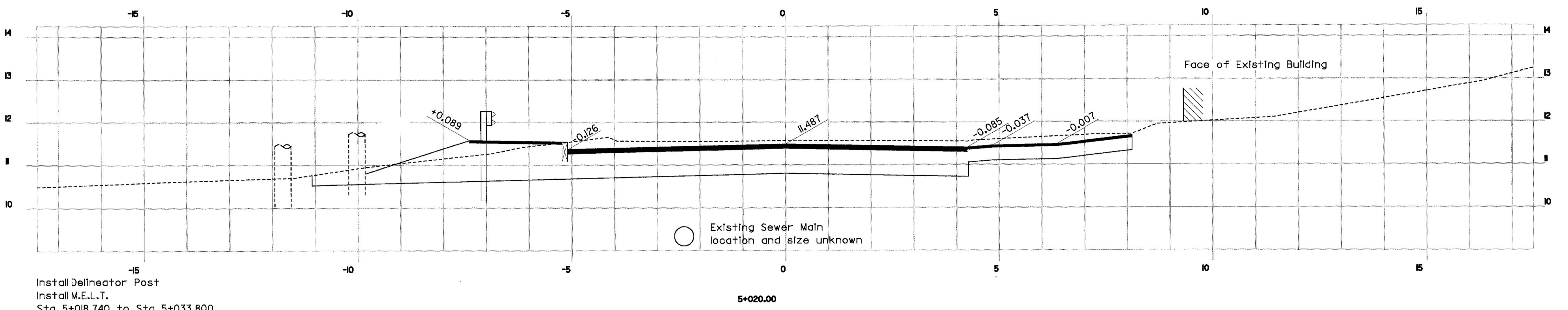
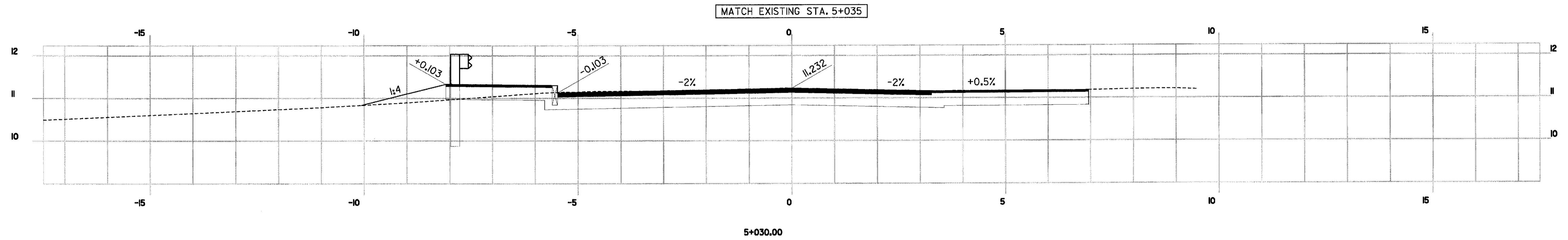


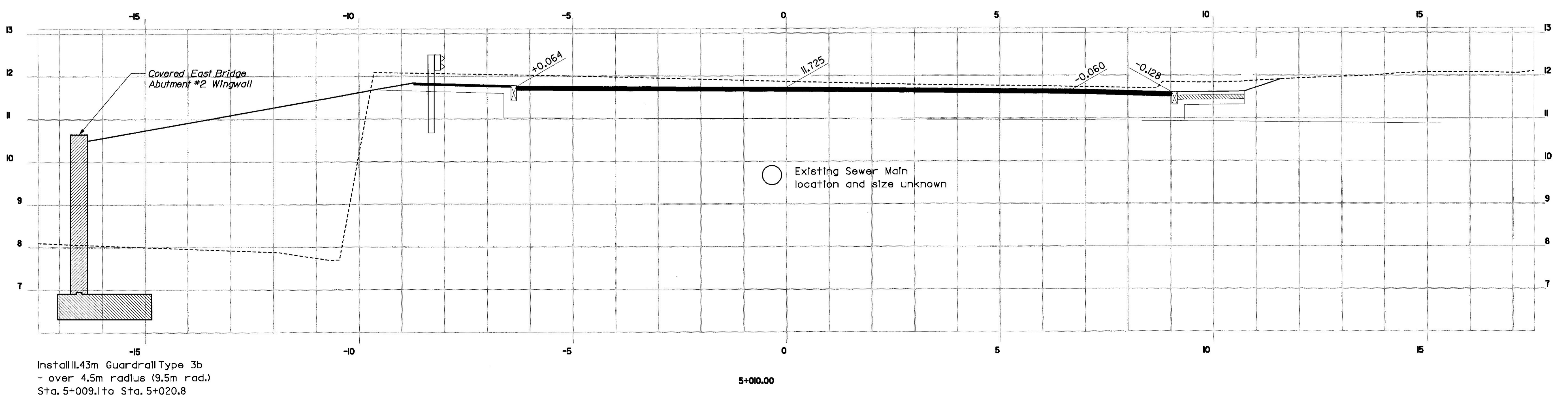
METRIC 1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 (00)X	16	45

007681.00



Install Delineator Post
Install M.E.L.T.
Sta. 5+018.740 to Sta. 5+033.800
Install Delineator Post



Install 11.43m Guardrail Type 3b
- over 4.5m radius (9.5m rad.)
Sta. 5+009.1 to Sta. 5+020.8

Date: 14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

Filename: ...016_x40.dgn

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

PLANS

STA. X+XXX TO STA. Y+YYY

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

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-768100IX	17	45

BR-768100IX
BR-768000IX
007681.00

DAB FOR MC10
PBT 1 10+000.000 382509.693 116890.869
N 80°-22'-48.5"E 1.809 m
PC 2 10+001.809 382511.477 116891.172
I = 10°01'4.672
I = 65°-29'-32.0" LT
R = 20.000
L = 22.861
T = 12.863
E = 3.779
LC = N 47°-38'-02.4"E 21.637
PI COORD.= 382524.158 116893.321
CP COORD.= 382508.135 116910.890
PT 10 10+024.671 382527.463 116905.752
N 14°-53'-16.3"E 5.457 m
PC 12 10+030.128 382528.865 116911.026
PI = 10°04'1.749
I = 75°-31'-52.0" LT
R = 15.000
L = 19.774
T = 11.621
E = 3.975
LC = N 22°-52'-39.6"W 18.373
PI COORD.= 382531.851 116922.257
CP COORD.= 382514.369 116914.880
PAT 18 10+049.902 382521.723 116927.954

DAB FOR MC20
PBC 1 20+000.000 382547.936 116716.088
PI = 20°018.172
I = 7°-38'-07.6" LT
R = 272.312
L = 36.289
T = 18.172
E = .606
LC = N 9°-24'-20.4"W 36.262
PI COORD.= 382546.167 116734.173
CP COORD.= 382276.918 116689.572
PT 9 20+036.289 382542.010 116751.863
N 13°-13'-24.2"W 96.950 m
PC 29 20+133.239 382519.833 116846.242
PI = 20°44.995
I = 16°-37'-17.5" RT
R = 80.478
L = 23.347
T = 11.756
E = .854
LC = N 4°-54'-45.4"W 23.265
PI COORD.= 382517.144 116857.686
CP COORD.= 382598.177 116864.651
PRC 35 20+156.586 382517.841 116869.422
PI = 20°173.909
I = 115°-10'-07.3" LT
R = 11.000
L = 22.111
T = 17.323
E = 9.520
LC = N 54°-11'-09.9"W 18.572
PI COORD.= 382518.867 116886.714
CP COORD.= 382506.860 116870.074
PT 45 20+178.697 382502.780 116880.289
S 68°-13'-46.9"W 7.421 m
PAT 48 20+186.117 382495.889 116877.537

DAB FOR MC30
PBC 1 30+000.000 382558.815 116717.141
PI = 30°018.736
I = 7°-45'-43.9" LT
R = 276.174
L = 37.415
T = 18.736
E = .635
LC = N 9°-20'-19.5"W 37.386
PI COORD.= 382557.033 116735.793
CP COORD.= 382283.893 116690.874
PT 9 30+037.415 382552.748 116754.032
N 13°-13'-11.5"W 97.299 m
PC 29 30+134.714 382530.497 116848.752
PI = 30°152.117
I = 28°-06'-27.8" RT
R = 69.522
L = 34.106
T = 17.403
E = 2.145
LC = N 0°-50'-02.4"E 33.765
PI COORD.= 382526.518 116865.694
CP COORD.= 382598.177 116864.651
PT 37 30+168.819 382530.989 116882.513
N 14°-53'-16.4"E 39.228 m
PAT 46 30+199.437 382538.856 116912.104

DAB FOR MC50
PBC 1 3+080.000 382553.376 116716.615
PI = 3°098.487
I = 7°-41'-30.3" LT
R = 275.000
L = 36.918
T = 18.487
E = .621
LC = N 9°-22'-35.5"W 36.890
PI COORD.= 382551.594 116735.015
CP COORD.= 382279.656 116690.111
PT 31 3+116.918 382547.386 116753.012
N 13°-13'-20.6"W 97.058 m
PC 51 3+213.975 382525.165 116847.496
PI = 3°232.752
I = 28°-06'-37.1" RT
R = 75.000
L = 36.796
T = 18.776
E = 2.315
LC = N 0°-49'-57.9"E 36.428
PI COORD.= 382520.871 116865.775
CP COORD.= 382598.177 116864.651
PT 103 3+250.772 382525.695 116883.921
N 14°-53'-16.4"E 49.228 m
PAT 113 3+300.000 382538.343 116931.497

DAB FOR MC70
PBT 1 5+000.000 382525.266 116882.188
N 76°-28'-33.1"W 15.092 m
PC 5 5+015.092 382510.593 116885.718
PI = 5°021.816
I = 44°-49'-50.2" LT
R = 16.300
L = 12.754
T = 6.723
E = 1.332
LC = S 81°-06'-31.5"W 12.431
PI COORD.= 382504.056 116887.290
CP COORD.= 382506.781 116869.869
PT 41 5+027.846 382493.311 116883.796
S 58°-41'-36.2"W 12.047 m
PAT 44 5+039.894 382488.018 116877.536

Curb Notes:

- Item No. 609.11 - Vertical Curb Type I
Point 1 to Point 2 (Match Bridge) L= 7.649 m
Point 4 (Match Bridge) to Point 6 (-1.219 for curb inlet) L= 14.607 m
Point 9 to Point 10 (Match Bridge) L= 32.184 m
Point 12 (Match Bridge) to Point 13 (-1.219 for curb inlet) L= 5.135 m
Point 16 to Point 17 (Match Bridge) L= 4.343 m
Point 20 (Match Bridge) to Point 21 L= 2.103 m
Point 26 to Point 27 L= 5.321m
Point 36 to Point 37 (-1.219 for curb inlet) L= 4.238 m
Point 42 to Point 43 (Match Bridge) L= 9.152 m
Point 45 (Match Bridge) to Point 47 (Match Bridge) (-1.219 for curb inlet) L= 58.968 m
Point 49 (Match Bridge) to Point 50 (-1.219 for curb inlet) L= 5.135 m
Point 53 to Point 54 (Match Bridge) L= 6.298 m
Point 57 (Match Bridge) to Point 59 (-1.219 for curb inlet) L= 37.753 m
- Item No. 609.12 - Vertical Curb Type I - Circular (-1.219 for curb inlet) L= 5.675 m
Point 21 to Point 22 Radius = 11 m L= 10.134 m
Point 25 to Point 26 Radius = 11 m L= 58.968 m
Point 31 to Point 32 Radius = 20 m L= 2.557 m
Point 35 to Point 36 Radius = 20 m L= 13.713 m
Point 37 to Point 38 Radius = 15 m L= 13.773 m
- Item No. 609.237 - Terminal Curb Type I - 2.1 m
Point 6 to Point 7
Point 8 to Point 9
Point 13 to Point 14
Point 15 to Point 16
Point 22 to Point 23 Radius = 11 m
Point 24 to Point 25 Radius = 11 m
Point 27 to Point 28
Point 29 to Point 31
Point 32 to Point 33 Radius = 20 m
Point 34 to Point 35 Radius = 20 m
Point 38 to Point 39 Radius = 15 m
Point 40 to Point 41 Radius = 15 m
Point 50 to Point 51
Point 52 to Point 53
Point 59 to Point 60
- Item No. 609.132 - Vertical Bridge Curb Type IB
Point 2 to Point 3 L= 14.665 m
Point 10 to Point 11 L= 27.100 m
Point 17 to Point 19 L= 25.485 m
Point 43 to Point 44 L= 14.655 m
Point 47 to Point 48 L= 27.100 m
Point 54 to Point 56 L= 25.944 m

Refer to Curb Profile sheet for additional notes

Geometrics

Offsets from MC50

Point	Station	Offset
1	3+080.000	5.465 Lt
2	3+087.804	5.472 Lt
3	3+102.767	5.478 Lt
4	3+102.792	5.478 Lt
5	3+117.026	5.478 Lt
6	3+118.900	5.478 Lt
7	3+121.000	5.478 Lt
8	3+129.000	5.478 Lt
9	3+131.100	5.478 Lt
10	3+163.284	5.478 Lt
11	3+190.384	5.478 Lt
12	3+190.409	5.478 Lt
13	3+197.063	5.478 Lt
14	3+199.163	5.478 Lt
15	3+202.963	5.478 Lt
16	3+205.063	5.478 Lt
17	3+209.707	5.478 Lt
18	3+213.974	5.478 Lt
19	3+233.748	5.478 Lt
20	3+233.772	5.478 Lt
21	3+235.732	5.478 Lt
22	3+240.694	7.090 Lt
23	3+242.162	8.420 Lt
35	3+259.660	8.420 Lt
36	3+272.324	3.900 Lt
37	3+277.781	3.900 Lt
38	3+289.699	9.792 Lt
39	3+290.854	11.544 Lt
40	3+291.640	13.162 Lt
41	3+292.305	15.152 Lt

