| F.A. R.S. & BRDG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 1 | 71 |

# STATE OF MAINE
# DEPARTMENT OF TRANSPORTATION

## BUREAU OF HIGHWAYS

# NORTH AND SOUTH CHANNEL BRIDGES
## OVER THE
# KENNEBEC RIVER
## IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY
## MAINE FEDERAL AID URBAN
## PROJECT NO. BRF-U-025-2(23)
## PROJECT LENGTH 0.201 MILES

As Built 7-8-77 DHE

### 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 (hardwood / softwood) |
| TRAVELLED WAY - EXISTING | WOODS |

### SPECIFICATIONS

DESIGN — AASHO Standard Specifications for Highway Bridges 1973 and interim specifications 1974.

CONTRACT–State of Maine, State Highway Commission, Standard Specifications, Highways and Bridges, Revision of June 1968.

### DESIGN LOADING

LIVE LOAD = HS 20–44

### MATERIALS

CONCRETE . . . . . Seal Class S
All Other class A

REINFORCING STEEL . . . . . ASTM A615, Grade 60

### BASIC ALLOWABLE STRESSES

CONCRETE $f_c$=1200 psi n=10

REINFORCING STEEL $f_s$=24,000 psi

### INDEX OF SHEETS

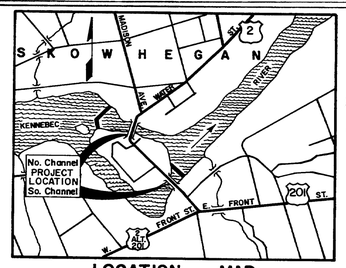

| | |
|---|---|
| 1. | TITLE SHEET |
| 2.-3. | TOTAL ESTIMATED QUANTITIES |
| 4. | FOUNDATION SURVEY-NORTH CHANNEL |
| 5. | FOUNDATION SURVEY-SOUTH CHANNEL |
| 6. | BORING DETAILS-SOUTH CHANNEL |
| 7-25. | NORTH CHANNEL BRIDGE |
| 26-39. | SOUTH CHANNEL BRIDGE |
| 40. | HIGHWAY BETWEEN BRIDGES |
| 41. | NORTH CHANNEL APPROACH |
| 42. | TYPICAL SECTIONS |
| 43. | DRAINAGE |
| 44. | WHEEL CHAIR RAMPS |
| 45. | CONSTRUCTION NOTES |
| 46. | PROFILE |
| 47-55. | CROSS SECTIONS |
| 56-58. | RIGHT-OF-WAY MAPS |


STANDARD DETAILS – BRIDGE


| | | |
|---|---|---|
| 59. | BD100-71 | BEARING PEDESTALS |
| 60. | BD104-73 | ARMORED JOINTS, DRAINS, SHEAR CONNECTORS |
| 61. | BD105-74 | EXPANSION DAMS |
| 62. | BD113-72 | DIAPHRAGMS & CROSS FRAMES |
| 63. | BD115-73 | ALUMINUM RAILING |
| 64. | BD116-73 | PALE PANEL & HEAVY DUTY POST |
| 65. | BD118-73 | ALUMINUM APPROACH RAILING |


STANDARD DETAILS - HIGHWAY


| | | |
|---|---|---|
| 66. | ① | CATCH BASINS AND MANHOLES |
| 67. | ② | METAL SLUICE, UNDERDRAINS |
| 68. | ③ | CURB, DITCHES, SLOPES |
| 69. | ⑩ | FENCING |
| 70. | ⑪ | BARRICADES, WARNING SIGNS |
| 71. | ⑫ | DRIVEWAY DETAILS, FIELD OFFICES |


LOCATION MAP

600 0 600 1200
Scale of Feet

NOTE:
Names of Bridges were changed to "Margaret Chase Smith Bridges North & South" by a resolve of the Legislature in July 1977. (H.P. 1807-L.D. 1897)
RBQ 6-11-81

NOTE: ALL WORK CONTEMPLATED UNDER THIS CONTRACT SHALL BE GOVERNED BY AND IN CONFORMITY WITH THE STANDARD SPECIFICATIONS (REVISION OF JUNE 1968) AND SUPPLEMENTS THERETO EXCEPT AS MODIFIED ON THE PLANS AND IN THE SPECIAL PROVISIONS.

### TRAFFIC DATA

| | | No. Channel | So. Channel |
|---|---|---|---|
| A.D.T. | 1975 | 14,365 | 14,340 |
| A.D.T. | 1995 | 30,015 | 29,740 |
| D.H.V. | | 3,300 | 3,270 |
| T. (%) | | 7 | 7 |
| D. (%) | | 50 | 50 |
| V. | | 25 | 25 |
| P.S.D. (%) | | 0 | 0 |
| 18 KIPS | | 1153 | 1153 |

### HYDROLOGIC DATA

| | North Channel | South Channel |
|---|---|---|
| Drainage Area | 3,950 sq. miles | 3,950 sq. miles |
| Q 50 | 80,640 cfs | 47,360 cfs |
| Design High Water | 152.5 ft. | 162.5 ft. |
| Velocity | 18.2 fps | 7.8 fps |

NOTE: The drainage area (3950 sq. miles) is the total area for both the North and South Channel Bridges.

APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
Roger L. Wrath — COMMISSIONER — DATE Dec. 1977

Richard A. Guillett — CHIEF ENGINEER / BUREAU DIRECTOR — DATE Dec. 1977

COAST GUARD PERMIT REQUIRED

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 1

APPROVED:

DIVISION ENGINEER — DATE

167-122

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 2 | 71 |

# ESTIMATED QUANTITIES

| ITEM NO. | DESCRIPTION | UNIT | No. Channel QUANTITY | So. Channel QUANTITY | Approaches QUANTITY | TOTAL QUANTITY |
|---|---|---|---|---|---|---|
| 201.14 | Removing Single Trees over 24" to 48", Topsoiled | Each | ——— | ——— | 1 | 1 |
| 201.19 | Removing Stumps, 9" to 24" | Each | ——— | ——— | 1 | 1 |
| 201.20 | Removing Stumps, 24" to 48" | Each | ——— | ——— | 1 | 1 |
| 202.0801 | Removal of Building No. 1 | L.S. | ——— | ——— | 1 | 1 |
| 202.1001 | Removal of Existing Superstructure, (Property of Contractor) | L.S. | 1 | ——— | ——— | 1 |
| 202.1002 | Removal of Existing Superstructure, (Property of Contractor) | L.S. | ——— | 1 | ——— | 1 |
| 202.13 | Removal of Existing Railings (Retained by Department) | L.F. | ——— | 146 | ——— | 146 |
| 203.20 | Common Excavation | C.Y. | ——— | ——— | 3250 | 3250 |
| 203.25 | Granular Borrow | C.Y. | 260 | ——— | ——— | 260 |
| 206.06 | Str. Earth Excav. - Drainage & Minor Strs. | C.Y. | ——— | ——— | 180 | 180 |
| 206.07 | Str. Rock Excav. - Drainage & Minor Strs. | C.Y. | ——— | ——— | 80 | 80 |
| 206.08 | Str. Earth Excav. - Abuts. & Rel. Walls | C.Y. | 60 | 130 | ——— | 190 |
| 206.09 | Str. Rock Excav. - Abuts. & Rel. Walls | C.Y. | 160 | 140 | ——— | 300 |
| 206.10 | Str. Earth Excav. - Piers | C.Y. | ——— | 390 | ——— | 390 |
| 301.09 | Plant Mix Bituminous Base Course, Grading B | Ton | ——— | ——— | 460 | 460 |
| 304.10 | Aggregate Subbase Course - Gravel | C.Y. | ——— | ——— | 2970 | 2970 |
| 305.10 | Pre-mixed Bituminous Base | C.Y. | ——— | ——— | 160 | 160 |
| 403.07 | Hot Bit. Pavement, Grading B | Ton | ——— | ——— | 290 | 290 |
| 403.08 | Hot Bit. Pavement, Grading C | Ton | ——— | ——— | 210 | 210 |
| 403.101 | Hot Bit. Pavement, Grading D (Sidewalks, Drives, Etc.) | Ton | ——— | ——— | 180 | 180 |
| 403.121 | Hot Bituminous Pavement, Grading E (Shimming) | Ton | ——— | ——— | 25 | 25 |
| 410.161 | Cover Coat Material, Sand (Levelling) | C.Y. | ——— | ——— | 30 | 30 |
| 502.21 | Structural Concrete, Abuts. & Retaining Walls | C.Y. | 256 | 165 | ——— | 421 |
| 502.23 | Structural Concrete, Piers | C.Y. | ——— | 210 | ——— | 210 |
| 502.24 | Structural Concrete, Piers (Placed in Water) | C.Y. | ——— | 530 | ——— | 530 |
| 502.2601 | Structural Concrete, Roadway & Superstr. Slabs on Steel Bridges | L.S. | 1 | ——— | ——— | 1 |
| 502.2602 | Structural Concrete, Roadway & Sidewalk Slabs on Steel Bridges | L.S. | ——— | 1 | ——— | 1 |
| 502.2901 | Structural Concrete, Wearing Surface on Bridges | L.S. | 1 | ——— | ——— | 1 |
| 502.2902 | Structural Concrete, Wearing Surface on Bridges | L.S. | ——— | 1 | ——— | 1 |

# ESTIMATED QUANTITIES

| ITEM NO. | DESCRIPTION | UNIT | No. Channel QUANTITY | So. Channel QUANTITY | Approaches QUANTITY | TOTAL QUANTITY |
|---|---|---|---|---|---|---|
| 503.12 | Reinforcing Steel, Fab. & Delivered | Lb. | 62,630 | 119,510 | ——— | 182,140 |
| 503.13 | Reinforcing Steel, Placing | Lb. | 62,630 | 119,510 | ——— | 182,140 |
| 504.7101 | Structural Steel, Erected | L.S. | 1 | ——— | ——— | 1 |
| 504.7102 | Structural Steel, Erected | L.S. | ——— | 1 | ——— | 1 |
| 505.0801 | Shear Connectors | L.S. | 1 | ——— | ——— | 1 |
| 505.0802 | Shear Connectors | L.S. | ——— | 1 | ——— | 1 |
| 507.09 | Steel Pipe Hand Railing | L.F. | 27 | ——— | ——— | 27 |
| 507.143 | Aluminum Bridge Railing, Type "C" | L.F. | 315 | 701 | ——— | 1016 |
| 507.154 | Aluminum Approach Railing, Type "C" | L.F. | 54 | 38 | ——— | 92 |
| 510.1201 | Special Detour, 22± Foot Roadway With Vehicular & Pedestrian Traffic Separated | L.S. | 1 | ——— | ——— | 1 |
| 510.1202 | Special Detour, 24 Foot Roadway With Vehicular & Pedestrian Traffic Separated | L.S. | ——— | 1 | ——— | 1 |
| 511.07 | Cofferdams | L.S. | ——— | 1 | ——— | 1 |
| 512.06 | French Drains | C.Y. | 19 | ——— | ——— | 19 |
| 514.06 | Curing Box for Concrete Cylinders | Each | 0.3 | 0.7 | ——— | 1 |
| 515.20 | Protective Coating for Concrete Surfaces | S.Y. | 940 | 1565 | ——— | 2505 |
| 603.159 | 12 Inch Culvert Pipe, Option III | L.F. | ——— | ——— | 190 | 190 |
| 604.072 | Catch Basins Type A1-C | Each | ——— | ——— | 1 | 1 |
| 604.082 | Catch Basins Type A2-C | Each | ——— | ——— | 2 | 2 |
| 604.121 | Altering Catch Basins | Each | ——— | ——— | 2 | 2 |
| 604.19 | Adjusting Manholes & Catch Basins to Grade | Each | ——— | ——— | 1 | 1 |
| 604.252 | Catch Basin, Type A5-C | Each | ——— | ——— | 1 | 1 |
| 605.09 | 6 Inch Underdrain Type "B" | L.F. | ——— | ——— | 302 | 302 |
| 607.15 | Chain Link Fence - 4 Feet | L.F. | ——— | ——— | 6 | 6 |
| 607.17 | Chain Link Fence - 6 Feet | L.F. | 58 | ——— | ——— | 58 |
| 607.23 | Remove and Reset Fence | L.F. | ——— | ——— | 50 | 50 |
| 607.36 | Bracing Assembly, Type 1-Chain Link Fence - 6 Feet | Each | 3 | ——— | ——— | 3 |

PROJECT DESIGN ENGINEER

PLANS

| | BY | DATE |
|---|---|---|
| DESIGN - DETAILED | | |
| CHECKED | | |
| REVISIONS | | |
| FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NORTH CHANNEL BRIDGE
AND
SOUTH CHANNEL BRIDGE
IN THE TOWN OF
SKOWHEGAN
SOMERSET COUNTY
*ESTIMATED QUANTITIES*

SHEET OF AUGUSTA, MAINE

167-123

JANUARY 1968

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-J-025-2(13) | 3 | 71 |

## ESTIMATED QUANTITIES

| ITEM NO. | DESCRIPTION | UNIT | No. Sharon QUANTITY | So. Sharon QUANTITY | Abutments QUANTITY | TOTAL QUANTITY |
|---|---|---|---|---|---|---|
| 603.07 | Bridging across Kelly Stream Culvert | Each | 2 | | | 2 |
| | | | | | | |
| 603.11 | Vertical Curb - Type 1 | L.F. | | | 649 | 649 |
| 603.12 | Vertical Curb - Circular - Type 1 | L.F. | | | 65 | 65 |
| 603.13 | Vertical Bridge Curb - Type 1 | L.F. | 272 | 698 | | 970 |
| 603.14 | Vertical Bridge Curb - Circular - Type 1 | L.F. | | 12 | | 12 |
| | | | | | | |
| 603.23 | Terminal Curb, Type 1 | Each | | | 35 | 35 |
| | | | | | | |
| 603.33 | Curb Type 33 | L.F. | | | 12 | 12 |
| | | | | | | |
| | | | | | | |
| 615.07 | Loam | C.Y. | | | 25 | 25 |
| 616.08 | Seeding | S.Y. | | | 45 | 45 |
| 619.13 | Seeding, Method Number 1 | Unit | | | 4 | 4 |
| | | | | | | |
| 619.12 | Mulch | Unit | | | 14 | 14 |
| | | | | | | |
| | | | | | | |
| 623.06 | Right-of-Way Monuments | Each | | | 1 | 1 |
| 623.08 | Bronze Pin Markers | Each | | | 11 | 11 |
| 623.102 | Remove, Store and Reset Monument | L.S. | | | 1 | 1 |
| 629.05 | Labor, Straight Time | M.Hr. | 10 | 10 | 20 | 40 |
| | Traffic Officers | M.Hr. | | | 85 | 85 |
| | | | | | | |
| 631.10 | Air Compressor (inc. operator) | Hour | 5 | 5 | 5 | 15 |
| 631.11 | Air Tool (inc. op.) | Hour | 5 | 5 | 5 | 15 |
| 631.12 | All Purpose Excavator (including op.) | Hour | | | 10 | 10 |
| | | | | | | |
| 631.171 | Truck-small (inc. op.) | Hour | 5 | 5 | 10 | 20 |
| | | | | | | |
| | | | | | | |
| 631.22 | Front End Loader (inc. op.) | Hour | | | 10 | 10 |
| 632.08 | Warning Lights | Grp. | 1 | 1 | | 2 |
| 633.09 | Portable Barricade | Each | 2 | 2 | | 4 |
| | | | | | | |
| | | | | | | |
| 637.07 | Sprinkling | M.G. | | | 30 | 30 |
| 637.08 | Calcium Chloride | Ton | | | 3 | 3 |
| 639.08 | Field Office, Type A | Each | 0.3 | 0.7 | | 1 |
| 639.11 | Testing Facilities, Soils | L.S. | | | 1 | 1 |
| 639.12 | Testing Facilities, Bit. Mixes | L.S. | | | 1 | 1 |
| 657.201 | Seed and Application, Method A | Unit | | | 10 | 10 |
| 659.10 | Mobilization | L.S. | 0.3 | 0.7 | | 1 |
| 660.21 | On-the-job Training | M.Hr. | 600 | 1400 | | 2000 |
| 816.13 | 8" Cast Iron Gravity Sewer Pipe | L.S. | 1 | | | 1 |
| 817.21 | 4" Cast Iron Pressure Sewer Pipe | L.S. | | 1 | | 1 |
| 817.211 | 4" Temporary Pressure Sewer Pipe | L.S. | | 1 | | 1 |

## ESTIMATED QUANTITIES OF LUMP SUM ITEMS

| ITEM NO. | DESCRIPTION | UNIT | No. Sharon QUANTITY | So. Sharon QUANTITY | Abutments QUANTITY | TOTAL QUANTITY |
|---|---|---|---|---|---|---|
| 502.2601 | Structural Concrete, Roadway & Sidewalk Slabs on Steel Bridges | C.Y. | 230 | | | 230 |
| 502.2602 | Structural Concrete, Roadway & Sidewalk Slabs on Steel Bridges | C.Y. | | 405 | | 405 |
| 502.2701 | Structural Concrete, Wearing Surface on Bridges | C.Y. | 56 | | | 56 |
| 502.2702 | Structural Concrete, Wearing Surface on Bridges | C.Y. | | 90 | | 90 |
| 504.7101 | Structural Steel, Erected | Lb. | 298,000 | | | 298,000 |
| 504.7102 | Structural Steel, Erected | Lb. | | 353,000 | | 353,000 |
| 505.0801 | Shear Connectors | Lb. | 1152 | | | 1152 |
| 505.0802 | Shear Connectors | Lb. | | 2660 | | 2660 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

PROJECT DESIGN ENGINEER

| PLANS | BY | DATE |
|---|---|---|
| DESIGN - DETAILED | | |
| CHECKED | | |
| REVISIONS | | |
| FIELD CHANGES | | |

JANUARY 1969

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

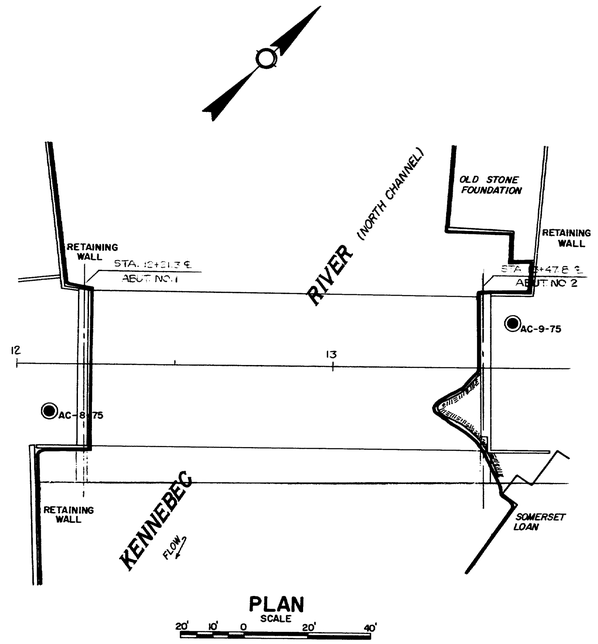
# NORTH CHANNEL BRIDGE
AND
# SOUTH CHANNEL BRIDGE
IN THE TOWN OF
## SKOWHEGAN
## SOMERSET COUNTY

*ESTIMATED QUANTITIES*

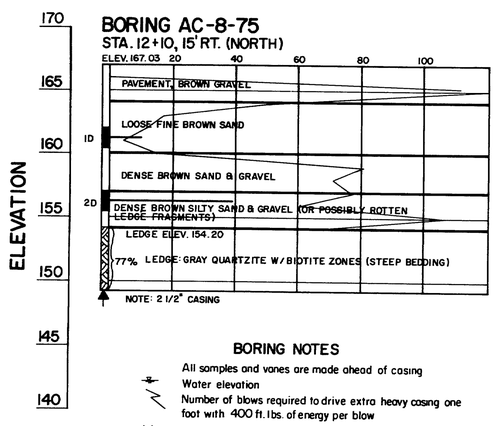
SHEET OF AUGUSTA, MAINE

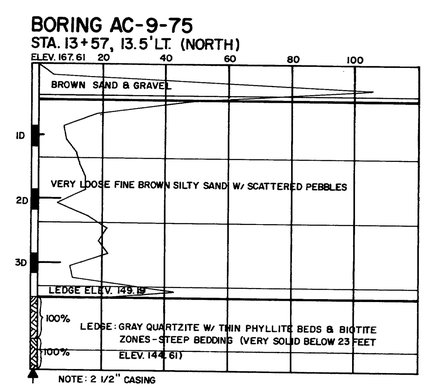
167-124

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 4 | 71 |



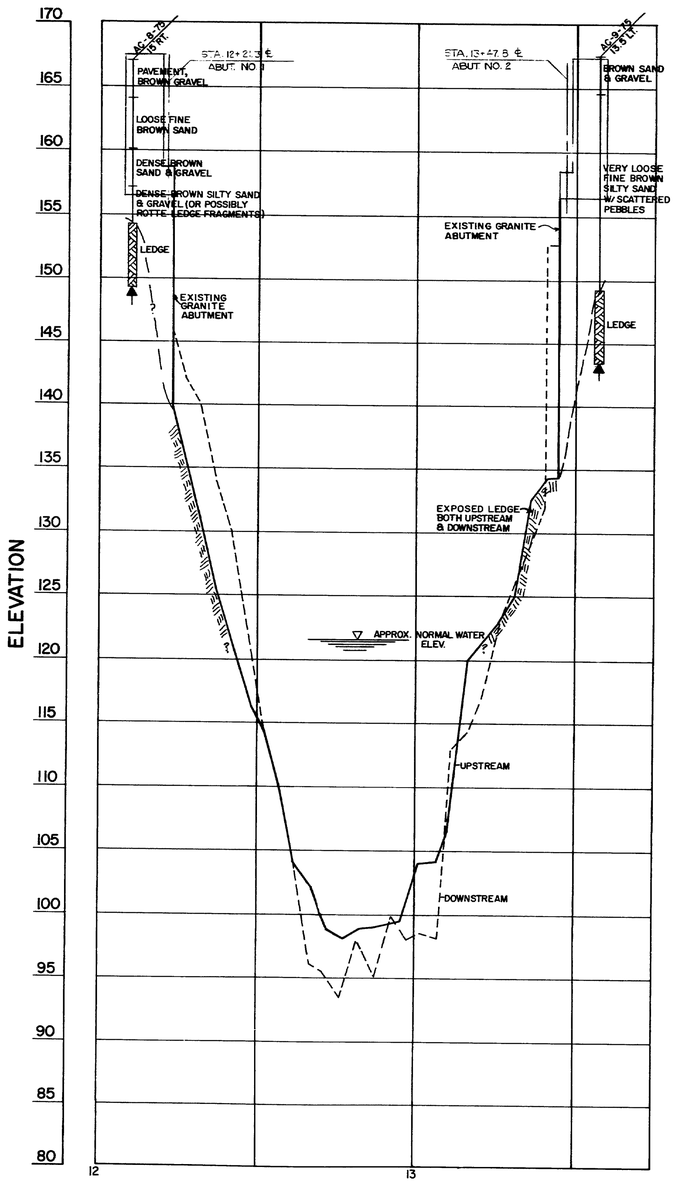

PLAN
SCALE
20' 10' 0 20' 40'




## BORING NOTES

- All samples and vanes are made ahead of casing
- Water elevation
- 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
- ID S & H Sampler # 1290's
- Number of blows required to drive spoon or tubing one foot with 350 ft. lbs. of energy per blow
- Bottom of boring (may not be bottom of soil strata)
- 77% Locations cored by diamond bit and per cent recovery of rock.




PROFILE NORTH CHANNEL
SCALE
HORIZ. 20' 10' 0 20' 40'
VERT. 5' 0 5' 10'

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

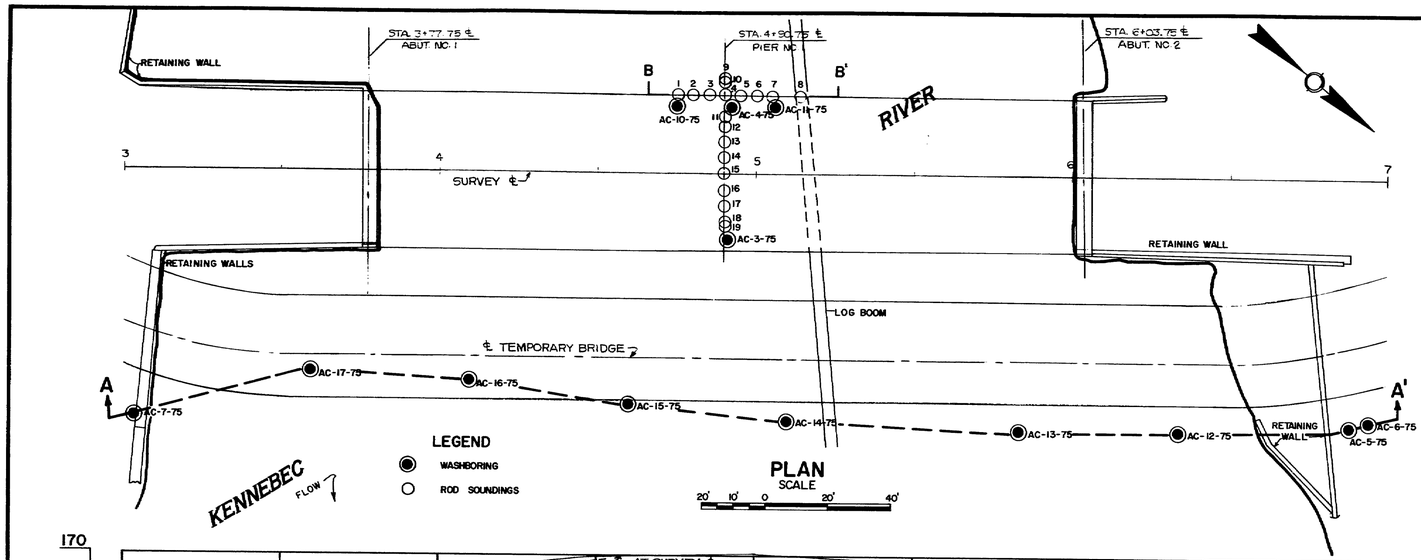
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

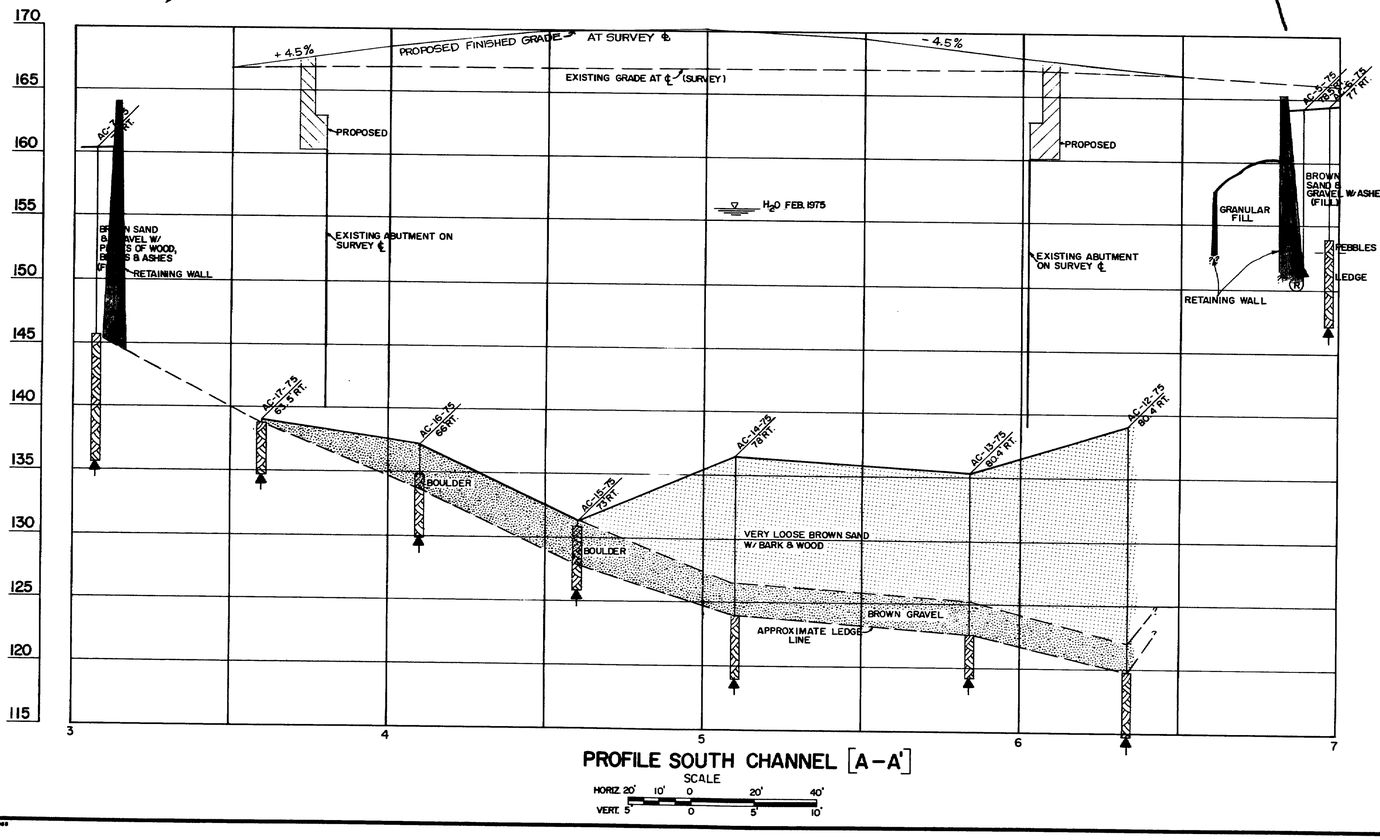
NORTH CHANNEL BRIDGE
OVER THE
KENNEBEC RIVER
IN THE TOWN OF
SKOWHEGAN
SOMERSET COUNTY
FOUNDATION SURVEY

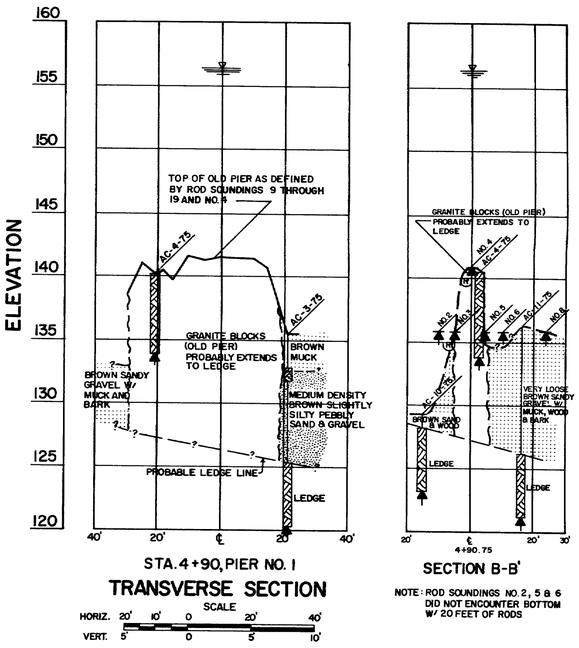
SHEET OF AUGUSTA, MAINE

167-125

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 5 | 71 |




NOTE: ROD SOUNDINGS NO. 2, 5 & 6 DID NOT ENCOUNTER BOTTOM W/ 20 FEET OF RODS

| ROD SOUNDING NO. | STATION & OFFSET | REFUSAL ELEVATIONS |
|---|---|---|
| 1. | 4+75, 25' LT. | N |
| 2. | 4+80, 25' LT. | N |
| 3. | 4+85, 25' LT. | 135.86 |
| 4. | 4+90, 25' LT. | 140.96 |
| 5. | 4+95, 25' LT. | N |
| 6. | 5+00, 25' LT. | N |
| 7. | 5+05, 25' LT. | N |
| 8. | 5+14, 25' LT. | HIT RIVER BOTTOM AT ELEV. 135.86 (NO REFUSAL) |
| 9. | 4+90, 30' LT. | N |
| 10. | 4+90, 29' LT. | 137.86 |
| 11. | 4+90, 18' LT. | 140.36 |
| 12. | 4+90, 15' LT. | 139.86 |
| 13. | 4+90, 10' LT. | 141.66 |
| 14. | 4+90, 5' LT. | 141.26 |
| 15. | 4+90, ℄ | 141.56 |
| 16. | 4+90, 5' RT. | 141.46 |
| 17. | 4+90, 10' RT. | 141.46 |
| 18. | 4+90, 15' RT. | 140.66 |
| 19. | 4+90, 16' RT. | N |

N – NO BOTTOM WITH 20' OF RODS (ELEV. 135.86)

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

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY
FOUNDATION SURVEY

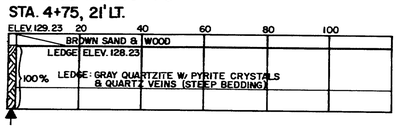
SHEET OF AUGUSTA, MAINE

167-126

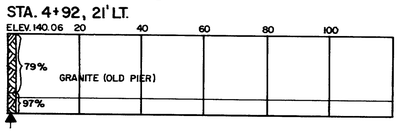
| F.A.S.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 6 | 71 |

## PIER NO. 1

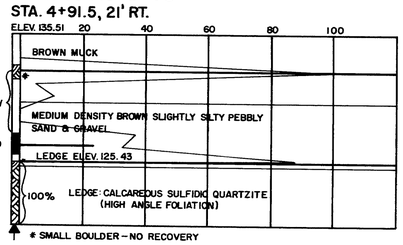
### BORING AC-10-75
STA. 4+75, 21' LT.




### BORING AC-4-75
STA. 4+92, 21' LT.

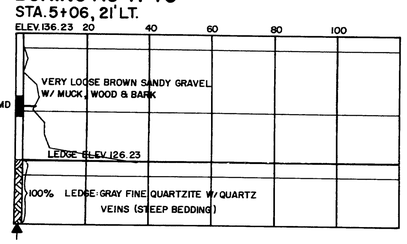



### BORING AC-3-75
STA. 4+91.5, 21' RT.



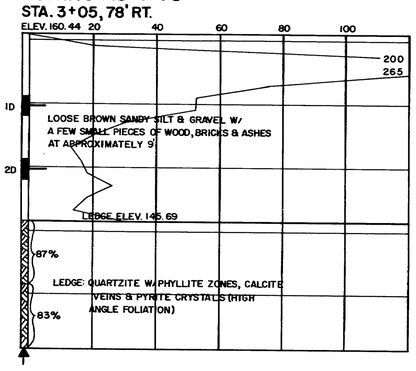

# SMALL BOULDER – NO RECOVERY

### BORING AC-11-75
STA. 5+06, 21' LT.

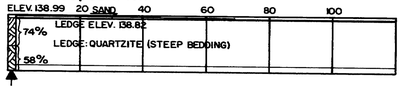



## TEMPORARY BRIDGE BORINGS

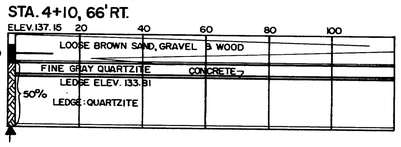
### BORING AC-7-75
STA. 3+05, 78' RT.




### BORING AC-17-75
STA. 3+60, 63.5' RT.




### BORING AC-16-75
STA. 4+10, 66' RT.




### BORING NOTES

All samples and vanes are made ahead of casing

Water elevation

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

ID — S & H Sampler # 1290's

IW — Wash sample and number

MD — 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

H — Sampling spoon or seamless tubing driven by static weight of drill rods and hammer

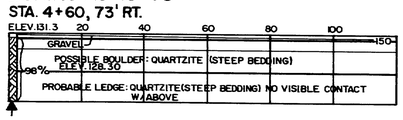
Bottom of boring (may not be bottom of soil strata)

(R) Refusal of drill rods or casing (may not be ledge)

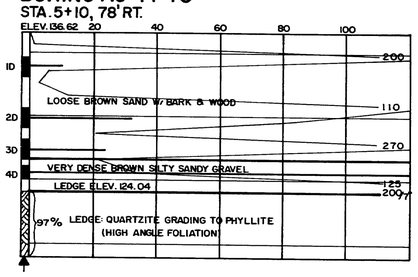
77% Locations cored by diamond bit and per cent recovery of rock

Note: Washborings were made with 2 1/2" casing

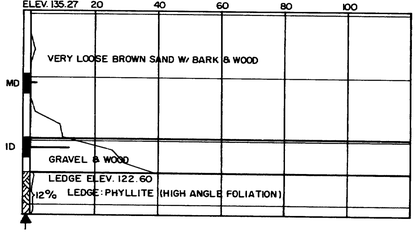
### BORING AC-15-75
STA. 4+60, 73' RT.



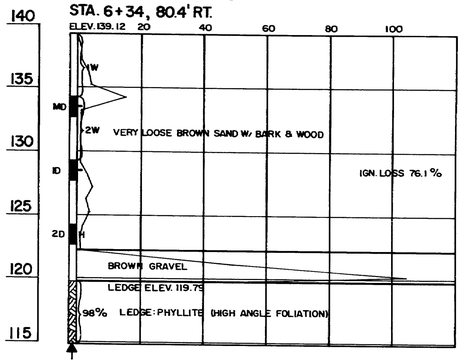

### BORING AC-14-75
STA. 5+10, 78' RT.



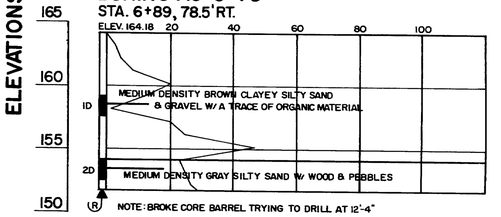

### BORING AC-13-75
STA. 5+84, 80.4' RT.




### BORING AC-12-75
STA. 6+34, 80.4' RT.

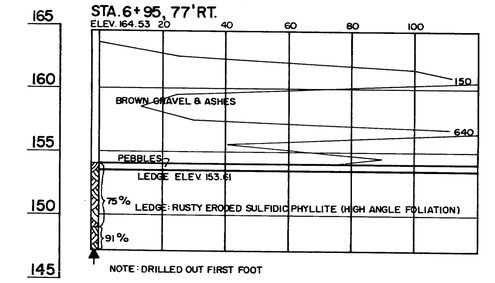



### BORING AC-5-75
STA. 6+89, 78.5' RT.




(R) NOTE: BROKE CORE BARREL TRYING TO DRILL AT 12'-4"

### BORING AC-6-75
STA. 6+95, 77' RT.




NOTE: DRILLED OUT FIRST FOOT

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

BORING DETAILS

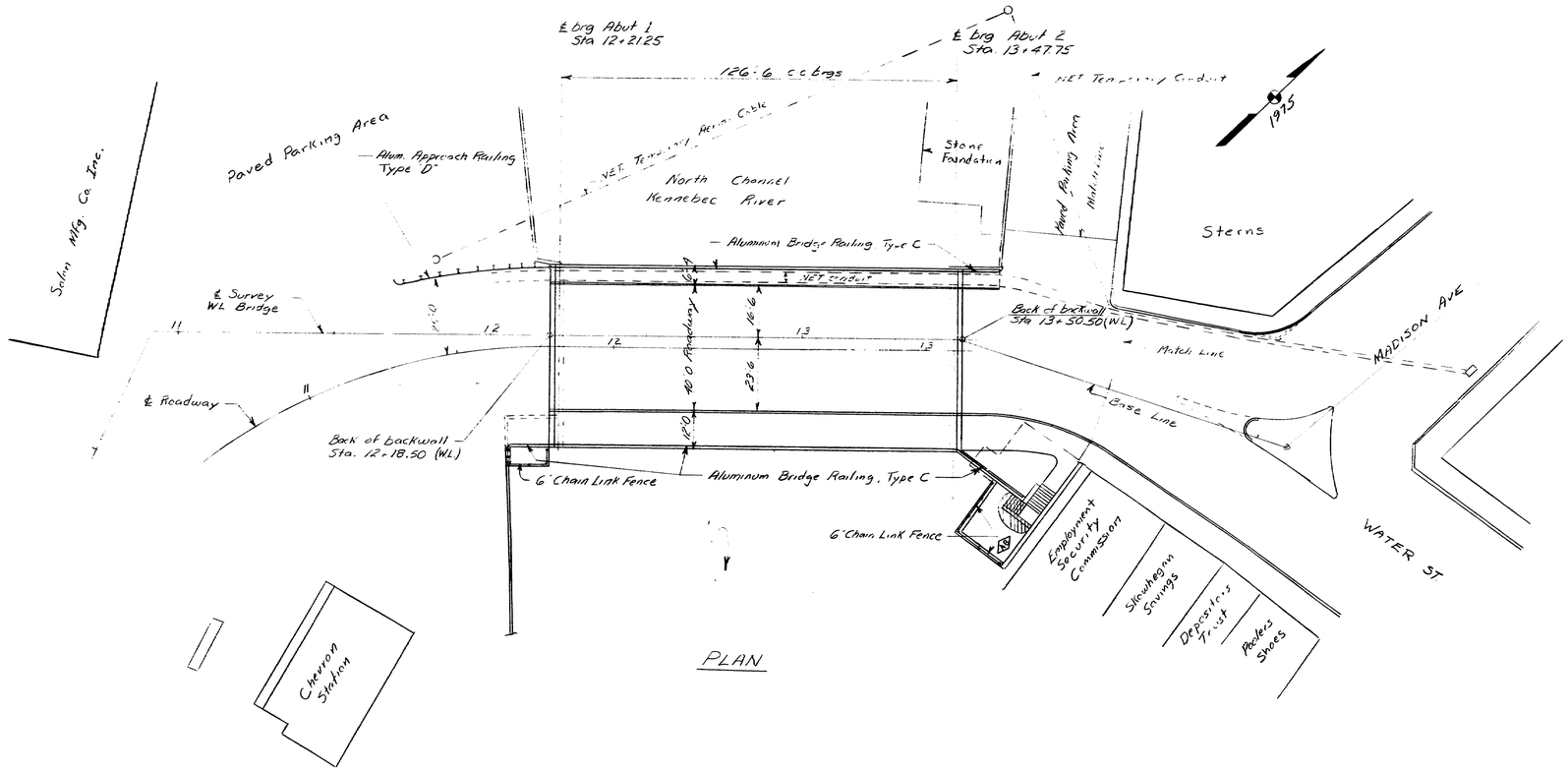
SHEET OF AUGUSTA, MAINE

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

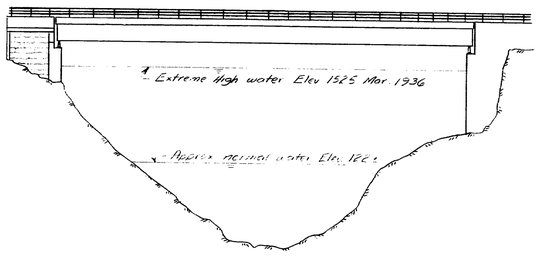
JANUARY 1988

167-127

| F.A.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 7 | 71 |




PLAN




ELEVATION
(Bridge profile - level)

## CONSTRUCTION NOTES

1. All utility plant shall be adjusted by the respective utilities unless otherwise noted.
2. Refer to the Right of Way Map for construction limits and Right of Way information.
3. Removal of existing masonry abutments and retaining walls will be paid for at the contract unit price for Structural Excavation Abutments and Retaining Walls.
4. Removal of existing railings on approach retaining walls will be considered incidental to contract items and become the property of the Contractor.
5. All work incidental to maintenance of vehicular and pedestrian traffic will be paid under Special Detour, 22± foot Roadway Width, Vehicular and Pedestrian Traffic Separated, Item 510.1201. See Special Provisions.
6. Removal of existing superstructure will be paid under Removal of Existing Superstructure (Property of Contractor), Item 202.10.
7. Sidewalk concrete on approaches, slab concrete at Abutment 1 extension and concrete in Scenic Overlook will be paid under Structural Concrete, Abutments and Retaining Walls, Item 502.21
8. All utility openings in the abutments shall be sealed in a manner approved by the Engineer.
9. Remove 14'± of beam type guard rail at downstream approach to Abutment 1 as directed by the Engineer. This work shall be considered incidental to contract items.

## INDEX OF NORTH CHANNEL BRIDGE PLANS


| | |
|---|---|
| General Plan | 7 |
| Survey | 8 |
| Special Detours | 9 |
| Special Detours Details | 10 |
| Abutment No. 1 | 11 |
| Abutment No. 2 | 12 |
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| Scenic Overlook | 14 |
| Scenic Overlook Details | 15 |
| Structural Steel | 16 |
| Armored Joint Details | 17 |
| Temporary Support System | 18 |
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| Superstructure Details | 20 |
| Bottom of Slab Elevations | 21 |
| Aluminum Railing | 22 |
| Reinforcing Steel Schedule | 23, 24 |
| Sewer Relocation | 25 |


As Built 7-5-77 DAG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

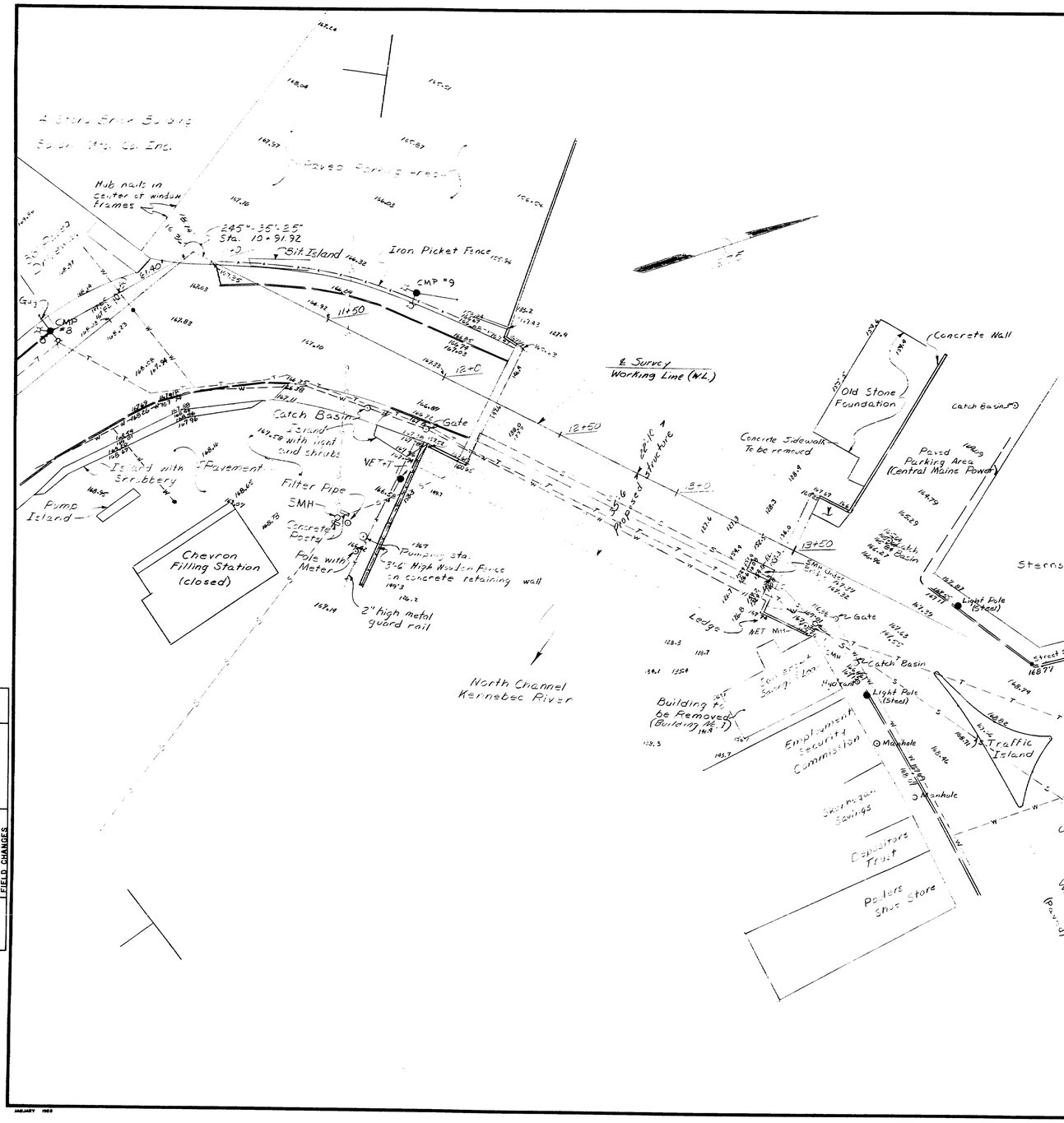
GENERAL PLAN

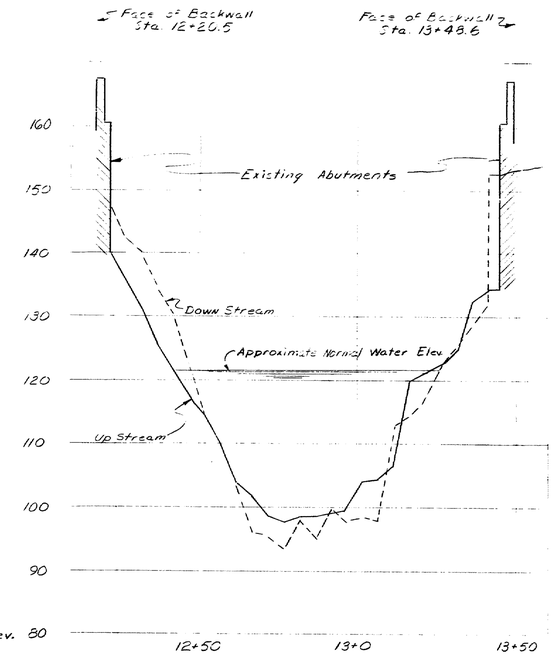
SHEET OF AUGUSTA, MAINE

167-128

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | JET | 11/75 |
| | CHECKED | | |
| | REVISIONS | | |
| | FIELD CHANGES | | |

| F.E.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-J-025-2(23) | 8 | 71 |




PROFILE
(North Channel)

Legend

Water Main ———W———
Telephone cables (underground) ———T———
Sewer Main ———S———

Survey Plotted DMD 3/31/25

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

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

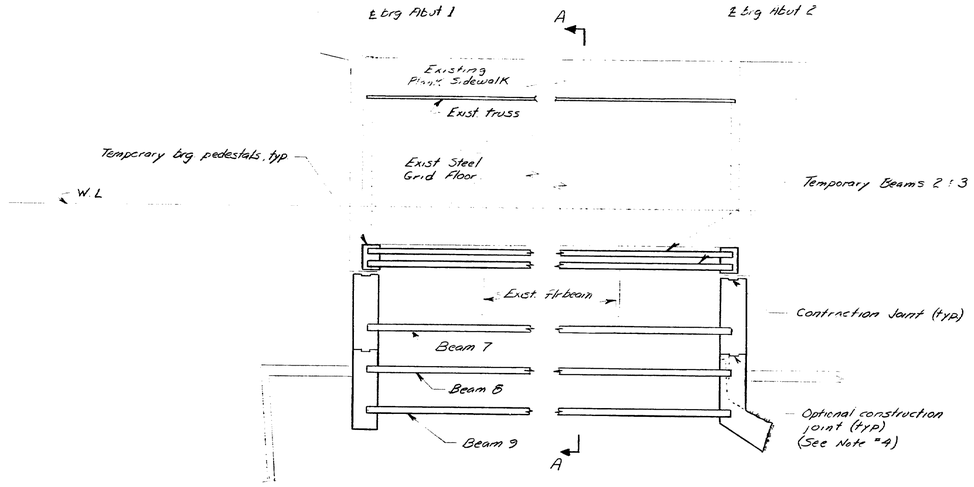
*SURVEY*

SHEET OF AUGUSTA, MAINE

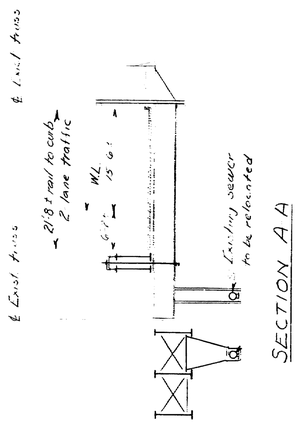
JANUARY 1963

167-129

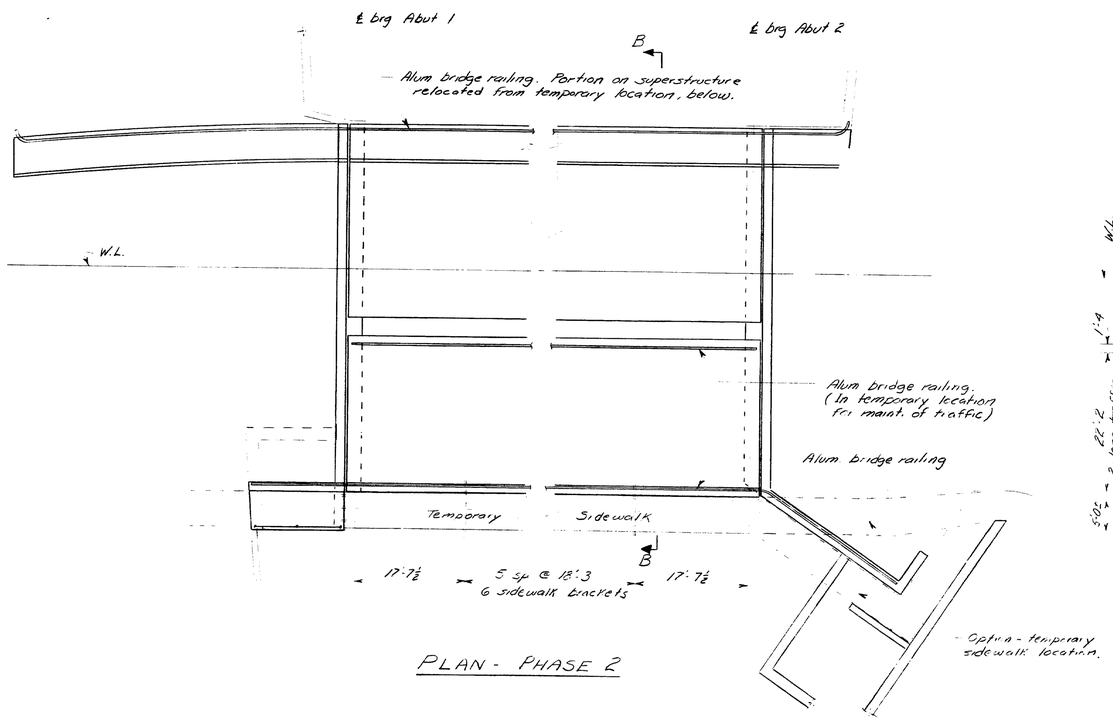
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 9 | 71 |



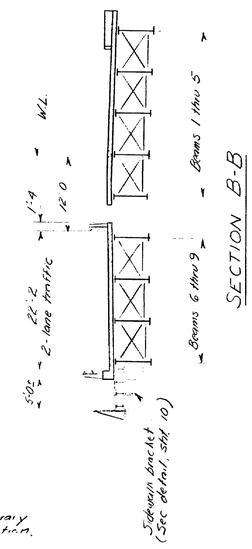

PLAN - PHASE 1




SECTION A-A




PLAN - PHASE 2




SECTION B-B

## NOTES - SPECIAL DETOURS

1. Two lanes of traffic shall be maintained at all times
2. Construction shall conform to the following sequence, in order to maintain traffic at all times. This sequence is an outline only and is not all inclusive. This sequence shall not be altered without prior approval of the Engineer.

