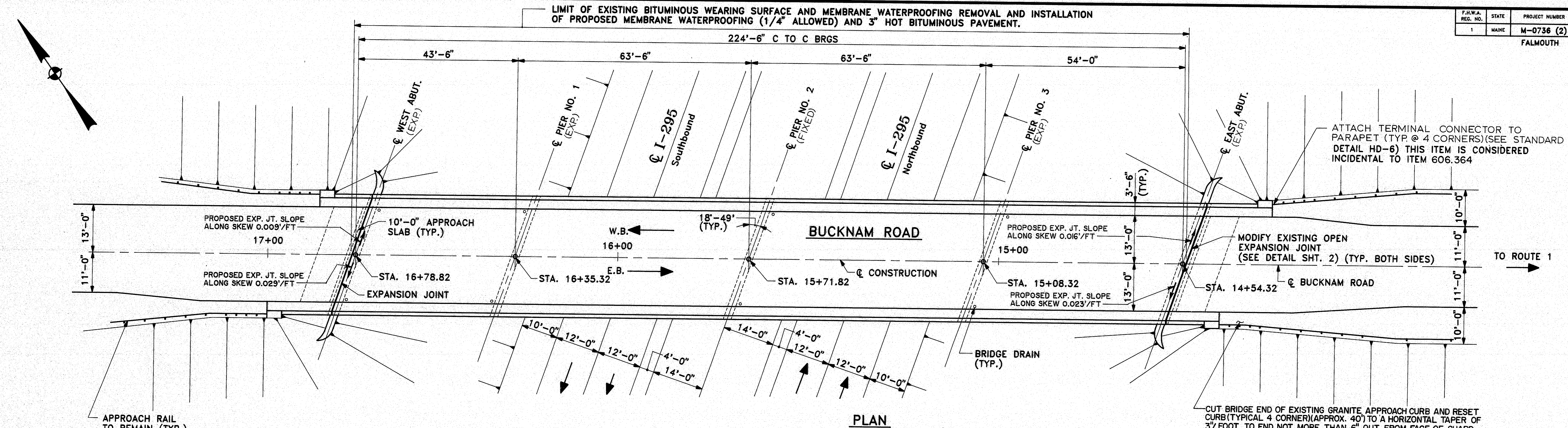
SHEET 3 of 7 AUGUSTA, MAINE August 1989

REVISED AS-BUILT Jeffrey M. Mason 3/91

950-1 0000



PLAN	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	M-0736 (2)	4	23
FALMOUTH				



**BRIDGE STANDARD DETAILS**  
 BD 301-89 - EXPANSION DEVICE  
 BD 201-89 - CONCRETE END POSTS

**HIGHWAY STANDARD DETAILS**  
 HD-6 - TYPE 3 GUARD RAIL

**SCOPE OF WORK**

- REMOVE AND REPLACE EXISTING BITUMINOUS CONCRETE WEARING SURFACE AND MEMBRANE WATERPROOFING WITH A PROPOSED MEMBRANE WATERPROOFING (1/4" ALLOWED) AND 3" HOT BITUMINOUS PAVEMENT.
- CLEAN AND PAINT EXISTING STRUCTURAL STEEL INCLUDING BEARINGS.
- MODIFY EXISTING OPEN ARMORED JOINTS WITH PROPOSED ARMORED JOINT WITH COMPRESSION SEAL.
- REHABILITATE CRACKED, SPALLED, OR OTHERWISE DETERIORATED CONCRETE ON ABUTMENTS, TOP OF CONCRETE BRIDGE DECK, CONCRETE SIDEWALK AND BRIDGE RAIL PARAPET AS DIRECTED BY THE ENGINEER.
- REHABILITATE DAMAGED STRUCTURAL STEEL BEAMS.
- REHABILITATE CRACKED CONCRETE BEARING PADS WHERE REQUIRED.

**SPECIFICATION**

DESIGN: 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: . . . . . DESIGNED H20-S16 MODIFIED

**MATERIALS**

CONCRETE: . . . . . CLASS A

REINFORCING STEEL: . . . . . ASTM A615 GRADE 60

STRUCTURAL STEEL: . . . . . ASTM A36 (PAINTED)

HIGH STRENGTH BOLTS: . . . . . ASTM A325, TYPE 3

**BASIC ALLOWABLE STRESSES**

CONCRETE: . . . . . c = 1200psi

REINFORCING STEEL: . . . . . fs = 24,000psi

STRUCTURAL STEEL: . . . . . fs = 20,000psi (PROPOSED)

ASTM A36 fs = 18,000psi (EXISTING)

**TRAFFIC DATA**

AADT (1986) . . . . . 6,250

AADT (2006) . . . . . 10,000

DESIGN HOURLY VOLUME . . . . . 1,100

PERCENT TRUCKS . . . . . 5

DIRECTIONAL DISTRIBUTION (%) . . . . . 51

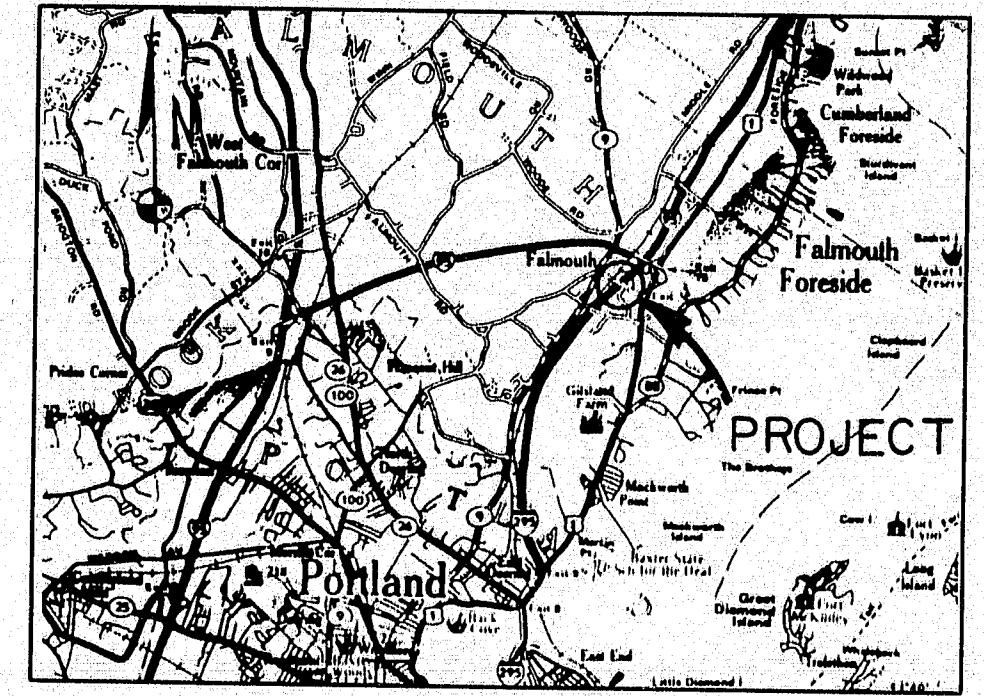
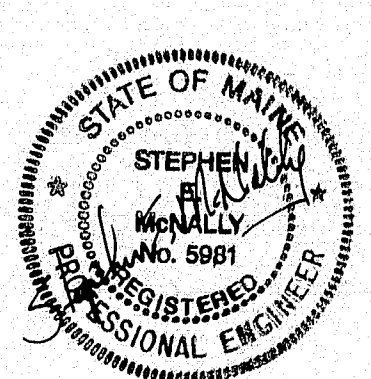
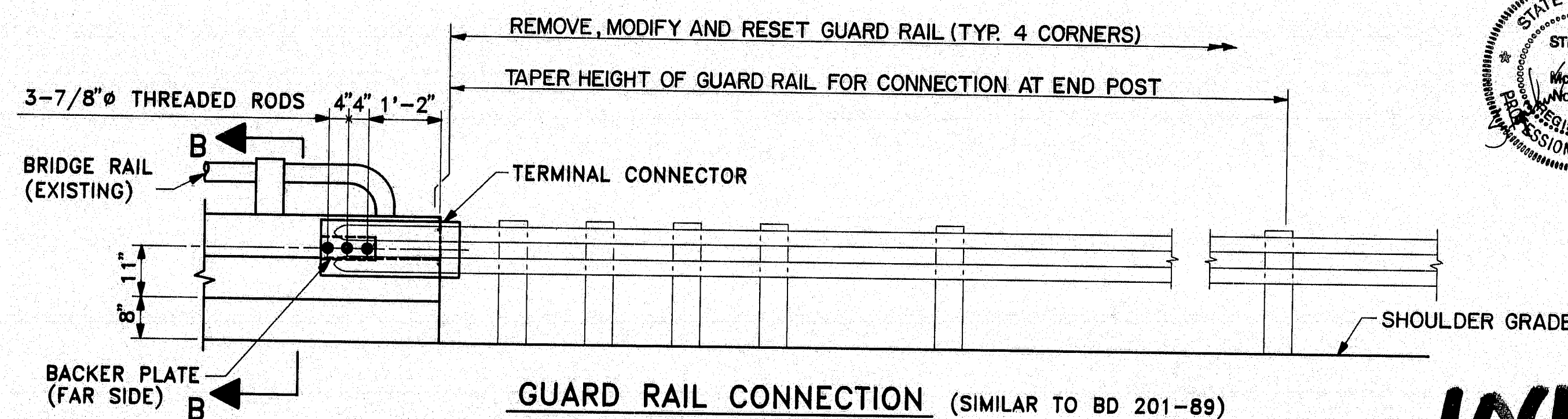
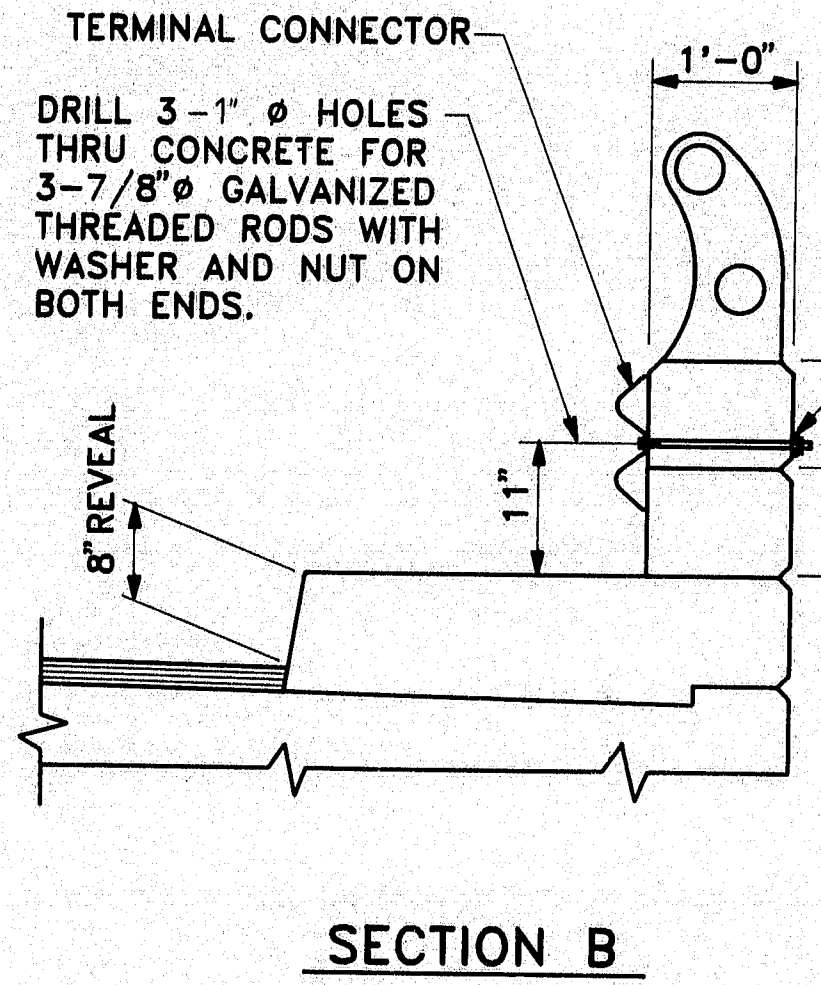
DESIGN SPEED (MPH) . . . . . 35

18 KIP EQUIVALENT P2.5 . . . . . 88

**UTILITIES**

CENTRAL MAINE POWER CO.