Geometrics

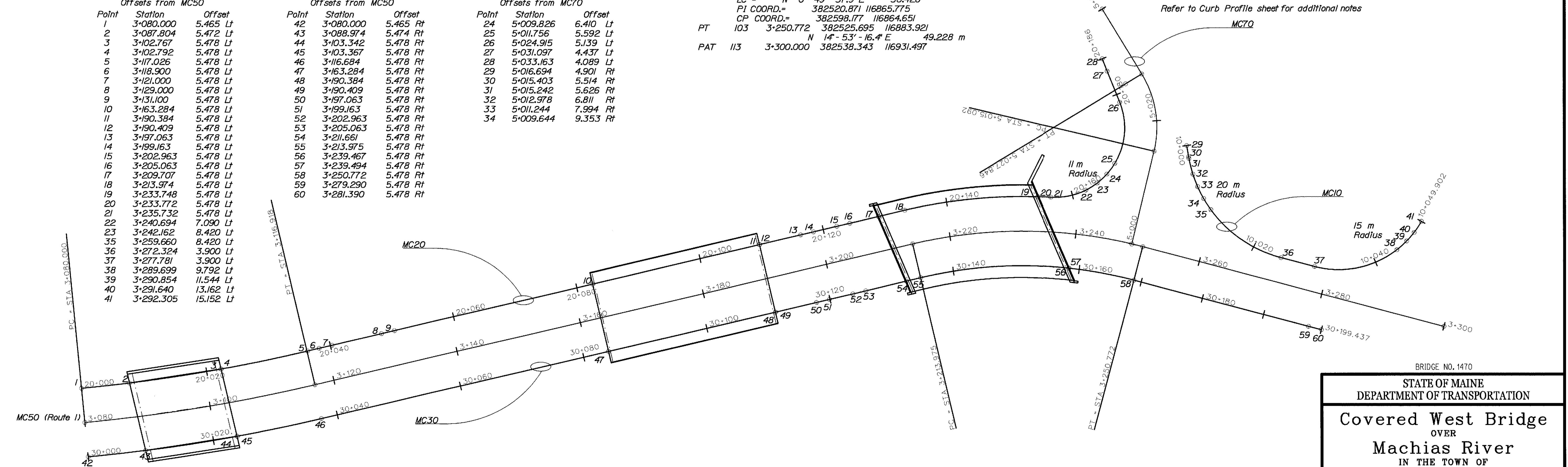
Offsets from MC50

Point	Station	Offset
42	3+080.000	5.465 Rt
43	3+088.974	5.474 Rt
44	3+103.342	5.478 Rt
45	3+103.367	5.478 Rt
46	3+116.684	5.478 Rt
47	3+163.284	5.478 Rt
48	3+190.384	5.478 Rt
49	3+190.409	5.478 Rt
50	3+197.063	5.478 Rt
51	3+199.163	5.478 Rt
52	3+202.963	5.478 Rt
53	3+205.063	5.478 Rt
54	3+211.661	5.478 Rt
55	3+213.975	5.478 Rt
56	3+239.467	5.478 Rt
57	3+239.494	5.478 Rt
58	3+250.772	5.478 Rt
59	3+279.290	5.478 Rt
60	3+281.390	5.478 Rt

Geometrics

Offsets from MC70

Point	Station	Offset
24	5+009.826	6.410 Lt
25	5+011.756	5.592 Lt
26	5+024.915	5.139 Lt
27	5+031.097	4.437 Lt
28	5+033.163	4.089 Lt
29	5+016.694	4.901 Rt
30	5+015.403	5.514 Rt
31	5+015.242	5.626 Rt
32	5+012.978	6.811 Rt
33	5+011.244	7.994 Rt
34	5+009.644	9.353 Rt



BRIDGE NO. 1470

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Curb Layout

SHEET OF AUGUSTA, MAINE

Date: 14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

Filename: ...017_curb_layout.dgn

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

PLANS

Date:14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

Filename: ...018_curb_profile.dgn

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

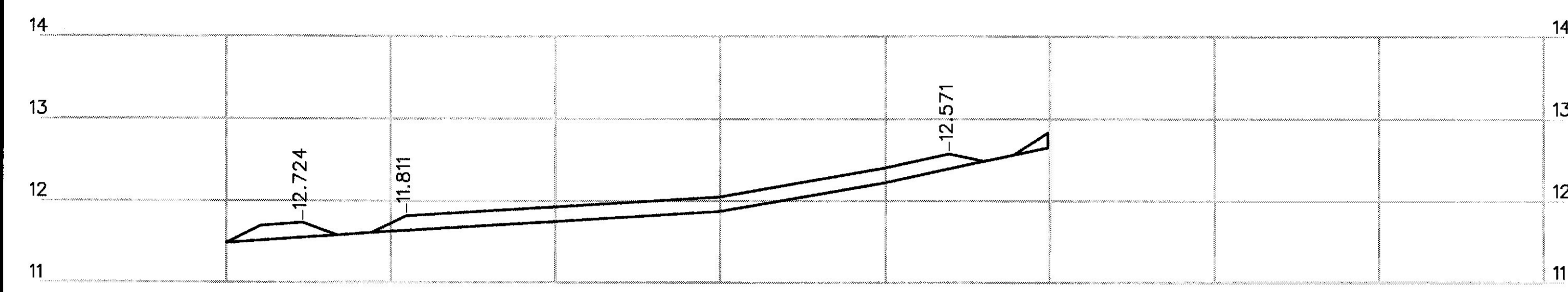
PLANS

METRIC

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

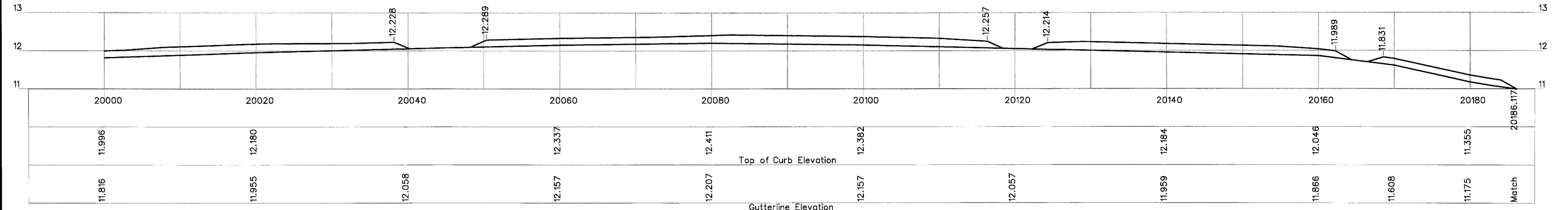
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-7681(00)X	18	45

BR-7679(00)X
 BR-7680(00)X
 007681.00



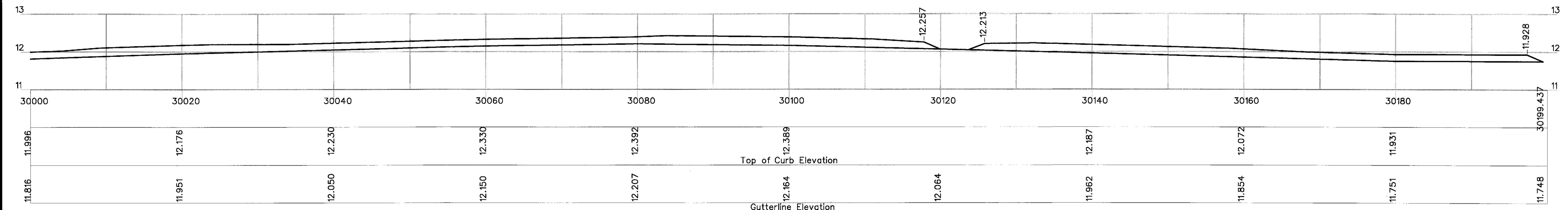
10000	10020	10040	10049.902
Match	11.800	11.923	12.402
		12.047	Match
Top of Curb Elevation			
Match	11.620	11.743	12.222
		11.867	Match
Gutterline Elevation			

MC10



20000	20020	20040	20060	20080	20100	20120	20140	20160	20180	20186.117
11.996	12.180		12.337	12.411	12.382		12.184	12.046	11.355	Match
11.816	11.955	12.058	12.157	12.207	12.157	12.057	11.959	11.866	11.608	11.175
Gutterline Elevation										

MC20



30000	30020	30040	30060	30080	30100	30120	30140	30160	30180	30198.437
11.996	12.176	12.230	12.330	12.392	12.389		12.187	12.072	11.931	11.928
11.816	11.951	12.050	12.150	12.207	12.164	12.064	11.962	11.854	11.751	11.748
Gutterline Elevation										

MC30

Curb Notes:

- All catch basins type A-C placed on circular curb type I shall have the curb inlet cut to the same radius as adjacent circular curb. Payment shall be made incidental to item no. 604.072, no separate payment shall be made.
- Reveal shall be varied as shown on this drawing to transition from approach curb to bridge curb.
- Install 25 mm Closed Cell Neoprene to cover the entire cross sectional area between Vertical Bridge Curb and Vertical Curb Type I at the following Locations:
 Point 3 to Point 4
 Point 11 to Point 12
 Point 19 to Point 20
 Point 44 to Point 45
 Point 48 to Point 49
 Point 56 to Point 57
 Closed Cell Neoprene shall cover the entire cross sectional area of the largest adjacent curb stone and shall be adhered to the curb stone using polyurethane caulking. Payment for all materials, equipment, and labor necessary for installation shall be considered incidental to related contract items. No separate payment shall be made.

BRIDGE NO. 1470
 STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 Covered West Bridge
 OVER
 Machias River
 IN THE TOWN OF
 Machias
 Washington County
Curb Profile

Date: 14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

Filename: ... \019_texasrailplan.dgn

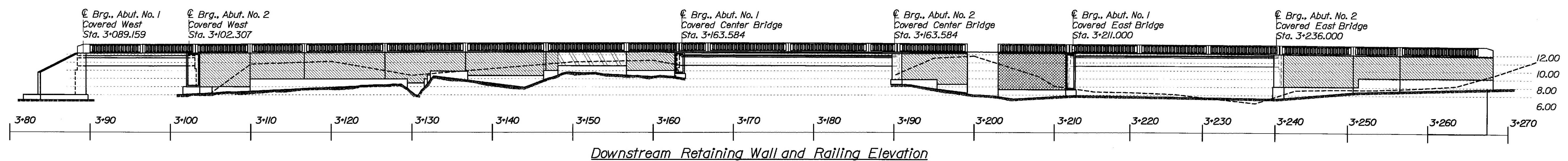
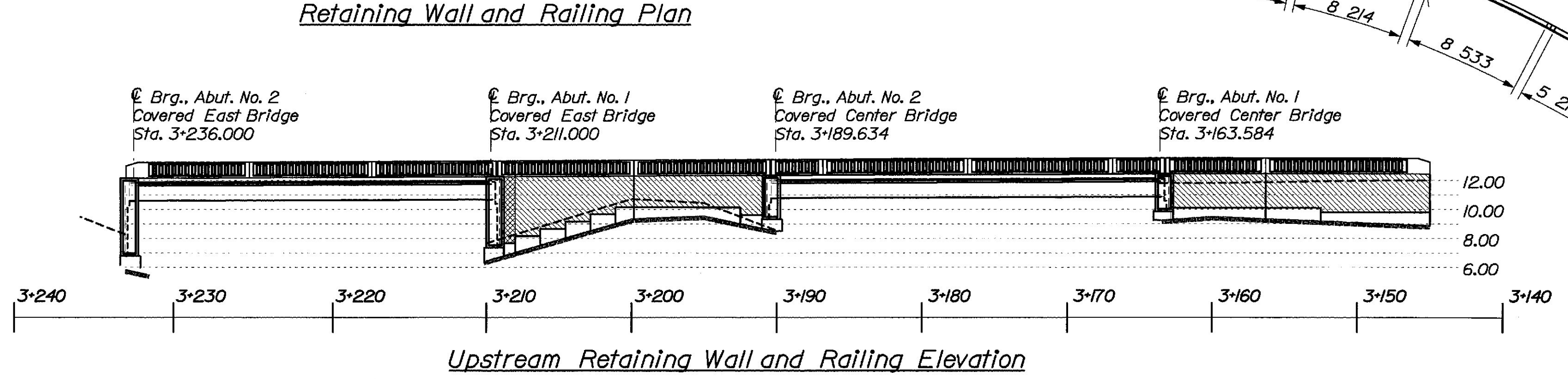
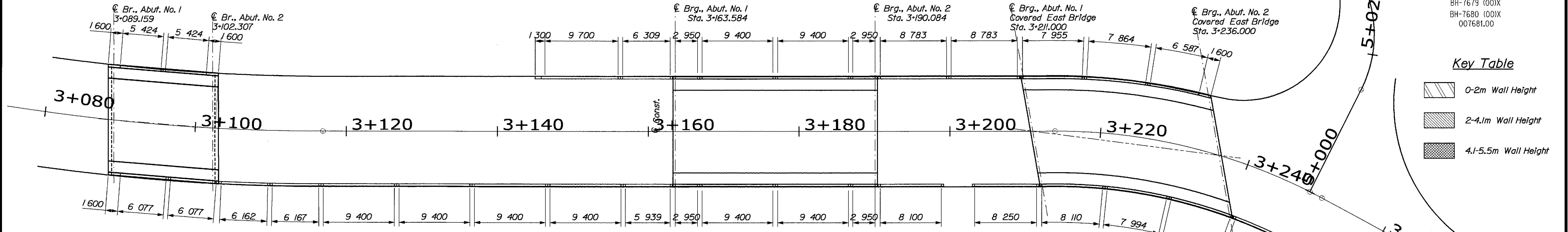
METRIC