### Phase 1

a) Establish required approach work for Phase 1 (U.S.) traffic.
b) Construct temporary bearing pedestals.
c) Remove D.S. grid floor and erect Temporary Beams 2 & 3.
d) Remove existing D.S. sidewalk, D.S. truss, and portions of existing D.S. abutments.
e) Construct D.S. breastwalls for beams 6, 7, 8 & 9.
f) Erect beams 7, 8 & 9, (including diaphragms and crossframes) and relocate existing sewer. (See sheet 25.)
g) Sever existing floorbeams and remove remaining D.S. superstructure.
h) Erect beam 6.
i) Construct D.S. superstructure and abutment backwalls for Phase 2 traffic.
j) Erect bridge railings and temporary sidewalk.

### Phase 2

l) Establish required approach work for Phase 2 traffic.
m) Remove existing U.S. superstructure, Beams 2 & 3, and U.S. portions of existing abutments.
n) Construct U.S. abutments and superstructure
o) Place center strip of slab.
p) Place U.S. wearing surface
q) Remove bridge railing from temporary location location and install U.S. bridge railing.
r) Remove temporary guard rail and re-direct two lane traffic to U.S. portion providing a minimum of 24' roadway (not shown).
s) Remove temporary sidewalk.
t) Construct D.S. sidewalk and place D.S. wearing surface.

3. See Special Provisions, Section 510, Special Detour, 22± foot Roadway Width, Vehicular & Pedestrian Traffic Separated.
4. As an alternate to the construction sequence in Phase 1, the existing downstream sidewalk may be removed before erection of temporary beams 2 and 3 allowing for the substructure construction for beams 8 and 9. The construction of the substructure for beams 6 and 7 require truss removal.

See sheet 10 for Temporary Bearing Pedestal
See sheet 10 for Temporary Sidewalk
See sheet 18 for Temporary Floorbeam Support
See sheet 20 for temporary railing location

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | JET | 11/75 |
| | CHECKED | JET | 11/75 |
| | REVISIONS | | |
| | FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

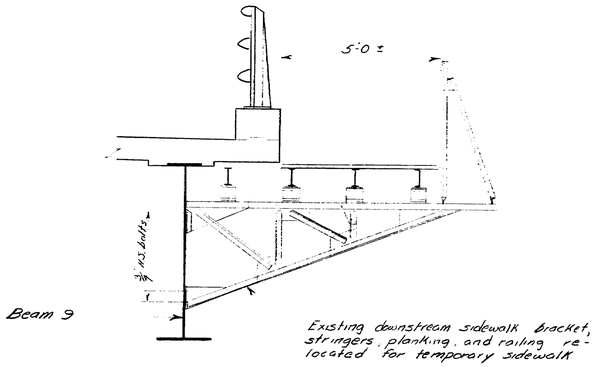
**NORTH CHANNEL BRIDGE**
OVER THE
**KENNEBEC RIVER**
IN THE TOWN OF
**SKOWHEGAN**
**SOMERSET COUNTY**

SPECIAL DETOURS

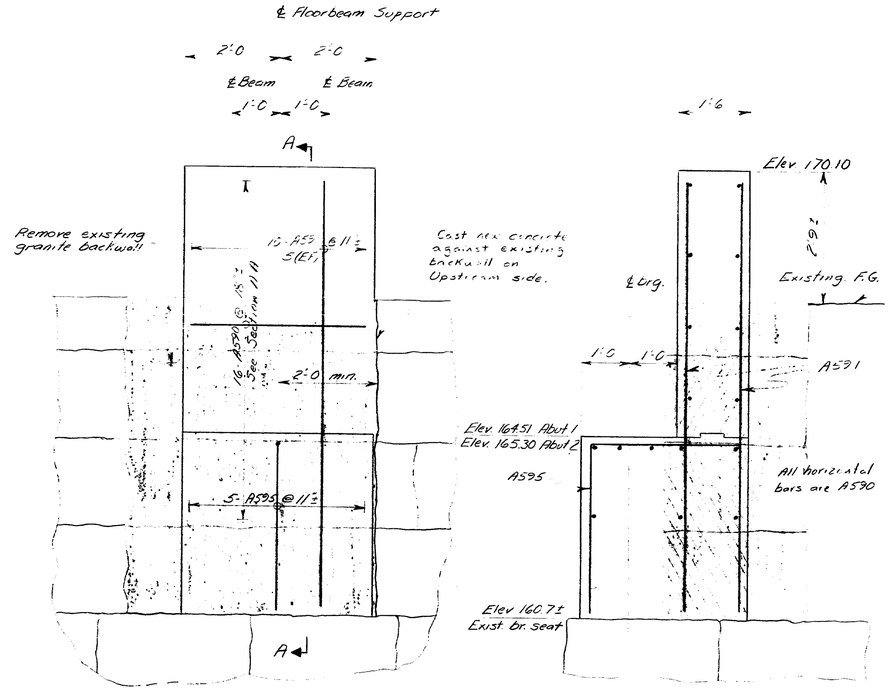
SHEET OF AUGUSTA, MAINE

167-130

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 10 | 71 |




SIDEWALK BRACKET DETAIL




ELEVATION

SECTION A-A

TEMPORARY PEDESTAL

Abutment 1 shown
Abutment 2 opposite hand

## NOTES - TEMPORARY SIDEWALK

1. All work done on the temporary sidewalk shall comply with Section 510 - Special Detours. Payment will be made under Pay Item 510.1201.
2. The existing downstream sidewalk brackets and stringers may be used in the temporary sidewalk. The cantilevered portion of Abutment #1 may serve as support for the stringers. The Contractor must provide for stringer support at Abutment #2. The existing brackets and stringers will be considered structurally adequate
3. There shall be no steps in the temporary sidewalk

## NOTES - TEMPORARY PEDESTAL

1. The temporary concrete pedestals shall be in place a minimum of five days prior to erection of steel
2. Concrete for temporary concrete pedestals and the removal of temporary pedestals will be included for payment under Item 510.1201. Reinforcing steel fabricated & delivered and placed will be paid for under Items 503.12 and 503.13 respectively.

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | JET | 11/75 |
| | CHECKED | JET | 11/75 |
| | REVISIONS | MYF | 11/75 |
| | FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

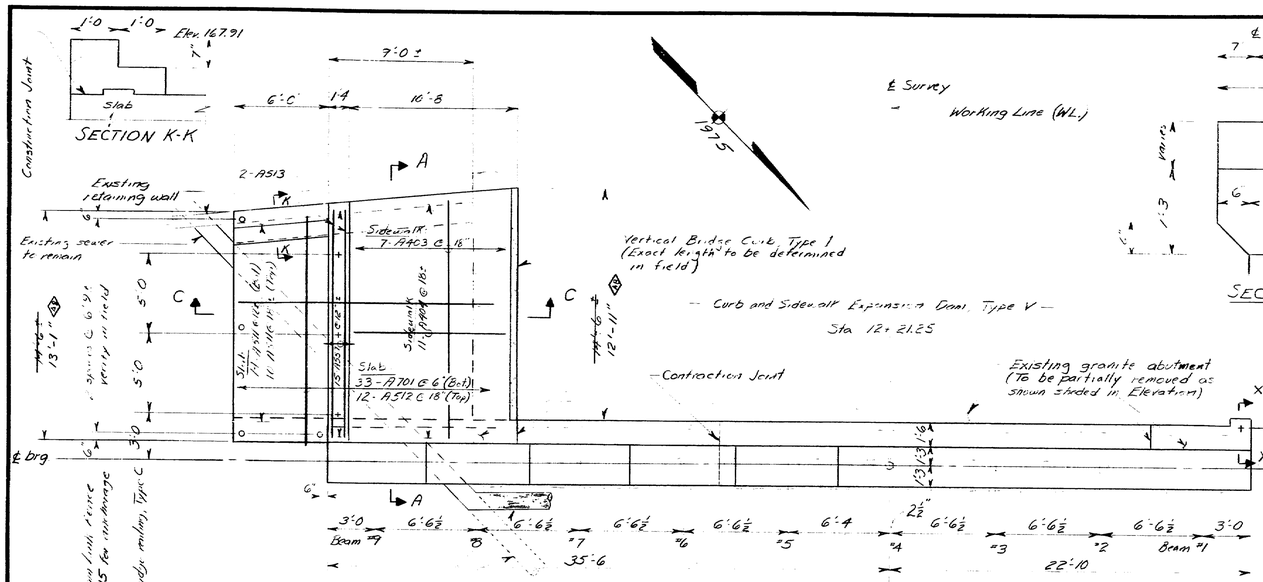
NORTH CHANNEL BRIDGE
OVER THE
KENNEBEC RIVER
IN THE TOWN OF
SKOWHEGAN
SOMERSET COUNTY

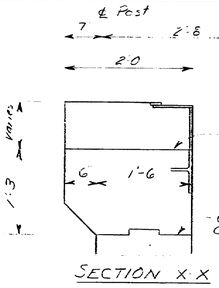
SPECIAL DETOURS DETAILS

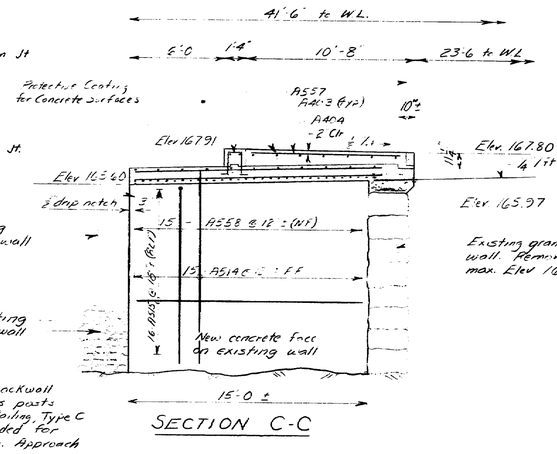
SHEET OF AUGUSTA, MAINE

167-131

| F.A. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| | MAINE | BRF-U-025-2(03) | 11 | 71 |

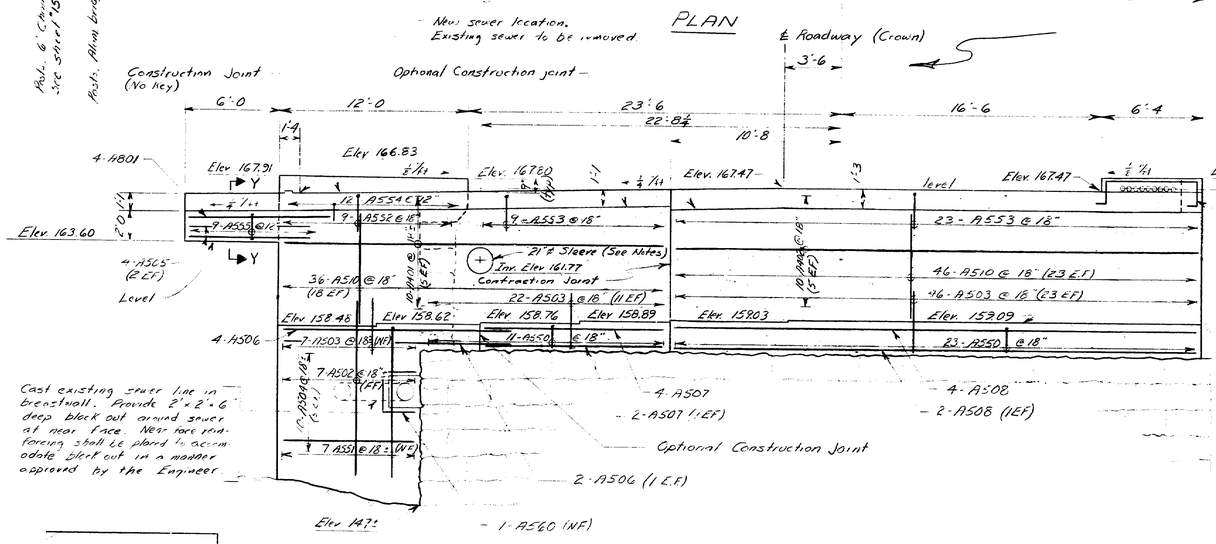




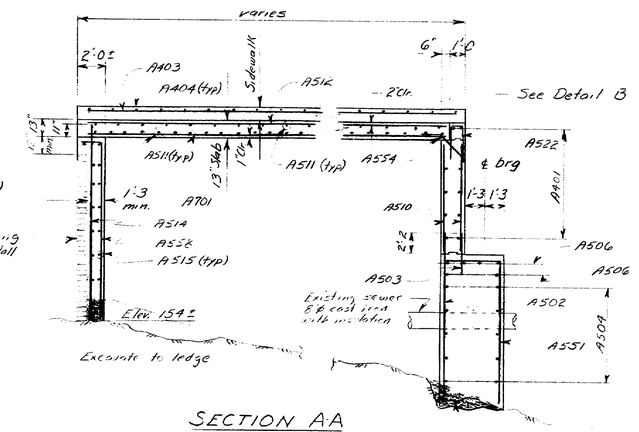


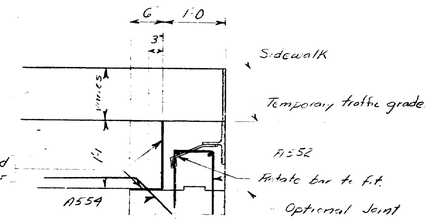



ELEVATION

References:

| | |
|---|---|
| Abutment details and notes | Sheet 13 |
| Construction and Contraction Joints | Sheet 60 |
| Curb and Sidewalk Expansion Joints | Sheet 61 |
| Aluminum Bridge Railing | Sheets 62, 63, 64 |
| Chain Link Fence | Sheet 15 & 69 |
| Vertical Bridge Curb, Type 1 | Sheet 66 |




PROJECT DESIGN ENGINEER

PLANS

| | BY | DATE |
|---|---|---|
| DESIGN - DETAILED | JET | 11/7/73 |
| CHECKED | JET | |
| REVISIONS | INIT. | |
| FIELD CHANGES | | |

As Built 7-5-74 DAB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

ABUTMENT NO. 1

SHEET OF AUGUSTA, MAINE

167-132

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 12 | 71 |

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | JET | 11/75 |
| | CHECKED | ANF | 11/76 |
| | REVISIONS | | |
| | FIELD CHANGES | | |

Rail, Alum. bridge railing, Type C

1-A566

1-A566

Existing granite wingwall. Remove as required for sidewalk

7'-11

13 A557 @ 12"

12 A538 @ 12" (GT & B)

26 A557 @ 12" (A529)

6'-4

13'-0

5'-6

℄ brg.

40'-0 curb to curb

℄ Survey

W.L.

Sta. 13+47.75 Contraction Joint

Optional Construction Joint

Existing granite abutment Remove as shown in Elevation (Shaded area)

Limit of French Drain

Existing granite wing wall. Remove to subgrade

122°-00'-00"

7'-4

1'-6

3'-0

2'-0

2-A566 (typ)

3 @ 7'-0" Rail, bridge railing, Type C Verify in field Lined in (*)

20'-6½" (* See Note)

Elev. 156.2±

Existing rock wall See Rock wall, sheet #4

* Note: Limits of wall to be verified in the field when wall is uncovered. Wall will be determined from this line

6'-6

90°

V

3'-6

1'-6

1'-6

3'-0

3'-6

6'-6½

6'-6½

6'-6½

6'-6½

6'-6½

6'-6½

6'-6½

6'-6½

3'-0

Beam #1

#2

#3

#4

#5

#6

#7

#8

#9

2½"

22'-10"

35'-6

PLAN

Existing concrete sewer manhole to remain

24 A526 17 A529

6 @ 12½" c to c

7 A530 (6 Nr. 1 FF) @ 18"

Bottom of Footing Elev. 134.0±

4 Drains A540 (FF) (Drilled and grout in place)

Construction Jt.

Elev. 147.91

Contraction Joint

Elev. 153.20

Abut. Breastwall

4 A531 @ 18"

* Note: Step ledge in a manner approved by the Engineer.

Elev. 132±

Elev. 144.60 Optional Construction Jt.

A528 @ 12½" (typ)

4 A527 @ 18" Drill & Grout

ELEVATION

22'-10

23'-6

12'-0

22'-8½"

6'-4

20'-0

℄ Roadway (Crown)

20'-0

10'-8

1'-4

3'-6

7'-2

Elev. 167.87

9 NET conduits (by others)

Elev. 167.05

9" (typ)

167.47

Elev. 166.83

Elev. 167.80

Elev. 167.91

2-A564 (1EF)

23-A562 @ 18"

Contraction Joint

17-A562 @ 18"

21" ø Sleeve (See Note)

2-A563 (1EF)

2-A534 (1EF)

46-A532 @ 18" (23 EF)

46-A531 @ 18" (23 EF)

34-A532 @ 18" (17 EF)

Inv. Elev. 161.77 (17 EF)

34-A531 @ 18"

Elev. 159.39

Elev. 159.53

Elev. 159.67

Elev. 159.80

Elev. 159.82

Elev. 159.68

Elev. 159.55

Elev. 159.41

Elev. 159.26

* Elev 157.0±

23-A561 @ 18"

4-A533

2-A533 (1EF)

16-A561 @ 18"

4-A525

2-A526 (1EF)

1-A524 (FF)

2-A523 (1EF)

4-A526

8-A527 @ 18" (FF)

* Remove existing granite backwall and breastwall to two courses below existing bridge seat.

Optional construction Jt.

Existing sewer

8-A522 @ 18½"

8-A521 @ 18½"

Elev. 144.60 Optional Construction Jt.

Elev. 132±

ELEVATION

References:

| | |
|---|---|
| Abutment details and notes | 13 |
| Construction & contraction joints | 60 |
| Curb & Sidewalk Expansion Dams | 41 |
| Alum. Bridge Railing, Type C | 22 63 64 |

As Built 7-5-77

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
SOMERSET COUNTY

**ABUTMENT NO.2**

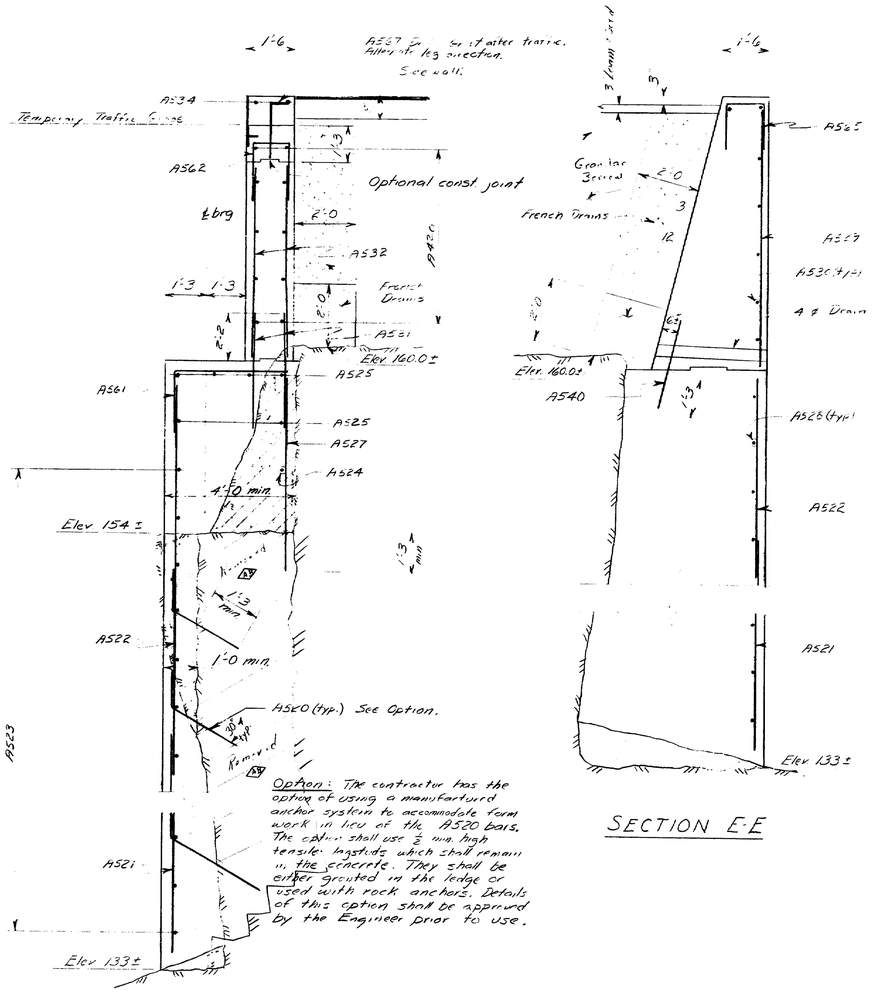
SHEET OF AUGUSTA, MAINE

JANUARY 1968

3004 2000

167-133

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-525-2(23) | 13 | 71 |

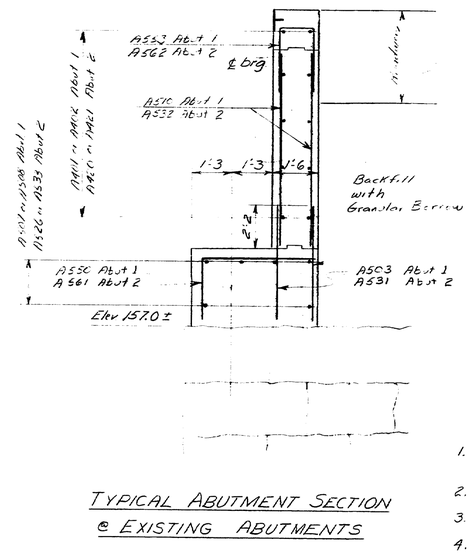



Option: The contractor has the option of using a manufactured anchor system to accommodate form work in lieu of the A520 bars. The option shall use ½ min. high tensile lagstuds which shall remain in the concrete. They shall be either grouted in the ledge or used with rock anchors. Details of this option shall be approved by the Engineer prior to use.

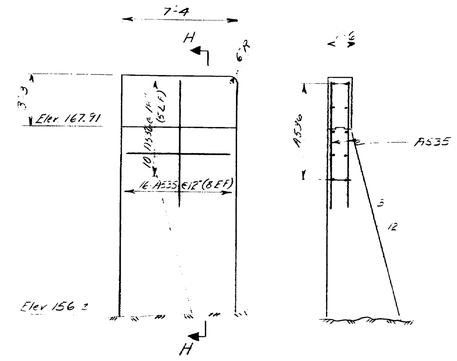
SECTION D-D




SECTION E-E




TYPICAL ABUTMENT SECTION @ EXISTING ABUTMENTS




VIEW V-V

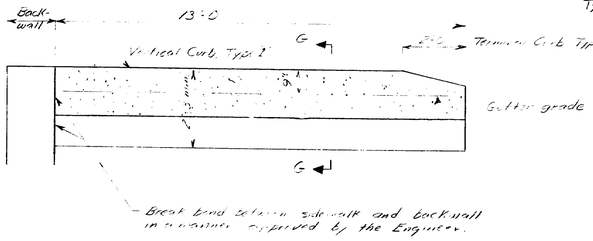
SECTION H-H

## ABUTMENT NOTES

1. Chamfer all exposed edges of concrete ½ inch unless otherwise noted.
2. Reinforcing steel shall have 2 inches cover unless otherwise indicated.
3. Place reinforcing steel in bridge seats to clear anchor bolts.
4. Break bond at vertical contraction joints by a method approved by the Engineer. Place polyvinylchloride waterstops in all vertical contraction joints. Waterstops are not required in horizontal construction joints.
5. Exact location of 4"⌀ drains in Abutment 2 to be determined by the Engineer in the field.
6. Top of backwalls shall have a Wearing Surface finish
7. Protective Coating for Concrete Surfaces shall be applied to the finished backwalls & sidewalks and as otherwise shown.
8. Reinforcing steel splices shall be a minimum of 20 inches for #5 bars unless otherwise shown.
9. Exact locations of 4"⌀ drains will be determined by the Engineer in the field
10. Welding of reinforcing steel will be allowed in the top 2 feet of the abutment backwall.
11. Beams shall be erected prior to backfilling of abutments above Elev. 162.

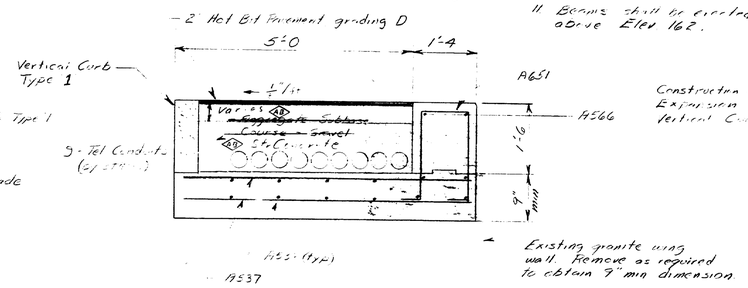
## ABUTMENT NOTES (CONT.)

12. The 21"⌀ sleeve in abutment backwalls will be supplied by Skowhegan Water Company and shall be installed by the Contractor. Installation will be considered incidental to Item 502.21.
13. Grout for reinforcing steel and anchor bolts shall contain an approved non-shrink additive.
14. Polyethelene sheets or an approved impervious coating shall be placed on and around the abutment bearing areas prior to setting the bearing pedestals and shall extend underneath the masonry plates. The abutment breastwalls shall be protected from rust staining by leaving forms in place temporarily or by covering with same materials after removal of forms. The protection materials shall remain in place at least until the completion of the placement of the Structural Concrete Slab. Removal of the stains will not be required unless, in the opinion of the Engineer, the Contractor has not made satisfactory effort to prevent staining.




Break bond between sidewalk and backwall in a manner approved by the Engineer.

VIEW F-F




Existing granite wing wall. Remove as required to obtain 9" min dimension.

SECTION G-G

## REFERENCES

| | |
|---|---|
| Construction & Contraction Joints | 60 |
| Expansion Dams | 61 |
| Vertical Curb | 68 |

As Built 7-5-77 DAG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NORTH CHANNEL BRIDGE
OVER THE
KENNEBEC RIVER
IN THE TOWN OF
SKOWHEGAN
SOMERSET COUNTY

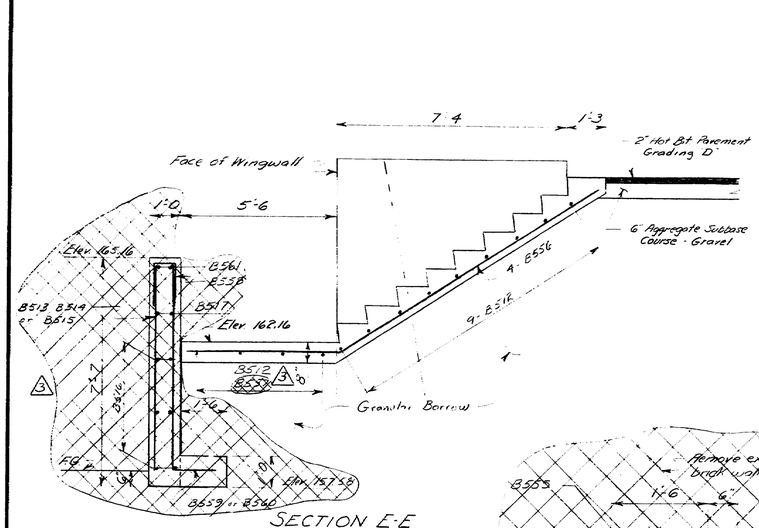
ABUTMENT DETAILS

SHEET OF AUGUSTA, MAINE

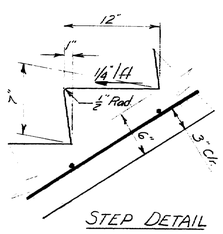
167-134

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN-DETAILED | JET | JET | 11/75 |
| | CHECKED | | | |
| | REVISIONS | | | |
| | FIELD CHANGES | | | |

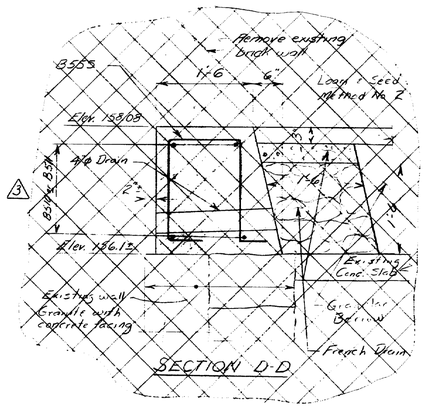
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 14 | 71 |



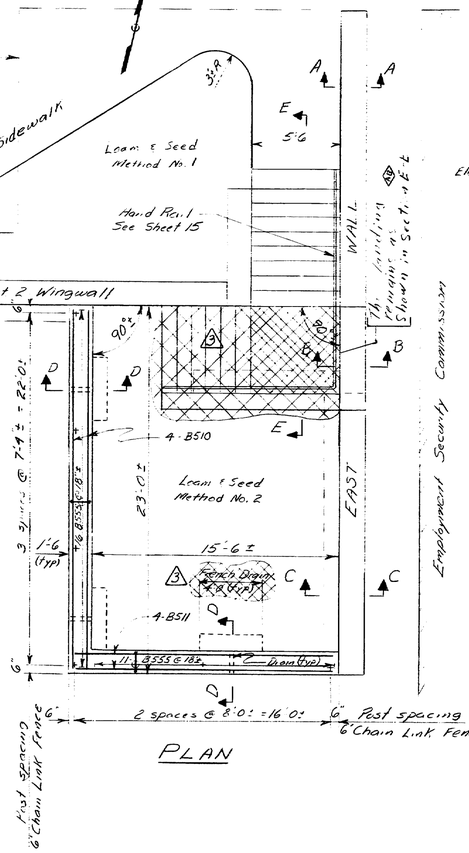

SECTION E-E



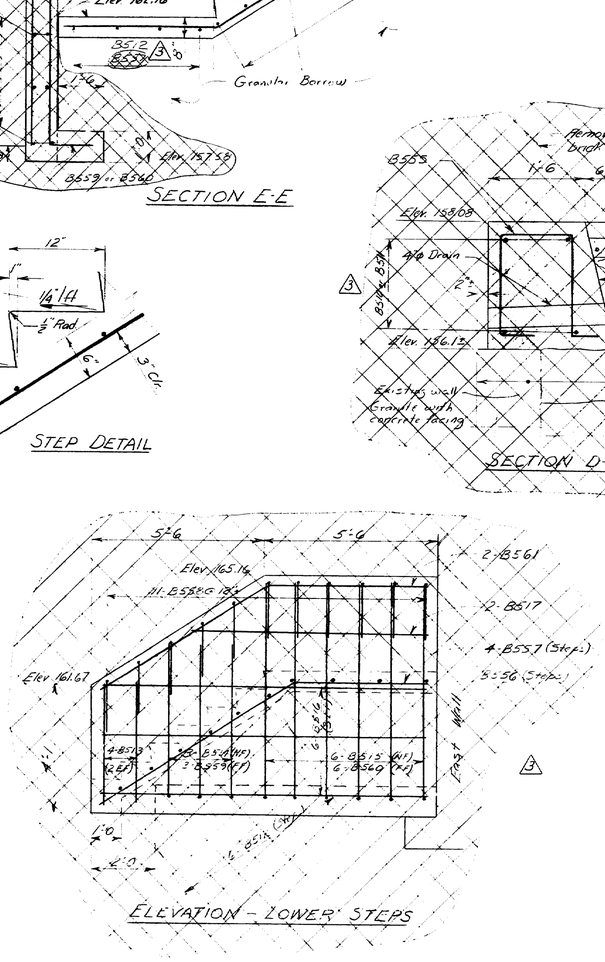

STEP DETAIL



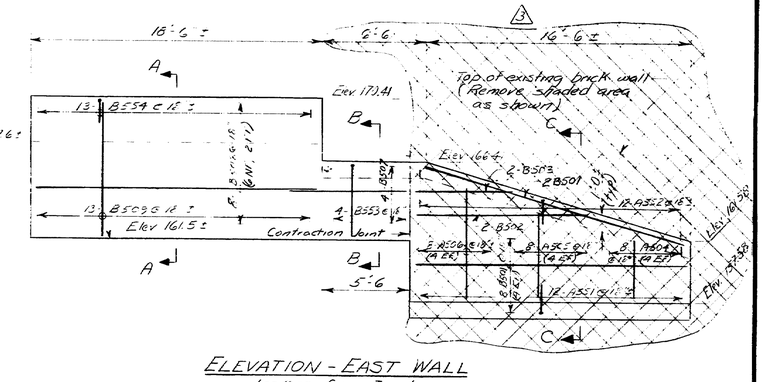

SECTION D-D



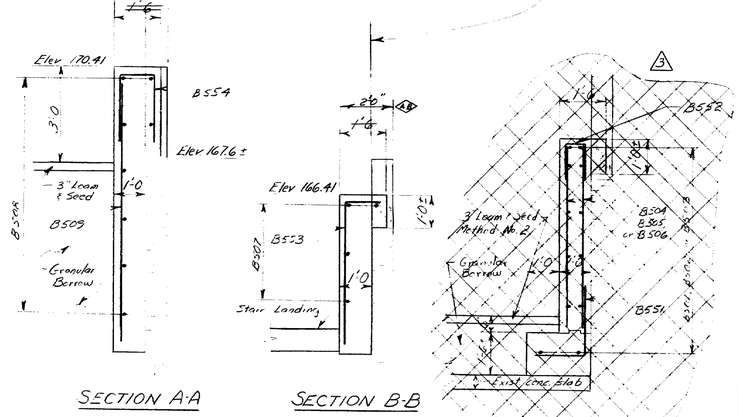

PLAN




ELEVATION - LOWER STEPS




ELEVATION - EAST WALL
Looking From Inside




SECTION A-A

SECTION B-B

SECTION C-C

NOTES - SCENIC OVERLOOK

1. Reinforcing steel shall be cut to fit dimensions if necessary. Such cutting shall be considered as incidental to Item 503.13.
2. Break bond between steps and adjacent concrete surfaces by a method approved by the Engineer.
3. Concrete steps and landing shall have a light broom finish.

References

| | |
|---|---|
| Chain Link Fence and Hand Rail | Sheet 15 |
| 6' Chain Link Fence | Sheet 63 |

3 Revision made 7-20-76 See sheet 14-A for changes.

4 As Built 7-5-77 TAG

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | JET | 11/75 |
| | CHECKED | RWF | 11/75 |
| | REVISIONS | | |
| | FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

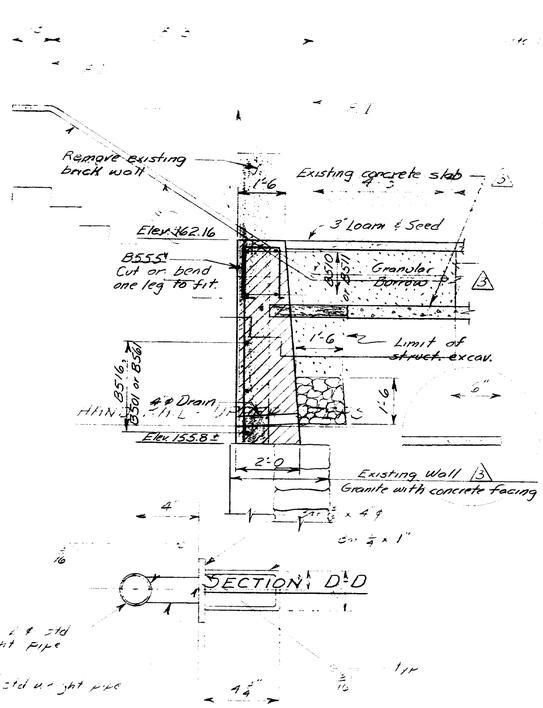
# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

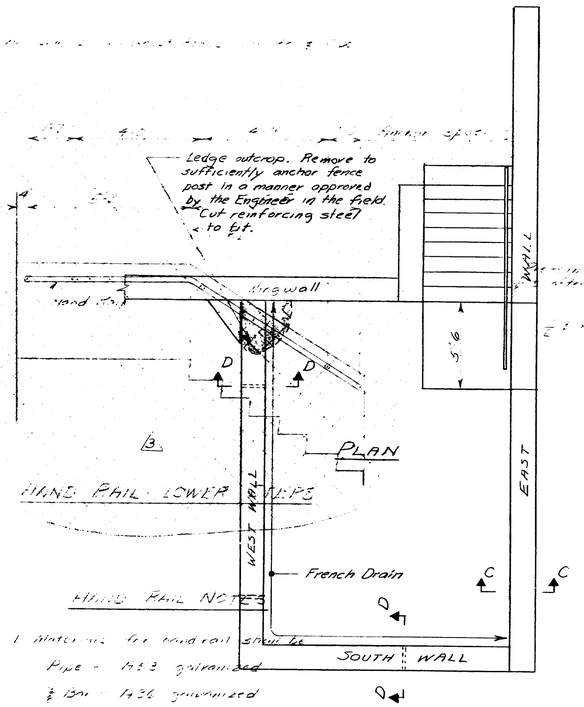
SCENIC OVERLOOK

SHEET OF AUGUSTA, MAINE

167-135

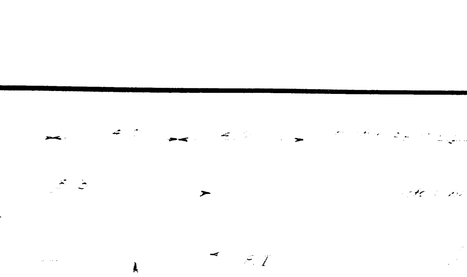
| F.A. OR S.A.P. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-1105-2(25) | 14A | — |



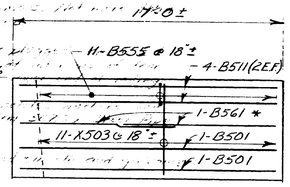




RAILING RAIL NOTES

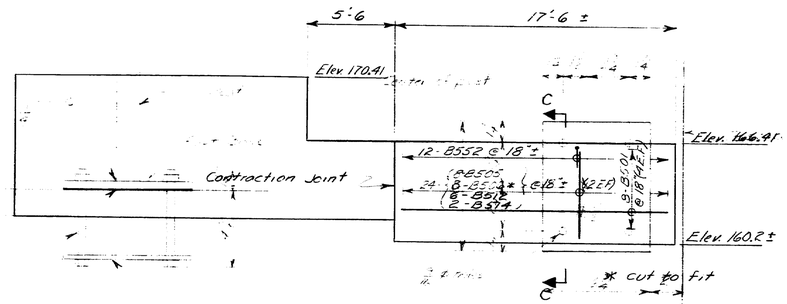
1. Material for round rail shall be
   Pipe - A53 galvanized
   3/4 Bar - A36 galvanized
   1/2 Bar - A36
2. Anchors shall be cast in concrete
   Material shall be continuous flat bars
   one inch shall be cut
   Bars crossing shall be welded
   Bars shall be welded




ELEVATION - WEST WALL



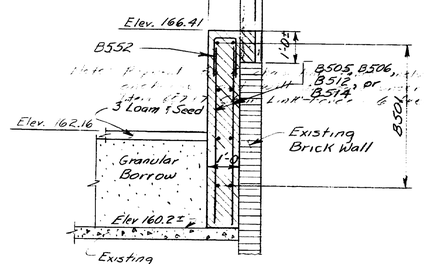

ELEVATION - SOUTH WALL



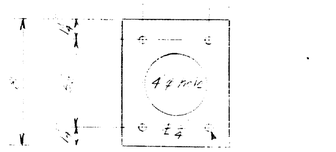

ELEVATION - EAST WALL

POST ANCHORAGE DETAIL

Anchor bolts shall be ASTM A307 galvanized
Post base shall be galvanized
Spacer plate shall be ASTM A36




POST BASE DETAIL




SPACER PLATE DETAIL

ANCHORAGE FOR 6' CHAIN LINK FENCE

SECTION C-C

REVISION NOTES

1. This sheet shows the revisions of sheet #14 labeled as 3. See sheet #14 for details

3 Revision made [illegible]

| PROJECT ENGINEER ENGINEER | BY | DATE |
|---|---|---|
| PLANS DESIGN DETAILED | JET | 7/72 |
| DESIGN CHANGES | JET | 7/72 |
| REVISIONS | | |
| FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

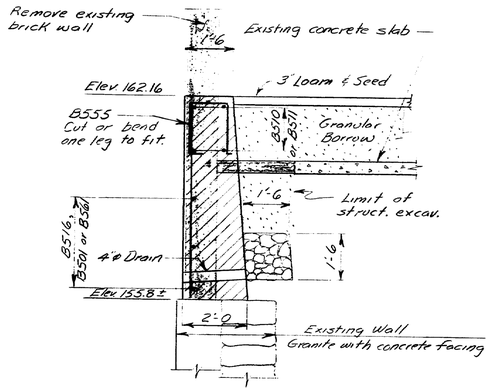
# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

RECEIVED OSBORN-DEVEREUX

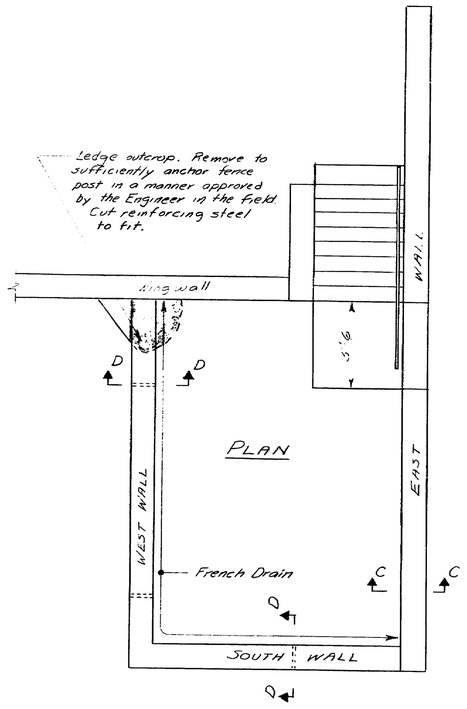
SHEET OF AUGUSTA, MAINE

67-130

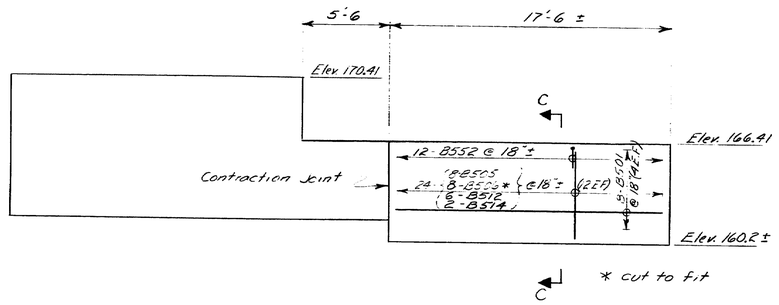
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025 283 | 14-A | |



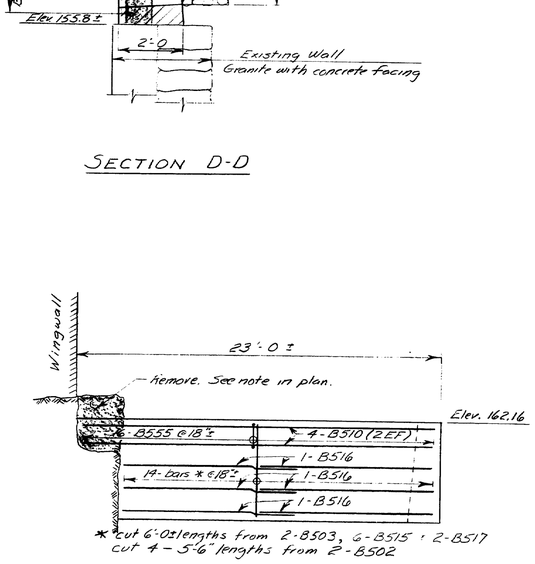

SECTION D-D



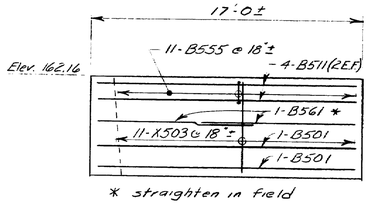

PLAN



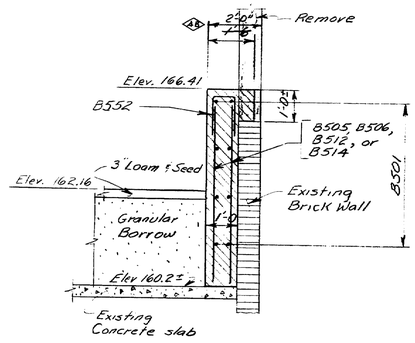

ELEVATION - EAST WALL




ELEVATION - WEST WALL




ELEVATION - SOUTH WALL




SECTION C-C

## REVISION NOTES

1. This sheet shows the revisions of sheet #14 labeled as (3). See sheet #14 for details not revised.

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | JET | 2/78 |
| | CHECKED | RJL | 2/78 |
| | REVISIONS | | |
| | FIELD CHANGES | | |

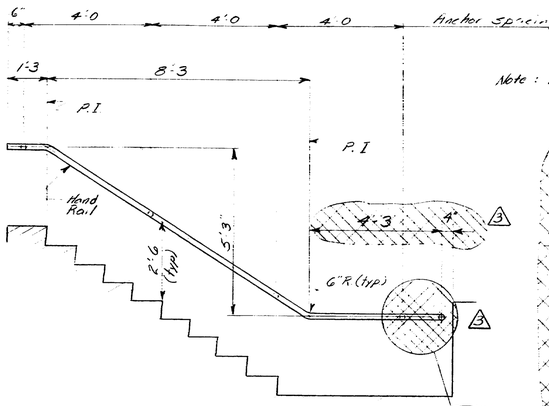
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NORTH CHANNEL BRIDGE
OVER THE
KENNEBEC RIVER
IN THE TOWN OF
SKOWHEGAN
SOMERSET COUNTY
*REVISED SCENIC OVERLOOK*

SHEET OF AUGUSTA, MAINE

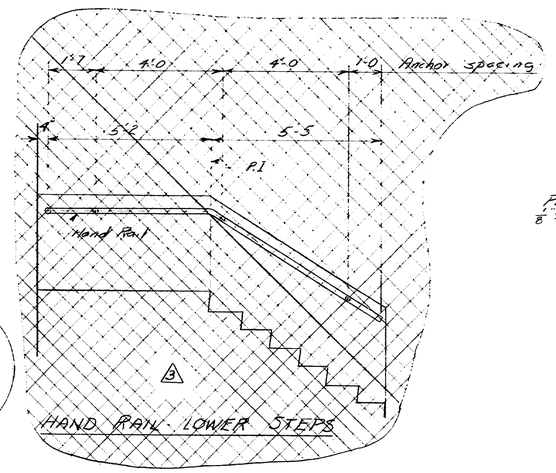
167-136

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 15 | 71 |

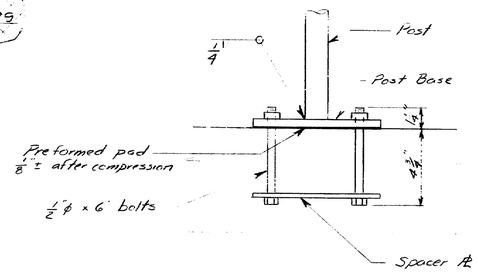



HAND RAIL - UPPER STEPS

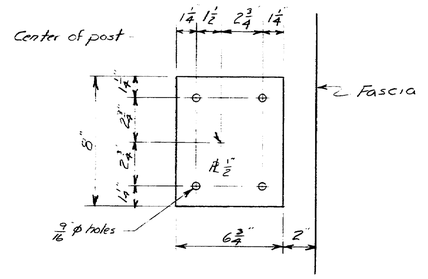
Note: All dimensions (except Radius) are to ℄ Pipe.




HAND RAIL - LOWER STEPS



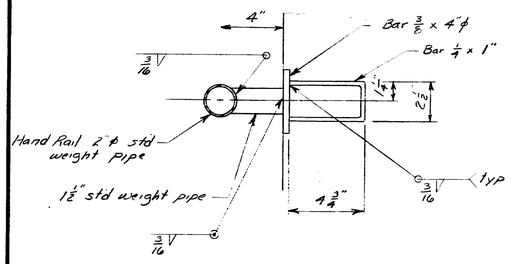

POST ANCHORAGE DETAIL




POST BASE DETAIL

Anchor bolts shall be ASTM A307 galvanized.
Post base shall be ASTM A36 galvanized.
Spacer plate shall be ASTM A36

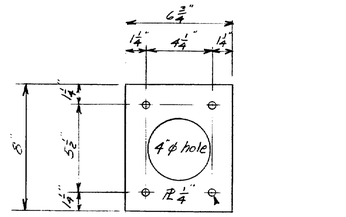
Note: Payment for 6' chain link fence includes anchorage and will be paid under Item 607.17 Chain Link Fence - 6 feet.




HAND RAIL SECTION @ ANCHOR

## HAND RAIL NOTES

1. Materials for hand rail shall be:
   - Pipe - A53 galvanized
   - 3/8 Bar - A36 galvanized
   - 1/4 Bar - A36
2. Anchors shall be cast in concrete
3. Hand rail shall be continuous. Not more than one splice shall be used.
4. Ends of railings shall be plugged. Provide 1/4" ϕ holes in bottom of railing at intervals of four feet ± at at 1 inch from lower end of railing.
5. Payment for hand railing includes anchors and will be paid for under Item 507.09, Steel Pipe Hand Railing.
6. All welds shall be ground smooth and galvanized.




SPACER PLATE DETAIL

ANCHORAGE FOR 6' CHAIN LINK FENCE

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS — DESIGN - DETAILED | J.E.T. | 11/75 |
| CHECKED | J.E.T. | 11/75 |
| REVISIONS | M.V.F. | |
| FIELD CHANGES | | |

3 Revision made 7-20-76

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

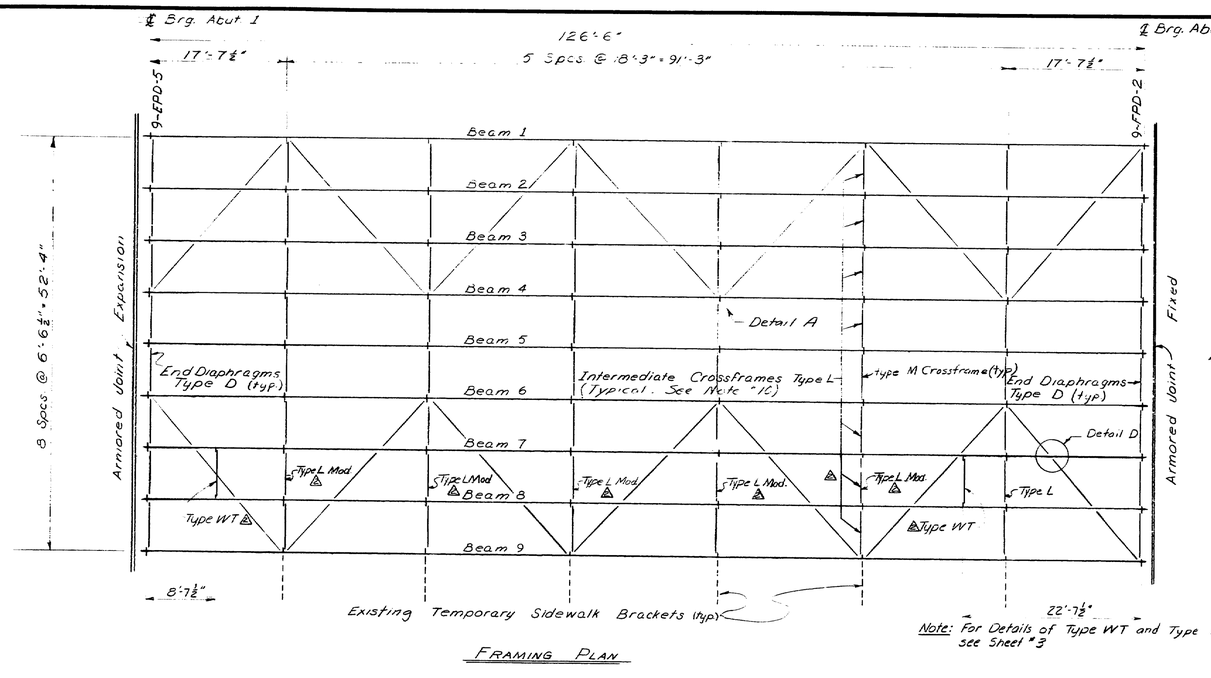
# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

SCENIC OVERLOOK DETAILS

SHEET OF AUGUSTA, MAINE

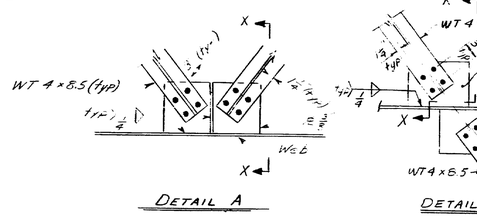
167-137

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 16 | 71 |




FRAMING PLAN

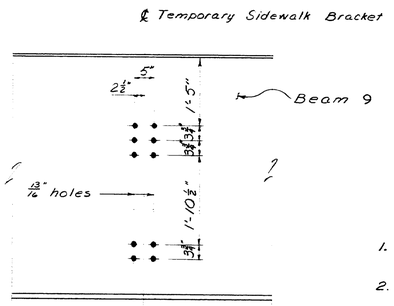
Note: For Details of Type WT and Type L Mod. see Sheet # 3




DETAIL A

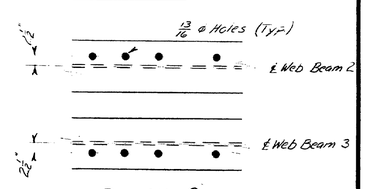
DETAIL D

SECTION "XX"




DETAIL B

Plug holes with corrosion resistant carriage bolts after use.

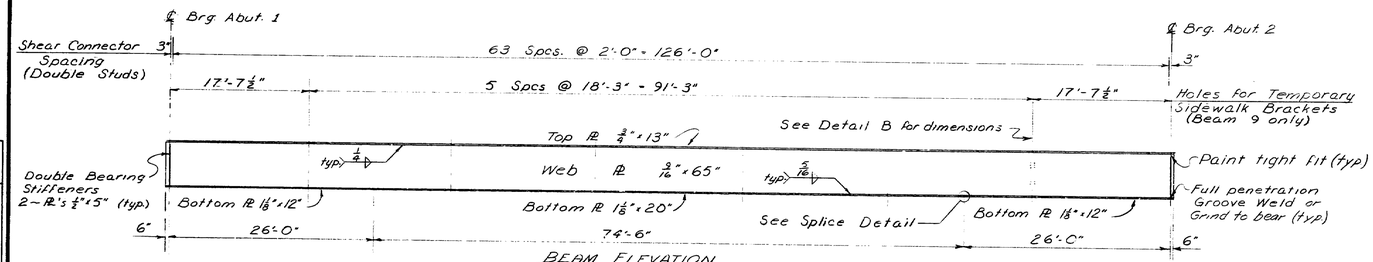



DETAIL C

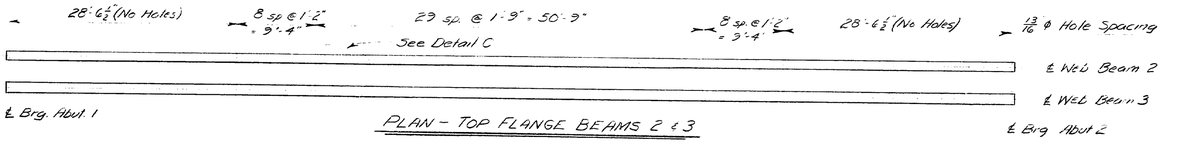
## FABRICATION NOTES

1. All structural steel shall be ASTM A588 unless otherwise noted.
2. All dimensions are horizontal or vertical.
3. All bolts shall be ⅞" ø A325 Type 3, unless otherwise noted. Holes for bolts shall be 15/16" dia. unless otherwise noted
4. Camber ordinates, as shown on this sheet, are computed to compensate for all dead load deflections.
5. No transverse butt weld splices in the flange plates or web plates within 10 feet from the ℄ of span will be allowed
6. Sections of flange plates or web plates between transverse butt weld splices shall be not less than 20 feet in length.
7. Butt weld splices in flanges shall be not closer than one foot from transverse welds in the web plates.
8. Bearing stiffeners shall be plumb after erection and dead loading of the structure.
9. Crossframe or diaphragm connection plates may be either plumb or normal to the top flange.
10. See sheet # 4 for crossframe connection plates for beams 2 & 3.
11. Structural steel will be supplied and delivered by the Department and shall be erected under this contract. Shop details of the structural steel will be supplied to the Contractor.