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.



Pin No. 1881.10  
 Bridge No. 5830

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION

**Kimball Chase** ONE CATE STREET  
 PORTSMOUTH, N.H. 03801  
 (603) 431-2520

**BUCKNAM ROAD**  
 over  
**I-295**  
**FALMOUTH, MAINE**  
**CUMBERLAND COUNTY**  
**GENERAL PLAN**

SHEET 4 OF 7 AUGUSTA, MAINE August 1989

REVISED AS-BUILT Jeffrey Madigan 3/91

DATE	BY	CHKD	APP'D
10/1/89	JLM	SEM	SEM
10/1/89	JLM	SEM	SEM
10/1/89	JLM	SEM	SEM
10/1/89	JLM	SEM	SEM

PLANS

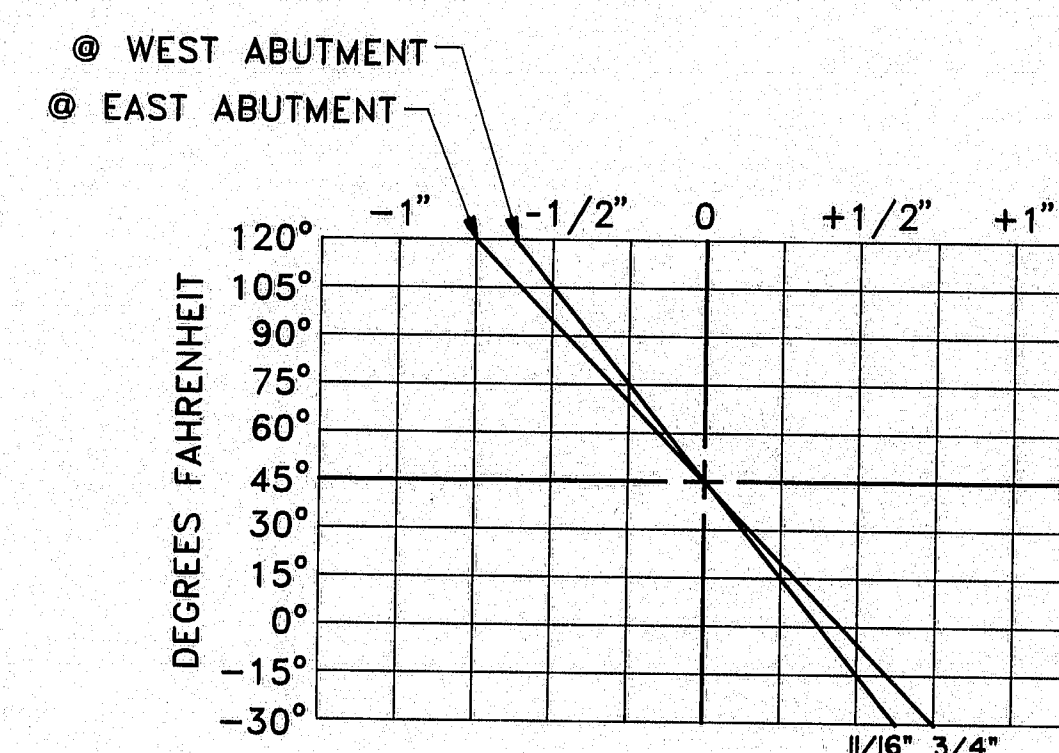
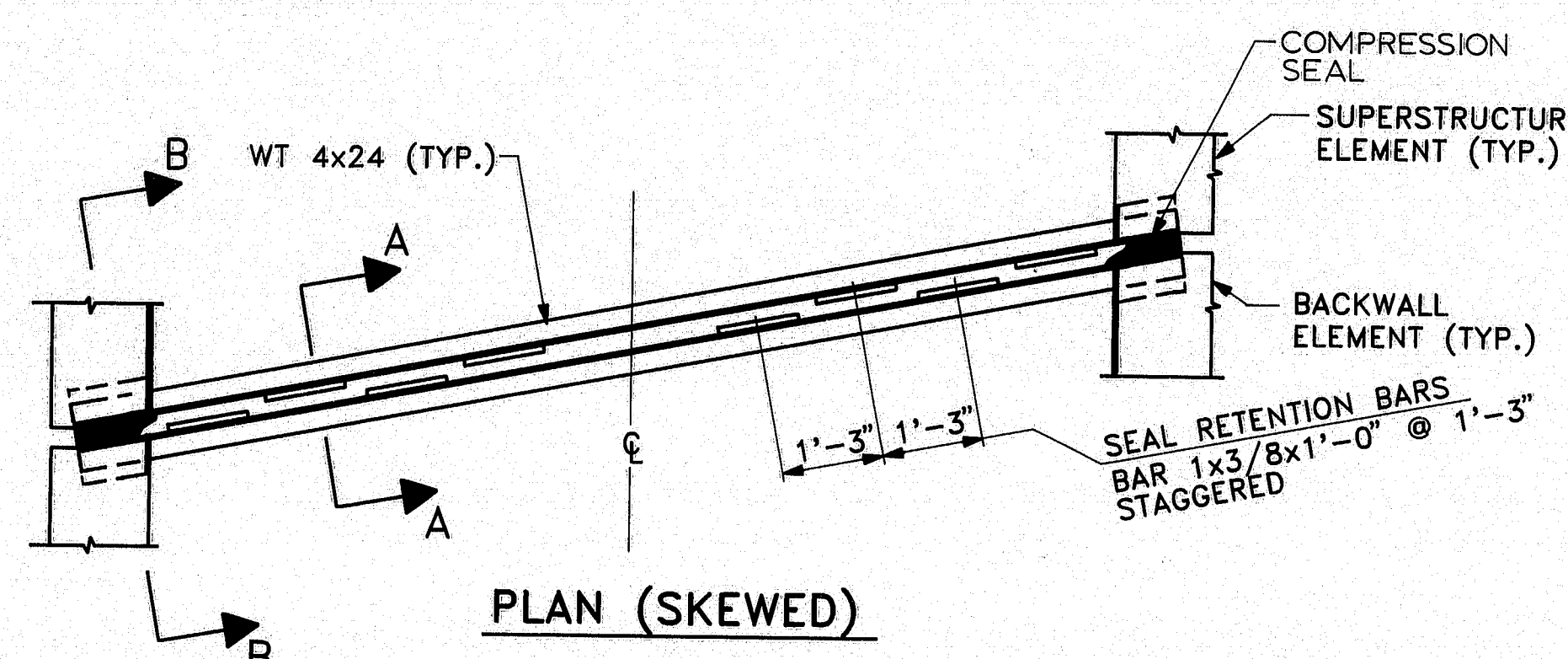
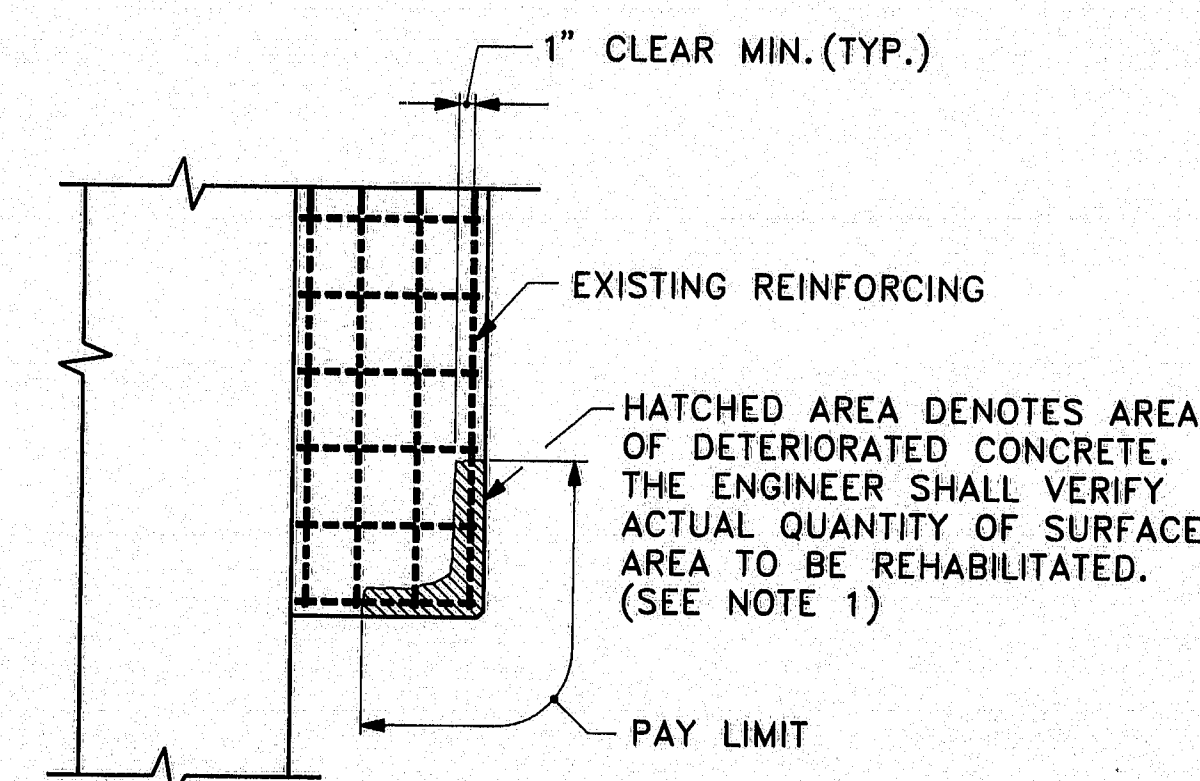
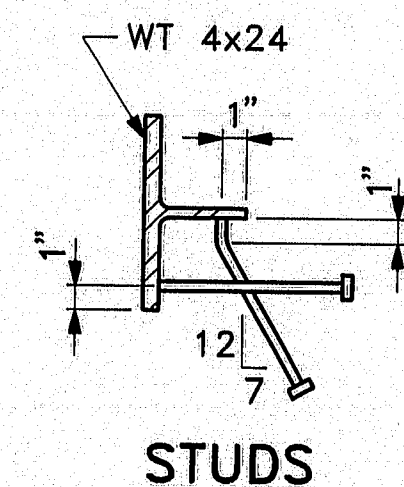
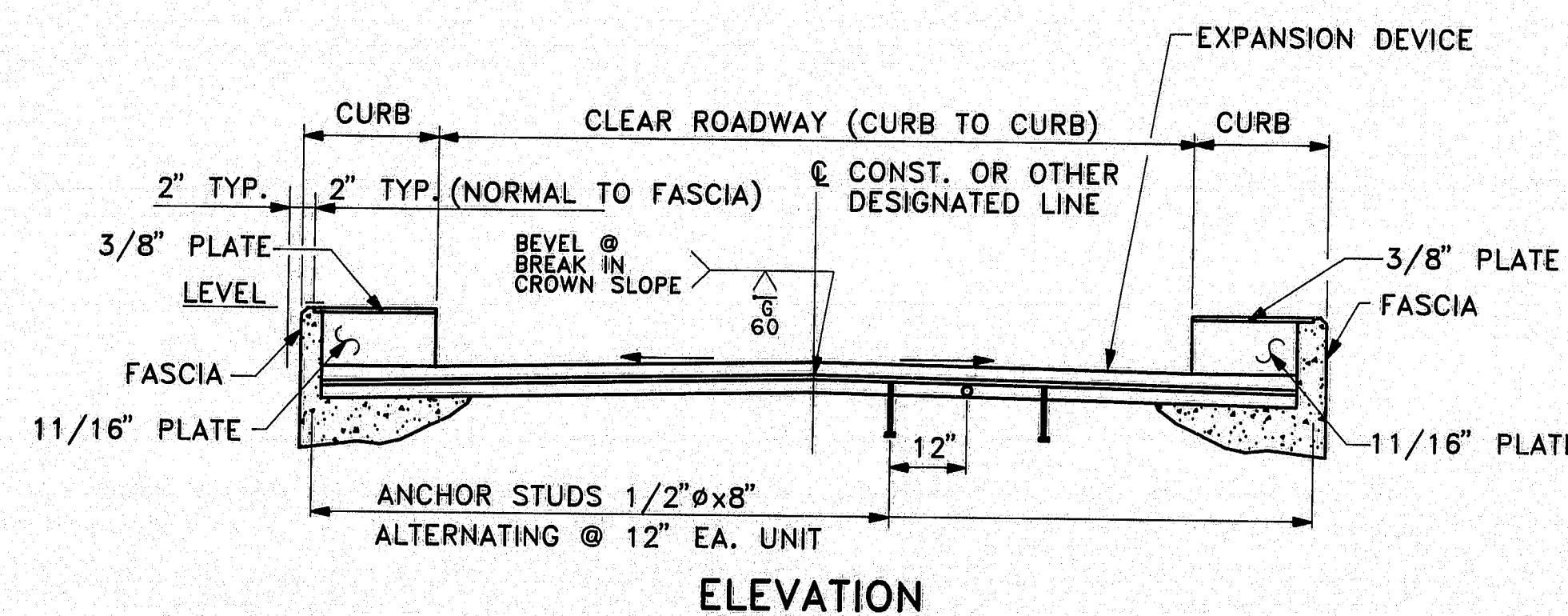
104-458



