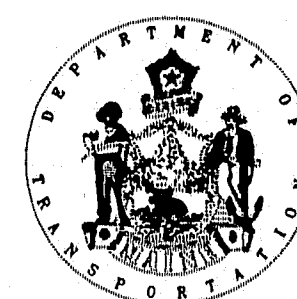


6 x 7

H-16

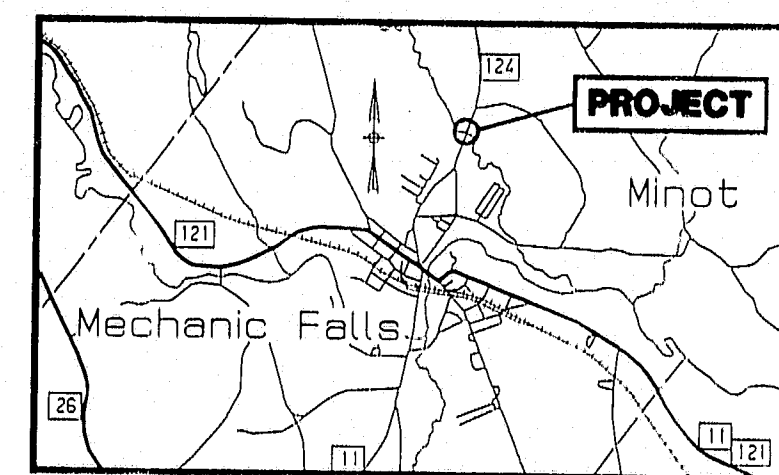
TITLE
000005-010030

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



PLANS

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS & MINOT
ANDROSCOGGIN COUNTY
PROJECT No. BR-000S(197)X
PROJECT LENGTH 0.135 KILOMETERS



LOCATION MAP

METRIC

1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.V.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	000S(197)X	1	37
Mechanic Falls-Minot				4799.10

SPECIFICATION

DESIGN: AASHTO Standard Specifications for Highway
Bridges 1992 and Interim Specifications
1993 thru 1994.

CONTRACT: State of Maine Department of Transportation,
Standard Specifications Highways and Bridges,
Revisions of April 1995.

DESIGN LOADING

LIVE LOAD: MS22.5

MATERIALS

CONCRETE: Class A
REINFORCING STEEL: ASTM A615M Grade 400
STRUCTURAL STEEL: ASTM A709 A709M Grade 345W
HIGH STRENGTH BOLTS: ASTM A325M (Type 3)

BASIC ALLOWABLE STRESSES

CONCRETE: $f'_c=30$ MPa
REINFORCING STEEL: $F_y=400$ MPa
STRUCTURAL STEEL: $F_y=345$ MPa

Traffic Data

AADT 1992.....1060
AADT 2012.....1480
OHV.....192
Trucks (%).....9
D (%).....6
Design Speed.....80 km/h
80 kN eq P2.0.....36
80 kN eq P2.5.....36

Hydrologic Data

Drainage Area.....118 ha
Design Discharge(Q50).....129.6 m³/s
Check Discharge(Q100).....152.2 m³/s
Headwater Elevation(Q100).....76.20
Headwater Elevation(Q50).....75.92
Discharge Velocity(Q50).....3.02 m/s
Discharge Velocity(Q100).....3.35 m/s
Design Velocity.....3.02 m/s

Utilities

Central Maine Power Co.
New England Telephone Co.
Cable Vision
Cotel Of Maine, Inc.

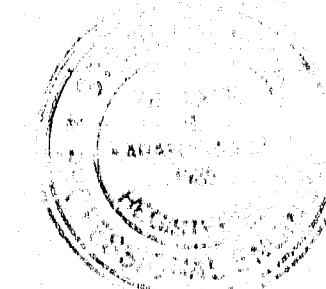
Plans of the existing bridge and a hydrologic report of the
bridge site are available for the Contractor's reference at the
Bridge Design Office in Augusta. The plans are reproductions of
original drawings as prepared for the construction of the bridge
and it is very unlikely that the plans will show any construct-
ion field changes or any alterations which may have been made
to the bridge during its life span. The hydrologic report is
based on the interpretation by the Department of information ob-
tained for the subject site and no assurance is given that the
information or the conclusions of the report will be representa-
tive of actual conditions at the time of construction.

Note:
All work contemplated under this contract to be governed
by and in conformity with the Standard Specifications
(Revision of April 1995) and supplementals thereto, as
modified on the plans and in the Special Provisions.

APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

COMMISSIONER
CHIEF ENGINEER



114-273

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

REGION 1

APPROVED:

DIVISION ADMINISTRATOR

DATE

AS BUILT
Chen
12/6/96

PROJECT DESIGNER/ENGINEER	DATE
DESIGN-DETAILED	6-95
CHECKED	RV/Nov/95
REVISIONS	
FIELD CHANGES	

ESTIMATE
06NOV95-00030

PLANS

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.19	REMOVING EXISTING BRIDGE	1	LS
202.203	PAVEMENT BUTT JOINTS	210	m²
203.20	COMMON EXCAVATION	415	m³
203.231	DISPOSAL OF RIVERBED EXCAVATION	221	m³
203.24	COMMON BORROW	75	m³
203.25	GRANULAR BORROW	355	m³
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	279	m³
206.10	STRUCTURAL EARTH EXCAVATION - PIERS	221	m³
304.10	AGGREGATE SUBBASE COURSE-GRAVEL	430	m³
403.07	HOT BITUMINOUS PAVEMENT, GRADING B	78	Mg
403.10	HOT BITUMINOUS PAVEMENT, GRADING D	210	Mg
403.121	HOT BITUMINOUS PAVEMENT, GRADING E	2	Mg
409.15	BITUMINOUS TACK COAT APPLIED	17	L
501.231	DYNAMIC LOADING TEST	1	Each
501.48	STEEL H-BEAM PILES 109 kg/m, DELIVERED	1,137	m
501.481	STEEL H-BEAM PILES 109 kg/m, IN PLACE	1,137	m
501.90	PILE TIPS	42	Each
501.91	PILE SPLICES	84	Each
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	1	LS
502.219	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS	1	LS
502.239	STRUCTURAL CONCRETE PIERS	1	LS
502.24	STRUCTURAL CONCRETE PIERS (PLACED UNDER WATER)	158	m³
502.26	STRUCT. CONC. ROADWAY AND SDWK. SLABS ON STEEL BRIDGES	1	LS
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	30,900	Kg
503.13	REINFORCING STEEL, PLACING	30,900	Kg
503.17	MECHANICAL WELDED SPLICE	1,023	Each
504.70	STRUCTURAL STEEL FABRICATED AND DELIVERED, WELDED	1	LS
504.71	STRUCTURAL STEEL ERECTION	1	LS
505.08	SHEAR CONNECTORS	1	LS
508.13	MEMBRANE WATERPROOFING	1	LS
511.07	COFFERDAM - PIER	1	LS
512.081	FRENCH DRAINS	1	LS
514.06	CURING BOX FOR CONCRETE CYLINDERS	1	Each
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES	1	LS
526.301	TEMPORARY CONCRETE BARRIER, TYPE I	1	LS
526.32	PERMANENT CONCRETE BARRIER, TYPE III	139	m
527.32	PORTABLE CRASH BARRELS	12	Each
601.22	GABIONS, PVC COATED	179	m³
605.09	150 mm UNDERDRAIN TYPE B	36	m
605.10	150 mm UNDERDRAIN OUTLET	2	m
606.1721	BRIDGE TRANSITION TYPE 1	4	Each
606.265	TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	2	Each
606.35	GUARDRAIL DELINEATOR POST	4	Each
606.55	GUARDRAIL TYPE 3 - SINGLE RAIL	118	m
606.60	GUARDRAIL TYPE 3 - OVER 4.5 m RADIUS	27	m
606.76	MODIFIED ECCENTRIC LOADER TERMINAL	2	Each

* UNDETERMINED LOCATION

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
610.08	PLAIN RIPRAP	440	m³
615.07	LDAM	28	m³
618.14	SEEDING METHOD NUMBER 2	6	Unit
618.141	SEEDING METHOD NUMBER 3	3	Unit
618.15	TEMPORARY SEEDING	2	kg
618.20	ANNUAL RYE GRASS SEED	2	kg
618.25	APPLIED WATER	3	m³
619.12	MULCH	6	Unit
627.61	100 mm SOLID WHITE PAVEMENT MARKING LINE	340	m
627.63	100 mm SOLID YELLOW PAVEMENT MARKING LINE	170	m
627.67	REMOVING PAVEMENT MARKINGS	51	m²
627.68	TEMPORARY 100 mm PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	400	m
628.05	HAND LABOR, STRAIGHT TIME	10	Man Hour
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	10	Hour
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	10	Hour
637.07	SPRINKLING	81	m³
637.08	CALCIUM CHLORIDE	2	Mg
639.18	FIELD OFFICE TYPE A	1	Each
639.22	TESTING FACILITIES BITUMINOUS MIXES	1	LS
639.23	TESTING FACILITIES - CONCRETE	1	LS
643.72	TEMPORARY TRAFFIC SIGNAL	1	LS
652.31	TYPE I BARRICADE	20	Each
652.312	TYPE III BARRICADE	3	Each
652.33	DRUM	10	Each
652.34	CONE	10	Each
652.35	CONSTRUCTION SIGNS	41	m²
652.381	MAINTENANCE OF TRAFFIC CONTROL DEVICES (140 CD)	1	LS
652.38	FLAGGER	1000	Man Hour
656.50	BALED HAY, IN PLACE	12	Each
656.51	SANOBAG, IN PLACE	12	Each
656.55	DUMPED STONE	2	m³
656.631	375 mm TEMPORARY SILT FENCE	13	m
656.632	750 mm TEMPORARY SILT FENCE	200	m
656.64	BDM SUPPORTED FLOATING SILT FENCE	32	m
657.24	SEEDING PITS	5	Unit
659.10	MOBILIZATION	1	LS
660.21	ON-THE-JOB TRAINING (810)	1000	Man Hour

** NON-BID ITEM

METRIC

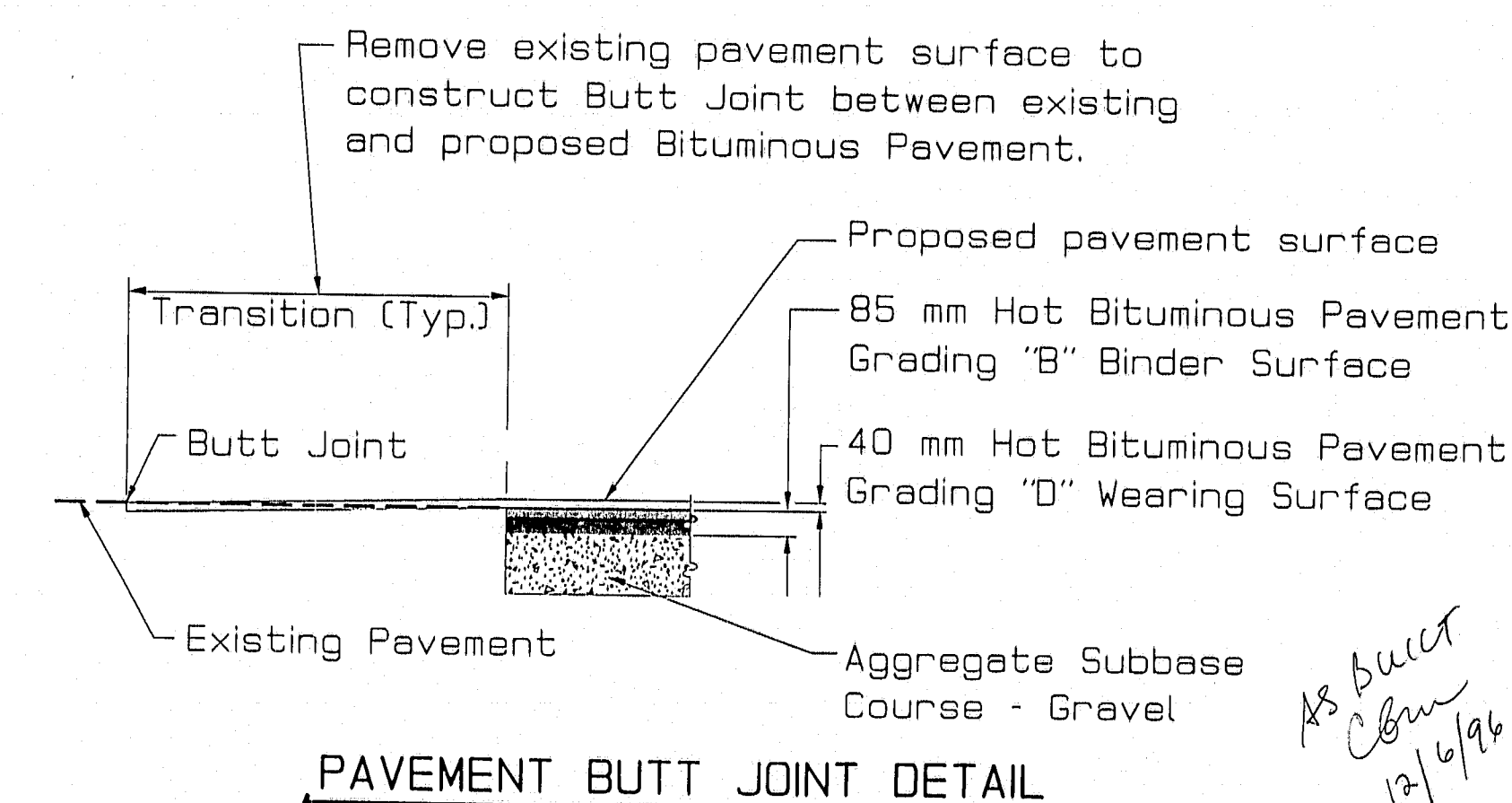
- All dimensions are in millimeters unless otherwise noted.
- All elevations and stations are in meters.

F.H.W.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(197)X	2	37

Mechanic Falls-Minot 479910

GENERAL CONSTRUCTION NOTES

- All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
- For easements, construction limits, and right-of-way lines refer to Right of Way Map.
- All embankment material, except as otherwise shown, placed below Elev. 74.0, shall be granular borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.
- The clearing limits as shown on the plans are approximate. The exact limits will be established in the field by the Engineer. Payment for clearing will be incidental to contract items.
- Contractor shall use care not to damage exist. mailbox located at Station 1+034. Any damage to the mailbox as a result of the construction, will be paid for by the Contractor.
- Place loam, 50 mm deep, on slopes between Station 1+030 and Station 1+200.
- Do not excavate for Aggregate Subbase Course - Gravel where existing material is suitable as determined by the Engineer. Payment for shaping and compacting of the existing subbase and layers of new subbase 150 mm or less thick, in areas where the Engineer directs the Contractor not to excavate to the subgrade line shown on the plans, will be made in accordance with Subsection 104.03, Extra Work.
- One guardrail delineator post shall be installed at each guardrail end.
- A paved Apron shall be placed at all gravel entrances as shown on the plans.
- Unpaved entrances shall be constructed with 275 mm Aggregate Subbase Course - Gravel and paved entrances shall be constructed with 300 mm Aggregate Subbase Course - Gravel.
- The existing bridge will be removed to a minimum of 300 mm below grade. The existing superstructure will become property of the department as specified under Special Provision 202.19.



PAVEMENT BUTT JOINT DETAIL

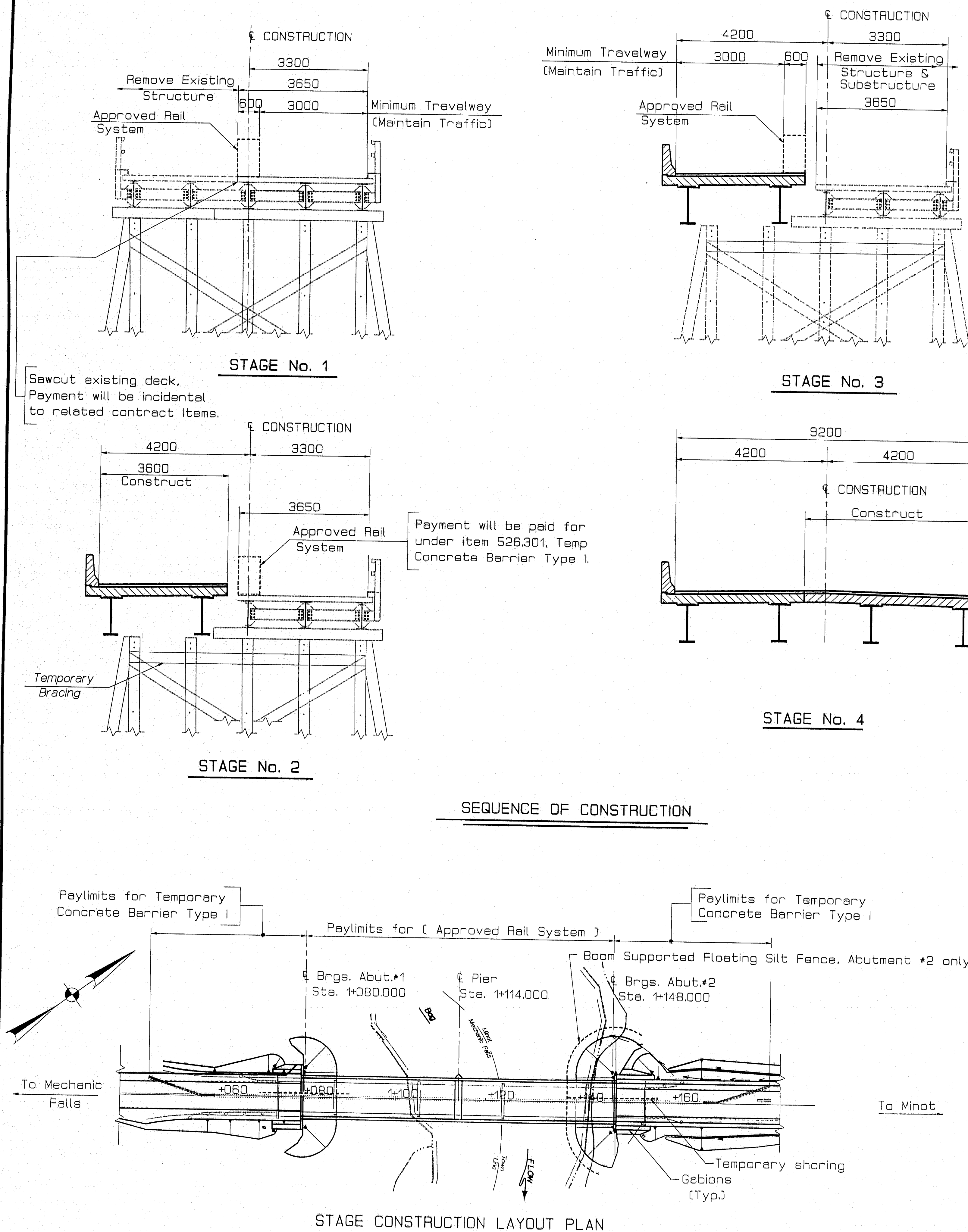
114-274

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY
ESTIMATED QUANTITIES

PROJECT DESIGN	DATE
BY	8-35
REVISION	
CHECKED	
REVISIONS	
FIELD CHANGES	
PLANS	

SPQCONST
08/01/95-01/03/00



METRIC

- All dimensions are in millimeters unless otherwise noted.
- All elevations and stations are in meters.

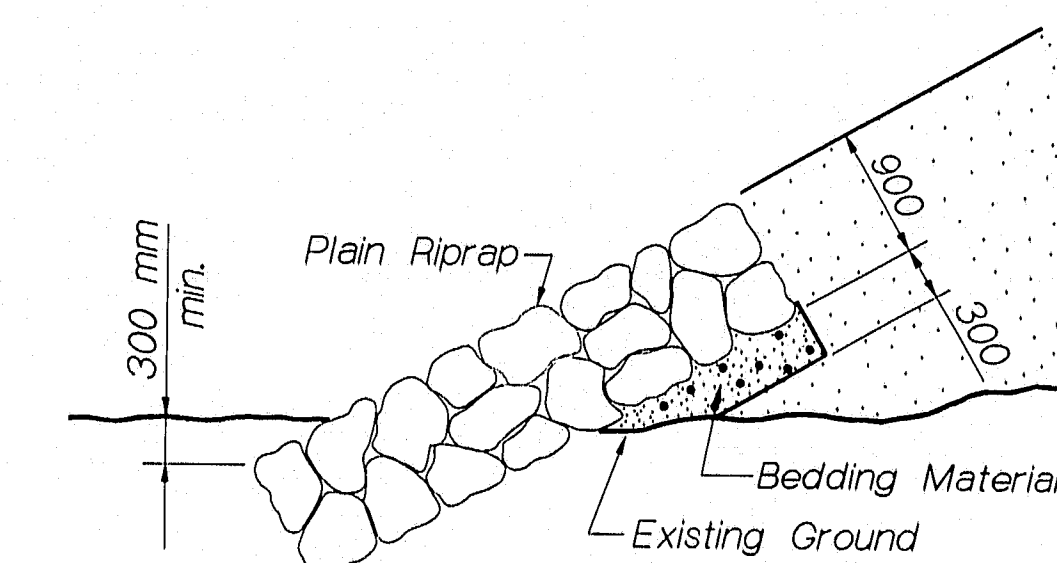
F.H.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	000SC197JX	3	37
		Mechanic Falls-Minot		4799.10

SEQUENCE OF CONSTRUCTION NOTES

- Stage 1 Locate traffic on the south side of the existing bridge. Maintain alternating two-way traffic on one 3000 mm lane with temporary signals.
- Stage 2 Install temporary bracing each face of existing piers. Remove enough of existing timber cap to erect proposed superstructure. Place the membrane and first layer of the Hot Bituminous Pavement.
- Stage 3 Locate traffic on north side of proposed bridge. Maintain alternating two-way traffic on one 3000 mm lane with temporary signals. Remove existing bridge in its entirety.
- Stage 4 Place the remaining Hot Bituminous Pavement in a continuous operation for each phase.

MAINTENANCE OF TRAFFIC NOTES

- During periods when the existing bridge deck is removed behind the Rail System, the Rail System shall be positively attached to the bridge deck. This work shall be considered incidental to Item 526.301 Temporary Concrete Barrier.
- Other methods of maintenance of traffic and sequence of construction may be used as approved by the Engineer.
- Payment for all work and materials required to maintain traffic such as temporary barriers, traffic control devices, traffic lights, shall be paid for under applicable pay items.
- Temporary Bracing shall be approved. Temporary bracing shall be sufficient to maintain the structural integrity of the pier. Payment will be considered incidental to related contract items.



TYPICAL RIPRAP SECTION

All Bedding Material placed in the embankment slope under the riprap and within 300 mm of the back side of riprap areas shall meet the requirements of Subsection 703.19. Material for Underwater Backfill.