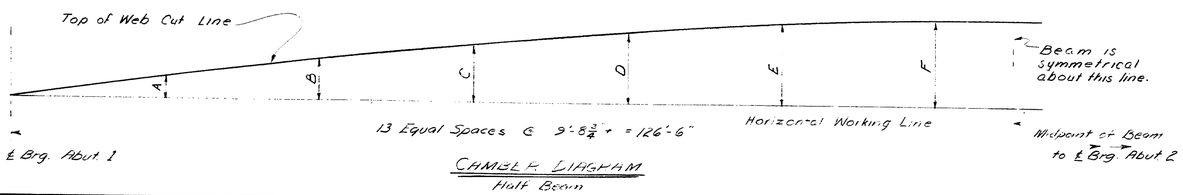
| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | | |
| DESIGN - DETAILED | JET | 3/75 |
| CHECKED | DMG | 5/75 |
| REVISIONS | EBC | 5/75 |
| FIELD CHANGES | | |



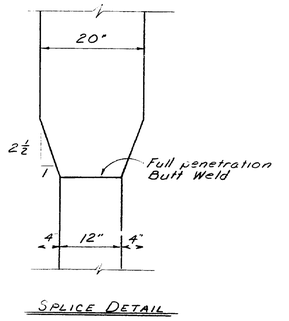

BEAM ELEVATION




PLAN - TOP FLANGE BEAMS 2 & 3




CAMBER DIAGRAM
Half Beam




SPLICE DETAIL

| CAMBER (inches) | | | | | | |
|---|---|---|---|---|---|---|
| Beam | A | B | C | D | E | F |
| 1, 2, 3, 4, 6 & 7 | 1 3/8 | 2 9/16 | 3 11/16 | 4 1/2 | 5 1/16 | 5 3/8 |
| 5 | 1 3/16 | 2 5/16 | 3 1/4 | 4 | 4 1/2 | 4 13/16 |
| 8 & 9 | 1 1/16 | 2 1/4 | 3 5/16 | 4 3/16 | 5 1/16 | 5 3/4 |

Revision Made 10-28-75

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

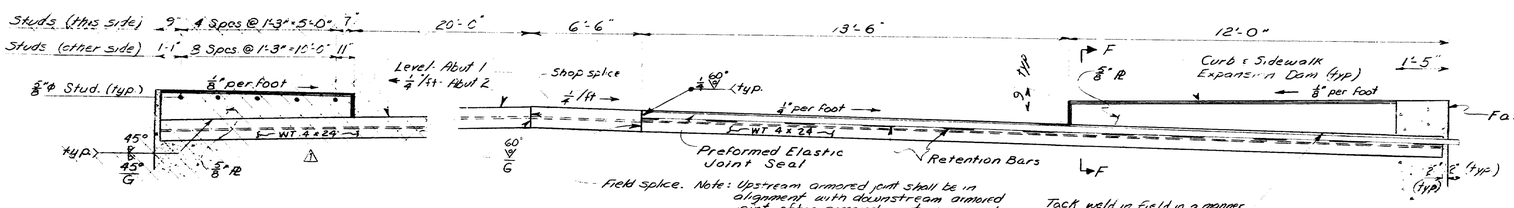
# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

STRUCTURAL STEEL

SHEET OF AUGUSTA, MAINE

167-138.

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-225-2,23) | 17 | 71 |

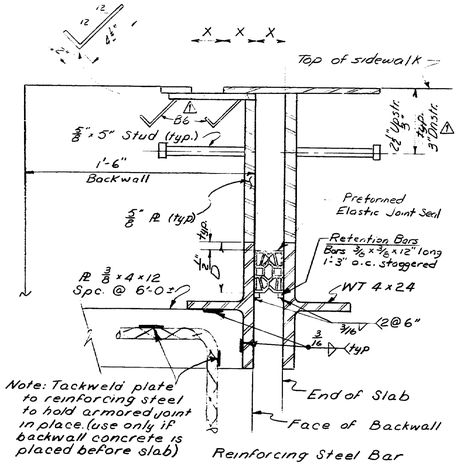



## ARMORED JOINT SEAL NOTES

1. The seals furnished shall be as follows:

| Location | Movement Rating |
|---|---|
| Abut. 1 | 1.5" |
| Abut. 2 | 0.875" |

2. The seal characteristics shall be submitted to the engineer for approval prior to the fabrication of the armored joint and the dimensions "X & D" will be established by the Engineer at the time based on the characteristics of the approved seal.
3. The maximum joint opening shall be 3" at -30° F measured parallel to ℄ Construction.
4. The seal will be supplied by the Department. The Contractor shall splice the seal in a manner approved by the Engineer. The seal shall be protected from damage due to field welding.



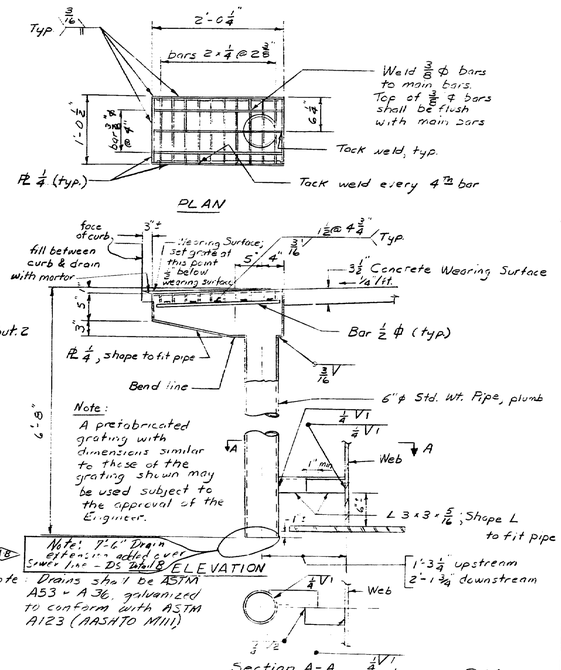

## ARMORED JOINT ELEVATION

The Expansion Dam is not to be welded to the 5/8" armored joint plates

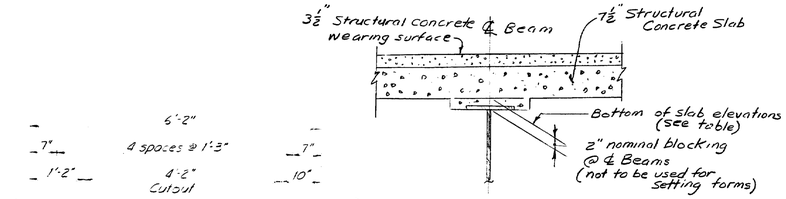
Ref: For armored joint details not shown see Standard Details sheet BD 104-73. For curb and sidewalk expansion dam details not shown, see Standard Details sheet BD 105-74

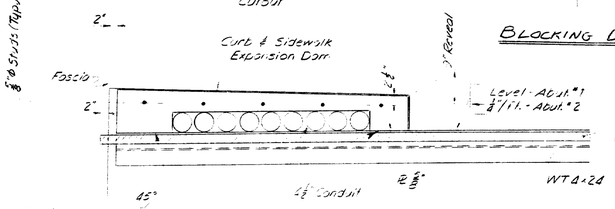
## BLOCKING ELEVATIONS

| BEAM \ POINT | ℄ Brg Abut. 1 | 10' | 20' | 30' | 40' | 50' | 60' | 70' | 80' | 90' | 100' | 110' | 120' | ℄ Brg. Abut. 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beam 1 | 166.56 | 166.61 | 166.66 | 166.69 | 166.72 | 166.72 | 166.69 | 166.65 | 166.58 | 166.50 | 166.40 | 166.28 | 166.16 | 166.07 |
| Beam 2 | 166.56 | 166.63 | 166.68 | 166.73 | 166.76 | 166.77 | 166.76 | 166.72 | 166.67 | 166.60 | 166.51 | 166.40 | 166.29 | 166.21 |
| Beam 3 | 166.56 | 166.64 | 166.70 | 166.76 | 166.80 | 166.82 | 166.82 | 166.79 | 166.75 | 166.69 | 166.61 | 166.51 | 166.41 | 166.34 |
| Beam 4 | 166.56 | 166.65 | 166.72 | 166.79 | 166.84 | 166.87 | 166.88 | 166.87 | 166.84 | 166.79 | 166.71 | 166.64 | 166.55 | 166.48 |
| Beam 5 | 166.50 | 166.58 | 166.65 | 166.71 | 166.76 | 166.80 | 166.81 | 166.81 | 166.79 | 166.75 | 166.69 | 166.63 | 166.55 | 166.50 |
| Beam 6 | 166.36 | 166.46 | 166.54 | 166.61 | 166.67 | 166.71 | 166.72 | 166.72 | 166.70 | 166.65 | 166.59 | 166.51 | 166.42 | 166.36 |
| Beam 7 | 166.23 | 166.32 | 166.40 | 166.48 | 166.53 | 166.57 | 166.59 | 166.58 | 166.56 | 166.51 | 166.45 | 166.38 | 166.29 | 166.23 |
| Beam 8 | 166.09 | 166.19 | 166.27 | 166.35 | 166.40 | 166.44 | 166.46 | 166.46 | 166.43 | 166.39 | 166.32 | 166.24 | 166.15 | 166.09 |
| Beam 9 | 165.95 | 166.05 | 166.14 | 166.21 | 166.27 | 166.31 | 166.32 | 166.32 | 166.29 | 166.25 | 166.19 | 166.11 | 166.02 | 165.95 |




## SECTION "FF"

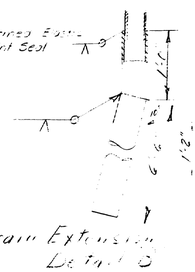


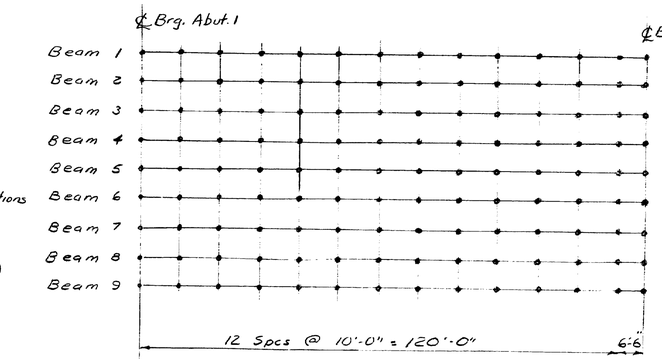




## BLOCKING DETAIL

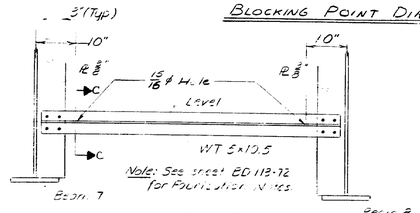
## ARMORED JOINT ELEVATION - LT. SIDEWALK ⚠

The Expansion Dam is not to be welded to the ⅝" armored joint plates.

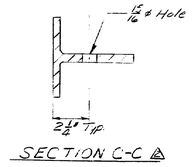


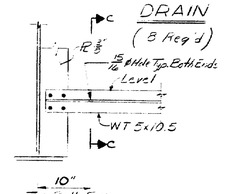




## BLOCKING POINT DIAGRAM




(2 Required)
TYPE WT ⚠
See Sheet #2 for Location.




TYPE L MOD. ⚠
See Type L Standard Detail BD.113-72 For Details Not Shown

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS DESIGN - DETAILED | JCT | 3/75 |
| CHECKED | DMD | 5/75 |
| REVISIONS | EBC | |
| FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

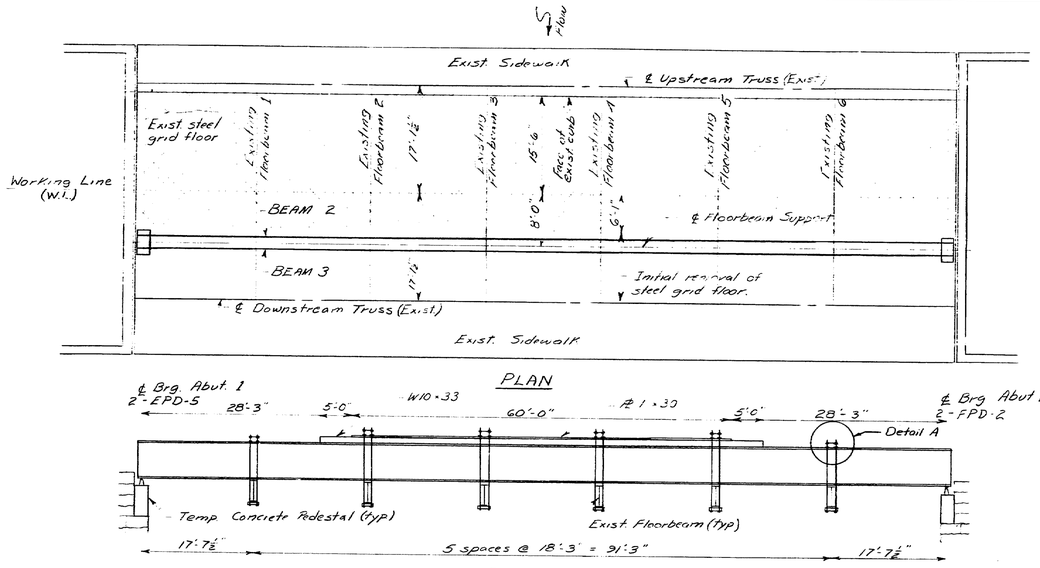
# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

ARMORED JOINT DETAILS

SHEET OF AUGUSTA, MAINE

167-139

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(63) | 18 | 71 |

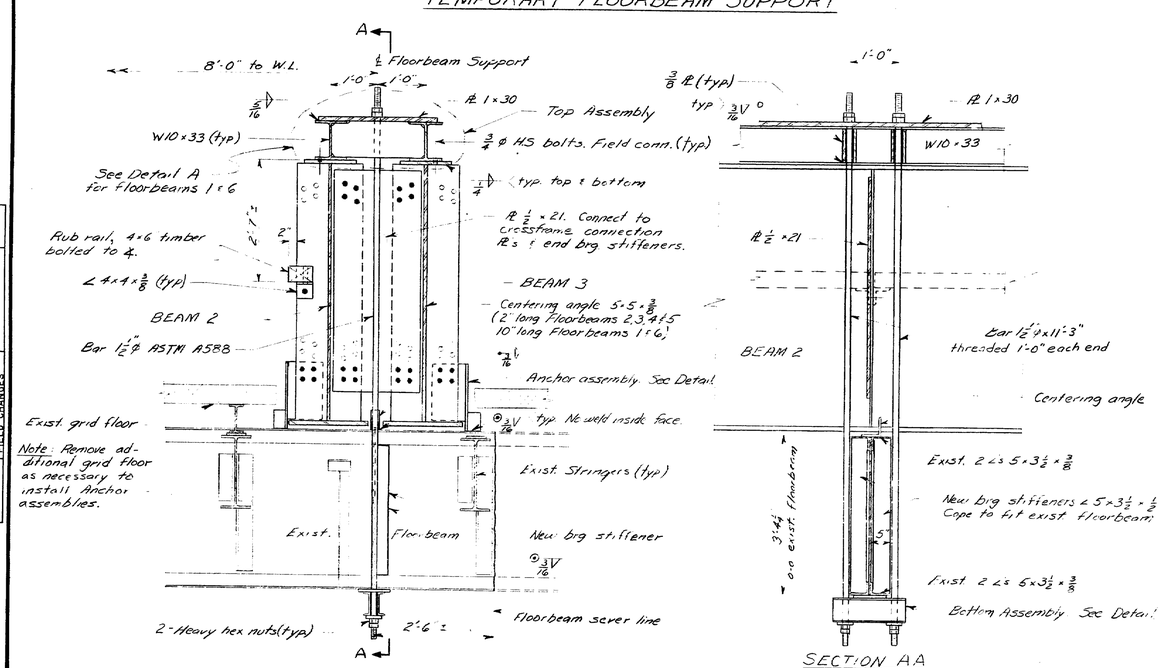



PLAN




ELEVATION

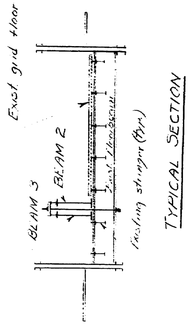
# TEMPORARY FLOORBEAM SUPPORT



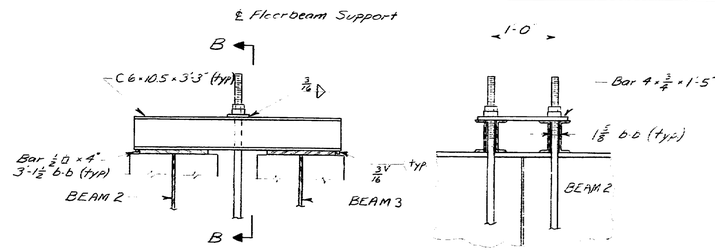

FLOORBEAM SUPPORT DETAIL




SECTION AA

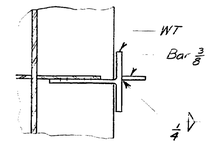



TYPICAL SECTION

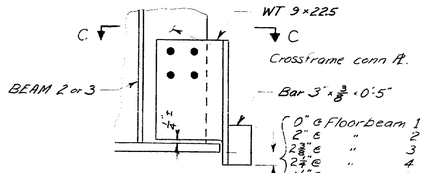



DETAIL A

SECTION BB



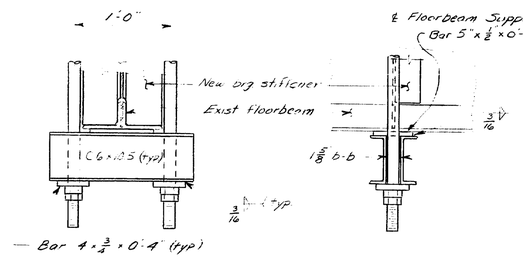

SECTION CC




ANCHOR ASSEMBLY DETAIL

## NOTES : TEMPORARY FLOORBEAM SUPPORT

1. BEAM 2, BEAM 3 and associated bearing pedestals shall be re-used in the final construction ( See Framing Plan sheet 2 ) The anchor bolts shall not be re-used.
2. All structural steel for temporary floorbeam support shall be ASTM A36 except BEAMS 2 & 3, and as otherwise noted
3. Bolts shall be ¾ ø HS ASTM A325 unless otherwise noted. Bolts used in temporary connections shall not be re-used.
4. Field welding will not be allowed to Beams 2 & 3 except tack welding of the sole plates to the Beams is required. Tack welds shall be removed with care and ground flush before re-use in the final construction.
5. The temporary support system shall be erected in the sequence as follows :
   a) Weld centering angles and new bearing stiffeners to existing floorbeams
   b) Erect beams 2 and 3, connection plates and timber rail.
   c) Erect top assembly to temporary beams.
   d) Erect hanger rods and bottom assemblies, tightening to firm contact only with the floorbeams.
   e) The hanger rods shall be further tightened sequentially as follows :
      1). 3 turns of the nuts at floorbeams 3 and 4.
      2) 2½ turns of the nuts at floorbeams 2 and 5.
      3) 1½ turns of the nuts at floorbeams 1 and 6.
   f) Erect anchor assemblies
   g) Sever floorbeams 1 and 6. Tighten hanger rods concurrently at floorbeams 1 and 6 to bring floorbeams 1 and 6 to firm contact only with anchor assemblies. Weld anchor assemblies to floorbeams.
   h) Repeat g for floorbeams 2 and 5.
   i) Repeat g for floorbeams 3 and 4.
6. Structural steel and related materials in the temporary support system that will not be re-used in final construction shall become the property of the Contractor.




BOTTOM ASSEMBLY DETAIL

| PLANS | DESIGN - DETAILED | BY | DATE |
|---|---|---|---|
| | CHECKED | JEF | 4/15 |
| | REVISIONS | EBC | 5/15 |
| | FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

**NORTH CHANNEL BRIDGE**
OVER THE
**KENNEBEC RIVER**
IN THE TOWN OF
**SKOWHEGAN**
**SOMERSET COUNTY**

***TEMPORARY SUPPORT SYSTEM***

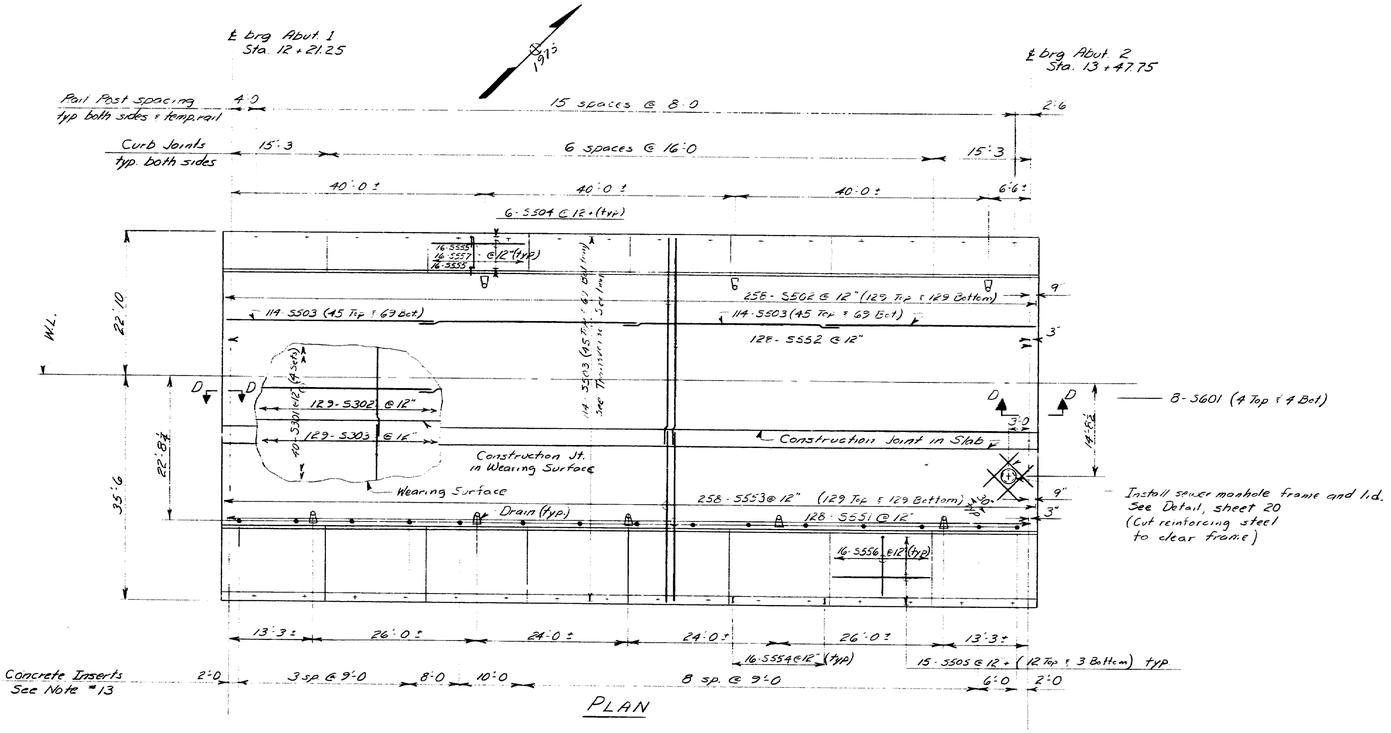
SHEET OF AUGUSTA, MAINE

JANUARY 1968

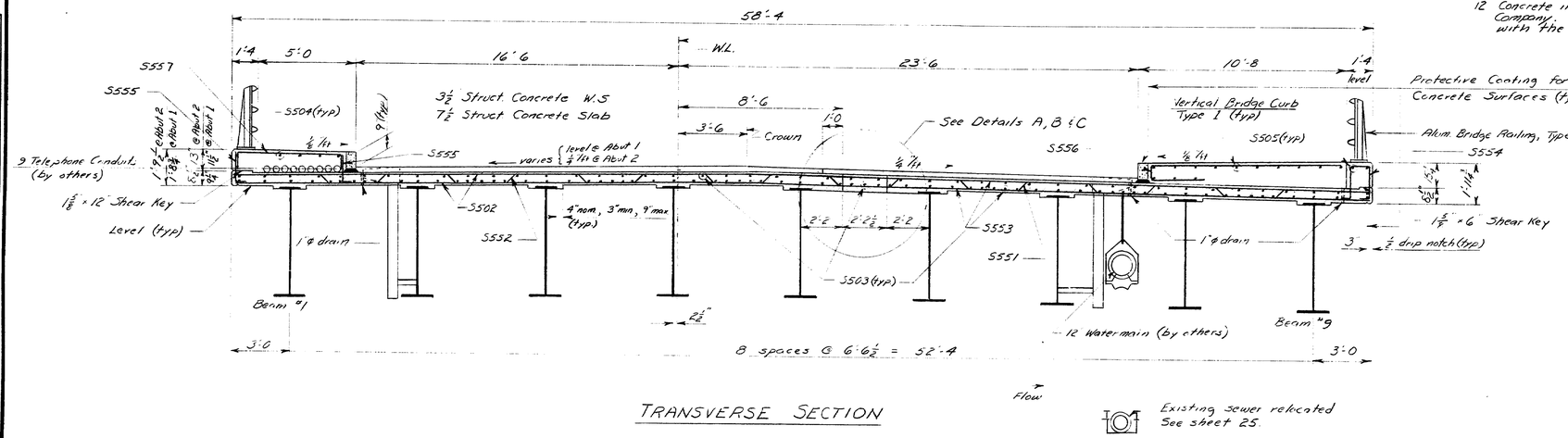
253-1 2000

167-140

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 19 | 71 |




PLAN




TRANSVERSE SECTION

Existing sewer relocated See sheet 25.

## SUPERSTRUCTURE NOTES

1. Chamfer all exposed edges of concrete ½ inch unless otherwise noted.
2. Form a 1 inch V-groove on the outside faces of each contraction joint in the curbs and at the joint between the curb and slab.
3. Break the bond in contraction joints in the concrete curbs by a method approved by the Engineer. Do not break the bond in the longitudinal construction joints in the slab and wearing surface.
4. Provide joints in the Vertical Bridge Curb, Type 1, at each contraction joint in the concrete curb.
5. Reinforcing steel shall have a minimum cover of 2 inches unless otherwise specified.
6. Place 1 inch diameter plastic tube drains at 10 foot intervals along the curbs as described in 502.17 of the Standard Specifications.
7. The slab and wearing surface shall be placed continuously between longitudinal joints.
8. Mortar for bedding and for joints in the granite curbs shall contain an approved non-shrink additive.
9. Apply Protective Coating for Concrete Surfaces to the wearing surface, sidewalks, and the fascias to the drip notch.
10. The slab shall have a light broom finish.
11. During traffic maintenance on superstructure slab prior to Wearing Surface placement, a ramp of bituminous material shall be provided from the slab to finished grades of armored joints, deck drains and sewer manhole. Ramp shall be a minimum of 24 inches long. Construction, maintenance, and removal of the ramps shall be considered incidental to Item 510.1201.
12. Concrete inserts will be supplied by the Skowhegan Water Company. The Contractor shall install the inserts flush with the bottom of slab.
13. The Contractor will be allowed to drill holes in the webs of the exterior beams for the purpose of attaching form support brackets. Location of the holes shall be approved by the Engineer. After use, all holes shall be filled with corrosion resistant carriage bolts.

References
Superstructure details ..... 20
Alum. Bridge Railing Type C ... 22, 63, 64
Vertical Bridge Curb, Type 1 .. 60

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS | DESIGN - DETAILED: JET | 11/75 |
| | CHECKED: AHC | 11/75 |
| | REVISIONS | |
| | FIELD CHANGES | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

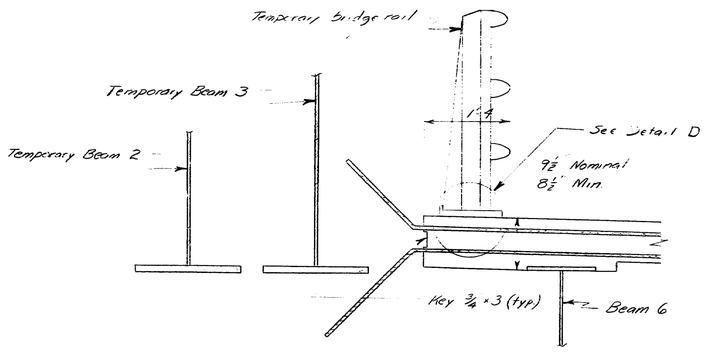
# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

*SUPERSTRUCTURE*

SHEET OF AUGUSTA, MAINE

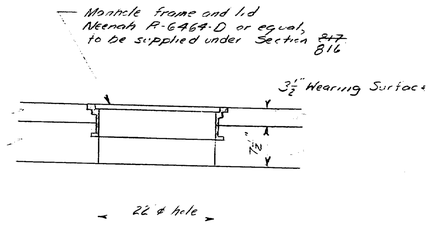
167-141

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 20 | 71 |

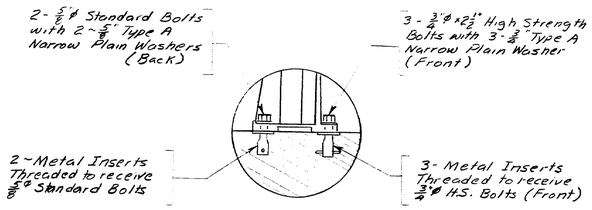



DETAIL A

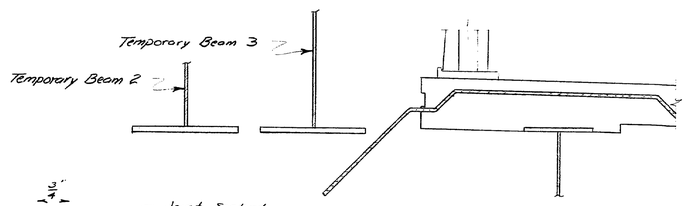
(Showing bars S553 during Phase 1.




SEWER MANHOLE DETAIL

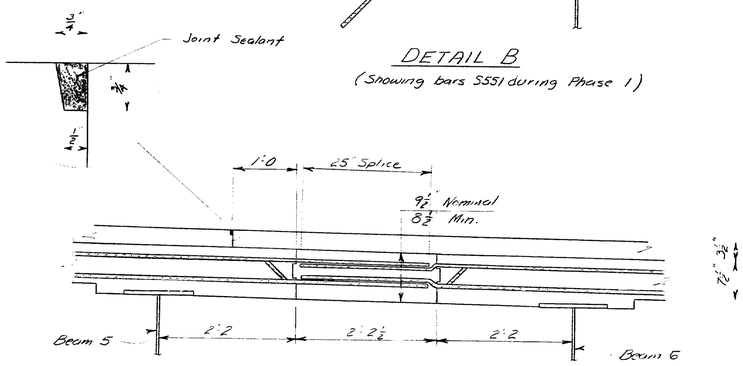



DETAIL D



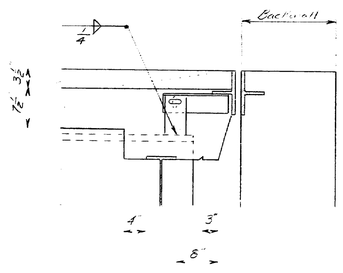

DETAIL B

(Showing bars S551 during Phase 1)




DETAIL C

Note: Bars S551 & S553 are to be bent in the field in a manner approved by the Engineer.




SECTION D-D

## NOTES - TEMPORARY BRIDGE RAIL

1. The new upstream bridge railing shall be installed as temporary bridge rail on the superstructure slab.
2. The metal inserts for ¾ ø bolts, shown in Detail D shall have a minimum working load of 2500 pounds, and a minimum ultimate strength of 9000 pounds. Other configurations of metal inserts may be used if approved by the Engineer.
3. The contractor may substitute another system of Temporary Bridge Rail of similar strength as approved by the Engineer.
4. The temporary bridge railing shall be included for payment under Item 510.1201.

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS — DESIGN - DETAILED | JET | 11/73 |
| CHECKED | AHF | 11/73 |
| REVISIONS | | |
| FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
SOMERSET COUNTY

*SUPERSTRUCTURE DETAILS*

SHEET OF AUGUSTA, MAINE

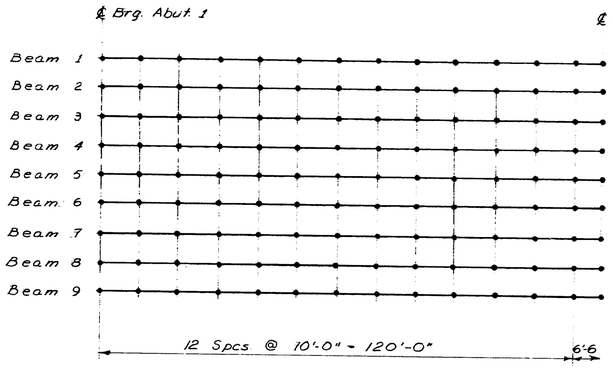
167-142

| F.A.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 21 | 71 |

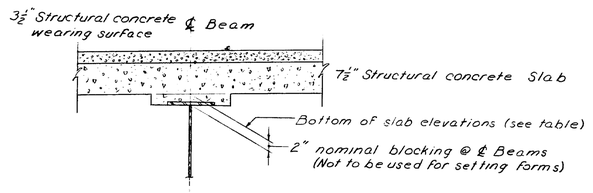
## BLOCKING ELEVATIONS

| BEAM \ POINT | ℄ Brg. Abut. 1 | 10' | 20' | 30' | 40' | 50' | 60' | 70' | 80' | 90' | 100' | 110' | 120' | ℄ Brg. Abut. 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beam 1 | 166.11 | 166.20 | 166.29 | 166.36 | 166.42 | 166.46 | 166.47 | 166.47 | 166.44 | 166.40 | 166.34 | 166.26 | 166.17 | 166.11 |
| Beam 2 | 166.25 | 166.34 | 166.43 | 166.50 | 166.55 | 166.59 | 166.61 | 166.61 | 166.58 | 166.54 | 166.47 | 166.40 | 166.31 | 166.25 |
| Beam 3 | 166.38 | 166.48 | 166.56 | 166.63 | 166.69 | 166.73 | 166.75 | 166.74 | 166.72 | 166.67 | 166.61 | 166.53 | 166.45 | 166.38 |
| Beam 4 | 166.52 | 166.61 | 166.70 | 166.77 | 166.83 | 166.86 | 166.88 | 166.88 | 166.85 | 166.81 | 166.75 | 166.67 | 166.58 | 166.62 |
| Beam 5 | 166.54 | 166.62 | 166.69 | 166.75 | 166.80 | 166.84 | 166.85 | 166.85 | 166.83 | 166.79 | 166.73 | 166.67 | 166.59 | 166.54 |
| Beam 6 | 166.40 | 166.50 | 166.58 | 166.65 | 166.71 | 166.75 | 166.76 | 166.76 | 166.74 | 166.69 | 166.63 | 166.55 | 166.46 | 166.40 |
| Beam 7 | 166.27 | 166.36 | 166.44 | 166.52 | 166.57 | 166.61 | 166.63 | 166.62 | 166.60 | 166.55 | 166.49 | 166.42 | 166.33 | 166.27 |
| Beam 8 | 166.13 | 166.23 | 166.31 | 166.39 | 166.44 | 166.48 | 166.50 | 166.50 | 166.47 | 166.43 | 166.36 | 166.28 | 166.19 | 166.13 |
| Beam 9 | 165.99 | 166.09 | 166.18 | 166.25 | 166.31 | 166.35 | 166.36 | 166.36 | 166.33 | 166.29 | 166.23 | 166.15 | 166.06 | 165.99 |

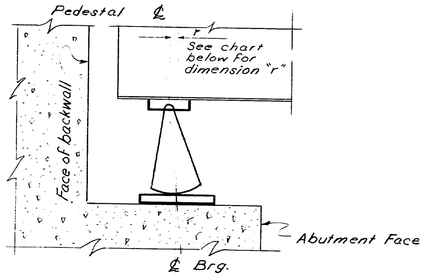
Void
AHK 8 Aug. 1976



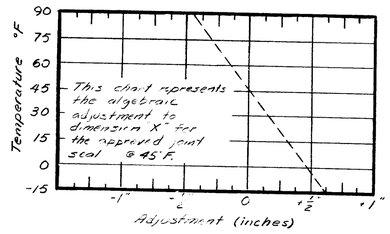

BLOCKING POINT DIAGRAM




BLOCKING DETAIL



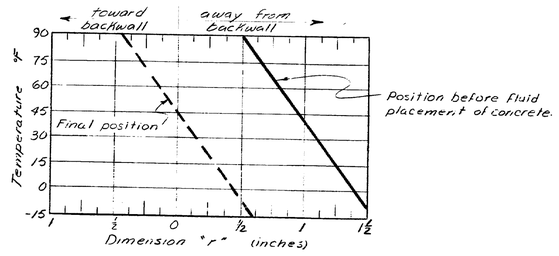

PEDESTAL SETTING DETAIL




ARMORED JOINT ADJUSTMENT - ABUT 1

Note: It is anticipated that the armored joint will open ½" due to superstructure dead loads at Abut 1 and open 15/16" due to superstructure dead loads at Abut 2.

Note: Movements due to superstructure dead loads are theoretical. The contractor is responsible for setting the bearing pedestals in the final position after superstructure dead loads.




EXPANSION PEDESTAL - SETTING CHART

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | JET | DMD |
| | CHECKED | EBC | |
| | REVISIONS | | |
| | FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

*BOTTOM OF SLAB ELEVATIONS*

SHEET OF AUGUSTA, MAINE APRIL 1975

167-143

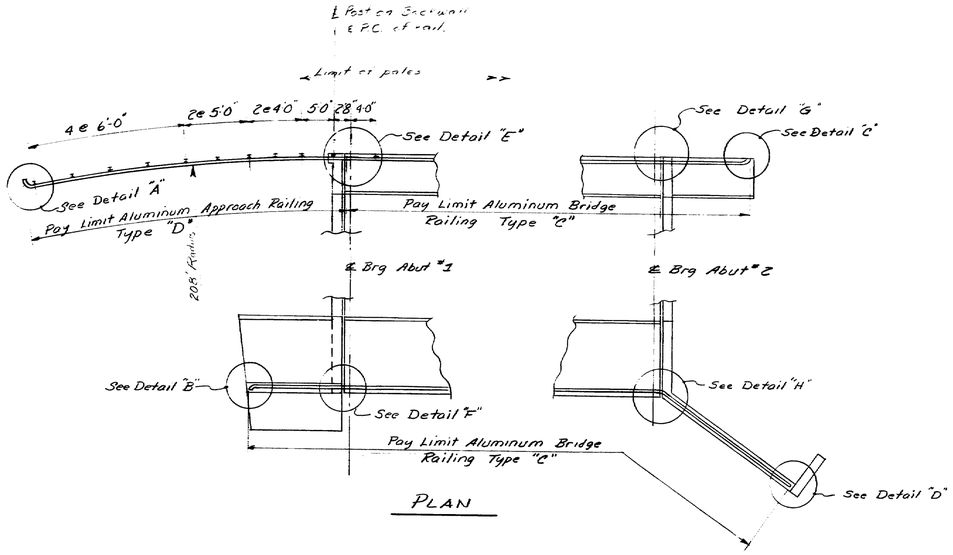
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 22 | 71 |

NOTE:

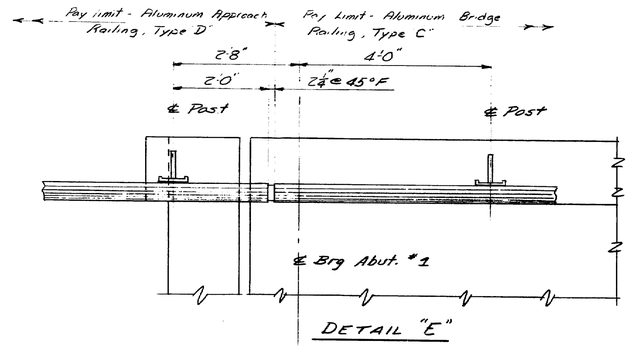
1 — Poles on Aluminum Approach Railing, Type "D" will be considered incidental to Pay Item 507.153

2 — All plus or minus (±) dimensions are to be verified in field

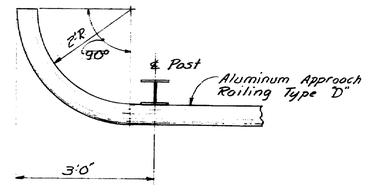
3 — Post on backwall in Detail "E" shall be same as post for Aluminum Bridge Railing, Type "C," but shall be included for payment in Aluminum Approach Railing, Type "D".



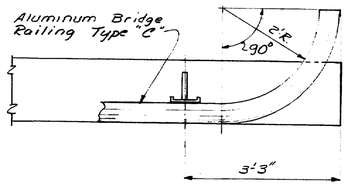

PLAN



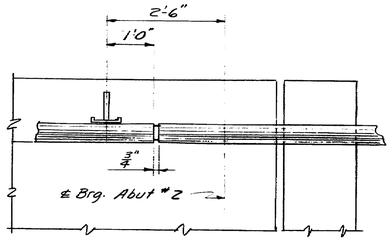

DETAIL "E"



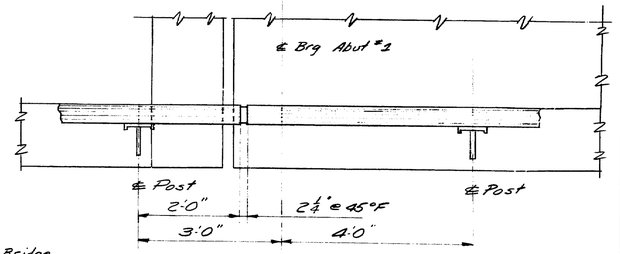

DETAIL "A"



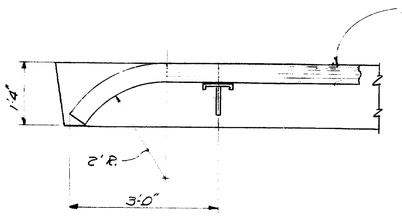

DETAIL "C"



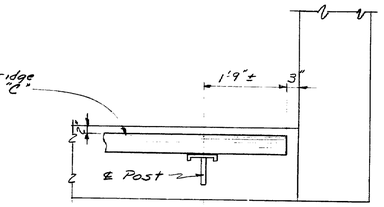

DETAIL "G"



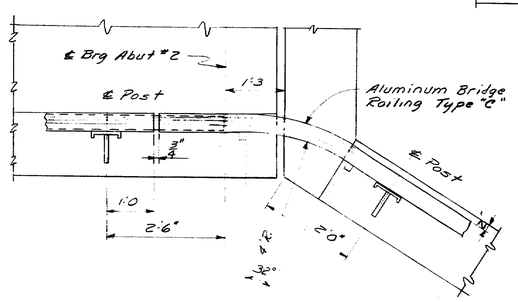

DETAIL "F"




DETAIL "B"




DETAIL "D"




DETAIL "H"

References:
Aluminum Bridge Railing, Type C . . . . . 63
Pole Panels . . . . . 64
Aluminum Approach Railing, Type D . . . . 65

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | JET | 11-7-75 |
| | CHECKED | RVN | 11-7-75 |
| | REVISIONS | MYF | 11/75 |
| | FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NORTH CHANNEL BRIDGE
OVER THE
KENNEBEC RIVER
IN THE TOWN OF
SKOWHEGAN
SOMERSET COUNTY

ALUMINUM RAILING

SHEET OF AUGUSTA, MAINE

167-144

# REINFORCING STEEL SCHEDULE

## STRAIGHT BARS

| MARK | NO. | LENGTH | LOCATION |
|---|---|---|---|
| | | | Abutment No. 1 |
| A401 | 10 | 24'-6" | Backwall |
| A402 | 10 | 33'-2" | Backwall |
| A403 | 7 | 15'-0" | Sidewalk |
| A404 | 11 | 9'-10" | Sidewalk |
| A502 | 7 | 12'-10" | Breastwall |
| A503 | 75 | 3'-8" | Bridge Seat |
| A504 | 10 | 8'-0" | Breastwall |
| A505 | 4 | 8'-0" | Backwall |
| A506 | 6 | 14'-5" | Bridge Seat |
| A507 | 6 | 11'-9" | Bridge Seat |
| A508 | 6 | 33'-2" | Bridge Seat |
| A510 | 80 | 7'-0" | Bridge Seat |
| | | | Abutment No. 2 |
| A420 | 10 | 23'-6" | Backwall |
| A421 | 10 | 33'-2" | Backwall |
| A520 | 6 | 4'-0" | Dowels Breastwall |
| A521 | 12 | 16'-0" | Breastwall |
| A522 | 12 | 14'-6" | Breastwall |
| A523 | 17 | 9'-6" | Breastwall |
| A524 | 1 | 12'-0" | Breastwall |
| A525 | 6 | 14'-5" | Breastwall |
| A526 | 6 | 11'-0" | Bridge Seat |
| A527 | 8 | 6'-7" | Breastwall |
| A528 | 19 | 5'-6" | Breastwall |
| A529 | 17 | 7'-6" | Wing |
| A530 | 7 | 24'-6" | Wing |
| A531 | 80 | 4'-6" | Bridge Seat |
| A532 | 80 | 6'-2" | Backwall |
| A533 | 6 | 33'-2" | Bridge Seat |
| A590 | 32 | 3'-8" | Temp. Ped. |
| A591 | 20 | 9'-0" | Temp. Ped |

| MARK | NO. | LENGTH | LOCATION |
|---|---|---|---|
| | | | Abutment No. 1 |
| A511 | 24 | 16'-0" | Abut. Slab |
| A512 | 12 | 14'-0" | Abut. Slab |
| A513 | 2 | 14'-6" | Curb |
| A514 | 15 | 12'-6" | Ret. Wall |
| A515 | 16 | 14'-6" | Ret. Wall |
| A701 | 33 | 14'-0" | Abut. Slab |
| A801 | 4 | 10'-0" | Backwall |
| | | | Abutment No. 2 |
| A534 | 2 | 10'-4" | Sidewalk |
| A535 | 16 | 8'-0" | Wing |
| A536 | 10 | 7'-0" | Wing |
| A537 | 26 | 6'-0" | Sidewalk |
| A538 | 12 | 12'-6" | Sidewalk |
| 540 | 14 | 4'-0" | Wing-dowels |
| | | | Temporary Pedestals |

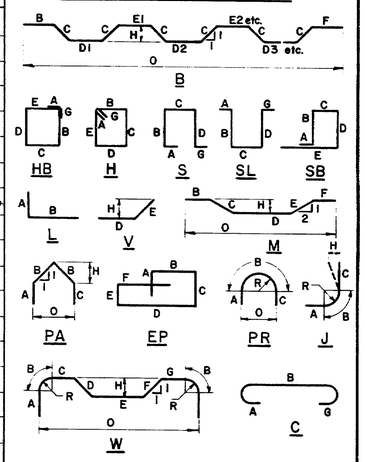
## BENT BARS

| MARK | NO. | LENGTH | TYPE | A | B | C | D | E | F | G | H | O | R | LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Abutment No. 1 | | | | | | | | | |
| A550 | 34 | 5'-6" | L | 1'-10" | 3'-8" | | | | | | | | | Bridge Seat |
| A551 | 7 | 14'-8" | L | 3'-8" | 11'-0" | | | | | | | | | Breastwall |
| A552 | 9 | 6'-4" | S | | 2'-10" | 8" | 2'-10" | | | | | | | Backwall |
| A553 | 32 | 6'-10" | S | | 2'-10" | 1'-2" | 2'-10" | | | | | | | Backwall |
| A554 | 19 | 3'-10" | V | | | | 2'-4" | 1'-6" | | | 1'-0 3/4" | | | Backwall & Slab |
| A555 | 9 | 6'-8" | HB | 6" | 1'-8" | 1'-2" | 1'-8" | 1'-2" | | 6" | | | | Backwall |
| A557 | 15 | 5'-7" | SL | 6" | 1'-9 1/2" | 1'-0" | 1'-9 1/2" | | | 6 | | | | Abut. Slab Curb |
| A558 | 15 | 13'-2" | L | 1'-8" | 11'-6" | | | | | | | | | Ret Wall |
| A559 | 2 | 10'-3" | S | 6" | 1'-8" | 5'-11" | 1'-8" | | | 6" | | | | Backwall |
| | | | | | Abutment No. 2 | | | | | | | | | |
| A560 | 19 | 8'-0 | V | | | | 4'-0" | 4'-0" | | | 3'-4 3/4" | | | Breastwall |
| A561 | 39 | 5'-10" | L | 2'-2" | 3'-8" | | | | | | | | | Bridge Seat |
| A562 | 40 | 6'-6" | S | | 2'-10" | 1'-2" | 2'-10" | | | | | | | Backwall |
| A563 | 2 | 6'-0" | S | 6" | 2'-0" | 1'-0" | 2'-0" | | | 6" | | | | Curb |
| A564 | 2 | 10'-3" | S | 6" | 1'-8" | 5'-11 | 1'-8" | | | 6" | | | | Backwall |
| A565 | 24 | 4'-8" | S | | 1'-9" | 1'-2" | 1'-9" | | | | | | | Wing Wall |
| A566 | 2 | 13'-8" | V | | | | 10'-10" | 1'-10" | | | 4 1/2" | | | Sidewalk |
| A651 | 13 | 5'-8" | S | 6" | 1'-10" | 1'-0" | 1'-0" | | | 6" | | | | Side Walk |
| A567 | 7 | 2'-8 | L | 6" | 2'-2 | | | | | | | | | Backwall, sidewalk |
| | | | | | Temporary Pedestals | | | | | | | | | |
| A595 | 10 | 6'-8 | L | 3'-2" | 3'-6" | | | | | | | | | |

| MARK | NO. | LENGTH | TYPE | A | B | C | D | E | F | G | H | O | R | LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| FHWA REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 23 | 71 |

## TYPE-BENDING DIAGRAMS




All dimensions are out to out of reinf. bar

Bending details and hooks shall conform to the recommendations of ACI Standard 315-65.

Reinforcing Bar: ASTM A615 Grade 60

## GENERAL NOTES

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. Letter of Marks A, P & S locates bars of Abutments, Piers, and Superstructure parts respectively.

| DESIGN - DETAIL | BY | DATE |
|---|---|---|
| CHECKED | | |
| REVISIONS | | |
| FIELD CHANGES | | |

PLANS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

**NORTH CHANNEL BRIDGE**
OVER THE
**KENNEBEC RIVER**
IN THE TOWN OF
**SKOWHEGAN**
**SOMERSET COUNTY**

*REINFORCING STEEL SCHEDULE*

SHEET OF AUGUSTA, MAINE

167-145

# REINFORCING STEEL SCHEDULE

| FHWA REF. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 24 | 71 |

## STRAIGHT BARS

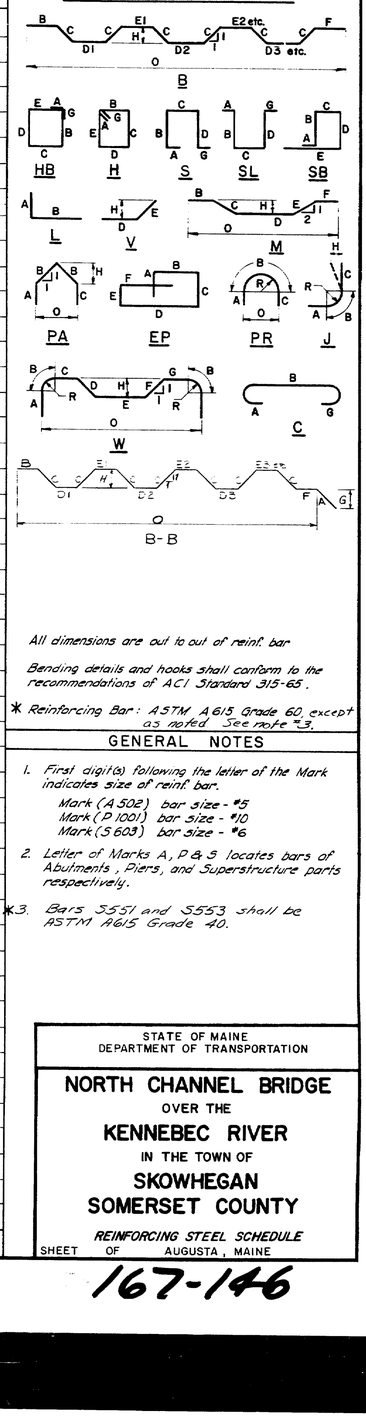
| MARK | NO. | LENGTH | LOCATION |
|---|---|---|---|
| | | | Scenic Overlook |
| B501 | 10 | 16'-0" | Eastwall |
| B502 | 2 | 11'-0" | Eastwall |
| B503 | 2 | 6'-0" | Eastwall |
| B504 | 8 | 3'-10" | Eastwall |
| B505 | 8 | 5'-6" | Eastwall |
| B506 | 8 | 7'-3" | Eastwall |
| B507 | 4 | 7'-9" | Eastwall |
| B508 | 8 | 18'-0" | Eastwall |
| B509 | 13 | 8'-5" | Eastwall |
| B510 | 4 | 22'-6" | Cap |
| B511 | 4 | 16'-6" | Cap |
| B512 | 15 | 5'-2" | Steps |
| B513 | 4 | 3'-9" | Steps |
| B514 | 3 | 5'-0" | Steps |
| B515 | 6 | 7'-0 | Steps |
| B516 | 6 | 10'-8" | Steps |
| B517 | 2 | 8'-0 | Steps |
| | | | Superstructure |
| S502 | 258 | 33'-4" | Slab |
| S503 | 456 | 33'-4" | Slab |
| S504 | 48 | 15'-8" | Curb |
| S505 | 120 | 15'-8" | Curb |
| S601 | 8 | 8'-0" | Slab |
| S301 | 160 | 33'-1 | Wearing Surface |
| S302 | 129 | 25'-4 | Wearing Surface |
| S303 | 129 | 15'-10 | Wearing Surface |

## BENT BARS

| MARK | NO. | LENGTH | TYPE | A | B | C | D | E | F | G | H | O | R | LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Scenic Overlook | | | | | | | | | |
| B551 | 12 | 3'-4" | L | 1'-8 | 1'-8 | | | | | | | | | Eastwall |
| B552 | 12 | 4'-8" | S | | 2'-0" | 8 | 2'-0" | | | | | | | Eastwall |
| B553 | 4 | 5'-8" | L | 1'-2" | 4'-6" | | | | | | | | | Eastwall |
| B554 | 13 | 6'-0" | S | | 2'-5" | 1'-2" | 2'-5" | | | | | | | Eastwall |
| B555 | 27 | 5'-4 | S | 6" | 1'-7" | 1'-2" | 1'-7" | | | 6" | | | | Cap |
| B556 | 4 | 15'-2" | V | | | | 5'-4" | 9-10" | | | 5'-3⅜" | | | Steps |
| B557 | 6 | 11'-7" | V | | | | 4'-4" | 7'-3" | | | 3'-11 | | | Steps |
| B558 | 11 | 4'-8 | S | | 2'-0" | 8" | 2'-0" | | | | | | | Steps |
| B559 | 3 | 6'-6" | L | 5'-0" | 1'-6" | | | | | | | | | Steps |
| B560 | 6 | 8'-6" | L | 7'-0" | 1'-6" | | | | | | | | | Steps |
| B561 | 2 | 11'-7 | V | | | | 5'-3 | 6'-4 | | | 3'-4 | | | Steps |
| | | | | | Superstructure | | | | | | | | | |
| S551 * | 128 | 27'-11" | B-B | 2'-0" | 4'-5" | 6½ x 7 | 2'-7½" x 3 | 3'-2" x 3 | 4" | 1'-5" | 4½" | 24'-9" | | Slab |
| S552 | 128 | 34'-10" | B-B | | 4'-5" | 6½ x 9 | 2'-7½" x 4 | 3'-2" x 4 | 2'-4½" | | 4½" | 33'-4" | | Slab |
| S553 * | 258 | 26'-9" | V | | | | 24'-9" | 2'-0" | | | 1'-5⅜" | | | Slab |
| S554 | 128 | 5'-2" | S | 6" | 1'-7" | 1'-0" | 1'-7" | | | 6" | | | | Slab & Curb |
| S555 | 256 | 1'-11" | L | 6" | 1'-5" | | | | | | | | | Slab & Curb |
| S556 | 128 | 13'-1" | S | | 2'-6" | 9" | 9'-10" | | | | | | | Curb |
| S557 | 128 | 7'-0 | S | | 9" | 5'-6 | 9" | | | | | | | Sidewalk |

| MARK | NO. | LENGTH | TYPE | A | B | C | D | E | F | G | H | O | R | LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

## TYPE-BENDING DIAGRAMS




All dimensions are out to out of reinf. bar

Bending details and hooks shall conform to the recommendations of ACI Standard 315-65.