F.A.M.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	M-0736 (2)	5	63
FALMOUTH				

THE TEMPORARY SIGNAL CONTROLLER SHALL BE A TWO-PHASE PRETIMED CONTROLLER. IT SHALL HAVE A FIRE PREEMPTION PHASE. WHEN ACTUATED IN THE FIRE STATION, THE CONTROLLER SHALL GO TO THE EASTBOUND PHASE AFTER NORMAL CLEARANCE INTERVALS. THE CONTRACTOR SHALL INSTALL A LINE TO THE FIRE STATION WITH A SWITCH TO ACTIVATE THE PREEMPTION PHASE.

SEQUENCE OF OPERATION							WHERE G=GREEN Y=YELLOW R=RED
INTERVAL	1	2	3	4	5	6	
HEADS							
EB	G	Y	R	R	R	R	G
WB	R	R	R	G	Y	R	Y
TIMING 80 SECOND DIAL	25	3	10	27	3	10	



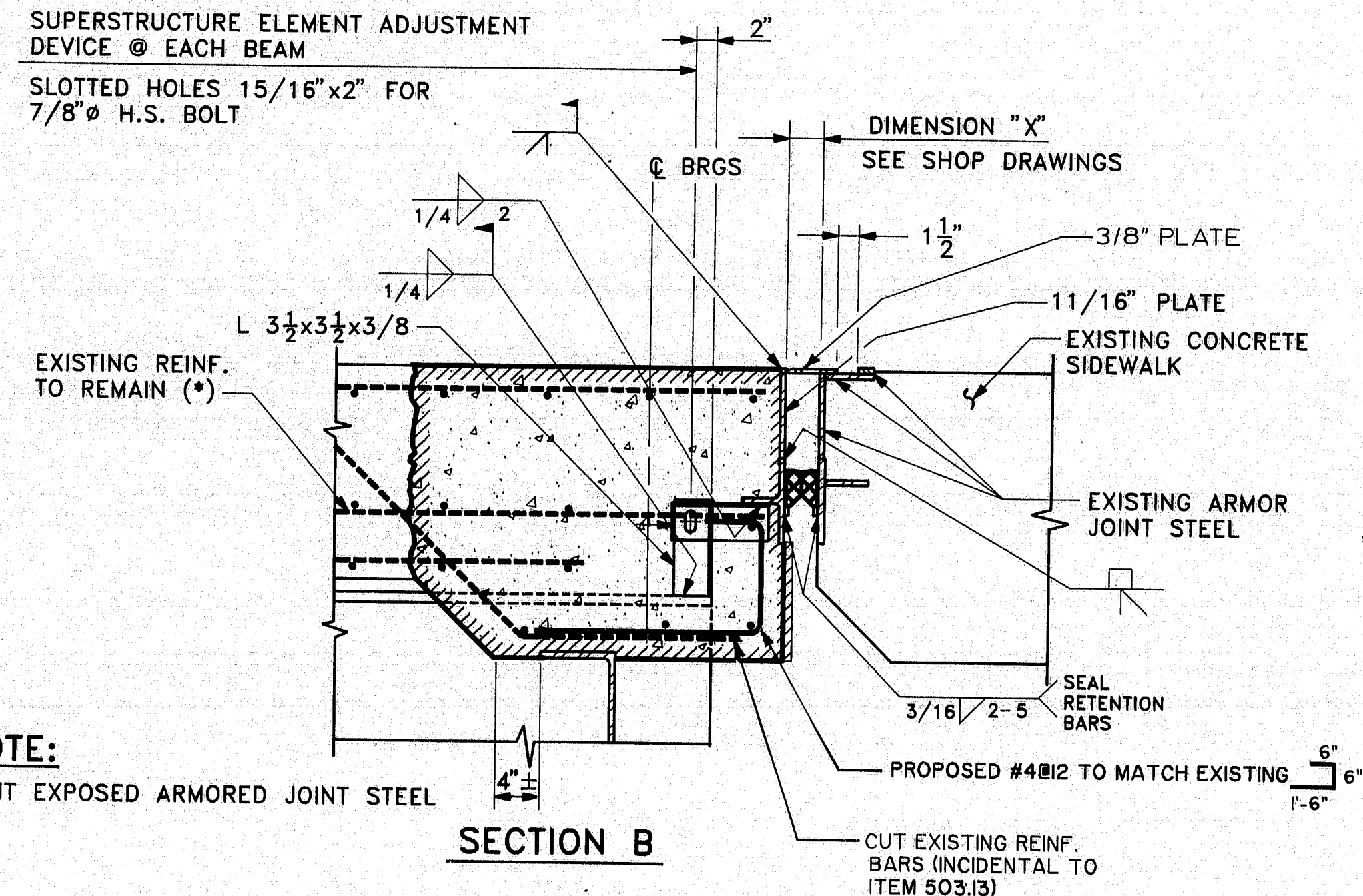
### SUPERSTRUCTURE NOTES

- THE SEALS TO BE FURNISHED SHALL HAVE A MINIMUM MOVEMENT RATING OF:  
WEST ABUTMENT: 1.375 INCHES  
EAST ABUTMENT: 1.50 INCHES
- THE SEAL SHALL BE APPROVED BY THE ENGINEER PRIOR TO FABRICATION OF THE JOINT ARMOR.
- THE JOINT OPENING WILL VARY DEPENDING ON THE DIMENSIONS OF THE SEAL SELECTED BY THE CONTRACTOR. THE JOINT OPENING SHALL BE SET ACCORDING TO THE OPENING SHOWN ON THE APPROVED SHOP DETAIL DRAWINGS.
- THE COMPRESSION SEAL ADJUSTMENT CHART SHOWS THE ADJUSTMENT NECESSARY FOR THE JOINT OPENING SHOWN ON THE SHOP DETAIL DRAWINGS FOR TEMPERATURES OTHER THAN 45°F. ADJUSTMENT IS TO BE MEASURED PARALLEL TO THE CENTERLINE OF CONSTRUCTION.
- JOINT ARMOR SHALL BE FABRICATED AND DELIVERED TO THE SITE IN TWO (2) SECTIONS (SEE ELEVATION, THIS SHEET). INSTALLATION OF JOINT ARMOR SHALL BE PERFORMED TO ALLOW ONE LANE OF TRAFFIC OVER THE BRIDGE DURING CONSTRUCTION. THE TWO SECTIONS OF JOINT ARMOR ARE TO BE WELDED IN THE FIELD TO PRODUCE ONE CONTINUOUS SECTION. WELDS ARE TO BE GROUND SMOOTH AND PAINTED PRIOR TO COMPRESSION SEAL INSTALLATION.
- THE COMPRESSION SEALS SHALL BE INSTALLED IN ONE CONTINUOUS LENGTH EXTENDING THE FULL WIDTH OF THE BRIDGE, LESS ONE FOOT FROM THE OUTSIDE OF EACH FASCIA. SPLICING OF THE COMPRESSION SEAL IS NOT ALLOWED. A TEMPORARY INTERRUPTION OF TRAFFIC IS ANTICIPATED TO FACILITATE THE INSTALLATION.