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

FHWA REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 (00)X	19	45

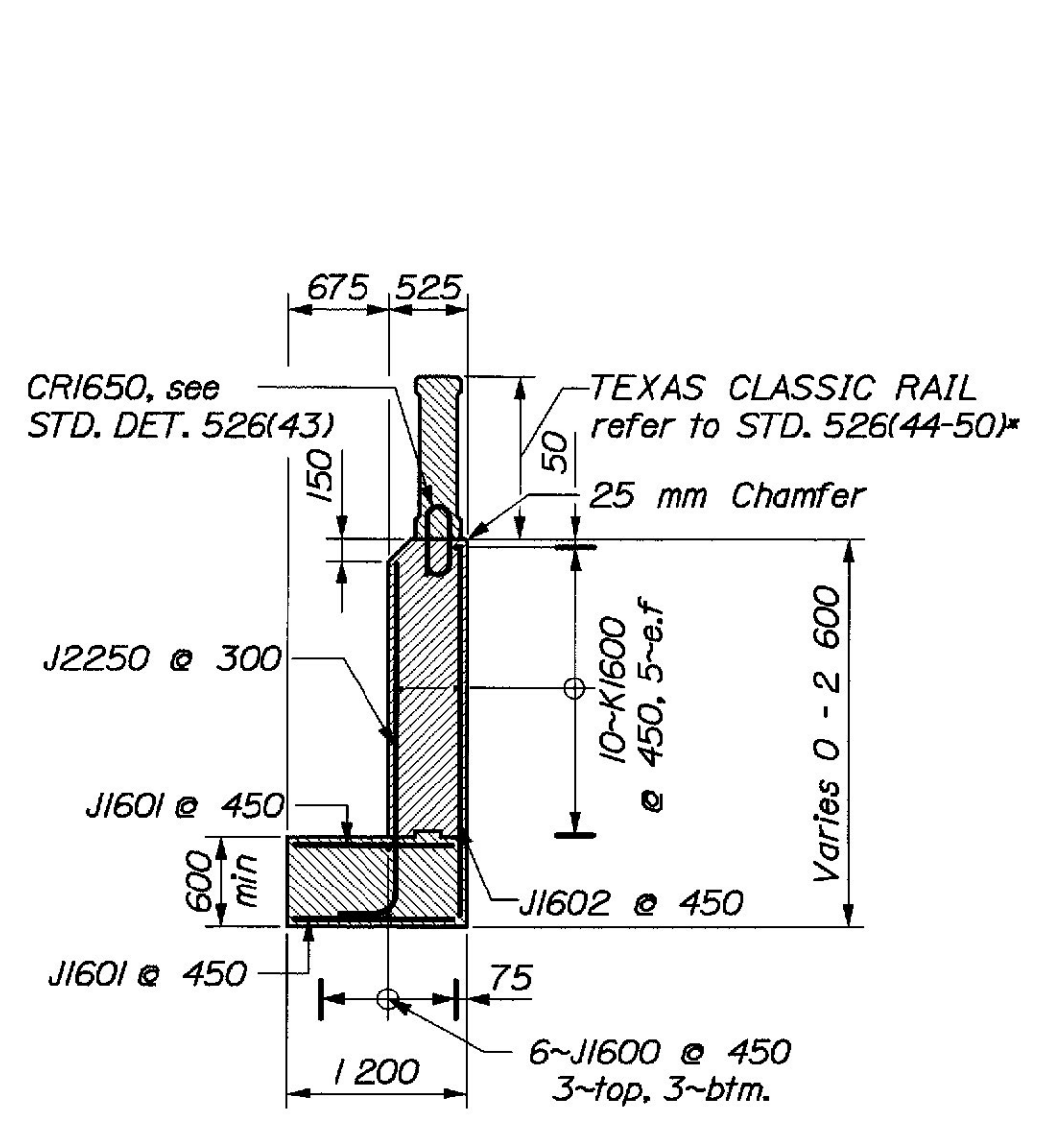
Key Table

	0-2m Wall Height
	2-4.1m Wall Height
	4.1-5.5m Wall Height

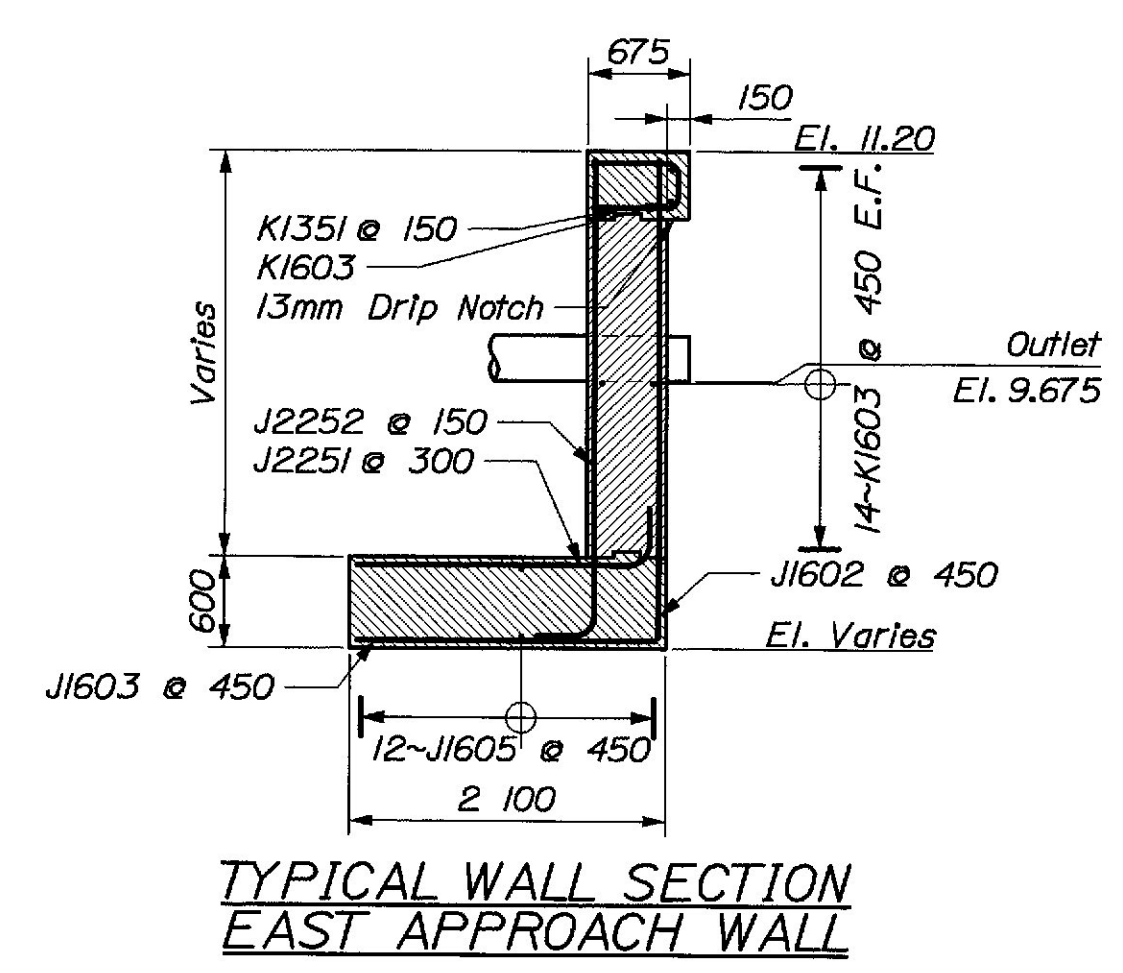
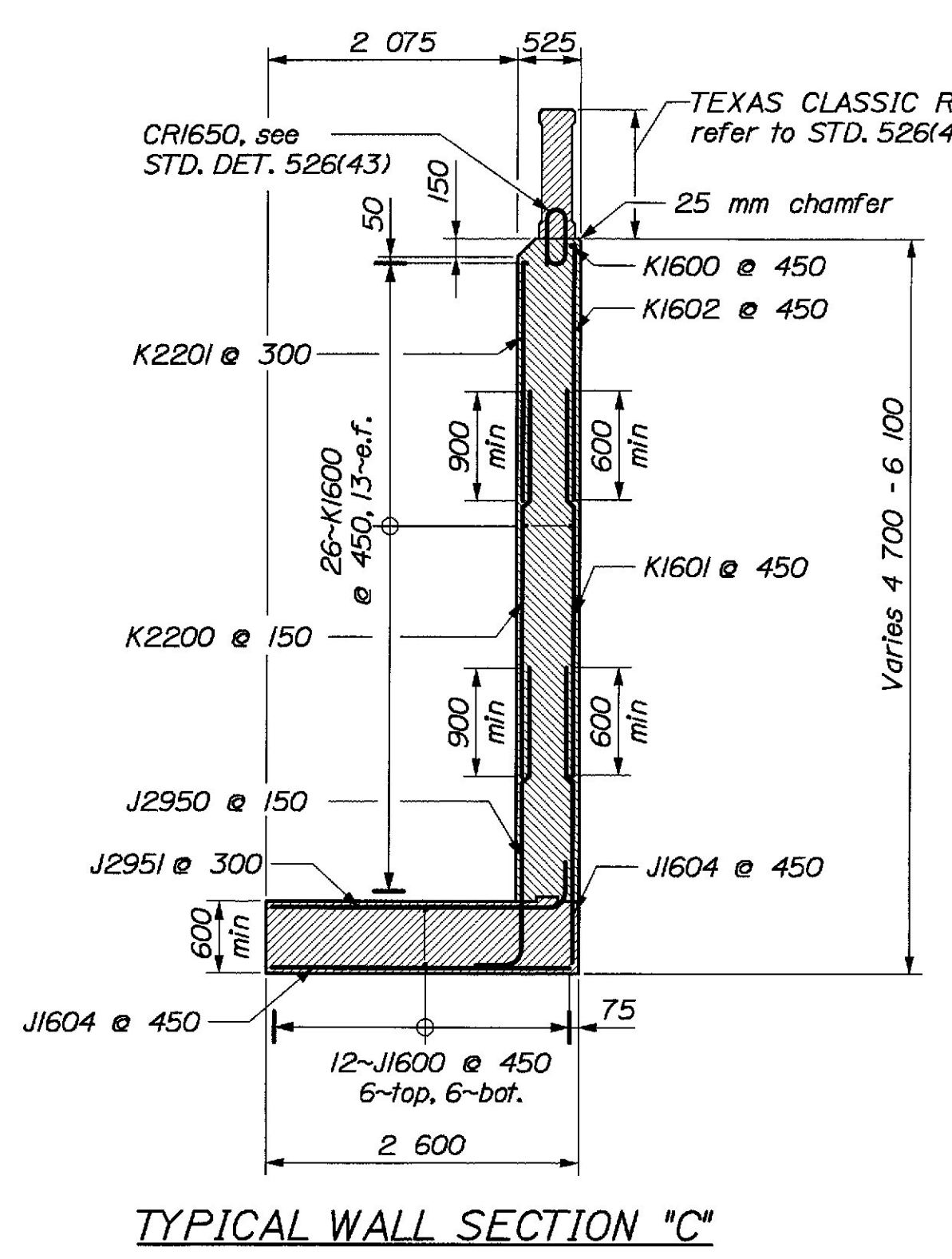
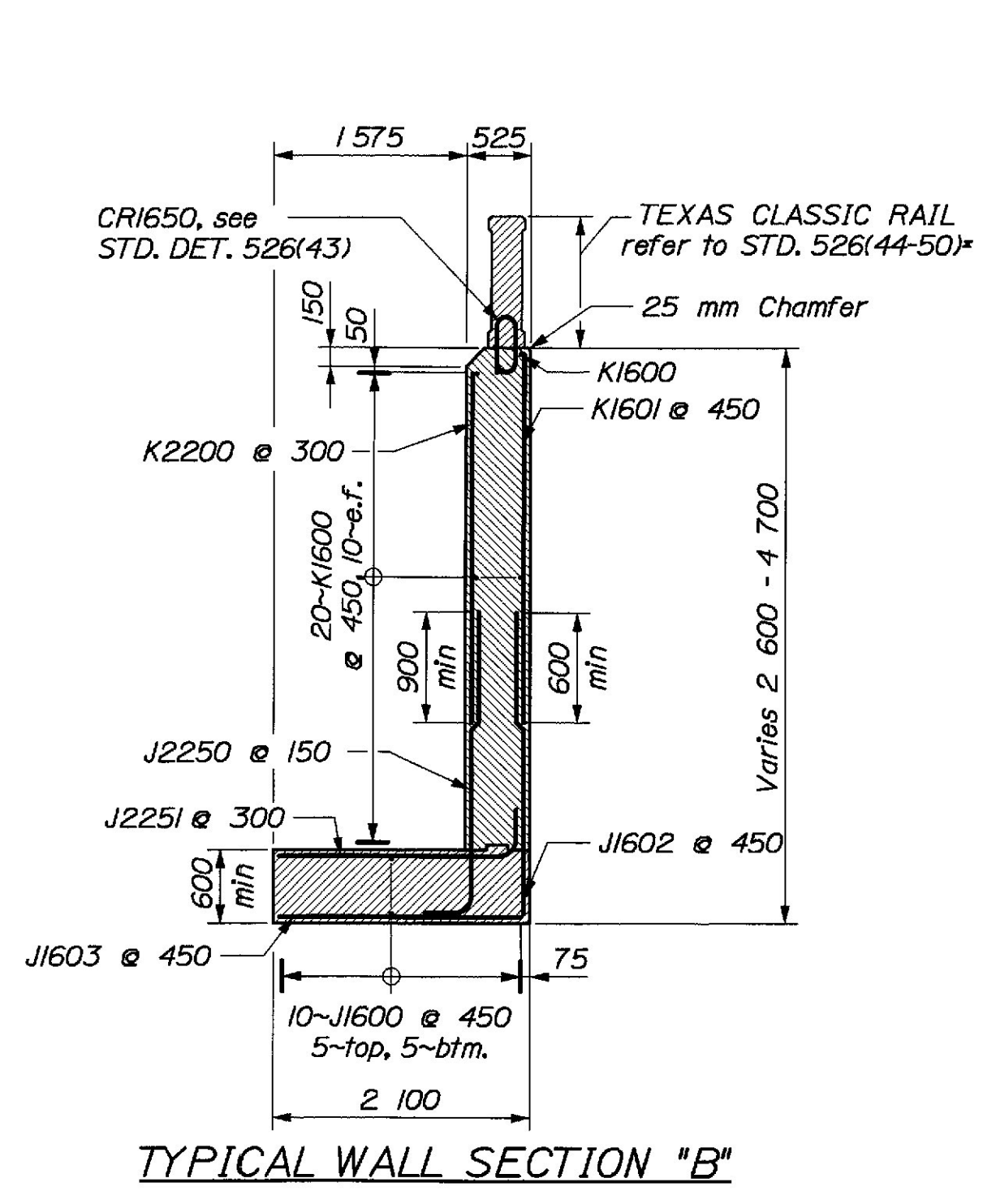


Retaining Wall Notes

- Reinforcing steel shall have 50 mm cover in the walls and 75 mm cover in the footings unless otherwise noted.
- Cover joints in accordance with Standard Detail 502(1) where waterstops are not required.
- Place 100 mm diameter drains in retaining walls at 5,000 mm maximum spacing. Exact location to be determined by the Engineer in the field.
- Construct French drains behind the retaining walls in accordance with Standard Specification Section 512, French Drains.
- Ledge Elevations may vary from those shown on this sheet; steps in footings may be relocated in the field with the approval of the Engineer in order to accommodate actual conditions encountered. Footing thickness should be maintained between 600 and 1200 mm and construction joints should be provided every 10 m.
- If sound ledge is found higher than shown for any section of wall the footing may be raised at the discretion of the Engineer, and vertical reinforcement may be cut to fit in the field. This additional work shall be considered incidental to related contract items. No additional payments shall be made.