As built
Cdn 2/6/96

114-275

TEMPORARY TRAFFIC SIGNALS

TIMING SEQUENCE

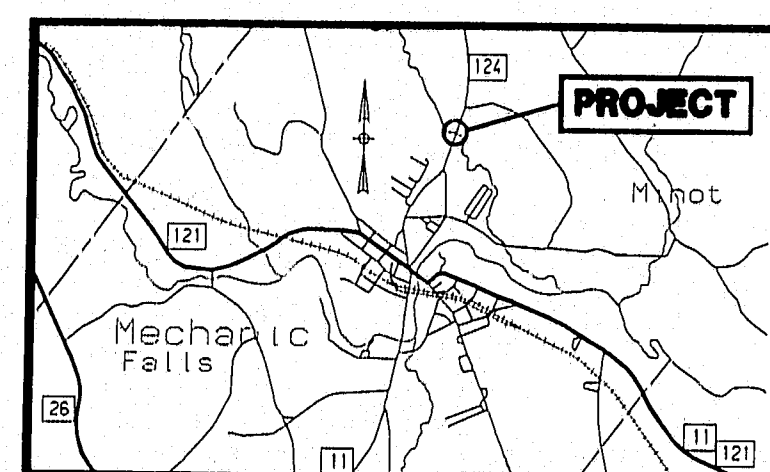
Interval	1	2	3	4	5	6	1
Northbound	G	Y	R	R	R	R	G
Southbound	R	R	R	G	Y	R	R
Time (Seconds)	29	3	13	29	3	13	—

G = Green, Y = Yellow, R = Red

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY
SEQUENCE OF CONSTRUCTION

SHEET 3 OF 37 AUGUSTA, MAINE

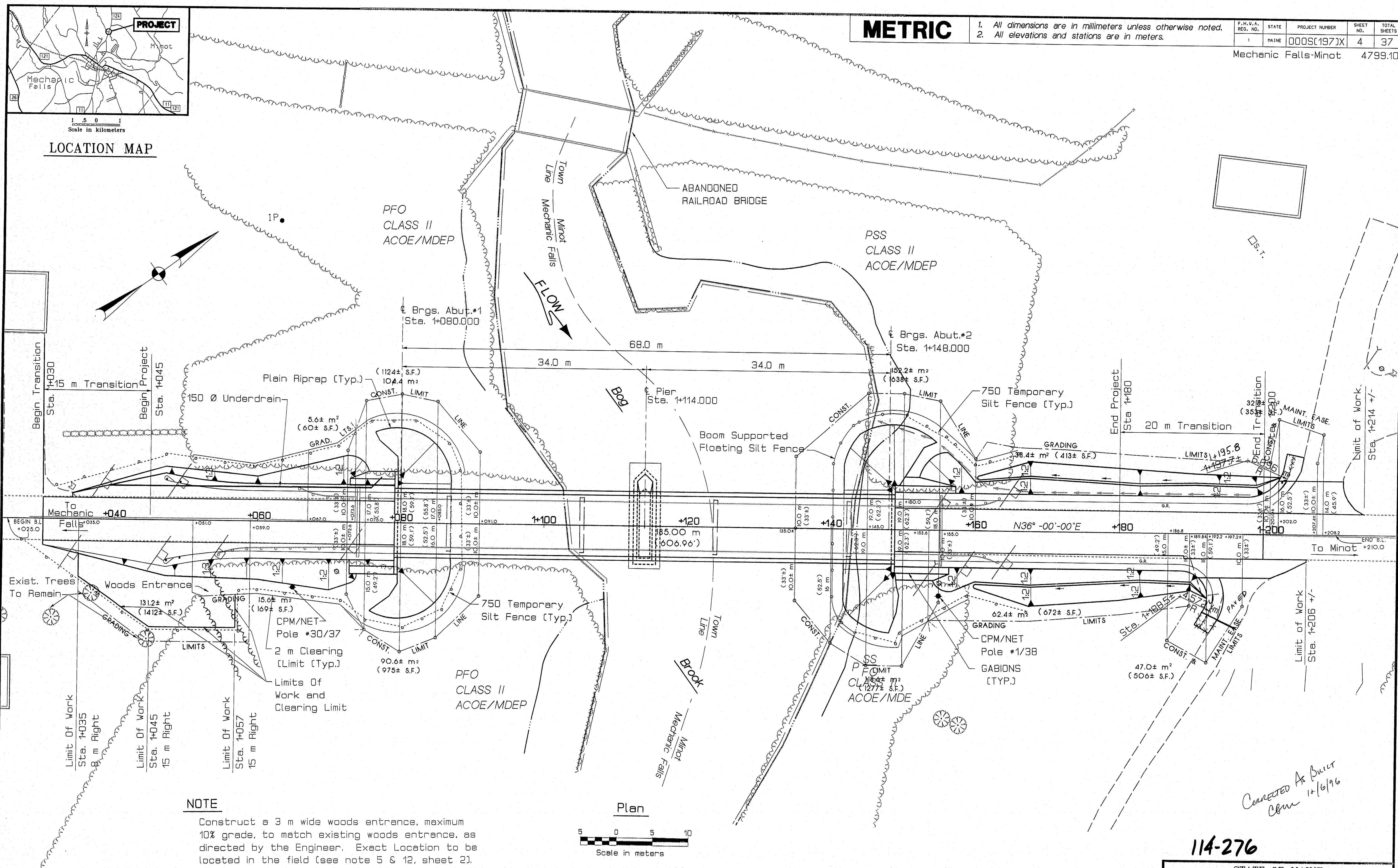


LOCATION MAP

METRIC

1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

MECHANIC FALLS-MINOT 4799.10



PROJECT REVIEW	DATE
DESIGN-DETAILED	6-24
CHECKED	
REVISIONS	
FIELD CHANGES	

06NOV95-010030

114-276

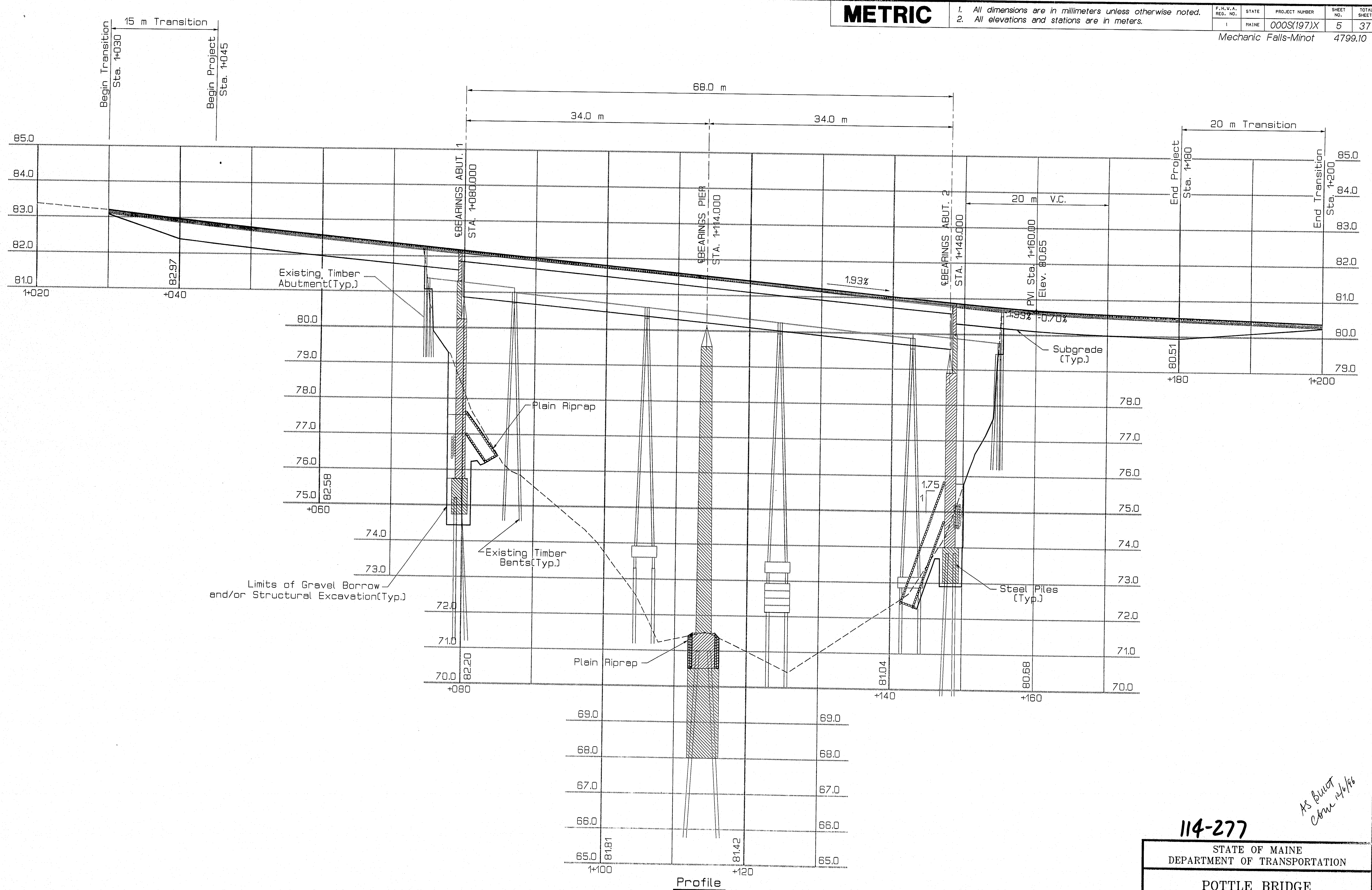
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY
GENERAL PLAN

SHEET 4 OF 37 AUGUSTA, MAINE Nov. 1994

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	6-92
REVISIONS	
FIELD CHANGES	
PLANS	

06NOV95-010030



114-277

AS BUILT
Cbrw 4/4/94

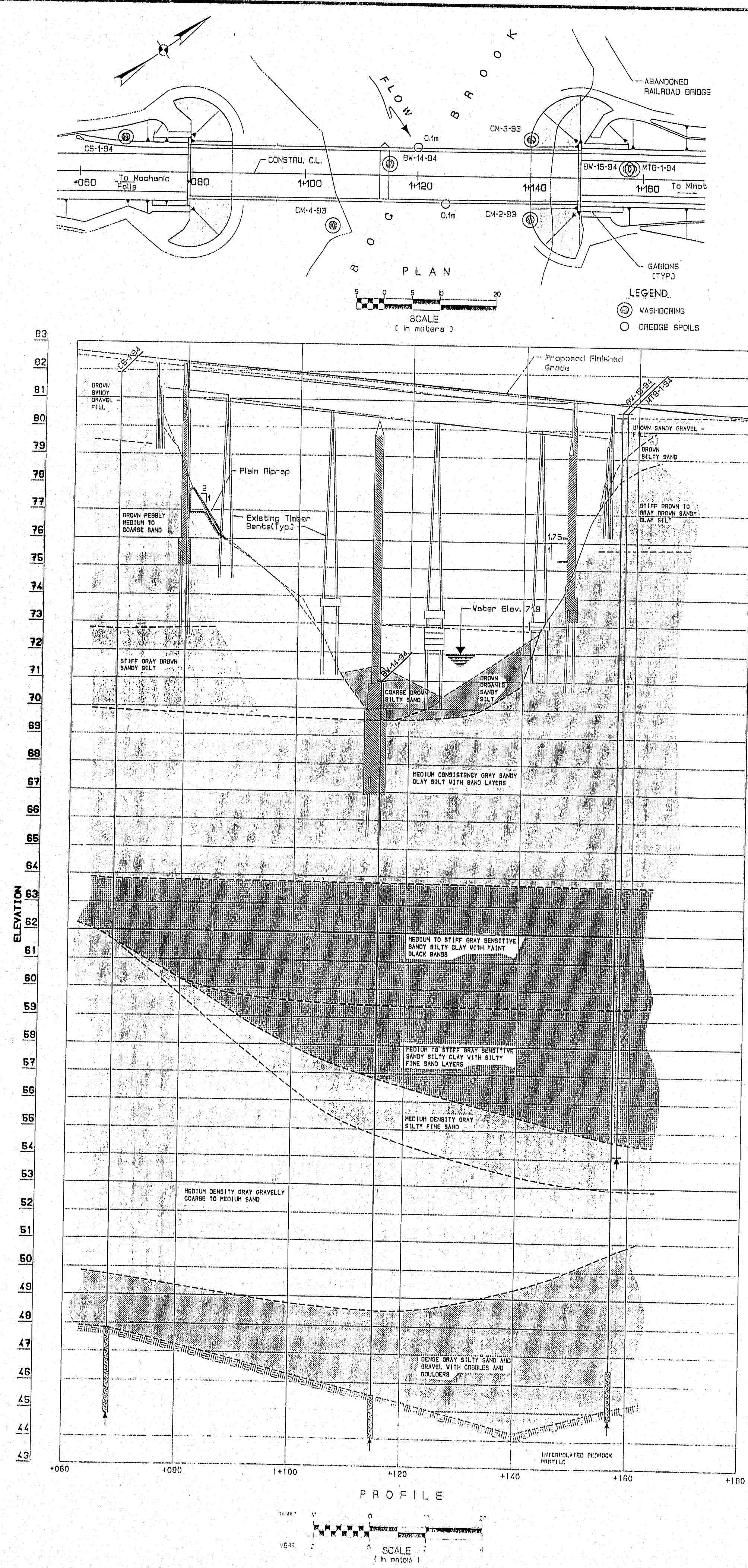
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY
PROFILE

SHEET 5 OF 37 AUGUSTA, MAINE Nov. 1994

PROJECT DESIGNER	DATE
DESIGN DETAIL	BY
CHECKED	
REVISIONS	
FIELD CHANGES	

PLANS



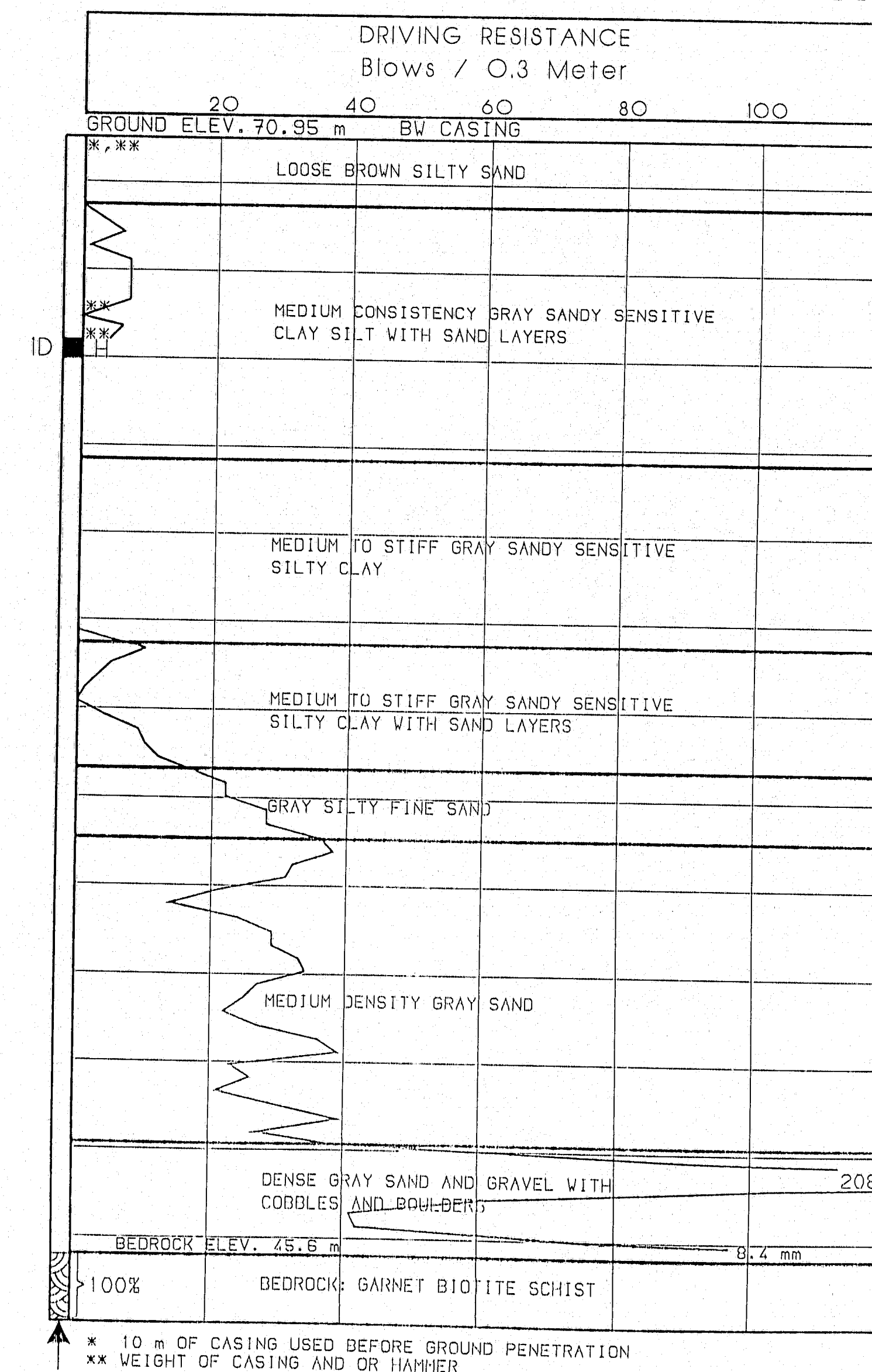
METRIC	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	1	MAINE	0005(197) X	6	37

114-278

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTELE BRIDGE
OVER
BOG BROOK
between the towns of
MECHANIC FALLS & MINOT
ANDROSCOGGIN COUNTY
FOUNDATION SURVEY
SHEET 6 OF 37 AUGUSTA, MAINE

METRIC	F.H.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	1	MAINE	0005(197) X	7	37



SHEAR NOTES

	Number of blows required to drive spoon or tubing 0.3 meters with 475 Nm of energy per blow
H	Sampling spoon or seamless tubing driven by static weight of drill rods and hammer
P	Piston sampler
	Field vane test
	Bottom of boring (may not be bottom of soil strata)
	Refusal of drill rods or casing (may not be ledge)
 SSX	Locations cored by diamond bit and percent recovery of rock

- Field vane shear strengths
- × Laboratory vane shear strengths
- Shear strengths in excess of capacity of equipment
- One half unconfined compressive strengths

WATER CONTENT NOTES

- Natural water contents, given as percent dry weight
- — × Plastic and liquid limits
- Ignition losses are given as percent of dry weight

114-279

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLER BRIDGE
over
BOG BROOK
between the towns of
MECHANIC FALLS & MINOT
ANDROSCOGGIN COUNTY

BORING DETAILS
AUGUSTA, MAINE

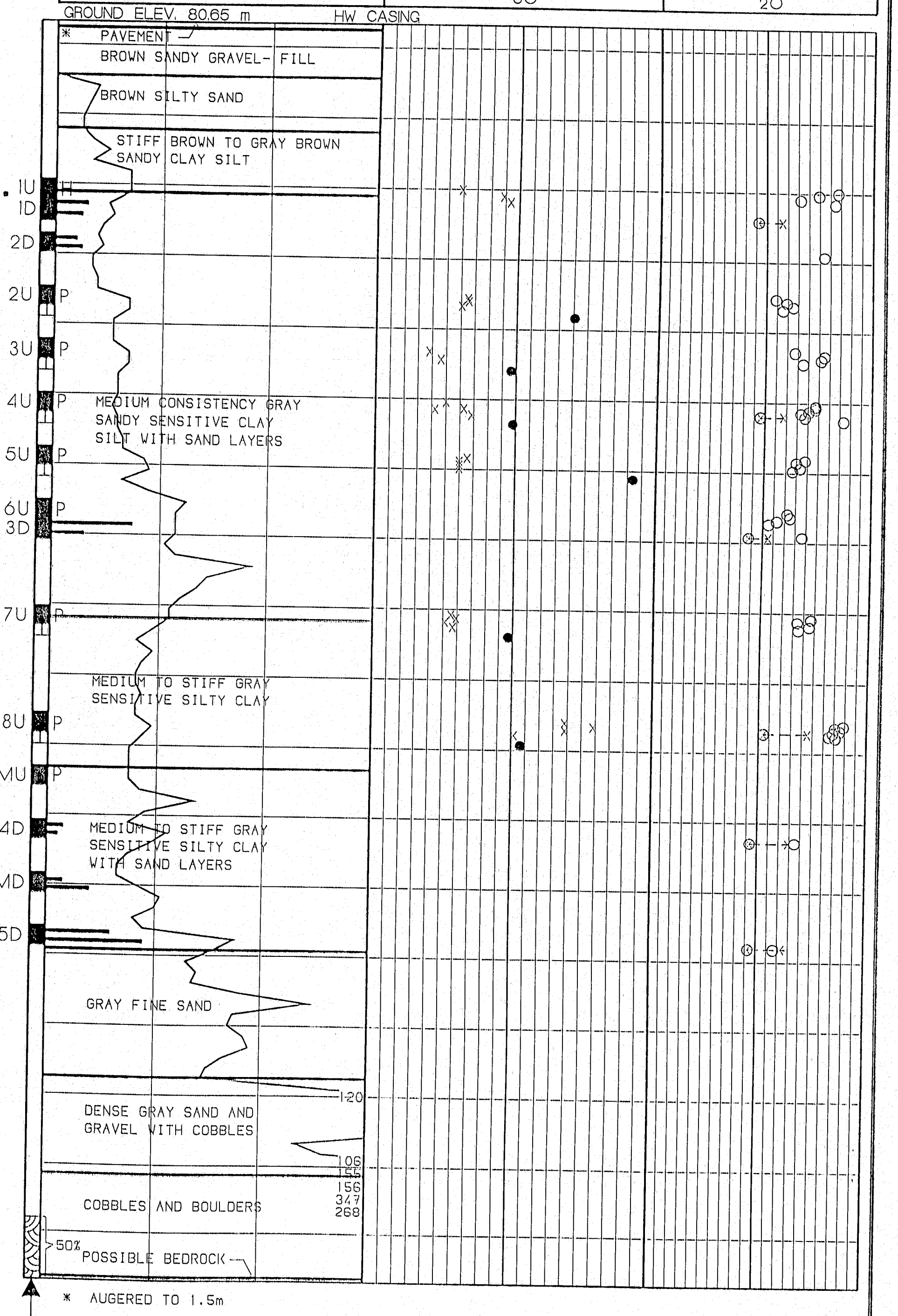
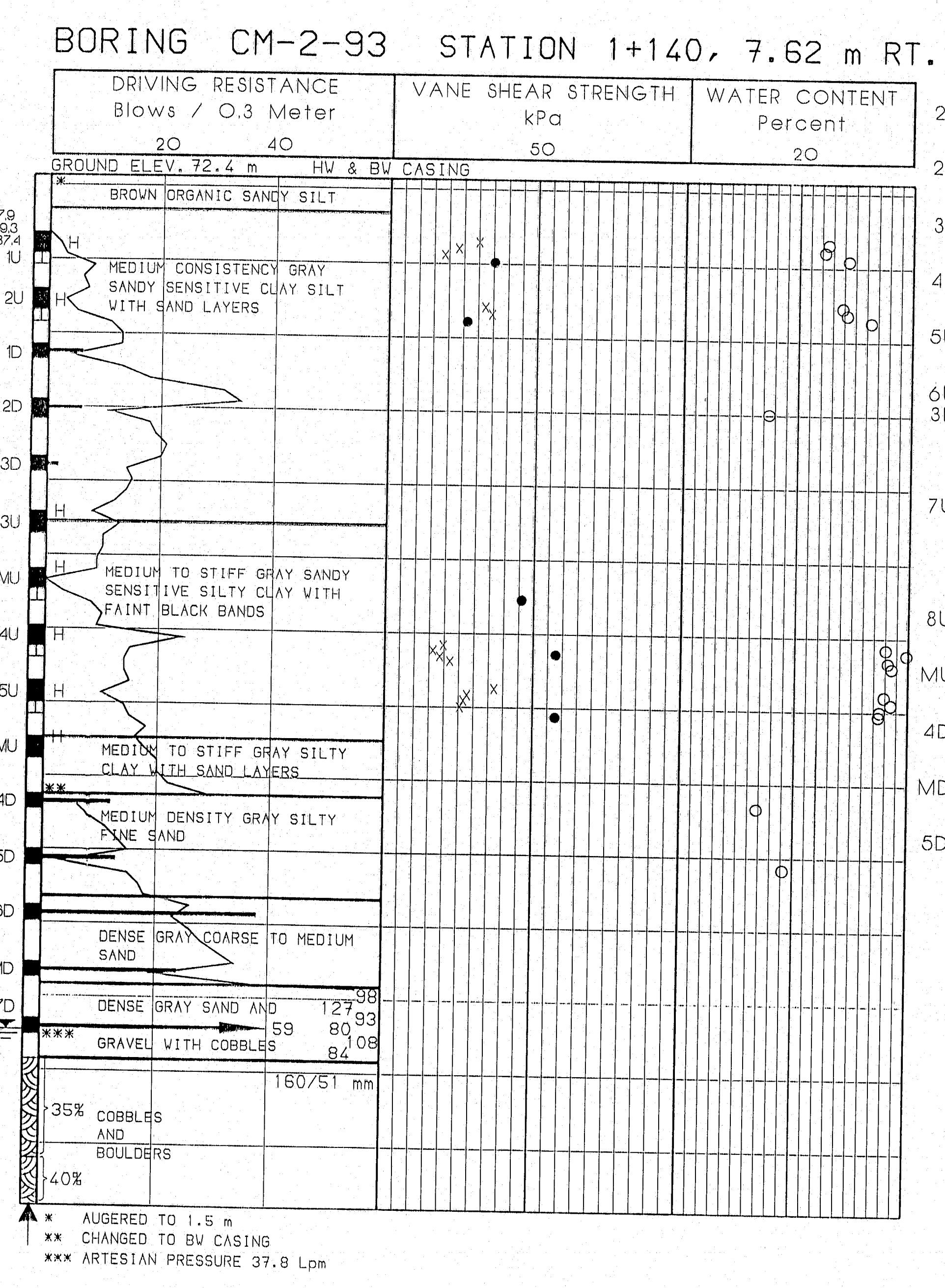
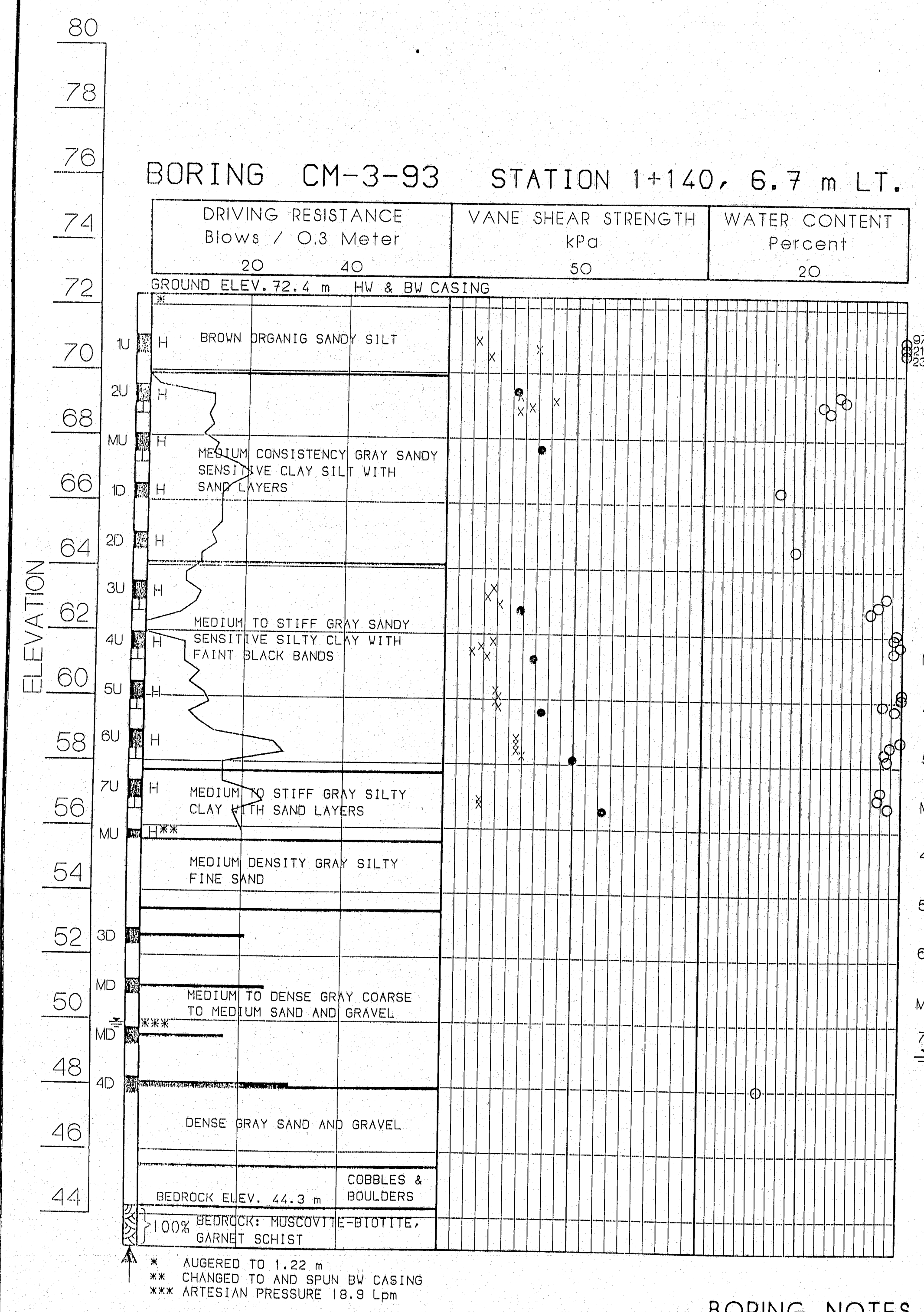
RET 7 OF 37

METRIC

F.H.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(197) X	8	37

BORINGS BW-15-94 1+157, 1.68 m LT.
MTB-1-94 AT STATIONS 1+158, 1.69 m LT.