### NOTES

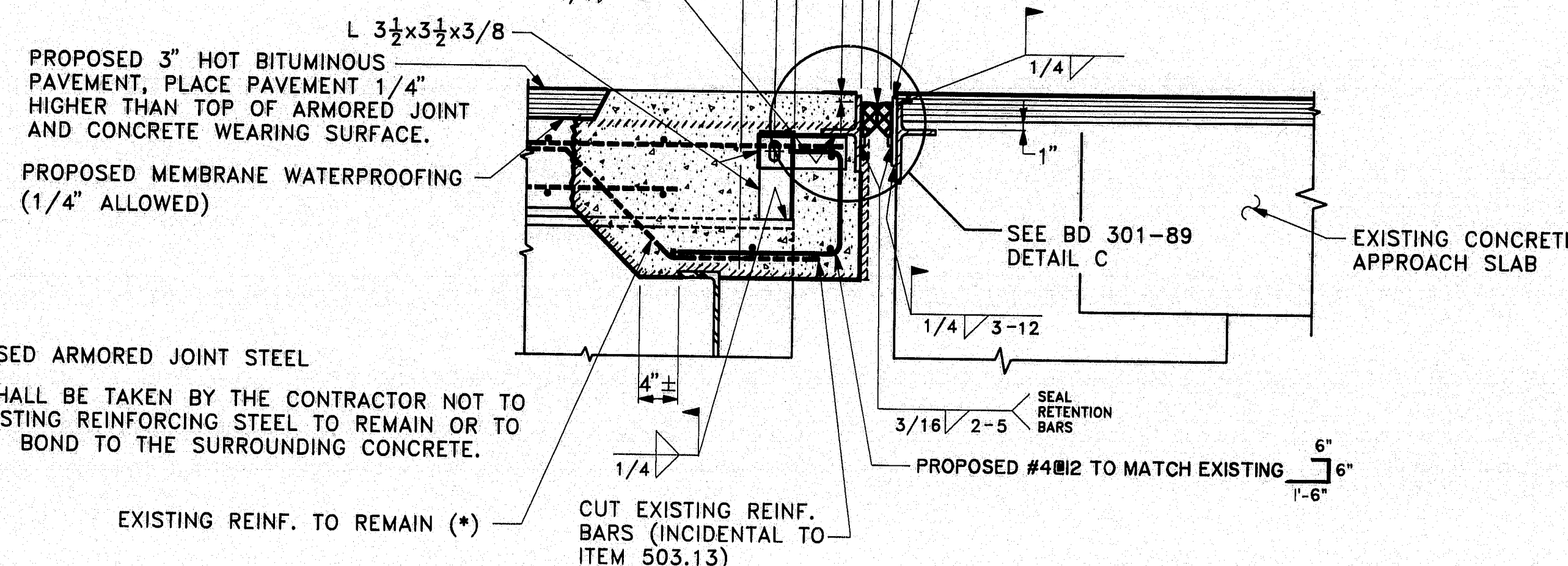
- IF THE DEPTH OF DETERIORATED CONCRETE EXTENDS TO THE REINFORCING BARS, THEN REMOVE CONCRETE TO A MINIMUM DEPTH OF 1" BEYOND THE REINFORCING STEEL.
- RESET EXISTING POSTS AND INSTALLATION OF PROPOSED GUARD RAIL POSTS TO BE INCIDENTAL TO ITEM 606.364.
- TERMINAL CONNECTOR AND ATTACHMENTS TO THE EXISTING CONCRETE PARAPET TO BE INCIDENTAL TO ITEM NO. 606.364.
- AFTER THE EXISTING BITUMINOUS PAVEMENT HAS BEEN REMOVED THE CONTR. MAY BE DIRECTED BY THE ENGINEER TO REHABILITATE AREAS OF THE DECK. PAYMENT WILL BE MADE UNDER ITEMS 518.30 OR 518.31 WHICHEVER IS APPLICABLE.
- PROPOSED REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2" UNLESS OTHERWISE INDICATED.
- PROTECTIVE COATING FOR CONCRETE SURFACES SHALL BE APPLIED TO ALL EXPOSED SURFACES OF CONCRETE PATCHING AND THE IMMEDIATE SURROUNDING AREA AS DIRECTED BY THE ENGINEER.

SUPERSTRUCTURE ELEMENT ADJUSTMENT DEVICE @ EACH BEAM  
SLOTTED HOLES 15/16"x2" FOR 7/8" H.S. BOLT



NOTE:  
PAINT EXPOSED ARMORED JOINT STEEL  
(SEE STANDARD SHT. BD 301-89 FOR DETAILS NOT SHOWN)

SUPERSTRUCTURE ELEMENT ADJUSTMENT DEVICE @ EACH BEAM  
SLOTTED HOLES 15/16"x2" FOR 7/8" H.S. BOLT



(SEE STANDARD SHT. BD 301-89 FOR DETAILS NOT SHOWN)

### SYMBOLS

- EXISTING CONCRETE TO BE REMOVED
- NEW CONCRETE

104-859

Pin No. 1881.10  
Bridge No. 5830

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

Kimball Chase  
ONE GATE STREET  
PORTSMOUTH, N.H. 03801  
(603) 431-2520

BUCKNAM ROAD  
over  
I-295  
FALMOUTH, MAINE  
CUMBERLAND COUNTY  
DETAILS & EST. OF QUANTITIES

SHEET 5 OF 7 AUGUST, MAINE August 1989  
REVISED AS-BUILT Jeffrey Madson 3/91



F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	M-0736 (2)	6	23

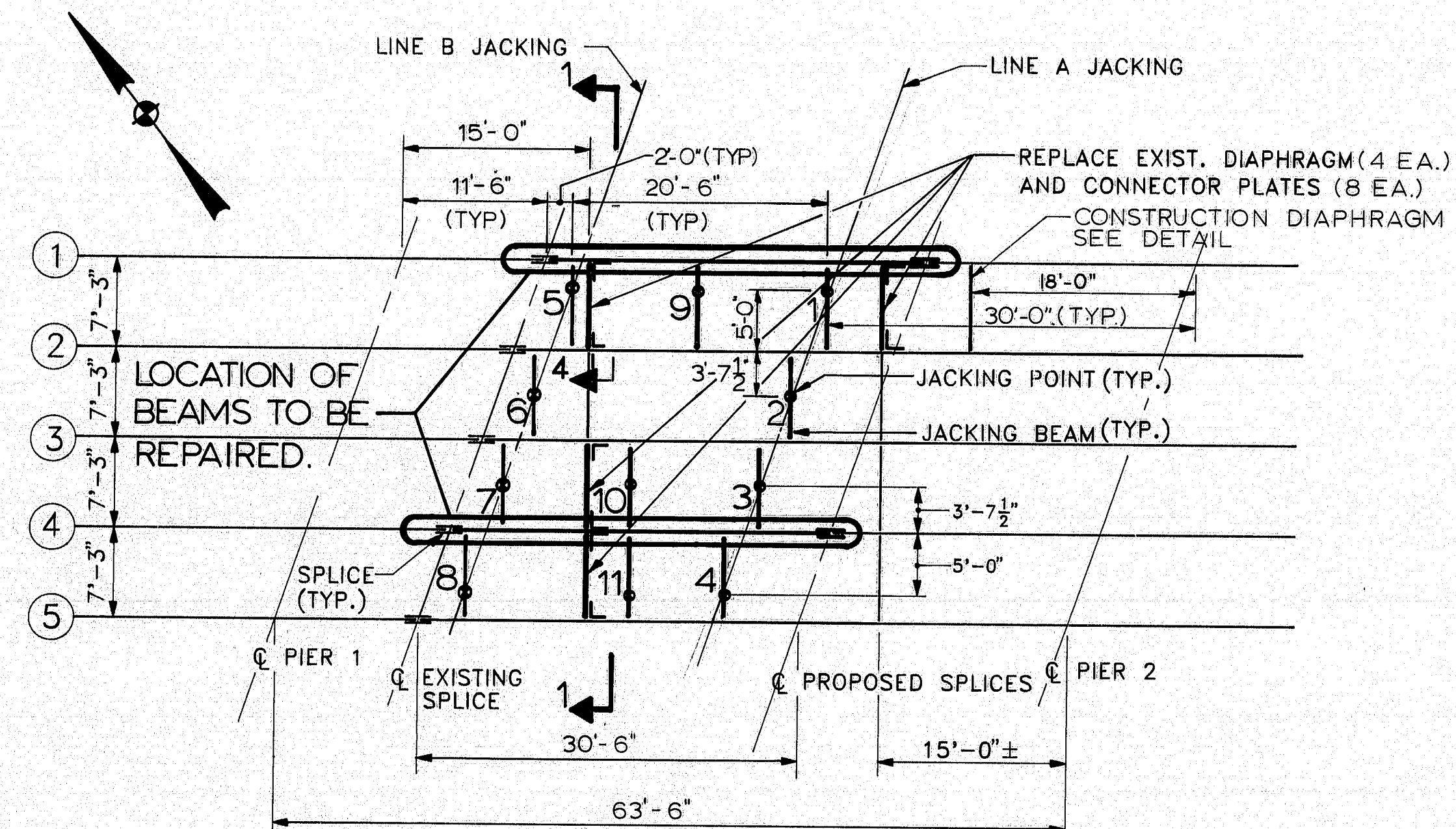
FALMOUTH.