* Reinforcing Bar: ASTM A615 Grade 60 except as noted. See note *3.

## GENERAL NOTES

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. Letter of Marks A, P & S locates bars of Abutments, Piers, and Superstructure parts respectively.
3. * Bars S551 and S553 shall be ASTM A615 Grade 40.

PLANS — DESIGN - DETAIL — CHECKED — REVISIONS — FIELD CHANGES — BY — DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

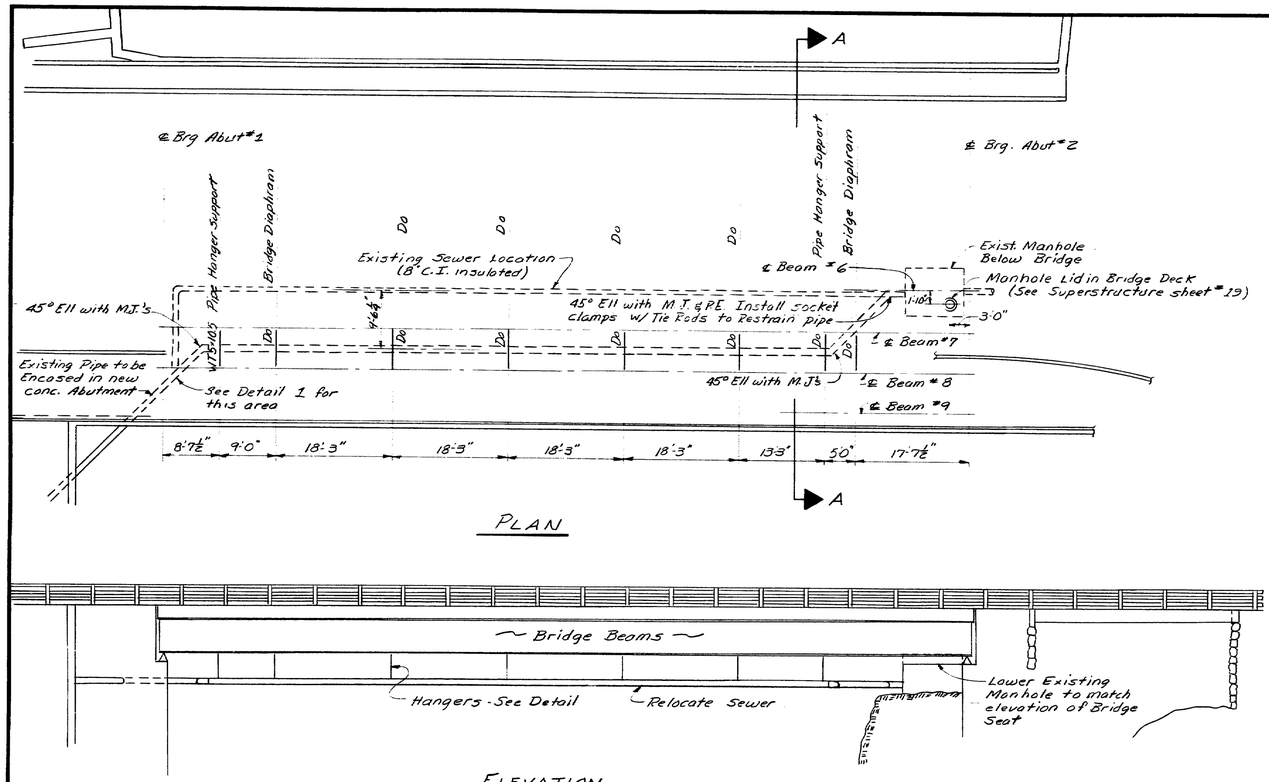
**NORTH CHANNEL BRIDGE**
OVER THE
**KENNEBEC RIVER**
IN THE TOWN OF
**SKOWHEGAN**
**SOMERSET COUNTY**

*REINFORCING STEEL SCHEDULE*

SHEET OF AUGUSTA, MAINE

167-146

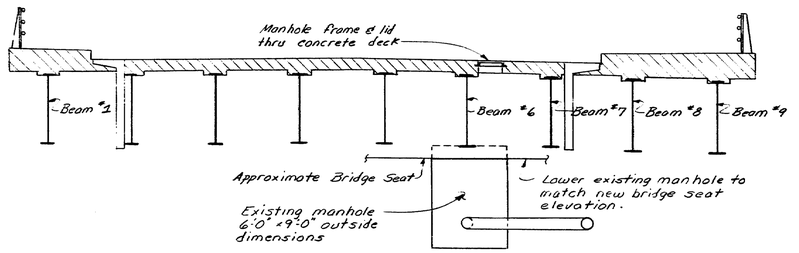
| F.A. OR S. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 25 | 71 |



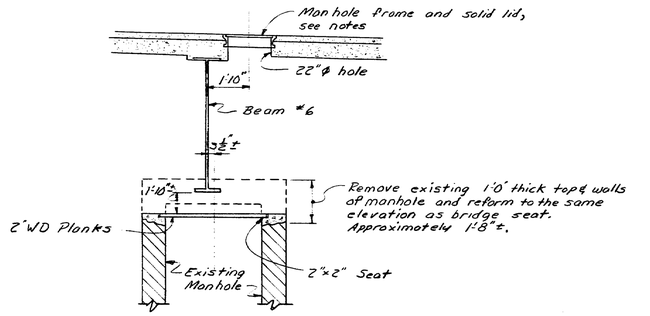

PLAN



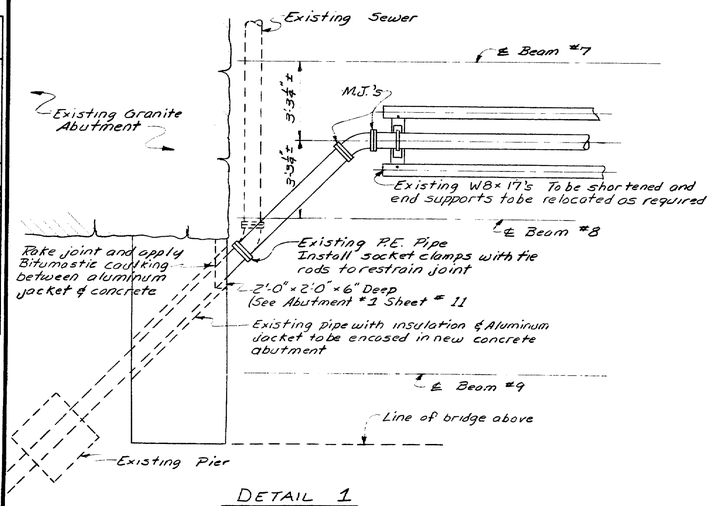

ELEVATION



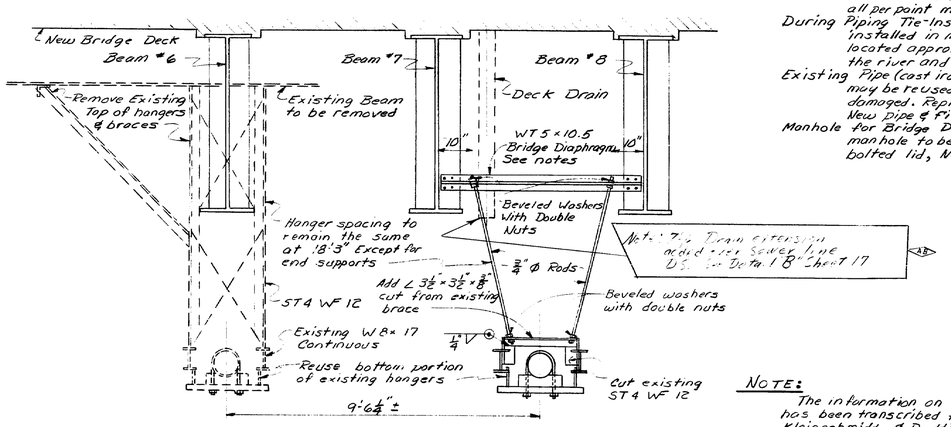

SECTION A-A




MANHOLE DETAIL




DETAIL 1




EXISTING HANGER NEW HANGER

HANGER DETAILS

## GENERAL NOTES

Sewer Relocation must be coordinated with construction of bridge. The top of the manhole is to be lowered and after placement of the 3 downstream beams the sewer is relocated to permit removal of the existing bridge.

Structural Steel Supports, incl. hangers and beams, are to be wire brushed and one 5 mil coat of carbamastic 15, or equal applied, all per paint mfr's recommendations

During Piping Tie-Ins and Relocation, it is recommended that a pump be installed in manhole and a 4" temporary line be run to a manhole located approx. 350' away behind Peelers Shoe Store, or run across the river and emptied into the existing 8" Gravity line.

Existing Pipe (cast iron class 150 push on joints w/mechanical joint fittings) may be reused along with any insulation and jacketing that is not damaged. Replace damaged sections with material of equal quality. New pipe & fittings to be cast iron class 150.

Manhole for Bridge Deck is to be furnished as part of this work; manhole to be heavy duty pressure type, water tight with C/S bolted lid, Neenah No R-6464-D or equal.

NOTE:
The information on this plan has been transcribed from Kleinschmidt & Dutting plan B-933.

As Built 7-8-77 DAG

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

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# NORTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

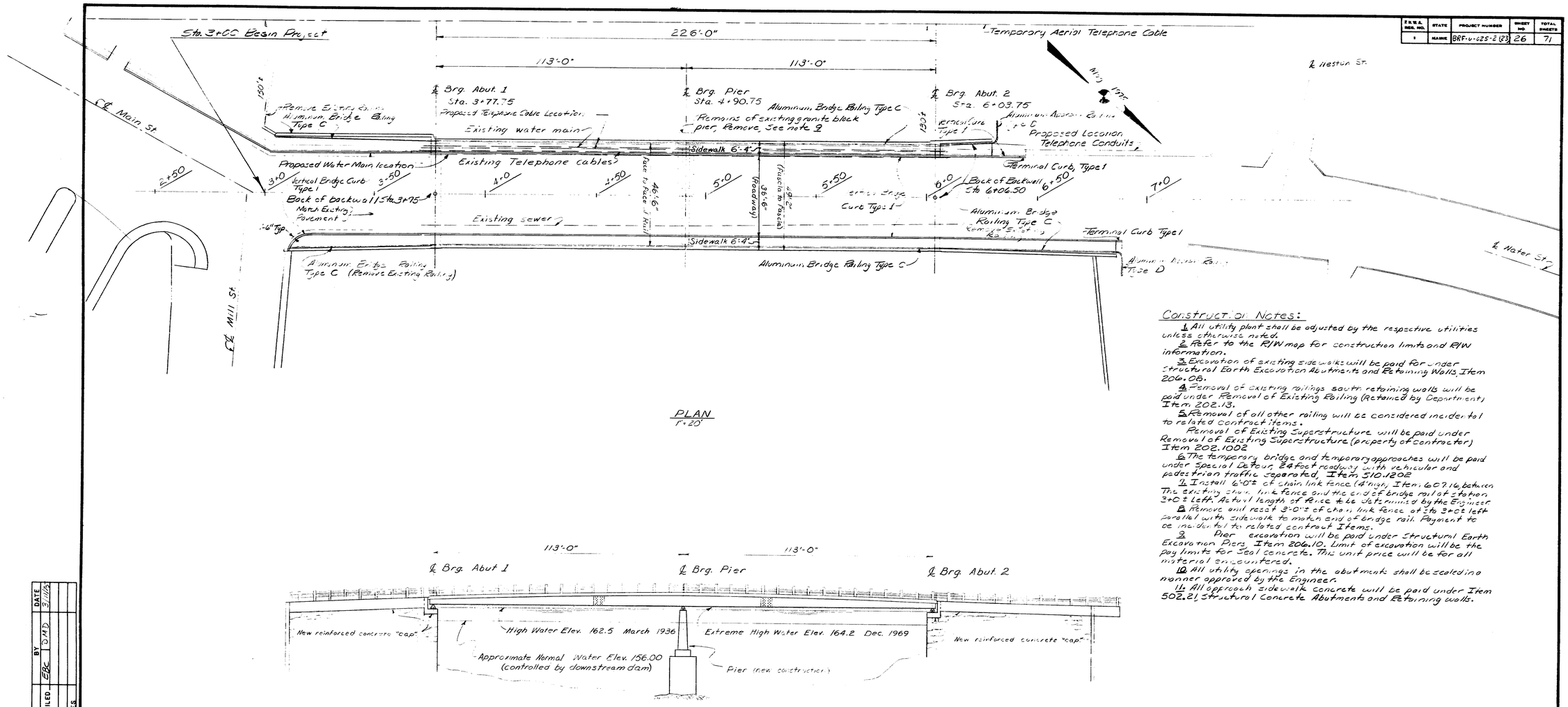
SEWER RELOCATION

SHEET OF AUGUSTA, MAINE

JANUARY 1968

167-147

| F.A.S.S. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 26 | 71 |




PLAN
1"=20'




ELEVATION
Scale 1"=20'

50 40 30 20 10 0 25 50

## Construction Notes:

1. All utility plant shall be adjusted by the respective utilities unless otherwise noted.
2. Refer to the R/W map for construction limits and R/W information.
3. Excavation of existing sidewalks will be paid for under Structural Earth Excavation Abutments and Retaining Walls, Item 206.08.
4. Removal of existing railings south retaining walls will be paid under Removal of Existing Railing (Retained by Department) Item 202.13.
5. Removal of all other railing will be considered incidental to related contract items.
   Removal of Existing Superstructure will be paid under Removal of Existing Superstructure (property of contractor) Item 202.1002
6. The temporary bridge and temporary approaches will be paid under Special Detour, 24 foot roadway with vehicular and pedestrian traffic separated, Item 510.1202
7. Install 6.0± of chain link fence (4' high, Item 607.16 between the existing chain link fence and the end of bridge rail at station 3+01± Left. Actual length of fence to be determined by the Engineer.
8. Remove and reset 3'-0"± of chain link fence at 3+01± left parallel with sidewalk to match end of bridge rail. Payment to be incidental to related contract items.
9. Pier excavation will be paid under Structural Earth Excavation Piers, Item 206.10. Limit of excavation will be the pay limits for Seal concrete. This unit price will be for all material encountered.
10. All utility openings in the abutments shall be sealed in a manner approved by the Engineer.
11. All approach sidewalk concrete will be paid under Item 502.21 Structural Concrete Abutments and Retaining walls.

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | EBC | TMD 3/1/75 |
| | CHECKED | | |
| | REVISIONS | | |
| | FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

*GENERAL PLAN*

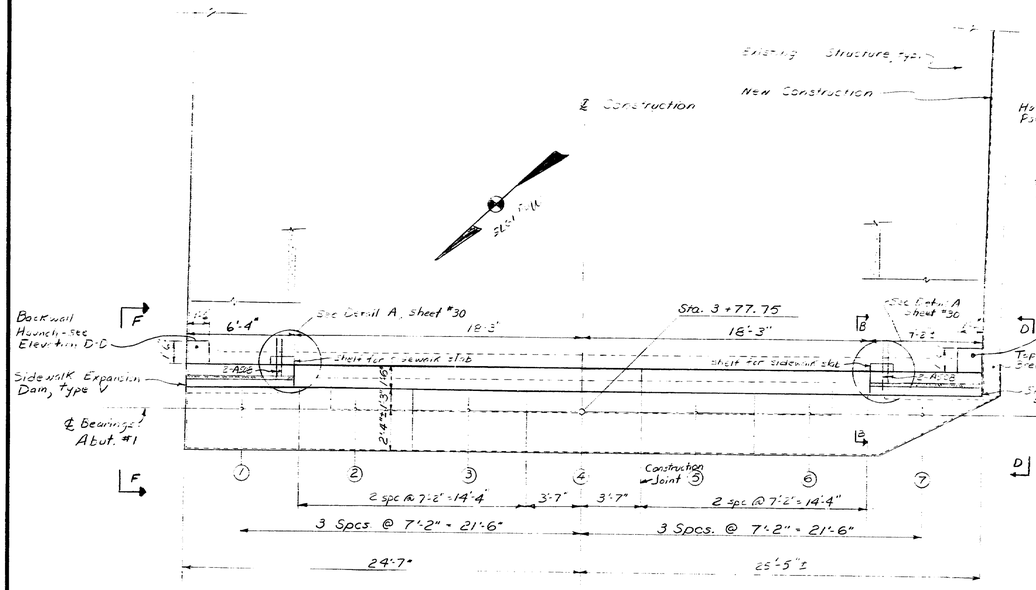
SHEET OF AUGUSTA, MAINE MARCH 1975

167-148

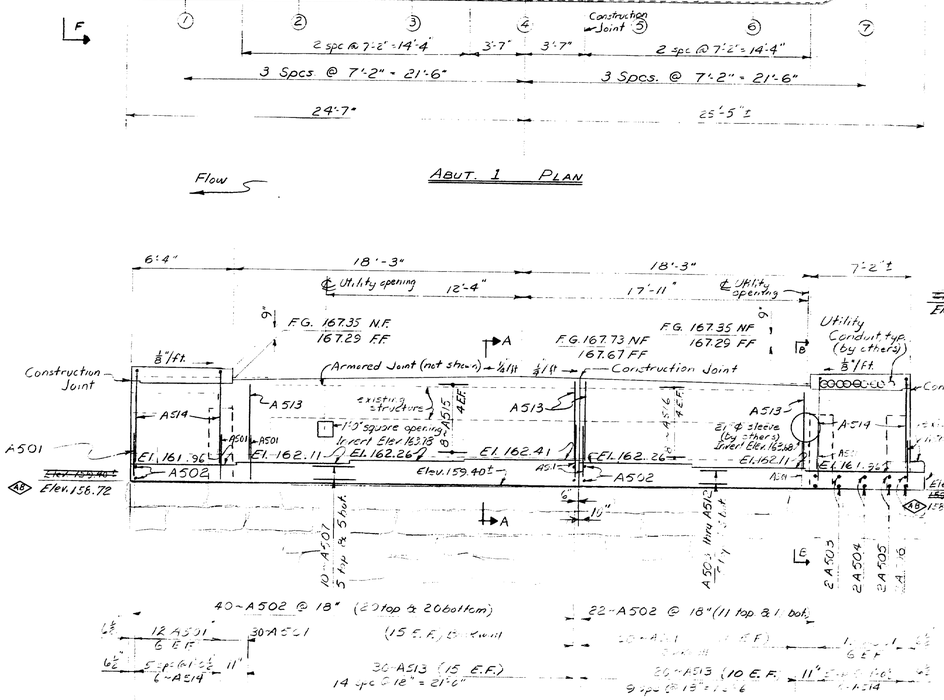
F.H.W.A. REG. NO. 1 | STATE MAINE | PROJECT NUMBER BRF-J-025-2(23) | SHEET NO. 27 | TOTAL SHEETS 71
20.75' Transition
240' Vertical Curve E=-2.70'
℄ Brg Pier
Existing Profile Grade
-4.5%
(Proposed Profile Grade
PVC-3+70.75
PVT=6+10.75
Extreme High Water Elev 184.2 Dec. 1959
High Water Elev. 163.5 March 1936
Pier (New Construction)
Down Stream
Up Stream
Existing Pier
New Construction
Existing
PVI Sta.4+90.75 Elev. 172.88 170.16
PROFILE (South Channel)
TBM "C" Top of yellow bolt Sta. 6+09 24 Lt Elev. 167.58'
℄ Brg. Abut. 2 Sta. 6+03.75
℄ Brg. Pier
(New) ℄ Brg. Abut. 1 Sta. 3+77.75
Bridge Rail
New Fascia
Sidewalk New
36'-6" New Roadway
4" Cast Iron Forced Main
New Sidewalk 6'-4"
Fascia (New)
N 39°-30' W
Sta. 3+76 1975 (Back of backwall) (Existing)
162.70 (Bridge seat)
162.87 (Bridge seat)
℄ Temporary Bridge (Approx)
Flow
4'-6" Floating Walk
Concrete Walk
Flag pole, cannon & granite boulder with plaque on concrete slab
Remove one course of stone and cap with reinforced concrete. (Typ 4 Wings)
Retaining Walls
Ret. Wall
Granite Ret. Wall
Granite Retaining Wall
F-K rails in joints of granite wall (circled yellow)
Move chain link fence to meet new bridge rail
3'-6" High Chain Link Fence
Apartment over Grocery Store
Dirt Drive
1 Story Wood Frm. (vacant)
Gravel Drive
2½ Story Wood Frame - Apt. over Flower Shop
Curb
Granite
Catch Basin
Gate
Hydrant
SMH
U.S. Route #2
Main St. (Paved)
Mill St. (Paved)
To Waterville
Bituminous curb
Sidewalk
Old Foundation
Paved Parking Area for Shopping Center
24'-0 Hot Bituminous Pavement (typical both approaches) Payment will be incidental to item 510.1202 Special Detour South Channel, 24 Roadway Width Vehicular and Pedestrian Traffic Separated.
May 1975
1975
SCALE
50 40 30 20 10 0 25 50
LEGEND
WATER MAIN — —W— —
SEWER — —S— —
TELEPHONE (underground) — —T— —
ELECTRICITY — —E— —
PROJECT DESIGN ENGINEER
PLANS
DESIGN-DETAILED
CHECKED
REVISIONS
FIELD CHANGES
Survey Plotted | DMD | 3/3/75
BY | DATE
P.V.L. | 11-75
JANUARY 1968
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
SOUTH CHANNEL BRIDGE
OVER THE
KENNEBEC RIVER
IN THE TOWN OF
SKOWHEGAN
SOMERSET COUNTY
SURVEY
SHEET OF AUGUSTA, MAINE

167-149

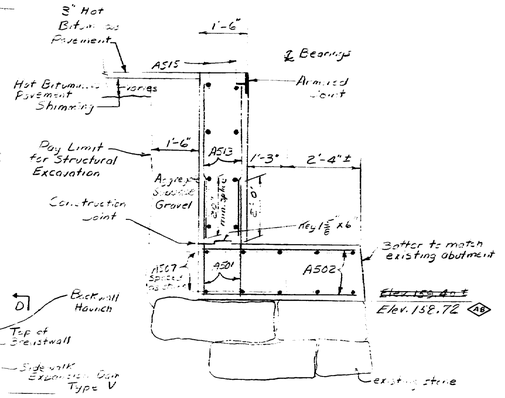
| F.E.W.A. RDS. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 28 | 71 |



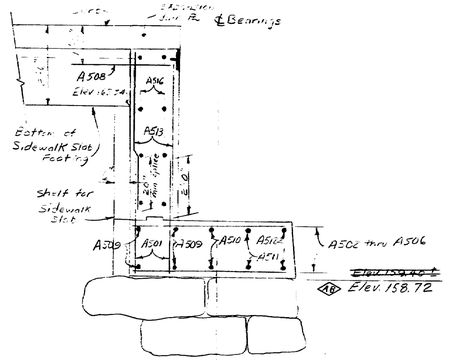

ABUT. 1 PLAN



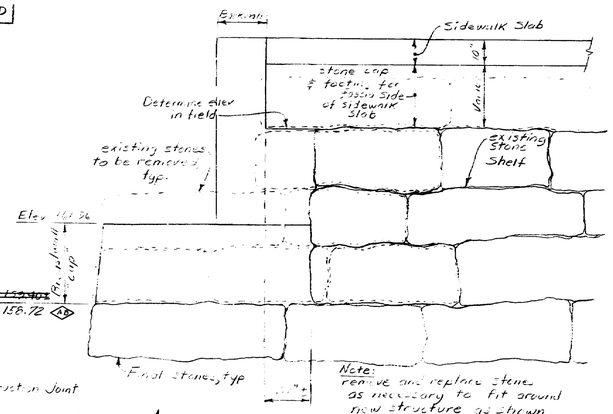

ABUT. 1 ELEVATION




SECTION A-A




SECTION B-B




ELEVATION D-D

(Elevation E-F is opposite hand)

Abutment Protection Note:

The outward bridge seats and breastwalls shall be protected from rust staining by temporarily leaving the forms in place or by covering the concrete after removal of the forms. Polyethylene sheets or other approved impervious coating shall be placed on and over the bearing area prior to setting the bearing pedestal and shall extend underneath the masonry plates such that water will run off the pedestals onto the sheets. The protective coating shall remain in place at least until completion of the structural concrete slab placement. Removal of stains will not be required unless in the opinion of the Engineer the contractor has not made satisfactory effort to prevent staining.

Notes:

1. Chamfer all exposed edges of concrete a consistent dimension between 1/2" & 3/4" inclusive, unless otherwise indicated.
2. Break the bond at vertical and cure construction joints by a method approved by the Engineer.
3. Reinforcing steel shall have a minimum cover of 2" unless otherwise noted.
4. Mortar for bedding and for joints in the granite curb shall contain an approved non-shrink additive.
5. Protective coating for concrete surfaces shall be applied to the exposed surfaces of all new concrete.
6. For Armored Joint Detail see sheet #35.
7. Place reinforcing steel in the bridge seats to clear bearing plate anchor bolts.
8. For details of construction and contraction joints see Standard Sheet BD 104-73.
9. See ED 100-71 for treatment at the Bridge Seat bearing areas.
10. 21" ϕ sleeve to be supplied by the utility installation to be incidental to item 502.21, Structural Concrete Abutments and Retaining Walls.

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| DESIGN - DETAILED | EBC | |
| CHECKED | DMD | |
| REVISIONS | AJC | 11-30- |
| FIELD CHANGES | | |

PLANS

JANUARY 1968

As Built 7-5-77 DAE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

*PART - ABUTMENT NO. 1*

SHEET OF AUGUSTA, MAINE

167-150

3854 3855

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 29 | 71 |

DETAIL B

DETAIL A

SECTION A-A

DETAIL F

DETAIL C

DETAIL D
(Rear View)

PLAN

DETAIL E

| Set C Bars (See Detail D for placement) (1 bar each set) |
|---|
| A517 |
| A510 |
| A521 |
| A522 |
| **Set B Bars** (See Section A-A for placement) (1 bar each set) |
| A543 |
| A544 |
| A520 |
| A521 |
| A522 |

Note.

1. Provide joints in the Vertical Bridge Curb, type 1, at each contraction joint in the sidewalk.
2. Chamfer all exposed edges of concrete a construction dimension between ½" & ¾" inclusive, unless otherwise shown.
3. Reinforcing steel shall have a minimum cover of 2 inches unless otherwise indicated.
4. Place reinforcing steel in concrete sidewalk slabs clear rail post in all cases.
5. Protective coating for concrete surfaces shall be applied to all exposed surfaces of new concrete.
6. Mortar for grouting shall contain a non-shrink additive.
7. Drilling and grouting of dowels shall be considered incidental to Item No. 503.13.
8. Remove existing side walk and curb. Install new concrete sidewalk and Vertical Bridge Curb, type 1, and Aluminum Bridge Railing, type C.
9. All dimensions given are approximate and must be verified by the Contractor before starting construction.
10. For construction, contraction & V-Groove joint details see standard sheet BD 104-73, & for Aluminum Bridge Railing, type C, see standard sheet BD 115-73 in Vol. 1 of Vol. 2 of Bridge Curb, type 1, see standard sheet in BD 104-73.
11. For location of Bronze Bm. Markers, see sheet #45.

A2 As Built 7-5-77 DAG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

***ABUTMENT NO. 1 SIDEWALKS***

SHEET OF AUGUSTA, MAINE

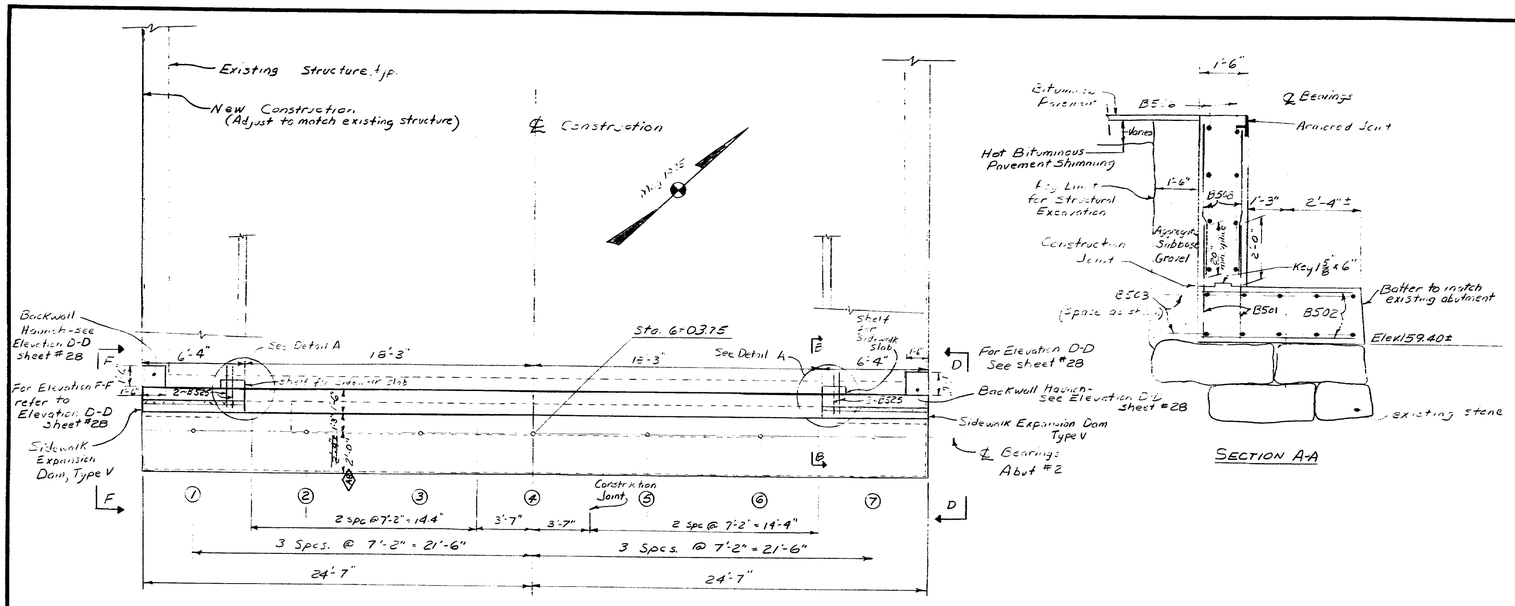
167-151

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| DESIGN DETAILED | EBP | Dec. '76 |
| CHECKED | DAW | Dec. '76 |
| REVISIONS | | |
| FIELD CHANGES | | |

PLANS

JANUARY 1962

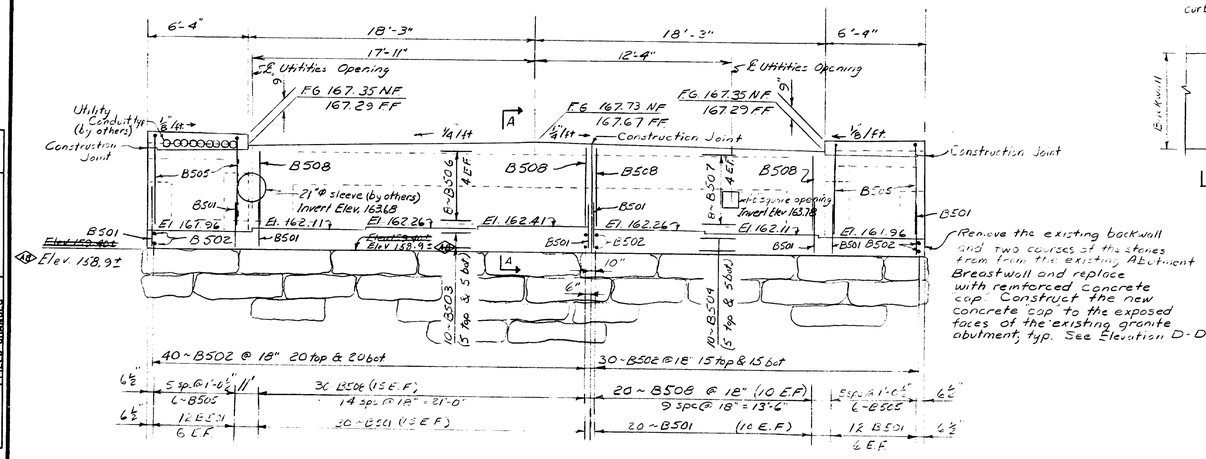
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-J-025-2(23) | 30 | 71 |



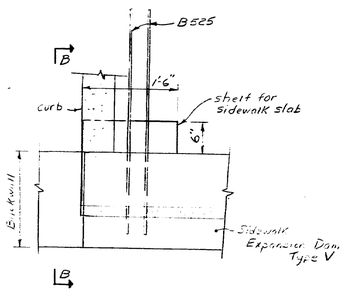

ABUTMENT No. 2 PLAN




SECTION A-A




ABUTMENT No. 2 ELEVATION




DETAIL A

Remove the existing backwall and two courses of the stones from from the existing Abutment Breastwall and replace with reinforced concrete cap. Construct the new concrete cap to the exposed faces of the existing granite abutment, typ. See Elevation D-D on sheet #28

Notes:

1. Chamfer all exposed edges of concrete a consistent dimension between 1/2" & 3/4" inclusive, unless otherwise indicated.
2. Break bond at vertical and curb contraction joints by a method approved by the Engineer.
3. Reinforcing steel shall have a minimum cover of 2" unless otherwise noted.
4. Mortar for bedding and for joints in the granite curb shall contain an approved non-shrink additive.
5. Protective coating for concrete surfaces shall be applied to the exposed surfaces of all new concrete.
6. For Armored Joint Detail see sheet #35.
7. Place reinforcing steel in the bridge seats to clear bearing plate anchor bolts.
8. For details of construction and contraction joints see Standard Sheet BD 104-73.
9. For Section B-B see sheet #28.
10. See BD 100-71 for treatment at the Bridge Seal bearing areas.
11. For abutment protection, refer to note, sheet 28

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | EBC | DMD |
| | CHECKED | RJL | 11-75 |
| | REVISIONS | | |
| | FIELD CHANGES | | |

As Built 7-5-77 DAE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SOUTH CHANNEL BRIDGE
OVER THE
KENNEBEC RIVER
IN THE TOWN OF
SKOWHEGAN
SOMERSET COUNTY

PART- ABUTMENT NO. 2

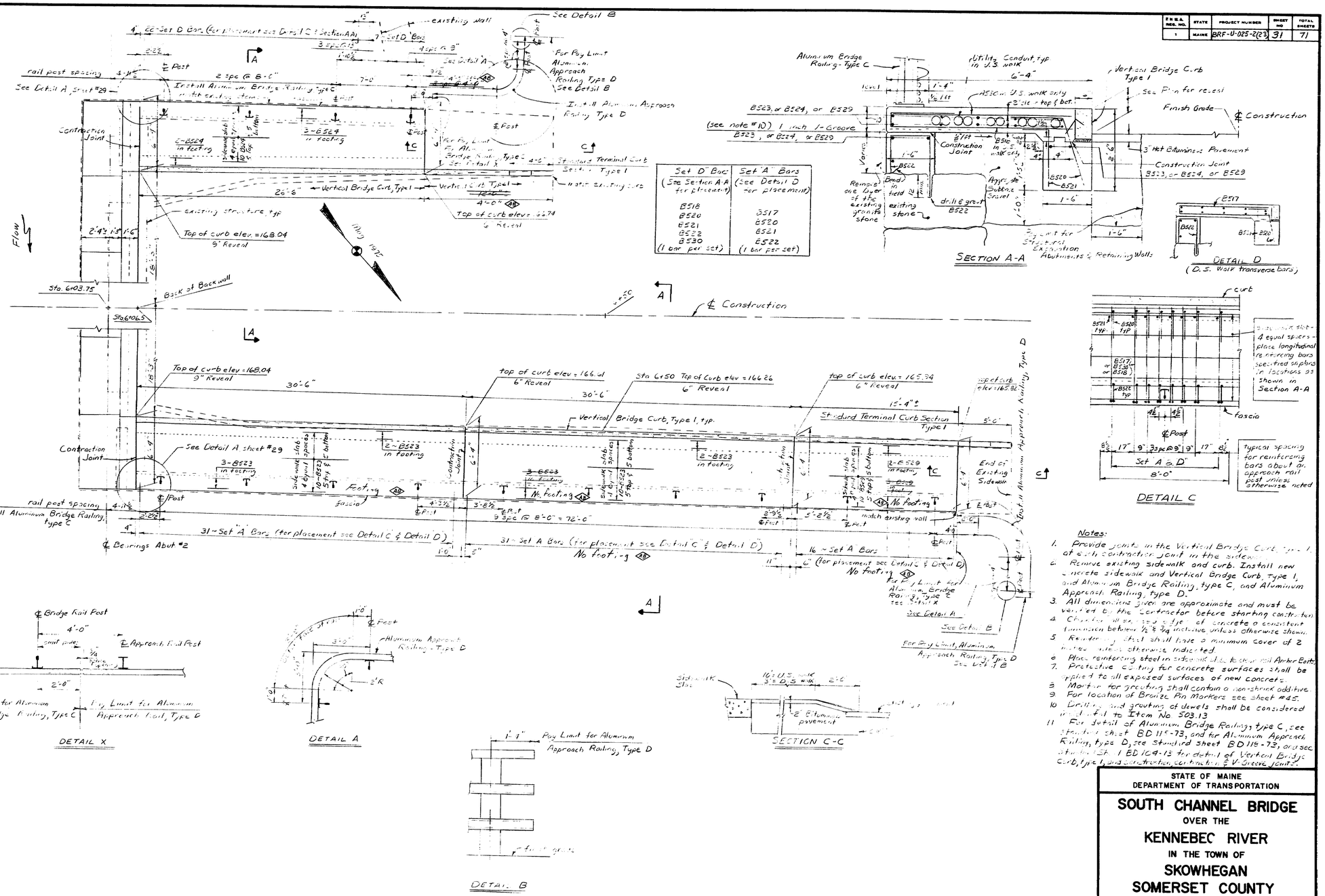
SHEET OF AUGUSTA, MAINE

167-152

| FHWA REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 31 | 71 |

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| DESIGN - DETAILED | DEW | 9-4-75 |
| CHECKED | PJL | 11-25 |
| REVISIONS | | |
| FIELD CHANGES | | |

PLANS




Notes:

1. Provide joints in the Vertical Bridge Curb, Type I at each contraction joint in the sidewalk.
2. Remove existing sidewalk and curb. Install new concrete sidewalk and Vertical Bridge Curb, Type I, and Aluminum Bridge Railing, type C, and Aluminum Approach Railing, type D.
3. All dimensions given are approximate and must be verified by the Contractor before starting construction.
4. Class "A" concrete, type of concrete a consistent consistency between ½" & ¾" inclusive unless otherwise shown.
5. Reinforcing steel shall have a minimum cover of 2" unless otherwise indicated.
6. Place reinforcing steel in sidewalk slab, footing, rail Anchor Bolts.
7. Protective coating for concrete surfaces shall be applied to all exposed surfaces of new concrete.
8. Mortar for grouting shall contain a non-shrink additive.
9. For location of Bronze Pin Markers see sheet #45.
10. Drilling and grouting of dowels shall be considered incidental to Item No 503.13
11. For detail of Aluminum Bridge Railing, type C, see Standard sheet BD 115-73, and for Aluminum Approach Railing, type D, see Standard sheet BD 115-73, or see also Std. BD 109-13 for detail of Vertical Bridge Curb, type I, and construction, contraction & V Groove joints.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

**ABUTMENT NO. 2 SIDEWALKS**

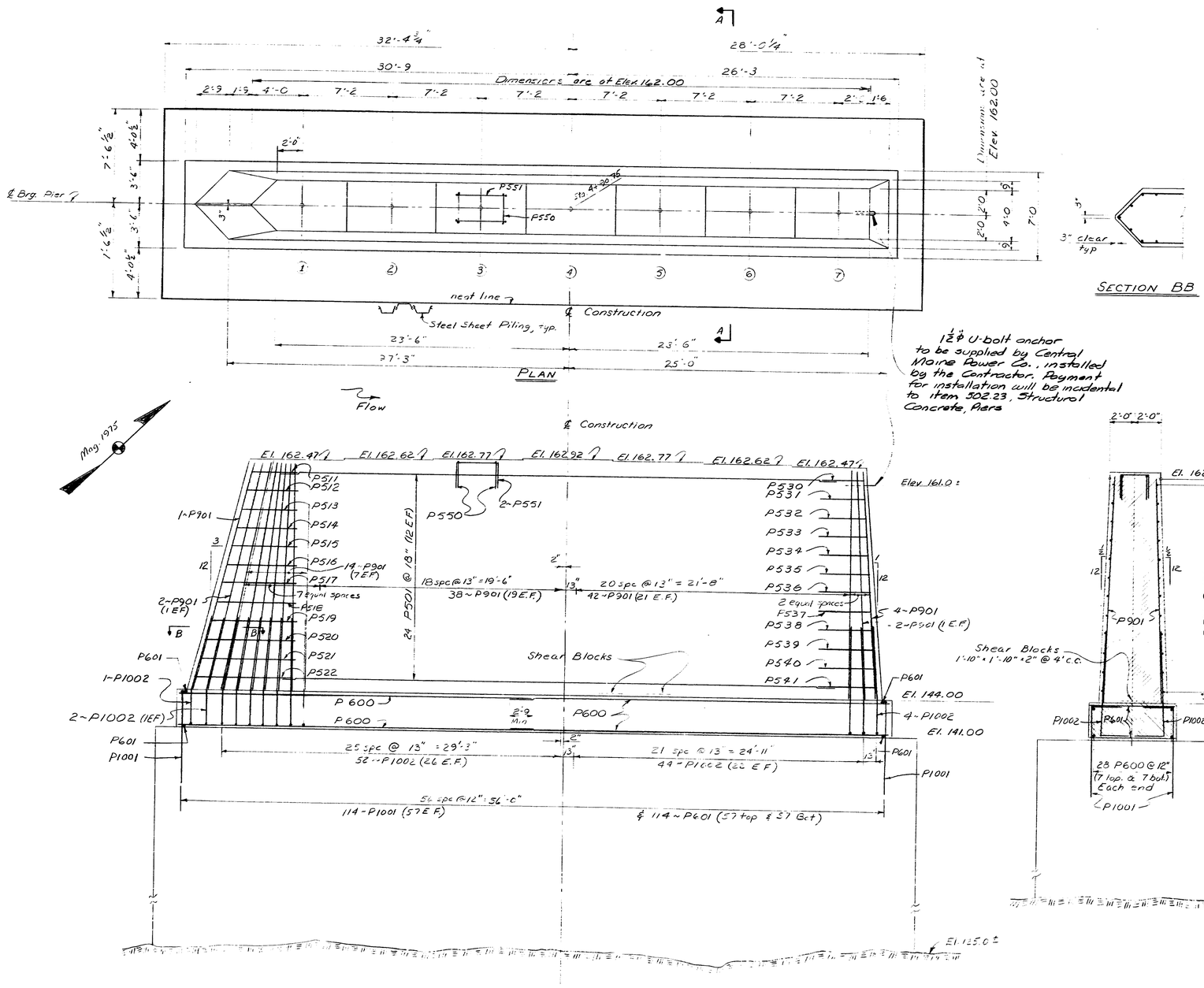
SHEET OF AUGUSTA, MAINE

JANUARY 1969

℄ As Built 7-5-77 (45)

167-153

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 32 | 71 |







SECTION BB




SECTION "AA"

## PIER NOTES

1 ~ Chamfer all exposed edges of concrete ½ inch unless otherwise indicated.

2 ~ Reinforcing Steel shall have 3 inches minimum cover unless otherwise indicated

3 ~ Place reinforcing steel on bridge seats to clear anchor bolts.

4 ~ For details of construction and contraction joints see Standard Sheet BD 104-73.

5 ~ The method of placing dowels in the concrete seal shall be approved by the Engineer.

6 ~ Maximum calculated footing pressure equals 6.66 tons per square foot.

7 ~ Seal concrete dimensions are predicated on use of MP-116, DP-2, I-27 or equivalent steel sheet piling with appropriate standard rolled corners. Pay dimensions shall be to the neat lines shown plus five inches all around. Any sheet piles used shall not encroach beyond the concrete seal neat line.

8 ~ The depth of the seal is set for a water elevation of 162. If the water elevation at the time of construction is higher, the depth of the seal will be adjusted by the Engineer.

9 ~ The concrete for the pier seal shall be class S, paid for under Item 502.24.

## DESIGN CRITERIA

Critical AASHO Loading – Group IX
Buoyancy – Water level assumed at elev. 162
Stream Flow – Velocity of 11 feet per second skewed at 15° to the longitudinal centerline of the pier.
Wind – 100 mph or 50 psf
Ice – 6" thick producing 400 psi. Ice pressure skewed at 15° to longitudinal centerline of pier, with water El. 162.

Note: Payment for Pier Excavation will be made under Item 206.10 - Structural Earth Excavation, Piers. Limit of excavation will be the pay limits for Seal Concrete. This unit price will be for all material encountered.

Pier Protection Note:
Pier surfaces above water and pier bearing areas shall be protected from rust staining. Polyethylene sheets, or other approved impervious coating, shall be placed on and around the bearing areas prior to setting the bearing pedestals, and shall extend underneath the masonry plates such that water will run off the pedestals onto the sheets. The protective covering shall remain in place at least until completion of the structural concrete slab placement. Removal of stains will not be required unless, in the opinion of the Engineer, the Contractor has not made satisfactory effort to prevent staining.

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | EBC | 4/22/75 |
| | CHECKED | DMD | |
| | REVISIONS | | |
| | FIELD CHANGES | | |

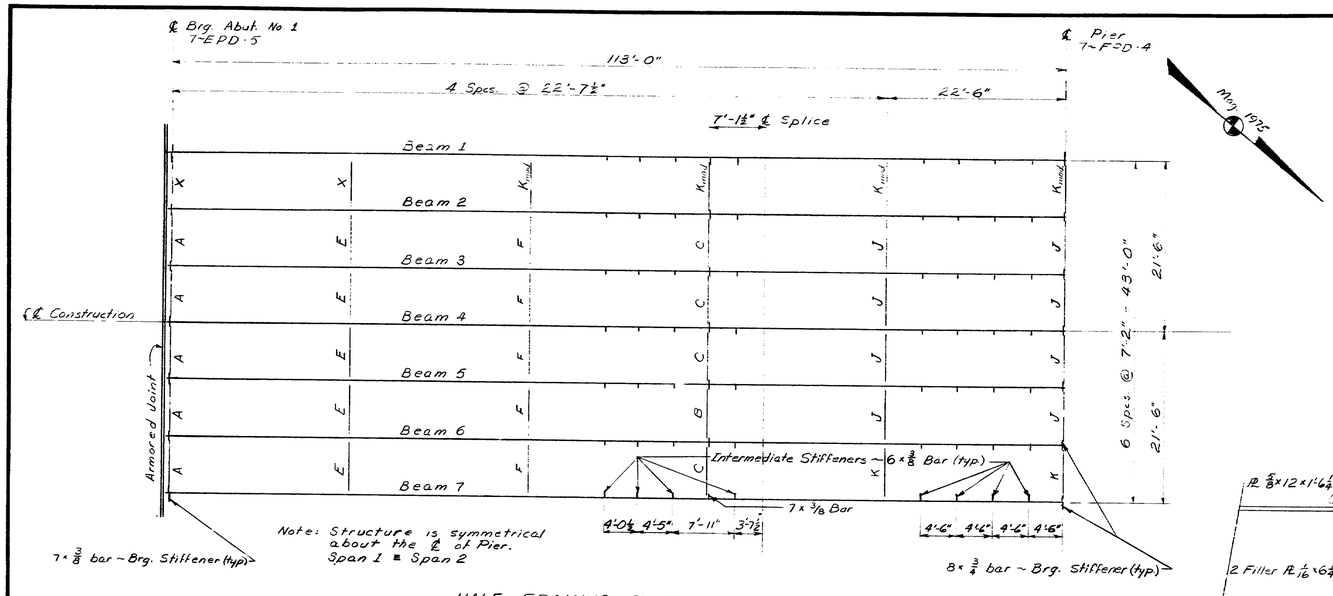
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY
PIER

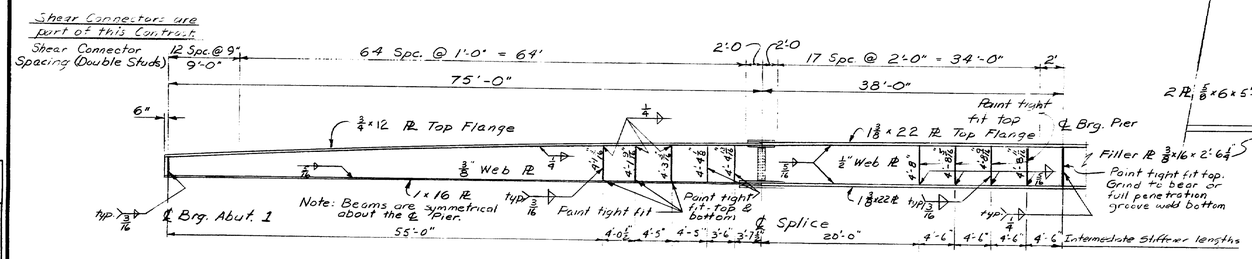
SHEET OF AUGUSTA, MAINE

167-154

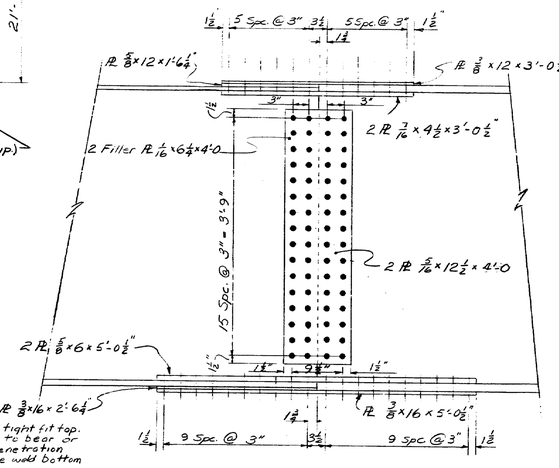
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 33 | 71 |



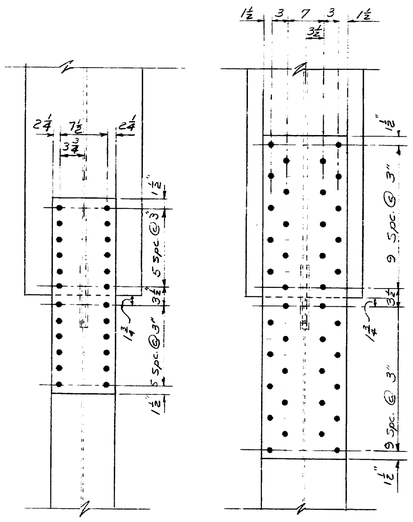

HALF FRAMING PLAN
Span 1




HALF BEAM ELEVATION
No. of shear connectors each beam = 380; Total No. = 2660
Total weight = 2660 lbs.

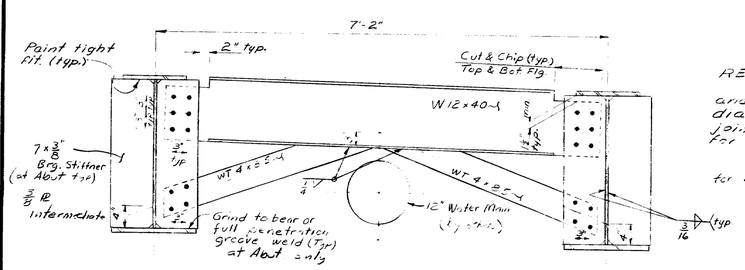



Splice Detail Elevation




Top PLs Bottom PLs

Splice Detail

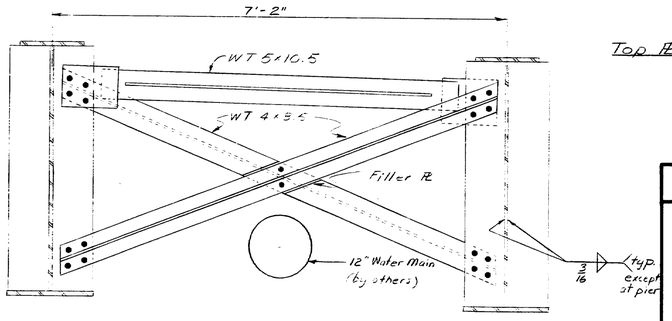



Diaphragm Type X

REF:
Refer to sheet #34 for blocking and camber details, stress type diagram, pedestal and expansion joint setting charts. See sheet #35 for armored joint details.

See Standard Details sheet BD 113-72 for Diaphragm & Crossframe details not shown.

Structural Steel will be supplied and delivered by the Department, and erected under this contract. Shop details of the Structural Steel will be supplied to the Contractor.




Crossframe Type K modified
See Standard Details for Type K

## FABRICATION NOTES

1. — All structural steel shall be ASTM A588.
2. — All dimensions are horizontal or vertical.
3. — All bolts shall be ⅞" dia. A325 Type 3 H.S. Bolts. Holes for bolts shall be 15/16" dia..
4. — Camber ordinates, as shown on sheet #34, are computed to compensate for all dead load deflections and for the curvature of the finish grade profile.
5. — No transverse butt weld splices in the flange plates or web plates within 10 feet from the points of maximum stress will be allowed.
6. — Sections of flange plates or web plates between transverse butt weld splices or from field splices shall be not less than 20 feet in length unless otherwise noted on the plans.
7. — Two transverse welds per piece will be allowed in the web plates. Butt weld splices in flanges shall not be closer than one foot from transverse welds in the web plates.
8. — Bearing stiffeners, intermediate web stiffeners, crossframe or diaphragm connection plates shall be normal to the bottom flange of the beam.