DRIVING RESISTANCE Blows / 0.3 Meter	VANE SHEAR STRENGTH kPa	WATER CONTENT Percent
20 40	50	20



BORING NOTES

- All samples and vane are made ahead of casing
- Water Elevation
- Number of blows required to drive extra heavy casing 0.3 meters with 542 Nm of energy per blow
- Location of sample or sample attempt
- Number and type of dry sample
- ID Split spoon sampler
- IC 51mm O.D. 16 ga seamless tubing
- IU 88mm O.D. 16 ga. seamless tubing
- IW Wash sample and number
- MD Unsuccessful sample attempt and type of sampler
- Number of blows required to drive spoon or tubing 0.3 meters with 475 Nm of energy per blow
- H Sampling spoon or seamless tubing driven by static weight of drill rods and hammer
- P Piston sampler
- Field vane test
- Bottom of boring (may not be bottom of soil strata)
- Refusal of drill rods or casing (may not be ledge)
- Locations cored by diamond bit and percent recovery of rock

SHEAR NOTES

- Field vane shear strengths
- Laboratory vane shear strengths
- Shear strengths in excess of capacity of equipment
- One half unconfined compressive strengths
- Natural water contents, given as percent dry weight
- Plastic and liquid limits
- Ignition losses are given as percent of dry weight

WATER CONTENT NOTES

114-280

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
over
BOG BROOK
between the towns of
MECHANIC FALLS & MINOT
ANDROSCOGGIN COUNTY

BORING DETAILS
SHEET 8 OF 37 AUGUSTA, MAINE

METRIC

F.H.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	000S-(197)X	9	37

Mechanic Falls-Minot 4799.10

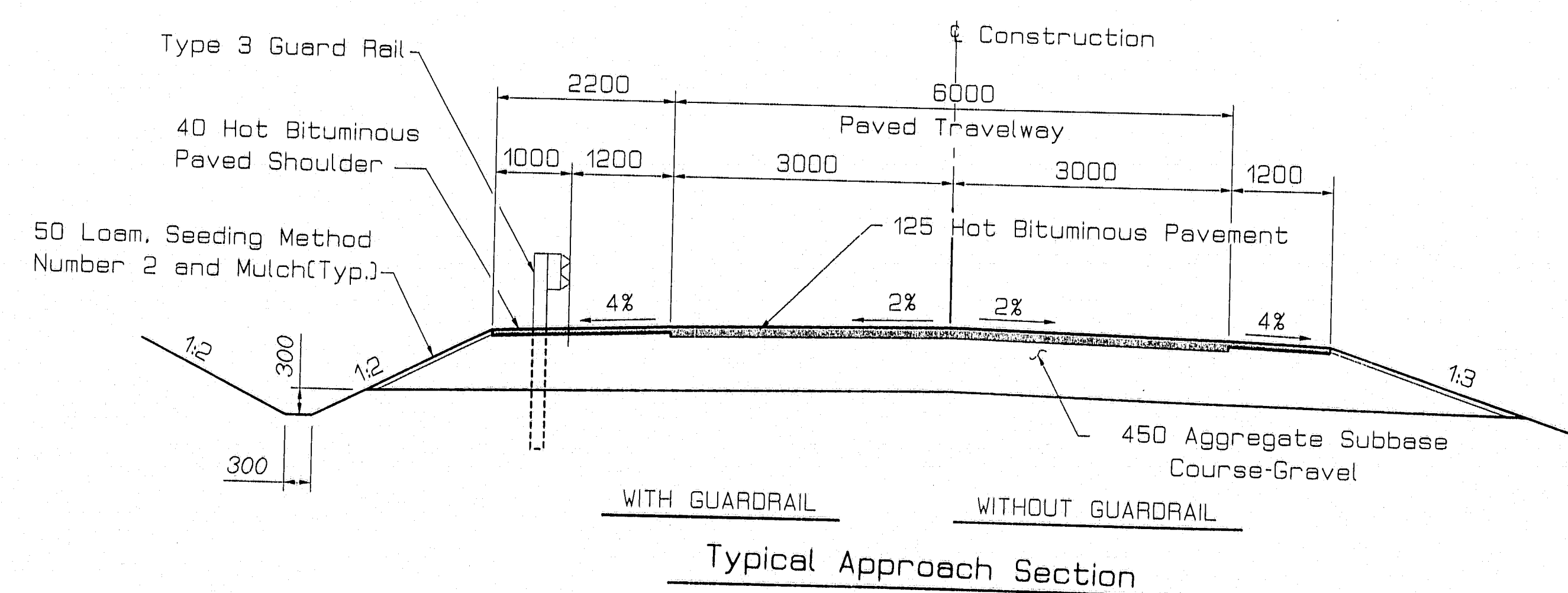
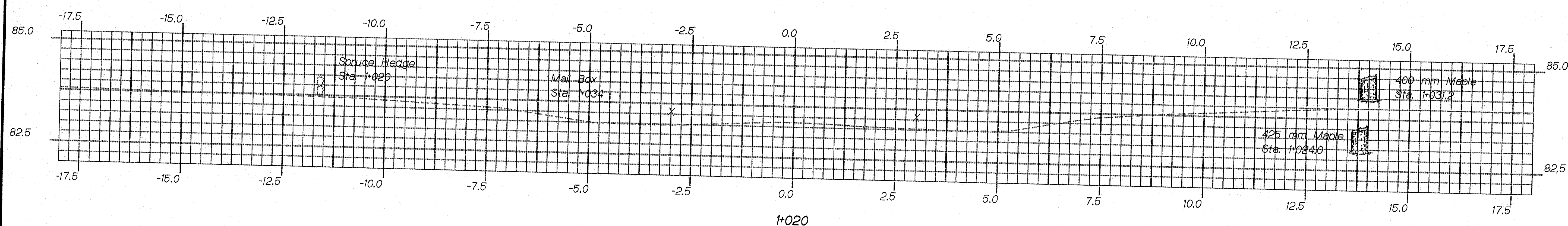
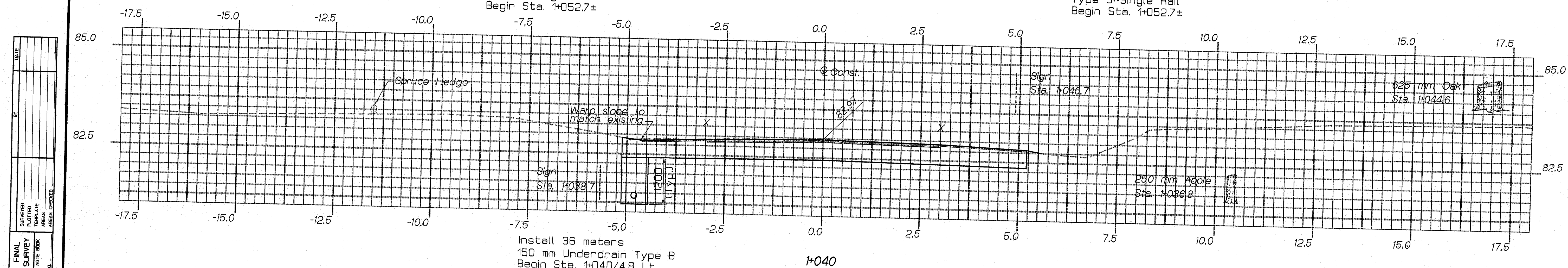
End Transition
And
Begin Project
Sta. 1+045

Install Modified Eccentric
Loader Treminal From
Sta. 1+047.2± to Sta. 1+052.7±

Install Modified Eccentric
Loader Terminal From
Sta. 1+047.2± to Sta. 1+052.7±

Install 20.96 m Guard Rail
Type 3~Single Rail
Begin Sta. 1+052.7±

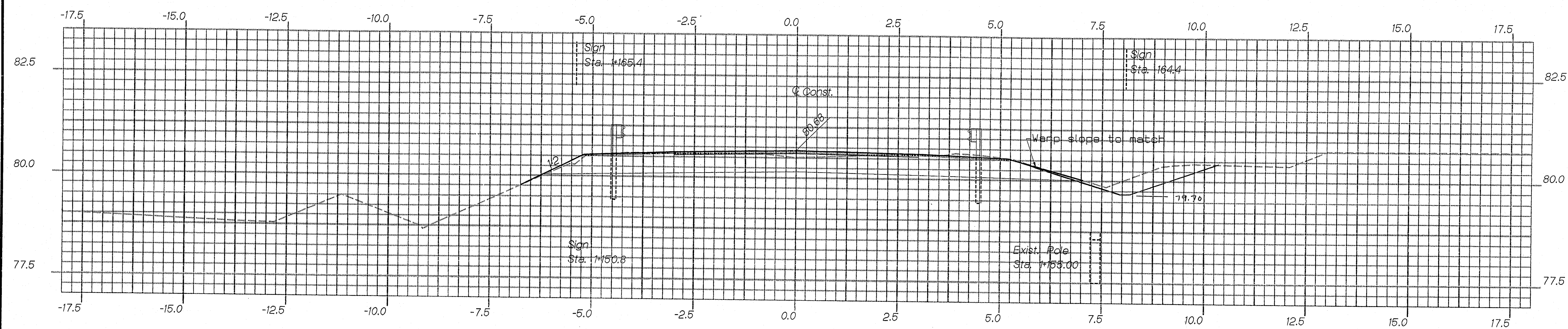
Install 20.96 m Guard Rail
Type 3~Single Rail
Begin Sta. 1+052.7±



114-281

As Built
Cone 12/6/94

METRIC	F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	1	MAINE	000S-(197)X	11	37
<i>Mechanic Falls-Minot</i>				<i>4799.10</i>	



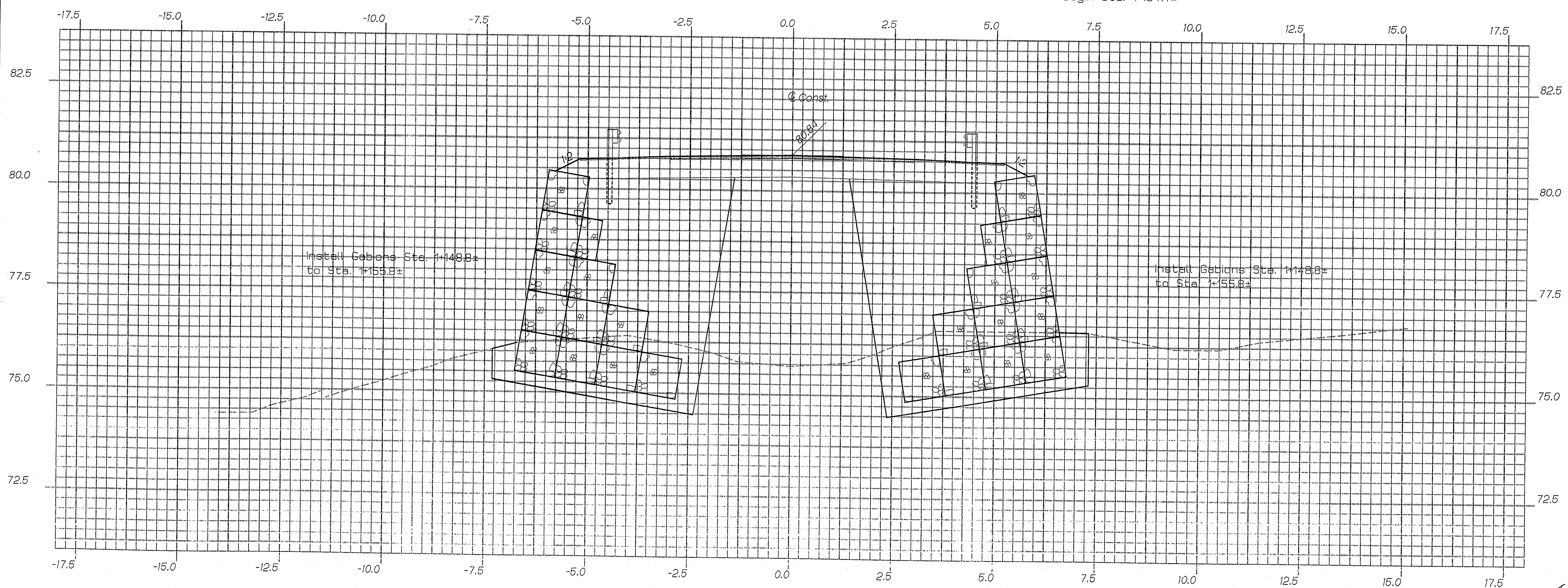
Install Bridge Transition Type 1
Sta. 1+148.6± to Sta. 1+154.4±

Install 41.91 m Guard Rail
Type 3~Single Rail
Begin Sta. 1+154.4±

1+160

Install Bridge Transition Type 1
Sta. 1+148.6± to Sta. 1+154.4±

Install 34.29 m Guard Rail
Type 3~Single Rail
Begin Sta. 1+154.4±



Install Gables Sta. 1+148.8±
to Sta. 1+155.8±

Install Gabions Sta. 1+148.8±
to Sta. 1+155.8±

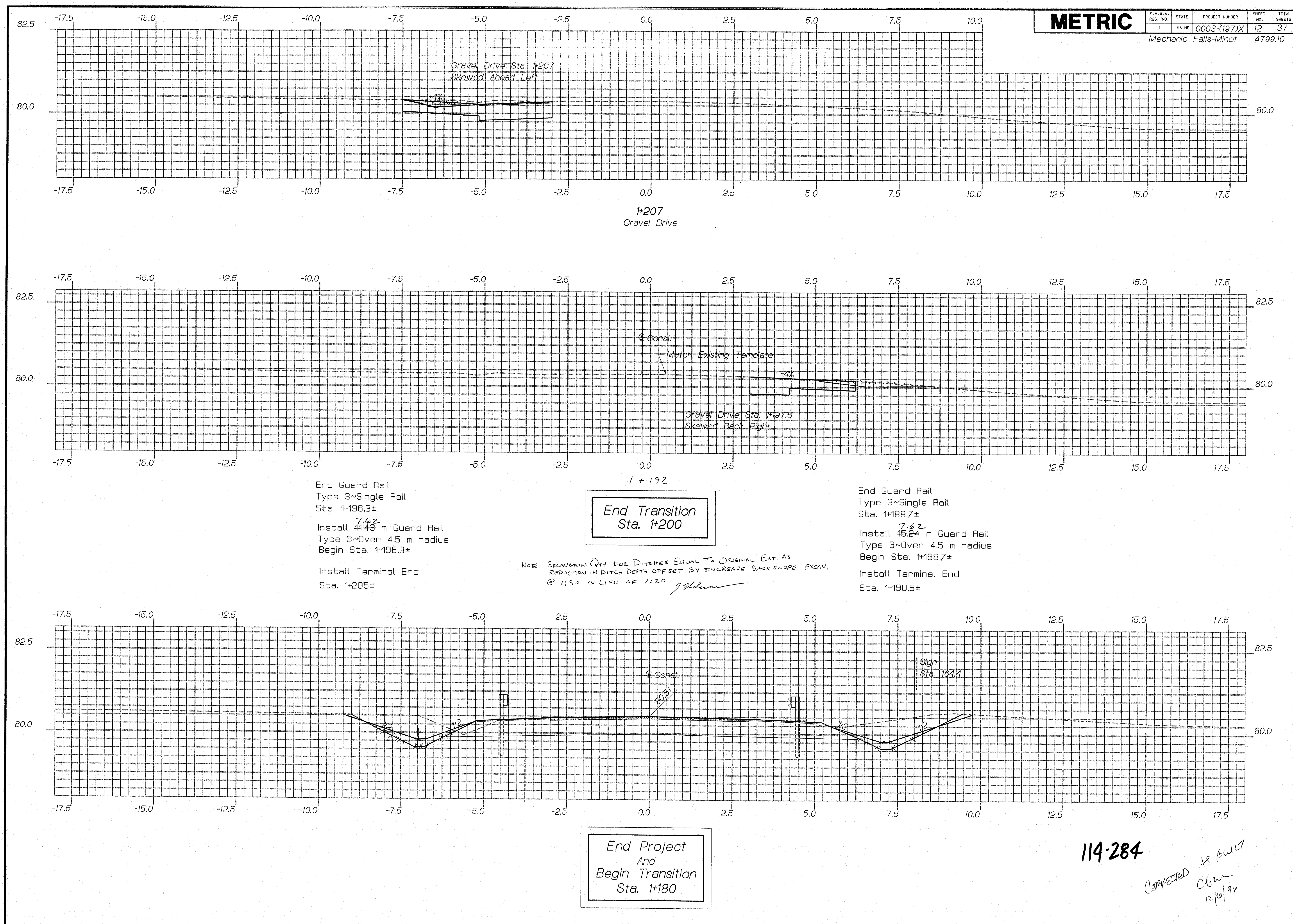
1+150

114-283

17.5
CORRECTED AS BUILT
Cm
12/1/96

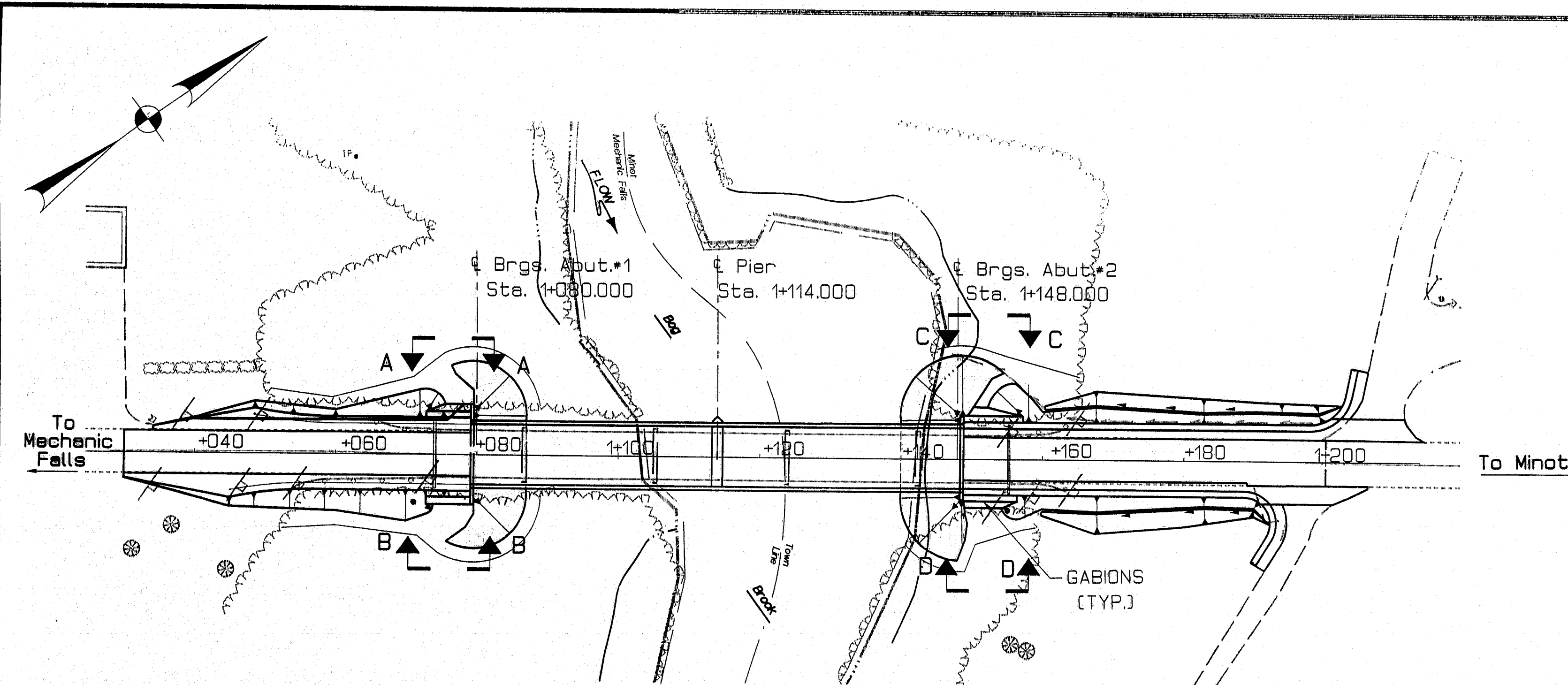
Mechanic Falls-Minot Sta. 1+140 - 1+160

ORIGINAL	DATE
SUPPLIED	
PLOTTED	
TEMPLATE	
AREAS	
AREAS CHECKED	

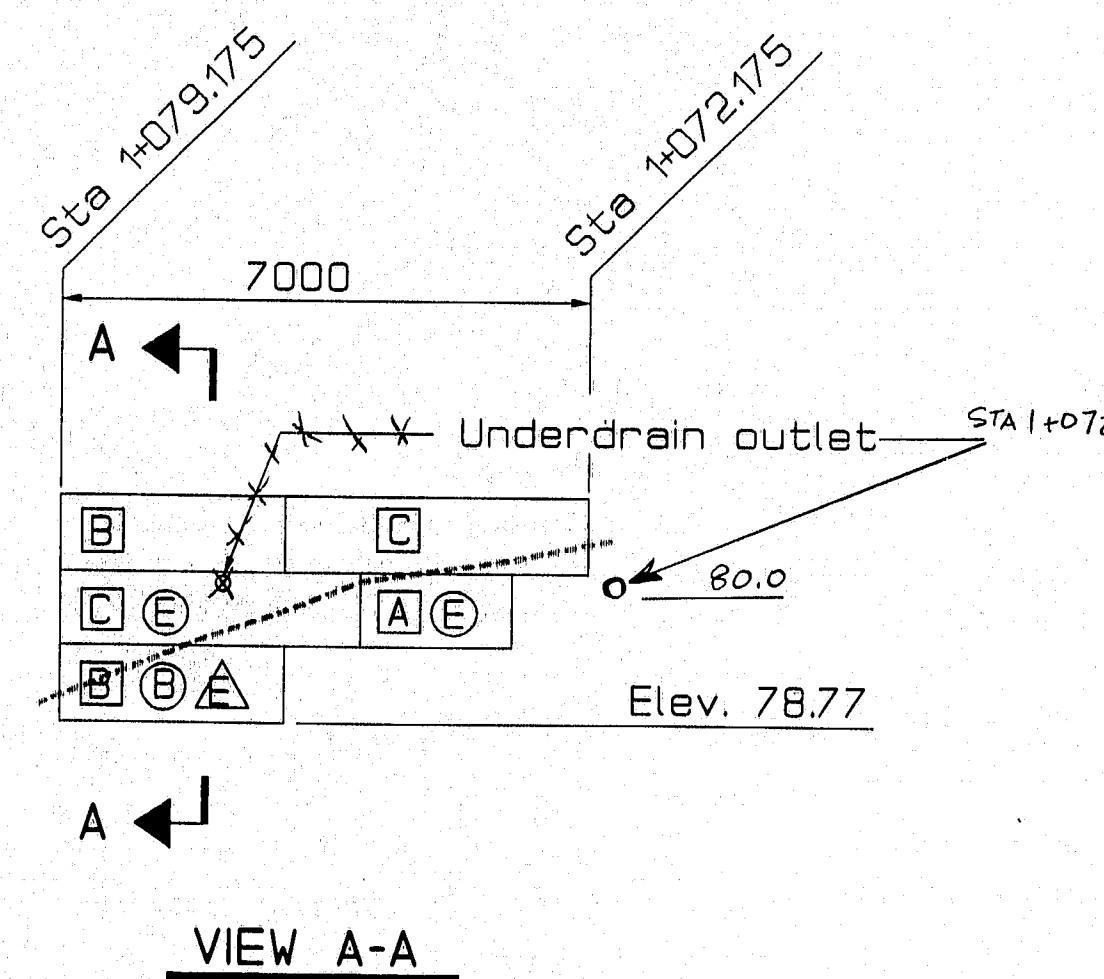


PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	8-95
REVISIONS	
FIELD CHANGES	