#### GENERAL NOTES

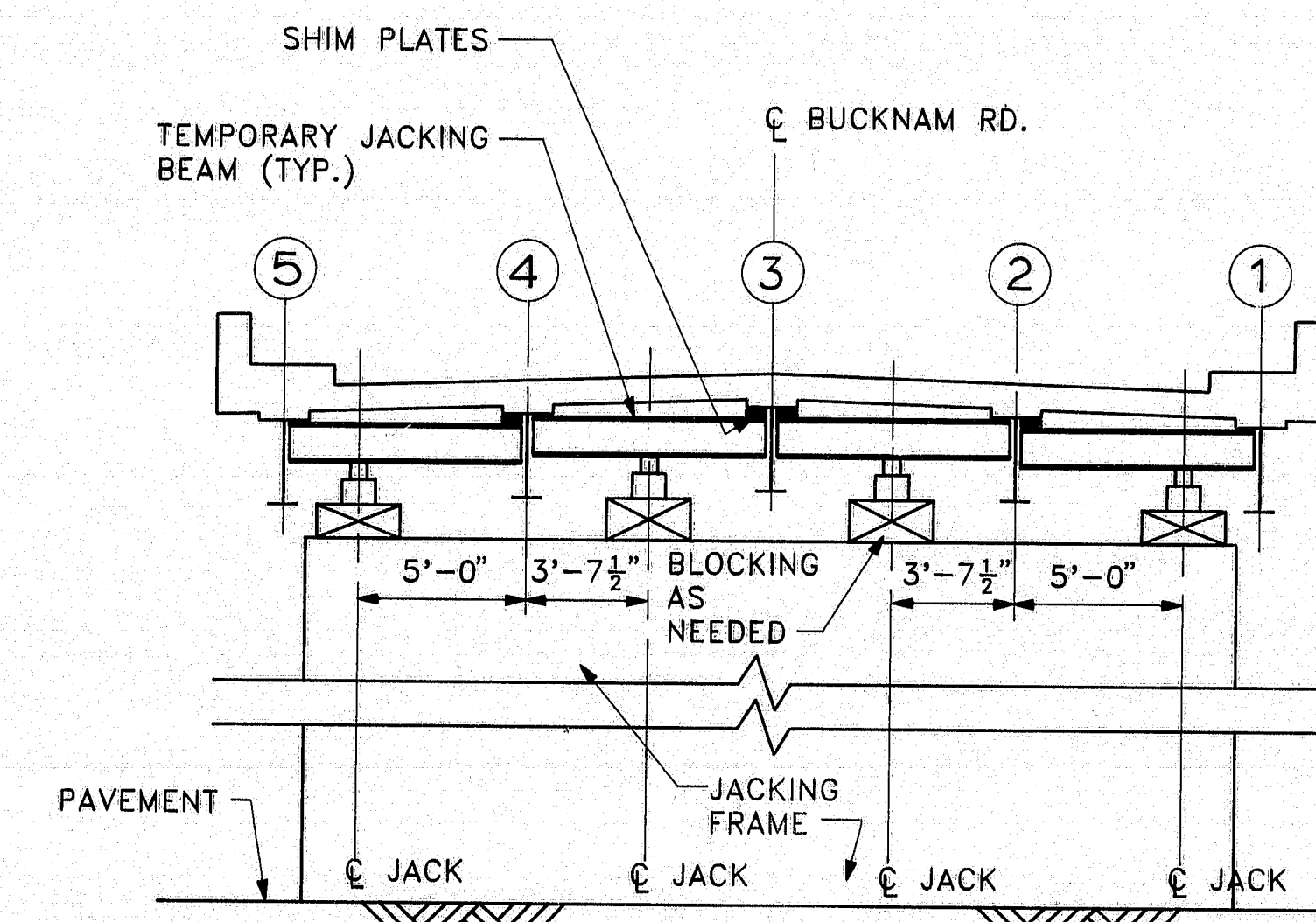
- THE WORK FOR REPAIRING THE VEHICULAR IMPACT DAMAGED BRIDGE BEAMS SHALL BE PERFORMED IN COMPLIANCE WITH MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES 1988.
- ALL NEW STEEL SHALL CONFORM TO AASHTO M 183 (ASTM A36). THE WT 15 X 62 SECTIONS MAY BE CUT FROM A W30 X 124 ROLLED BEAM SECTION OR TEE-SECTIONS MAY BE CONSTRUCTED USING WELDED PLATES OF EQUIVALENT AREA IF APPROVED BY THE ENGINEER.
- ALL NEW BOLTS SHALL CONFORM TO AASHTO M164 (ASTM A325).
- TWO 12'-0" WIDE (MIN.) TRAFFIC LANES ON RTE 1-295 SB SHALL BE MAINTAINED AT ALL TIMES. THE LANES SHALL BE LOCATED BETWEEN THE WORK AREA AND PIER NO. 2, AND BETWEEN PIER NO. 2 AND THE NORTHBOUND LANES. USE 2" HOT BITUMINOUS PAVEMENT AND 18" MIN. THICKNESS OF GRAVEL AND PROVIDE FILL AND DRAINAGE IN THE MEDIAN AREA AS APPROVED BY THE ENGINEER.
- BEAMS 1 AND 4 SHALL NOT BE REPAIRED SIMULTANEOUSLY. BEAMS SHALL NOT BE SUBJECTED TO DIRECT TRAFFIC LOADING. TRAFFIC OVER THE BUCKNAM ROAD BRIDGE SHALL BE MAINTAINED AS FOLLOWS:
  - BEAM 1 REPAIR WORK:  
PROVIDE 1-12 FOOT WIDE LANE ALONG THE SOUTH SIDE OF BRIDGE, WITH TRAFFIC LIGHTS. THE LANE SHALL BE USED FOR TWO WAY TRAFFIC.
  - BEAM 4 REPAIR WORK:  
PROVIDE 1-12 FOOT WIDE LANE ALONG THE NORTH SIDE OF BRIDGE, WITH TRAFFIC LIGHTS. THE LANE SHALL BE USED FOR TWO WAY TRAFFIC.
- THE WEBS OF BEAMS 1 AND 4 SHALL BE HEAT STRAIGHTENED AFTER THE DAMAGED SECTIONS OF THE BEAMS HAVE BEEN REMOVED. THE HORIZONTAL WEB CUT SHALL BE MADE WITH A GUIDED TORCH. THE CUT MUST BE STRAIGHT.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL NEW STRUCTURAL STEEL, DETAILS OF JACKING FRAMES AND A DETAILED CONSTRUCTION PROCEDURE TO THE MAINE DEPARTMENT OF TRANSPORTATION FOR APPROVAL. NO WORK ON BEAM REPAIR SHALL COMMENCE UNTIL THE PLANS AND MATERIALS ARE APPROVED.

#### NOTES

- ALL SPICE CONTACT AREAS ON EXISTING STEEL MUST BE BLAST CLEANED TO BARE METAL BEFORE SPICE PLATES ARE INSTALLED.
- ALL WELDING SHALL CONFORM TO AWS D11.80 SPECIFICATIONS, AND AASHTO WELDING SPECIFICATIONS 1981.
- MATCH MARK ALL STEEL REMOVED THAT IS TO BE RE-ASSEMBLED.
- PAYMENT FOR THE WORK AND MATERIALS REQUIRED FOR THE BEAM REPAIRS, EXCEPT FOR PAINTING THE STEEL, WILL BE PAID UNDER ITEMS 504.70 AND 504.71.
- THE WORK AND MATERIALS REQUIRED FOR CLEANING AND PAINTING THE PROPOSED STEEL AND FOR THE REPAIRED OR RE-ASSEMBLED STEEL WILL BE CONSIDERED INCIDENTAL TO ITEM 506.142-FIELD PAINTING EXISTING STRUCTURAL STEEL.
- PAYMENT FOR MAINTENANCE OF TRAFFIC WILL BE MADE UNDER CONTRACT ITEM 202.202, EXCEPT PLACING AND REMOVING THE FILL AND DRAINAGE CULVERT, AND FOR REMOVING THE PAVEMENT AND GRAVEL WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 202.202.