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| PLANS DESIGN-DETAILED | EBC DMD | 3/19/75 |
| CHECKED | JET | 5/75 |
| REVISIONS | | |
| FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SOUTH CHANNEL BRIDGE
OVER THE
KENNEBEC RIVER
IN THE TOWN OF
SKOWHEGAN
SOMERSET COUNTY

STRUCTURAL STEEL
SHEET OF AUGUSTA, MAINE

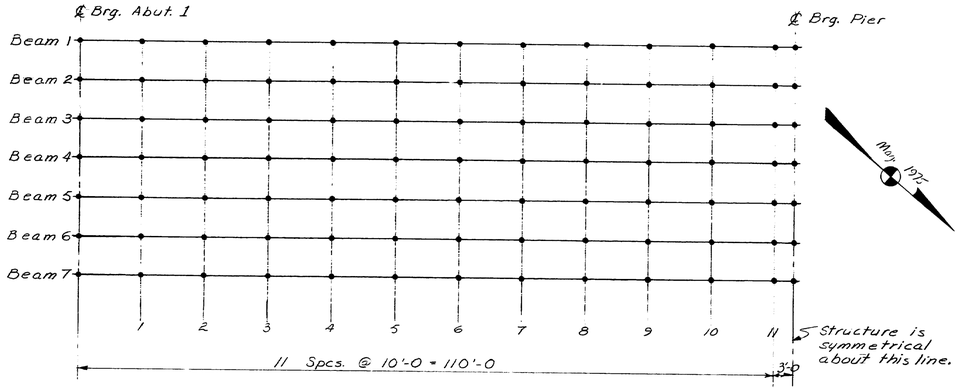
167-155

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 34 | 71 |

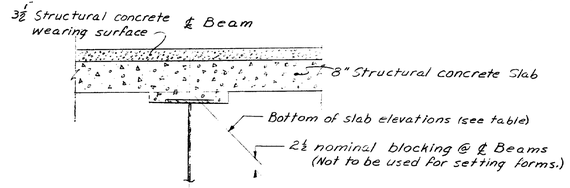
## Bottom of Slab Elevations

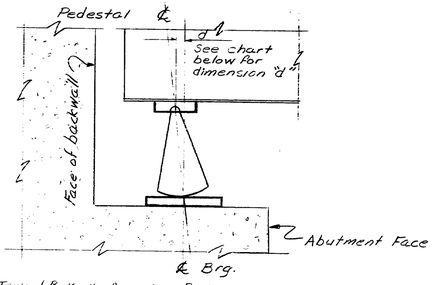
| Beam \ Point | ℄ Abut. | 10' | 20' | 30' | 40' | 50' | 60' | 70' | 80' | 90' | 100' | 110' | ℄ Pier |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beam 1 | 166.38 | 166.87 | 167.36 | 167.27 | 167.38 | 167.32 | 168.41 | 168.55 | 168.66 | 168.72 | 168.76 | 168.78 | 168.78 |
| Beam 2 | 166.53 | 167.02 | 167.95 | 167.82 | 168.13 | 168.37 | 168.56 | 168.70 | 168.81 | 168.87 | 168.91 | 168.92 | 168.92 |
| Beam 3 | 166.68 | 167.17 | 167.60 | 167.97 | 168.27 | 168.52 | 168.71 | 168.85 | 168.95 | 169.02 | 169.06 | 169.07 | 169.07 |
| Beam 4 | 166.83 | 167.32 | 167.75 | 168.12 | 168.42 | 168.67 | 168.86 | 169.00 | 169.10 | 169.17 | 169.21 | 169.22 | 169.22 |
| Beam 5 | 166.68 | 167.17 | 167.60 | 167.97 | 168.27 | 168.52 | 168.71 | 168.85 | 168.95 | 169.02 | 169.06 | 169.07 | 169.07 |
| Beam 6 | 166.53 | 167.02 | 167.45 | 167.82 | 168.13 | 168.37 | 168.56 | 168.70 | 168.81 | 168.87 | 168.91 | 168.92 | 168.92 |
| Beam 7 | 166.38 | 166.87 | 167.30 | 167.67 | 167.98 | 168.22 | 168.41 | 168.55 | 168.66 | 168.72 | 168.76 | 168.78 | 168.78 |

Note:
Bottom of slab elevations are adjusted to compensate for the dead load deflections.

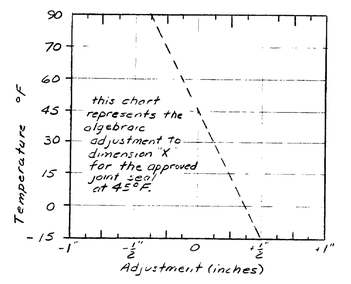



## BLOCKING PLAN

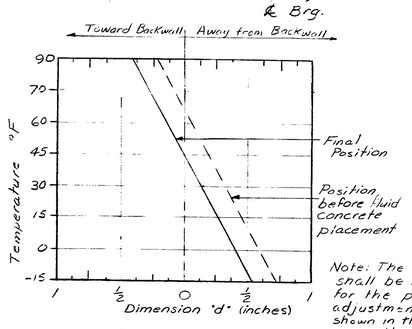



## BLOCKING DETAIL

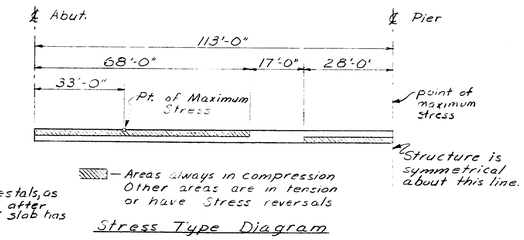



Armored Joint Adjustment Chart

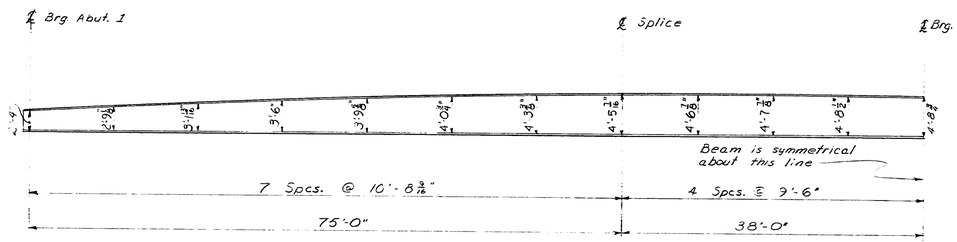



Note: The contractor shall be responsible for the proper adjustment of the pedestals, as shown in the chart above, after the superstructure slab has been placed.

Expansion Pedestal Setting Chart

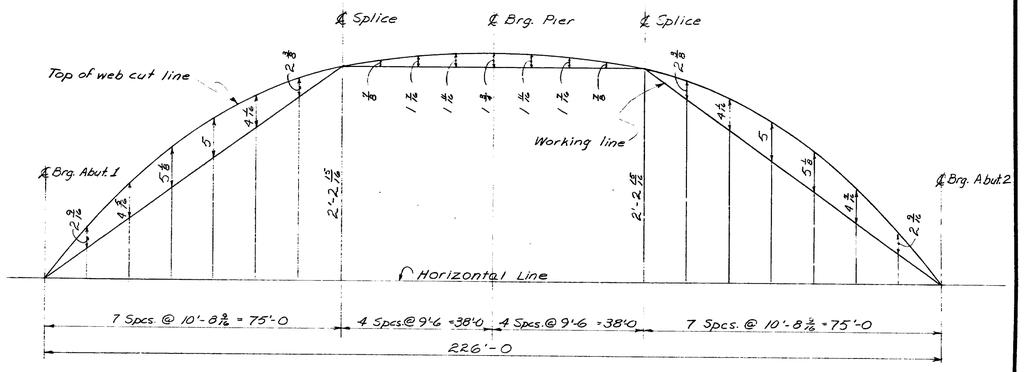



Stress Type Diagram




## BEAM ELEVATION

Web Plate Depth
Final Profile




## CAMBER DIAGRAM

PROJECT DESIGN ENGINEER
PLANS

| | BY | DATE |
|---|---|---|
| DESIGN - DETAILED | EBG | 3/1/75 |
| CHECKED | DMD | 3/75 |
| REVISIONS | JET | 5/75 |
| FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

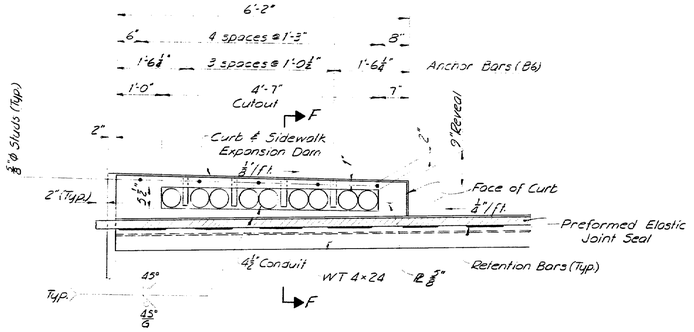
BOTTOM OF SLAB ELEVATIONS

SHEET OF AUGUSTA, MAINE

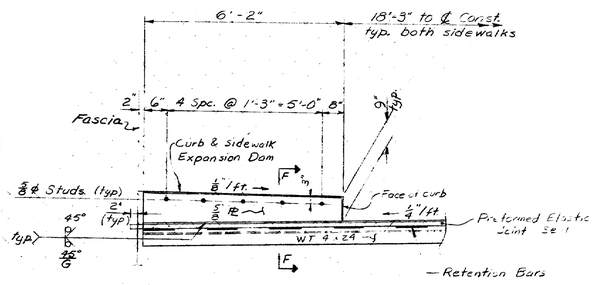
167-156

JANUARY 1969

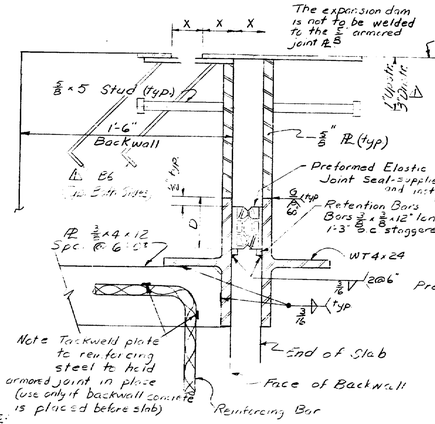
| F.H.W.A. REGION NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 35 | 71 |




ARMORED JOINT ELEVATION ~ LT. SIDEWALK ⚠
The Expansion Dam is not to be welded to the ⅜" armored joint plate.

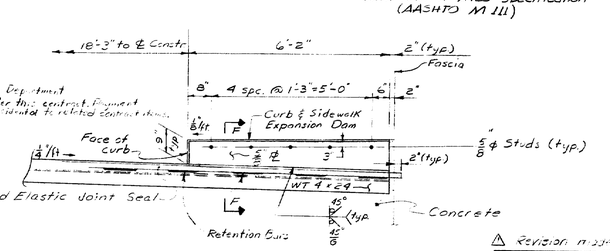



Armored Joint Elevation ~ Lt. Sidewalk
The Expansion Dam is not to be welded to the ⅜" armored joint plate.
⚠




SECTION F-F"

Armored Joint Elevation ~ Rt. Sidewalk
The Expansion Dam is not to be welded to the ⅜" armored joint plate




⚠ Revision 11-23-75

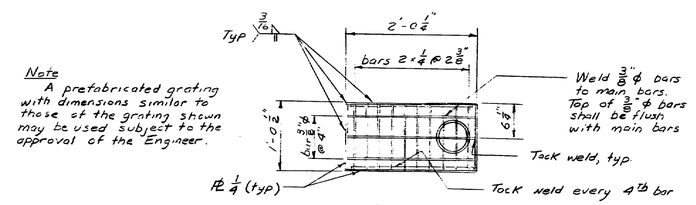
Notes:
1. The seals furnished shall be as follows:

| Location | Movement Rating |
|---|---|
| Abut. 1 | 1.5 |
| Abut. 2 | 1.5 |

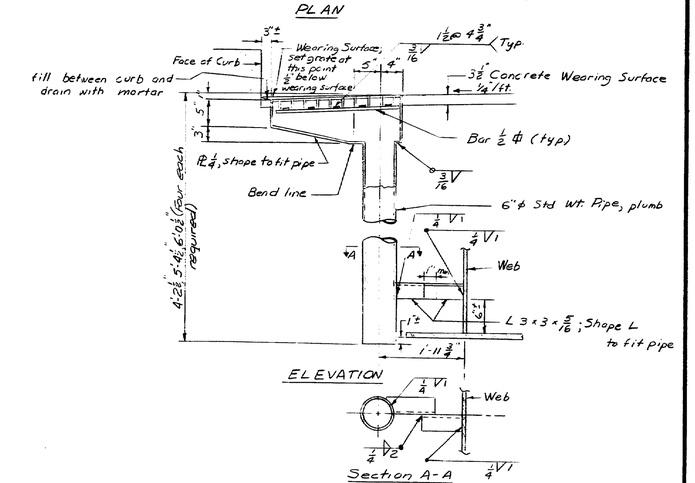
2. The seal characteristics shall be submitted to the Engineer for approval prior to the fabrication of the armored joint and the dimensions X & D will be established by the Engineer at the time based on the characteristics of the approved seal.
3. The maximum joint opening shall be 2" at -30°F assumed consistent with the A & C instruction.
4. It is anticipated that the joint will open ¼" due to superstructure concrete loads.

REF.
For armored joint details not shown see Standard Details sheet BD 109-73
For Curb and Sidewalk Expansion Dam details refer to Standard Details sheet BD 105-74

DRAIN
(12 required)
Drains shall be ASTM A53 + A36, Galvanized to conform with ASTM A123 specification (AASHTO M 111)




PLAN




ELEVATION




Section A-A

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| DESIGN - DETAILED | EBC | 3/28/75 |
| CHECKED | DMD | 5/75 |
| REVISIONS | JEF | |
| FIELD CHANGES | | |

PLANS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

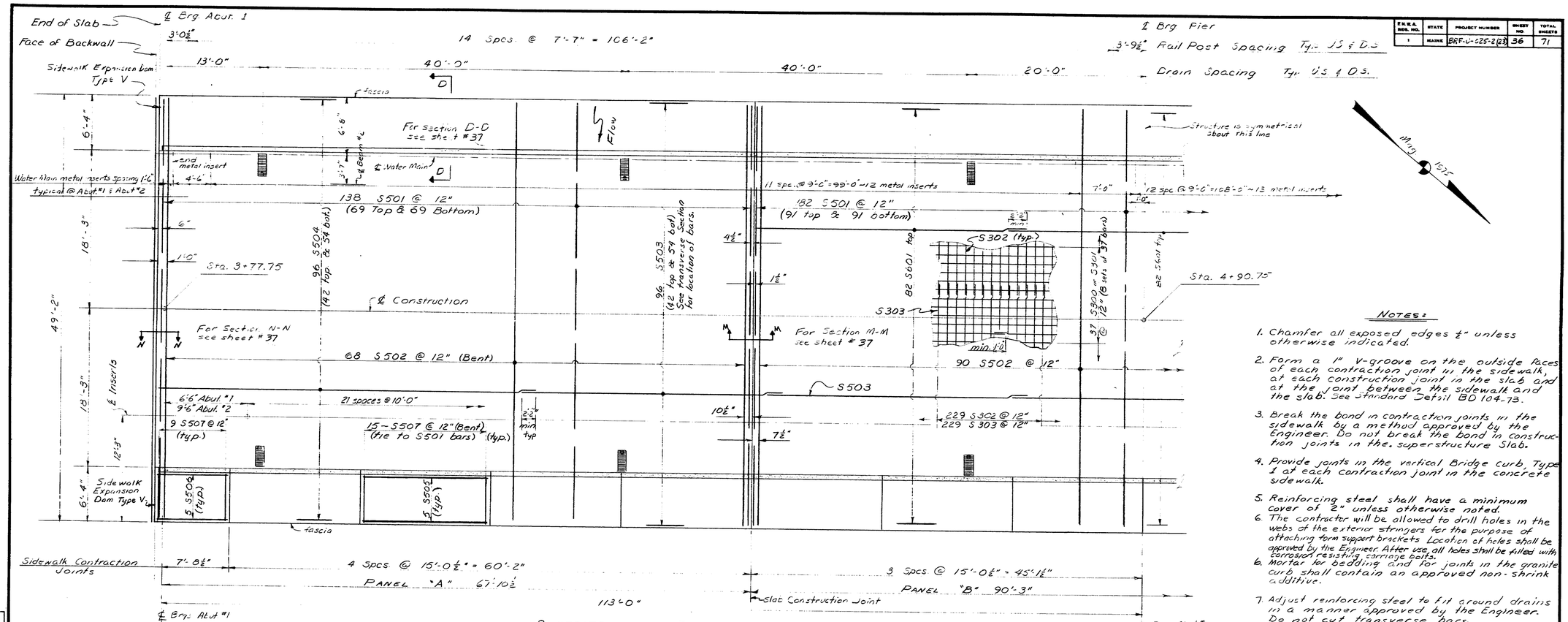
ARMORED JOINT DETAILS

SHEET OF AUGUSTA, MAINE

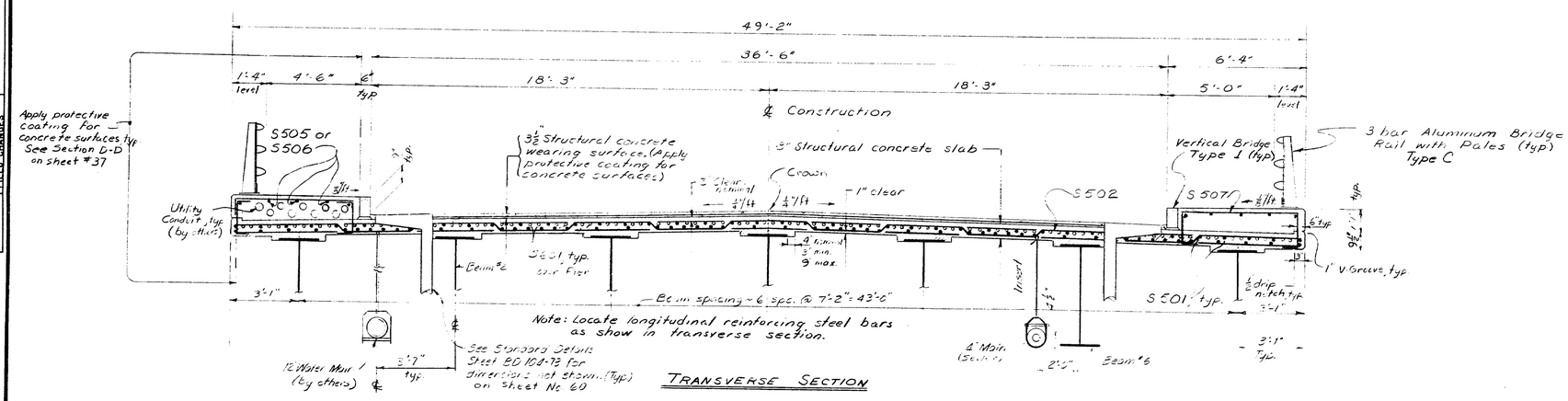
JANUARY 1968

167-157

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 36 | 71 |




SUPERSTRUCTURE PLAN




TRANSVERSE SECTION

## NOTES:

1. Chamfer all exposed edges ¾" unless otherwise indicated.
2. Form a 1" V-groove on the outside faces of each contraction joint in the sidewalk, at each construction joint in the slab and at the joint between the sidewalk and the slab. See Standard Detail BD 104-73.
3. Break the bond in contraction joints in the sidewalk by a method approved by the Engineer. Do not break the bond in construction joints in the superstructure slab.
4. Provide joints in the vertical Bridge curb, Type 1 at each contraction joint in the concrete sidewalk.
5. Reinforcing steel shall have a minimum cover of 2" unless otherwise noted.
6. The contractor will be allowed to drill holes in the webs of the exterior stringers for the purpose of attaching form support brackets. Location of holes shall be approved by the Engineer. After use, all holes shall be filled with corrosion resisting carriage bolts.
6. Mortar for bedding and for joints in the granite curb shall contain an approved non-shrink additive.
7. Adjust reinforcing steel to fit around drains in a manner approved by the Engineer. Do not cut transverse bars.
8. The superstructure may be placed either continuously or by panels as follows:

   Continuous Placement

   The contractors method of placement shall be approved by the Engineer. The concrete shall be kept plastic one (1) complete span back of the span being placed. The transverse slab joints and haunches shown shall be omitted. Approved set retarding admixtures shall be used when authorized by the Engineer.

   Panel Placement

   Panels "A" shall be placed before placing Panel "B". A minimum of 5 days shall elapse between placements of panels "A".
9. Metal inserts for the 12" water main are to be supplied by the utility. Metal inserts for the 4" Sewer Main shall be supplied under Section 817. Installation of all inserts shall be considered incidental to Item 502.26 Structural Concrete, Roadway and Sidewalk Slabs on Steel Bridges.

| PROJECT DESIGN ENGINEER | BY | DATE |
|---|---|---|
| DESIGN - DETAILED | D.N.D. | 7-1-75 |
| CHECKED | | 11-26 |
| REVISIONS | | |
| FIELD CHANGES | | |

PLANS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

SUPERSTRUCTURE

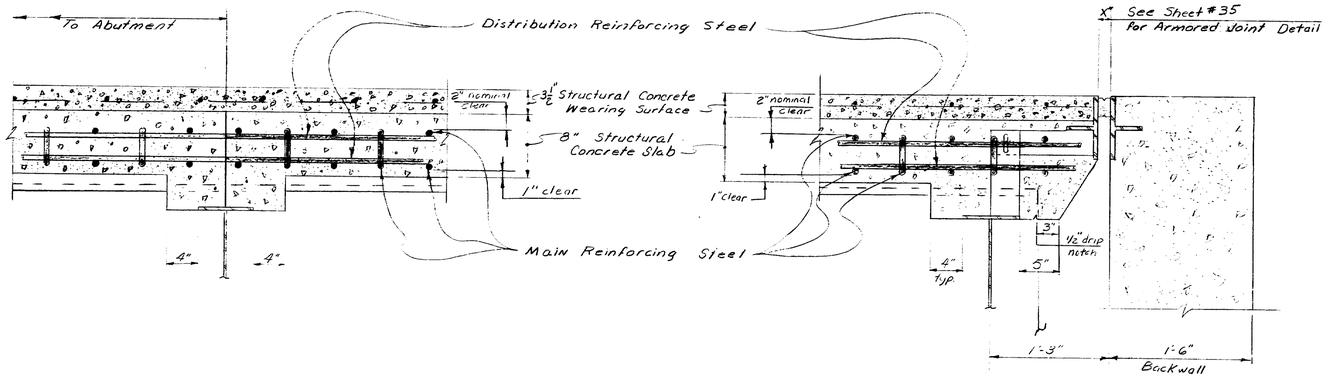
SHEET OF AUGUSTA, MAINE 1975

167-158

JANUARY 1969

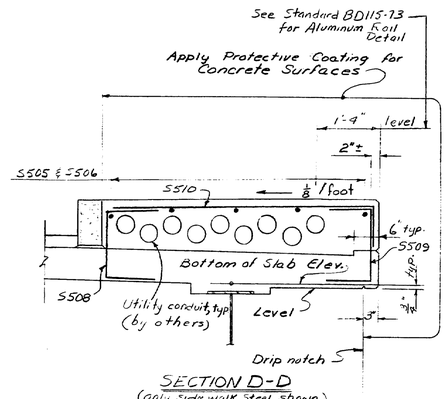
| B. P. R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 37 | 71 |

| PLANS | | BY | DATE |
|---|---|---|---|
| | DESIGN - DETAILED | EBK | |
| | CHECKED | PJL | 11-82 |
| | REVISIONS | | |
| | FIELD CHANGES | | |




SECTION MM

SECTION NN




SECTION D-D
(Only Sidewalk Steel Shown)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

*SUPERSTRUCTURE DETAILS*

SHEET OF AUGUSTA, MAINE 1975

JANUARY 1968

283-1 2966

167-159

# REINFORCING STEEL SCHEDULE

| FHWA REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 38 | 71 |

## STRAIGHT BARS

| MARK | NO. | LENGTH | LOCATION |
|---|---|---|---|
| **ABUTMENT NO.1** | | | |
| A502 | 62 | 4'-7 | A1 Breastwall |
| A503 | 2 | 3'-6 | |
| A504 | 2 | 3'-0 | |
| A505 | 2 | 2'-6 | |
| A506 | 2 | 2'-0 | |
| A507 | 10 | 27'-10 | |
| A508 | 4 | 3'-0 | Backwall |
| A509 | 4 | 22'-0 | A1 Breastwall |
| A510 | 2 | 19'-6 | |
| A511 | 2 | 17'-0 | |
| A512 | 2 | 14'-6 | A1 Breastwall |
| A513 | 50 | 4'-10 | A1 Backwall |
| A515 | 8 | 27'-10 | A1 Backwall |
| A516 | 8 | 20'-8 | A1 Backwall |
| A501 | 74 | 3'-8 | A1 Breastwall |
| | | | |
| A523 | 45 | 30'-0 | A1 Sidewalk |
| A524 | 15 | 24'-6 | |
| A528 | 1 | 7'-10 | |
| A529 | 2 | 8'-4 | |
| A530 | 2 | 8'-4 | |
| A531 | 2 | 7'-9 | |
| A532 | 2 | 6'-10 | |
| A533 | 2 | 5'-10 | |
| A534 | 2 | 4'-0 | A1 Sidewalk |
| A536 | 2 | 12'-7 | A1 Panel B |
| A537 | 2 | 11'-10 | |
| A538 | 2 | 11'-3 | |
| A539 | 2 | 10'-7 | |
| A540 | 2 | 10'-0 | |
| A542 | 10 | 9'-9 | |
| | | | |
| A544 | 83 | 6'-4 | A1 Panel B |
| | | | |
| | | | |
| A548 | 1 | 11'-6 | A1 Panel A |
| A549 | 1 | 10'-10 | A1 Panel A |
| A552 | 3 | 7'-5 | A1 Panel B |
| | | | |
| A554 | 3 | 10'-0 | |
| | | | |
| A556 | 2 | 12'-4 | |
| | | | |
| A558 | 2 | 9'-8 | A1 Panel B |
| | | | |
| | | | |

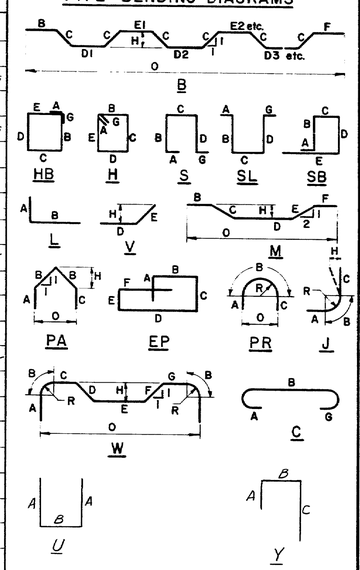
| MARK | NO. | LENGTH | LOCATION |
|---|---|---|---|
| **ABUTMENT NO.2** | | | |
| B501 | 74 | 3'-8 | A2 Breastwall |
| B502 | 70 | 4'-7 | A2 Breastwall |
| B503 | 10 | 27'-10 | A2 Breastwall |
| B504 | 10 | 20'-8 | A2 Breastwall |
| B506 | 8 | 27'-10 | A2 Backwall |
| B507 | 8 | 20'-8 | A2 Backwall |
| B508 | 50 | 4'-9 | A2 Backwall |
| | | | |
| B523 | 30 | 30'-0 | A2 Sidewalk |
| B524 | 15 | 26'-0 | A2 Sidewalk |
| B529 | 15 | 19'-10 | A2 Sidewalk |
| B530 | 29 | 5'-6 | A2 U.S. Sidewalk |
| B525 | 4 | 3'-0 | Backwall |

| MARK | NO. | LENGTH | LOCATION |
|---|---|---|---|
| **SUPERSTRUCTURE** | | | |
| S300 | 259 | 30'-0 | Wearing Surface |
| S301 | 37 | 27'-0 | |
| S302 | 229 | 17'-6 | |
| S303 | 229 | 20'-0 | Wearing Surface |
| | | | |
| | | | |
| S501 | 458 | 48'-10 | Deck transverse |
| S503 | 480 | 30'-0 | Deck long. |
| S504 | 192 | 45'-0 | Deck long. |
| S505 | 140 | 14'-8 | Sidewalk long. |
| S506 | 20 | 8'-4 | Sidewalk @ ends |
| | | | |
| | | | |
| S601 | 246 | 30'-0" | Deck over Pier |
| **PIER** | | | |
| P501 | 24 | 46'-6 | Pier Horiz. Bars |
| | | | |
| P600 | 28 | 30'-0" | Pier Distr. Slab |
| P601 | 114 | 6'-6 | Pier Distr. Slab |
| | | | |
| | | | |
| P901 | 103 | 18'-3 | Pier Shaft |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## BENT BARS

| MARK | NO. | LENGTH | TYPE | A | B | C | D | E | F | G | H | O | R | LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A518 | 2 | 8'-6 | U | 4'-0 | 0'-6" | | | | | | | | | |
| A514 | 12 | 12'-10 | U | 5'-10 | 1'-2 | | | | | | | | | A1 Backwall |
| A517 | 60 | 11'-6 | U | 5'-6 | 0'-6" | | | | | | | | | A1 Sidewalks |
| A520 | 150 | 4'-2 | V | | | | 2'-2 | 2'-0 | | | 1'-7½ | | | A1 Sidewalks |
| A522 | 147 | 6'-8 | Y | 2'-0 | 1'-2 | 3'-0 | | | | | | | | A1 Sidewalks |
| A519 | 2 | 5'-8" | | 2'-7 | 0'-6 | | | | | | | | | |
| B505 | 10 | 12'-10 | U | 5'-10 | 1'-2 | | | | | | | | | A2 Backwall |
| B517 | 78 | 11'-6 | U | 5'-6 | 0'-6" | | | | | | | | | A2 Sidewalk |
| B520 | 107 | 4'-2 | V | | | | 2'-2 | 2'-0 | | | 1'-7½ | | | A2 Sidewalk |
| B522 | 107 | 6'-8 | Y | 2'-0 | 1'-2 | 3'-6 | | | | | | | | A2 Sidewalk |
| A543 | 83 | 8'-10 | Y | 2'-2 | 0'-6 | 6'-2 | | | | | | | | A1 U.S. Sidewalk |
| B518 | 29 | 8'-2 | Y | 2'-2 | 0'-6 | 5'-6 | | | | | | | | |
| S502 | 226 | 50'-10 | B | | 4'-8 | 0'-7" | 2'-10 | 3'-6 | 4'-8 | | 0'-5" | 48'-10 | | Deck transv. |
| S507 | 229 | 10'-2 | S | 0'-10" | 1'-7 | 5'-6 | 1'-5 | | | 0'-10" | | | | Deck Sidewalk |
| S505 | 229 | 3'-6" | U | 1'-0" | 1'-6" | | | | | | | | | |
| P511 | 1 | 10'-7" | PA | 2'-10" | 2'-5½" | 2'-10" | | | | | 1'-9" | 3'-6½" | | Pier Shaft |
| P512 | 1 | 11'-6" | | 3'-2" | 2'-7" | 3'-2" | | | | | 1'-10" | 3'-8" | | |
| P513 | 1 | 12'-5" | | 3'-6" | 2'-8½" | 3'-6" | | | | | 1'-11" | 3'-9½" | | |
| P514 | 1 | 13'-1" | | 3'-9½" | 2'-9" | 3'-9½" | | | | | 1'-11½" | 3'-11" | | |
| P515 | 1 | 13'-10" | | 4'-1" | 2'-10" | 4'-1" | | | | | 2'-0" | 4'-0½" | | |
| P516 | 1 | 14'-9" | | 4'-5" | 2'-11½" | 4'-5" | | | | | 2'-1" | 4'-2" | | |
| P517 | 1 | 15'-8" | | 4'-9" | 3'-1" | 4'-9" | | | | | 2'-2" | 4'-3½" | | |
| P518 | 1 | 16'-3" | | 5'-0" | 3'-1½" | 5'-0" | | | | | 2'-2½" | 4'-5" | | |
| P519 | 1 | 17'-0" | | 5'-4" | 3'-2" | 5'-4" | | | | | 2'-3" | 4'-6½" | | |
| P520 | 1 | 17'-11" | | 5'-8" | 3'-3½" | 5'-8" | | | | | 2'-4" | 4'-8" | | |
| P521 | 1 | 18'-9" | | 6'-0" | 3'-4½" | 6'-0" | | | | | 2'-4½" | 4'-9½" | | |
| P522 | 1 | 19'-7" | PA | 6'-4 | 3'-5⅝" | 6'-4 | | | | | 2'-5⅝" | 4'-11" | | |
| P530 | 1 | 9'-2" | U | 2'-9½" | 3'-6½" | | | | | | | | | |
| P531 | 1 | 9'-6" | | 2'-11" | 3'-8" | | | | | | | | | |
| P532 | 1 | 9'-11" | | 3'-0⅛" | 3'-9½" | | | | | | | | | |
| P533 | 1 | 10'-3" | | 3'-2" | 3'-11" | | | | | | | | | |
| P534 | 1 | 10'-8" | | 3'-3½" | 4'-0⅛" | | | | | | | | | |
| P535 | 1 | 11'-0" | | 3'-5" | 4'-2" | | | | | | | | | |
| P536 | 1 | 11'-5" | | 3'-6⅛" | 4'-3½" | | | | | | | | | |
| P537 | 1 | 11'-9" | | 3'-8" | 4'-5" | | | | | | | | | |
| P538 | 1 | 12'-2" | | 3'-9½" | 4'-6⅛" | | | | | | | | | |
| P539 | 1 | 12'-7" | | 3'-11½" | 4'-8" | | | | | | | | | |
| P540 | 1 | 12'-11" | | 4'-0⅛" | 4'-9½" | | | | | | | | | |
| P541 | 1 | 13'-3" | | 4'-2" | 4'-11" | | | | | | | | | Pier Shaft |
| P550 | 14 | 6'-9" | | 2'-0 | 2'-9" | | | | | | | | | Pier Brg. Pads |
| P551 | 14 | 5'-9" | U | 2'-0 | 1'-9" | | | | | | | | | Pier Brg. Pads |
| | | | | | | | | | | | | | | |
| S509 | 229 | 3'-7" | U | 1'-0" | 1'-7" | | | | | | | | | |
| S510 | 229 | 6'-6" | L | 1'-0 | 5'-6" | | | | | | | | | |
| A521 | 149 | 2'-6½" | L | 0'-10" | 1'-8⅝" | | | | | | | | | A1 Sidewalk |
| P1001 | 114 | 9'-5" | J | 1'-10" | 0'-8" | 6'-11" | | | | | 0 | | 5" | Seal Dowels |
| P1002 | 103 | 11'-0" | J | 1'-10" | 0'-8" | 8'-6 | | | | | 0 | | 5" | Distr. Slab Dowel |
| B521 | 107 | 2'-6½" | L | 0'-10" | 1'-8⅝" | | | | | | | | | A2 Sidewalk |
| MARK | NO. | LENGTH | TYPE | A | B | C | D | E | F | G | H | O | R | LOCATION |

## TYPE-BENDING DIAGRAMS




All dimensions are out to out of reinf. bar

Bending details and hooks shall conform to the recommendations of ACI Standard 315-65.

Reinforcing Bar: ASTM A615 Grade 60

## GENERAL NOTES

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. Letter of Marks A, P & S locates bars of Abutments, Piers, and Superstructure parts respectively.

| PLANS | DESIGN - DETAIL | BY | DATE |
|---|---|---|---|
| | CHECKED | EAC | 11-25 |
| | REVISIONS | PJL | |
| | FIELD CHANGES | | |

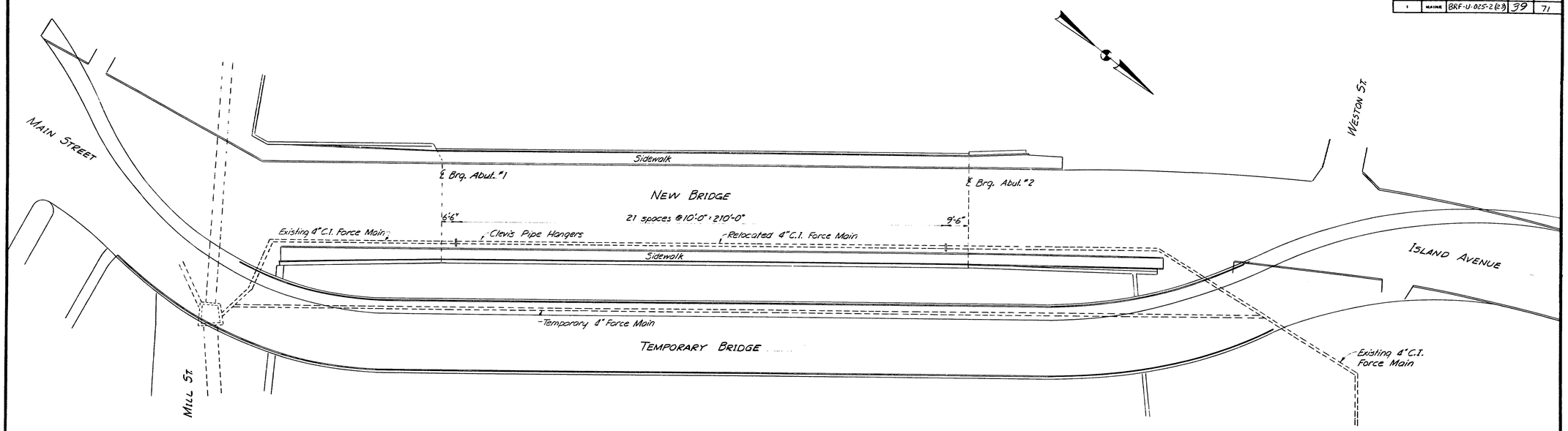
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

**SOUTH CHANNEL BRIDGE**
OVER THE
**KENNEBEC RIVER**
IN THE TOWN OF
**SKOWHEGAN**
**SOMERSET COUNTY**
*REINFORCING STEEL*

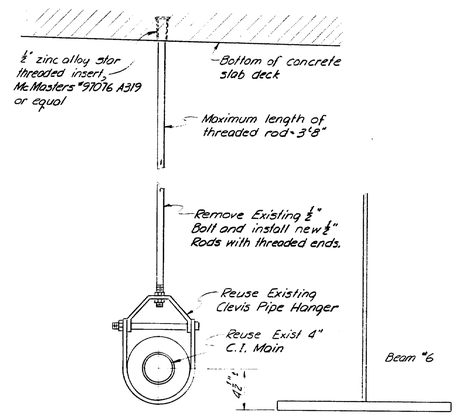
SHEET OF AUGUSTA, MAINE

167-160

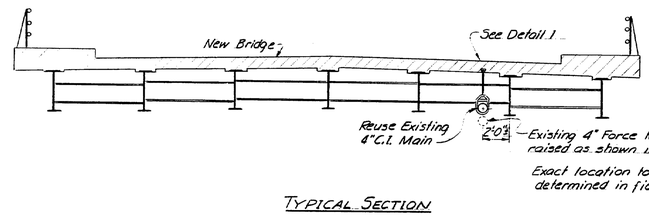
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 39 | 71 |




PLAN




DETAIL 1




TYPICAL SECTION

## GENERAL NOTES

1. The relocation of the 4" cast iron force main shall be in accordance with Section 817 of the Special Provisions and will be paid for under Item 817.21, 4" Cast Iron Pressure Sewer Pipe.
2. The installation & removal of the temporary 4" force main across the temporary bridge shall be in accordance with Section 817 of the Special Provisions and will be paid under Item 817.211, 4" Temporary Pressure Sewer Pipe.
3. The existing 4" cast iron pipe, Class 150, push-on joints & mech. joint fittings may be reused. The 2" thick insulation with aluminum jacket may be reused if not damaged; damaged portions are to be replaced with material of equal quality.
4. Paint rods & hangers with one 3 mil coat of Carbomastic 15, or equal, applied per paint manufacturer's recommendations.
5. Details were taken from Kleinschmidt + Dutting plan 8-929 sheet 1 of 2. Copies are available

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

PLANS

JANUARY 1982

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# SOUTH CHANNEL BRIDGE
OVER THE
# KENNEBEC RIVER
IN THE TOWN OF
# SKOWHEGAN
# SOMERSET COUNTY

SEWER RELOCATION

SHEET OF AUGUSTA, MAINE

167-161

| F.A. NO. & REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 40 | 71 |

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | | |
| | CHECKED | | |
| | REVISIONS | | |
| 25/2709 | FIELD CHANGES | | |

Survey Plotted D. 2 3/1975

Temp. Aerial Tel. Cable

Solon Manufacturing Company

Paved Parking Area

The Federated Church

Church

Inhabitants Of The Town Of Skowhegan

Grading Limits

Sta. 101+75 Limit of Work Match Existing Section

Remove & Reset Fence As Directed By The Engineer Pay Item = 604.24

Sta. 7+62.00 Main Line: Sta. 10+00.00 Western Street ℄ = 96°-30'-00" to Ac.

Paved Parking Area

Raymond D. Gilman
Florence L. Gilman

Sta. 101+30.73 10.00' Rt.

Sta. 101+28.69 10.00' Lt.

Remove & Reset Iron Pipe Fence If Required

Iron Fence

Stone Curb

Concrete Curb

Bronze Marker

Island with Sign

Island with Shrubbery

Temp. S.W. Easement

Conc. Pad

Pavement

Chevron Filling Station (closed)

Refuse Area

Oil Tank

Conc. Slab

Pumping Station

Temp. Tel. Aerial Cable

Iron Picket Fence

Sta. 11+92.47

Bronze Marker

Traverse Line N 44°-27' 57" E 19.25

Const. ℄

Bronze Marker

Chevron Oil Company

Fire Station
2 Story Brick Bldg.

2½ Story Wood Frame

Inhabitants Of The Town Of Skowhegan

Remove & Reset As Directed By The Engineer Pay Item 604.24

Monument GR Granite coat-of-arms plaque, carbon and flag bulb in concrete base Found

Remove & Reset Iron Pipe Fence If Required

Removal 117 Lf Chip

Curve #2
P.I. Sta. 101+86.45
L = 68'-23'-22" Rt
Δ = 31°-20'-00"
T = 24.25
L = 214.27
R = 182.86'
E = 38.17'

8" High wooden fence on concrete retaining wall

8" Sewer Pipe

25' Drainage Easement Limit Line

Central Maine Power Company

Curve #1
P.I. Sta. 98+60.00
Δ = 15°-54'-55" Rt
D = 10°-00'-00"
T = 12.57
L = 25.17
R = 572.96'
E = 1.38

Sewer Easement To Town

Temporary

N 39°-30' W

S 50°-30' E

Traverse Key

North Channel
Kennebec River

South Channel
Kennebec River

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

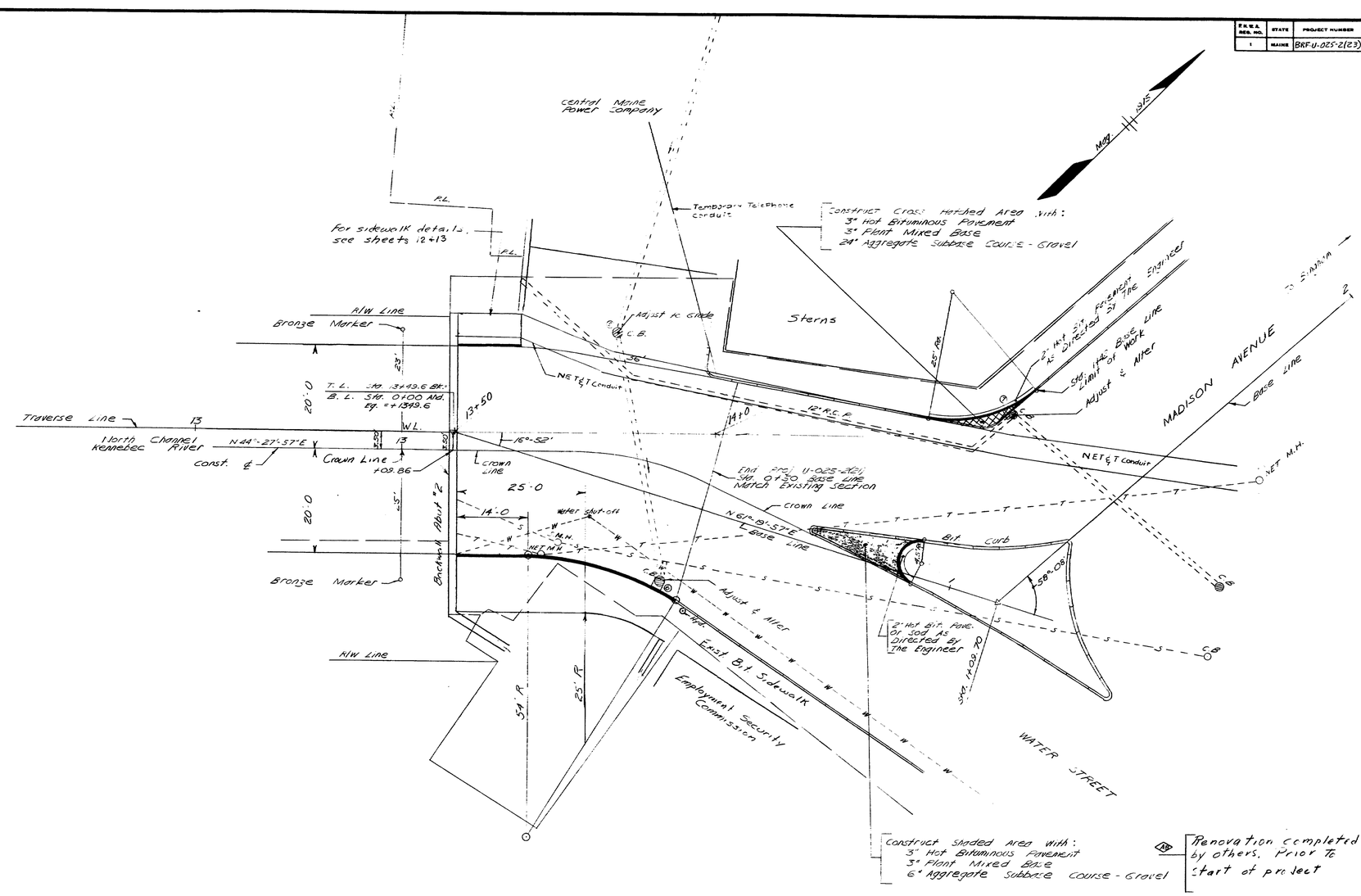
# HIGHWAY
# BETWEEN BRIDGES

IN THE TOWN OF
## SKOWHEGAN
## SOMERSET COUNTY

SHEET OF AUGUSTA, MAINE JAN. 1975

167-G-162

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 41 | 71 |




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

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NORTH CHANNEL APPROACH

KENNEBEC RIVER

SKOWHEGAN

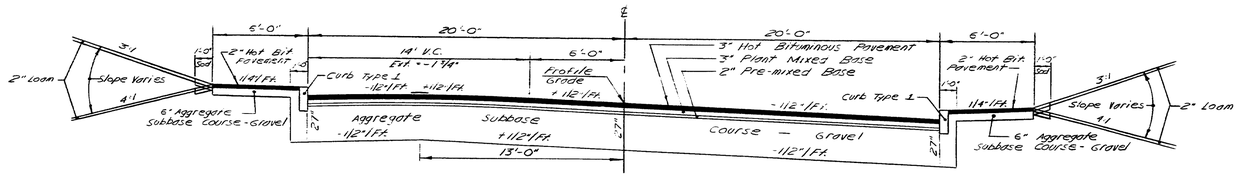
0 10 20 30 40
SCALE IN FEET

SHEET OF AUGUSTA, MAINE

169-163

| FHWA REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 42 | 71 |

# 3" HOT BITUMINOUS PAVEMENT*

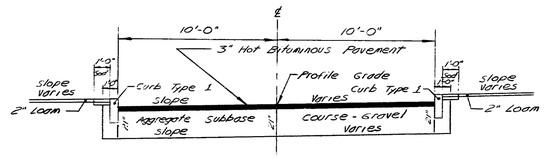



MAIN LINE

Aggregate Subbase Course - Gravel (Under Sidewalk) = 19.33 C.Y. Per 100 L.F.

2" Pre-mixed Bituminous Base (40' Wide) = 24.69 C.Y. Per 100 L.F.
27" Aggregate Subbase Course - Gravel (40' Wide) = 330.81 C.Y. Per 100 L.F.

Aggregate Subbase Course - Gravel (Under Sidewalk) = 19.33 C.Y. Per 100 L.F.




WESTON STREET

Aggregate Subbase Course - Gravel (22' Wide) = 142.08 C.Y. Per 100 L.F.

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | C.W.H. | G.W.H. 2001/15 |
| | CHECKED | | |
| | REVISIONS | | |
| | FIELD CHANGES | | |

*Note:
The Pavement And Base Depths As Shown On The Plans Are Intended To Be Nominal.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
SKOWHEGAN

0 4 8 12
SCALE IN FEET

SHEET OF AUGUSTA, MAINE

167-164

## DRAINAGE

| STATION | RCP SIZE | RCP LENGTH | RCP CLASS | BCCMP SIZE | BCCMP LENGTH | CMP SIZE | CMP LENGTH | Option III CULVERT PIPE SIZE | Option III CULVERT PIPE LENGTH | CATCH BASINS A1-C | CATCH BASINS A2-C | CATCH BASINS A5-C | CATCH BASINS B2 | CATCH BASINS C1 | CATCH BASINS C2 | CATCH BASINS E | MAN HOLES | UNDERDRAINS 'B' LENGTH | UNDERDRAINS 'C' SIZE | UNDERDRAINS 'C' LENGTH | UNDERDRAINS 'B' OUTLET LENGTH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Main Line | | | | | | | | | | | | | | | | | | | | | | |
| Sta. 6+97 Lt. | | | | | | | | | | | | 1 | | | | | | | | | | |
| Sta. 7+25 Rt. | | | | | | | | | | | 1 | | | | | | | | | | | |
| Sta. 6+97 Lt. to Sta. 7+25 Rt. | | | | | | | | 12" | 44' | | | | | | | | | | | | | |
| Sta. 6+78 Rt. to Sta. 7+23 Rt. | | | | | | | | 12" | 52' | | | | | | | | | | | | | |
| Sta. 7+75 Rt. to Sta. 10+92 Rt. | | | | | | | | | | | | | | | | | | 302' | | | | |
| Sta. 10+94 Lt. | | | | | | | | | | 1 | | | | | | | | | | | | |
| Sta. 10+94 Rt. | | | | | | | | | | | 1 | | | | | | | | | | | |
| Sta. 10+94 Lt. to Sta. 10+94 Rt. | | | | | | | | 12" | 34' | | | | | | | | | | | | | |
| Sta. 10+96 Rt. to Sta. 11+62 Rt. | | | | | | | | 12" | 60' | | | | | | | | | | | | | |
| North Channel Approach | | | | | | | | | | | | | | | | | | | | | | |
| Sta. 0+24 Lt. | | | | | | | | | | | | | | | | | | | | | | Adjust C.B. to Grade |
| Sta. 0+46 Rt. | | | | | | | | | | | | | | | | | | | | | | Adjust & Alter C.B. |
| Sta. 1+35.5 Lt. | | | | | | | | | | | | | | | | | | | | | | Adjust & Alter C.B. |

## DRAINAGE CONT'D.

| B.P.R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 43 | 71 |

| STATION | RCP SIZE | RCP LENGTH | RCP CLASS | BCCMP SIZE | BCCMP LENGTH | CMP SIZE | CMP LENGTH | CULVERT PIPE SIZE | CULVERT PIPE LENGTH | CATCH BASINS A1 | CATCH BASINS A2 | CATCH BASINS B1 | CATCH BASINS B2 | CATCH BASINS C1 | CATCH BASINS C2 | CATCH BASINS E | MAN HOLES | UNDERDRAINS 'B' LENGTH | UNDERDRAINS 'C' SIZE | UNDERDRAINS 'C' LENGTH | UNDERDRAINS 'B' OUTLET LENGTH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

## GENERAL NOTES

1. Utilities involved in this contract are:
   Central Maine Power Company
   New England Telephone and Telegraph Company
   Skowhegan Water Company
   Town of Skowhegan (Sewers)
   Town of Skowhegan (Fire Alarm)
   All utility facilities shall be adjusted by the respective utility unless otherwise noted.

2. Driveway fill side slopes shall be 4:1.

3. All entrances and yards shall be constructed of 2" Hot Bituminous Pavement and 12" Aggregate Subbase Course - Gravel.

4. Loam depths are as follows:
   Under sod..... 2"
   Seeding Method #1.... 2"

5. Place sod strip 1 ft. wide in the following locations:
   a. Behind curb adjacent to earth slopes.
   b. Behind sidewalks adjacent to earth slopes.

6. All earth slopes shall be loamed (2" depth) and seeded method #1. Mulch shall be applied when directed by the engineer.

7. The catch basins type A1-C and type A5-C on the North Channel Approach shall have the curb inlet cut to the same radius as adjacent circular curb. Payment to be incidental to Item 604.161, Altering Catch Basins.

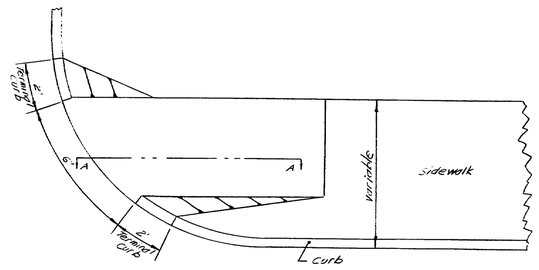
8. The two feet of Circular Curb Type 1 required to be cut for a curved terminal section as noted, will be paid for under Item # 609.23, Terminal Curb Type 1.

9. All excavation below subgrade for catch basins noted "remove & plug" shall be paid for under Common Excavation, Item # 203.20. All plugs shall be constructed of mortar as directed by the engineer. Payment shall be incidental to Item # 203.20.