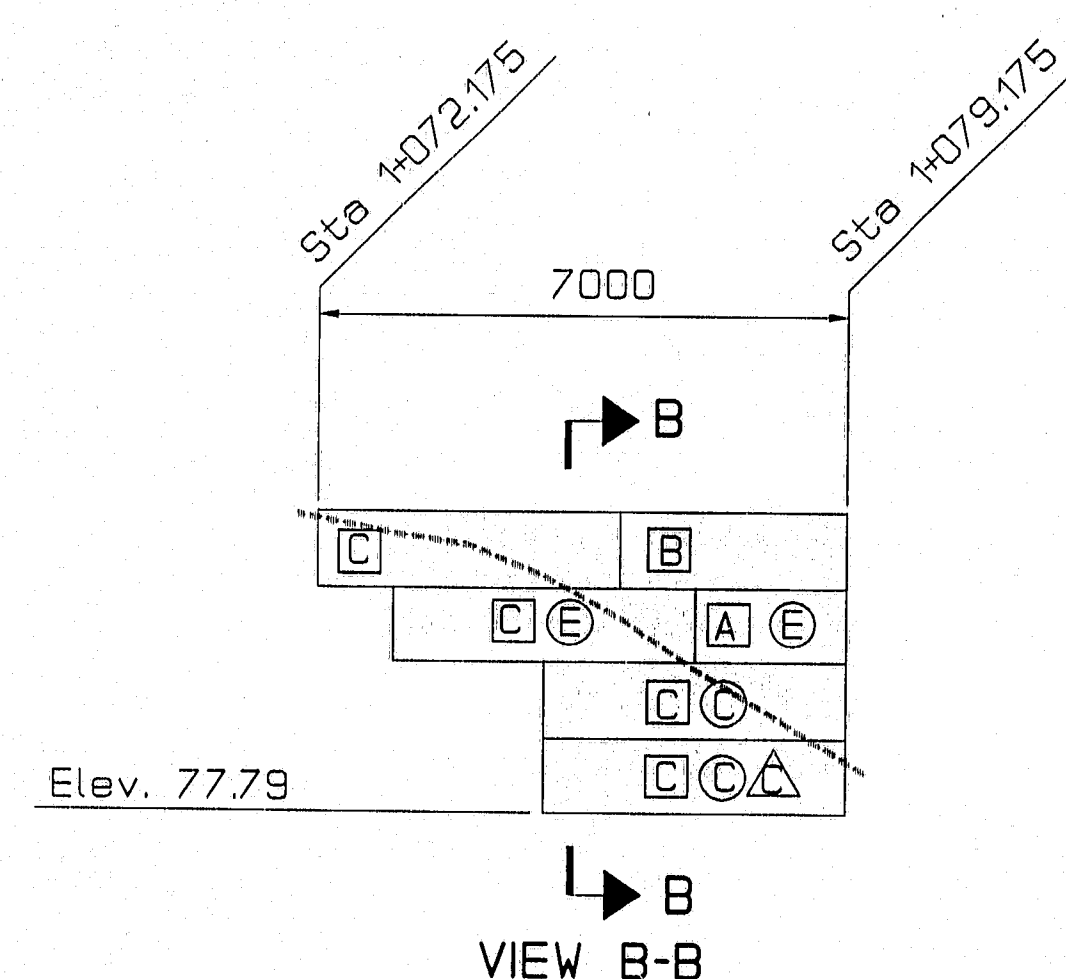
GABION
200CT95-010040



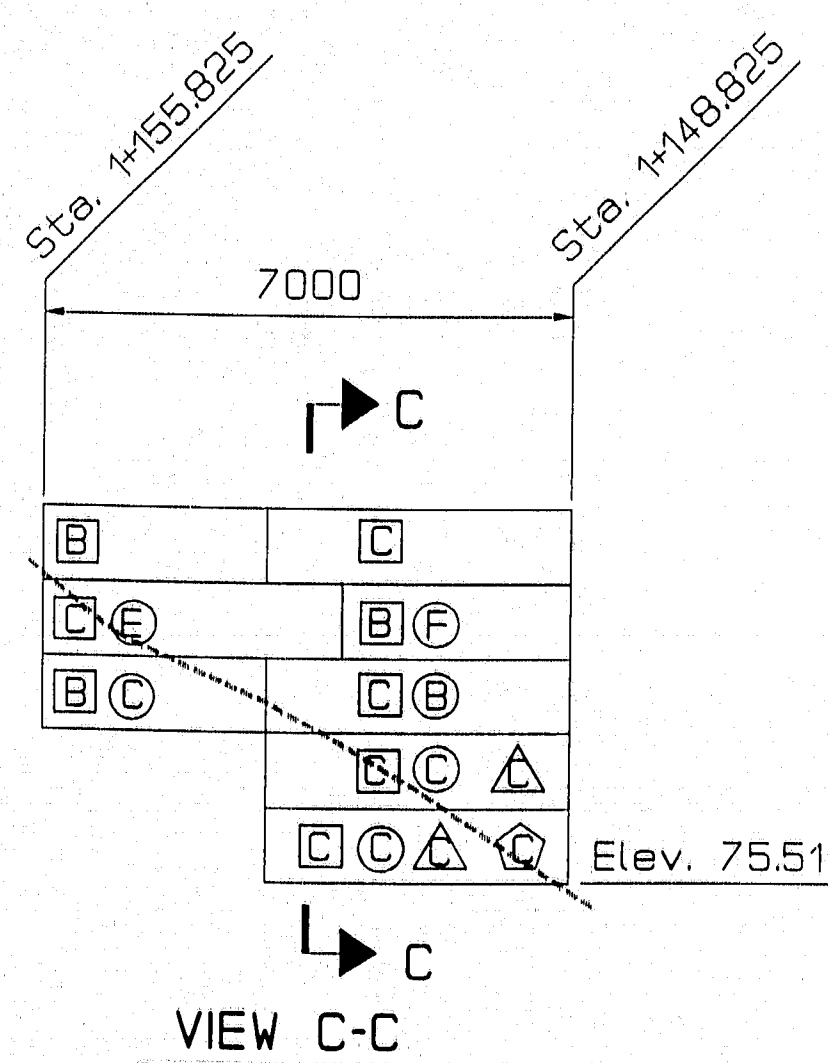
GABION LAYOUT PLAN



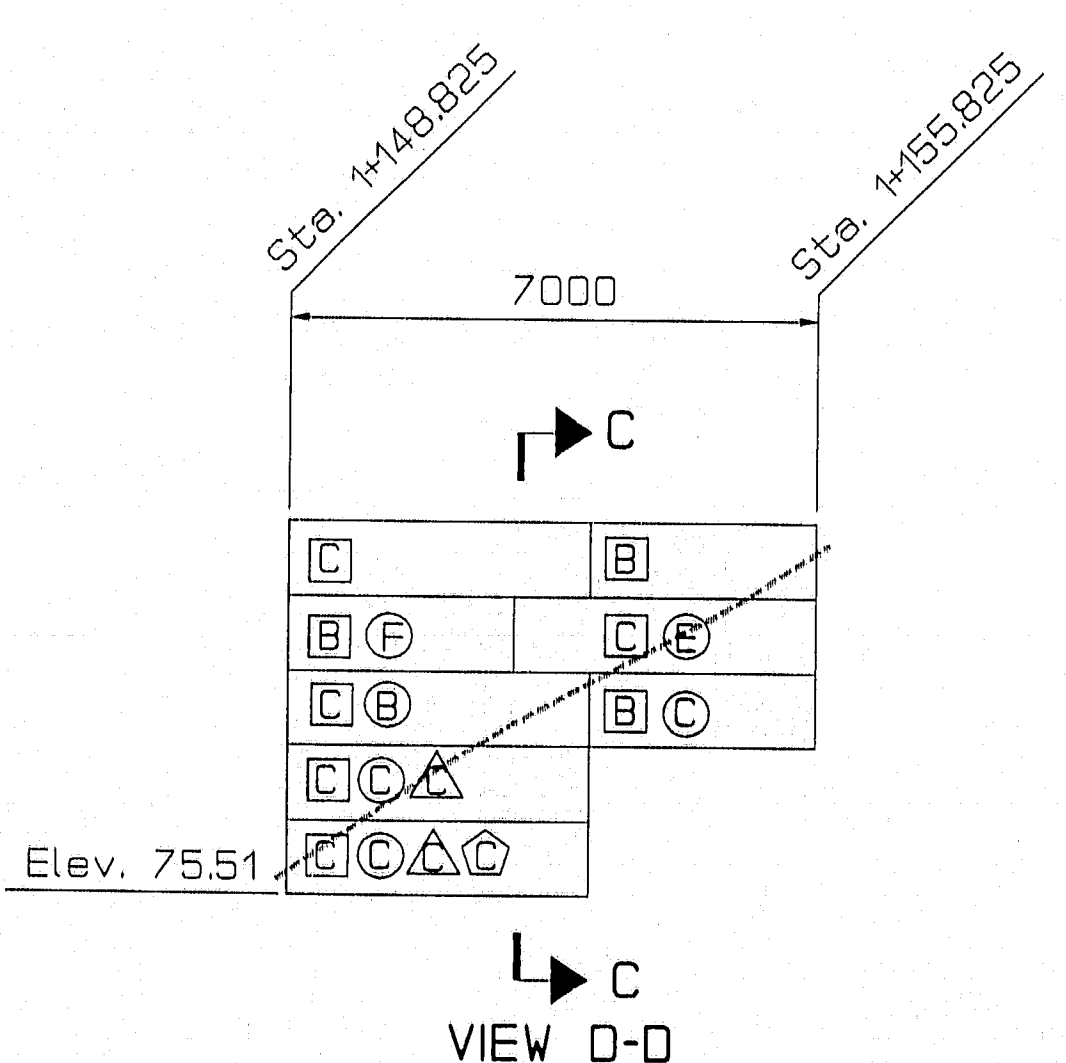
VIEW A-A



VIEW B-B



VIEW C-C

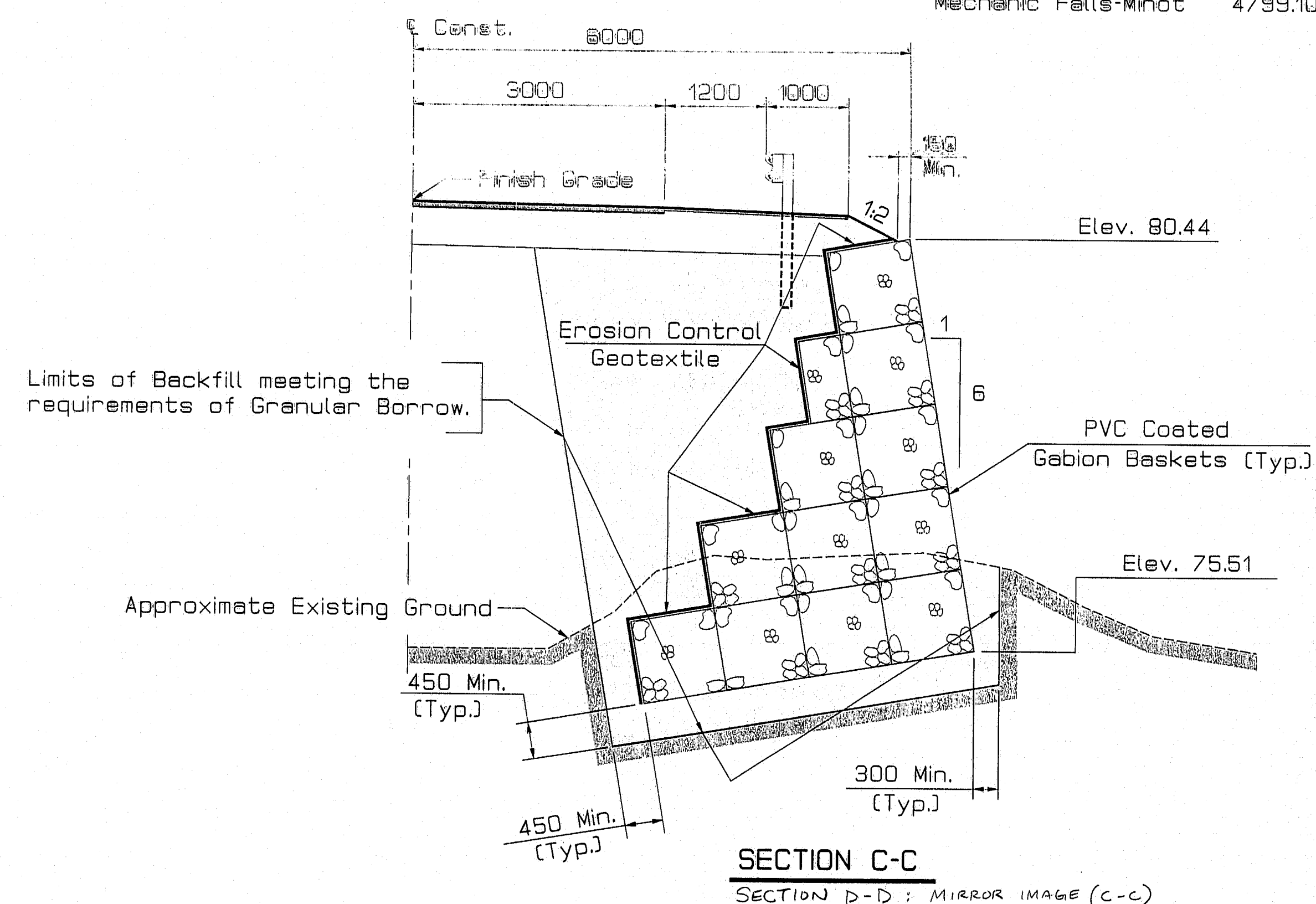


VIEW D-D

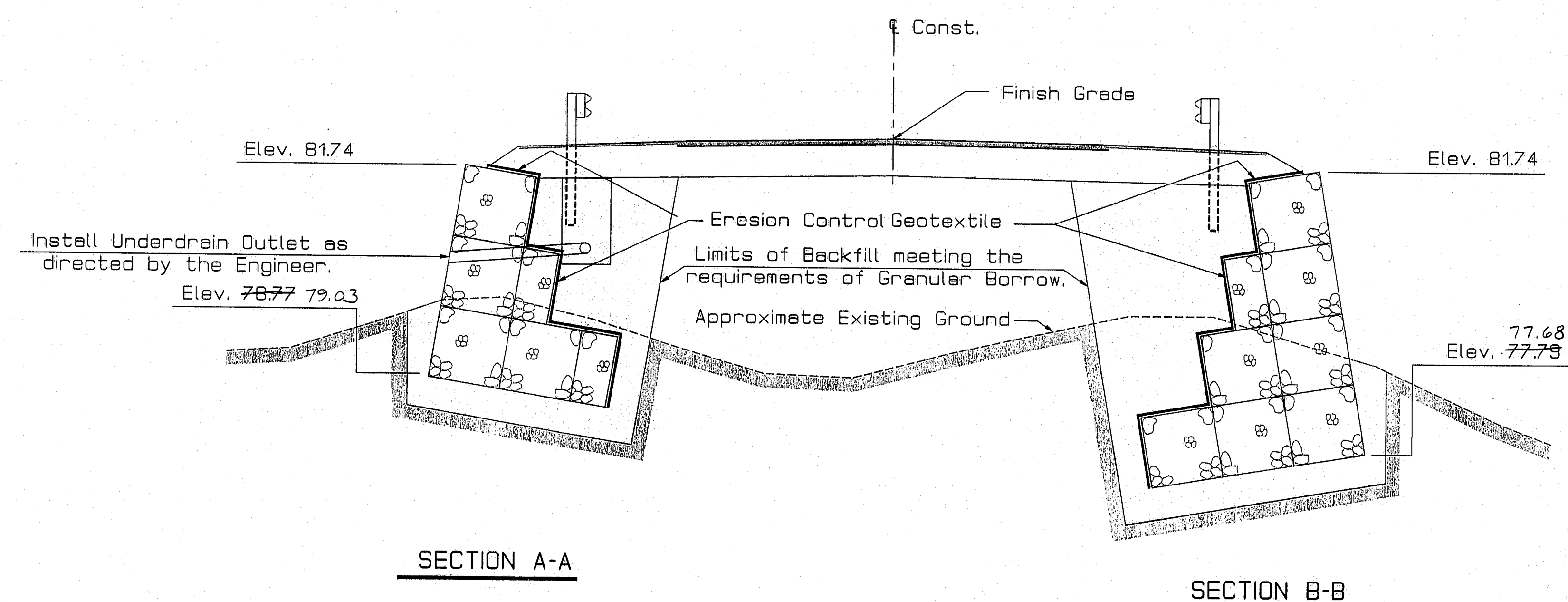
METRIC

1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.P. No.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(197)X	13	37
Mechanic Falls-Minot			4799.10	



SECTION C-C
SECTION D-D: MIRROR IMAGE (C-C)



SECTION A-A

SECTION B-B

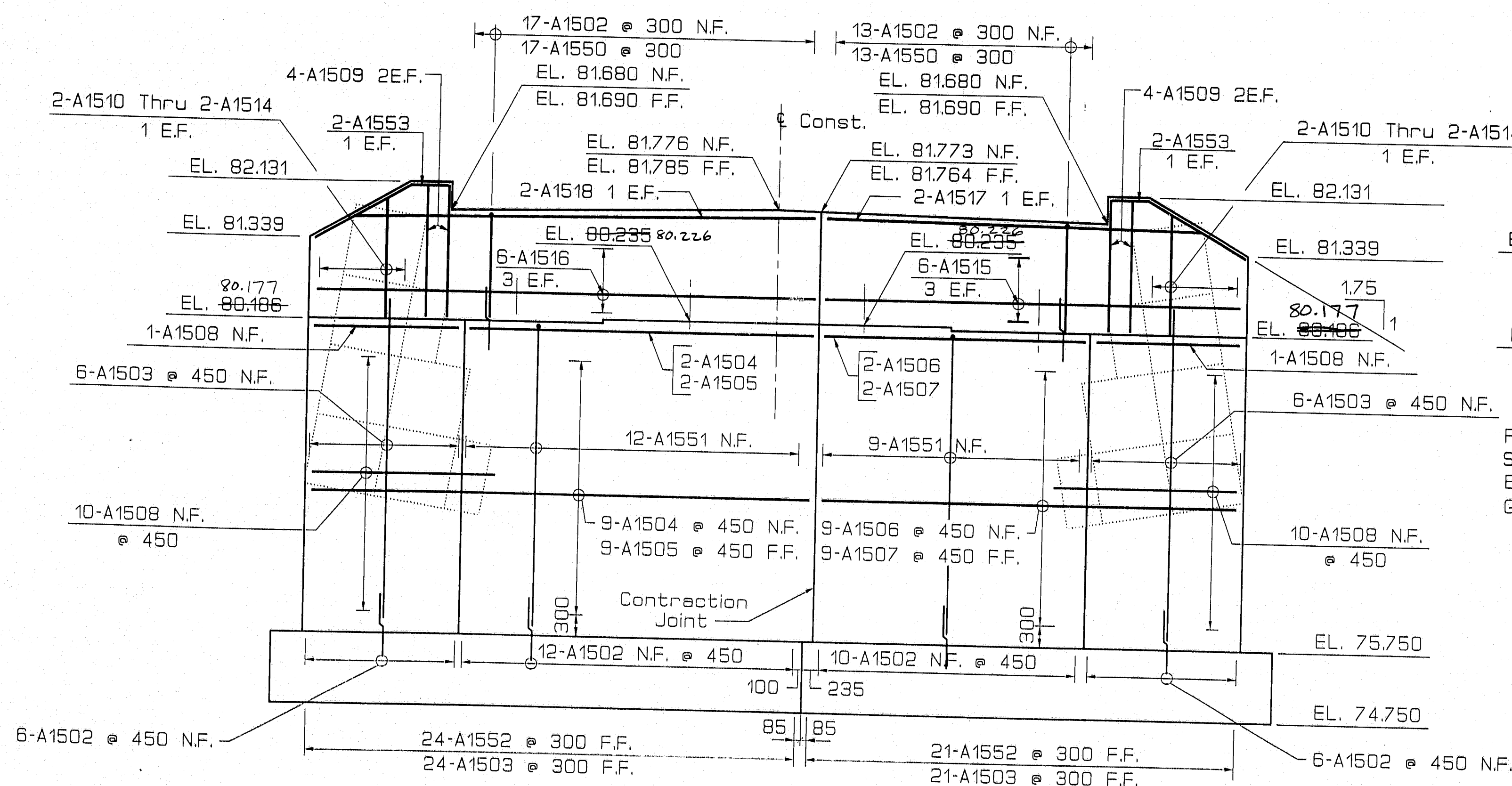
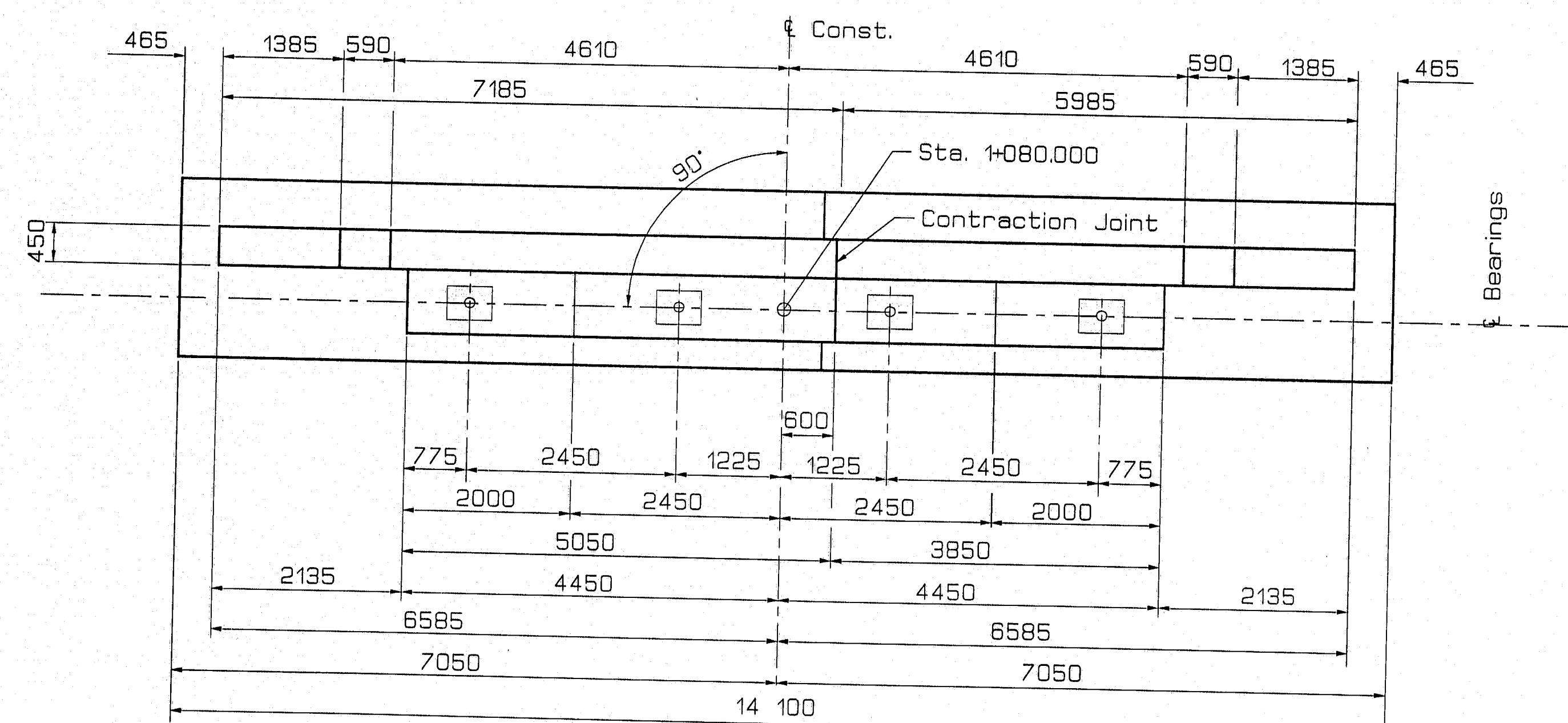
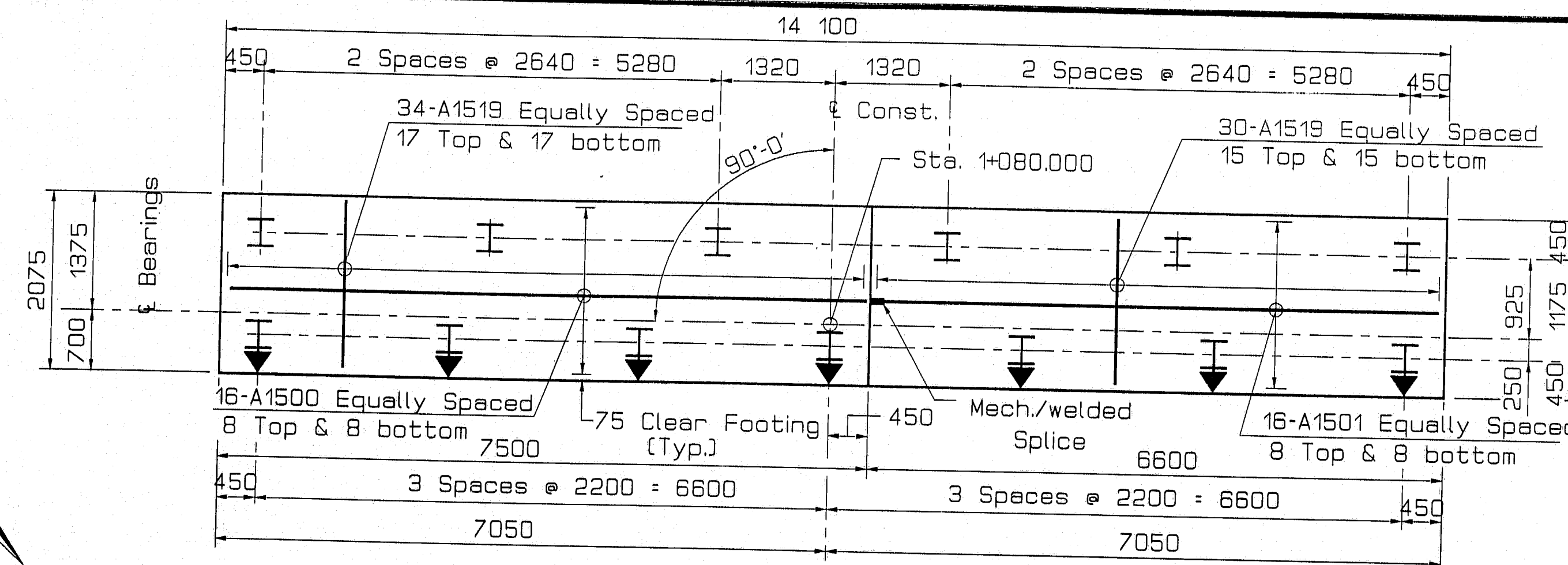
GABION TABLE					
Letter Code	Length	Width	Height	Number of Cells	Capacity Cubic Meters
A	2	1	1	2	2
B	3	1	1	3	3
C	4	1	1	4	4
E	3	1	0.5	3	1.5
F	4	1	0.5	4	2