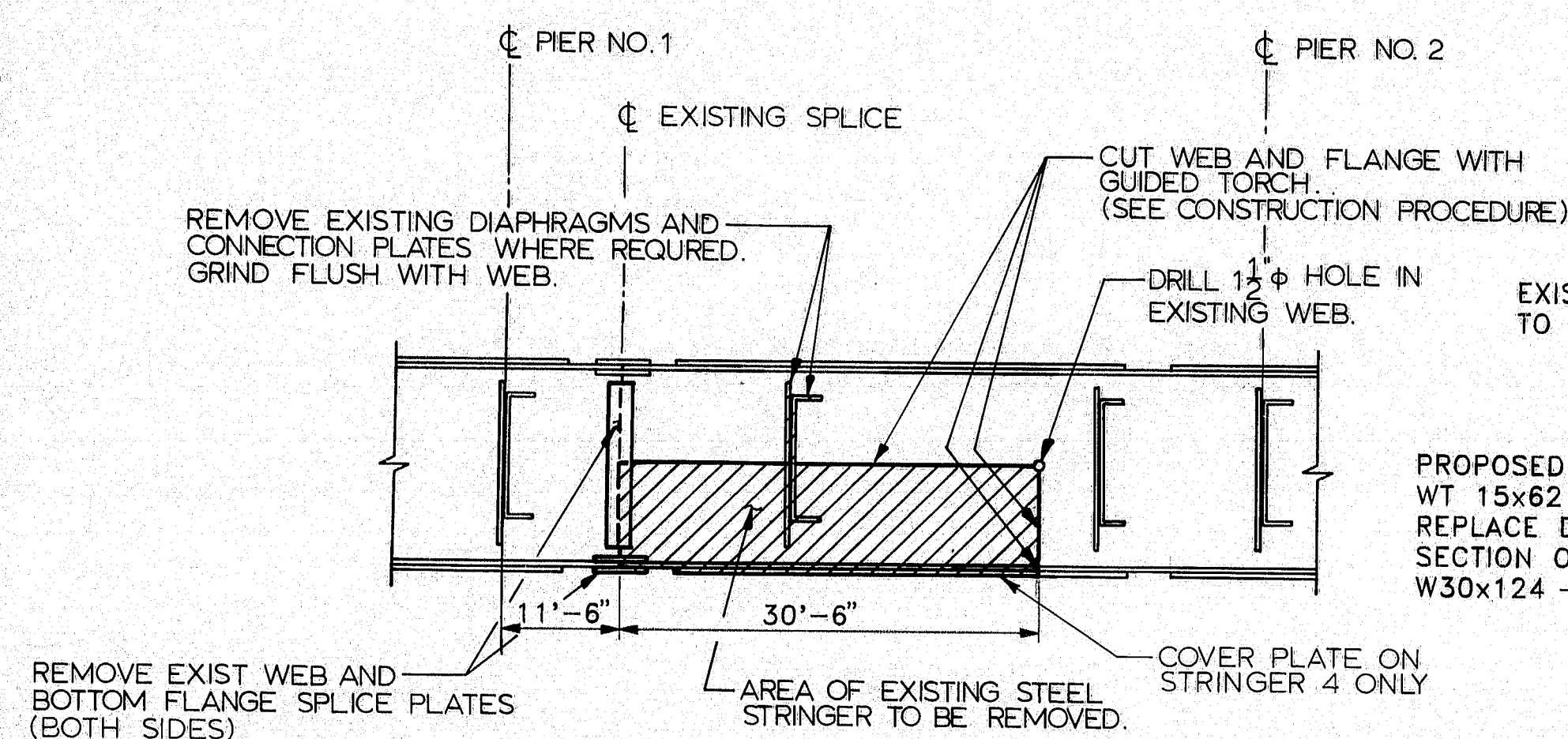
FRAMING PLAN SPAN 2



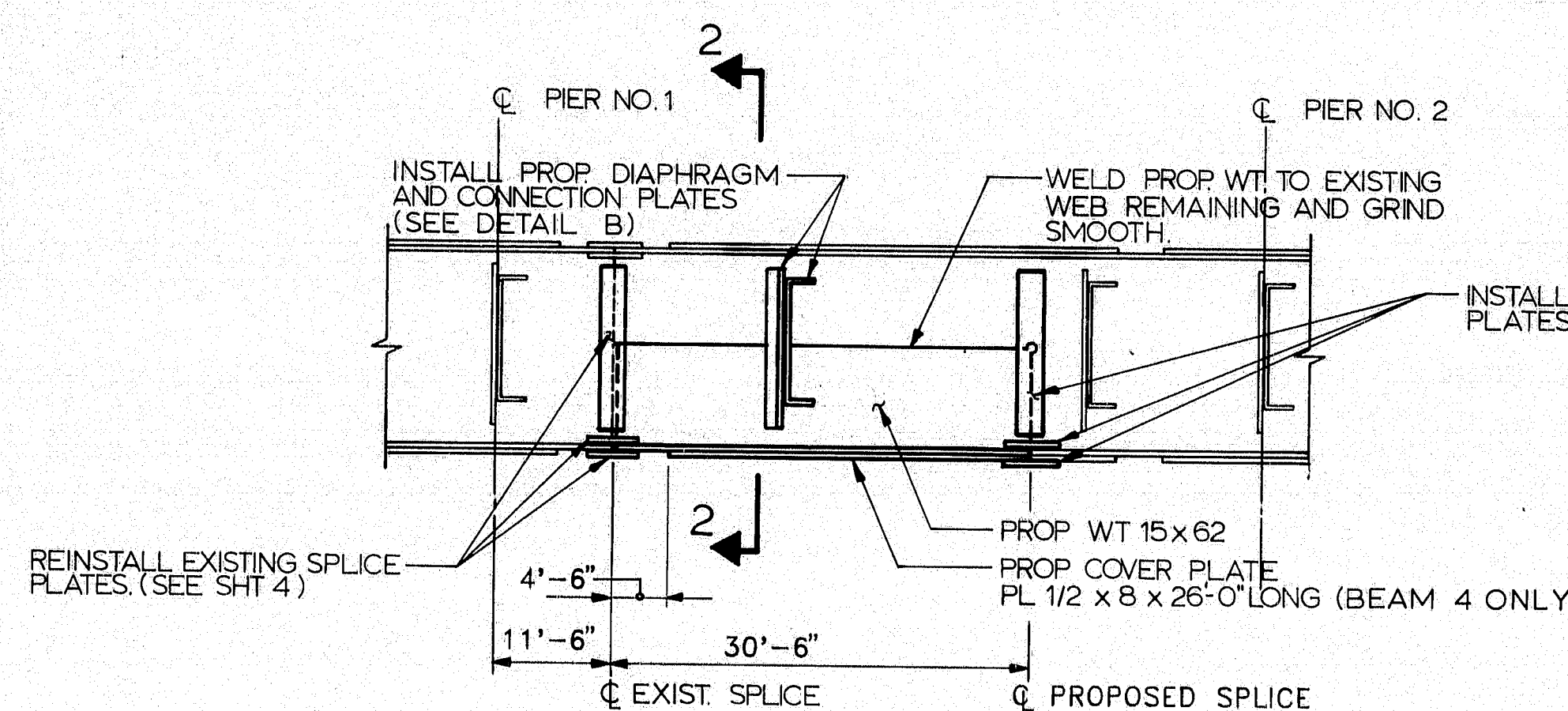
SECTION 1-1

#### JACKING NOTES:

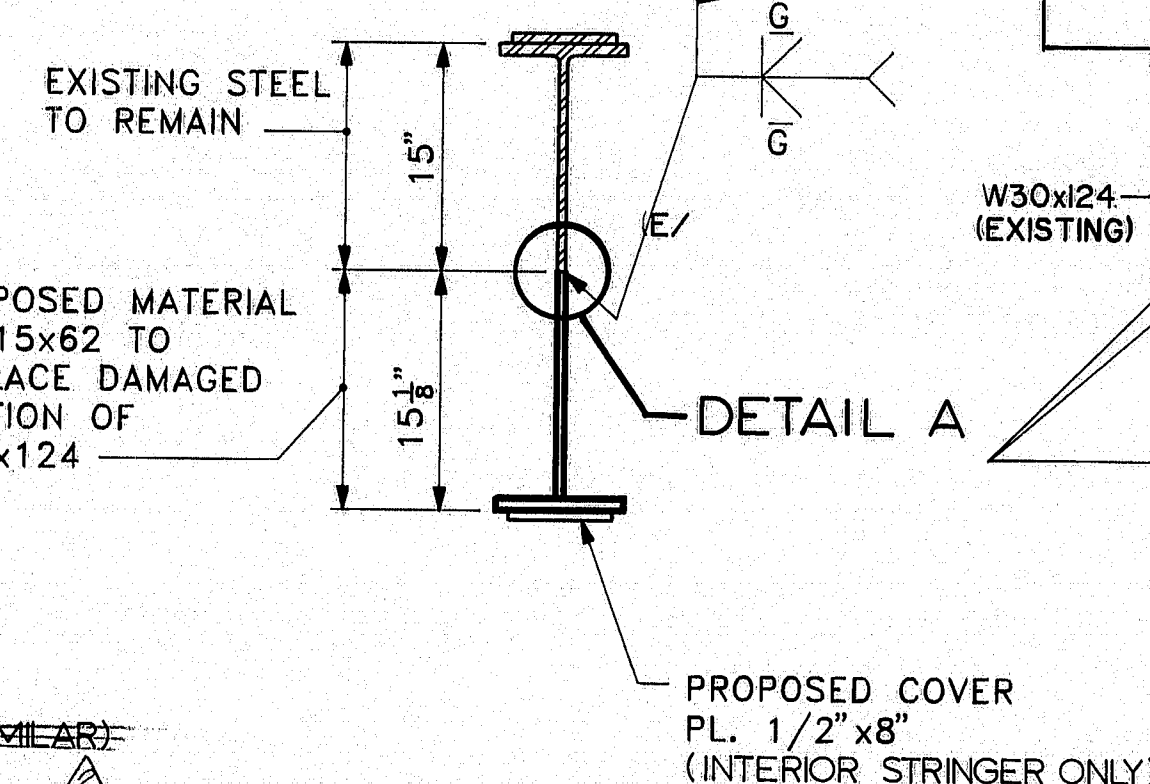
- THE JACKING FRAME AND TEMP JACKING BEAM OF THE CONTRACTOR'S DESIGN SHALL BE SUBMITTED FOR THE ENGINEER'S APPROVAL PRIOR TO PERFORMING THE WORK.
- MIN. 50 TON JACKS REQUIRED.



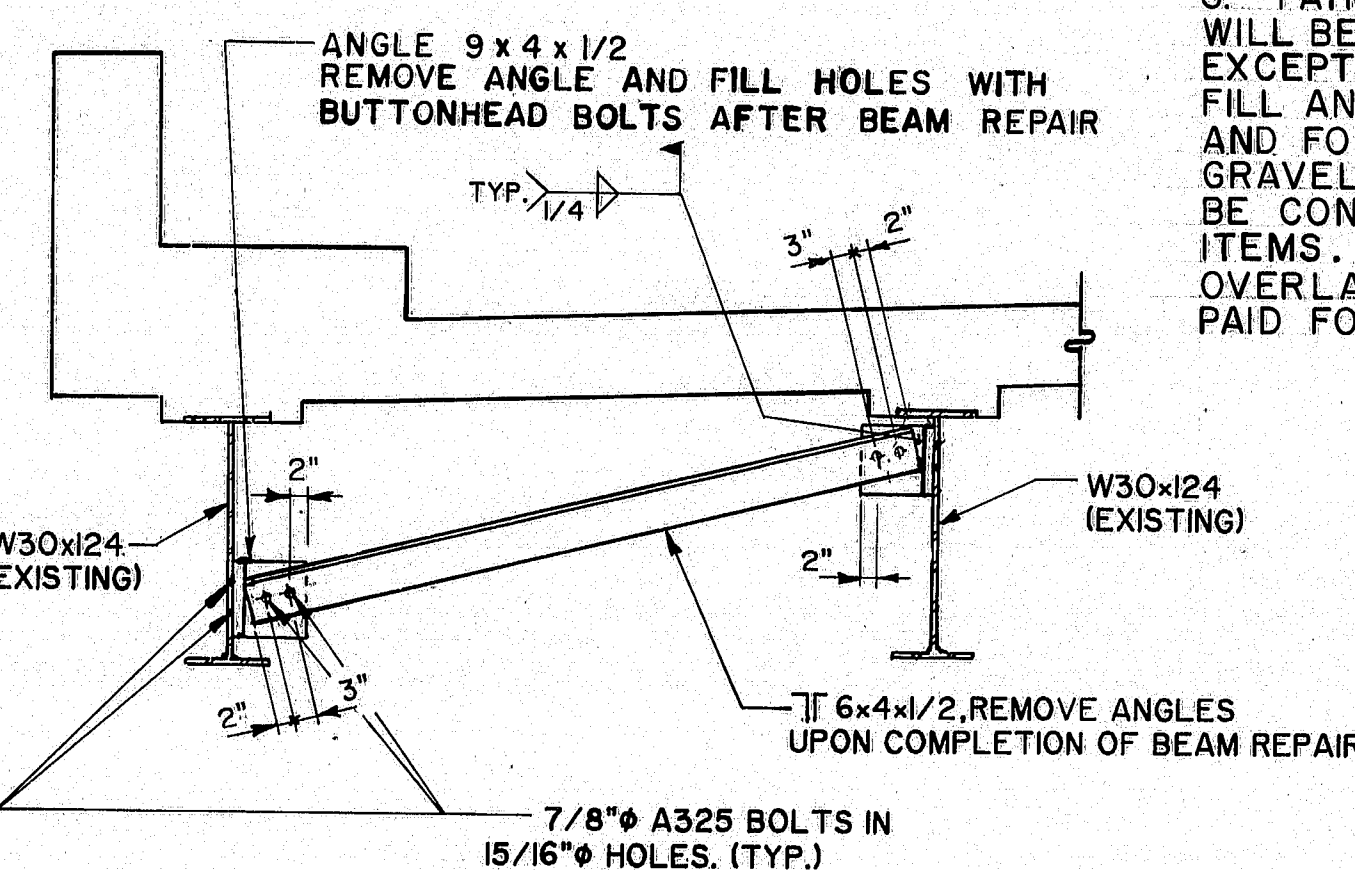
ELEVATION - STRINGER 4 (EXISTING) (STRINGER 1 SIMILAR)



ELEVATION - STRINGER 4 (PROPOSED) (STRINGER 1 SIMILAR)

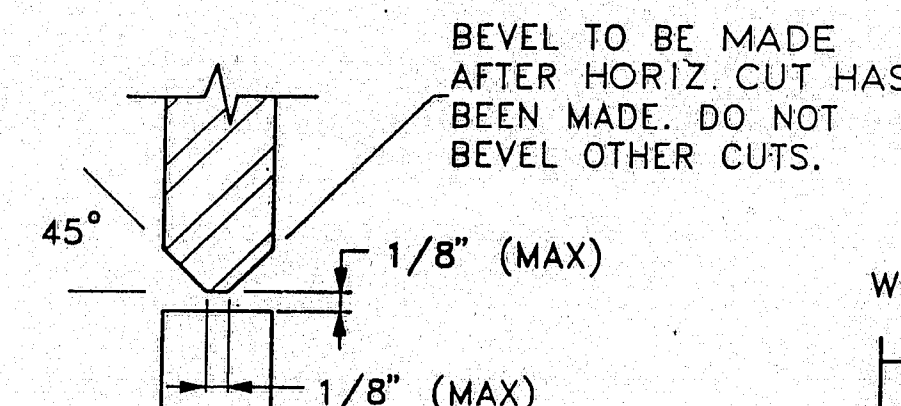


SECTION 2-2

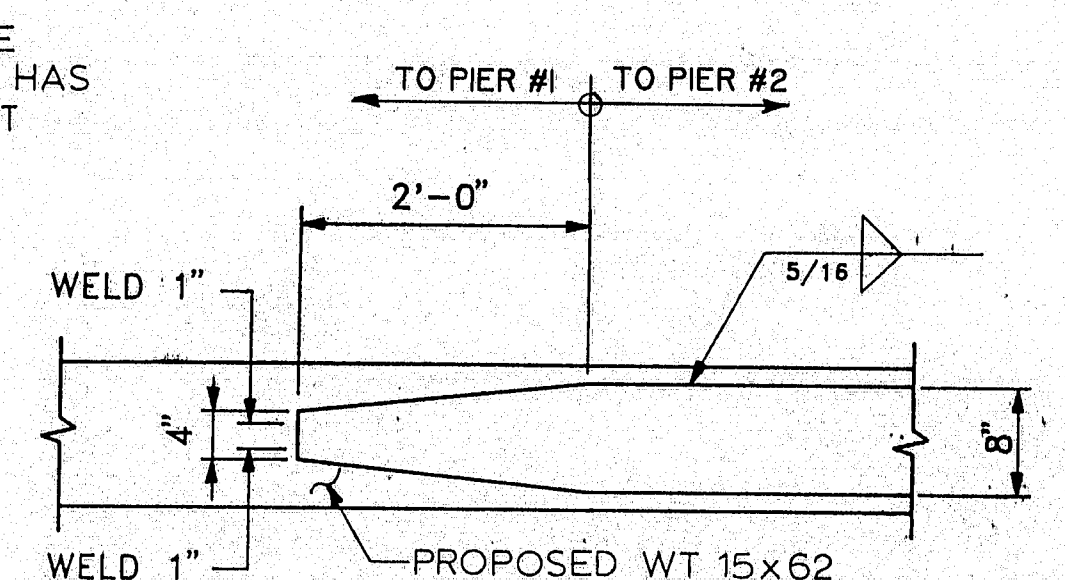


CONSTRUCTION DIAPHRAGM DETAIL

NOTE: DIAPHRAGM ANGLES SHALL BE INSTALLED PRIOR TO REMOVING ADJACENT DAMAGED EXISTING DIAPHRAGM TO FASCIA BEAM.