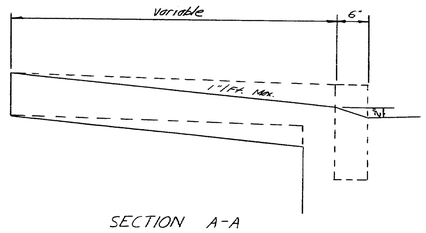
10. Warning lights shall be installed at the following locations:
    a. Beginning of project
    b. End of project

167-165

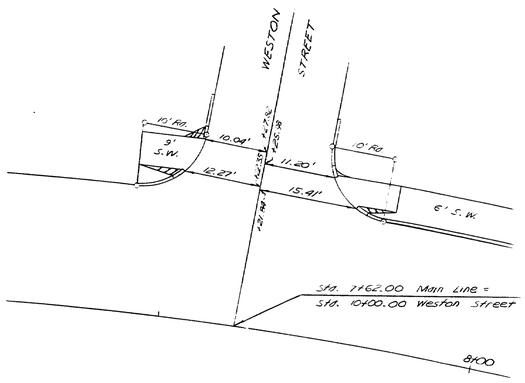
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 44 | 71 |




PLAN VIEW
3'




SECTION A-A
1'




LAYOUT PLAN
10'

## GENERAL NOTES for WHEEL CHAIR RAMPS

1. There Shall Be A Minimum Of 6" Aggregate Subbase Course- Gravel Under The 2" Pavement On Wheel Chair Ramps.
2. When The Length Of The Wheel Chair Ramps Permit, The 2" Rise In The Width Of The Curb Should Be Omitted.
3. Curb Openings For Wheel Chair Ramps Shall Be 6'.

| PROJECT DESIGN ENGINEER | | BY | DATE |
|---|---|---|---|
| PLANS | DESIGN - DETAILED | G. W. H. | S. W. H. | Oct. '75 |
| | CHECKED | | | |
| | REVISIONS | | | |
| | FIELD CHANGES | | | |

JANUARY 1962

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WHEEL CHAIR RAMPS

WESTON STREET

SKOWHEGAN

SHEET OF AUGUSTA, MAINE

SKOWHEGAN 167-166

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 45 | 71 |

# CONSTRUCTION NOTES

## SUMMARY OF EXCAVATION

| | |
|---|---|
| Common Excavation (From Cross Sections) | 3242 C.Y. |
| Earth From Drives | 625 C.Y. |
| Structural Excavation (U. D. Only) | 34 C.Y. |
| Total Structural Rock Excavation | 81 C.Y. |
| (1) Total Available Excavation | 3986 C.Y. |
| (2) Total Fill 68 x 1.15 | 78 C.Y. |
| Waste = (1) Minus (2) | 3908 C.Y. |

Removing Single Tree & Stump, Over 24" to 48"

| Station | Offset | Tree | Stump |
|---|---|---|---|
| 8+05 | 26' Lt. | 48" Elm | 48" |

Removing Stump, 9" to 24"

| Station | Offset | Stump |
|---|---|---|
| 8+55 | 30' Lt. | 24" Elm |

Drives & Entrances

| Station | Opening |
|---|---|
| 6+58 Lt. | 42' |
| 7+04 Rt. | 30' |
| 7+24 Lt. | 42' |
| 7+93 Rt. | 30' |
| 8+14 Lt. | 20' |
| 8+81.5 Rt. | 69' |
| 9+47 Rt. | 42' |
| 9+53 Lt. | 20' |
| 10+34 Lt. | 42' |
| 10+74 Lt. | 30' |
| 11+20 Lt. | 30' |
| 11+25 Rt. | 42' |

North Channel Approach
0+24 Lt. 36'

Sta. 7+50 Rt. Remove & Reset Monument As Directed By The Engineer. Pay Item # 623.102

Sta. 8+37 Lt. Remove & Reset Sign. To Be Paid For Under Labor, Straight Time & Applicable Equipment Rental Item.

Drainage
① Sta. 6+37, 13' Lt., Const. Type A3-C Catch Basin
② Sta. 7+25, 13' Rt., Const. Type A2-C Catch Basin
③ to ② Install 12"x 44' Culvert Pipe Option III
④ to Sta. 6+78, 46' Rt., Install 12"x 52' Culvert Pipe Option III

⑤ Sta. 10+94, 13' Lt., Const. Type A1-C Catch Basin
⑥ Sta. 10+94, 13' Rt., Const. Type A2-C Catch Basin
⑦ to ⑥ Install 12"x 34' Culvert Pipe Option III
⑧ to Sta. 7+75 Rt. Install 30Ø Type B U. D.
⑨ to Sta. 11+62, 47' Rt., Install 12"x 60' Culvert Pipe Option III

Altering Catch Basin: (North Channel Approach)
⑤ Sta. 0+46 Rt.
⑦ Sta. 1+35.5 Lt.

Adjusting Catch Basin to Grade (North Channel Approach)
⑥ Sta. 0+24 Lt.

Remove & Reset Fence
Weston Street
Sta. 10+25± Lt. to Sta. 10+75± Lt., = 50 L.F.

Sta. 8+30± Lt. If Required Remove & Reset Iron Pipe Fence As Directed By The Engineer. To Be Paid For Under Labor, Straight Time.

Vertical Curb - Type 1

Main Line

| | | |
|---|---|---|
| Sta. 6+81, 20' Lt., to Sta. 7+02, 20' Lt., | = 17.50 L.F. | |
| Sta. 6+81, 26' Lt., to Sta. 7+02, 26' Lt., | = 21.50 L.F. | |
| Sta. 11+2, 20' Rt., to Sta. 7+75, 20' Rt., | = 98.12 L.F. | |
| Sta. 11+82.59, 20' Lt., to Sta. 8+62, 20' Lt., | = 81.57 L.F. | |
| Sta. 8+10, 20' Rt. to Sta. 8+45, 20' Rt., | = 33.87 L.F. | |
| Sta. 8+37.275' Rt., to Sta. 8+47.275' Rt., | = 10.00 L.F. | |
| Sta. 8+86, 20' Lt., to Sta. 9+41, 20' Lt., | = 55.00 L.F. | |
| Sta. 9+18, 20' Rt., to Sta. 9+24, 20' Rt., | = 6.00 L.F. | |
| Sta. 9+65, 20' Lt., to Sta. 10+13.5, 20' Lt. | = 53.81 L.F. | |
| Sta. 9+32, 20' Rt., to Sta. 10+39, 20' Rt., | = 103.11 L.F. | |
| Sta. 9+77, 26' Rt., to Sta. 10+87, 22.5' Rt., | = 93.00 L.F. | |
| Sta. 10+55, 20' Lt., to Sta. 10+59, 20' Lt., | = 4.00 L.F. | |
| Sta. 10+89, 20' Lt., to Sta. 11+05, 20' Lt., | = 13.75 L.F. | |
| Sta. 11+55, 20' Lt., to Sta. 11+79, 20' Lt., | = 48.81 L.F. | |
| Sta. 11+51, 20' Rt., to Sta. 11+63, 20' Rt., | = 10.69 L.F. | |

Weston Street
Sta. 10+28.69, 10' Lt., to Sta. 10+33, 10' Lt., = 4.31 L.F.
Sta. 10+30.13, 10' Rt., to Sta. 10+35, 10' Rt., = 2.27 L.F.

North Channel Approach
Sta. 0+07.5±, 22.5' Rt., to Sta. 0+20.5±, 18' Rt., = 14.00 L.F.

Vertical Curb - Circular - Type 1

| Weston Street Radius | Point | Offset | Radius | Length |
|---|---|---|---|---|
| 10+28.69 | | 20' Lt. | 10' | 8.87' |
| 10+30.13 | | 20' Rt. | 10' | 11.88' |
| North Channel Approach | | | | |
| 0+36.5± | | 10' Rt. | 54' | 26.14' |
| 0+83.6± | | 34.5' Lt. | 25' | 18.25' |

Note: Station and Offset Are At the Face of Curb, 1 Ft. From the End.

Terminal Curb, Type 1

Main Line

| Station | Offset | Section |
|---|---|---|
| 6+80 | 20' Lt. | Left |
| 6+80 | 26' Lt. | Right |
| 7+03 | 20' Lt. | Right |
| 7+03 | 26' Lt. | Left |
| 7+20 | 20' Rt. | Right |
| 7+45.18 | 20± Lt. | Left (10' Rd.) |
| 7+75 | 20' Rt. | Left |
| 8+09 | 20' Rt. | Right |
| 8+46 | 20' Rt. | Left |
| 8+63 | 20' Lt. | Right |
| 8+85 | 20' Lt. | Left |
| 9+17 | 20' Rt. | Right |
| 9+25 | 20' Rt. | Left |
| 9+42 | 20' Lt. | Right |
| 9+64 | 20' Lt. | Left |
| 9+71 | 20' Rt. | Right |
| 9+85 | 26' Rt. | Right |
| 10+18.5 | 20' Lt. | Right |
| 10+54 | 20' Lt. | Left |
| 10+60 | 20' Lt. | Right |
| 10+88 | 27.5' Rt. | Left |
| 10+88 | 20' Lt. | Left |
| 11+00 | 20' Rt. | Left |
| 11+06 | 20' Lt. | Right |
| 11+34 | 20' Lt. | Left |
| 11+50 | 20' Rt. | Right |

Weston Street

| | | |
|---|---|---|
| 10+21.5 | 16.5' Rt. | Left (10' Rd.) |
| 10+21.8 | 12.9' Lt. | Right (10' Rd.) |
| 10+26.9 | 10.8' Rt. | Right (10' Rd.) |
| 10+28.82 | 10.0' Lt. | Left |
| 10+34 | 10.0' Lt. | Right |
| 10+34 | 10.0' Rt. | Left |

Curb Type 3a

North Channel Approach

| Radius Point | Offset | Radius | Length |
|---|---|---|---|
| 0+93.5± | 3'± Lt. | 4.5' | 12.5' |

Right-of-Way Monuments
P.C. Sta. 6+86.63, 30' Rt., = 1 ea.

Bronze Pin Markers

| | |
|---|---|
| Sta. 3+50.00, 23' Lt., | = 1 ea. |
| Sta. 3+50.00, 23' Rt., | = 1 ea. |
| P.C. Sta. 6+86.63, 23' Lt., | = 1 ea. |
| P.T. Sta. 8+42.40, 23' Lt., | = 1 ea. |
| P.T. Sta. 8+42.40, 23' Rt., | = 1 ea. |
| P.C. Sta. 9+62.20, 23' Lt., | = 1 ea. |
| P.C. Sta. 9+62.20, 30' Rt., | = 1 ea. |
| P.T. Sta. 11+80.47, 23' Lt., | = 1 ea. |
| P.T. Sta. 11+80.47, 25' Rt., | = 1 ea. |
| Sta. 13+00.00, 23' Lt., | = 1 ea. |
| Sta. 13+00.00, 25' Rt., | = 1 ea. |

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

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION NOTES
&
SUMMARY OF EXCAVATION

SKOWHEGAN

SHEET OF AUGUSTA, MAINE

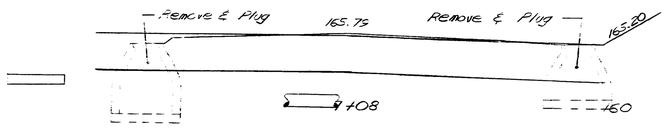
Sta. 167+67

BRF-U-025-2(23) 46 71

Profile Sta. 6+00 to Sta. 12+00

167-168 SKOWHEGAN 25

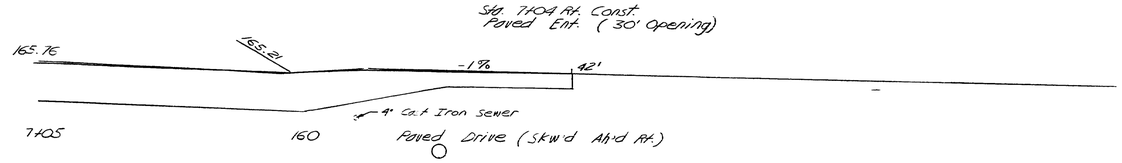
[redacted]



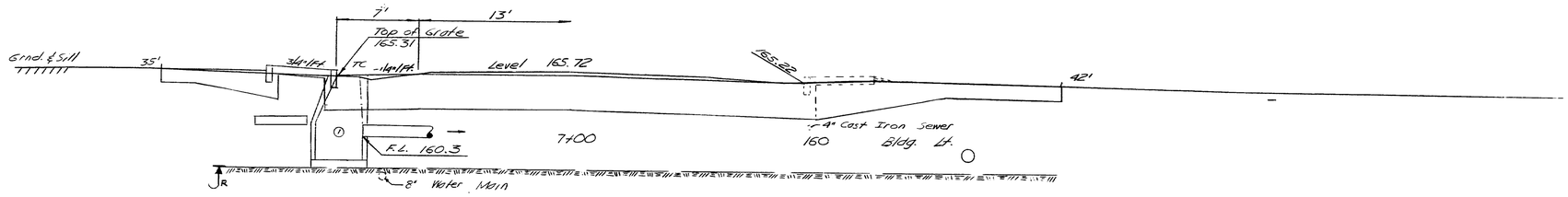

C. Basin Lt. & Rt.

① ②
Sta. 6+37, 17' Lt., to Sta. 7+25, 17' Rt.
Install 12"X44' Culvert Pipe Option III

Sta. 7+04 Rt. Const.
Paved Ent. (30' opening)

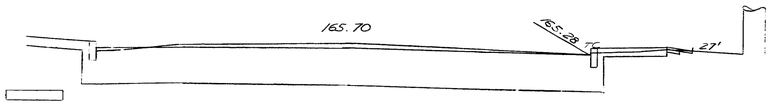



Sta. 6+97 19' Lt. Const.
Type A5-C Catch Basin



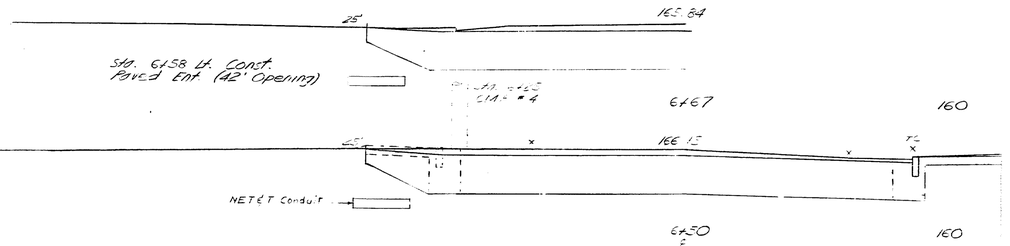

C 245

Sta. 6+78, 46' Rt., to Sta. 7+23, 19' Rt.
Install 12"X52' Culvert Pipe Option III

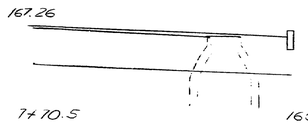



Outlet At Sta. 6+78, 46' Rt.
Elevation 158.50

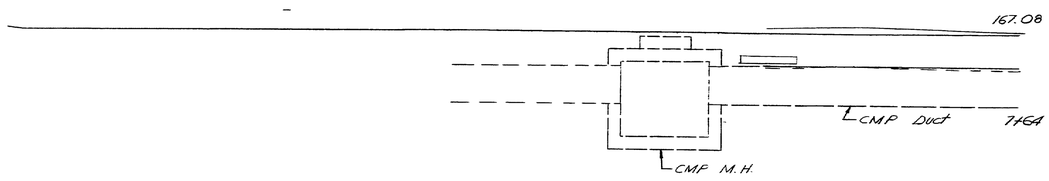
Slope Sta 6+80 Rt. Back 1/4"/Ft.



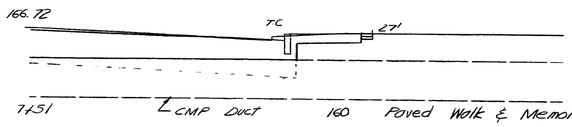

167-169




7+70.5 160 Sewer M.H. Ft.

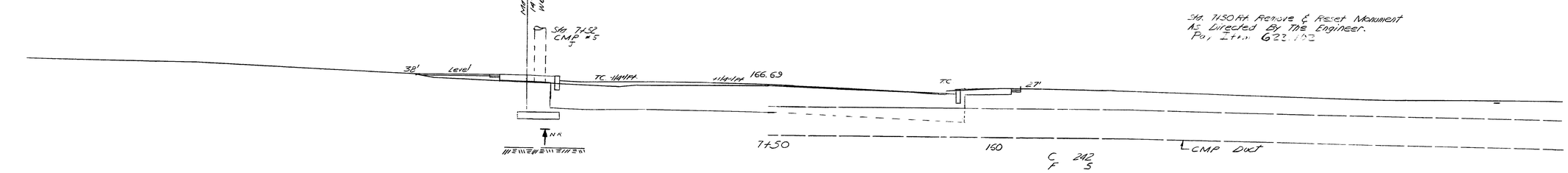



160 Weston Av. Lt. (Skw'd Ah'd Lt.)

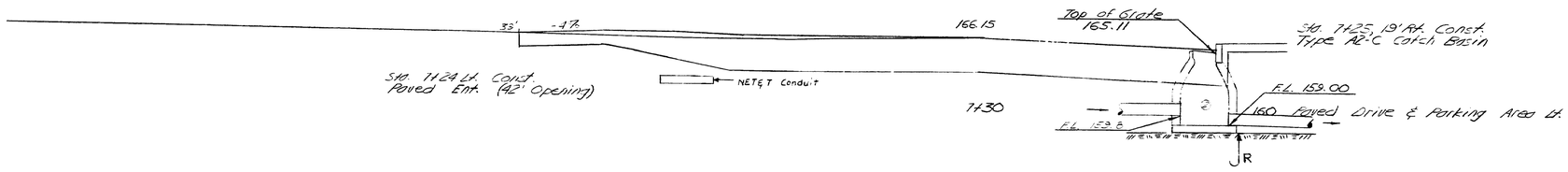



7+51 CMP Duct 160 Paved Walk & Memorial Ft.

Sta. 7+50 Ft. Remove & Reset Monument As Directed By The Engineer. Pay Item 623.152

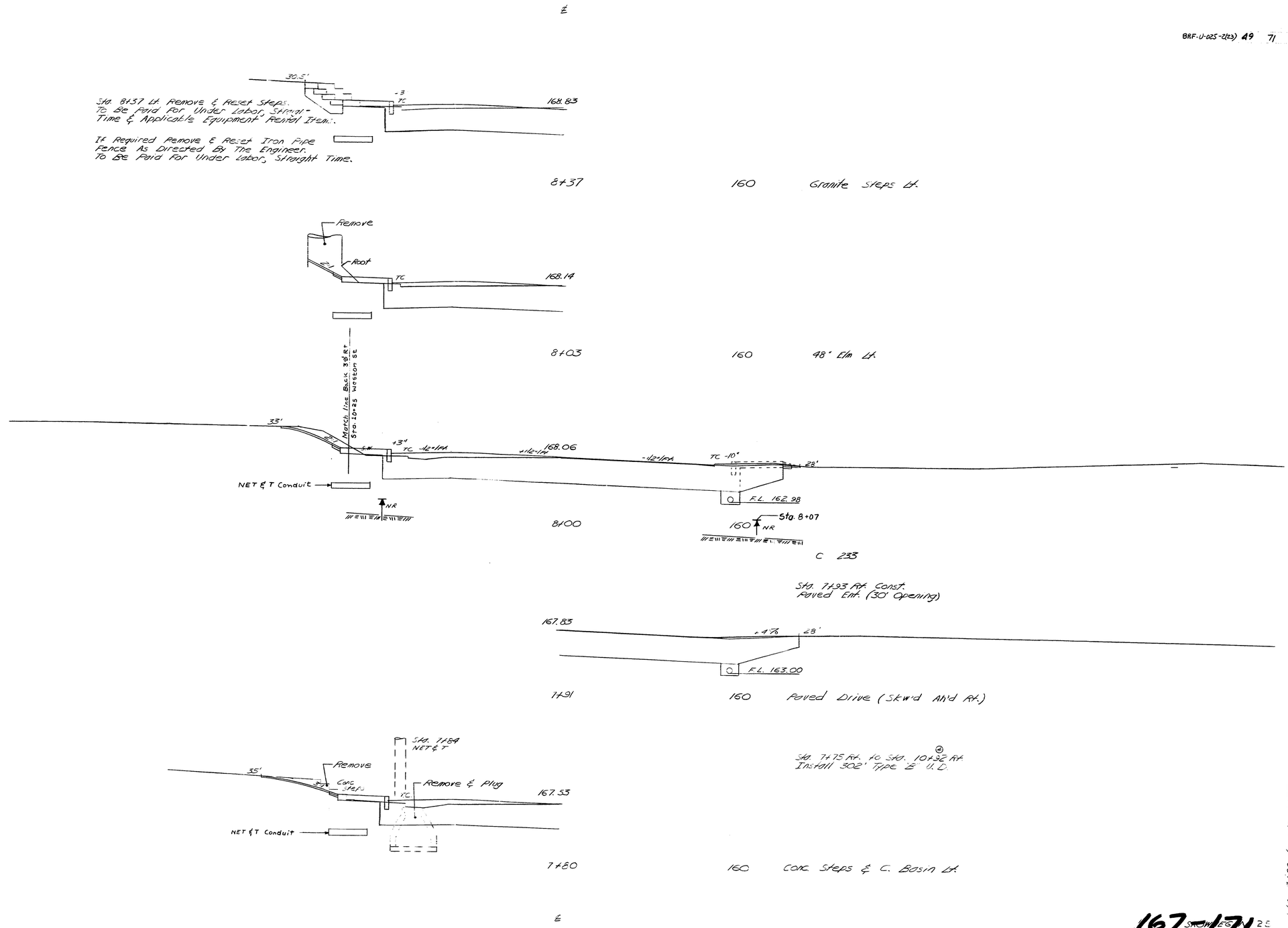



Slope Sta. 7+40 Ft. Ahead 1:2 1/2 Ft.




Sta. 7+50 to Sta. 7+70.5

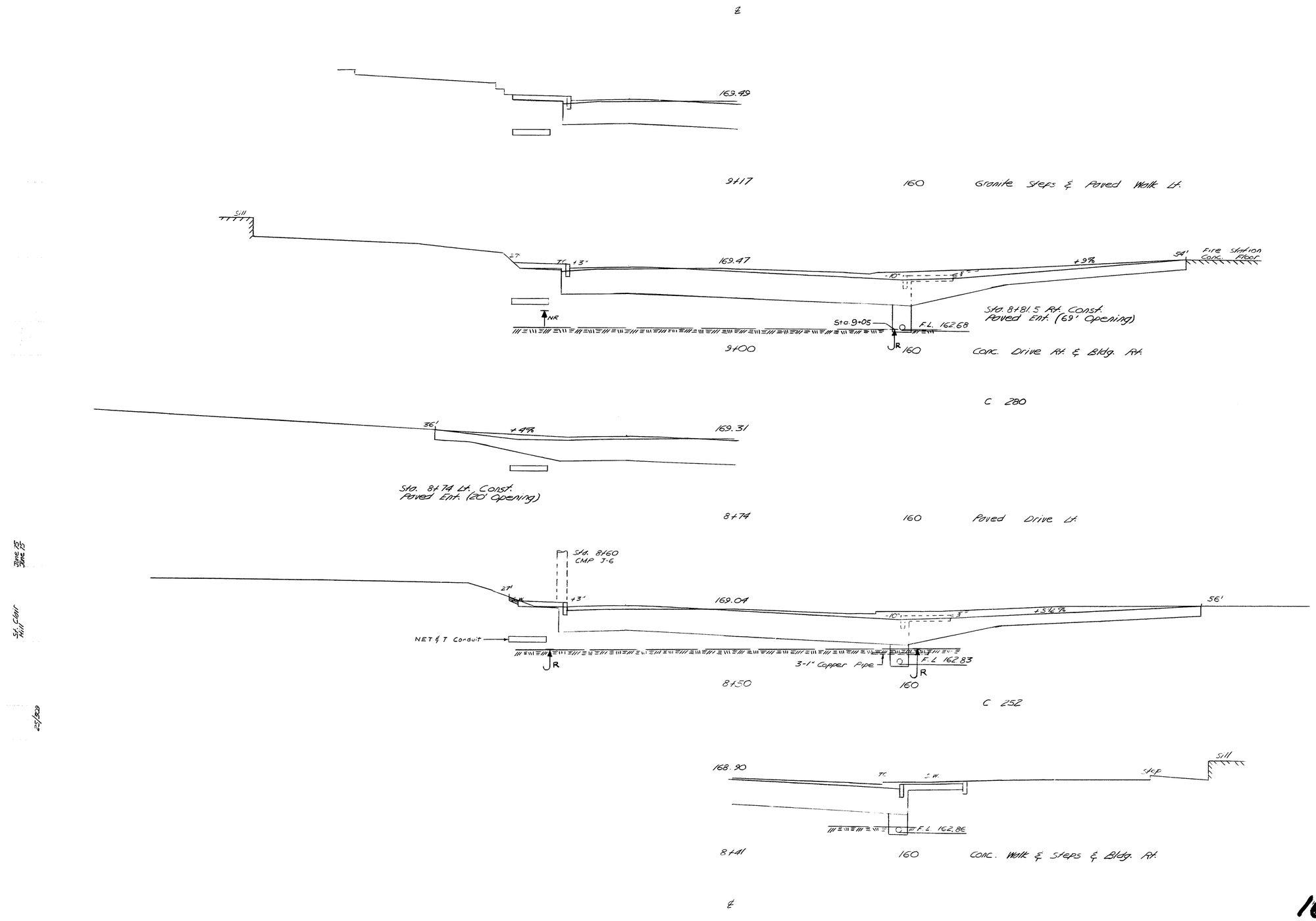
167-170




Sta. 7+80 to Sta. 8+37

June 15
June 15
St. Clair
Hill
25/300

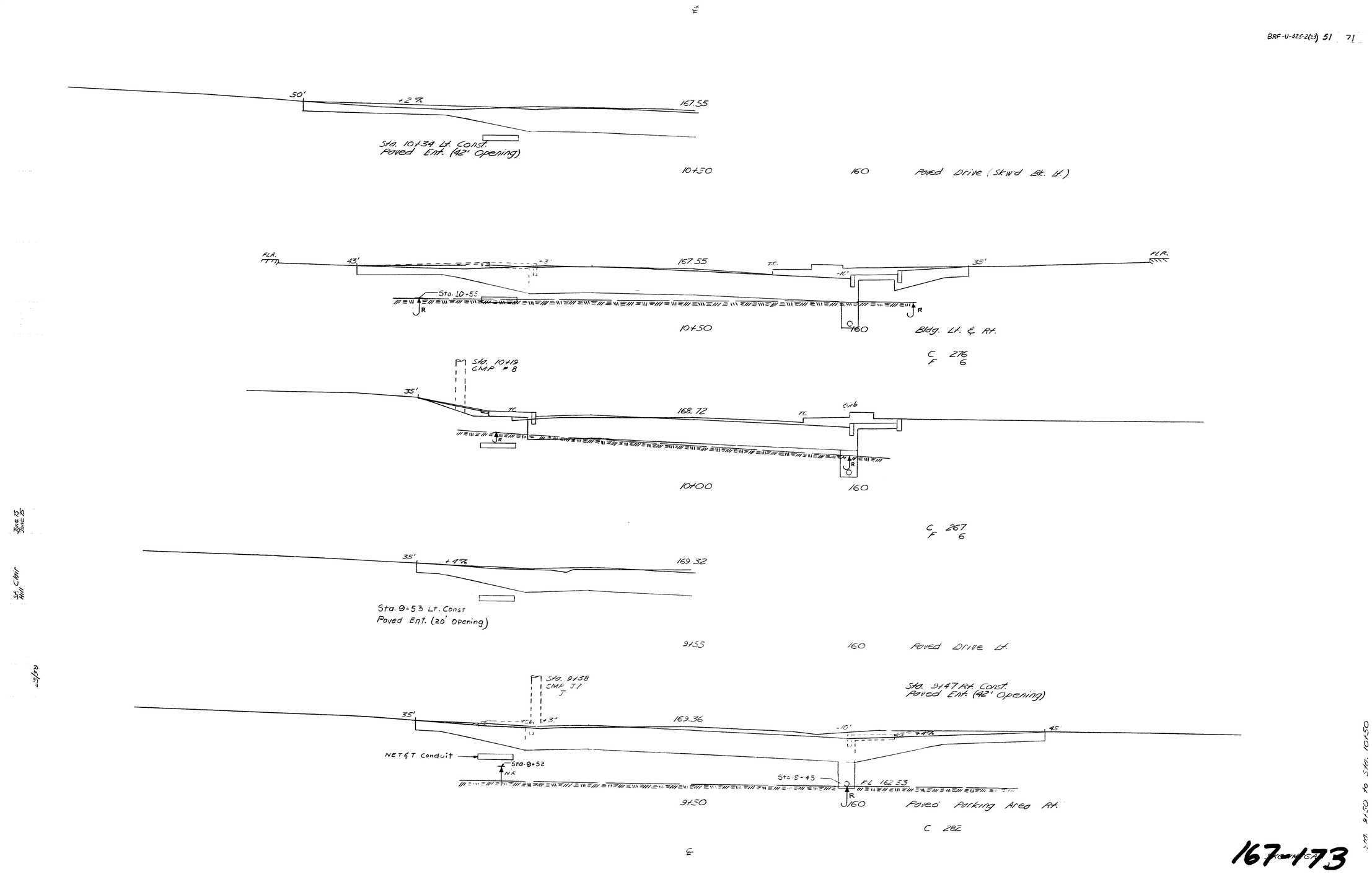
167-171




June 15
June 15
St. Clair
Hill
25/309

m. 8+41 to Sta. 9+17

167-172




June 15
June 25

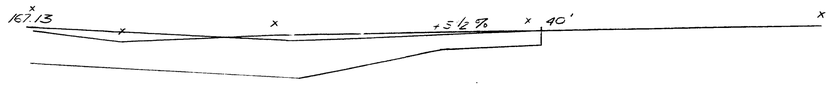
St. Clair
Hill

Sta. 9+50 to Sta. 10+50

167-173

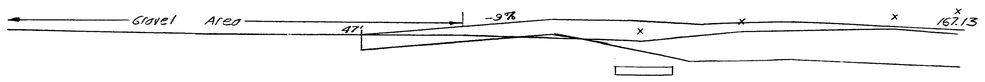
BRF-J-025-2(23) 52 71

Sta. 11+25 Rt. Const.
Paved Ent. (42' Opening)




11+25 160 Paved Drive & Parking Area Rt.

Sewer Pipe



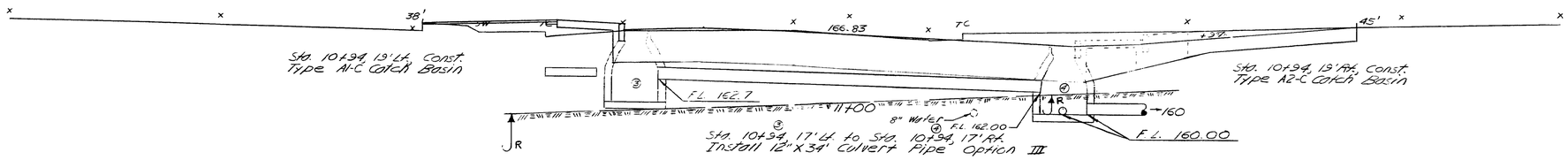

Sta. 11+20 Lt. Const.
Paved Ent. (30' Opening)

11+25 160 Paved Drive skw'd Lt. Lt.




11+11 160 C. Basin Lt.

④ Sta. 10+96, 13' Rt., to Sta. 11+62, 47' Rt.
Install 12"x60' Culvert Pipe Option III

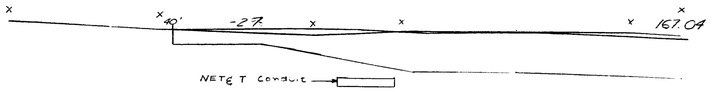



Sta. 10+94, 19' Lt. Const.
Type A1-C Catch Basin

Sta. 10+94, 19' Rt. Const.
Type A2-C Catch Basin

③ Sta. 10+94, 17' Lt. to Sta. 10+94, 17' Rt.
Install 12"x34' Culvert Pipe Option III

Sta. 10+74 Lt. Const.
Paved Ent (30' Opening)



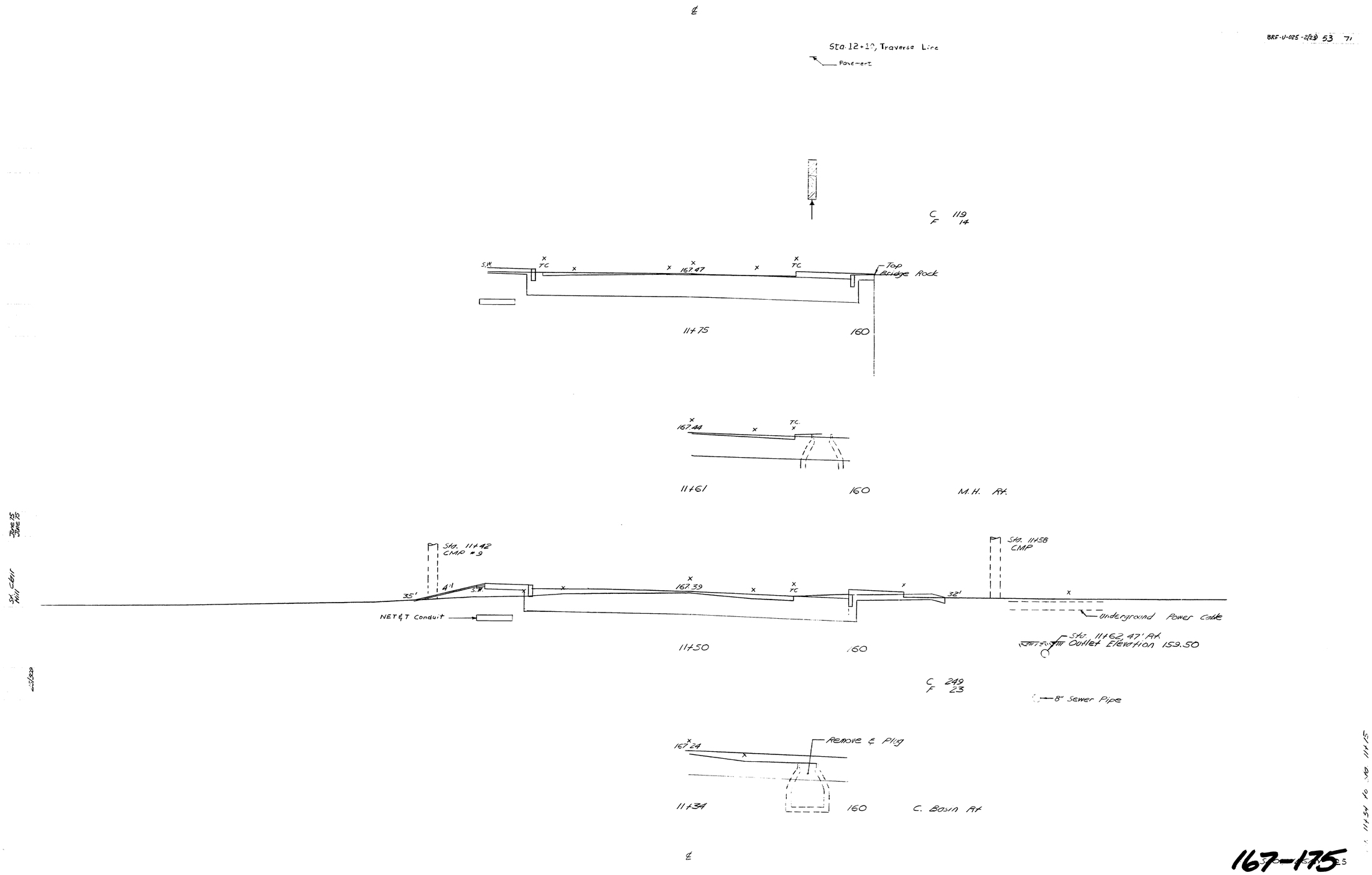

10+70 160 Paved Drive Lt.

C 286
F 11

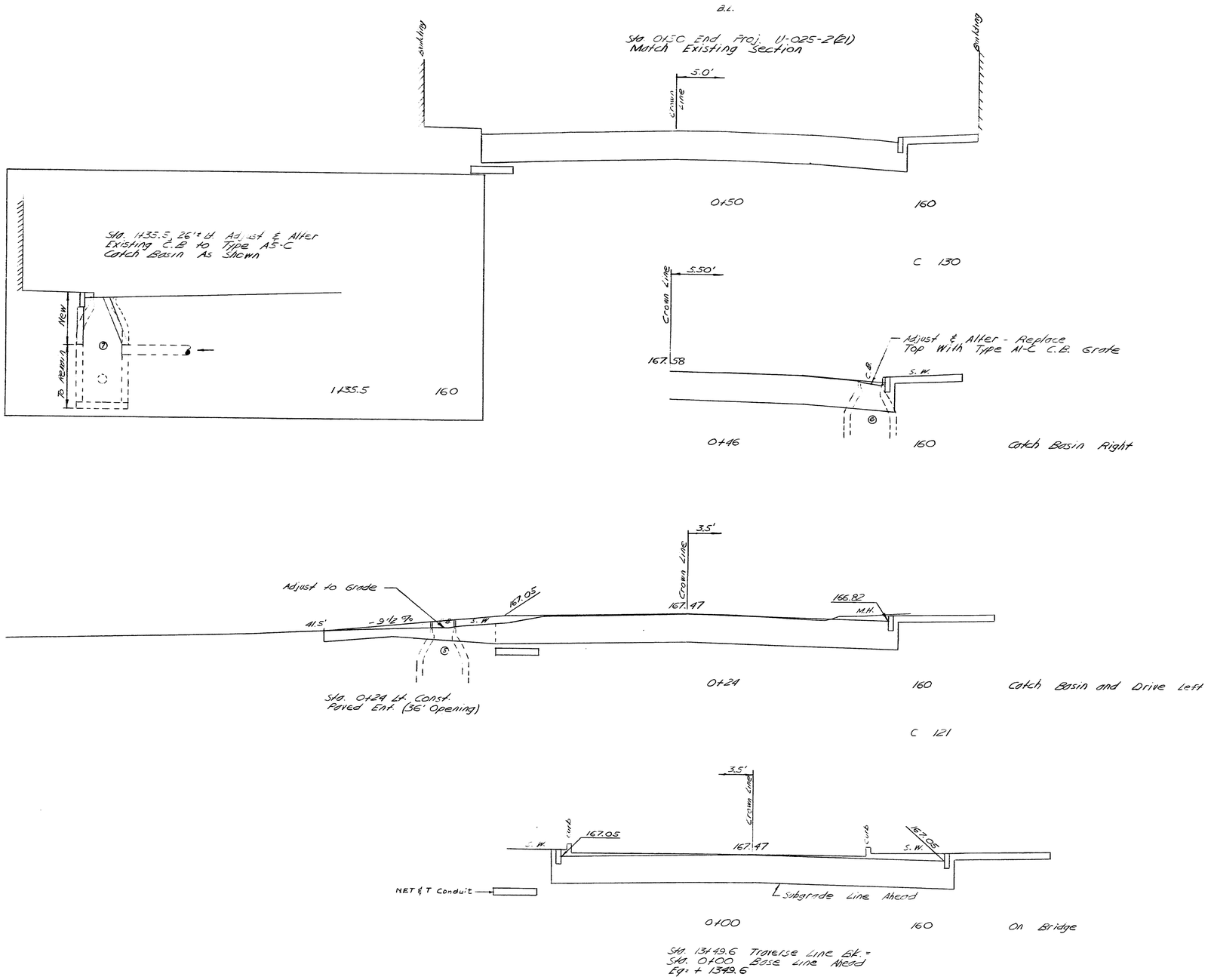
Sta. 10+20 to Sta. 11+25

167-174

BRF-U-025-2(23) 53 71



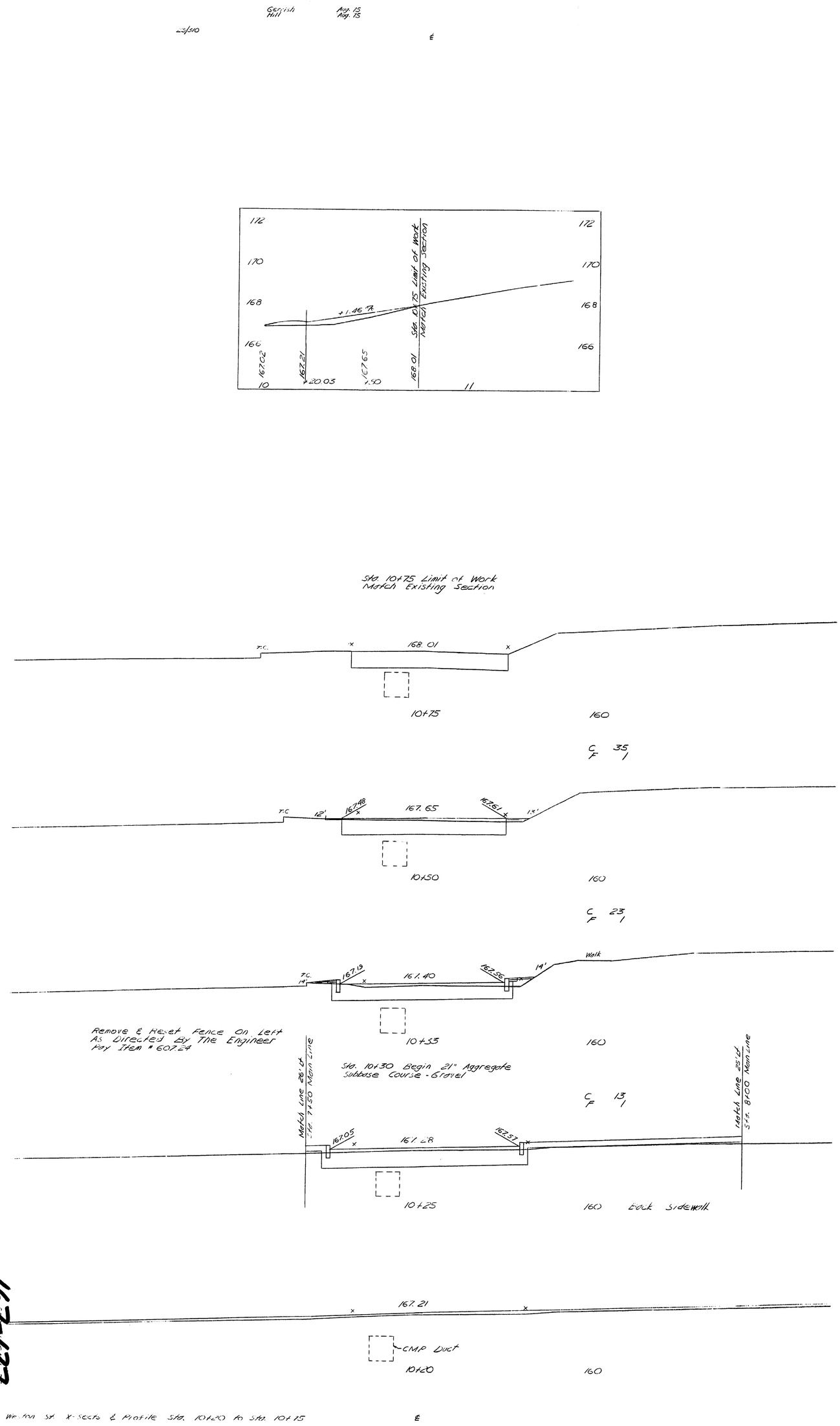

167-175




Bartlett Eng. Co. Od 75
Hill
55-12

Sta. 0+00 to Sta. 0+50 Madison Avenue Base Line

167-176

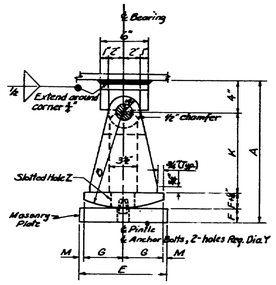


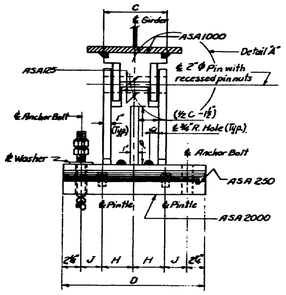

Weston St. X-Sects & Profile Sta. 10+20 to Sta. 10+75

BRF-U-025-2(23) 55 71

167-177

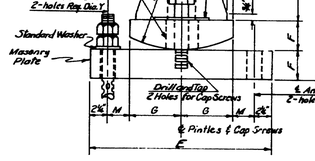
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-L-025-2(23) | 59 | 77 |

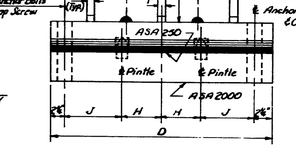


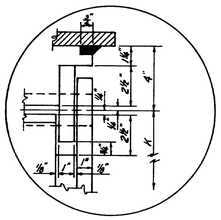

## EXPANSION PEDESTAL — EPD

| MARK | LOAD | A | B | C | D | E | F | G | H | J | K | M | P | Q | R | S | T | | V | X-Anchor Bolt Diameter | Y-Masonry Plate Hole Size | Number Anchor Bolts Required | Z-Slotted Hole for Anchor Bolts or Cap Screws | ℄ Washer Size for Anchor Bolts or Cap Screws | A1 Embedment Depth | MARK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EPD-1 | 100K | 1'-2¾" | 9" | 8" | 1'-6" | 8" | 1½" | 3½" | 4" | 2¾" | 7" | ⅝" | – | 3" | 1'-4½" | 3" | 4½" | | – | 1" | 1⅛" | 2 | 3"×1⅛" | 3"×5"×⅝" | 10" | EPD-1 |
| EPD-2 | 100K | 1'-2¾" | 9" | 8" | 1'-6" | 9" | 1⅜" | 4" | 4" | 2¾" | 7" | ½" | – | 3" | 1'-4¾" | 3" | 4½" | | – | 1" | 1⅛" | 2 | 3"×1⅛" | 3"×5"×⅝" | 10" | EPD-2 |
| EPD-3 | 100K | 1'-2¾" | 9" | 8" | 1'-6" | 10" | 1⅜" | 4½" | 4" | 2¾" | 7" | ½" | – | 3" | 1'-4¾" | 3" | 4½" | | – | 1" | 1⅛" | 2 | 3"×1⅛" | 3"×5"×⅝" | 10" | EPD-3 |
| EPD-4 | 100K | 1'-3¾" | 1'-0" | 8" | 1'-6" | 11" | 1⅝" | 5" | 4" | 2¾" | 10" | ½" | – | 3" | 1'-5" | 3" | 4½" | | – | 1" | 1⅛" | 2 | 3"×1⅛" | 3"×5"×⅝" | 10" | EPD-4 |
| EPD-5 | 200K | 1'-9½" | 1'-3" | 10" | 1'-8" | 1'-0" | 2½" | 5½" | 4" | 3⅜" | 1'-0⅝" | ⅝" | – | 4" | 2'-0⅝" | 4" | 6½" | | – | 1⅛" | 1⅛" | 2 | 4"×1⅛" | 4"×7"×½" | 1'-3" | EPD-5 |
| EPD-6 | 200K | 1'-9½" | 1'-3" | 10" | 1'-8" | 1'-1" | 2½" | 6" | 4" | 3⅜" | 1'-0⅝" | ⅝" | – | 4" | 2'-1" | 4" | 6½" | | – | 1⅛" | 1⅛" | 2 | 4"×1⅛" | 4"×7"×½" | 1'-3" | EPD-6 |
| EPD-7 | 200K | 1'-9½" | 1'-3" | 10" | 1'-8" | 1'-2" | 2½" | 6½" | 4" | 3⅜" | 1'-0⅝" | ⅝" | – | 4" | 2'-1" | 4" | 6½" | | – | 1⅛" | 1⅛" | 2 | 4"×1⅛" | 4"×7"×½" | 1'-3" | EPD-7 |
| EPD-8 | 200K | 1'-9½" | 1'-3" | 10" | 1'-8" | 1'-3" | 2½" | 7" | 4" | 3⅜" | 1'-0⅝" | ⅝" | – | 4" | 2'-1" | 4" | 6⅝" | | – | 1⅛" | 1⅛" | 2 | 4"×1⅛" | 4"×7"×½" | 1'-3" | EPD-8 |
| EPD-9 | 300K | 1'-10" | 1'-3" | 1'-2" | 2'-0" | 1'-4" | 3" | 7½" | 5" | 4⅝" | 11⅛" | ⅝" | – | 6" | 2'-2½" | 4" | 8" | | – | 1⅛" | 1⅛" | 2 | 5"×1⅛" | 4"×8"×½" | 1'-3" | EPD-9 |
| EPD-10 | 400K | 1'-10½" | 1'-3" | 1'-6" | 2'-4" | 1'-6" | 3½" | 8½" | 6" | 5⅜" | 11⅛" | ⅝" | 8⅜" | 3⅜" | 2'-3" | 4" | 8⅜" | | – | 1⅛" | 1⅛" | 2 | 5"×1⅜" | 4"×8"×½" | 1'-3" | EPD-10 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EPE-1 | 200K | 1'-10" | 1'-3" | 10" | 1'-7" | 1'-6" | 3" | 4" | 4" | 3½" | 1'-0" | 2⅜" | – | 4" | 1'-10" | 4½" | – | | 4" | 1⅛" | 1⅛" | 4 | 3⅜"×1⅛" | 3½"×4½"×½" | 1'-3" | EPE-1 |
| EPE-2 | 200K | 1'-10" | 1'-3" | 11" | 1'-8" | 1'-9" | 3" | 5½" | 4½" | 3½" | 1'-0" | 2⅜" | – | 4½" | 1'-10" | 4½" | – | | 4" | 1⅛" | 1⅛" | 4 | 4"×1⅛" | 3½"×5½"×½" | 1'-3" | EPE-2 |
| EPE-3 | 200K | 1' 10" | 1'-3" | 11" | 1'-8" | 1'-10" | 3" | 6" | 4½" | 3½" | 1'-0" | 2⅜" | – | 4½" | 1'-10" | 4½" | – | | 4½" | 1⅛" | 1⅛" | 4 | 4"×1⅛" | 3½"×5½"×½" | 1'-3" | EPE-3 |
| EPE-4 | 200K | 1'-10" | 1'-3" | 11" | 1'-8" | 1'-10" | 3" | 6½" | 4½" | 3½" | 1'-0" | 2⅜" | – | 4½" | 1'-10" | 4½" | – | | 4½" | 1⅛" | 1⅛" | 4 | 4½"×1⅛" | 3½"×6"×½" | 1'-3" | EPE-4 |
| EPE-5 | 200K | 1'-10" | 1'-3" | 11" | 1'-8" | 2'-0" | 3" | 7" | 4½" | 3½" | 1'-0" | 2⅜" | – | 4½" | 1'-10" | 4½" | – | | 4⅝" | 1⅛" | 1⅛" | 4 | 4½"×1⅛" | 3½"×6"×½" | 1'-3" | EPE-5 |
| EPE-6 | 300K | 1'-10" | 1'-3" | 1'-2" | 1'-11" | 1'-6" | 3" | 4" | 5" | 4⅜" | 1'-0" | 2⅜" | – | 6" | 1'-10" | 4½" | – | | 4" | 1⅛" | 1⅛" | 4 | 2⅜"×1⅛" | 3½"×4½"×½" | 1'-3" | EPE-6 |
| EPE-7 | 300K | 1'-10⅜" | 1'-3" | 1'-2" | 1'-11" | 1'-8" | 3½" | 5" | 5" | 4½" | 11⅛" | 2⅜" | – | 6" | 1'-10" | 4½" | – | | 4" | 1⅛" | 1⅛" | 4 | 3"×1⅛" | 3½"×5"×½" | 1'-3" | EPE-7 |
| EPE-8 | 300K | 1'-10⅜" | 1'-3" | 1'-2" | 1'-11" | 1'-10" | 3½" | 6" | 5" | 4½" | 11⅛" | 2⅜" | – | 6" | 1'-10½" | 4½" | – | | 4½" | 1⅛" | 1⅛" | 4 | 4½"×1⅛" | 3½"×6"×½" | 1'-3" | EPE-8 |
| EPE-9 | 300K | 1'-10⅜" | 1'-3" | 1'-2" | 1'-11" | 2'-0" | 3½" | 7" | 5" | 4½" | 11⅛" | 2⅜" | – | 6" | 1'-10½" | 4½" | – | | 4½" | 1⅛" | 1⅛" | 4 | 5"×1⅛" | 3½"×6½"×½" | 1'-3" | EPE-9 |
| EPE-10 | 300K | 1'-10⅜" | 1'-3" | 1'-2" | 1'-11" | 2'-3" | 3½" | 8" | 5" | 4½" | 11⅛" | 3¼" | – | 6" | 1'-10½" | 4½" | – | | 5" | 1⅛" | 1⅛" | 4 | 5"×1⅛" | 3½"×7"×½" | 1'-3" | EPE-10 |
| EPE-11 | 400K | 1'-10½" | 1'-3" | 1'-7" | 2'-4" | 1'-7" | 3½" | 4½" | 5" | 6⅜" | 11⅛" | 2⅜" | 9" | 4" | 1'-10" | 4½" | – | | 4" | 1⅛" | 1⅛" | 4 | 4"×1⅛" | 3½"×5"×½" | 1'-3" | EPE-11 |
| EPE-12 | 400K | 1'-10⅜" | 1'-3" | 1'-7" | 2'-4" | 1'-11" | 3¾" | 6½" | 5" | 6⅜" | 11⅛" | 2⅜" | 8½" | 4" | 1'-10½" | 4½" | – | | 5" | 1⅛" | 1⅛" | 4 | 5"×1⅛" | 3½"×6"×½" | 1'-3" | EPE-12 |
| EPE-13 | 400K | 1'-11" | 1'-3" | 1'-7" | 2'-4" | 2'-4" | 4" | 8½" | 5" | 6⅜" | 11" | 3½" | 8½" | 4" | 1'-11" | 4½" | – | | 6½" | 1⅛" | 1⅛" | 4 | 6½"×1⅛" | 3½"×8"×½" | 1'-3" | EPE-13 |
| EPE-14 | 600K | 2'-1⅜" | 1'-6" | 1'-11" | 3'-0" | 1'-10" | 3¾" | 6" | 7" | 8⅜" | 1'-2⅜" | 2⅜" | 11⅛" | 5" | 1'-10½" | 4½" | – | | 4⅝" | 1⅛" | 1⅛" | 4 | 4½"×1⅛" | 4"×5½"×½" | 1'-3" | EPE-14 |
| EPE-15 | 600K | 2'-2⅜" | 1'-6" | 1'-11" | 3'-0" | 2'-3" | 4½" | 9" | 7" | 8⅜" | 1'-1⅜" | 3¼" | 11" | 5" | 1'-11" | 4½" | – | | 6½" | 1⅛" | 1⅛" | 4 | 6½"×1⅛" | 4"×8"×½" | 1'-3" | EPE-15 |
| EPE-16 | 800K | 2'-2" | 1'-6" | 2'-6" | 3'-10" | 1'-11" | 4" | 6½" | 10" | 10⅜" | 1'-2" | 2⅜" | 11⅛" | 6⅜" | 1'-11" | 4½" | – | | 5" | 1⅛" | 1⅛" | 4 | 4½"×1⅛" | 4"×6"×½" | 1'-3" | EPE-16 |
| EPE-17 | 800K | 2'-2⅜" | 1'-6" | 2'-6" | 3'-10" | 2'-3" | 4½" | 9" | 10" | 10⅜" | 1'-1⅛" | 3¼" | 10⅜" | 6⅜" | 1'-11⅛" | 4½" | – | | 6⅜" | 1⅛" | 1⅛" | 4 | 6½"×1⅛" | 4"×8⅜"×½" | 1'-3" | EPE-17 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FPD-1 | 100K | 1'-0" | – | 8" | 1'-6" | 9" | 2" | 2⅝" | 6½" | – | 6" | – | – | – | 1'-3" | 3⅛" | – | | – | 1" | 1⅛" | 4 | – | Standard | 10" | FPD-1 |
| FPD-2 | 200K | 1'-0" | – | 10" | 1'-8" | 1'-2" | 2" | 4⅜" | 7½" | – | 6" | – | – | – | 1'-8" | 4" | – | | – | 1⅛" | 1⅛" | 4 | – | Standard | 1'-3" | FPD-2 |
| FPD-3 | 300K | 1'-0" | – | 1'-2" | 2'-0" | 1'-4" | 2" | 5⅜" | 9⅜" | – | 6" | – | – | – | 1'-8" | 4" | – | | – | 1⅛" | 1⅛" | 4 | – | Standard | 1'-3" | FPD-3 |
| FPD-4 | 400K | 1'-3" | – | 1'-6" | 2'-4" | 1'-6" | 2" | 6⅜" | 11⅞" | – | 9" | – | 6⅛" | – | 1'-8" | 4" | – | | – | 1⅛" | 1⅛" | 4 | – | Standard | 1'-3" | FPD-4 |
| FPD-5 | 600K | 1'-3" | – | 1'-11" | 3'-0" | 1'-10" | 3" | 8⅜" | 1'-3⅜" | – | 8" | – | 3⅛" | – | 1'-9" | 4" | – | | – | 1⅛" | 1⅛" | 4 | – | Standard | 1'-3" | FPD-5 |
| FPD-6 | 800K | 1'-3" | – | 2'-6" | 3'-10" | 1'-11" | 3" | 9⅛" | 1'-8⅜" | – | 8" | – | 3⅛" | – | 1'-9" | 4" | – | | – | 1⅛" | 1⅛" | 4 | – | Standard | 1'-3" | FPD-6 |

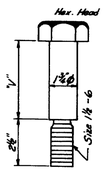


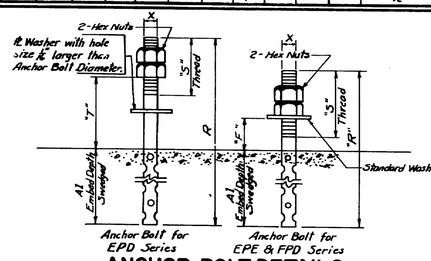

## EXPANSION PEDESTAL — EPE



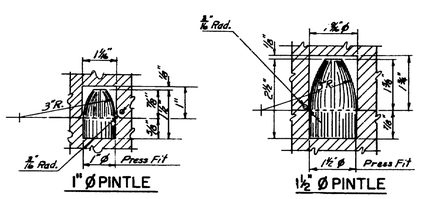

## DETAIL "A"




## CAP SCREW DETAIL

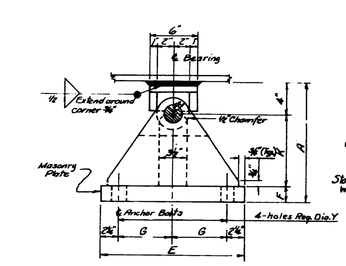


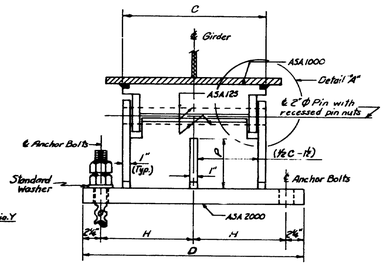

## ANCHOR BOLT DETAILS




## PINTLE DETAILS

NOTE:
Use 1" ϕ Pintles with 1" ϕ Anchor Bolts & 1½" ϕ Pintles with 1½" ϕ Anchor Bolts.