*Substitute bar CRI650 for bar CRI660 in STD. DTL. 526(44-50).



PROJECT DESIGN ENGINEER	DATE
ETC <td></td>	
CHECKED	
REVISIONS	
FIELD CHANGES	

PLANS

BRIDGE NO. 1470

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Texas Rail & Retaining Walls

SHEET OF AUGUSTA, MAINE

METRIC

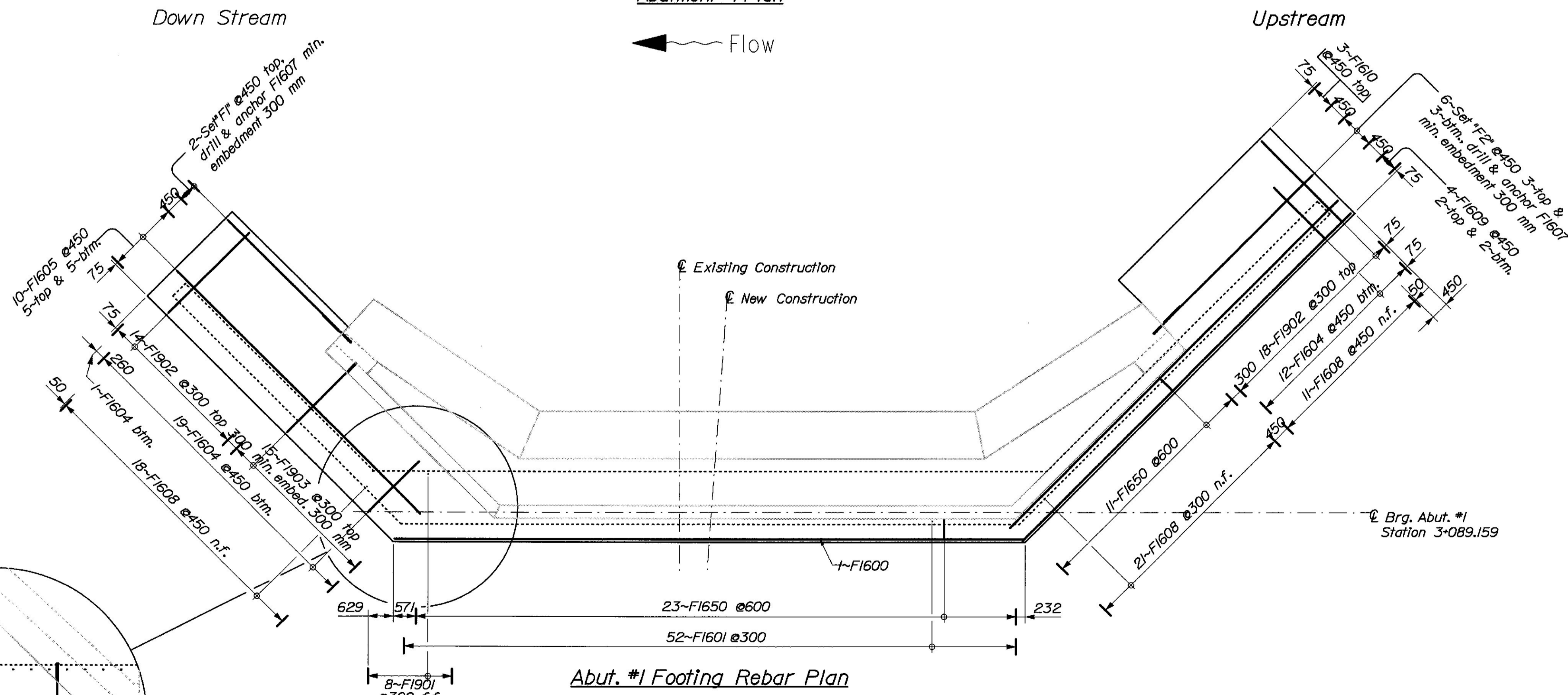
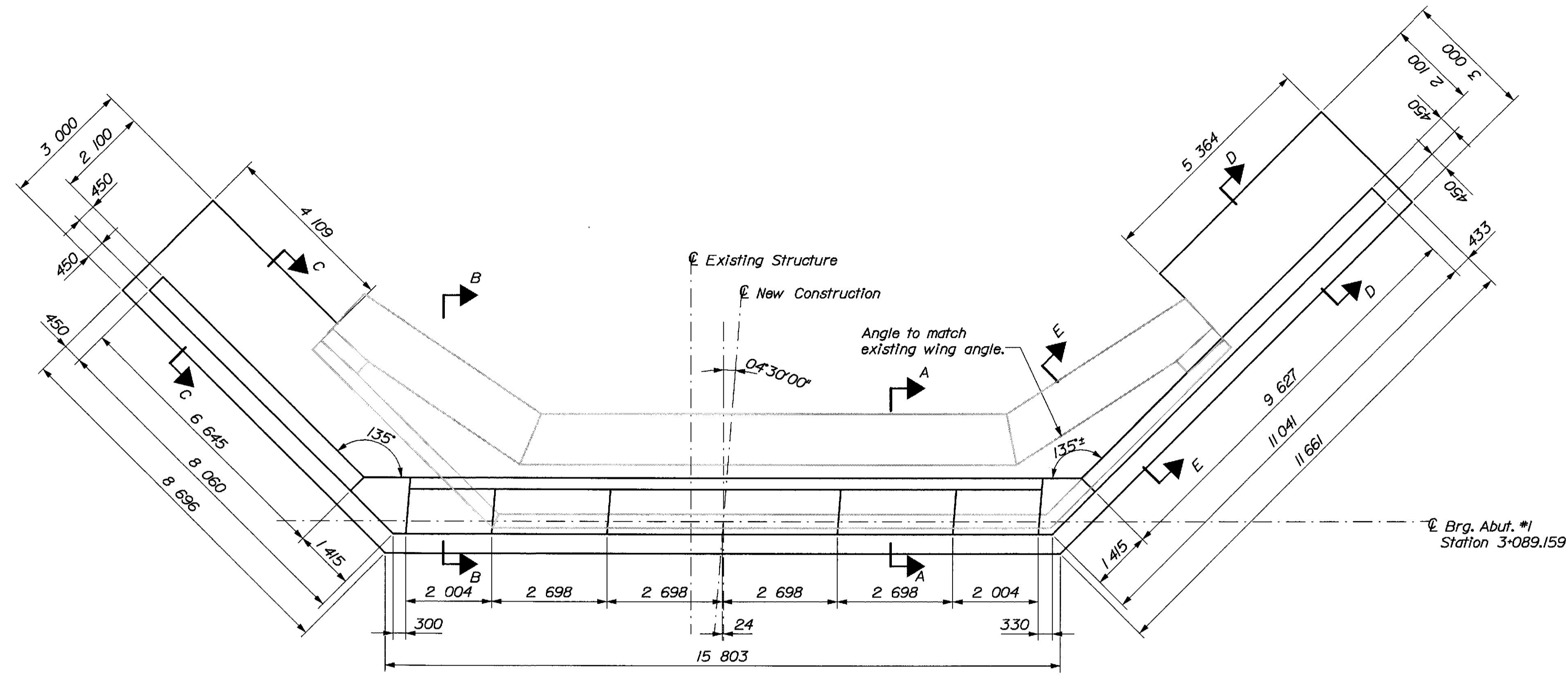
1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 (00)X	20	45

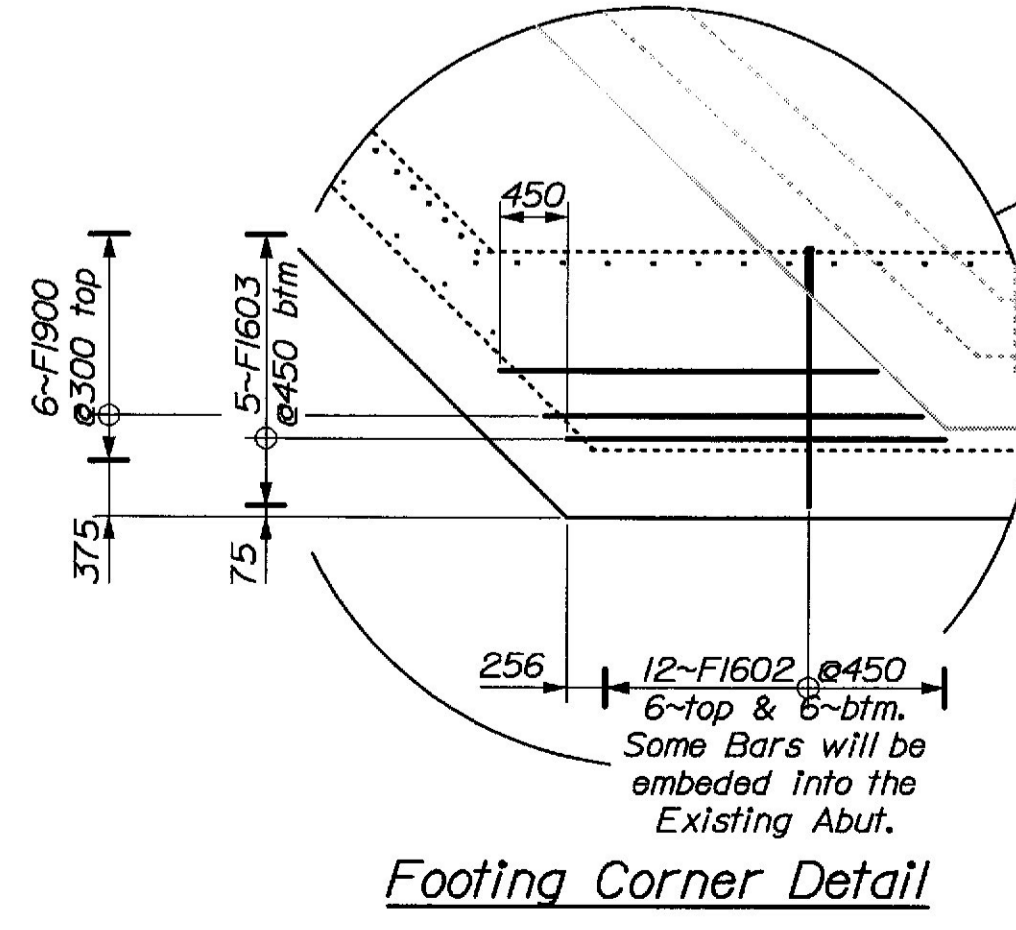
007681.00

ABUTMENT NOTES

1. Reinforcing steel shall have 50 mm cover in the walls and 75 mm cover in the footings unless otherwise noted.
2. Cover joints in accordance with Standard Detail 502(I) where waterstops are not required.
3. Place 100 mm diameter drains in breastwall and wings at 2000 mm thru new portions, match any drains found in the existing wall.
4. Construct French drains behind the new portions of abutments and wings in accordance with Standard Specification Section 512, French Drains.
5. Abutments and wings shall be backfilled with granular borrow. Pay limits will be the structural excavation limits in cut areas and a vertical plane located 3 m behind the walls in fill areas.
6. Maximum calculated footing pressure is 275 KPa.