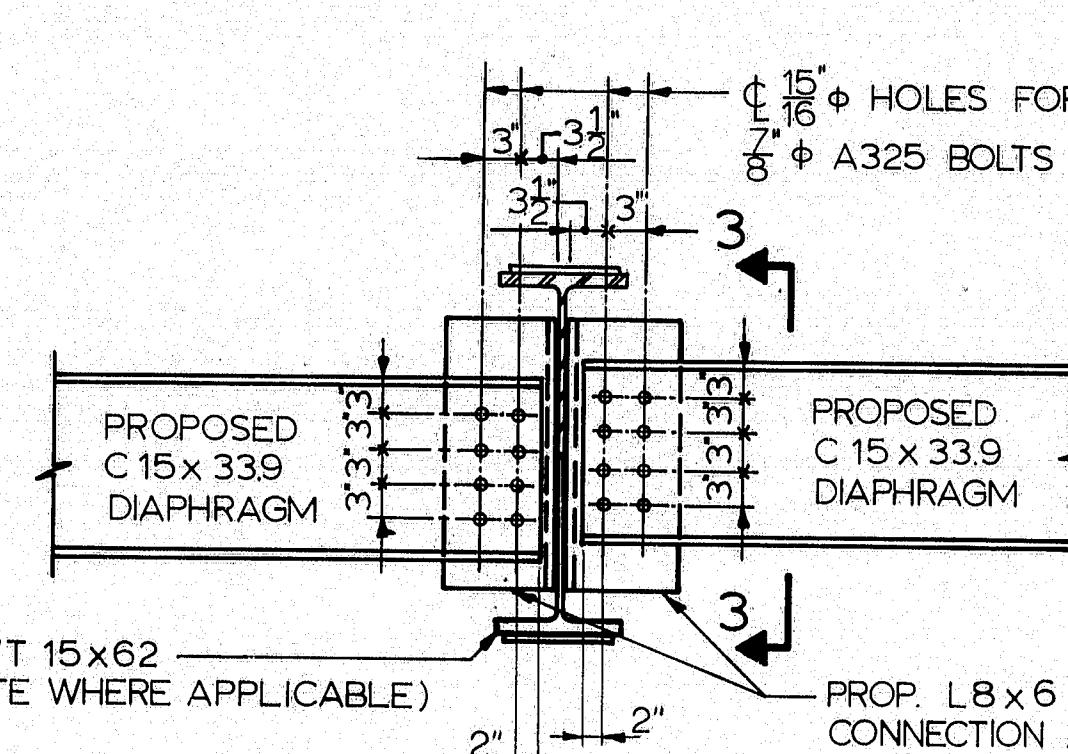


DETAIL A

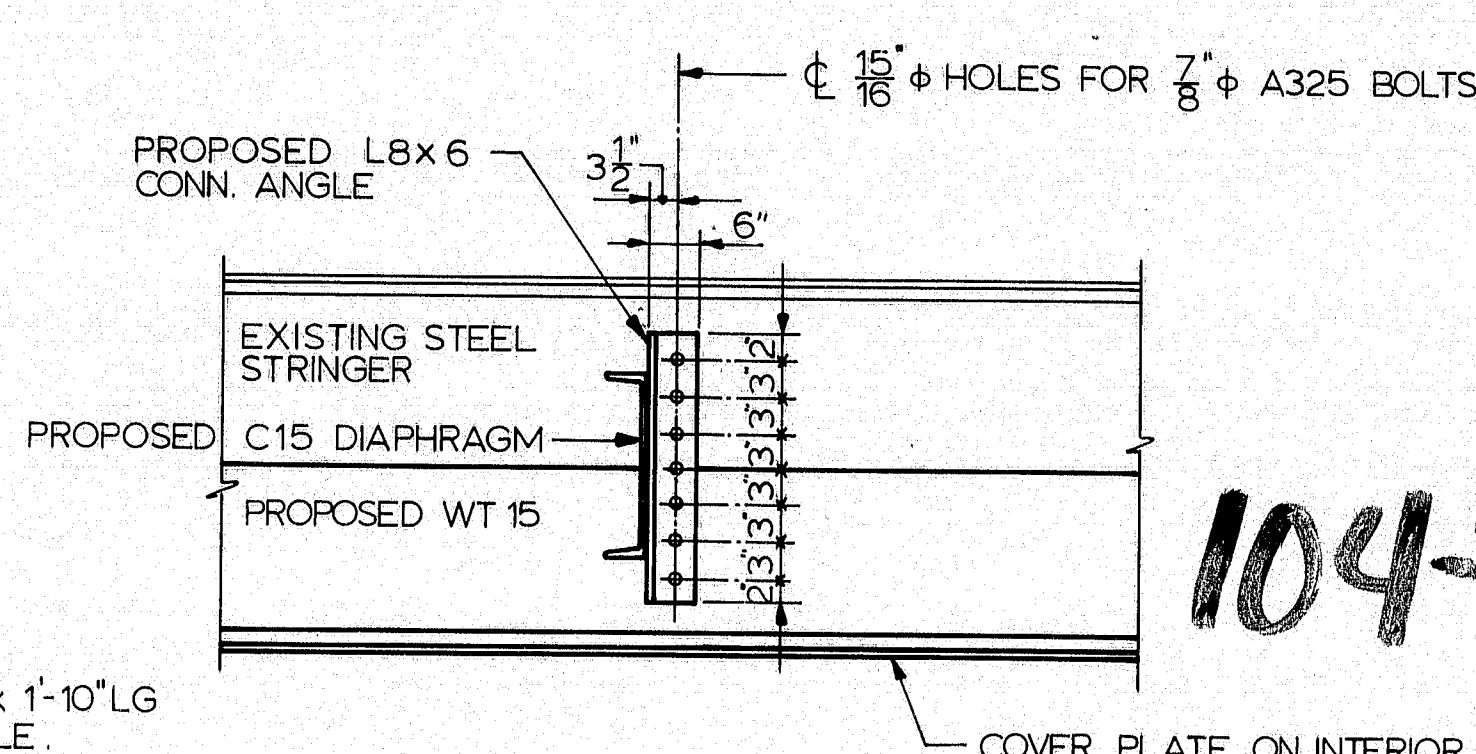


PROPOSED COVER PLATE END DETAIL

Δ1 - Note change -8-25-89  
Δ2 - Beam 1 12-12-89  
See Sheet #7

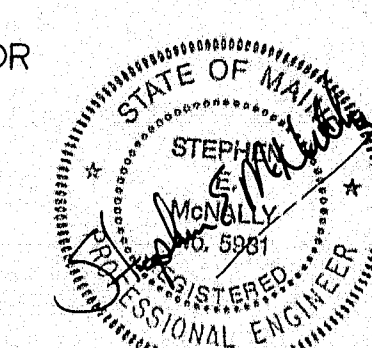


DETAIL B



SECTION 3-3

PROPOSED DIAPHRAGM CONNECTION



Pin No. 1881.10  
Bridge No. 5830

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**Kimball Chase** ONE GATE STREET  
PORTSMOUTH, N.H. 03801  
(603) 431-2520

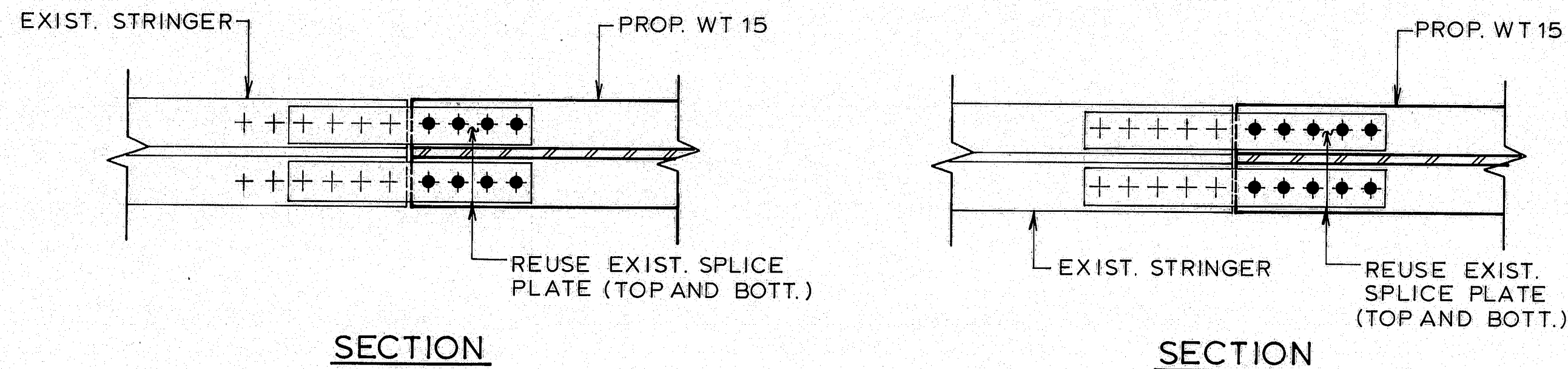
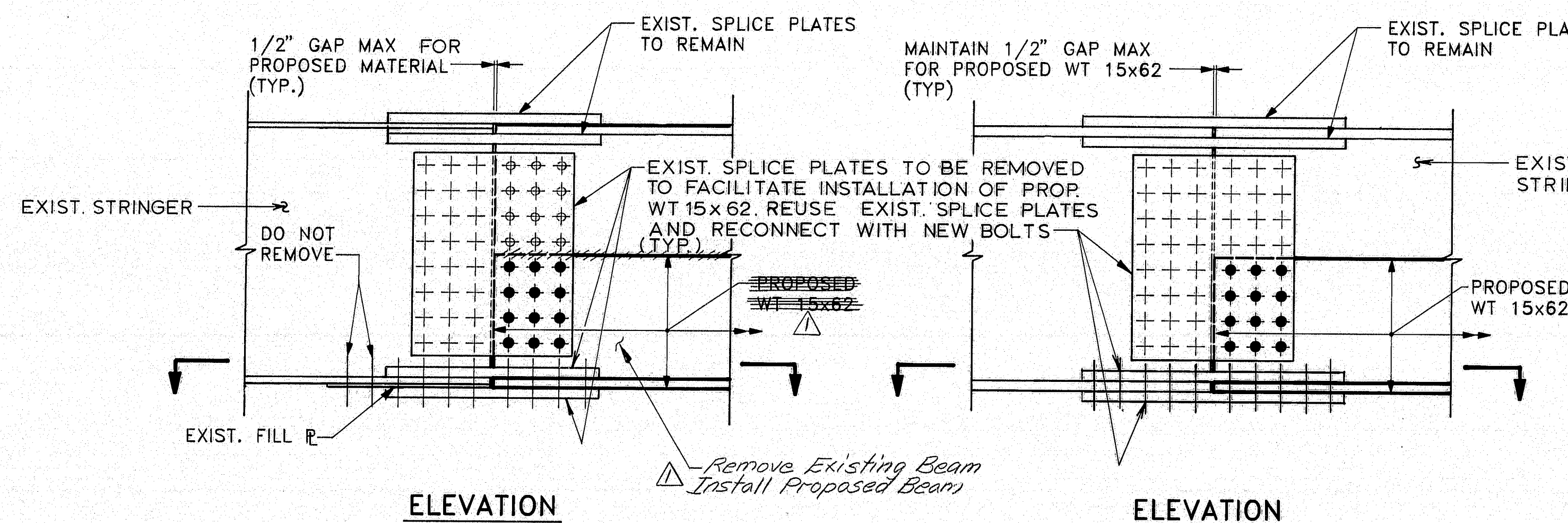
**BUCKNAM ROAD**  
over  
**I-295**  
**FALMOUTH, MAINE**  
**CUMBERLAND COUNTY**  
**BEAM REPAIR DETAILS**