## FIXED PEDESTAL — FPD

### GENERAL NOTES:

At the location of bearing pedestals the concrete bridge seats shall be dressed one inch larger all around than size of masonry plates and to exact elevations shown on the plans. If dressed areas are below the surface of the surrounding bridge seat a small channel shall be cut to the edge of the bridge seat for drainage where required by the Engineer. Channels shall have a min. width of 2", and a min. slope of ¼ inch per foot. No separate payment for this work will be made as it shall be considered incidental to contract items.

Fabricate pedestals with ½" fillet welds. The diameter of the pin hole shall not exceed that of the pin by more than ⅛ inch.

Pedestals EPD-1 thru EPD-9 and EPE-1 thru EPE-10 have no center stiffeners and have only one drainage hole.

Pedestals EPD-10 and EPE-11 thru EPE-17 have a center stiffener and have two drainage holes.

Pedestals FPD-1 thru FPD-3 have no center stiffeners and have no drainage holes.

Pedestals FPD-4 thru FPD-6 have a center stiffener and no drainage holes.

### DESIGN SPECIFICATIONS

A.A.S.H.O., Standard Specifications for Highway Bridges, 1969

### A.S.T.M. STEEL CLASSIFICATION

All structural steel shall be -A36 except the following:

2" ϕ Pin - A36; A235, Class E or A108, Grade 1016 - 1030 inclusive.

| | | |
|---|---|---|
| A | Charpy V-Notch tests are not required | 2-5-75 |
| REVISIONS | | DATE |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# STANDARD DETAILS
( BD 100-71 )

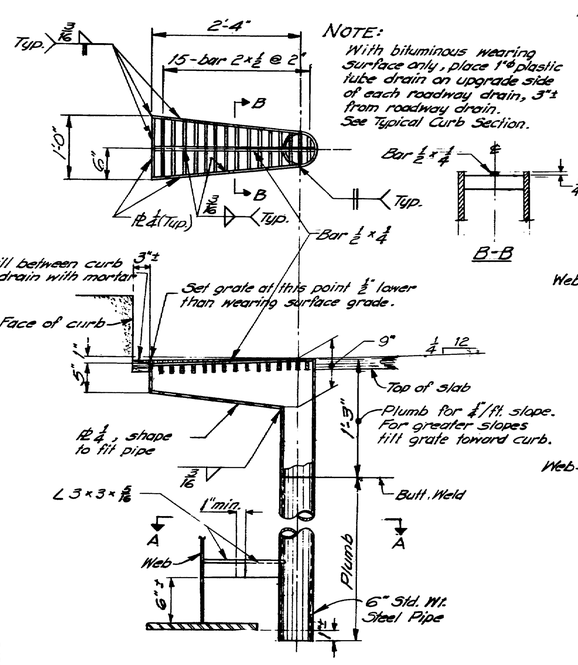
## BEARING PEDESTALS

AUGUSTA, MAINE JULY 1971

167-178

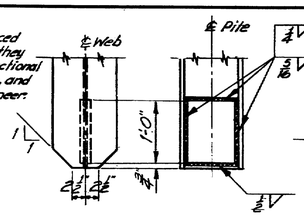
| B.P.R. DIV. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 60 | 71 |

NOTE:
With bituminous wearing surface only, place 1"ϕ plastic tube drain on upgrade side of each roadway drain, 3"± from roadway drain. See Typical Curb Section.




**DRAIN**

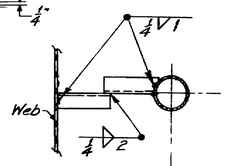
NOTE:
Alternate pointed reinforced pile tips may be used if they have at least the cross-sectional area of the pile tip shown, and are approved by the Engineer.



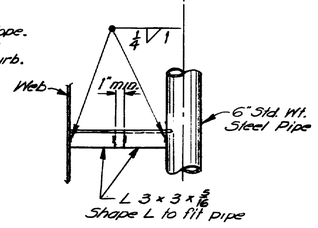

**POINTED REINFORCED PILE TIP**

NOTE - Plates may be shop or field welded.

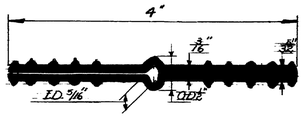
| STEEL HP BEARING PILES | |
|---|---|
| PILE SIZE | REINF. ℓ.g. SIZE |
| HP 10 × 42 | $8\frac{3}{4} \times \frac{5}{8} \times 1'\text{-}0"$ |
| HP 10 × 57 | $8\frac{3}{4} \times \frac{7}{8} \times 1'\text{-}0"$ |
| HP 12 × 53 | $10\frac{3}{4} \times \frac{5}{8} \times 1'\text{-}0"$ |
| HP 12 × 74 | $10\frac{3}{4} \times \frac{5}{8} \times 1'\text{-}0"$ |
| HP 14 × 73 | $12\frac{1}{2} \times \frac{7}{8} \times 1'\text{-}0"$ |
| HP 14 × 89 | $12\frac{1}{2} \times 1 \times 1'\text{-}0"$ |



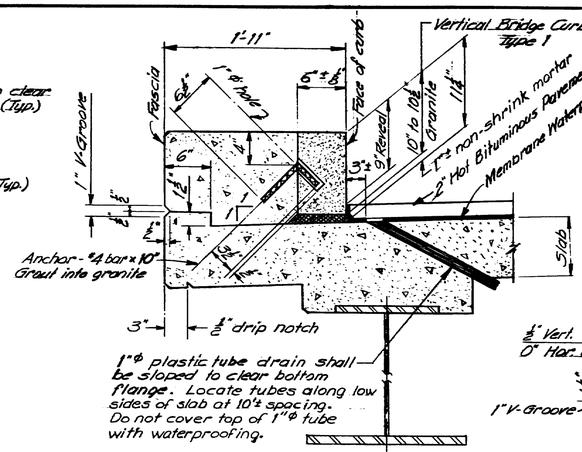

**SECTION A-A**




Shape L to fit pipe

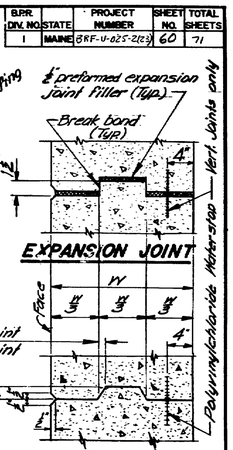



**POLYVINYLCHLORIDE WATERSTOP**

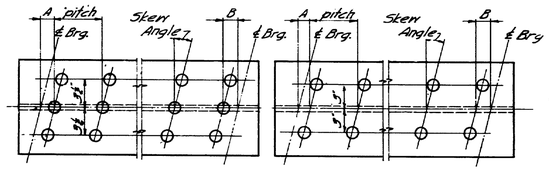



1"ϕ plastic tube drain shall be sloped to clear bottom flange. Locate tubes along low sides of slab at 10'± spacing. Do not cover top of 1"ϕ tube with waterproofing.

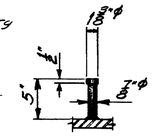
**CURB SECTION**
(Hot Bituminous Pavement only)




**CONSTRUCTION & CONTRACTION JOINTS**




**TRIPLE STUDS** **DOUBLE STUDS**

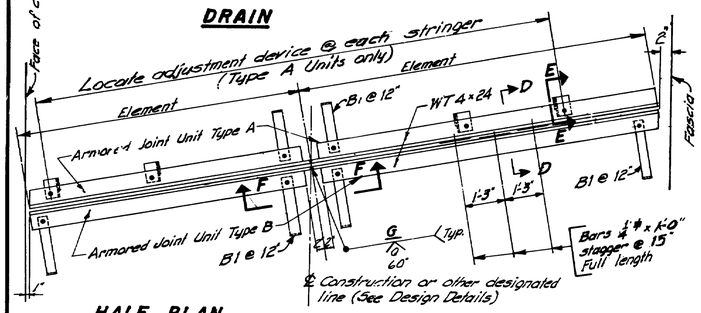



**STUD DETAIL**

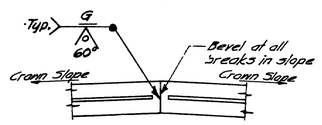
**NOTE**

1. Studs shall be granular or solid flux filled and automatically end welded to top flange in the shop or field.
2. See the design details for Dimensions "A" & "B", stud pitch and skew angle for studs.

**SHEAR CONNECTORS**




**HALF PLAN**
Curb to curb




**SECTION F-F**

Note: See design details for constr. ℄ to curb dimensions, skew, crown slope, slab thickness, other dimensions necessary to complete the fabrication details, and location.

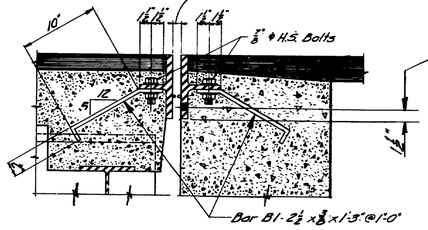
**HALF PLAN**
Fascia to fascia

**NOTE**

1. Type A Armored Joint Units are intended to be used for attachment to superstructures. Type B Armored Joint Units are intended to be used for attachment to abutments. At armored joints over piers, two (2) Type A Armored Joint Units shall be used.
2. When more elements than two (2) are required by the design details, the elements of both units shall be field welded together in the same manner as shown in Section F-F
3. Armored Joints to be paid for as Structural Steel.

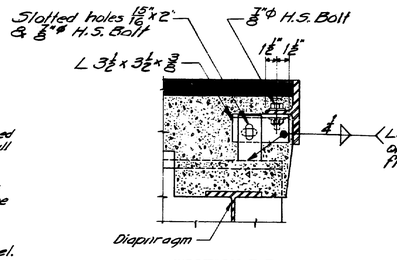
**ARMORED JOINT**

An armored joint consists of two armored joint units. See note 1.



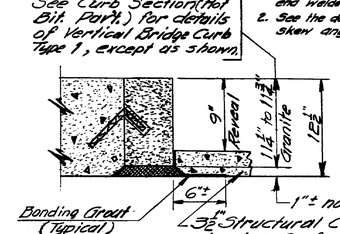

ARMORED JOINT UNIT TYPE A — ARMORED JOINT UNIT TYPE B

**SECTION D-D**

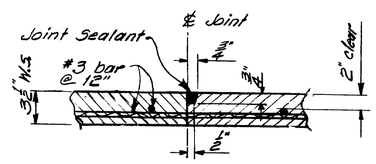



**SECTION E-E**

Showing Adjustment Device Armored Joint Unit Type A only. After Unit is in final position weld ⅜ bar to angle with ¼ fillet




**CURB SECTION**
(Structural Concrete Wearing Surface)




**CONSTRUCTION JOINT**
(Typical for concrete wear. surf.)

**NOTE** Use only those items called for on design details. In case of conflict between these Standard Details and design details, the requirements of the design details shall be followed.
Drains to be incidental, see subsection 502.20

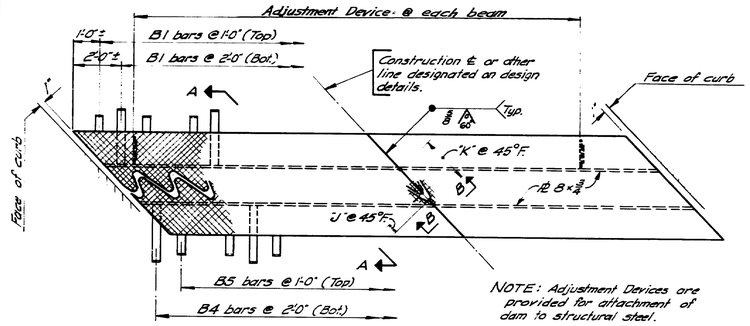
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# STANDARD DETAILS
(BD 104-73)
ARMORED JOINT, DRAIN
SHEAR CONNECTORS
MISC. STRUCTURAL DETAILS

SHEET OF AUGUSTA, ME. JULY 1973

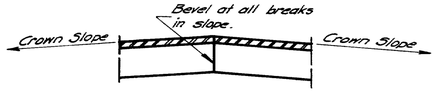
167-179 -

| B.P.R. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | [illegible] | 61 | |



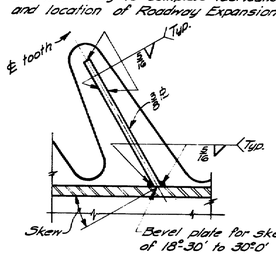

**PLAN**

*Right skew indicated*



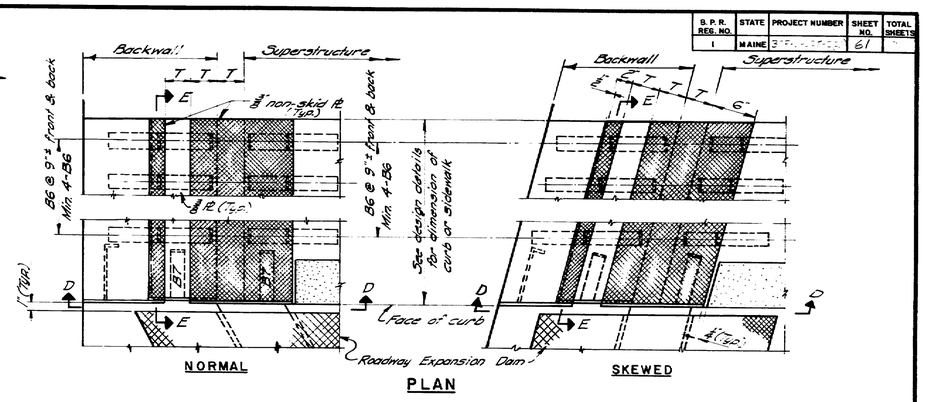

**SECTION B-B**

*See design details for construction ℄ to curb dimensions, skew, crown slope, slab thickness, other dimensions & angles that are necessary to complete fabrication details and location of Roadway Expansion Dam.*

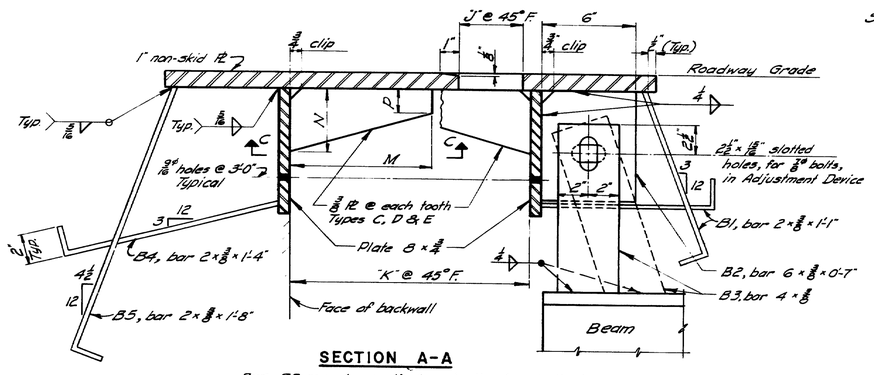



**SECTION C-C**

*Skew ~0° to 30°-0'*

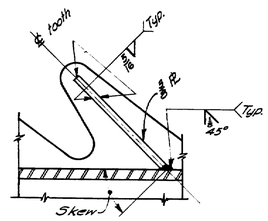



**PLAN**



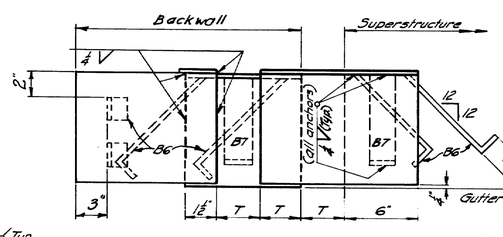

**SECTION A-A**

*Bar B3 may be vertical or inclined as indicated, depending on design conditions. After Adjustment Device is in final position weld bars B2 to B3 with ¼" fillet weld.*

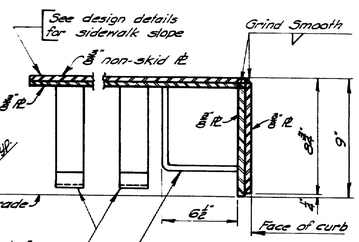



**SECTION C-C**

*Skew over 30°*



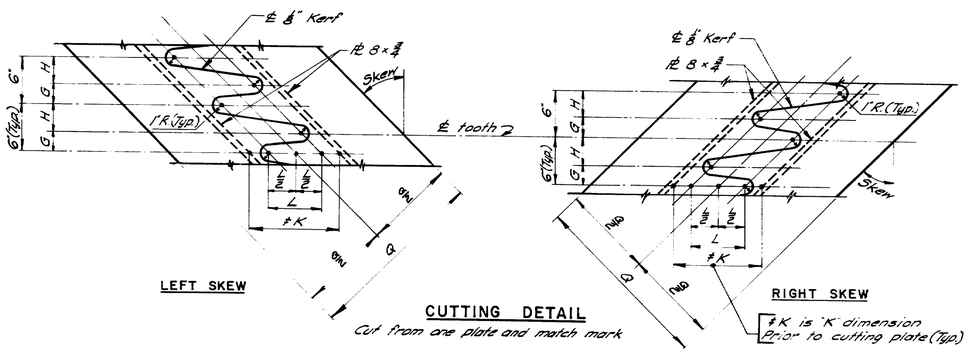

**VIEW D-D**




**SECTION E-E**

| TYPE | V | W | X | Y | Z |
|---|---|---|---|---|---|
| Exp. Length | 100'-280' | 280'-440' | 440'-600' | 600'-760' | 760'-920' |
| T | 3" | 4" | 5" | 6" | 7" |

**CURB AND SIDEWALK EXPANSION DAM - DETAILS**




**ROADWAY EXPANSION DAM - DETAILS**

**TABLE OF DIMENSIONS**

| Type | Exp. Length | Skew | ≠K | L | G | H | K@45° | J@45° | M | N | P | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 100'-280' | 0°-5° incl. | 7" | 4" | 3" | 3" | 9" | 2⅛" | — | — | — | 21" |
| | | 5°-10° | 7⅛" | 4⅛" | 2⅞" | 3⅛" | 9⅛" | 2⅛" | — | — | — | 22" |
| | | 10°-20° | 8" | 4⅛" | 2⅞" | 3⅛" | 10" | 2⅛" | — | — | — | 22" |
| | | 20°-30° | 8⅝" | 3¼" | 2⅞" | 3⅛" | 10⅜" | 2⅛" | — | — | — | 23" |
| | | 30°-40° | 9⅜" | 3½" | 2⅞" | 3⅛" | 11⅜" | 2⅛" | — | — | — | 23" |
| | | 40°-50° incl. | 11⅛" | 6½" | 2½" | 3⅛" | 13⅜" | 2⅛" | — | — | — | 23" |
| B | 280'-440' | 0°-5° incl. | 9" | 6" | 3" | 3" | 12" | 3⅛" | — | — | — | 23" |
| | | 5°-10° | 9⅛" | 6⅛" | 2⅞" | 3⅛" | 12⅛" | 3⅛" | — | — | — | 24" |
| | | 10°-20° | 10" | 6⅛" | 2⅞" | 3⅛" | 13" | 3⅛" | — | — | — | 24" |
| | | 20°-30° | 10⅝" | 7¼" | 2⅞" | 3¼" | 13⅜" | 3⅛" | — | — | — | 25" |
| | | 30°-40° | 12" | 8" | 2⅞" | 3¼" | 15" | 3⅛" | — | — | — | 25" |
| | | 40°-50° incl. | 13⅛" | 8⅛" | 2⅞" | 3⅛" | 16⅜" | 3⅛" | — | — | — | 25" |
| C | 440'-600' | 0°-10° incl. | 11⅛" | 8⅛" | 3" | 3" | 15⅜" | 4⅛" | 9" | 4" | 1⅛" | 26" |
| | | 10°-20° | 12" | 8⅛" | 2⅞" | 3⅛" | 16" | 4⅛" | 10" | 4" | 1⅛" | 26" |
| | | 20°-30° | 12⅝" | 9¼" | 2⅞" | 3⅛" | 16⅜" | 4⅛" | 11" | 4" | 1⅛" | 26" |
| | | 30°-40° | 14" | 10" | 2⅞" | 3¼" | 18" | 4⅛" | 11" | 4" | 1⅛" | 26" |
| | | 40°-50° incl. | 15⅛" | 10⅛" | 2⅞" | 3¼" | 19⅛" | 4⅛" | 12" | 4" | 1⅛" | 26" |
| D | 600'-760' | 0°-10° incl. | 13⅛" | 10⅛" | 3" | 3" | 18⅛" | 5⅛" | 11" | 5" | 2" | 30" |
| | | 10°-20° | 14" | 10⅛" | 2⅞" | 3⅛" | 19" | 5⅛" | 12" | 5" | 2" | 30" |
| | | 20°-30° | 14⅝" | 11⅛" | 2⅞" | 3⅛" | 19⅜" | 5⅛" | 13" | 5" | 2" | 30" |
| | | 30°-40° | 16" | 12" | 2⅞" | 3⅛" | 21" | 5⅛" | 13" | 5" | 2" | 30" |
| | | 40°-50° incl. | 17⅛" | 13" | 2⅞" | 3¼" | 22⅜" | 5⅛" | 15" | 5" | 2" | 30" |
| E | 760'-920' | 0°-10° incl. | 15⅛" | 12⅛" | 3" | 3" | 21⅛" | 6⅛" | 13" | 6" | 2½" | 36" |
| | | 10°-20° | 16" | 12⅛" | 2⅞" | 3⅛" | 22" | 6⅛" | 14" | 6" | 2½" | 36" |
| | | 20°-30° | 16⅝" | 13⅛" | 2⅞" | 3⅛" | 22⅜" | 6⅛" | 15" | 6" | 2½" | 36" |
| | | 30°-40° | 18" | 14" | 2⅞" | 3⅛" | 24" | 6⅛" | 15" | 6" | 2½" | 36" |
| | | 40°-50° incl. | 19⅛" | 15" | 2⅞" | 3¼" | 25⅜" | 6⅛" | 17" | 6" | 2½" | 36" |

## GENERAL NOTES

*Expansion Dams to be paid for as Structural Steel.*

*If there is conflict between this Standard Detail and the design details, the requirements of the design details shall be followed.*

*Steel Classification: A.S.T.M. A36*

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# STANDARD DETAILS
(BD 105 - 74)

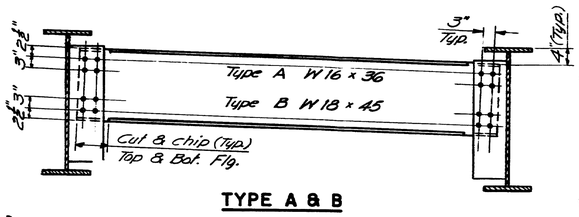
EXPANSION DAMS

SHEET OF AUGUSTA, MAINE MAY 1974

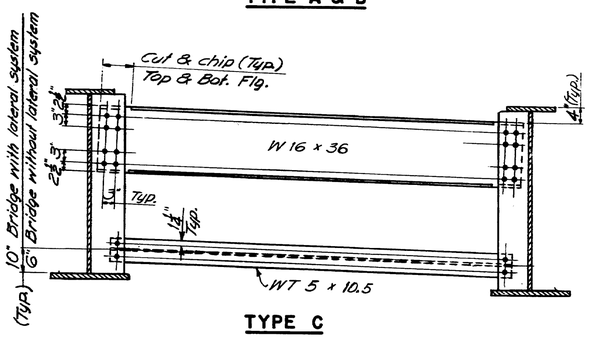
167-180

| F.H.W.A. REGN. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | ERF-U-025-2(3) | 62 | 71 |

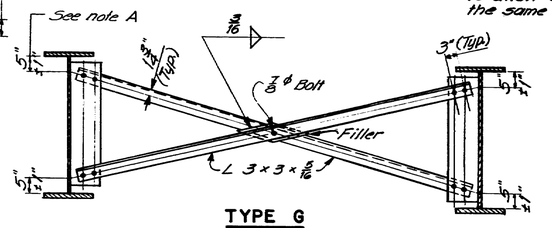
NOTE A — This dimension may be varied (±1") to allow a series of diagonals to have the same slope.



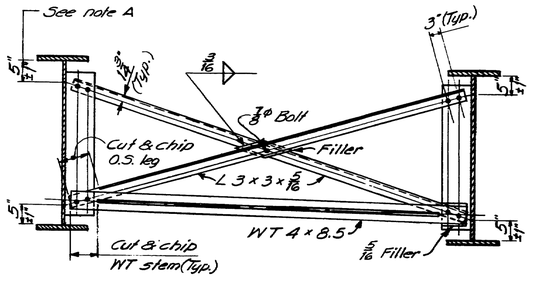

TYPE A & B



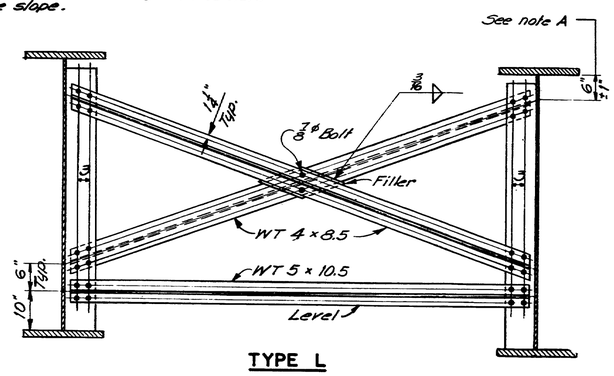

TYPE C




TYPE G




TYPE H

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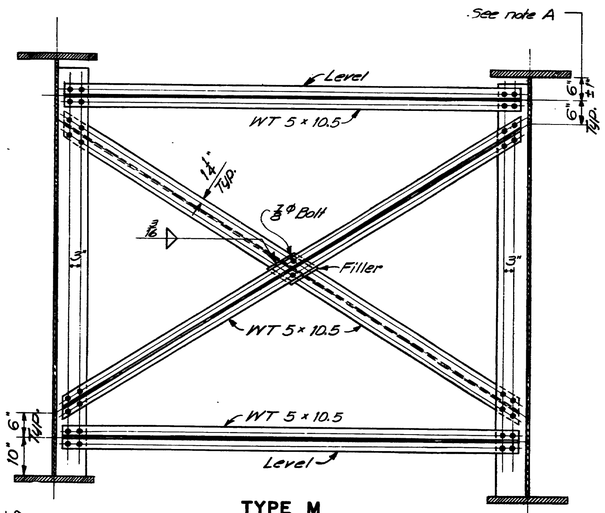


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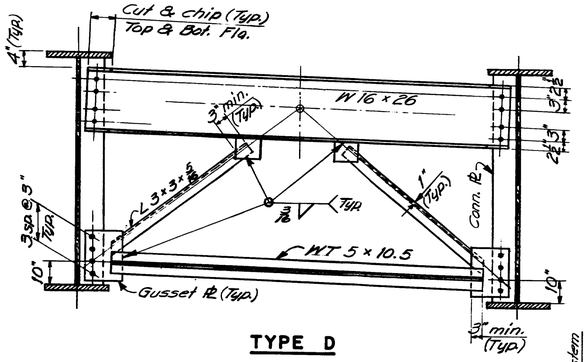


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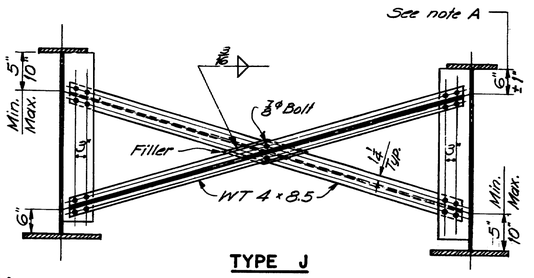
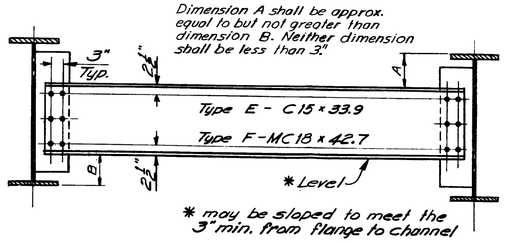
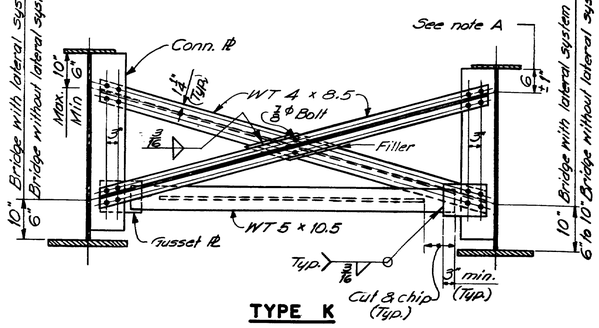


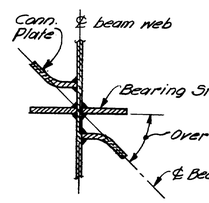

TYPE J



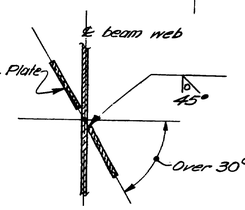

TYPE E & F




TYPE K




DETAIL A
Referenced from Note 5




DETAIL B
Referenced from Note 4

## FABRICATION NOTES

1. For location and type of diaphragm or crossframe see design details.
2. Holes for ⅞" diameter bolts shall be 15/16" dia. and Edge distances shall be 1¼" minimum unless otherwise shown.
3. Connection plates and gusset plates shall have a minimum thickness of ⅜" and shall have sufficient width to provide erection clearances. When bearing stiffeners or intermediate stiffeners are used as connection plates, the plate size will be given on the design details.
4. Connection plates shall be fastened to beam and girder webs as follows:
   - 0° to 30° skew --- fillet weld both sides.
   - Over 30° skew --- full penetration groove weld (see Detail B) except as indicated in Note 5
   - Over 45° skew - weld prequalification will be required.

   The skew angle is the angle between the connection plate and a line normal to the beam.
5. Bearing stiffeners shall be used as connection plates when the skew is not over 30°. When the skew is over 30° a bent connection plate shall be attached to the web adjacent to the bearing stiff. as shown in Detail A.
6. All fillet weld sizes shall be the minimum for the thickness of metal being joined according to AWS Specifications for Welded Highway & Railway Bridges.
7. Connection plates on welded beams and girders shall extend to the top flange in areas where the top flange is always in compression or when used as a bearing stiffener or intermediate stiff.
8. Connection plates shall extend to the bottom flange when used as a bearing stiffener, at points where lateral bracing is attached & on welded beams and girders in areas where the bottom flange is always in compression.
9. When a conn. plate is extended to a flange it shall be a paint tight fit except as otherwise indicated on design details.
10. Conn. plates shall be 2½" clear from flanges, except as indicated by Notes 7&8.
11. Use only those items called for on the design details. In case of conflict between these standard details and the design details, the design details shall be followed.

## MATERIALS

Diaphragms, Crossframes and All Plates (Filler, gusset, and connection) ASTM A36
High Strength Bolts ⅞" diameter ___ ASTM A325

| PLANS | DATE | BY |
|---|---|---|
| DESIGN - DETAILED | | |
| CHECKED | | |
| REVISIONS | | |
| FIELD CHANGES | | |

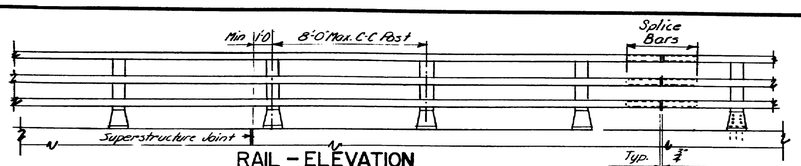
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

# STANDARD DETAILS
(BD 113 - 72)
## DIAPHRAGMS & CROSSFRAMES

SHEET OF AUGUSTA, MAINE SEPT. 1972

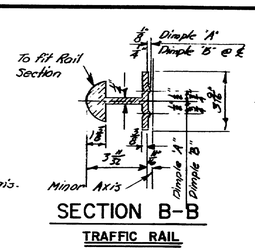
167-181

| F.H.W.A. REGN. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 63 | 71 |

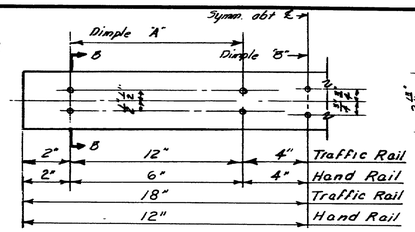



## RAIL - ELEVATION

Lengths of rail shall be attached to a minimum of four (4) rail posts, wherever possible, and in any case never less than two (2). Rail posts are to be set normal to grade unless otherwise shown on Bridge Plans.

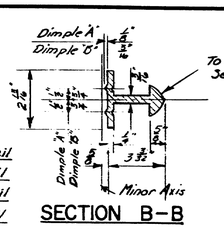



## SECTION B-B
TRAFFIC RAIL



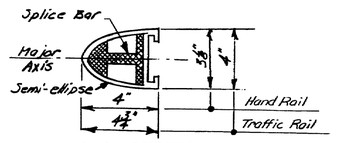

## SPLICE BAR

Note: An alternate to the dimple system for holding the splice bar in position may be used if approved by the Engineer.

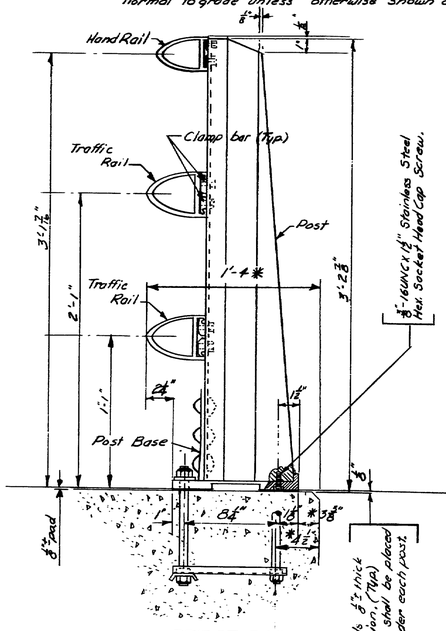



## SECTION B-B
HAND RAIL

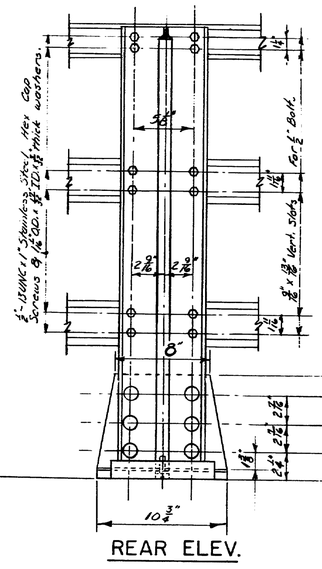
DESIGN SPECIFICATIONS
AASHO. - Standard Specification for Highway Bridges 1969 and Interim Specifications



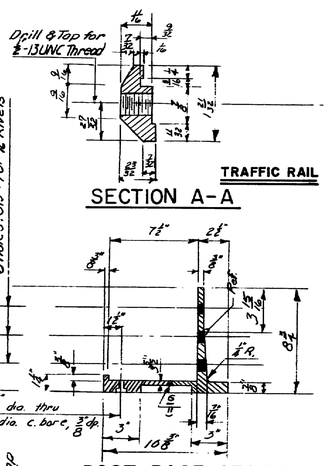

## RAIL SECTION
See "Rail Detail"



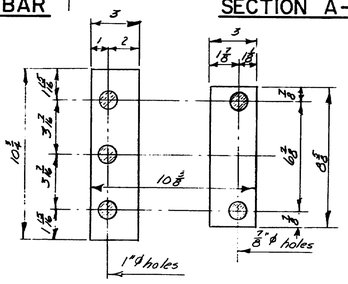

## BRIDGE RAIL
(Assembly)




## REAR ELEV.

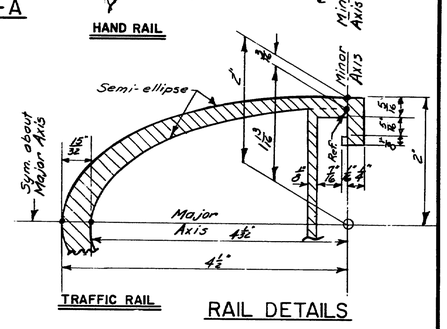



## POST BASE SECTION




## PREFORMED PADS




## RAIL DETAILS




## RAIL CAP




## ANCHOR BOLTS

If cut threads are used, body diameter shall be not less than nominal diameter.
If rolled threads are used, body diameter shall be not less than the root diameter of the threads.



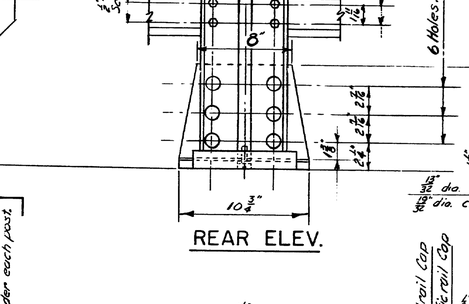

## SECTION A-A
TRAFFIC RAIL

## CLAMP BAR

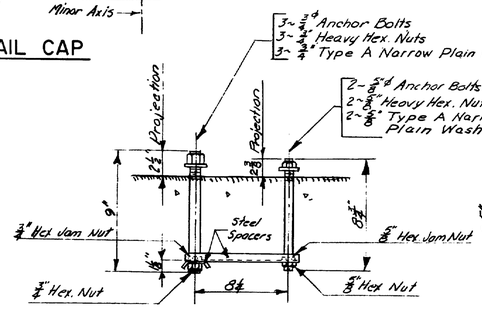



## SECTION A-A
HAND RAIL

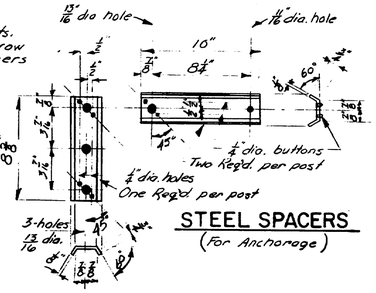


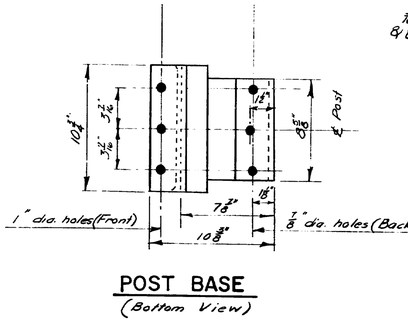

## POST SECTION




## RAIL POST ANCHORAGE
(Assembly)




## STEEL SPACERS
(For Anchorage)




## POST BASE
(Bottom View)

* Preferable minimum dimensions. For actual dimensions - see Bridge Plan.

| PLANS | DESIGN + DETAILED | BY | DATE |
|---|---|---|---|
| | CHECKED | | |
| | REVISIONS | | |
| | FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

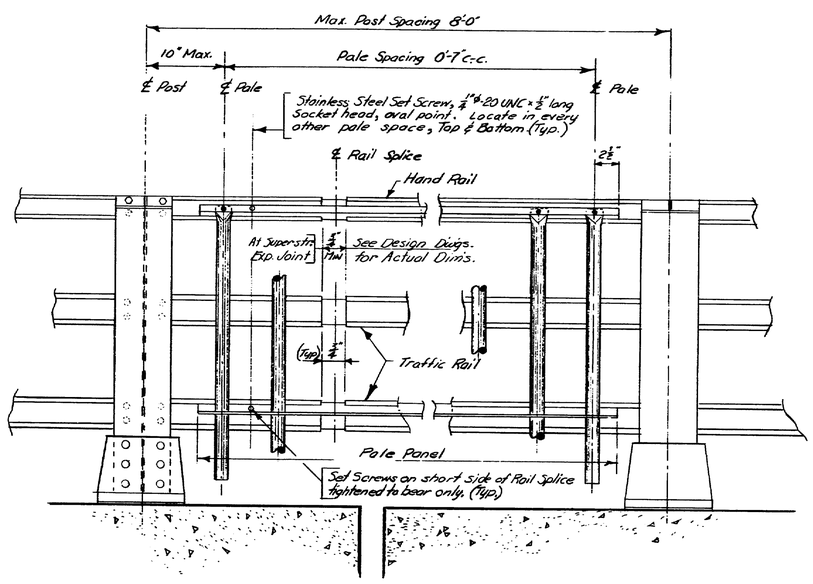
# STANDARD DETAILS
(BD 115 - 73)

## ALUMINUM RAILING
3 - BAR (SEMI-ELLIPSE) EXTRUDED POST

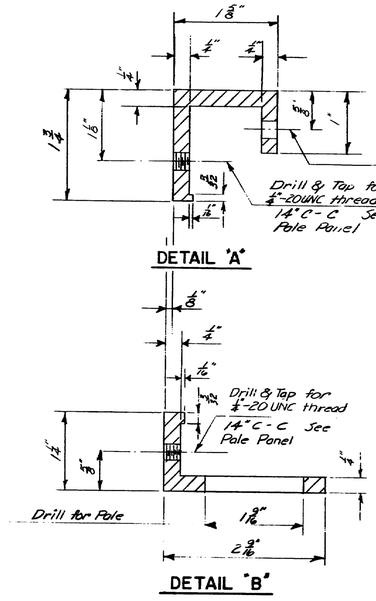
SHEET OF AUGUSTA, MAINE FEBRUARY 1973

167-182

| F.H.W.A. REGL. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-1)-025-2(3) | 64 | 71 |



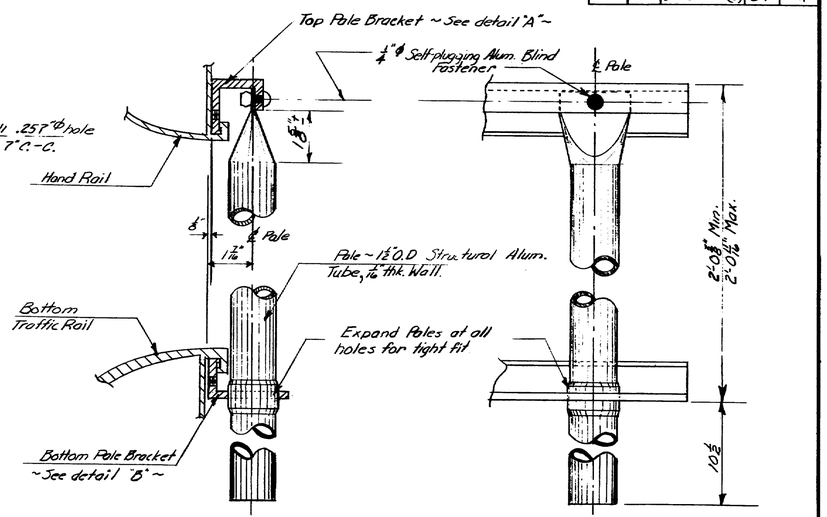

REAR ELEVATION




DETAIL "A"



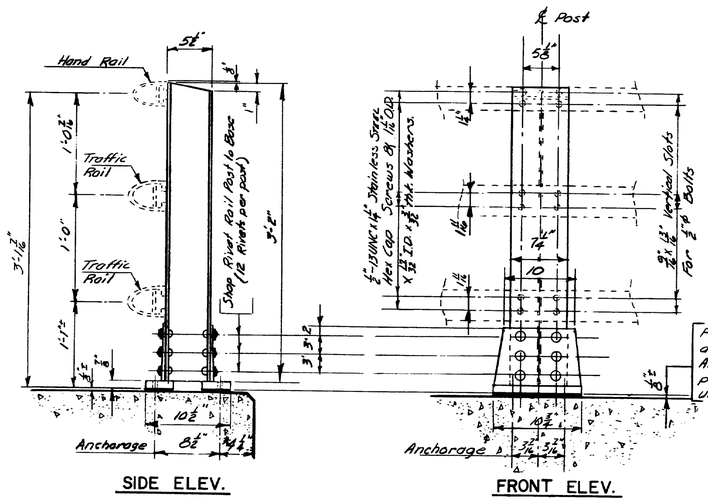

DETAIL "B"




PALE PANEL DETAILS

# PALES

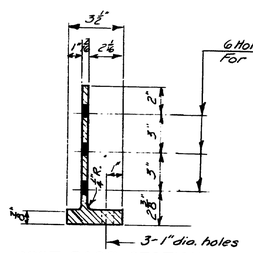
*For use with 3-Bar Aluminum Rail*



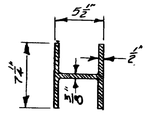

SIDE ELEV. FRONT ELEV.

RAIL POST

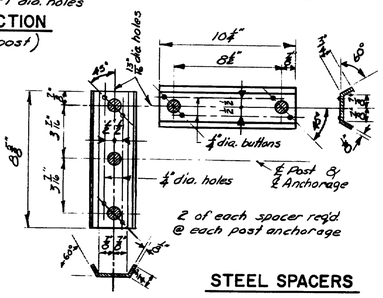
✱ Preferable minimum dimension. For actual dimension ~ See Bridge Plans.



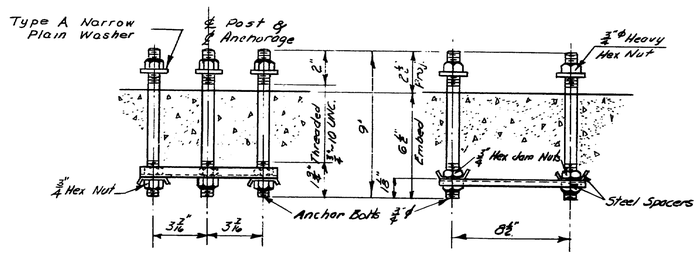

POST BASE SECTION
(2 Required per post)




RAIL POST SECTION

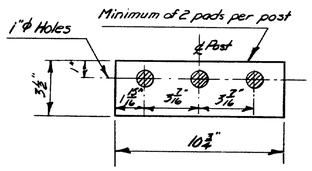



STEEL SPACERS




RAIL POST ANCHORAGE

If cut threads are used, body diameter shall be not less than nominal diameter.
If rolled threads are used, body diameter shall be not less than the root diameter of the threads.




PREFORMED PAD

# HEAVY DUTY POST (3-BAR RAIL)

| PLANS | BY | DATE |
|---|---|---|
| DESIGN - DETAILED | K.L. Leach | Jan. 1973 |
| CHECKED | | |
| REVISIONS | | |
| FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
(SHEET BD115-73 SHALL ACCOMPANY THIS SHEET)

## STANDARD DETAILS
(BD 116-73)

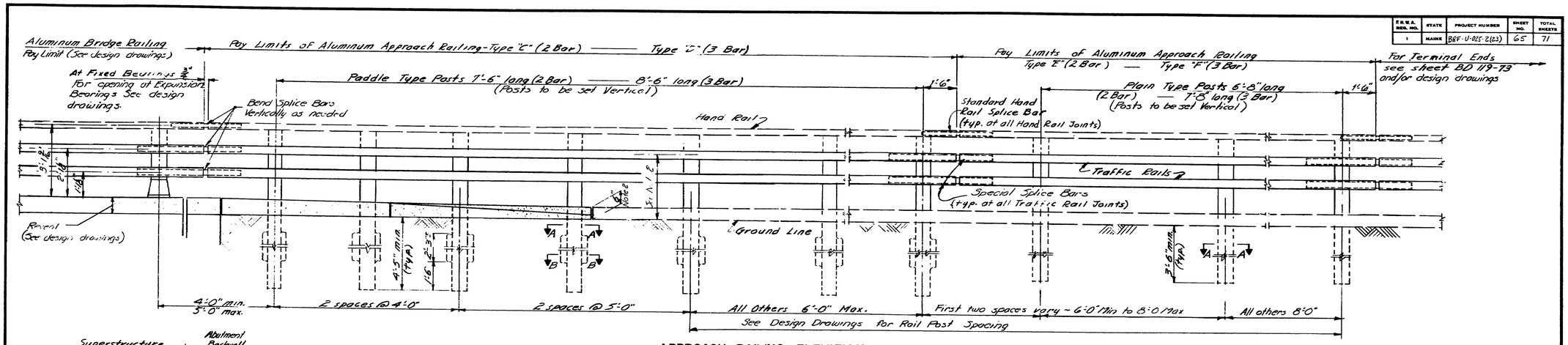
## ALUMINUM BRIDGE RAILING

PALE PANEL & HEAVY DUTY POST

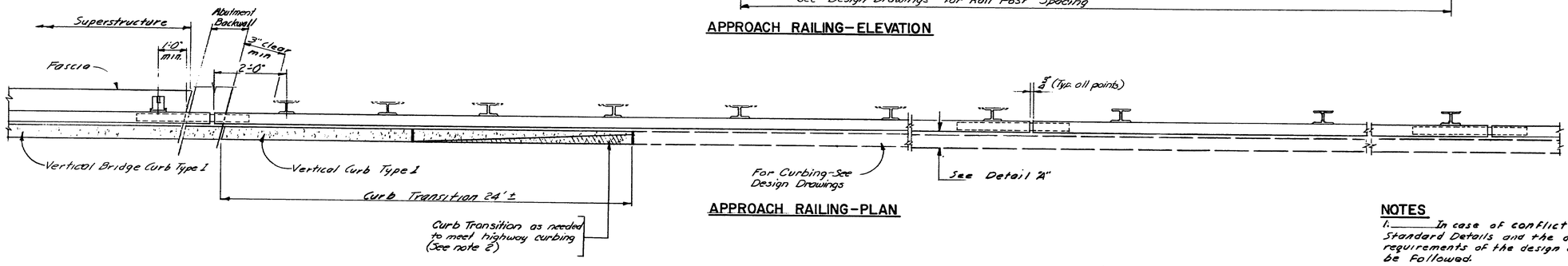
SHEET OF AUGUSTA, MAINE FEBRUARY 1973

167-183

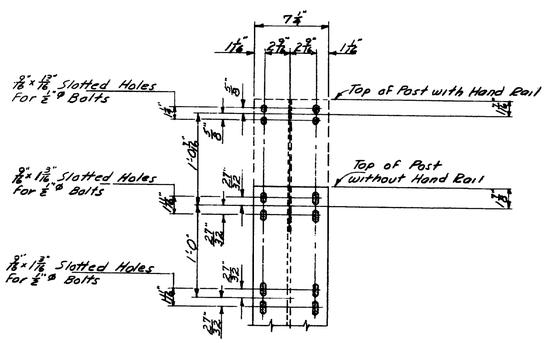
| F.H.W.A. REGN. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-015-2(23) | 65 | 71 |



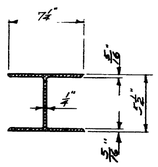

## APPROACH RAILING—ELEVATION



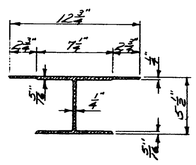

## APPROACH RAILING—PLAN



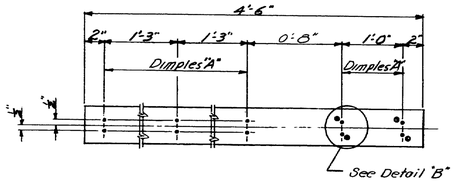

## APPROACH RAIL POST DETAIL



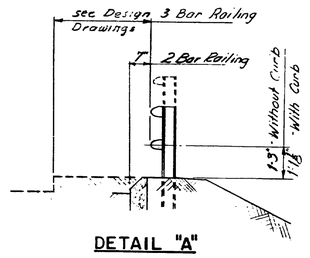

## SECTION A-A



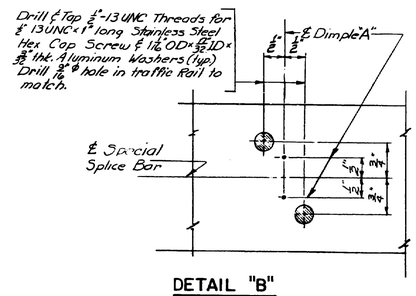

## SECTION B-B




## SPECIAL SPLICE BAR DETAIL




## DETAIL "A"




## DETAIL "B"

### NOTES

1. In case of conflict between these Standard Details and the design details, the requirements of the design details shall be followed.

2. If no highway curbing is used on approaches, use 24'± Curb Transition as shown with Curb Transition Section "A" Type I, and adjust rail height over 50 feet so that ℄ of bottom rail is 1'-3" above ground line of face of rail.

3. If the first approach rail post is mounted on the Abutment backwall, the post and anchorage must match the bridge railing, and will be supplied and paid for under the Bridge Railing Item. See design drawings for post location.

4. Trim tops of posts as required to maintain ± ¼ inch below top of Top Rail.

5. For details of Vertical Curb Type I and Curb Transition Type I, Section A, see Highway Standards (3).

| PLANS | DESIGN - DETAILED | BY | DATE |
|---|---|---|---|
| | CHECKED | | |
| | REVISIONS | | |
| | FIELD CHANGES | | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

(SHEETS BD 114-73 OR BD 115-73 AND BD 119-73 SHALL ACCOMPANY THIS SHEET AS NEEDED)

# STANDARD DETAILS

(BD 118-73)

## ALUMINUM APPROACH RAILING

2 BAR OR 3 BAR (SEMI-ELLIPSE)
TYPE "C", "D", "E", & "F"

SHEET OF AUGUSTA, MAINE JUNE 1973

JANUARY 1968

167-184

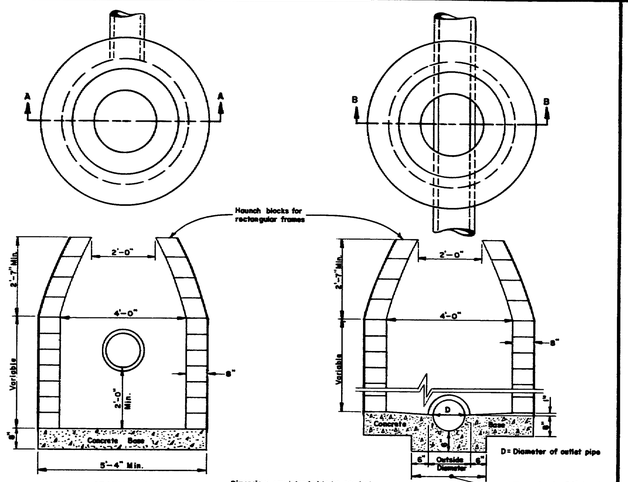
| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | GRF-U-025-2(23) | 66 | 71 |

**GENERAL NOTES — ALL CATCH BASINS AND MANHOLES**

1. Any Catch Basin in excess of 8' in depth shall, if directed be provided with steps similar to those detailed for Manholes.
2. Frames, Grates & Covers shall be considered as part of the structure, and no separate payment shall be made.