□ = First Row ○ = Second Row
△ = Third Row ◇ = Fourth Row

114-285

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY
GABION LAYOUT



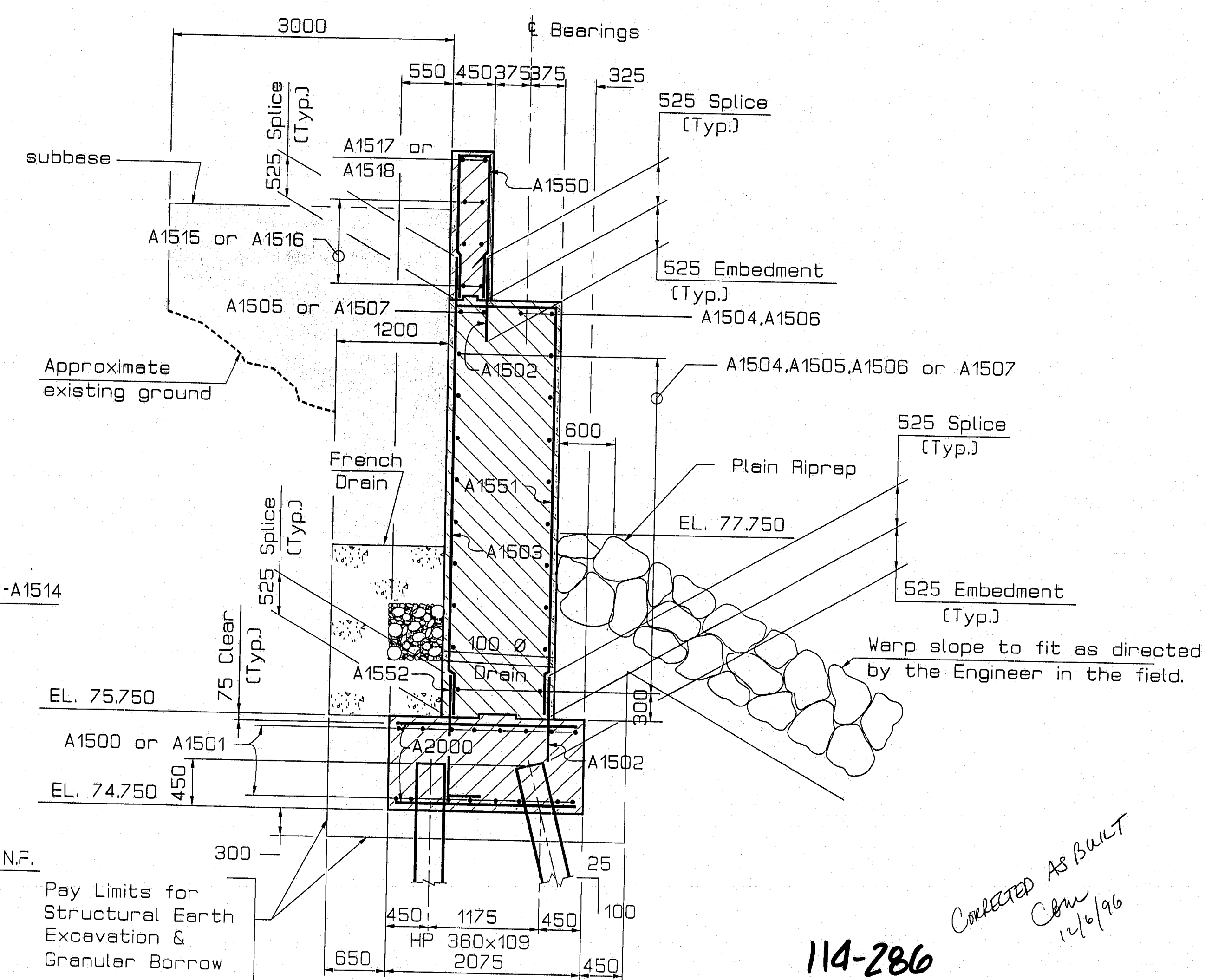
METRIC

1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(197)X	14	37
Mechanic Falls-Minot			4799.10	

ABUTMENT NOTES

- 1....Reinforcing steel shall have 50 cover unless otherwise indicated.
- 2....Cover expansion joints on the back with two layers of heavy roofing. See MBD 501 - 94 for detail.
- 3.... Protective coating for concrete surfaces shall be applied to the following areas:
 - Top of concrete curbs.
 - Top of abutment backwalls and 300 mm below top of backwalls on backside.
- 4....Place 100 diameter drains in breastwall and wings at 6000 maximum spacing. Exact location to be determined by the Engineer in the field.



TYPICAL SECTION

LEGEND

N. F. = Near Face
F. F. = Far Face
E. F. = Each Face

114-286

COLLECTED AS BANC-
Cm
12/6/96

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS—MINOT
ANDROSCOGGIN COUNTY
ABUTMENT NO. 1 PLAN

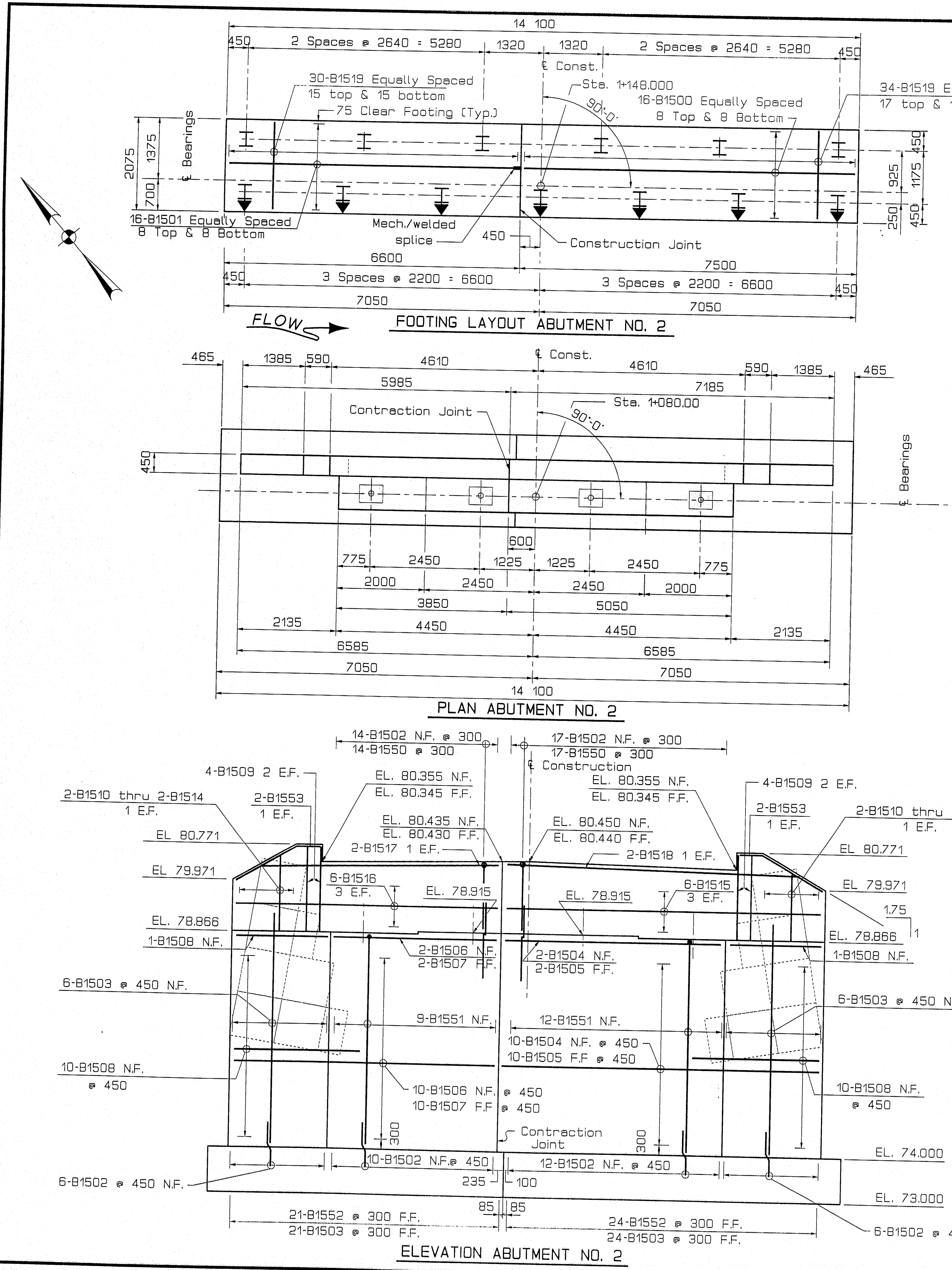
SHEET 14 OF 37 AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	R.V. Normand	6-95
CHECKED		
REVISED		
FIELD CHANGES		

06NOV95-01.00.30
ABUT1

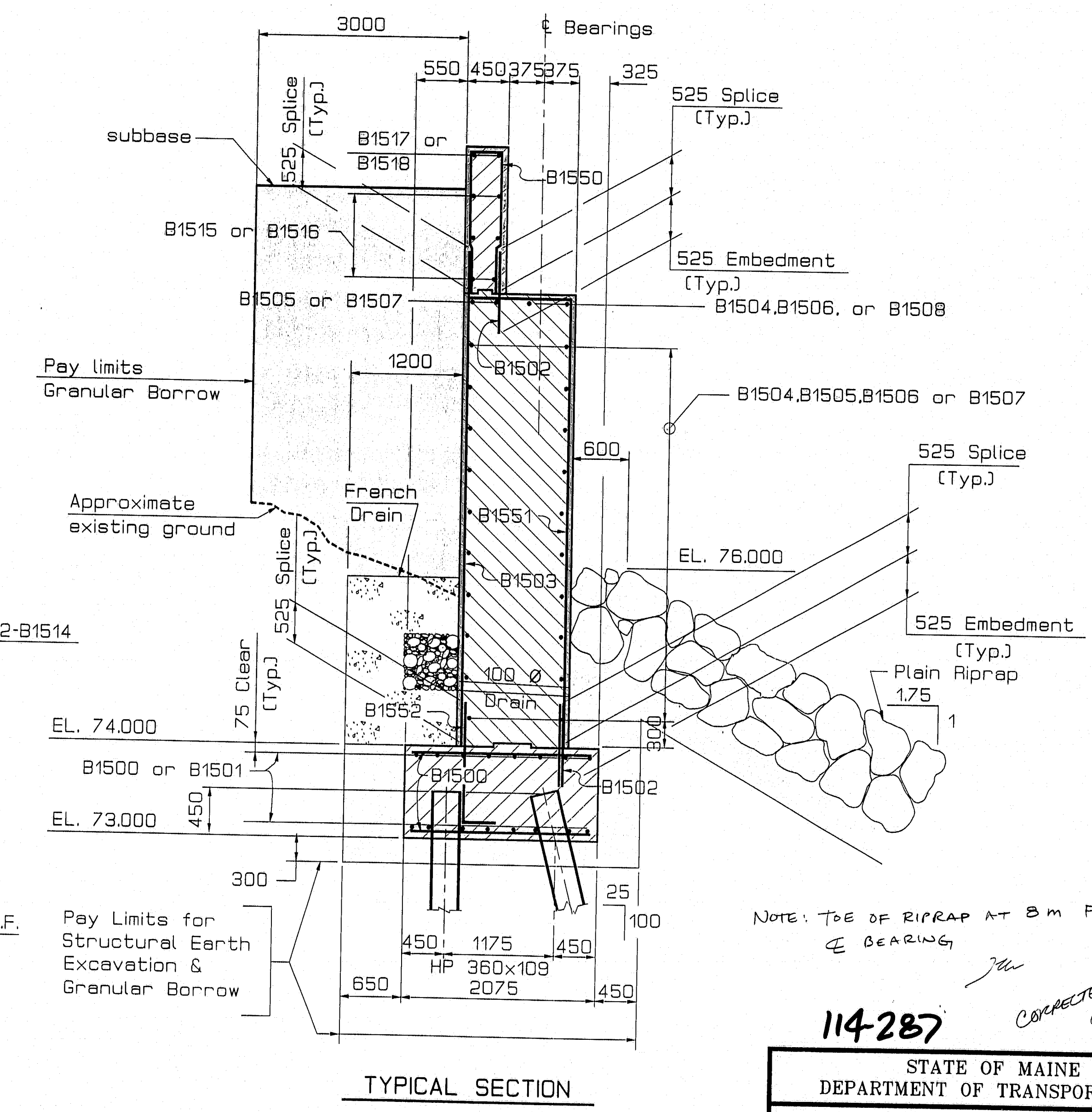
PROJECT REVIEWER	DATE
BY: R. V. Normand	6-95
CHECKED	DESIGN-REVIEWED
REVISIONS	FIELD CHANGES
PLANS	

0640V95-0100.30
ABUTT 2



METRIC		F.H.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1. All dimensions are in millimeters unless otherwise noted. 2. All elevations and stations are in meters.		1	MAINE	0005(197)X	15	37
Mechanic Falls-Minot						4799.10

- PILES**
1. Piles marked thus H, shall be battered 25% on a hundred in the direction of the arrow.
 2. Maximum calculated pile loads: * kilograms (including 82 000 kN allowed for negative skin friction).
 3. Pile design safety factor of 2.5.
 4. Estimate of piles required:
Abut. No. 1 13 ~ HP 360x109 x 28 m.
Abut. No. 2 13 ~ HP 360x109 x 29 m.



LEGEND

N. F. : Near Face
F. F. : Far Face
E. F. : Each Face

114-287

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY
ABUTMENT NO. 2 PLAN

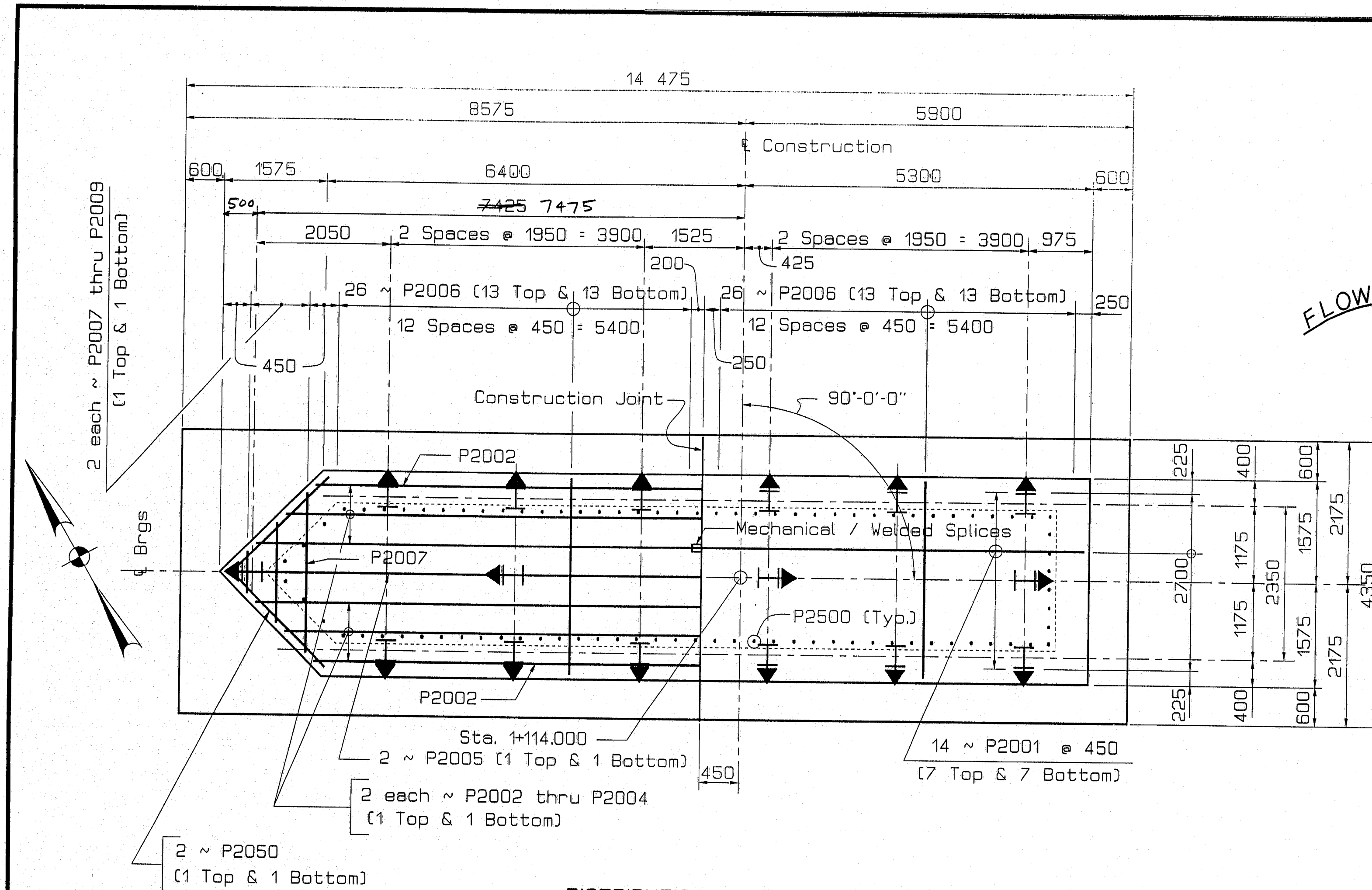
SHEET 15 OF 37 AUGUSTA, MAINE

NOTE: TOE OF RIPRAP AT 8 M FROM
E BEARING

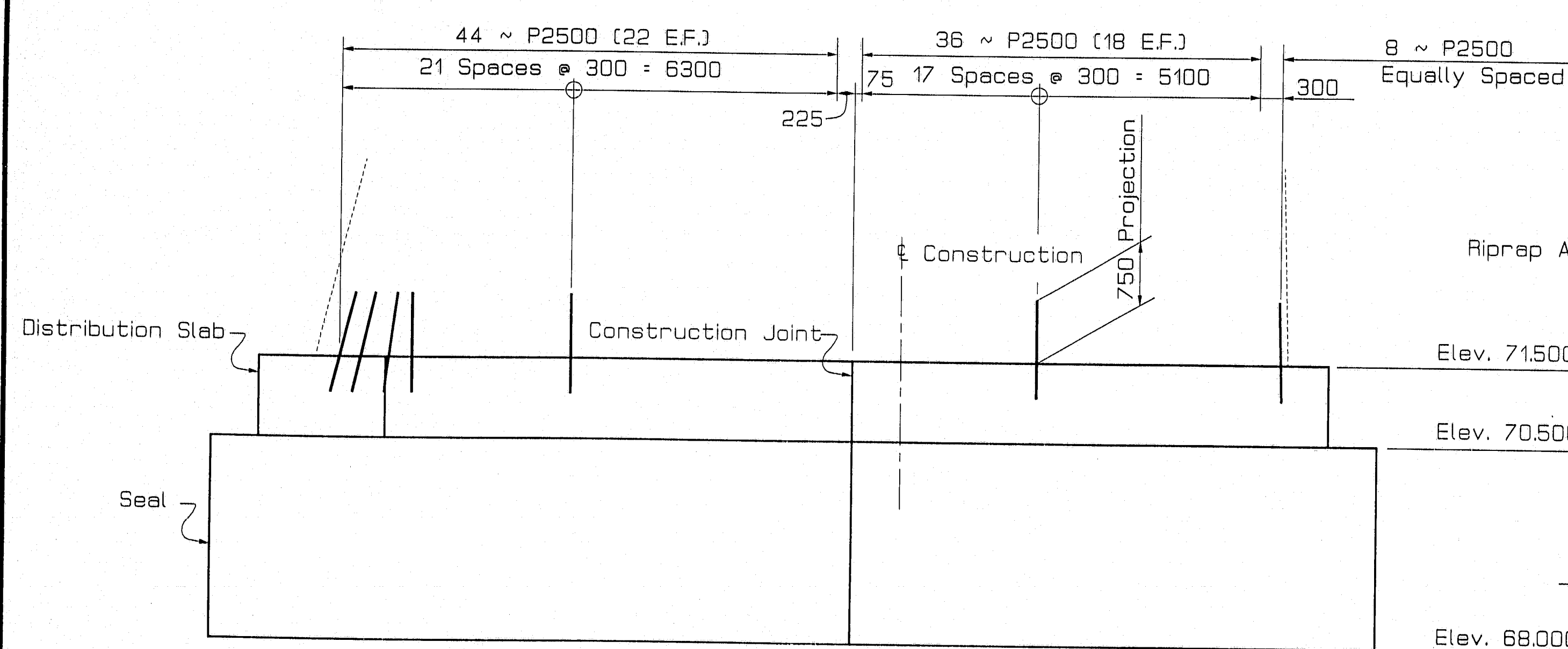
CORRECTED AS BUILT
12/6/96

PROJECT DESIGN REVIEW	DATE
BY: [Signature]	3-30
CHECKED	
REVISIONS	
FIELD CHANGES	

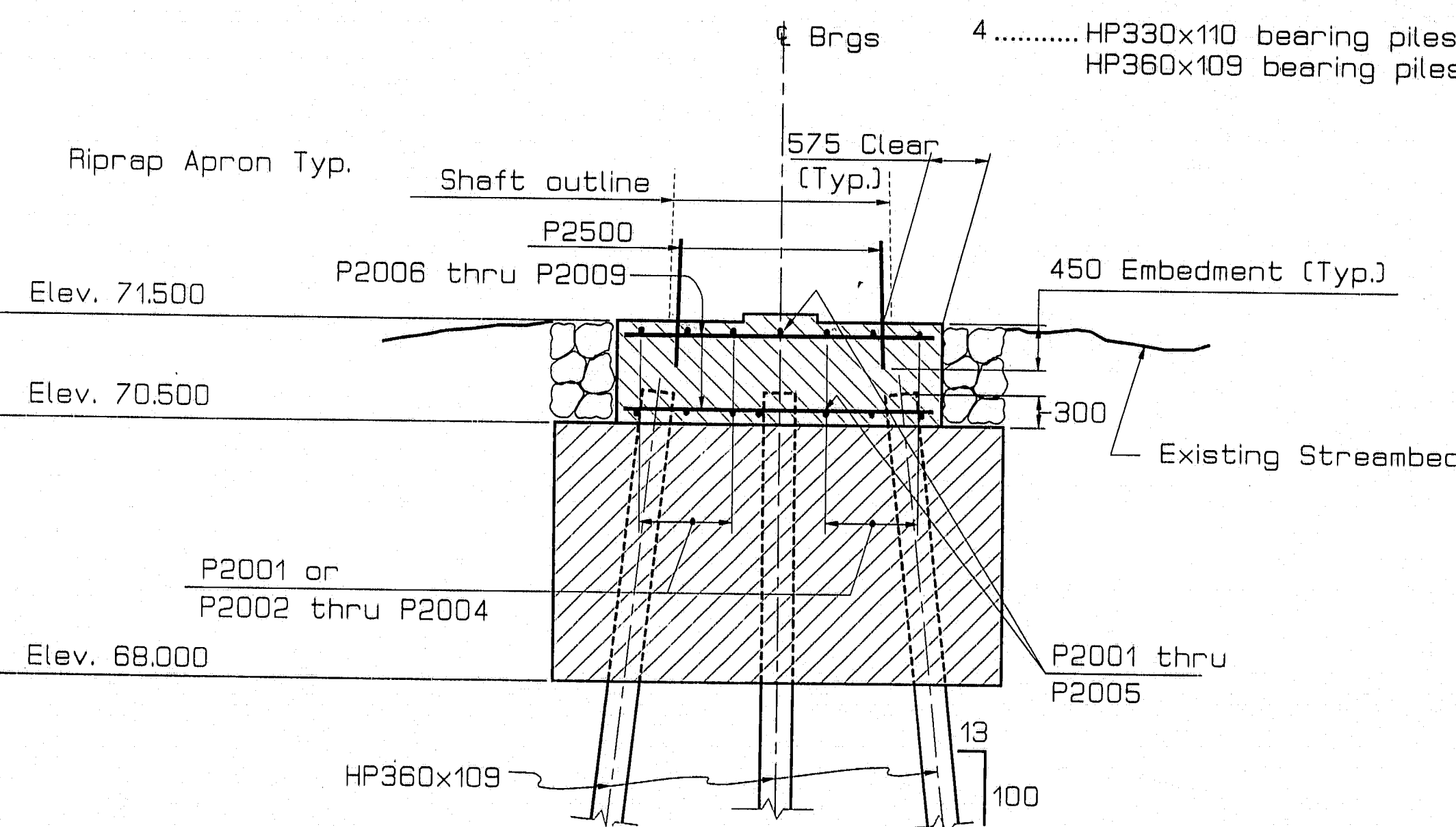
PIERFOND
02NOV95-010040



DISTRIBUTION SLAB & SEAL PLAN



DISTRIBUTION SLAB & SEAL ELEVATION



TYPICAL SECTION

METRIC

- All dimensions are in millimeters unless otherwise noted.
- All elevations and stations are in meters.