Set #	Components of Set
F1	1-F1606, 1-F1607
F2	1-F1610, 1-F1607



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

Date: 14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

Filename: ... \020_abut1footing.dgn

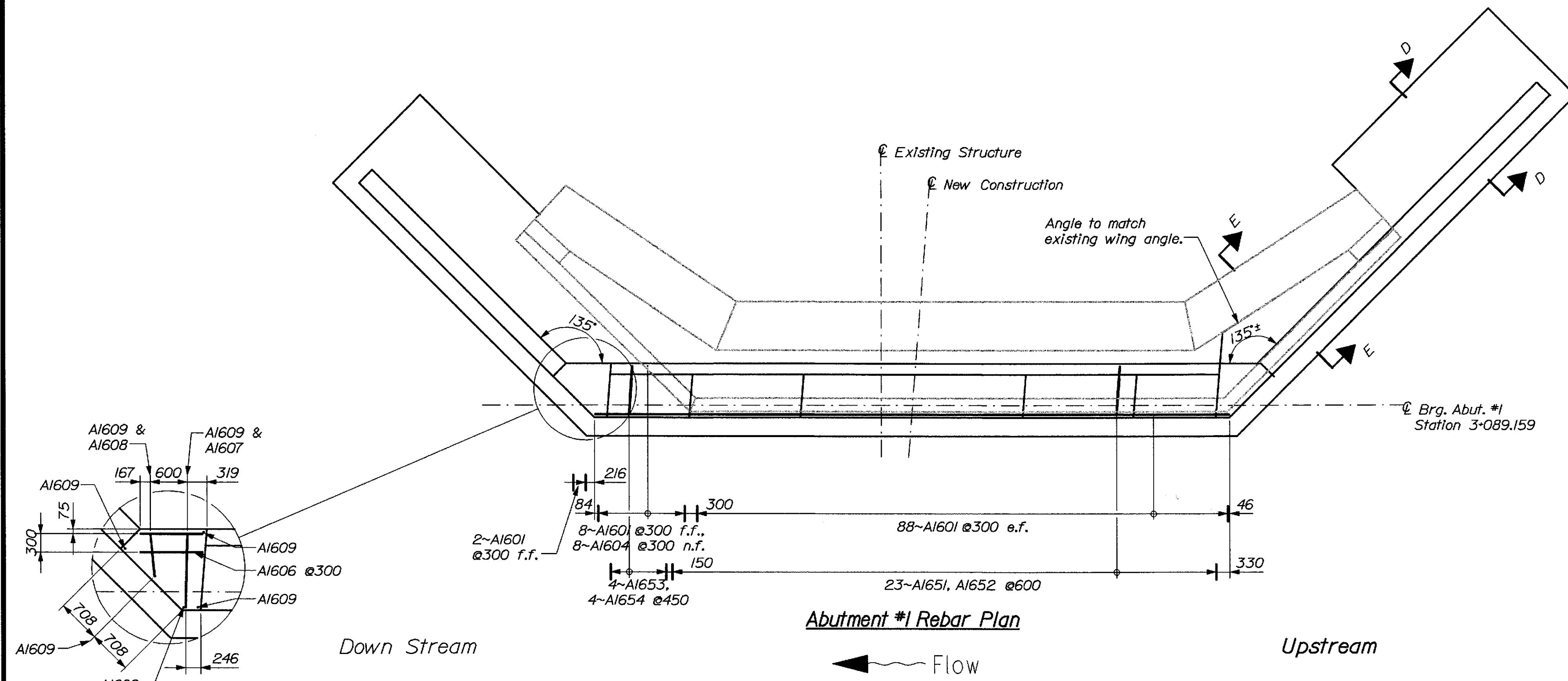
BRIDGE NO. 1470
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Abutment #1 Footing

SHEET OF AUGUSTA, MAINE

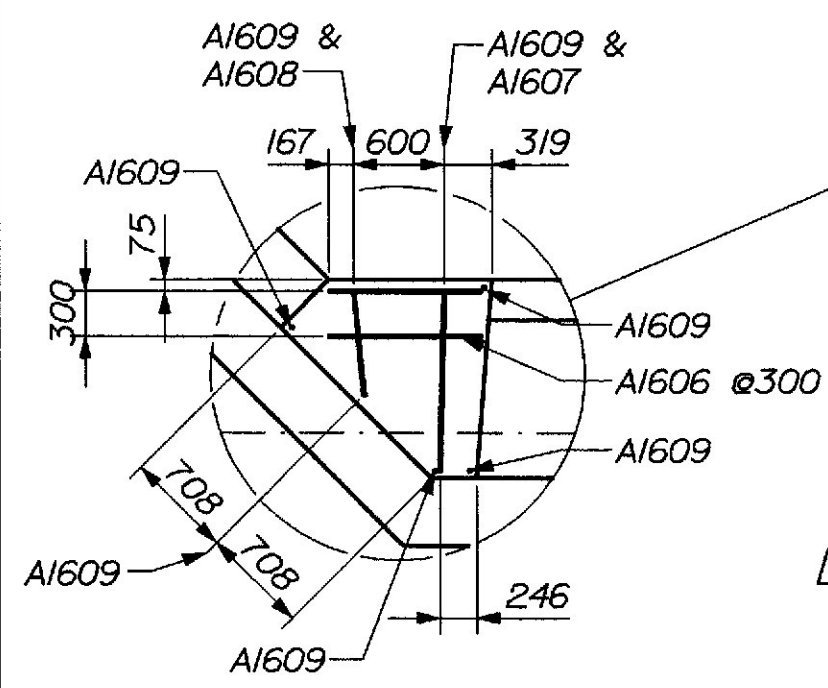
METRIC 1. All dimensions are in millimeters unless otherwise noted.
 2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 (00)X	21	45

007681.00

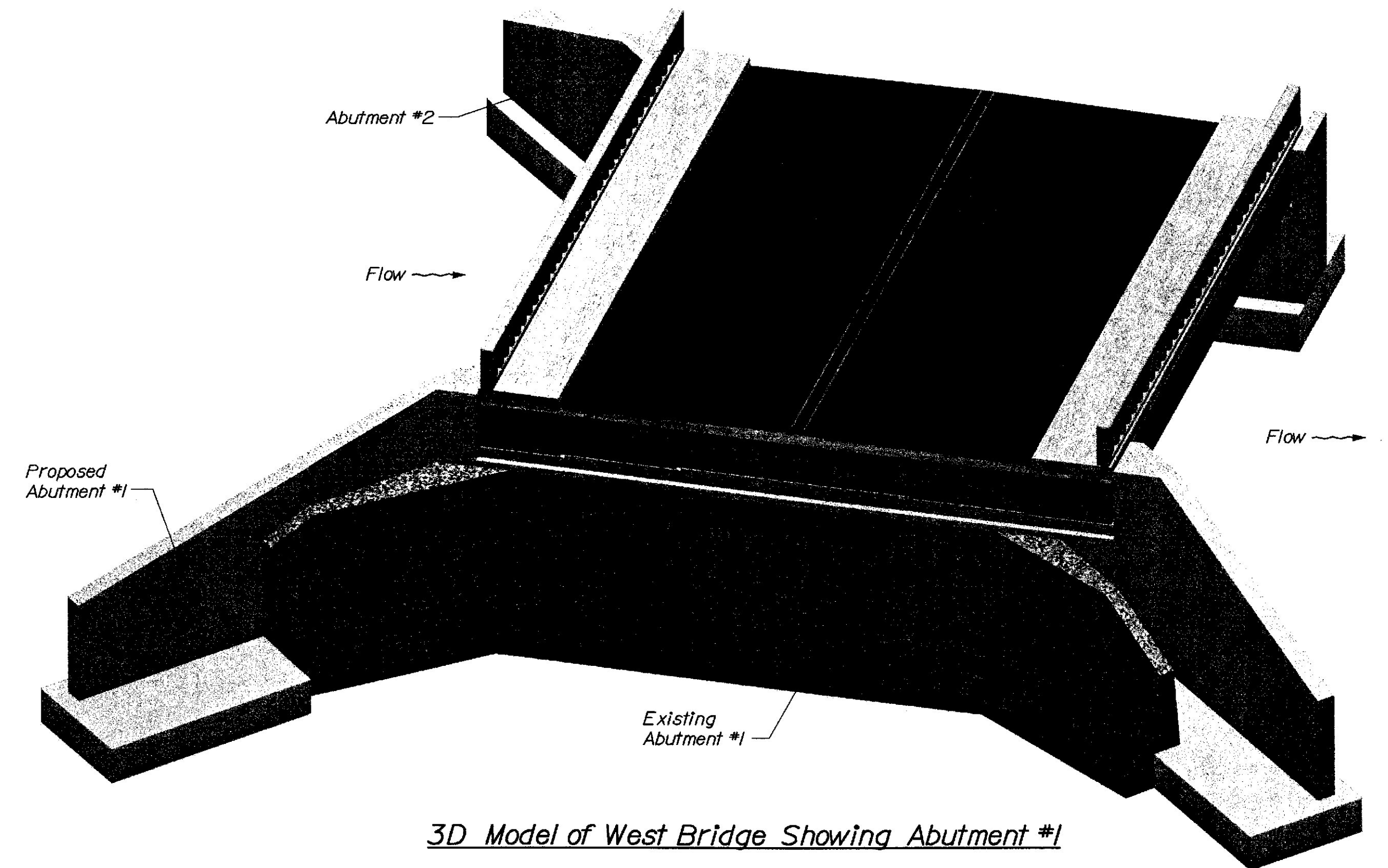


Abutment #1 Rebar Plan

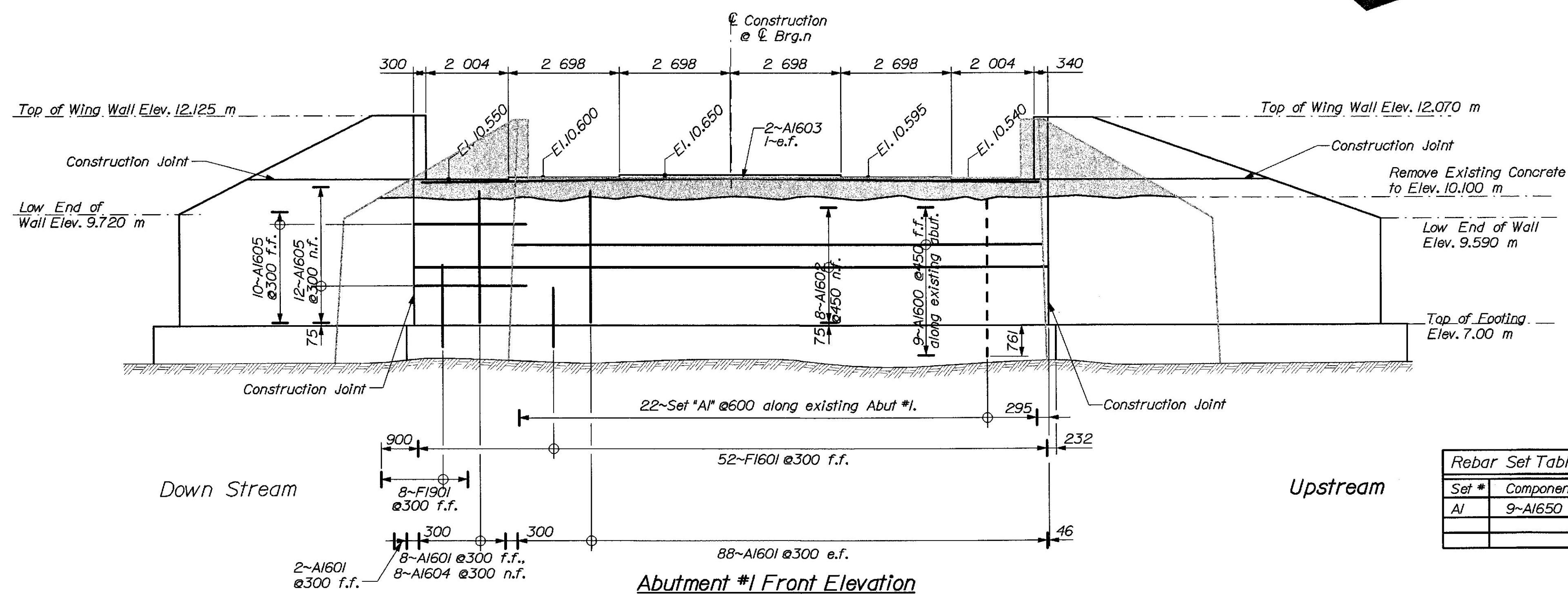


Parapet Detail

NOTE:
 Opposite side similar.
 A1609 Embedded 500 mm Nominal.



3D Model of West Bridge Showing Abutment #1



Abutment #1 Front Elevation

Set #	Components of Set
A1	9-A1650 @ 450

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

BRIDGE NO. 1470

STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION

Covered West Bridge
 OVER
Machias River
 IN THE TOWN OF
Machias
 Washington County
Abutment #1 Plan