SHEET 6 OF 7 AUGUSTA, MAINE AUGUST 1989  
Revised As-Built Jeffrey Radwan 3/91

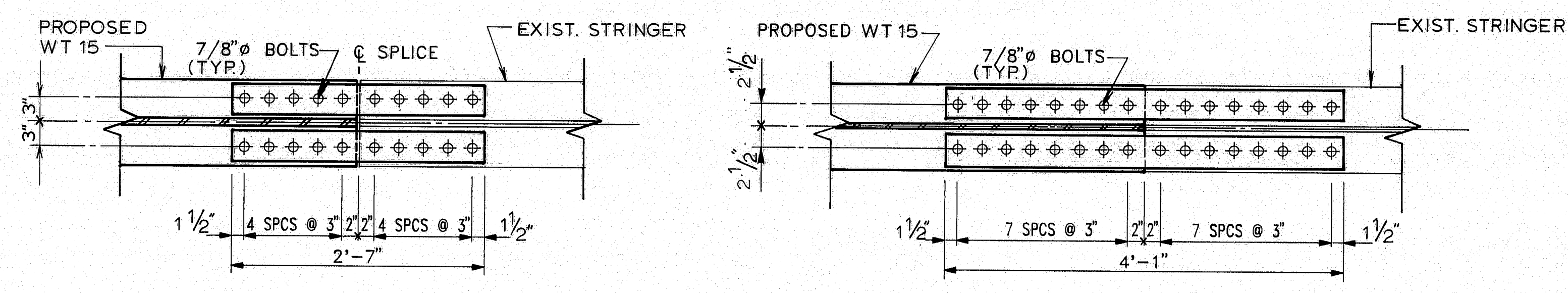
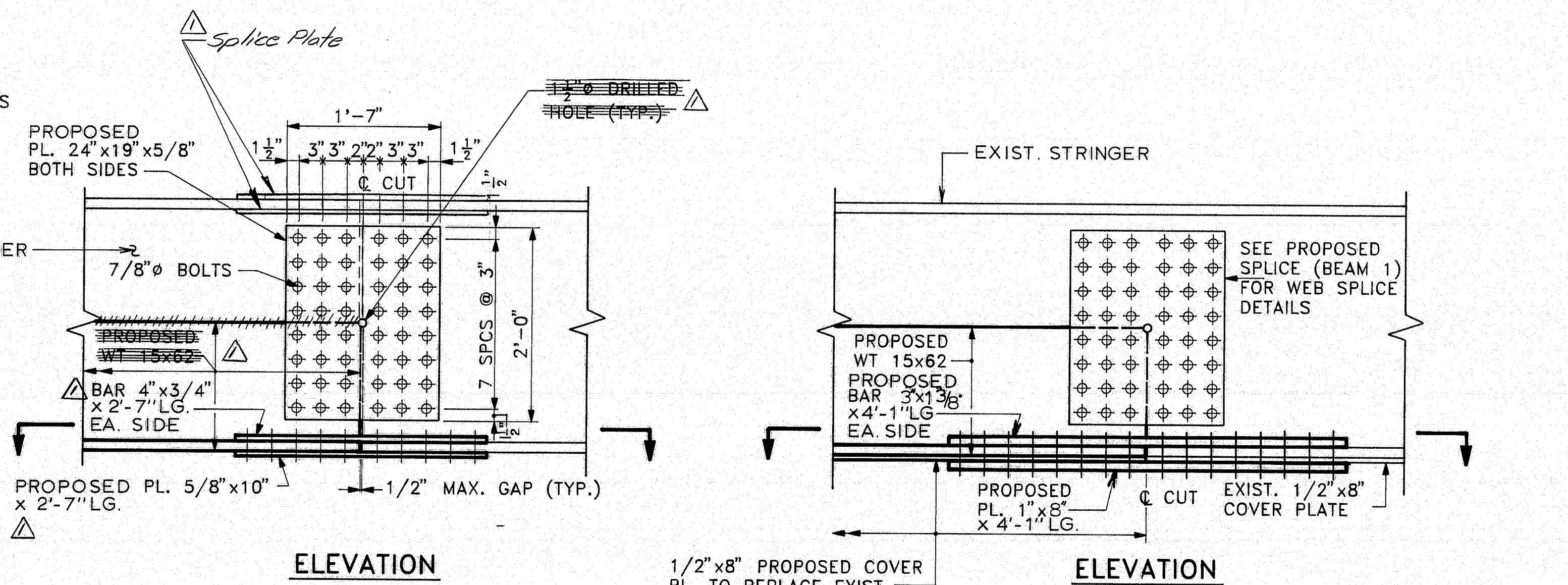


F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	M-0736 (2)	7	23

FALMOUTH



EXIST. SPLICE DETAILS BEAM 1      EXIST. SPLICE DETAILS BEAM 4



PROPOSED SPLICE DETAILS BEAM 1      PROPOSED SPLICE DETAILS BEAM 4

**NOTES:**

1. REMOVE ALL WEB & BOTTOM FLANGE MATERIAL EXCEPT AS NOTED (BEAM & BOTTOM FLANGE FILLER PLATE).
2. WHEN REASSEMBLING SPLICES USE (NEW) H.S. BOLTS A325. DO NOT USE EXISTING BOLTS.
3. FIELD DRILL 1 5/16" DIA HOLES IN PROPOSED MATERIAL USING EXISTING OR PROPOSED SPLICE PLATES AS A TEMPLATE. (SEE DETAILS)
4. DRILL 1 5/16" DIA HOLES IN PROPOSED SPLICE PLATE IN SHOP. FIELD DRILL 1 5/16" DIA. HOLES IN EXIST. STEEL BEAM AND PROPOSED WT 15x62 USING PROPOSED SPLICE PLATE AS A TEMPLATE.
5. FLANGE BOLTS TO BE INSTALLED WITH HEAD DOWN.

**LEGEND:**

- ◆ EXISTING 1 5/16" DIA. HOLES IN EXISTING SPLICE PLATES. (SEE NOTE 3)
- ◆ PROPOSED 1 5/16" DIA. HOLES (SEE NOTE 4)
- + EXISTING HOLES

**CONSTRUCTION PROCEDURE FOR BEAM REPAIR**

1. MAINTAIN TRAFFIC OVER THE BUCKNAM ROAD BRIDGE AND ALONG THE SOUTHBOUND LANES OF INTERSTATE 295 AS NOTED, AND AT ALL TIMES ALONG THE NORTHBOUND LANES OF I-295.
2. INSTALL SUPPORT FRAMES FOR JACKING.
3. STRINGERS ALONG LINE A SHALL BE JACKED 1/2 INCH.
4. INSTALL JACKS ALONG LINE B TO SNUG TIGHT CONDITION.
5. WHEN REPAIRING THE PARCE BEAM, INSTALL JACK 9 TO SNUG TIGHT CONDITION AND REMOVE UPON COMPLETION OF PARCE BEAM REPAIR. WHEN REPAIRING INTERIOR STRINGER, INSTALL JACKS 10 AND 11 TO SNUG TIGHT CONDITION AND REMOVE UPON COMPLETION OF INTERIOR BEAM REPAIR.
6. REMOVE EXISTING WEB AND BOTTOM FLANGE SPLICE PLATES AT SPLICE LOCATION IMMEDIATELY EAST OF PIER NO. 1 ONLY FOR THE INDIVIDUAL STRINGER UNDER REPAIR.
7. DRILL 1 1/2" DIA. HOLES IN WEB.
8. REMOVE EXISTING DAMAGED DIAPHRAGMS AND CONNECTOR PLATES, ONLY ALONG STRINGER UNDER REPAIR.
9. REMOVE DAMAGED PORTION OF STEEL STRINGER. HORIZONTAL CUT SHALL COMMENCE AT THE EXISTING SPLICE LOCATION AND WILL TERMINATE AT THE 1/4 INCH DIAMETER HOLE IN WEB. VERTICAL CUT WILL BEGIN AT THE HOLE IN THE WEB AND WILL CONTINUE THROUGH THE EXISTING BOTTOM FLANGE. REMOVE DAMAGED PORTION OF BEAM.
10. STRAIGHTEN WEB AND REMAINING FLANGE SECTIONS USING HEAT AND LIGHT JACKS OR COME-ALONGS.
11. PREPARE WEB OF EXISTING STRINGER FOR WELDING AND BEVEL THE EDGES AS SHOWN ON THE DRAWINGS.
12. PROVIDE TEMPORARY SUPPORT FOR PROPOSED WT 15 PRIOR TO WELDING.
13. WELD HORIZONTAL WEB JOINT AS SHOWN ON THE DRAWINGS.
14. MAKE CONNECTION AT SPLICE LOCATIONS.
15. INSTALL PROPOSED CONNECTION ANGLES AND DIAPHRAGMS.
16. UPON COMPLETION OF REPAIRS TO BOTH STRINGERS AND INSTALLATION OF ALL DIAPHRAGMS, REMOVE JACKING SUPPORTS ALONG LINE B. THE JACKS ALONG LINE A SHALL THEN BE SLOWLY RELEASED SIMULTANEOUSLY. JACKING FRAMES AND CRIBBING MAY THEN BE REMOVED.
17. CLEAN AND PAINT REPAIRED BEAM, REASSEMBLED STEEL PLATES AND PROPOSED STEEL SECTIONS.

104-461



Revision	Description	Date
1	New Beam	12/19/89

Pin No. 1881.10  
Bridge No. 5830

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**Kimball Chase** ONE GATE STREET  
PORTSMOUTH, N.H. 03801  
(603) 431-2520

**BUCKNAM ROAD**  
over  
**I-295**  
**FALMOUTH, MAINE**  
**CUMBERLAND COUNTY**  
**BEAM REPAIR DETAILS**

SHEET 7 OF 7 AUGUSTA, MAINE August 1989  
Revised As-Built Jeffrey Madson 3/91