**GENERAL NOTES — PRECAST CATCH BASINS AND MANHOLES**

1. Drain holes in precast sumps to be not over 3" in diameter, and shall be plugged with mortar when constructed.
2. All precast sections of less than 8" wall thickness shall have tongue and groove joints.
3. Cone and Ring sections wall thickness min. 4", max. 8"
4. Minimum wall thickness of sump may be 4" as specified in A.S.T.M. C-478, however, if concrete blocks are used around the inlet and outlet pipes, the wall thickness of sump shall be 8".
5. Wall around inlet and outlet pipes may be built of 8" concrete blocks or a precast ring with an opening 2" larger than the outside diameter of the pipe may be used.
6. Lift Holes shall be provided.

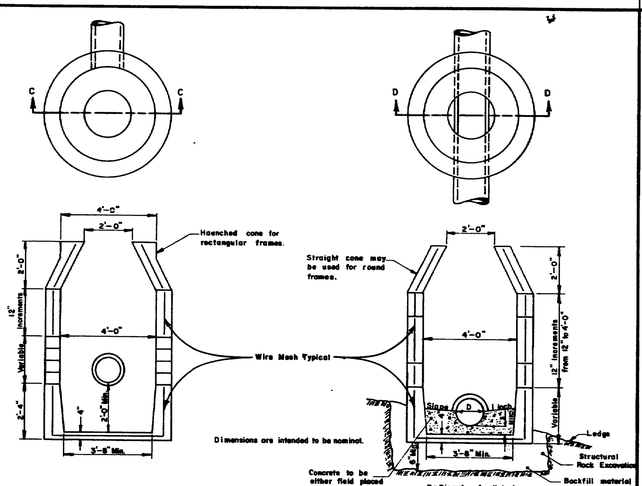



SECTION A-A
SHAPE "1"

SECTION B-B
SHAPE "2"

## CATCH BASINS (Concrete Blocks or Bricks)

A

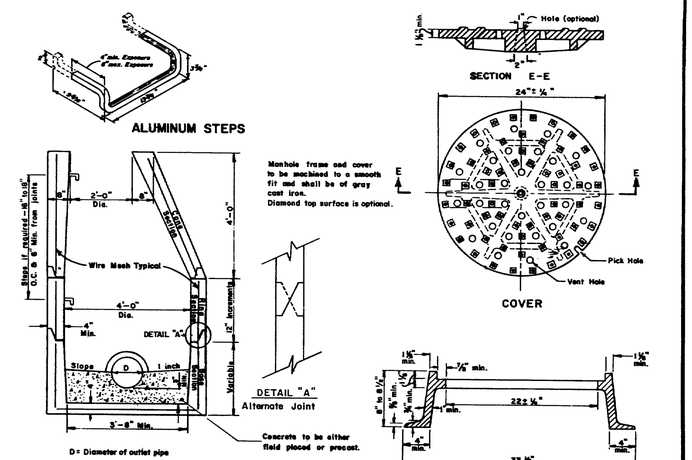



SECTION C-C
SHAPE "3"

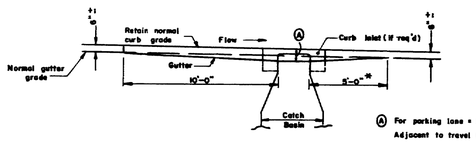
SECTION D-D
SHAPE "4"

## CATCH BASINS (Precast Units)

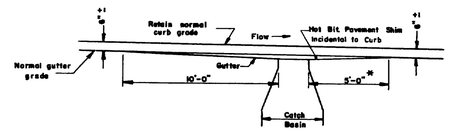
B




C




AT CURB INLETS



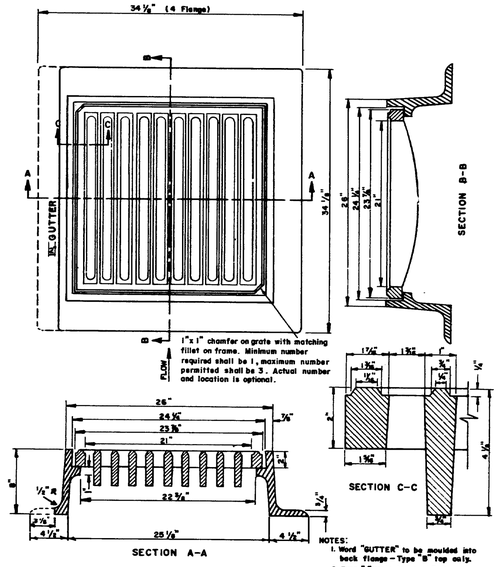

AT CURB WITHOUT INLET STONES

* If at bottom of sag, this dimension to be 10'-0"

NOTE: PARALLEL BAR GRATES SHALL BE INSTALLED ON A LEVEL GRADIENT. CASCADE GRATES SHALL BE INSTALLED ON GRADIENT OF THE GUTTER. THE GRATES SHALL BE DEPRESSED 3" BELOW THE NORMAL GUTTER GRADE UNLESS THIS DEPRESSION INTERFERES WITH TRAFFIC. DIMENSIONS ARE INTENDED TO BE NOMINAL.

## GUTTER GRADE TRANSITION AT CATCH BASIN

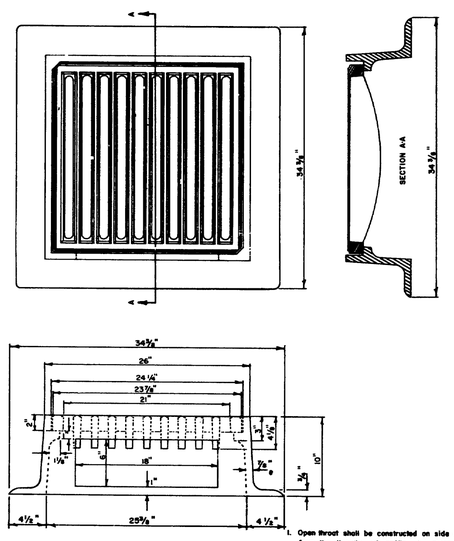
D




NOTES:
1. Word "GUTTER" to be moulded into back flange — Type "B" top only.
2. Type "A" grate to have 3 flanges
3. Type "B" grate to have 4 flanges.
4. Frame and grate to be of grey cast iron.
5. Dimensions are intended to be nominal.

## TYPE "A" & "B" CATCH BASIN TOPS
( PARALLEL BAR GRATES )

E




1. Open throat shall be constructed on side away from the direction of traffic. All other sides shall be graded flush with the top of C.B. grate.
2. Frame shall be gray cast iron.
3. Grate shall be same as type "A" and "B".
4. Dimensions are intended to be nominal.
5. When volume of water warrants, 6" opening may be increased.

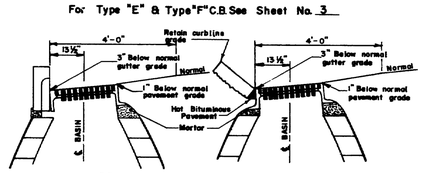
## TYPE "C" CATCH BASIN TOPS

F

| STRUCTURE | TOP | | | | SHAPE | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CATCH BASIN | A | B | C | D | 1 | 2 | 3 | 4 | 5 |
| Type A-1 | X | | | | X | | X | | |
| Type A-2 | X | | | | | X | | X | |
| Type B-1 | | X | | | X | | X | | |
| Type B-2 | | X | | | | X | | X | |
| Type C-1 | | | X | | X | | X | | |
| Type C-2 | | | X | | | X | | X | |
| | | | | | | | | | |
| MANHOLE | | | | X | | X | | X | X |

TABLE OF CATCH BASIN TYPES
( COMBINATION OF TOPS AND SHAPES)

For Type "E" & Type "F" C.B. See Sheet No. 3




Dimension are intended to be nominal.

## CATCH BASIN TOP INSTALLATION

G

| REVISIONS | |
|---|---|
| CATCH BASINS TYPES A, B, C | 10-21-69 |
| PLATE 'E' | 4-21-71 |
| PLATE 'D-E' | 8-26-75 |
| PLATE C | 10-14-75 |
| | |
| | |
| | |
| | |
| | |
| | |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

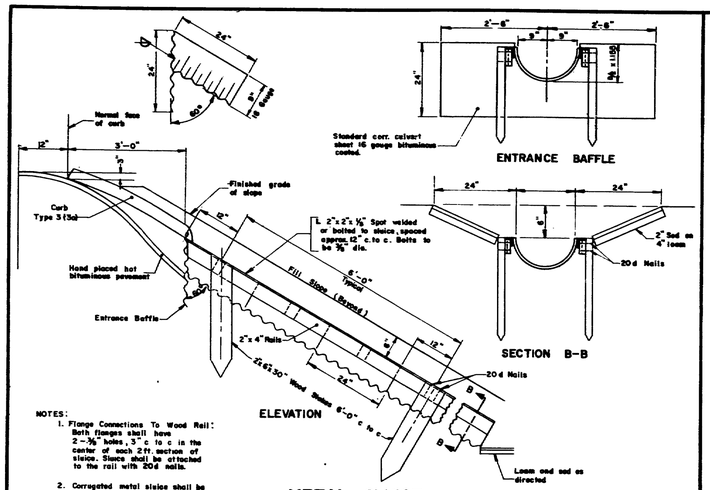
# STANDARD DETAILS

## CATCH BASINS AND MANHOLES

AUG. 1969 (1)

167-185

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | ERF-U-025-2(23) | 67 | 71 |

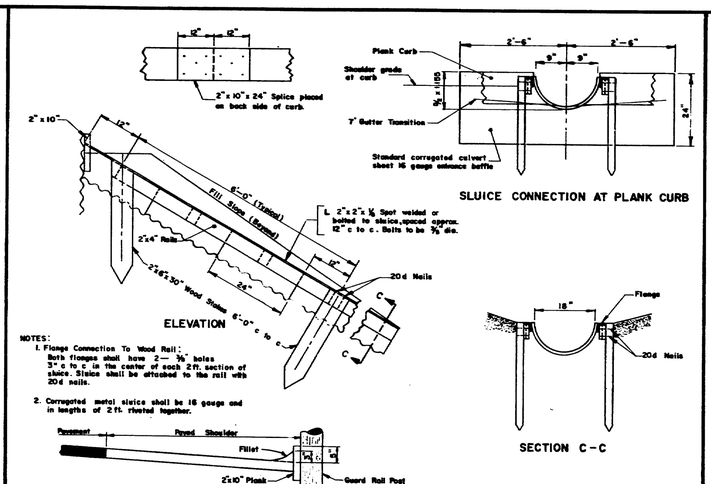



NOTES:

1. Flange Connections To Wood Rail: Both flanges shall have 2 - 3/8" holes, 3" c to c in the center of each 2 ft. section of sluice. Sluice shall be attached to the rail with 20d nails.
2. Corrugated metal sluice shall be 16 gauge and in lengths of 2 ft. riveted together.

## METAL SLUICE WITH CURB TYPE 3 or 3a

A

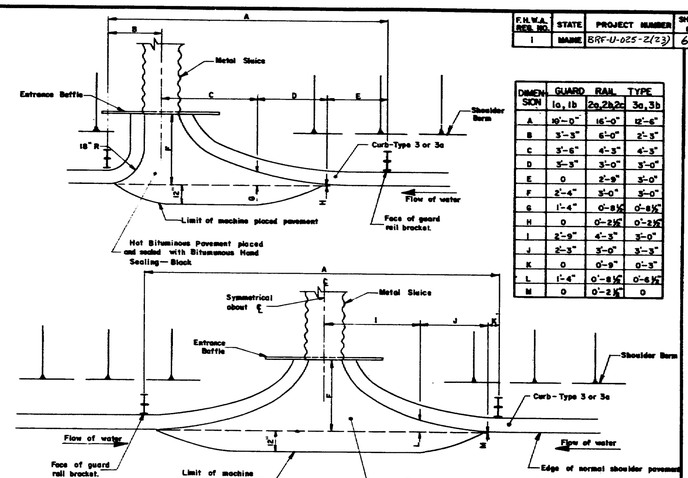



NOTES:

1. Flange Connection To Wood Rail: Both flanges shall have 2 - 3/8" holes 3" c to c in the center of each 2 ft. section of sluice. Sluice shall be attached to the rail with 20d nails.
2. Corrugated metal sluice shall be 16 gauge and in lengths of 2 ft. riveted together.

## METAL SLUICE WITH PLANK CURB

B




| DIMENSION | GUARD RAIL TYPE 1a, 1b | 2a, 2b, 2c | 3a, 3b |
|---|---|---|---|
| A | 10'-0" | 16'-0" | 12'-6" |
| B | 3'-3" | 6'-0" | 2'-3" |
| C | 3'-6" | 4'-3" | 4'-3" |
| D | 5'-3" | 3'-0" | 3'-0" |
| E | 0 | 2'-9" | 3'-0" |
| F | 2'-4" | 3'-0" | 3'-0" |
| G | 1'-4" | 0'-8 1/2" | 0'-8 1/2" |
| H | 0 | 0'-2 1/2" | 0'-2 1/2" |
| I | 2'-9" | 4'-3" | 3'-0" |
| J | 2'-3" | 3'-0" | 3'-3" |
| K | 0 | 0'-9" | 0'-3" |
| L | 1'-4" | 0'-8 1/2" | 0'-6 1/2" |
| M | 0 | 0'-2 1/2" | 0 |

## SLUICE ENTRANCE DETAIL

C

### CIRCULAR

| NOMINAL INSIDE DIAMETER | THICKNESS in INCHES CMP or BCCMP | CAP | CLASS and WALL RCP | CLASS ASBESTOS CEMENT PIPE |
|---|---|---|---|---|
| 8 inch | .064 | .060 | | |
| 10 " | .064 | .060 | | |
| 12 " | .064 | .060 | | |
| 15 " | .064 | .060 | B | |
| 18 " | .064 | .060 | A or | |
| 21 " | .064 | .060 | Wall | |
| 24 " | .064 | .060 | | |
| 30 " | .079 | .075 | | |
| 36 " | .079 | .075 | | III |
| 42 " | .109 | .105 | III | CLASS |
| 48 " | .109 | .105 | | |
| 54 " | .109 | .105 | Class | |
| 60 | .138 | .135 | | |
| 66 | .138 | .135 | | |
| 72 | .168 | .164 | | |
| 84 | .168 | .164 | | |

### PIPE ARCH

| NOMINAL SIZES | GAUGE BCCMPA-CMPA | THICKNESS (inches) CAPA |
|---|---|---|
| 18" span x 11" rise | 16 | .060 |
| 22" " x 13" " | 16 | .060 |
| 25" " x 16" " | 16 | .060 |
| 29" " x 18" " | 14 | .075 |
| 36" " x 22" " | 14 | .075 |
| 43" " x 27" " | 12 | .105 |
| 50" " x 31" " | 12 | .105 |
| 58" " x 36" " | 10 | .135 |
| 65" " x 40" " | 10 | .135 |
| 72" " x 44" " | 8 | .164 |

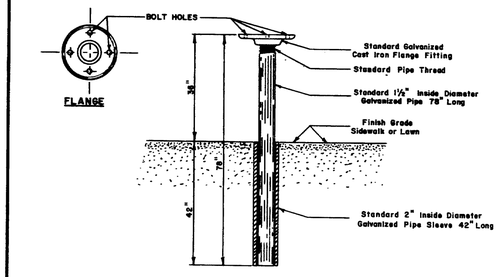
CMP = Corrugated Metal Pipe
BCCMP = Bituminous Coated Corrugated Metal Pipe
CAP = Corrugated Aluminum Pipe

RCP = Reinforced Concrete Pipe

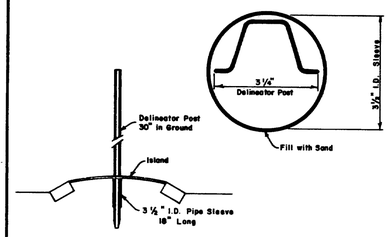
Above abbreviations followed by "A" indicate "Arch"
All RCPA shall be class III
Minimum thickness, class, and wall types for culvert pipe, unless otherwise designated.

## CULVERT PIPE DATA

D

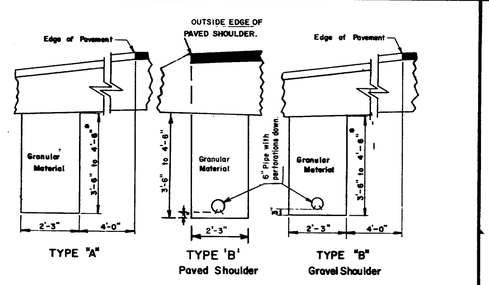


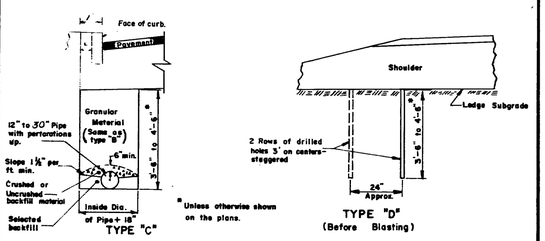

## SINGLE POST TYPE 1C




## PIPE SLEEVE FOR DELINEATOR POST

E



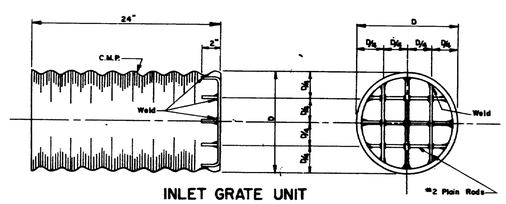

* Unless otherwise shown on the plans.

NOTES

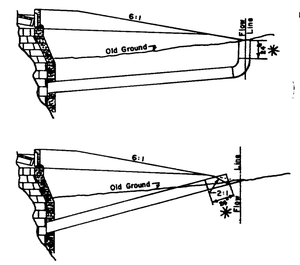
1. The maximum vertical measurement of depth for payment of Structural Rock Excavation will be to a horizontal plane located 1 foot below the bottom of the trench for Underdrain Type "B" and Underdrain Type "C".
2. The material for Ells, Tees and Wyes for underdrain types "B" and "C" shall be at least as thick as the largest size pipe being connected.
3. Width of the trench for underdrain outlet will be the same as the underdrain trench.
4. No allowance for payment will be made for excavating or material excavated beyond the horizontal dimensions shown for Types A, B or C Underdrain.
5. In "Box Sections" the edge of trench shall be in line with edge of box section.

## UNDERDRAIN

F




## INLET GRATE UNIT




NOTES:

1. All units to be complete shop assembly.
2. All units to have one shop coat of approved Aluminum paint.
3. An Elbow shall be installed if directed by the Engineer to provide a horizontal grate, and shall be paid for as 3 additional feet of the type and size of pipe involved.
4. Rods shall conform to the requirements of section 709.01 of the Standard Specifications.

* 24" INLET GRATE UNIT

## INLET UNITS IN FILL AREAS

G

| REVISIONS | |
|---|---|
| PLATE 'F' | 9-17-70 |
| PLATE 'G' | 8-15-71 |
| PLATE 'D' | 12-20-71 |

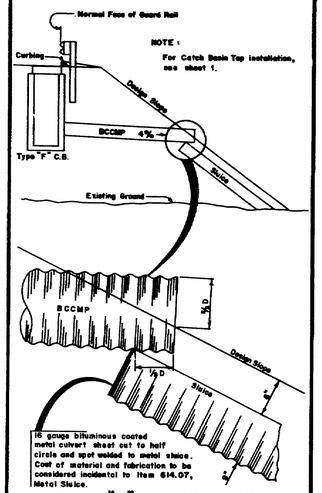
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

# STANDARD DETAILS

METAL SLUICE — UNDERDRAIN — CULVERT PIPE DATA CULVERT INLET GRATE

AUG. 1969 (2)

167-186

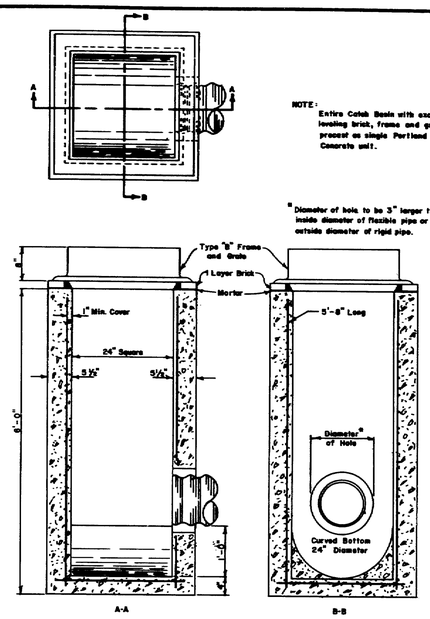



## TYPE "F" CATCH BASIN WITH OUTLET PIPE

(SLUICE OPTIONAL)

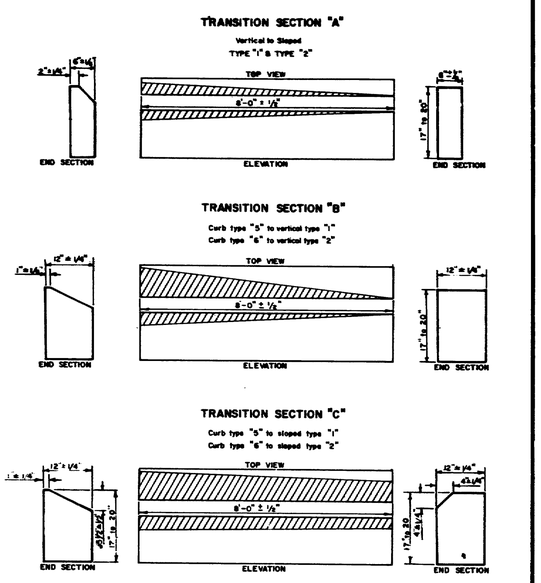
(SEE SHEET NO. 2 FOR STANDARD SLUICE DRAWING)

3-A




## CATCH BASIN TYPE "F"

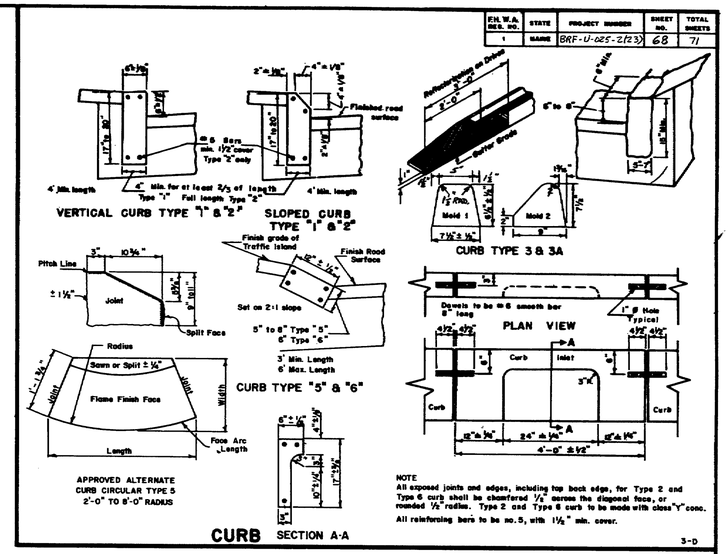
3-B




## CURB TRANSITION

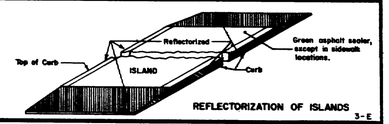
NOTE - TYPE 2 CURB
Precast concrete curb to be made with class "A" concrete.
All reinf. bars to be #5, 1½" min. cover.

3-C



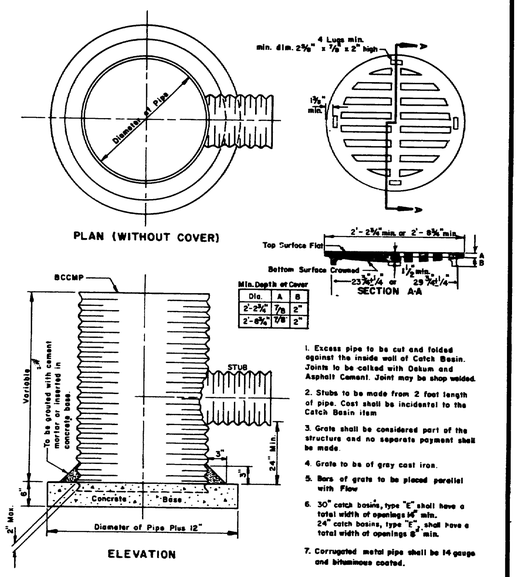

## CURB SECTION A-A

3-D




REFLECTORIZATION OF ISLANDS

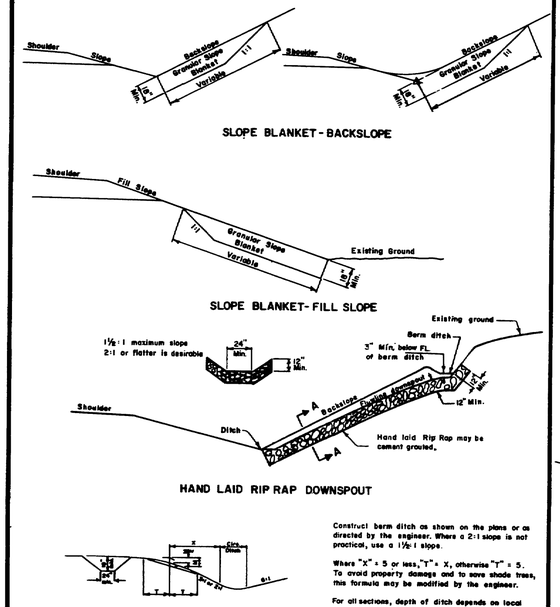
3-E




1. Excess pipe to be cut and folded against the inside wall of Catch Basin. Joints to be caulked with Oakum and Asphalt Cement. Joint may be shop welded.
2. Stubs to be made from 2 foot length of pipe. Cost shall be incidental to the Catch Basin item
3. Grate shall be considered part of the structure and no separate payment shall be made.
4. Grate to be of gray cast iron.
5. Bars of grate to be placed parallel with Flow
6. 30" catch basins, type "E" shall have a total width of openings 14" min. 24" catch basins, type "E", shall have a total width of openings 8" min.
7. Corrugated metal pipe shall be 14 gauge and bituminous coated.

## CATCH BASIN TYPE "E"

3-F

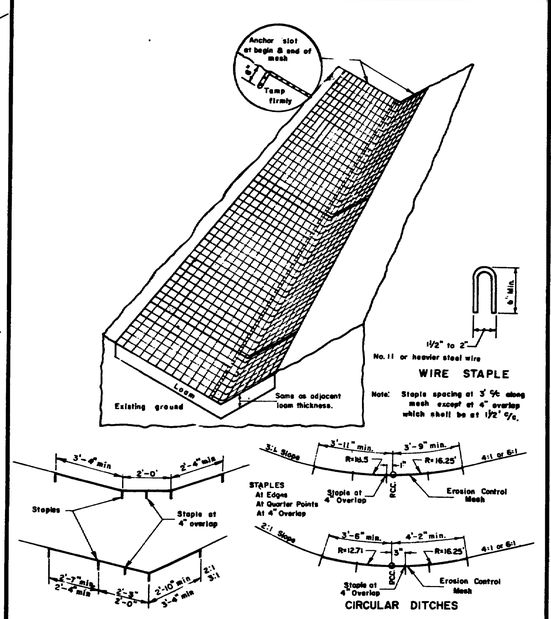



Construct berm ditch as shown on the plans or as directed by the engineer. Where a 2:1 slope is not practical, use a 1½:1 slope.

Where "X" = 5 or less, "Y" = X, otherwise "Y" = 5. To avoid property damage and to save shade trees, this formula may be modified by the engineer.

For all sections, depth of ditch depends on local conditions.

3-G




EROSION CONTROL MESH

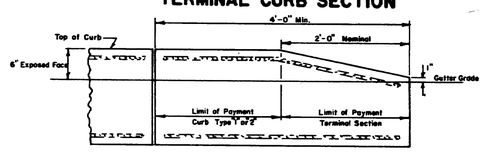
CIRCULAR DITCHES

3-H

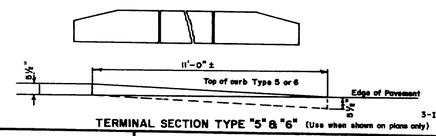
| CURB TYPES (1&2),(5&6) ON CURVES | | | | |
|---|---|---|---|---|
| Curb Type | RADIUS OF CURVE | LENGTH | PAID FOR AS | STONE IS CUT OR CAST |
| 1 & 2 | 0' To 60' Incl. | 4' Min. | Circular | Arc To Fit Curve |
| | Over 60' To 160' | 4' To 6' | Straight | Straight Pieces |
| 5 & 6 | 0' To 8' Incl. | 2' Min | Circular | To Fit Curve |
| | Over 8' To 30' Incl. | 12" Min. Chord | Circular | Straight Pieces, Radial Ends |
| | Over 30' And Under 160' | 2' To 3' | Straight | Straight Pieces |
| | 160' And Over | 3' To 6' | Straight | Straight Pieces |

3-J

## TERMINAL CURB SECTION




TERMINAL SECTION TYPE "1" & "2"




TERMINAL SECTION TYPE "5" & "6" (Use when shown on plans only)

3-I

| REVISIONS | |
|---|---|
| Plate 3-G | 12-23-69 |
| Plate 3-F | 5-27-70 |
| Plate 3J | 7-15-70 |
| PLATE 3G | 3-4-71 |
| PLATE 3H | 8 28 73 |
| PLATE 3H | 6-26-75 |
| PLATE D | 8-8-75 |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

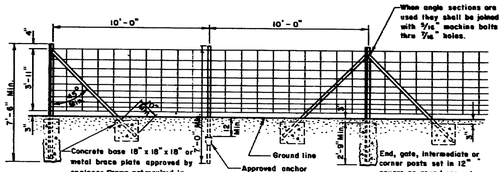
# STANDARD DETAILS

## CURB, DITCHES AND SLOPES, AND CATCH BASINS TYPE "E"

AUG. 1969 (3)

167-187

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025(03) | 69 | 71 |



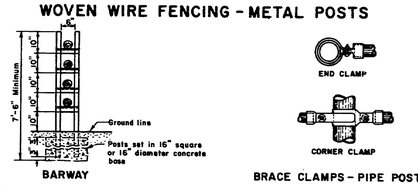

END, INTERMEDIATE AND CORNER POSTS – 2½" x 2½" x ¼" angle or nominal diameter 2" galvanized steel pipe minimum weight of 3.65 pounds per foot with approved top cap, length 7'-6"

GATE POSTS – 3½" x 3½" x 5/16" rolled angle section, or nominal diameter 2½" galvanized steel pipe with minimum weight of 5.79 pounds per foot. Pipe shall be filled with concrete and have an approved top cap, length 7'-6"

BRACES – 1¾" x 1¾" x ¼" rolled angle section, or nominal diameter 1¼" galvanized steel pipe with minimum weight of 2.27 pounds per foot.

LINE POSTS – Standard studded "T" post with minimum weight of 1.33 pounds per foot or standard leg "U" post with minimum weight of 1.12 pounds per foot, length 7'-0"

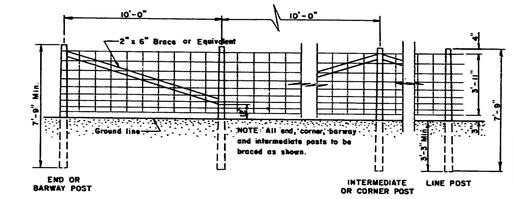
## WOVEN WIRE FENCING – METAL POSTS




BARWAYS – Metal posts shall be installed for a 16'-0" opening. Barway posts and braces shall conform to requirements of "Gate Posts" and "Braces" under "Woven Wire Fencing – Metal Posts." Cross bar supports for barways shall be 1¾" x 1¾" x ¼" rolled angle section. When round gate posts are used, length of cross bar supports shall equal center to center of posts plus 2 inches and they shall be attached to the barway post with 5/16" x 4½" machine bolts. When angle section gate posts are used, the length of cross bar supports shall be equal to the out to out dimensions of the angle sections and shall be attached with 5/16" x 1" machine bolts. All bracing shall conform to the requirements of "Woven Wire Fencing – Metal Posts." Cross bars shall be as required for "Barways – Wood Posts."

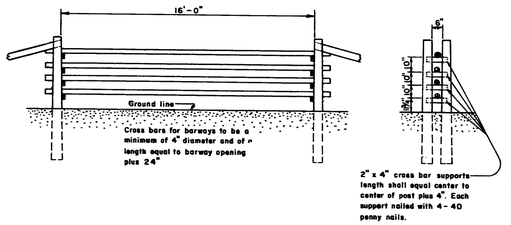
## BARWAYS – METAL POSTS

B



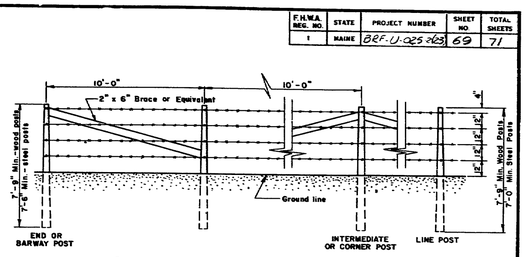

## WOVEN WIRE FENCING – WOOD POSTS

Staples for wood posts to be 9 ga. 1½", placed according to the specifications.



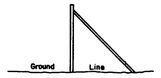

## BARWAYS – WOOD POSTS

C



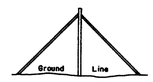

"Barbed Wire – Metal Posts" shall be constructed with the post and wire spacing shown above. Metal posts and braces shall conform to all the requirements noted and shown for "Woven Wire Fencing – Metal Posts," including concrete bases.

## BARBED WIRE FENCING – WOOD POSTS AND BARBED WIRE FENCING – METAL POSTS




BRACING – TYPE I

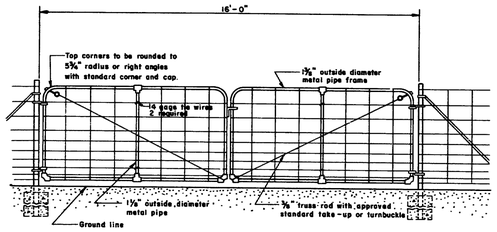
Used at Gates, Barways and Terminals.




BRACING – TYPE II

Used at Corners, Intermediate Points, and changes in Vertical Alignment

D




Gate posts, braces and anchorages to be as specified under "woven wire fencing – metal posts."

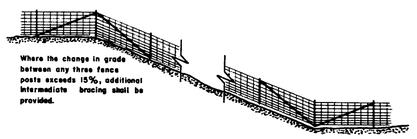
All gates shall be installed with the top hinge pin pointing down

Wire for gates shall conform to A.S.T.M. A116, class 1, design no. 1047-12-11.

The required fittings for fence and gates shall be steel or malleable iron of approved standard type.

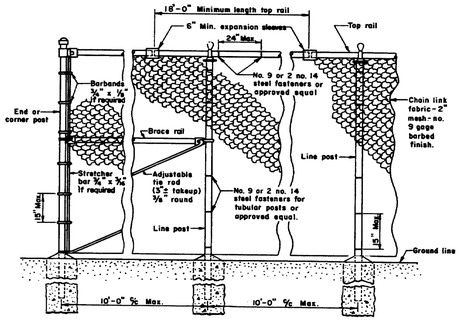
Gates shall be furnished with standard fork latch and one piece of 3/16" straight link, alloy steel chain, 24" long. One end shall be attached to gate frame and attached to the other end shall be a snap lock or other approved fastening device.

## DRIVE GATEWAYS – 16 FEET




## INTERMEDIATE BRACING

E

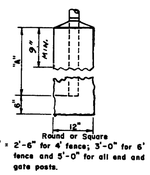



END OR CORNER POSTS: Nominal 2" diameter, galvanized steel pipe, minimum 3.65 pounds per linear foot or 2¼" x 2" "H" section, 4.10 lbs./l.f., or 3½" x 3½" "L" section with with integral fabric loops 5.14 lbs./l.f.

LINE POSTS: Nominal 1½" diameter, galvanized steel pipe, minimum weight 2.72 pounds per linear foot or 1⅞" x 1⅝" steel "H" section 2.70 lbs./l.f.

TOP & BRACE RAILS: Nominal 1¼" diameter, galvanized steel pipe, minimum weight 2.27 lbs./l.f. or 1⅝" x 1⅛" ⊟ shaped, rolled formed section.

STRETCHER BARS: Length to be 1" less than full height of fabric. One stretcher bar for each gate and post, and two stretcher bars for corner and bracing.

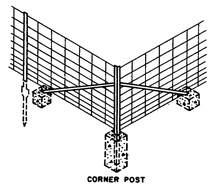



"A" = 2'-6" for 4' fence; 3'-0" for 6' fence and 5'-0" for all end and gate posts.

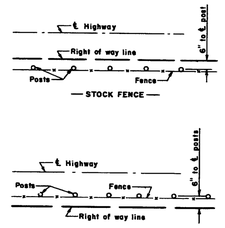
LINE, GATE AND END POST BASE

## CHAIN LINK FENCE

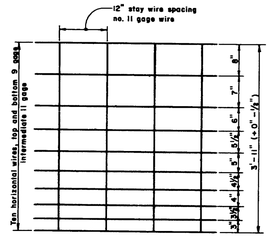
F



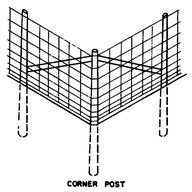

BRACING ASSEMBLY for METAL POST




FENCE LOCATION WITH RESPECT TO RIGHT OF WAY LINE




WOVEN WIRE FENCE




BRACING ASSEMBLY for WOOD POST

G

GENERAL NOTES: FENCING

1. When ledge is encountered, steel posts shall be set and grouted 12" deep unless the posts penetrate the ground to the depth indicated on the drawings.
2. When wood posts are used, braces shall be attached to posts with a minimum of 4, 40 penny nails per attachment.
3. When the word *"standard"* is used, it shall be interpreted as if it were followed by the expression *"to the fence industry."*
4. Woven Wire and Barbed Wire Fencing shall be attached to wood posts with 9 gauge 1½" galvanized staples.
5. Concrete for post foundations shall be class B.
6. In well formed holes with vertical walls, forms will be required only at the top 9 inches. Holes which cannot be well formed shall have forms for the full depth of the base.

SPACING OF FENCE POSTS ON CURVES:

| Radius of curve at fence location | Normal post spacing |
|---|---|
| Over 500 feet | 10 feet |
| Over 200 feet to 500 feet | 8 feet |
| Over 100 feet to 200 feet | 6 feet |
| 100 feet or less | 5 feet |

H

| REVISIONS | |
|---|---|
| PLATE F | 8-10-70 |
| PLATES B C D F H | 7-10-72 |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

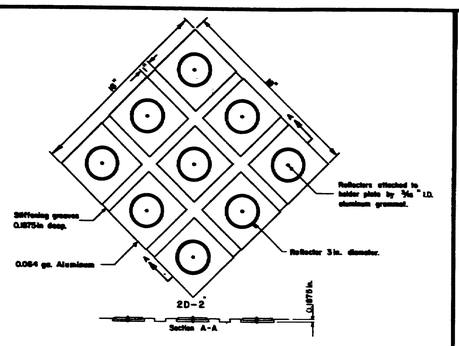
# STANDARD DETAILS

## FENCING

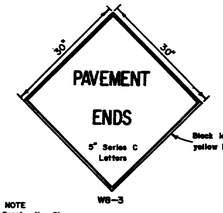
AUG. 1969 (10)

167-188

| F.H.W.A. Proj. No. | State | Project Number | Sheet No. | Total Sheets |
|---|---|---|---|---|
| 1 | Maine | BRF-U-025-2(3) | 70 | 71 |




## HAZARD MARKER



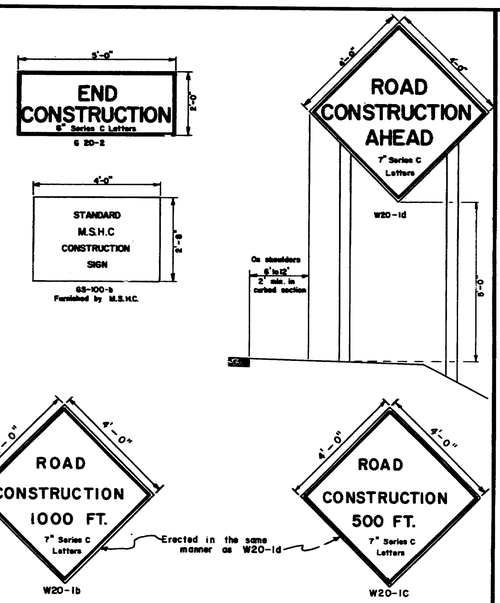

NOTE

SIGNING IN AN AREA WHERE BLASTING IS NECESSARY SHALL BE PLACED AS OUTLINED IN THE "MANUAL", AND THE PRECAUTIONS OF SUBSECTION 107.12 OF THE STANDARD SPECIFICATIONS SHALL BE OBSERVED.

GENERAL NOTE
Construction Signs

i. Sign Borders: All signs shall have borders conforming to the sizes and spacing as shown below:
- a. 30"x30" Sign - 3/4" Border, 1/2" Space from sign edge.
- b. 2' x 3' Sign - 5/8" Border, 3/8" Space from sign edge.
- c. 3' x 4' Sign - 3/4" Border, 1/2" Space from sign edge.
- d. 4' x 4' Sign - 1" Border, 3/4" Space from sign edge.

A




## CONSTRUCTION SIGNS

B

GENERAL NOTES - BARRICADES

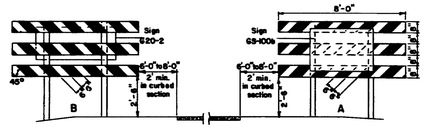
1. Unless otherwise designated, sign designation letters shall refer to the "Manual of Uniform Traffic Control Devices for Streets and Highways," published by the U.S. Department of Transportation, Federal Highway Administration, 1971.
2. White stripes shall be of silver reflective sheeting bonded to 0.019 minimum gauge aluminum, 16 minimum gauge galvanized steel, or 1/4" plywood. Individual white sheets may be attached to a black background or orange reflectorized background to form the black or orange and white stripes. At the Contractor's option the reflective sheeting and backing may extend the full width of the barricade with an opague film or paint applied to form the stripes.
3. All signs shall be of reflective sheeting on 5/8" thick plywood. The plywood shall conform to subsection 712.25, Maine State Highway Commission, Standard Specifications, June 1968.
4. Pressure sensitive reflective sheeting will be an acceptable alternate to the reflective sheeting required by Maine State Highway Commission, Standard Specifications.

NOTES - PORTABLE BARRICADES

1. Lumber sizes for portable barricades shall be 2" x 8" except posts which shall be 4" x 4" (nominal sizes).
2. The detour sign shall be an oversized M4-10 sign with a demountable "DETOUR" message which shall be made of screened reflective sheeting on 1/4" plywood, masonite, sheet steel or sheet aluminum.
3. Hazard markers shall be attached to the barricade with a bolt assembly of steel cadmium plated 5/16" bolt, lock washer and vandal resistant nuts.
4. When two W1-6 signs are required, W11-2, W11-3, or W11-4 signs shall be omitted.
5. Flashing lights housings shall be mounted to permit rotating in a vertical axis to allow for adjustment to face oncoming traffic.
6. Location of electric service and meter to be determined after the power source has been located.

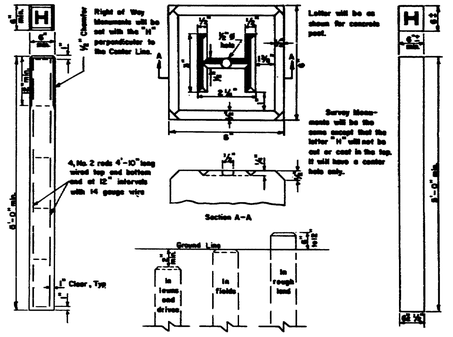
NOTES-WING BARRICADES

1. Lumber sizes for wing barricades shall be 1" x 8" except posts which shall be 4" x 4" (nominal sizes).
2. Wing barricades will not be required unless specifically called for in the special provisions.
3. Location of signs and barricades will be determined by the Engineer.



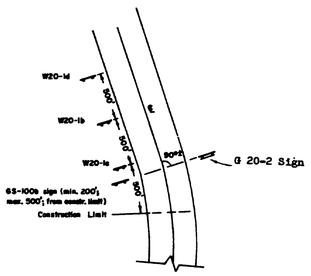

## WING BARRICADES

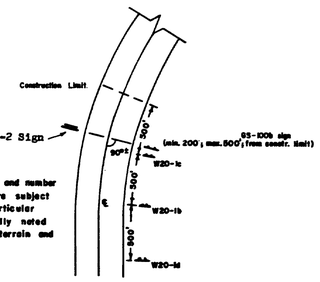
C




D

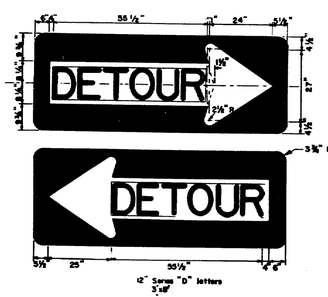
## STANDARD SIGN LOCATIONS



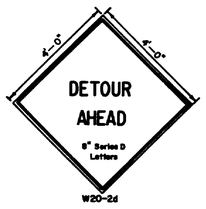

NOTE:
Standard locations and number of signs required are subject to variation on particular projects if specifically noted due to surrounding terrain and land use.

F

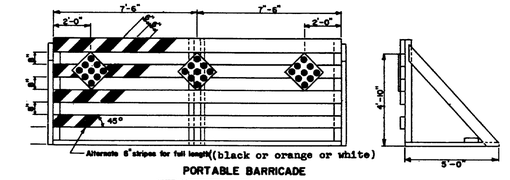



Detachable DETOUR message shall have 1" clearance from letters to edge on all sides.

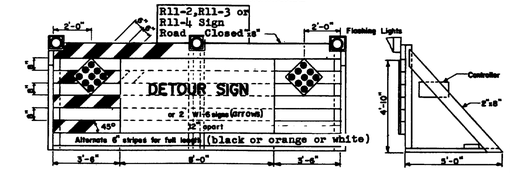
## DETOUR SIGN
M 4-(L)



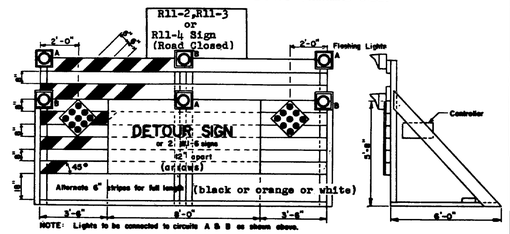

E




PORTABLE BARRICADE



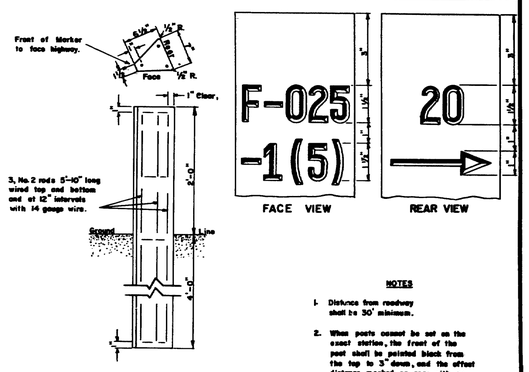

PORTABLE BARRICADE WITH FLASHING LIGHTS ( NORMAL SIZE)




OVERSIZED PORTABLE BARRICADE WITH FLASHING LIGHTS

## BARRICADES

G




NOTES

1. Distance from roadway shall be 30' minimum.
2. When posts cannot be set on the exact station, the front of the post shall be painted black from the top to 3" down, and the offset distance marked on rear with an arrow pointing in direction of beginning or end of project.
3. All markings to be 1/4" deep and 3/4" wide.

## PROJECT MARKERS

H

| REVISION | |
|---|---|
| PLATE B | 12-21-70 |
| PLATES B,C,D,E&G | 12-15-71 |
| PLATE C | 10-12-72 |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

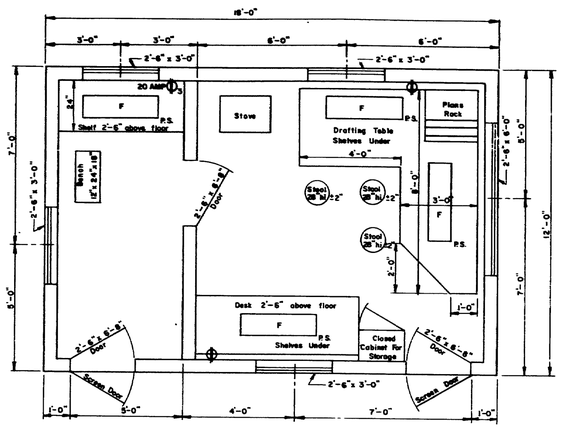
# BARRICADES
# WARNING SIGNS
# MONUMENTS
# PROJECT MARKERS

AUG. 1969

II

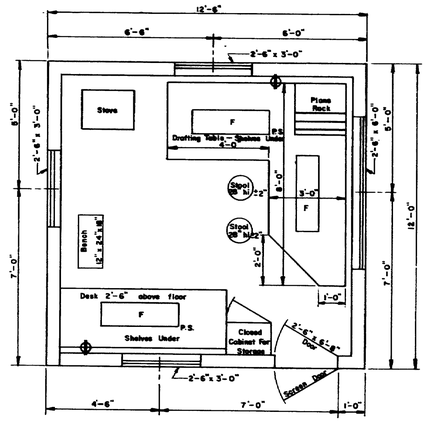
167-189

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 1 | MAINE | BRF-U-025-2(23) | 71 | 71 |



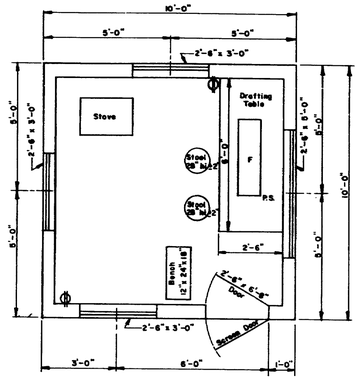

FLOOR PLAN
TYPE "A"

A




FLOOR PLAN
TYPE "B"

B

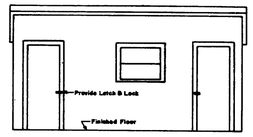



FLOOR PLAN
TYPE "C"

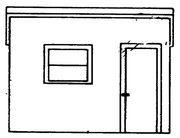
C

## GENERAL NOTES

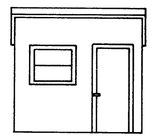
1. Drafting table shall be 3'-6" high at front edge and placed 2" from studs to allow prints to hang down behind table when in use.
2. Shelves under desk shall be constructed to received 11¼" x 14" x 25" treefiles.
3. Windows shall be double hung.
4. Stovepipe shall not be in direct contact with combustible material ; the pipe shall be surrounded with at least 6" of fireproof material.
5. Continuous 110 volt 60 cycle electric service shall be supplied.
6. The engineer may rearrange the items shown on the plan views during construction of the field office.
7. FURNISHINGS TO BE SUPPLIED :
   - 2 Straight back chairs for types A and B
   - 1 Bench for types A, B & C
   - 3 Stool for type A
   - 2 Stools for types B & C
8. SYMBOLS :
   - F — Florescent lights ( 2 light , rapid start 48" strips and 40 watt bulbs.)
   - P.S. Pull switch
   - Duplex wall outlet — 15 amp unless otherwise noted.
   - $\oplus_3$ Triplex Wall Outlet
9. For the Type "A" Field Office one clean 55 gal. drum shall be supplied, installed on a suitable rack and equipped with a spigot suitable for drawing off water. The drum shall be furnished with water at all times.



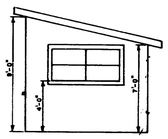

FRONT ELEVATION
TYPE "A"



FRONT ELEVATION
TYPE "B"



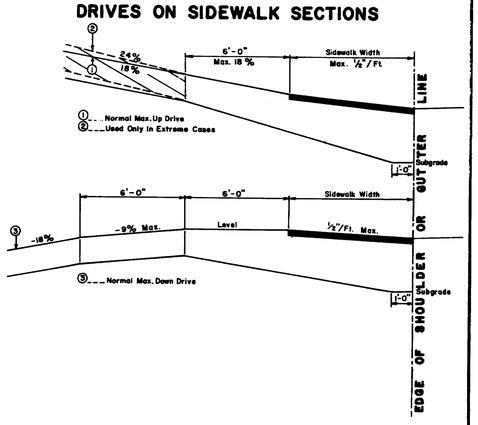
FRONT ELEVATION
TYPE "C"




SIDE ELEVATION
TYPES "A" "B" & "C"

F

## DRIVES ON SIDEWALK SECTIONS




GENERAL NOTES

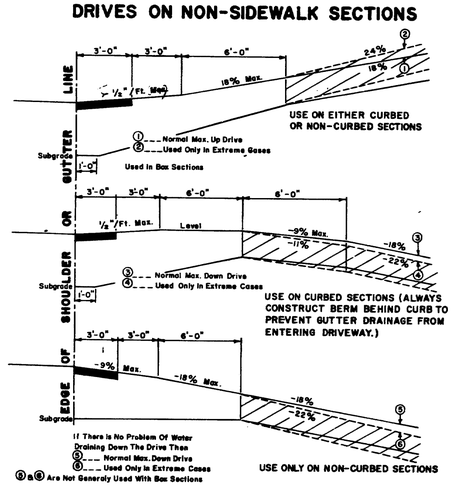
1. The sidewalk width shall be paved in all cases.
2. All residential or commercial drives 10% and over shall be paved.

NOTES ON MAXIMUM DRIVEWAY PROFILES

1. These profiles are a guide for the majority of cases, but should be field checked when the main line grade is steep (4% to 6% or greater) or the angle of approach to the drive is unusual.
2. Generally the majority of drives on a project will be built with flatter profiles than these maximum cases.
3. When grading drives which are flatter than the maximum profiles the following rule of thumb should be used, do not exceed a grade % change of more than 9% in a 6 foot increment of driveway length. This applies to both up and down profiles.

D

## DRIVES ON NON-SIDEWALK SECTIONS




② & ④ Are Not Generaly Used With Box Sections

GENERAL NOTES

1. The first 3' shown as pavement shall be paved only when abuting a paved area.
2. All residential or commercial drives 10% and over shall be paved.

NOTES ON MAXIMUM DRIVEWAY PROFILES

1. These profiles are a guide for the majority of cases, but should be field checked when the main line grade is steep (4% to 6% or greater) or the angle of approach to the drive is unusual.
2. Generally the majority of drives on a project will be built with flatter profiles than these maximum cases.
3. When grading drives which are flatter than the maximum profiles the following rule of thumb should be used, do not exceed a grade % change of more than 9% in a 6 foot increment of driveway length. This applies to both up and down profiles.

E

| REVISIONS | |
|---|---|
| PLATE 'D' 'E' | 3-16-73 |

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

# STANDARD DETAILS

DRIVEWAY DETAILS
FIELD OFFICES
TESTING LABORATORY

AUG. 1969 (12)

167-190