Date: 14 MAR 2002

Username: Brian Nichols

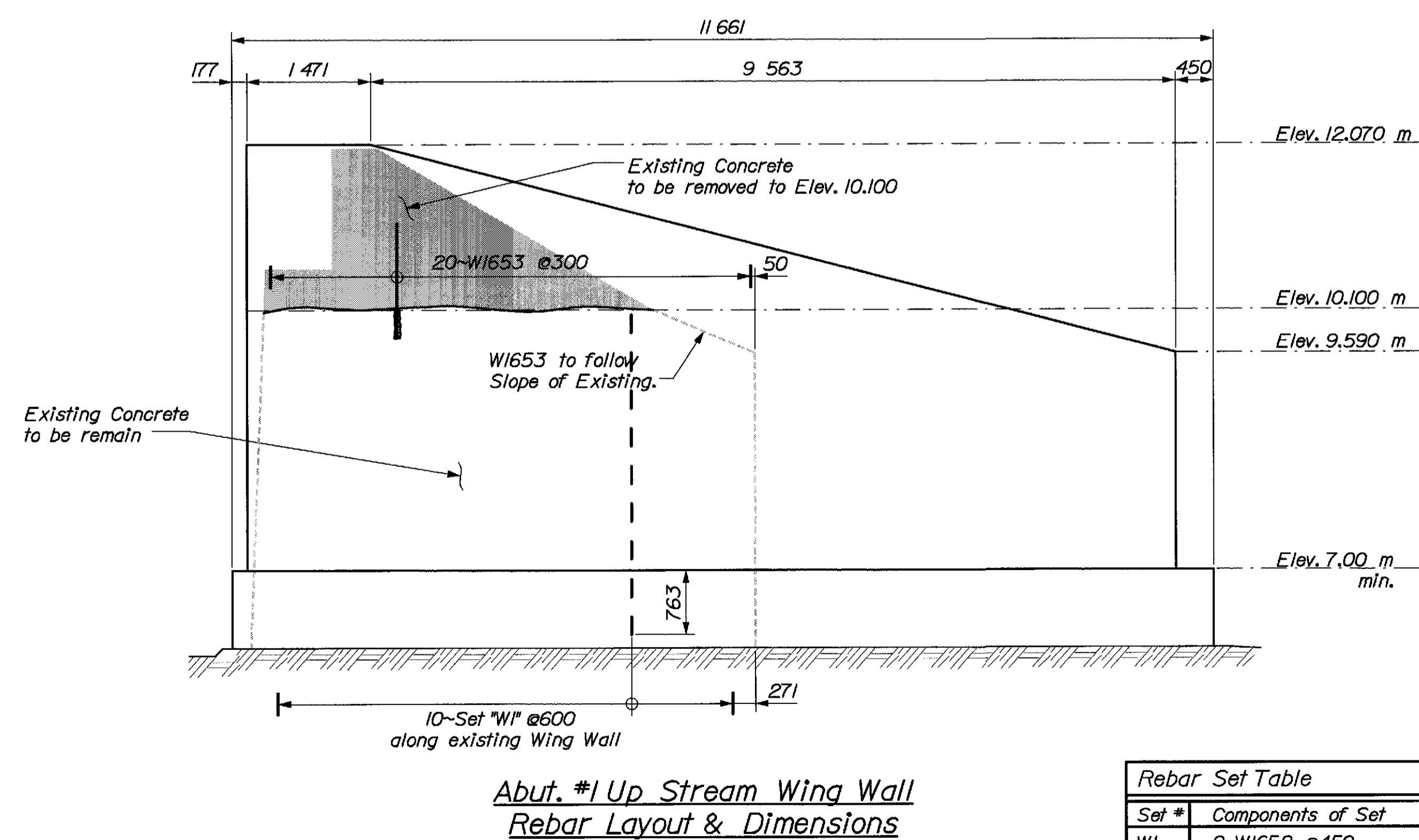
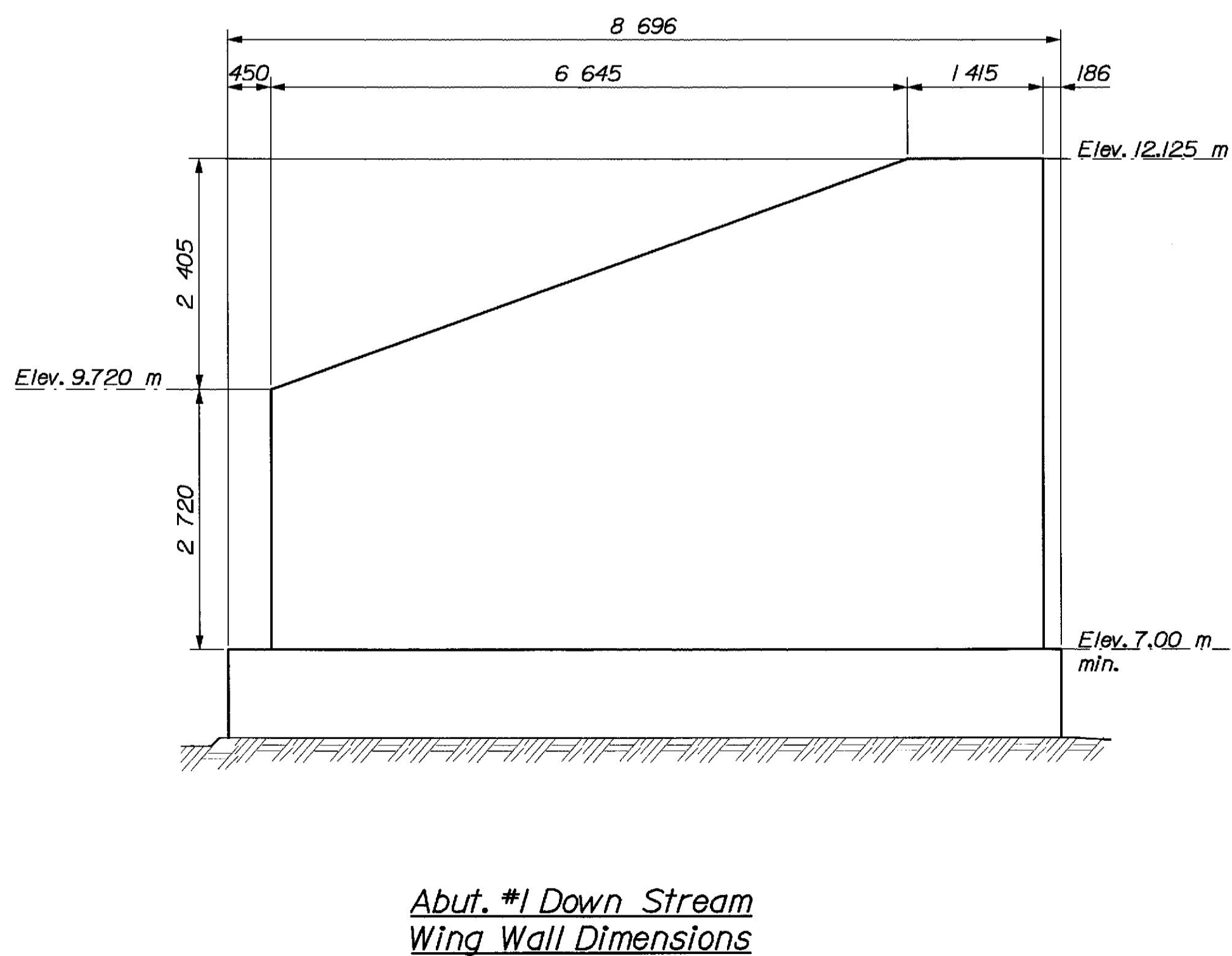
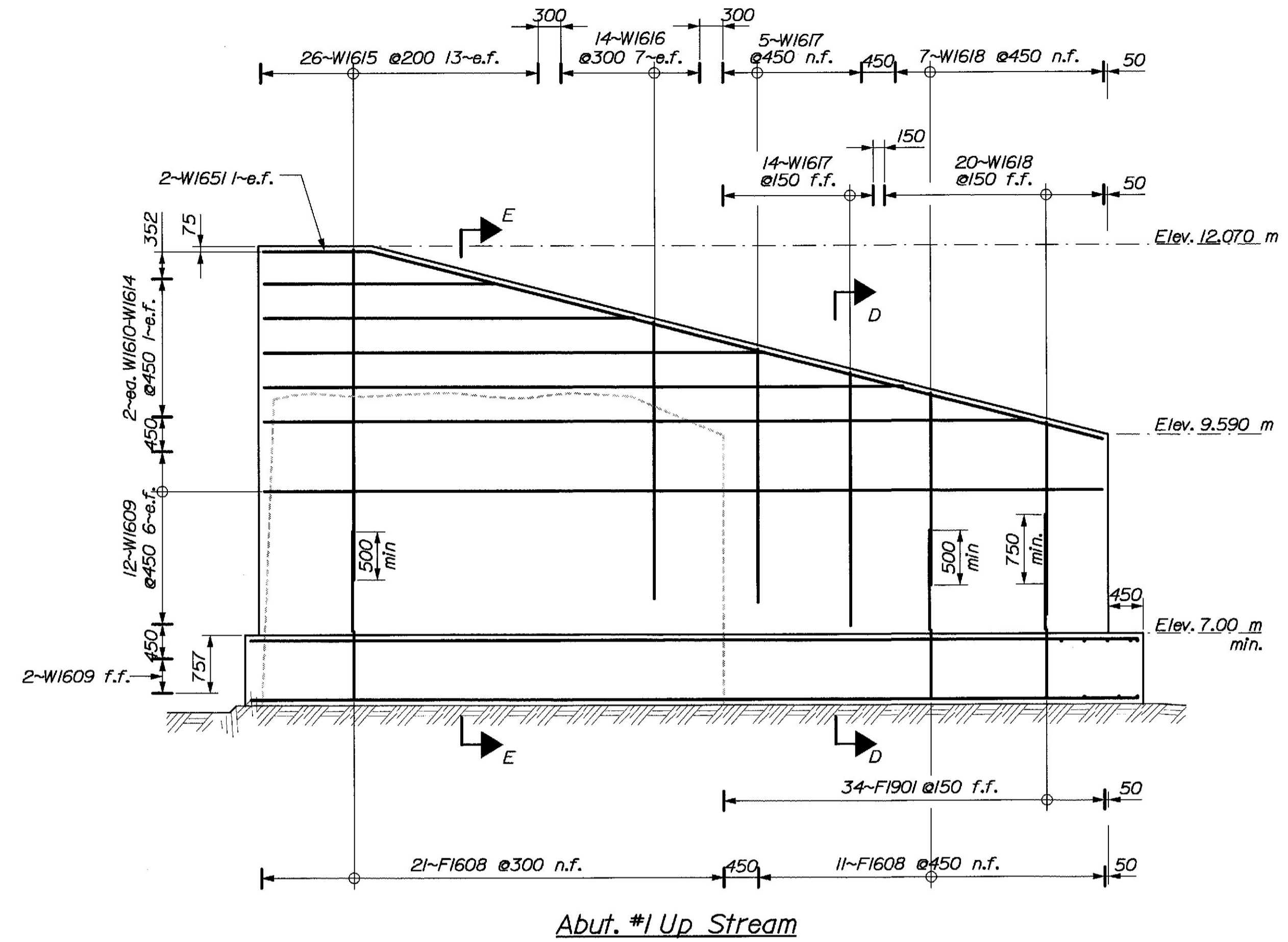
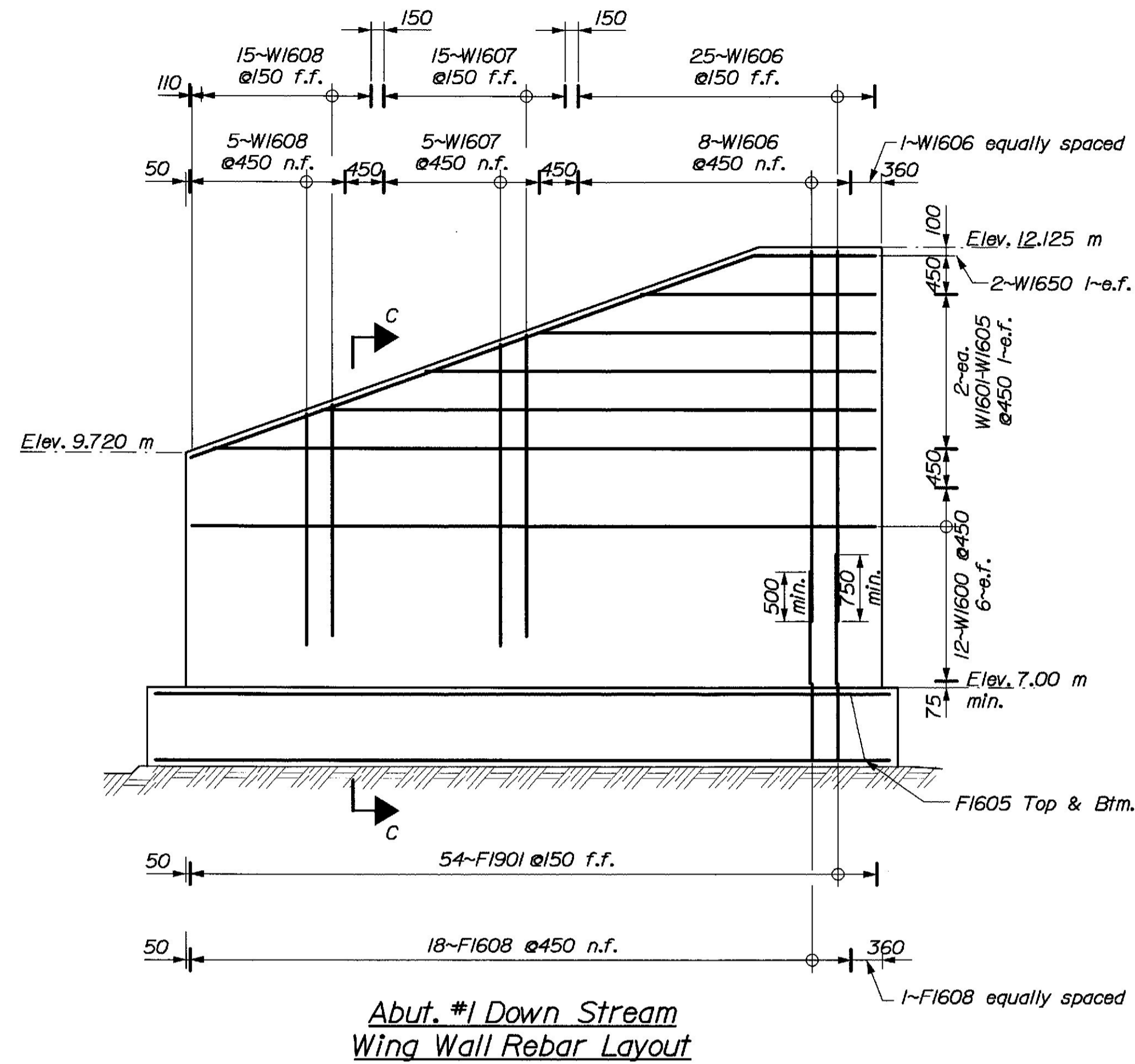
Division: BRIDGE

Filename: ... \021_abutplan.dgn

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

FHWA REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 (00)X	22	45

007681.00



Set #	Components of Set
W1	9-W1652 @450

BRIDGE NO. 1470
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Abut #1 Wing Walls