F.H.W.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0009(197)X	16	37
Mechanic Falls-Minot			4799.10	

PIER NOTES

- Reinforcing steel shall have 75 minimum cover unless otherwise indicated.

Design Criteria

- Critical AASHTO Loading - Group IX
- Bouyancy - Water level assumed at Elevation 76.2.
- Stream flow - Velocity of 335 meter per second skewed at 30 degrees to longitudinal centerline of pier.
- Wind - 161 km/h
Wind - 1.92 kPa
- Ice - Thickness 460 mm, pressure 690 kPa at Elevation 76.0
30 percent of nose force applied transverse to pier.

Seal Cofferdam Notes

- The seal dimensions represent the minimum seal necessary for design and is not based on the use of any Standard Sheet pile section.
- The pay limits for seal concrete shall be to the dimensions shown on the plans. No additional payment will be made for concrete placed outside these limits.
- Appropriate rolled corners shall be used. The inside face of the sheet piling shall be to/or the outside of the seal dimensions.
- The depth of the seal is set for a water elevation of 74.0. If the water elevation at the time of construction is higher the depth of the seal shall be adjusted.

PILES

- Piles marked thus $\Rightarrow$ shall be battered 13 % in the direction of the arrow.
- Maximum calculated pile loads: 556 kN.
- Estimate of piles required: 16 ~ HP360x19 @ 25 m.
- HP330x110 bearing piles may be substituted for HP360x109 bearing piles at the option of the contractor.

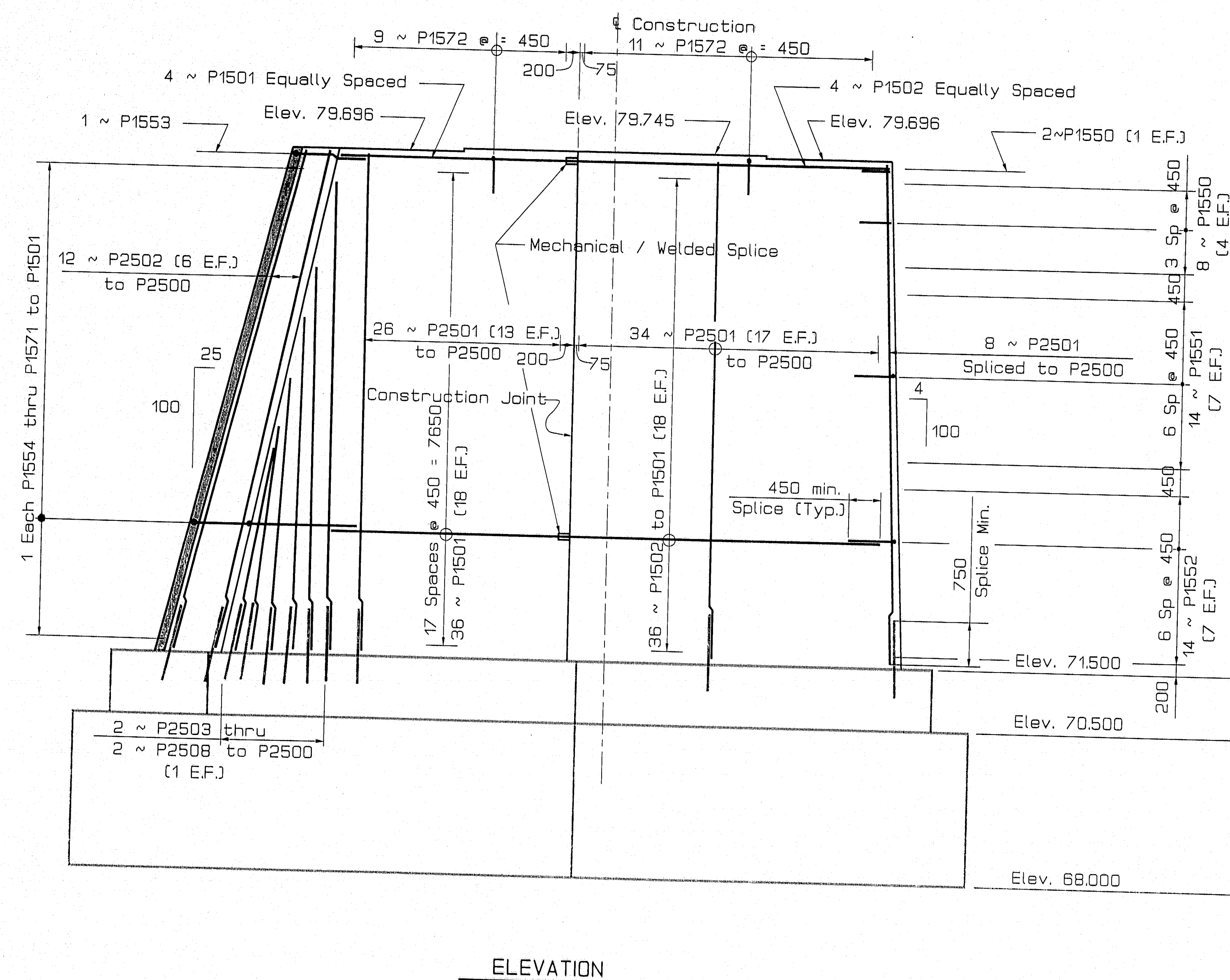
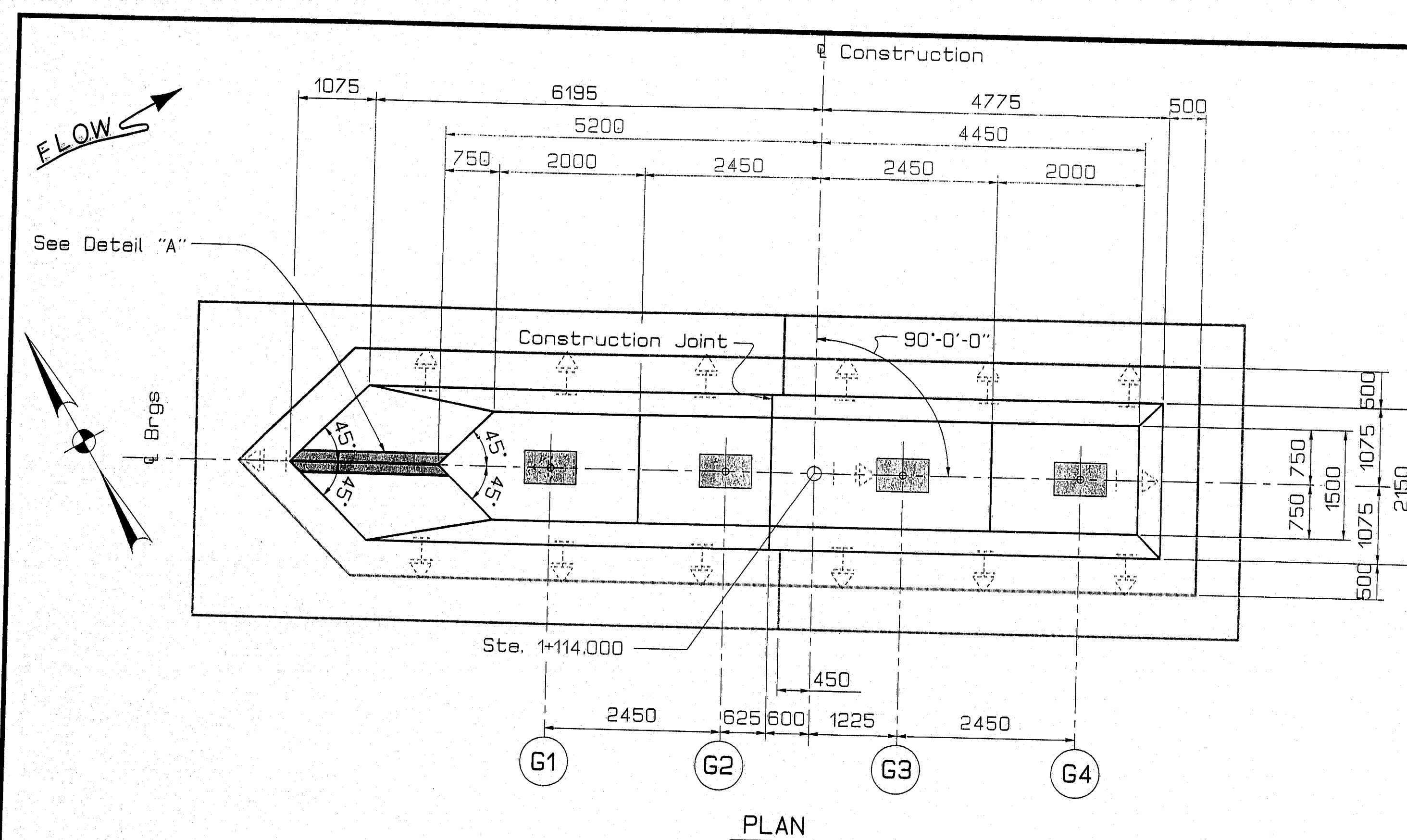
CORRECTED AS BUILT
Cdn 12/6/96

114-288

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY
PIER FOUNDATION

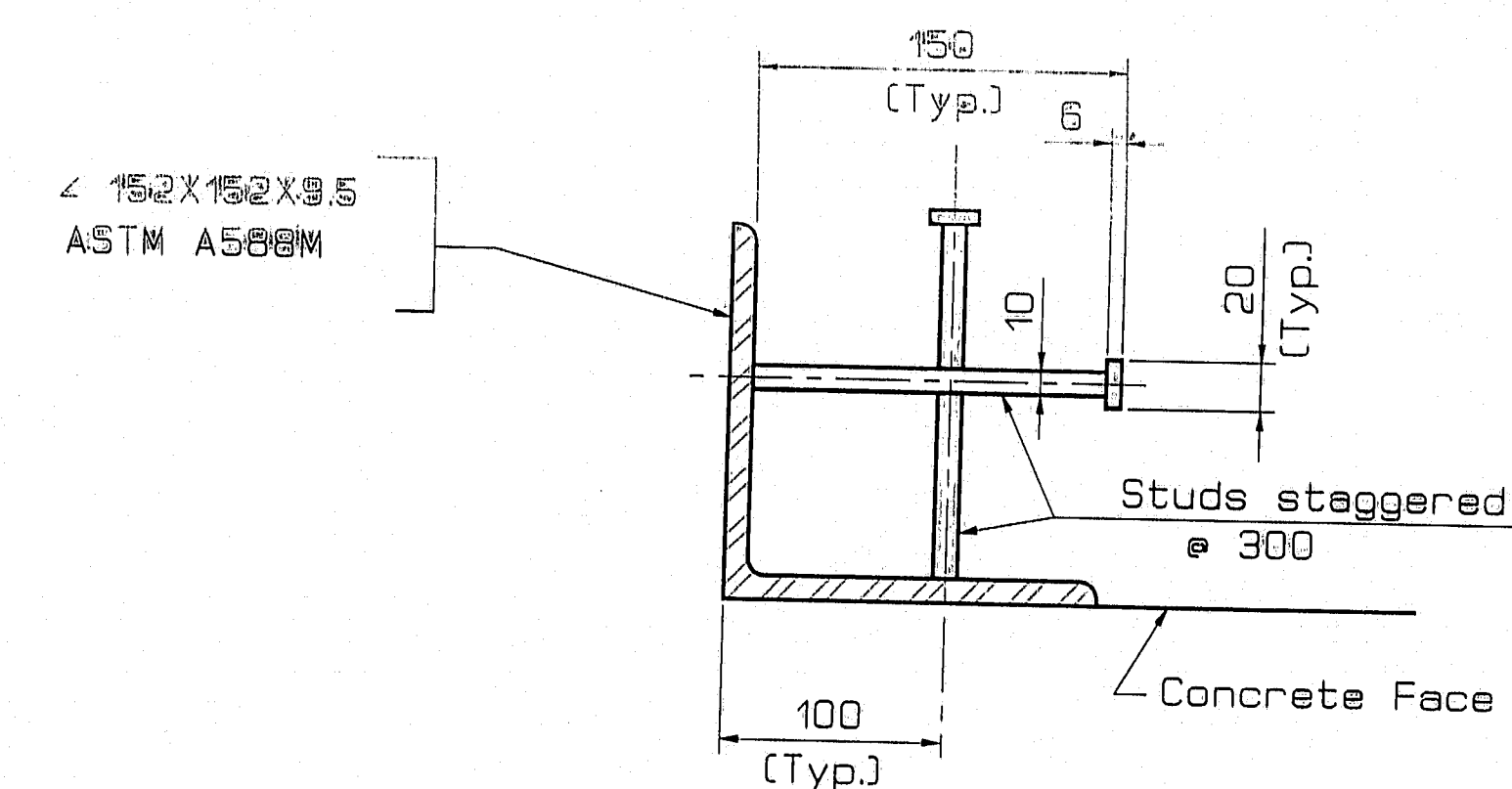
SHEET 16 of 37 AUGUSTA, MAINE



1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

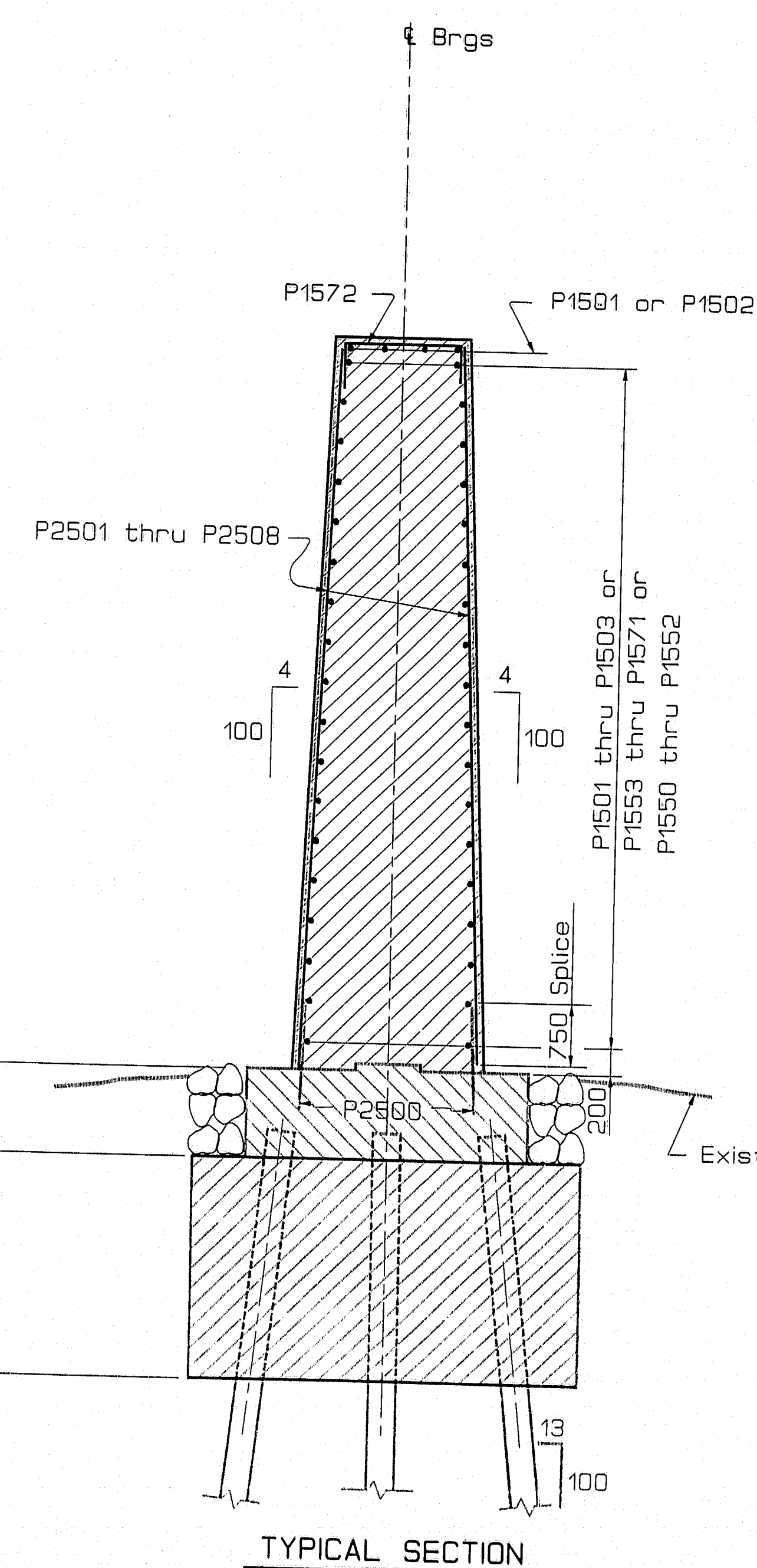
F.H.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	0005(197)X	17	37

MECHANIC FALLS - MINOT 4799.10



DETAIL "A"

Pier nose reinforcement
with stud detail. Payment
to be incidental to
Item 502.239 Structural
Concrete Piers.



PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	R/V Normand	9-95
CHECKED		
REVIEWS		
FIELD CHANGES		

PIER
06NOV95-0100.30

114-289

AS BUILT
C/M 12/6/96

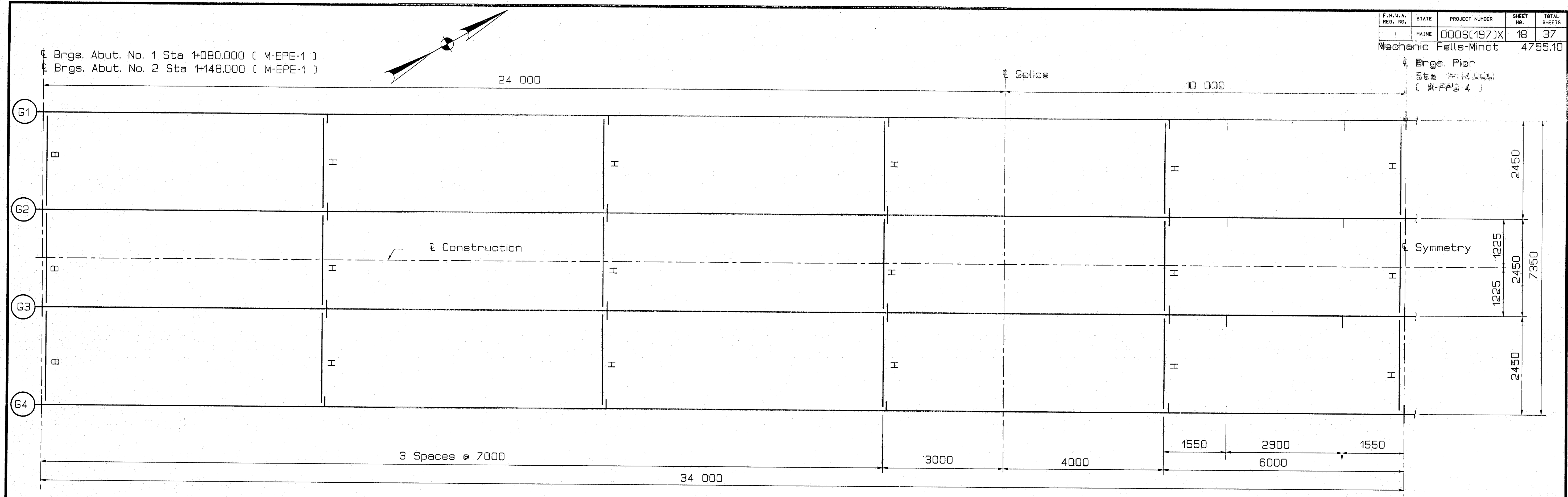
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLER BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY
PIER

SHEET 17 OF 37 AUGUSTA, MAINE

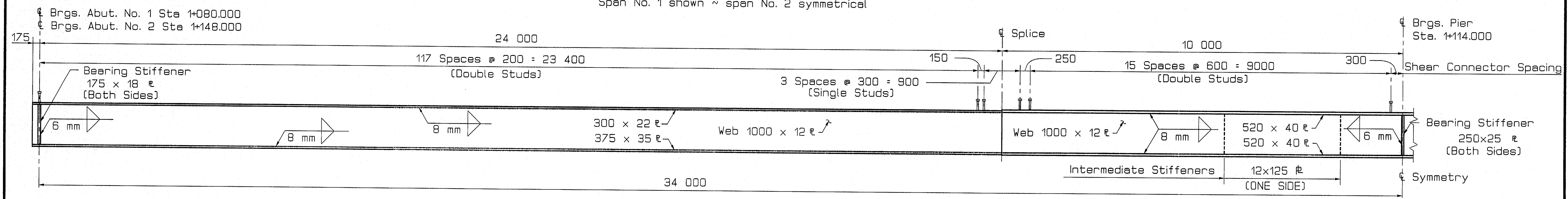
PROJECT DESIGNER	DATE
BY	3-95
DESIGN-DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	

08/05/00-030
FRMPLAN



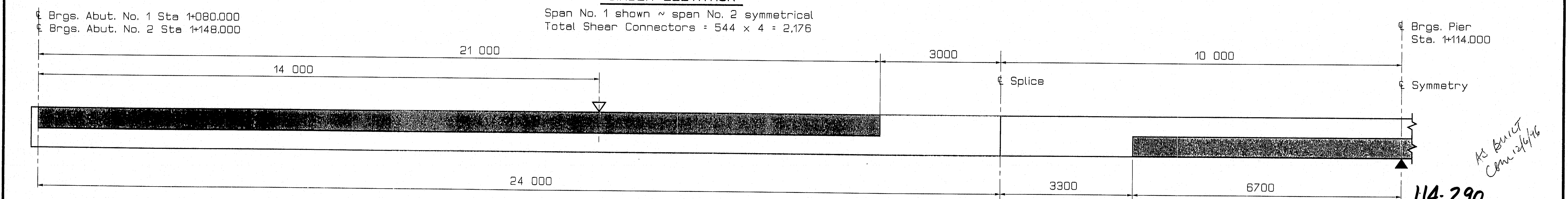
FRAMING PLAN

Span No. 1 shown ~ span No. 2 symmetrical



GIRDER ELEVATION

Span No. 1 shown ~ span No. 2 symmetrical
Total Shear Connectors = 544 x 4 = 2,176



BEAM STRESS DIAGRAM

Span No. 1 shown ~ span No. 2 symmetrical

- Indicates areas always in compression. All other areas are in tension or have stress reversal at service loads.
- Point of maximum positive moment.
- Point of maximum negative moment.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

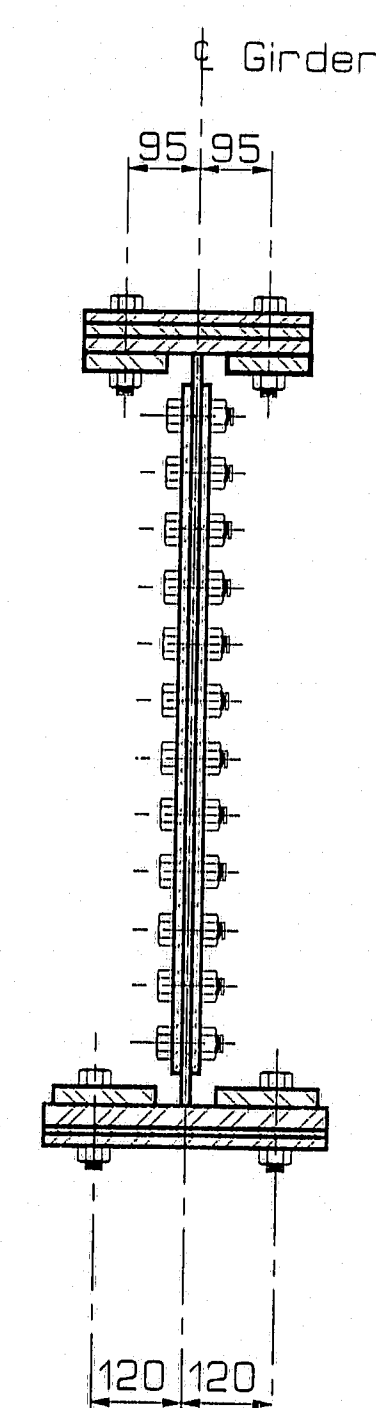
POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY

FRAMING PLAN

114-290

AS BUILT
Comments

SHEET 18 OF 37 AUGUSTA, MAINE



Splices shall be made with 24 mm Ø
ASTM A325 Type 3, high tensile bolts,
holes shall be 24 mm.

STRUCTURAL STEEL:

ASTM A709MFy = 345 MPa
ASTM A325MFy = 172 MPa

STRUCTURAL STEEL : All Materials...ASTM A709 A709M Grade 345W
High Strength Bolts.....ASTM A325M (Type 3)



1.... Camber ordinates, as shown, are computed to compensate for all dead load deflections and for the curvature of the finished grade profile.