Date: 14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

Filename: ... \022_abutwing walls.dgn

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

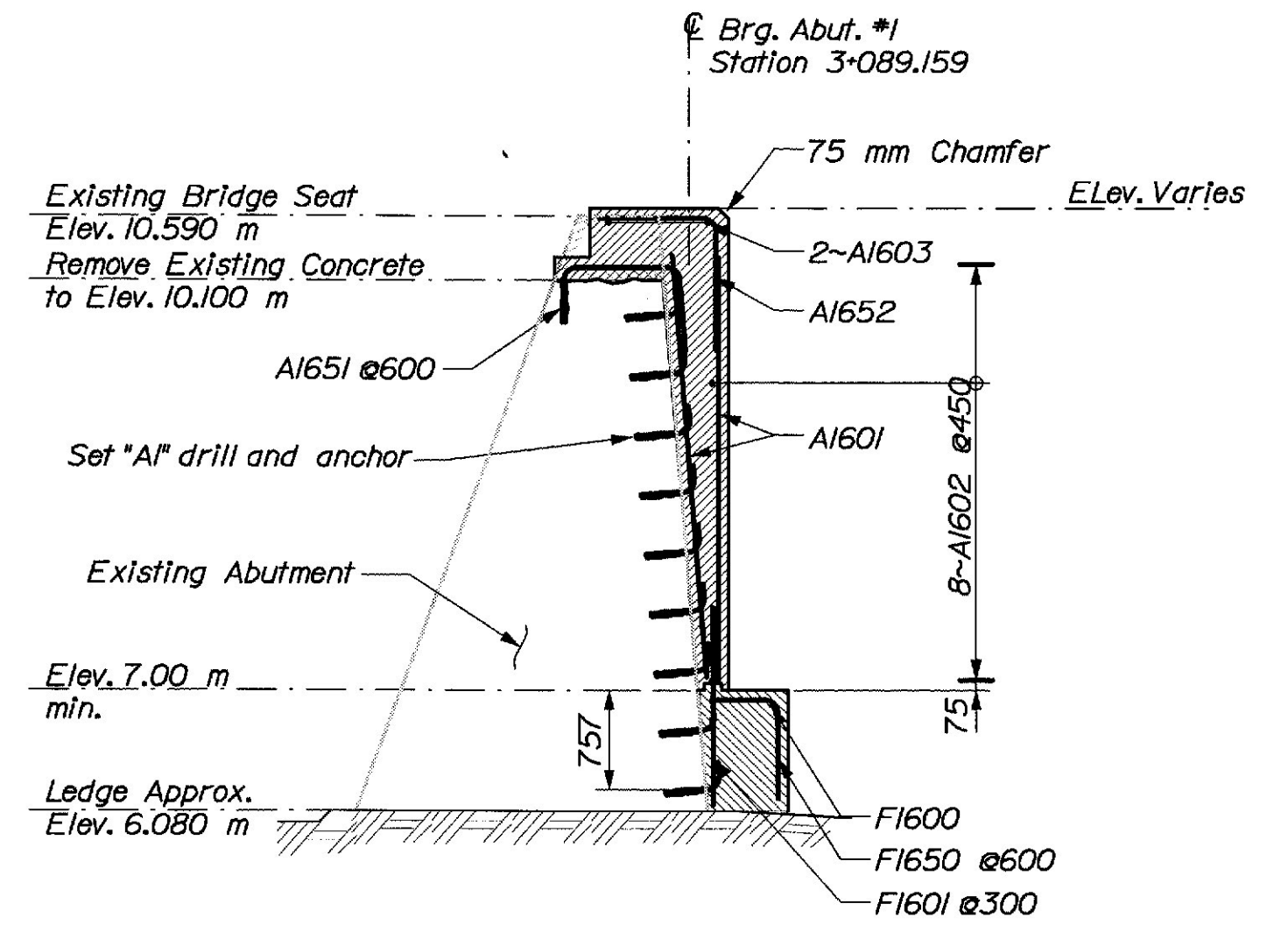
PLANS

METRIC

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

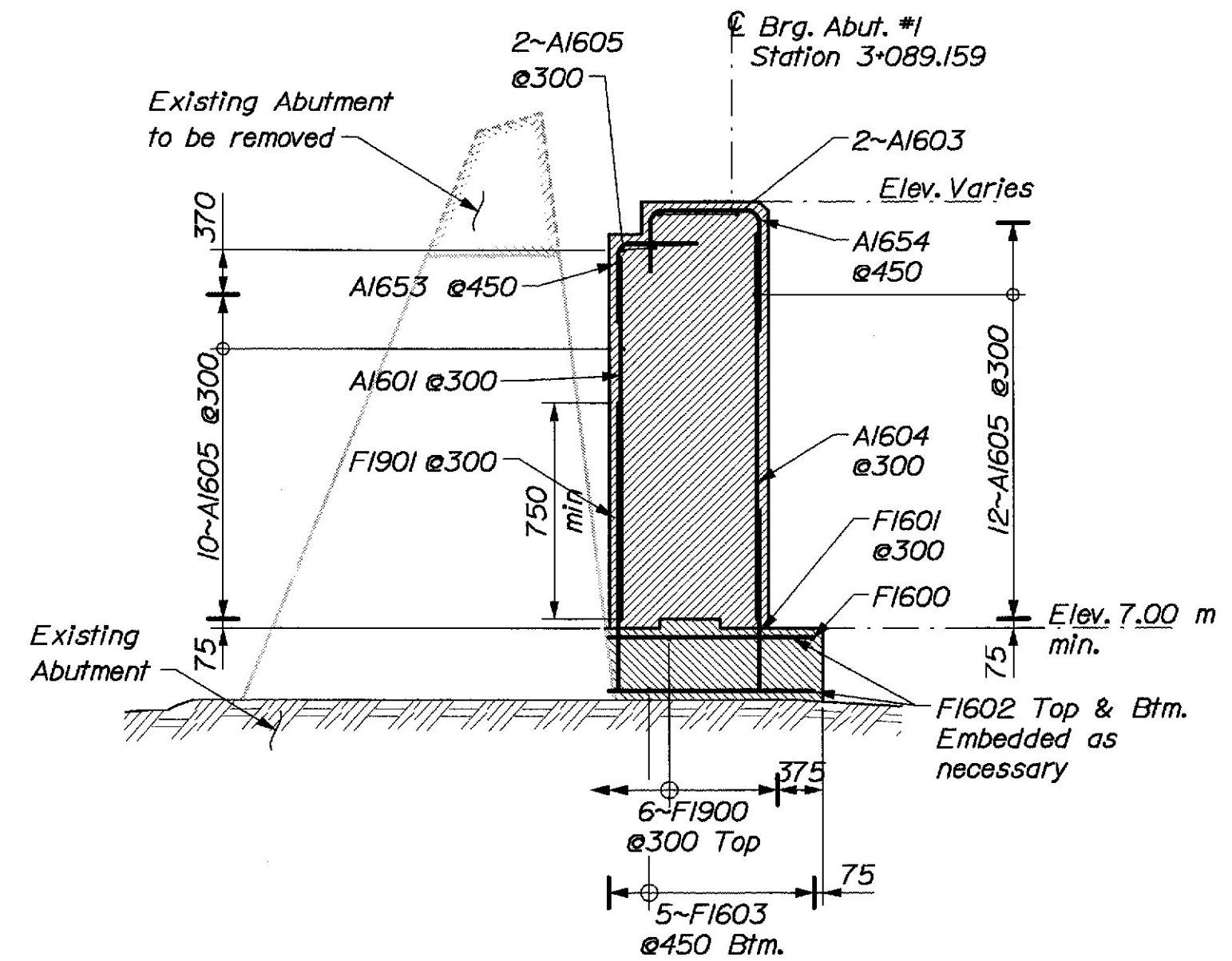
F.H.W.A. REL. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 100X	23	45

007681.00



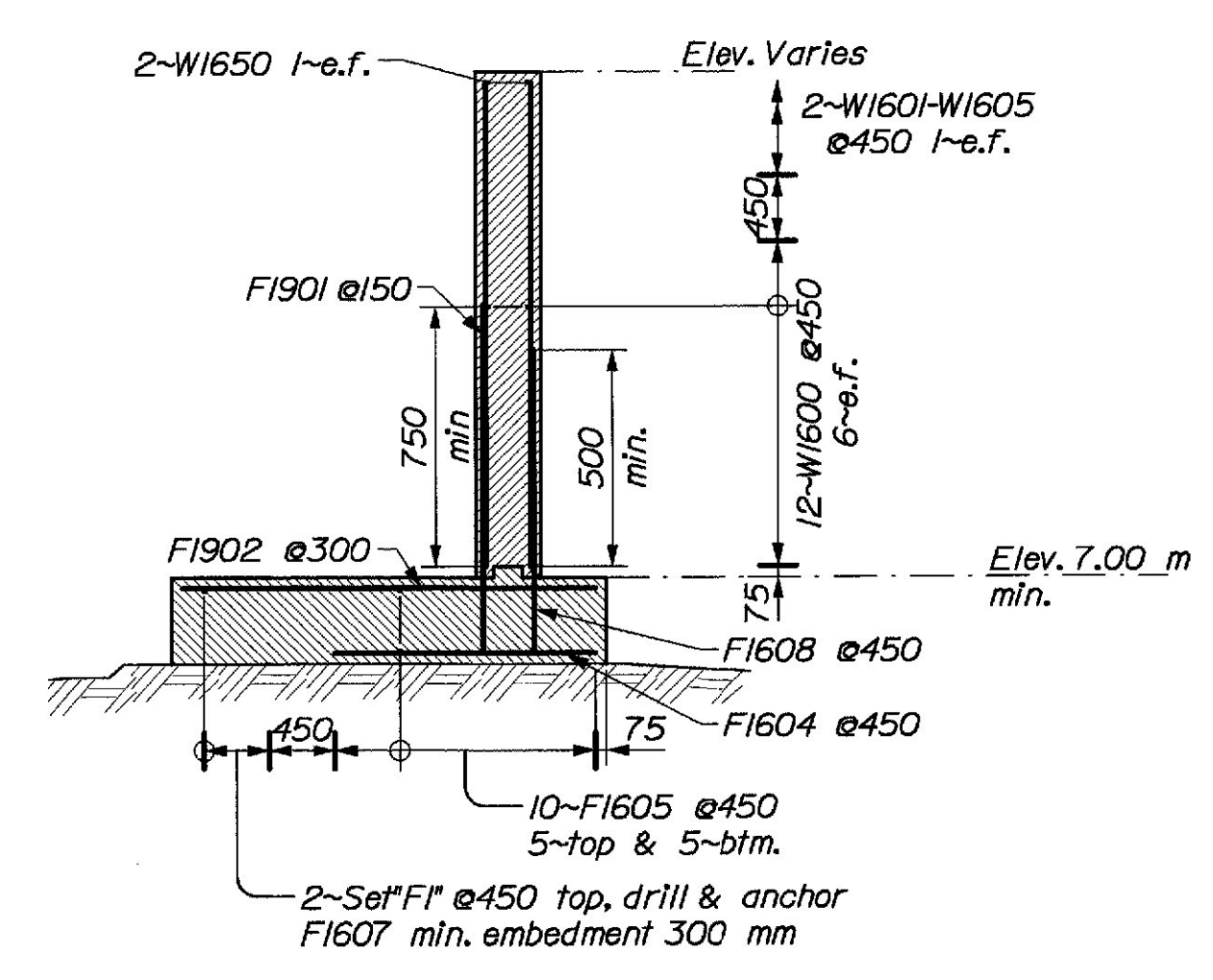
Abut. #1 Section A-A
Rebar Layout

Note:
All Rebar this section
500 min. splice length.
All drill and anchor will
be 300 min. embedment.