- 2 No transverse butt-weld splices will be allowed in the flange plates or web plates within 3000 mm or 10 percent of the span length (whichever is greater) from the points of maximum negative moment or maximum positive moment. Butt-weld splices in flanges shall be not less than 900 mm from transverse butt-welds in the web plates and no transverse web or flange butt-welds shall be located within 900 mm of other transverse welds (e.g. connection plates to web welds) on either flange or web. No transverse butt-weld splices will be allowed in areas of stress reversal.
- 3 Sections of flange plates or web plates between transverse shop splices or between a transverse shop splice and a field splice shall not be less than 6000 mm in length unless otherwise shown on plans.
- 4 Bearing stiffeners shall be plumb after erection and dead loading of the structure. Intermediate web stiffeners may be either plumb or normal to the top flange.
- 5 Cross-frame or diaphragm connection plates may be either plumb or normal to the top flange.
- 6 The Bearing Setting Chart indicates the required final position of the bearings. It is anticipated that the bearings at Abutment 1 and Abutment 2 will move 2 mm away from the fixed bearings due to the placement of the superstructure concrete. No separate payment will be made for resetting the bearings to the final position if an adjustment is required.



114-291

Table Of Deflections																		
	℄ Brgs. Abutments	(Distances In Meters)								(Deflections In Meters)								℄ Sym:℄ Pie
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
Fluid Dead Load	0.000	0.014	0.028	0.040	0.050	0.057	0.061	0.062	0.060	0.056	0.049	0.041	0.032	0.023	0.015	0.007	0.002	0.000
Steel Dead Load	0.000	0.003	0.006	0.008	0.010	0.011	0.012	0.012	0.012	0.011	0.009	0.007	0.006	0.004	0.002	0.001	0.000	0.000
Superimposed Dead Load	0.000	0.004	0.007	0.010	0.013	0.015	0.016	0.017	0.016	0.015	0.014	0.012	0.010	0.007	0.004	0.002	0.001	0.000
Total Camber	0.000	0.021	0.041	0.059	0.073	0.083	0.089	0.091	0.088	0.082	0.072	0.060	0.048	0.034	0.021	0.010	0.003	0.000
Total Blocking	0.000	0.018	0.035	0.050	0.063	0.072	0.077	0.079	0.076	0.071	0.063	0.053	0.042	0.030	0.019	0.009	0.003	0.000

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY
STRUCTURAL STEEL DETAILS

SHEET 19 OF 37 AUGUSTA, MAINE

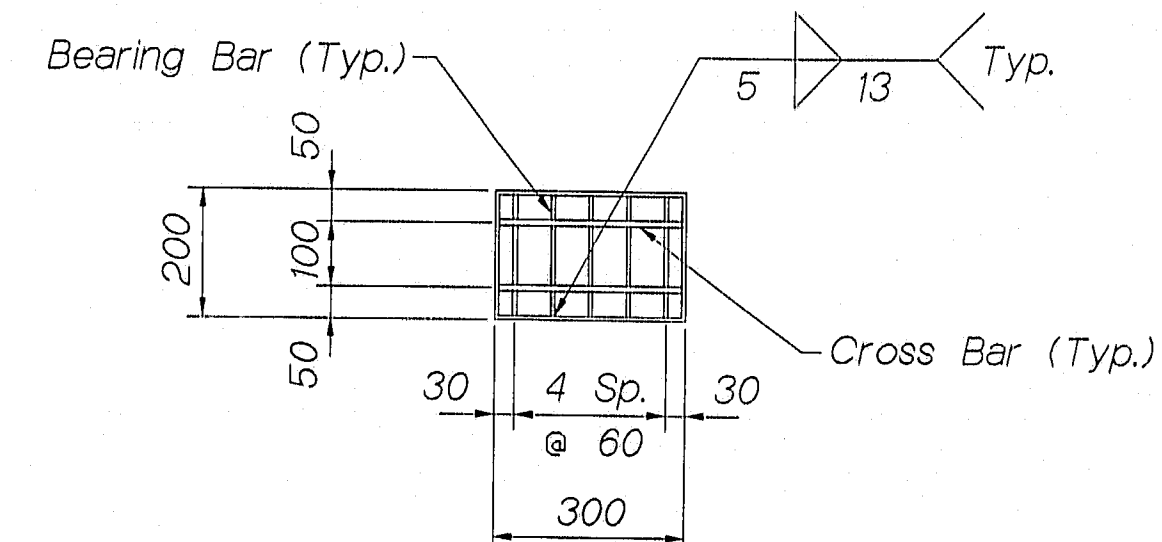
PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	RVM/KDM	7-95
CHECKED		
REVISED		
FIELD CHANGES		

STRSTEEL
06NOV95-0100 30

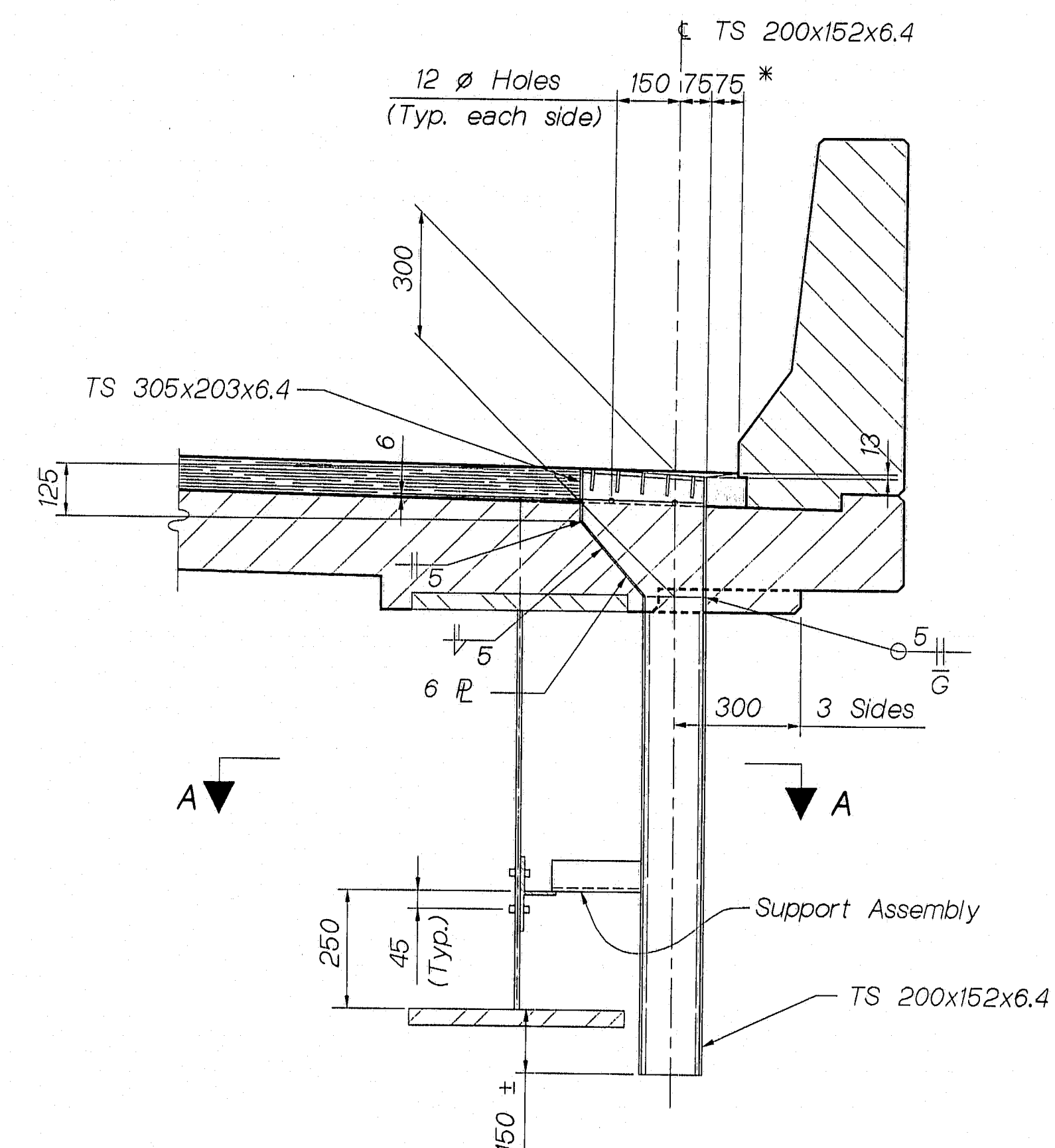
METRIC

1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

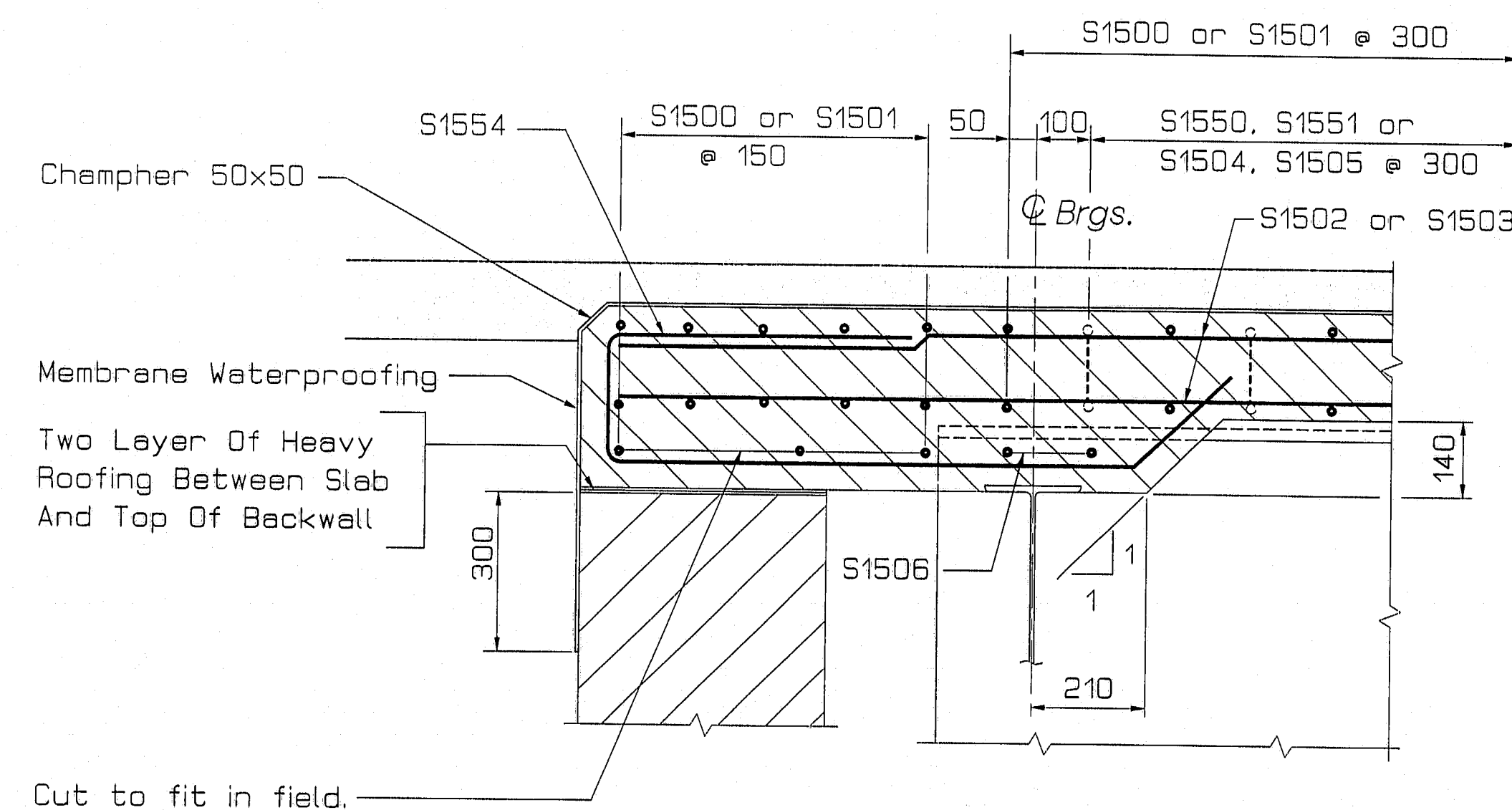
F.D.V.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	000S1971X	21	37
Mechanic Falls-Minot			4799.10	



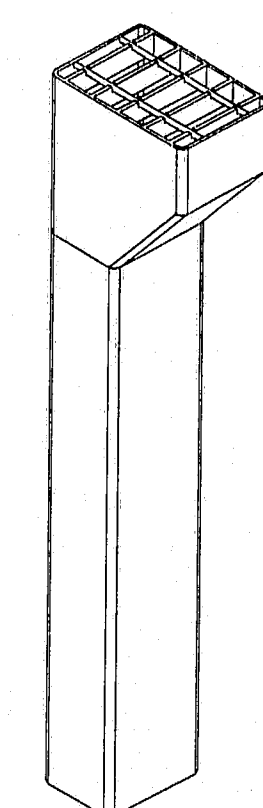
* Fill with non-shrink mortar



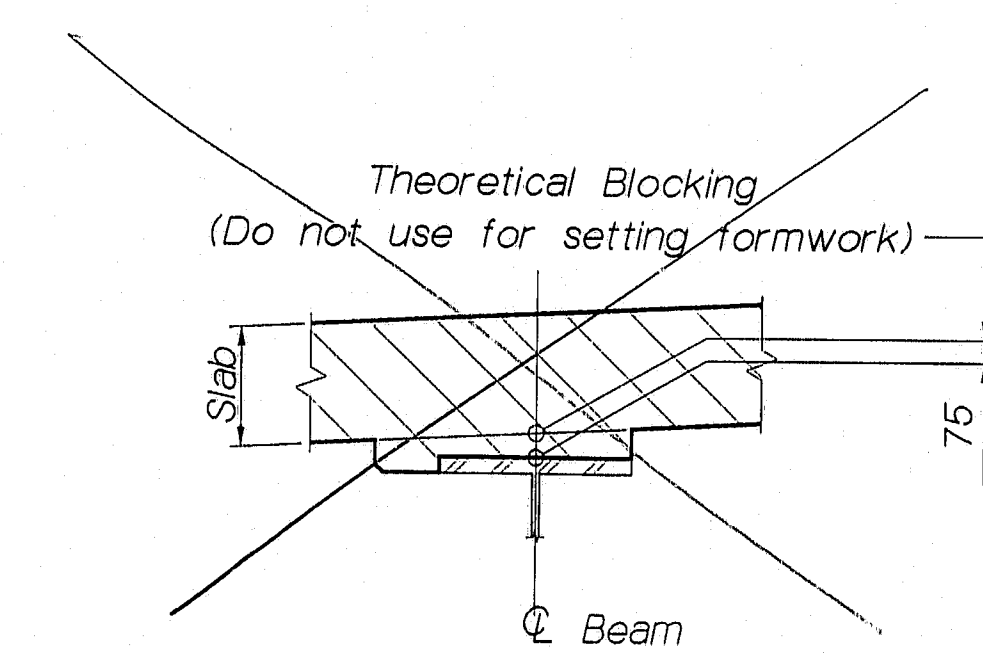
BRIDGE DRAIN



SECTION B - B

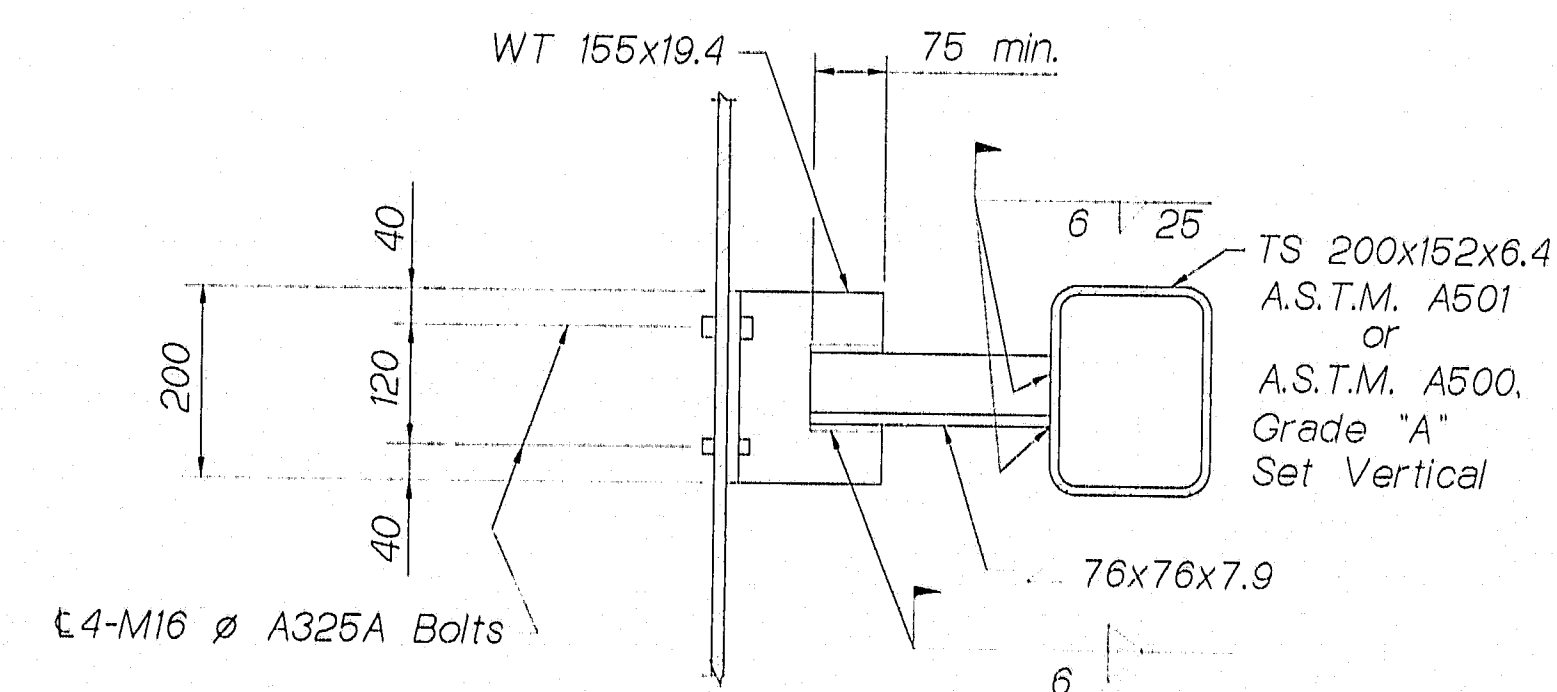


ISOMETRIC VIEW BRIDGE DRAIN



SEE SHEET # 27
STANDARD DETAILS

SLAB HAUNCH & BLOCKING DETAIL



SECTION A - A

NOTES:

1. At the option of the contractor, the TS 305x203x6.4 may be replaced by 6.4 thick plates.
2. Grating shall be a commercial heavy-duty grating with 50 x 6 bearing bars, and 10° cross bars.
3. Plates shall be A.S.T.M. A36M 6 mm thick.
4. WT 155x19.4 shall be of the same material as the beam web, and shall be paid for under the Structural Steel pay items.
5. If the minimum thickness of concrete below the drain is 50 or less, the haunch shall be extended as shown.
6. The Bridge Drain and 76x76 shall be galvanized to ASTM A123.
7. Payment for Bridge Drain shall be as specified under subsection 502.19 of the Standard Specifications.

PROJECT DESIGN ENGINEER	DATE
BY	7/95
DESIGN-DRAWING	
CHECKED	
REVISIONS	
FIELD CHANGES	

SUPERDET
08NOV95-010030

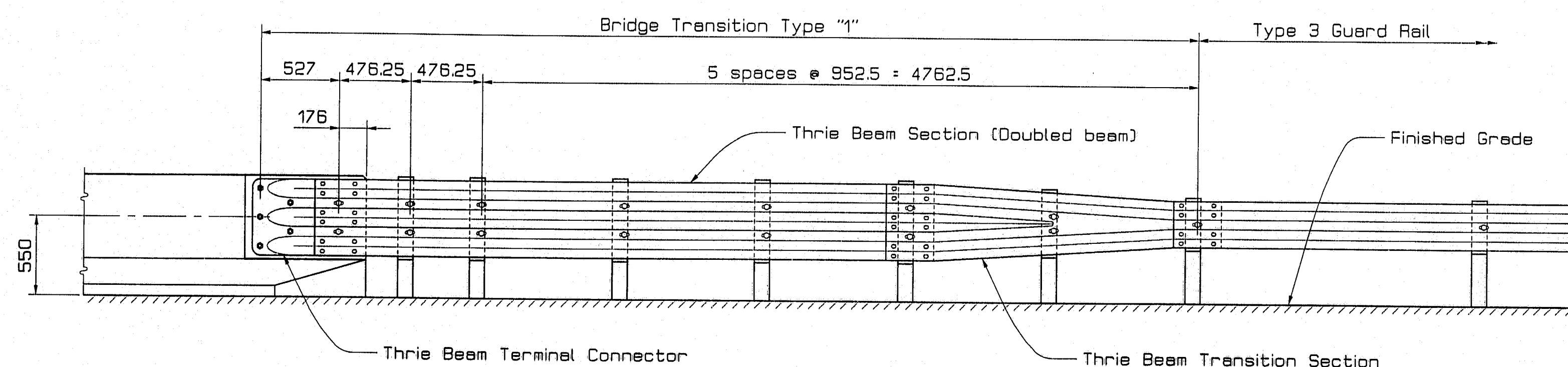
COPIES OF ALL
CHANGES
TO BE MADE

114-293

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE
OVER
BOG BROOK
BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY
SUPERSTRUCTURE DETAILS

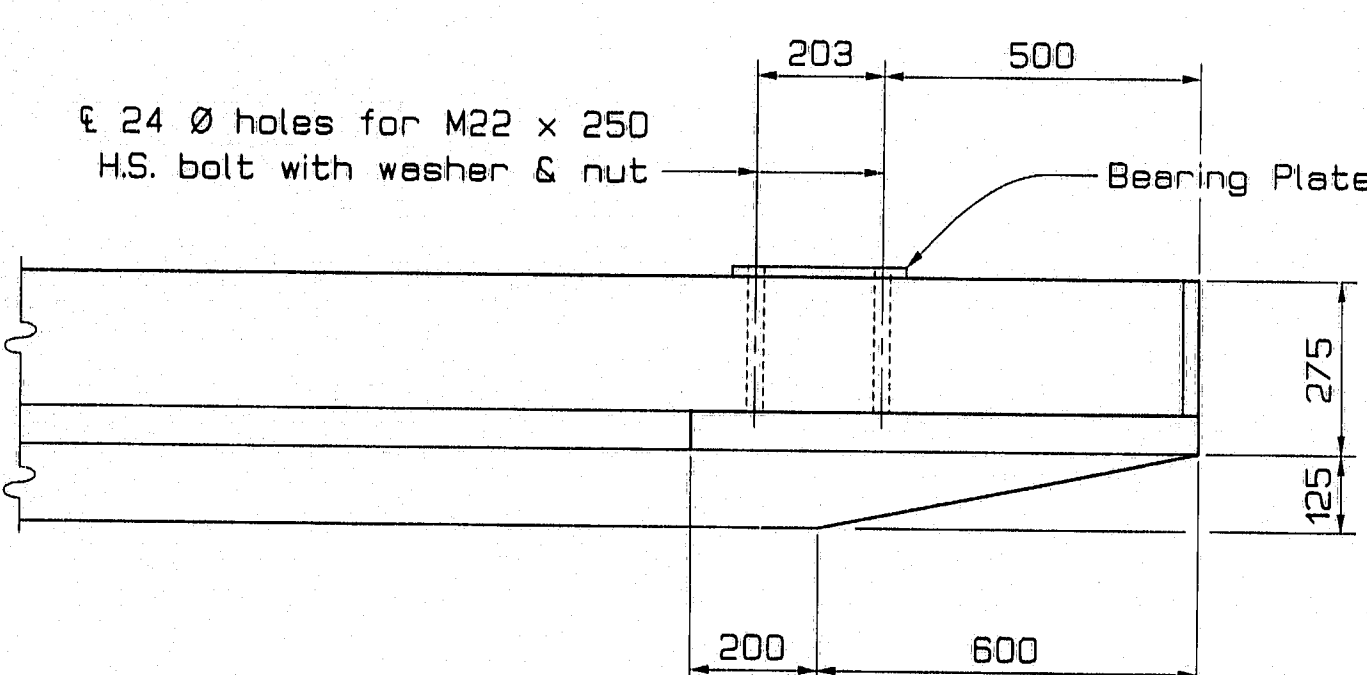
SHEET 21 OF 37 AUGUSTA, MAINE



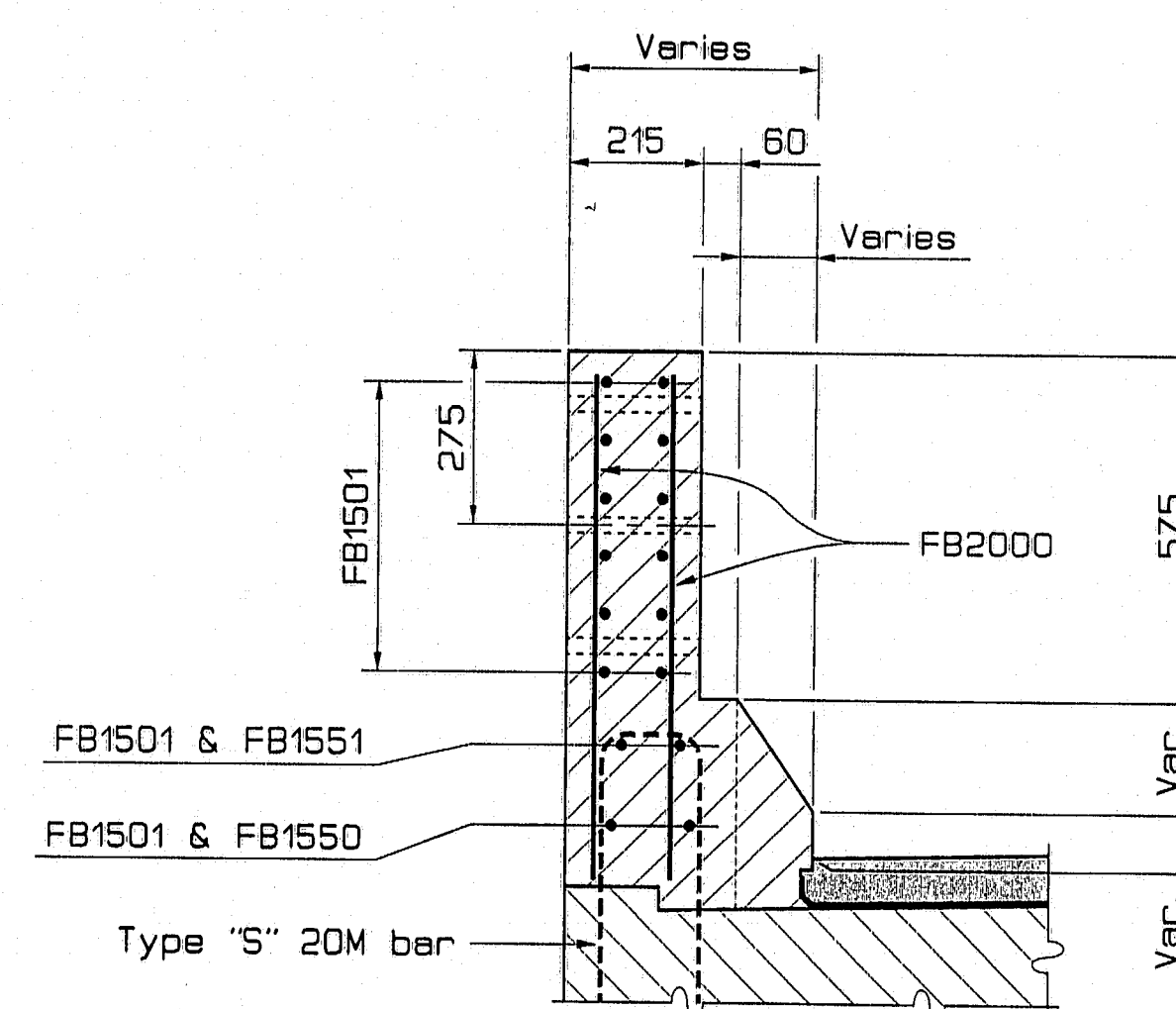
ELEVATION OF BARRIER WITH GUARD RAIL ATTACHMENT

BRIDGE TRANSITION PARTS LIST

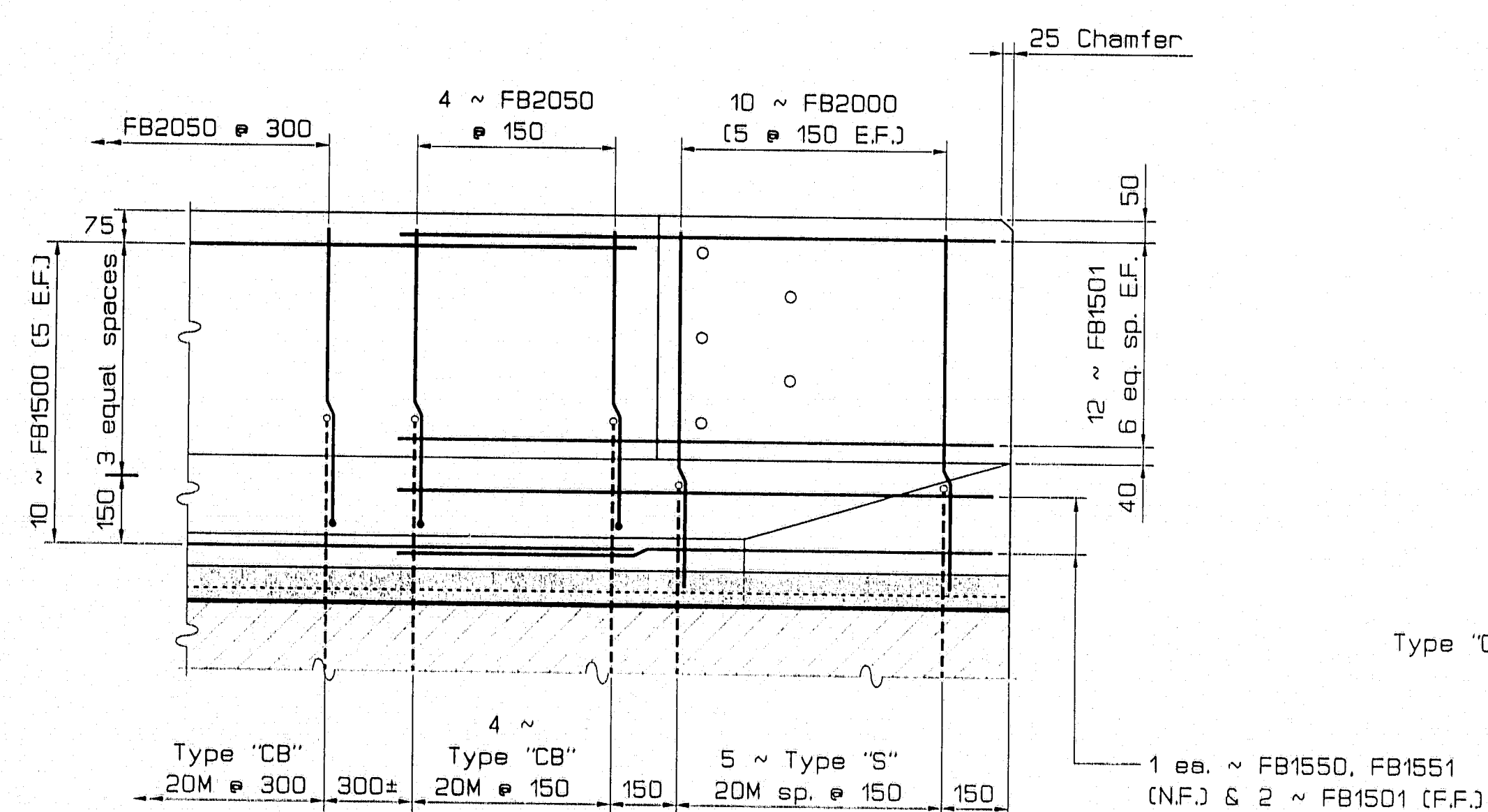
Thrie Beam Section (2)	ATM04a (modified)
Thrie Beam Transition Section (1)	AWT01a
Thrie Beam Terminal Connector (1)	ATE01b
Thrie Beam Post & Offset Block (6)	PWE03, PWB02
Thrie Beam Timber Post & Offset Block (6)	PDE03, PDB02



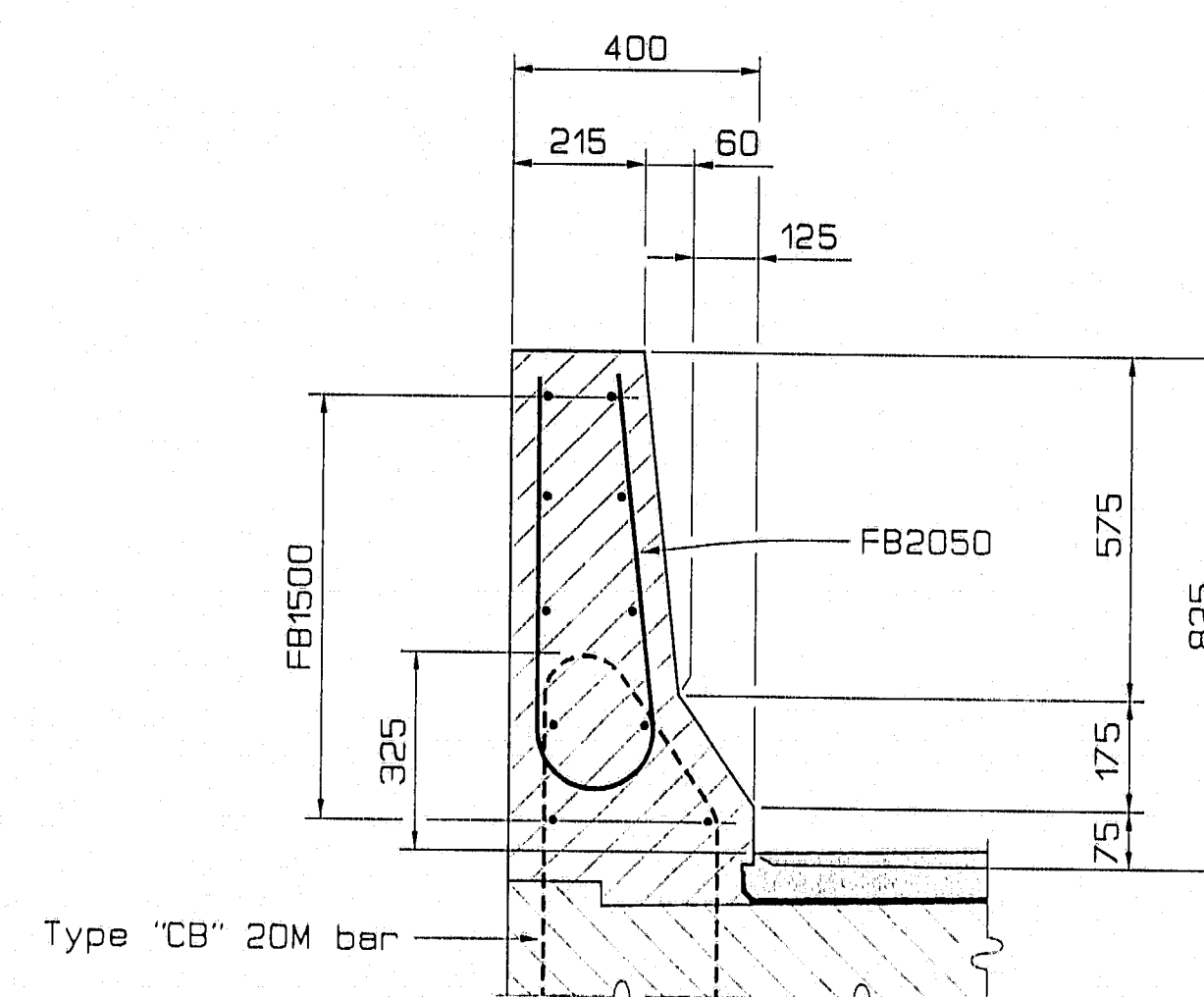
BARRIER PLAN



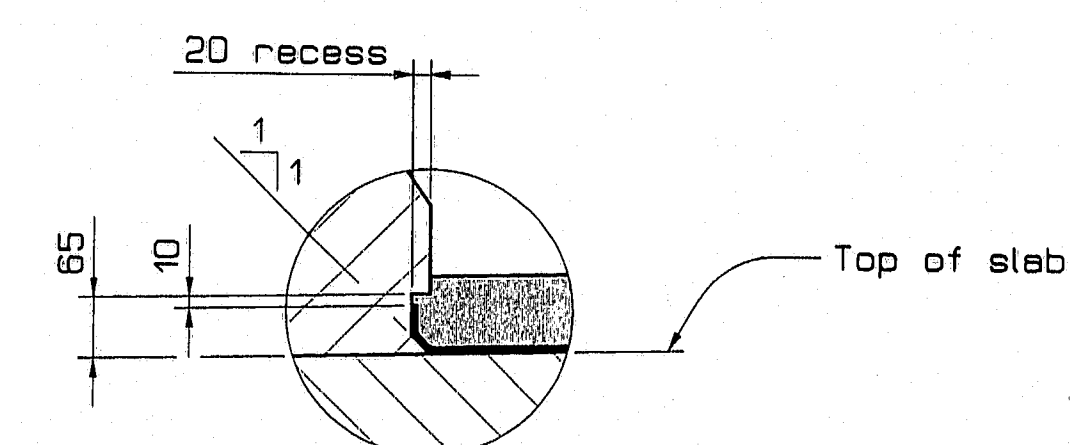
BARRIER END SECTION



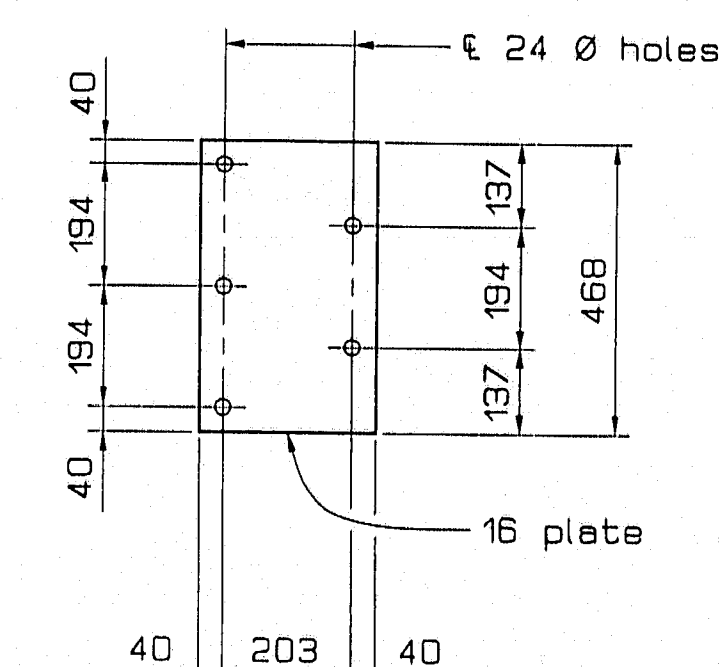
BARRIER ELEVATION



BARRIER SECTION



DETAIL AT GUTTER
(showing membrane recess)



BEARING PLATE

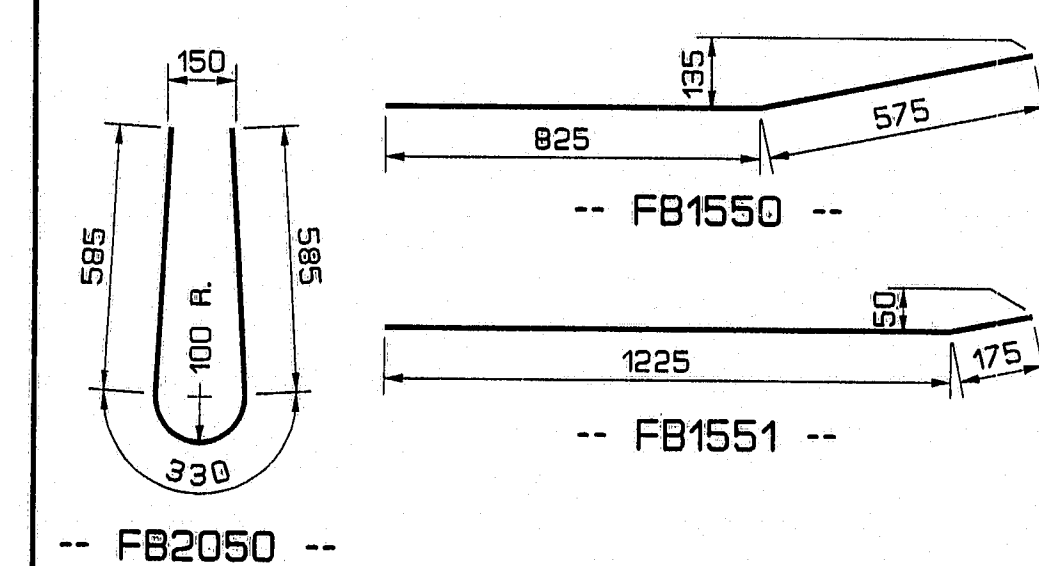
METRIC

1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.V.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	000S(197)X	22	37
Mechanic Falls-Minot			4799.10	

BARRIER REINFORCING STEEL

Mark	Quantity	Length
FB1500	As req'd	9150 max.
FB1501	14	1375
FB1550	1	1400
FB1551	1	1400
FB2000	10	825
FB2050	As req'd	1500



MATERIALS

ConcreteCl. "AASF" or Cl. "A" with silica fume
Reinforcing SteelASTM A615M, Grade 400
Bearing PlateASTM A709/A709M, Gr. 250 (Galv'd)
BoltsASTM A325M, Type 1 (Galv'd) or Type 3

NOTES

1. All work and materials shall conform to the provisions of Special Provisions Section 526 - Concrete Barrier (Permanent Concrete Barrier).
2. Reinforcing bar designations Type "S" and "CB" refer to type - bending diagrams as shown on the main Reinforcing Steel Schedule. These bars are detailed on the Design Drawings and are included for payment in the Reinforcing Steel pay items.
3. Reinforcing steel shall have 40 mm minimum concrete cover, except that stirrups Type "S" and "CB" shall have 50 mm minimum concrete cover.
4. The first two digits following the letters of the mark indicate the size of the reinforcing bar. (F81500 = bar size 15M.) All dimensions are out - to - out of bar.
5. The minimum lap splice length for F81500 bars is 550 mm.
6. The quantities of reinforcing bars shown are for one barrier end only.
7. Bolt holes in concrete shall be formed by a method approved by the Engineer.
8. Payment for anchor bolts and bearing plate will be considered incidental to the concrete barrier pay item.
9. Part designations for the Bridge Transition refer to details shown in "A Guide to Standardized Highway Barrier Hardware" as prepared and approved by the AASHTO - AGC - ARTBA Joint Committee, Task Force 13 Report.
10. After installation of the guard rail is complete, upset the threads on the anchor bolts in three (3) places around each bolt, at the junction of the nut and the exposed thread, with a center punch or similar tool.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	PLH	9/95
CHECKED	D. Dammen	
REVISED		
FIELD CHANGES		

PLANS

BARRIER
200CT95-0100.40

114-294

AS BUILT
Crew
12/6/9

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

POTTLE BRIDGE

OVER

BOG BROOK

BETWEEN THE TOWNS OF
MECHANIC FALLS-MINOT
ANDROSCOGGIN COUNTY

CONCRETE BARRIER

SHEET 22 OF 37 AUGUSTA, MAINE

REINFORCING STEEL SCHEDULE

METRIC

1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

STATE PROJECT NUMBER SHEET TOTAL
MAINE 0005(197)X 23 37
Mechanic Falls-Minot 479910

STRAIGHT BARS				STRAIGHT BARS			
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION
ABUTMENT NO. 1				PIER			
A1500	16	7425	Footings	P1501	40	3850	Pier Shaft
A1501	16	6525	Footings	P1502	40	4075	Pier Shaft
A1502	65	1050	Dowel				
A1503	57	5440	Breastwall				
A1504	12	4950					
A1505	12	7085					
A1506	12	3750					
A1507	12	5885					
A1508	22	2585	Breastwall	P2004	44	5675	Distribution Slab
A1509	8	1900	Backwall	P2002	4	6070	
A1510	4	1810		P2003	4	6520	
A1511	4	1620		P2004	4	6970	
A1512	4	1430		P2005	2	7390	
A1513	4	1240		P2006	52	3000	
A1514	4	1050		P2007	2	2450	
A1515	6	7085		P2008	2	1650	
A1516	6	5885		P2009	2	650	Distribution Slab
A1517	2	5430					
A1518	2	6630	Backwall				
A1519	64	1975	FOOTING				

MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION
ABUTMENT NO. 2				PIER			
B1500	16	7425	Footings	P1550	8	1475	L 975 500
B1501	16	6525	Footings	P1551	14	1670	L 1050 620
B1502	65	1050	Dowel	P1552	14	1975	L 1225 750
B1503	57	5440	Breastwall	P1553	1	2810	PA 450 955 450
B1504	12	4950		P1554	1	2860	470 961 470
B1505	12	7085		P1555	1	3040	545 975 545
B1506	12	3750		P1556	1	3250	621 1005 621
B1507	12	5885		P1557	1	3460	700 1030 700
B1508	22	2585	Breastwall	P1558	1	3670	775 1060 775
B1509	8	1900	Backwall	P1559	1	3870	850 1085 850
B1510	4	1810		P1560	1	4070	925 1110 925
B1511	4	1620		P1561	1	4280	1000 1140 1000
B1512	4	1430		P1562	1	4490	1075 1165 1075
B1513	4	1240		P1563	1	4690	1150 1195 1150
B1514	4	1050		P1564	1	4890	1225 1225 1225
B1515	6	7085		P1565	1	5110	1305 1250 1305
B1516	6	5885		P1566	1	5310	1380 1275 1380
B1517	2	5430		P1567	1	5530	1460 1305 1460
B1518	2	6630	Backwall	P1568	1	5720	1530 1330 1530
B1519	64	1975	FOOTING	P1569	1	5940	1610 1360 1610

MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION
ABUTMENT NO. 2				PIER			
B1500	16	7425	Footings	P1550	8	1475	L 975 500
B1501	16	6525	Footings	P1551	14	1670	L 1050 620
B1502	65	1050	Dowel	P1552	14	1975	L 1225 750
B1503	57	5440	Breastwall	P1553	1	2810	PA 450 955 450
B1504	12	4950		P1554	1	2860	470 961 470
B1505	12	7085		P1555	1	3040	545 975 545
B1506	12	3750		P1556	1	3250	621 1005 621
B1507	12	5885		P1557	1	3460	700 1030 700
B1508	22	2585	Breastwall	P1558	1	3670	775 1060 775
B1509	8	1900	Backwall	P1559	1	3870	850 1085 850
B1510	4	1810		P1560	1	4070	925 1110 925
B1511	4	1620		P1561	1	4280	1000 1140 1000
B1512	4	1430		P1562	1	4490	1075 1165 1075
B1513	4	1240		P1563	1	4690	1150 1195 1150
B1514	4	1050		P1564	1	4890	1225 1225 1225
B1515	6	7085		P1565	1	5110	1305 1250 1305
B1516	6	5885		P1566	1	5310	1380 1275 1380
B1517	2	5430		P1567	1	5530	1460 1305 1460
B1518	2	6630	Backwall	P1568	1	5720	1530 1330 1530
B1519	64	1975	FOOTING	P1569	1	5940	1610 1360 1610

MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION
ABUTMENT NO. 2				PIER			
B1500	16	7425	Footings	P1550	8	1475	L 975 500
B1501	16	6525	Footings	P1551	14	1670	L 1050 620
B1502	65	1050	Dowel	P1552	14	1975	L 1225 750
B1503	57	5440	Breastwall	P1553	1	2810	PA 450 955 450
B1504	12	4950		P1554	1	2860	470 961 470
B1505	12	7085		P1555	1	3040	545 975 545
B1506	12	3750		P1556	1	3250	621 1005 621
B1507	12	5885		P1557	1	3460	700 1030 700
B1508	22	2585	Breastwall	P1558	1	3670	775 1060 775
B1509	8	1900	Backwall	P1559	1	3870	850 1085 850
B1510	4	1810		P1560	1	4070	925 1110 925
B1511	4	1620		P1561	1	4280	1000 1140 1000
B1512	4	1430		P1562	1	4490	1075 1165 1075
B1513	4	1240		P1563	1	4690	1150 1195 1150
B1514	4	1050		P1564	1	4890	1225 1225 1225
B1515	6	7085		P1565	1	5110	1305 1250 1305
B1516	6	5885		P1566	1	5310	1380 1275 1380
B1517	2	5430		P1567	1	5530	1460 1305 1460
B1518	2	6630	Backwall	P1568	1	5720	1530 1330 1530
B1519	64	1975	FOOTING	P1569	1	5940	1610 1360 1610

MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION
ABUTMENT NO. 2				PIER			
B1500	16	7425	Footings	P1550	8	1475	L 975 500
B1501	16	6525	Footings	P1551	14	1670	L 1050 620
B1502	65	1050	Dowel	P1552	14	1975	L 1225 750
B1503	57	5440	Breastwall	P1553	1	2810	PA 450 955 450
B1504	12	4950		P1554	1	2860	470 961 470
B1505	12	7085		P1555	1	3040	545 975 545
B1506	12	3750		P1556	1	3250	621 1005 621
B1507	12	5885		P1557	1	3460	700 1030 700
B1508	22	2585	Breastwall	P1558	1	3670	775 1060 775
B1509	8	1900	Backwall	P1559	1	3870	850 1085 850
B1510	4	1810		P1560	1	4070	925 1110 925
B1511	4	1620		P1561	1	4280	1000 1140 1000
B1512	4	1430		P1562	1	4490	1075 1165 1075
B1513	4	1240		P1563	1	4690	1150 1195 1150
B1514	4	1050		P1564	1	4890	1225 1225 1225
B1515	6	7085		P1565	1	5110	1305 1250 1305
B1516	6	5885		P1566	1	5310	1380 1275 1380
B1517	2	5430		P1567	1	5530	1460 1305 1460
B1518	2	6630	Backwall	P1568	1	5720	1530 1330 1530
B1519	64	1975	FOOTING	P1569	1	5940	1610 1360 1610

BENT BARS																							
MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	LOCATION	
ABUTMENT NO. 1																							
A1550	31	3320	S	1485	350	1485																Backwall	
A1551	21	5915	L	1100	4815																	Breastwall	
A1552	45	1750	L	300	1450																	Dowel	
A1553	4	2090	V				515	1575			760											Wingwall	
ABUTMENT NO. 2																							
B1550	31	3320	S	1485	350	1485																Backwall	
B1551	21	5915	L	1100	4815																	Breastwall	
B1552	45	1750	L	300	1450																	Dowel	
B1553	4	2090	V				515	1575			760											Wingwall	

PIER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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