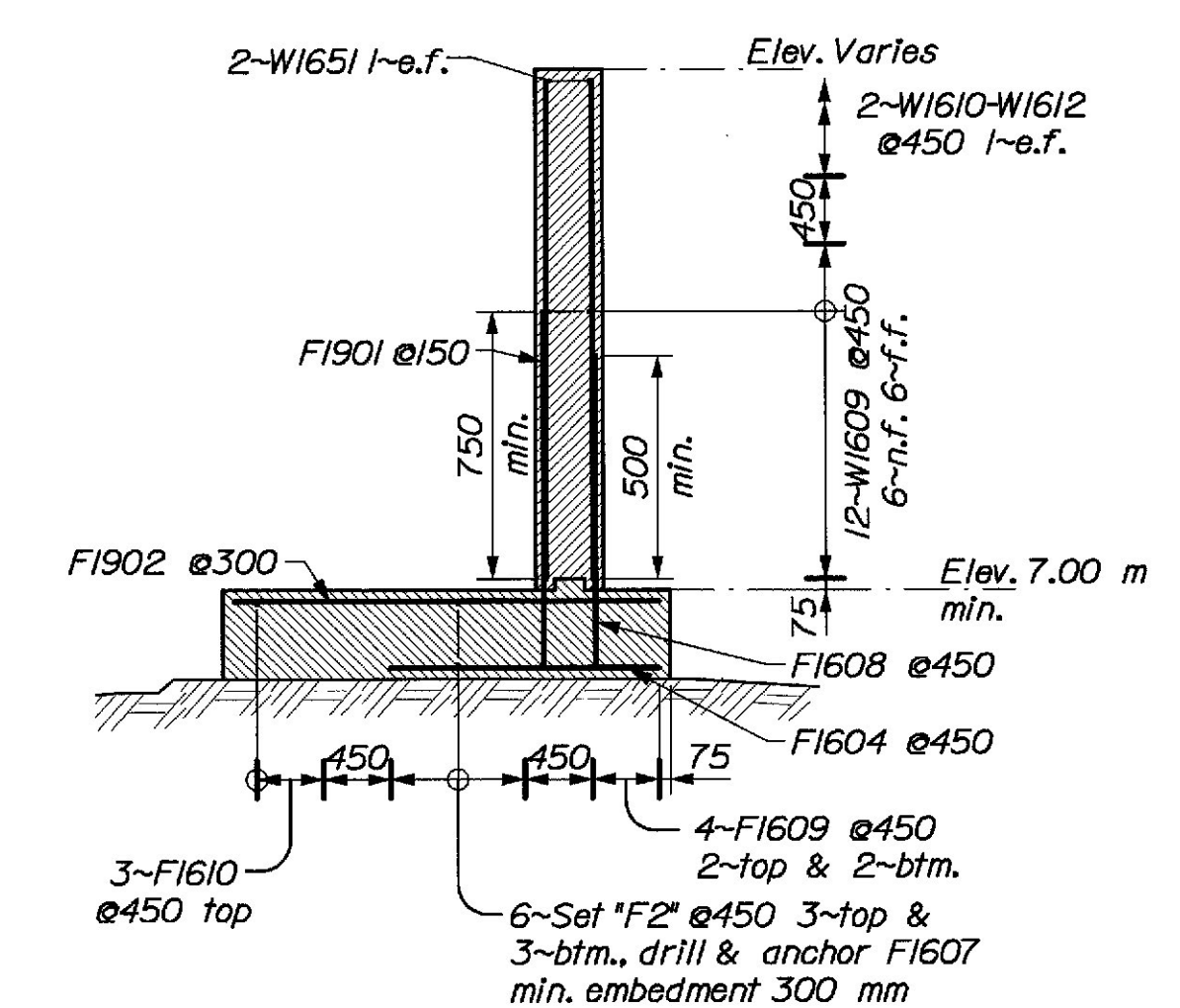


Abut. #1 Section B-B
Rebar Layout

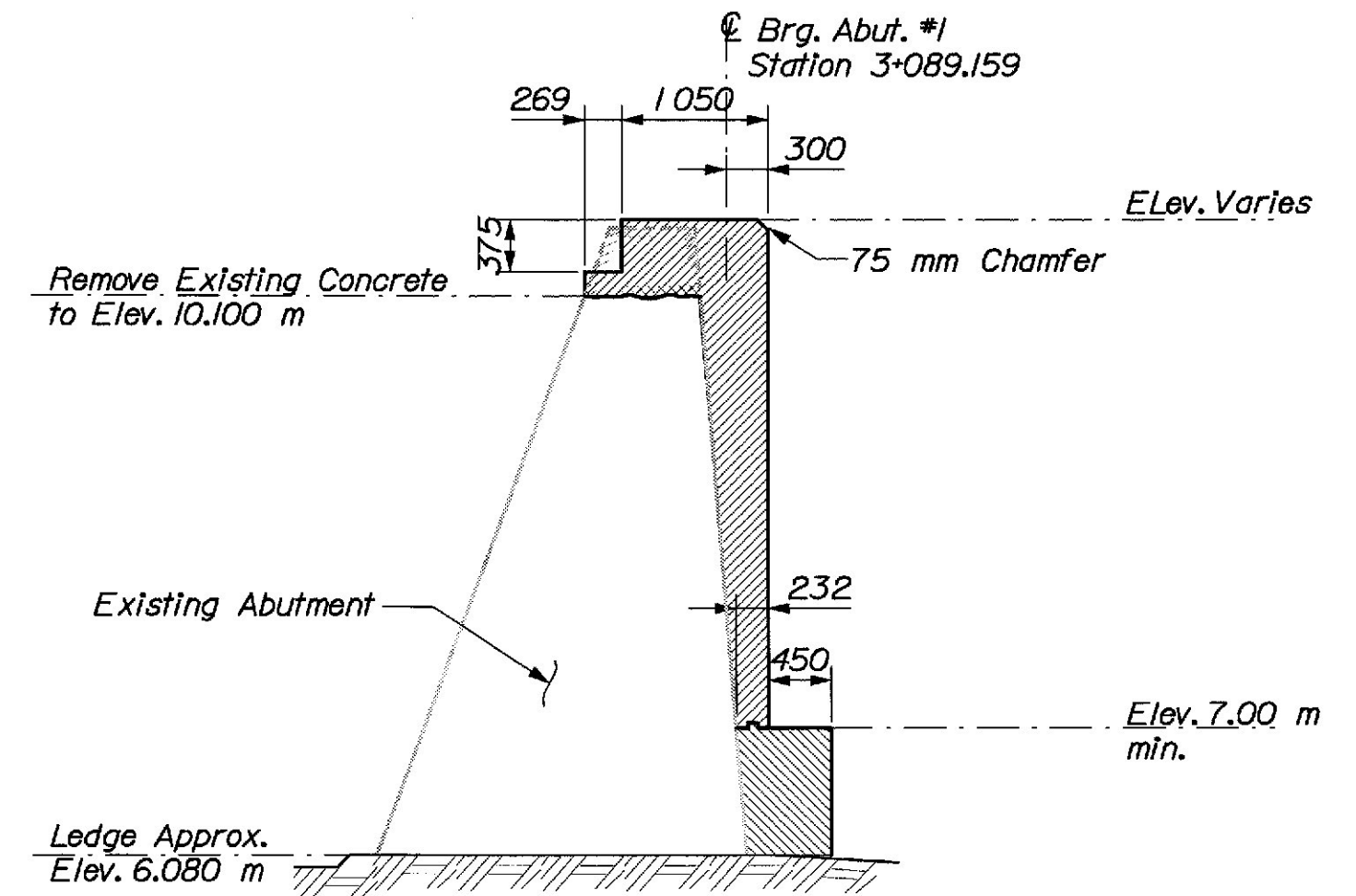
Note:
All Rebar this section
500 min. splice length.
All drill and anchor will
be 300 min. embedment.



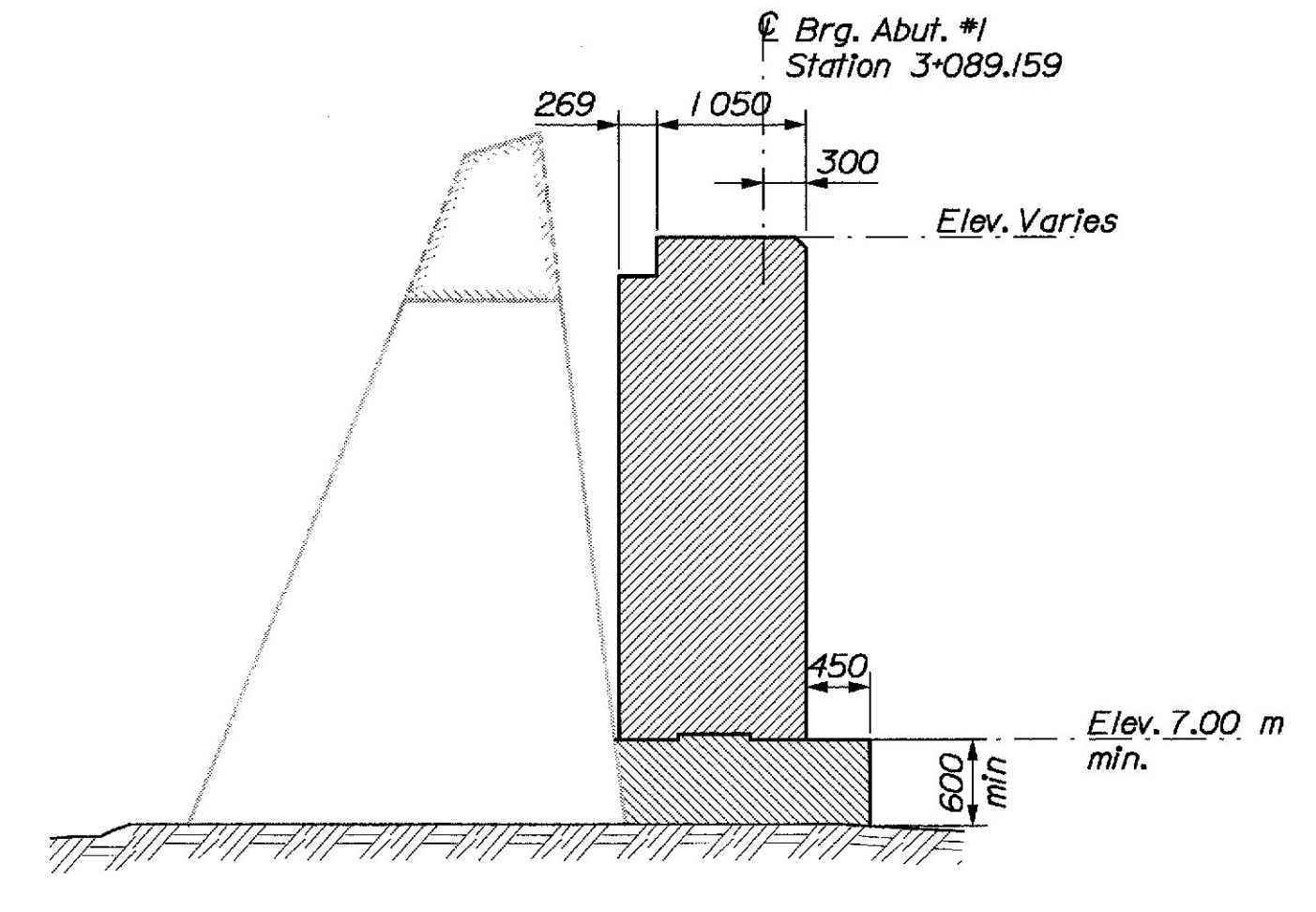
Abut. #1 Section C-C
Wing Section Rebar Layout



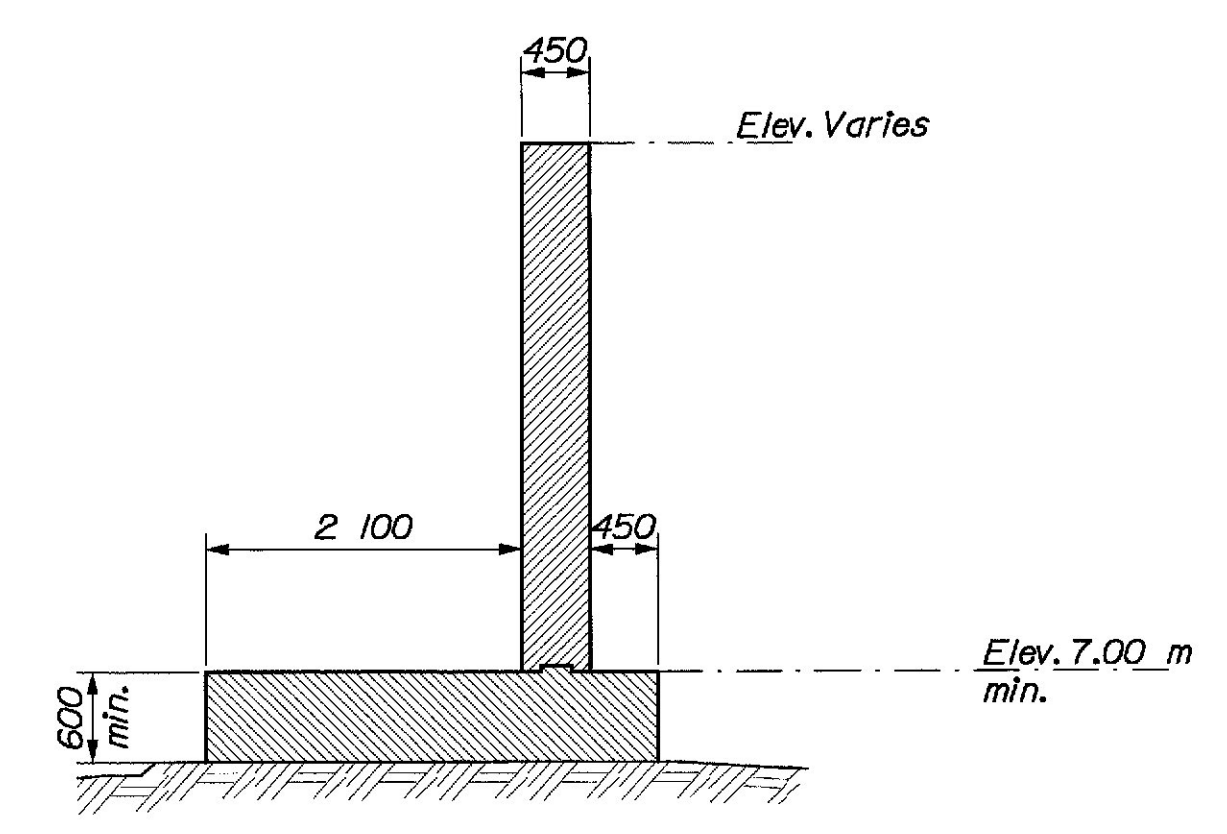
Abut. #1 Section D-D
Wing Section Rebar Layout



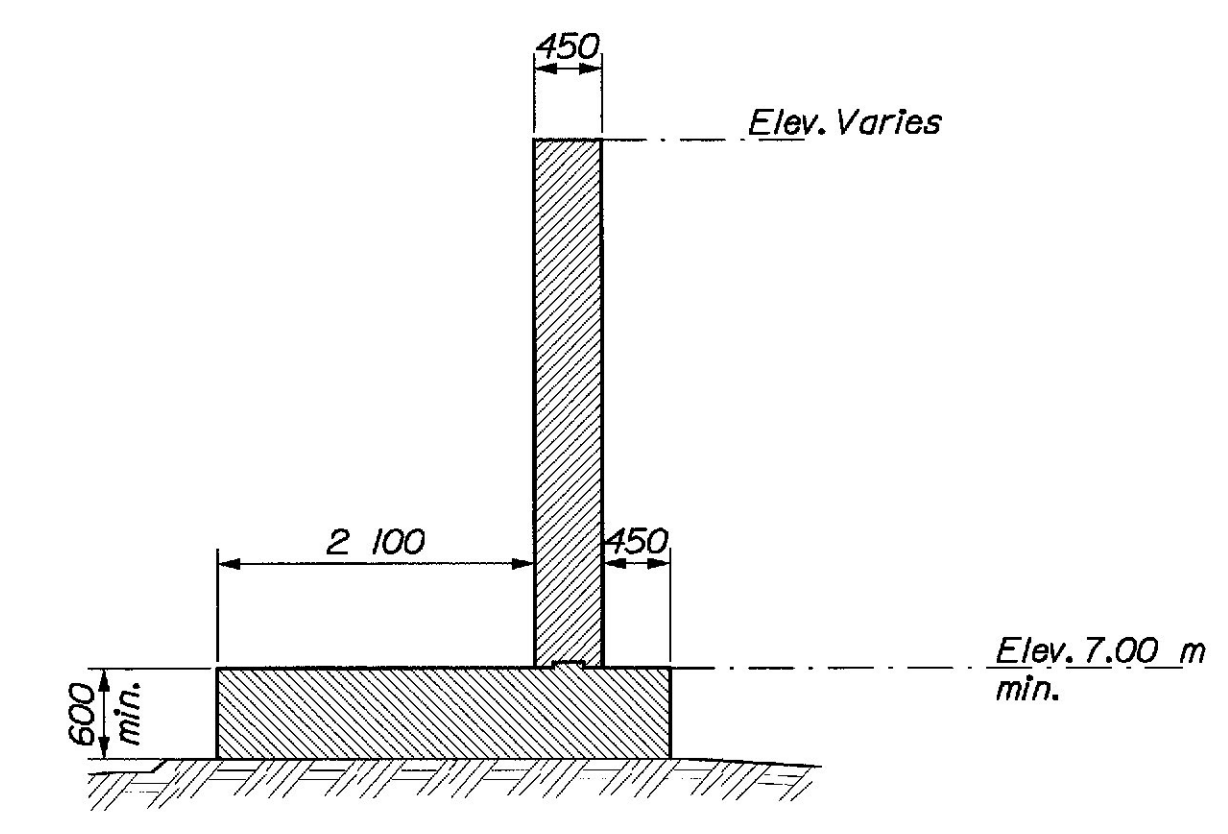
Abut. #1 Section A-A
Dimensions



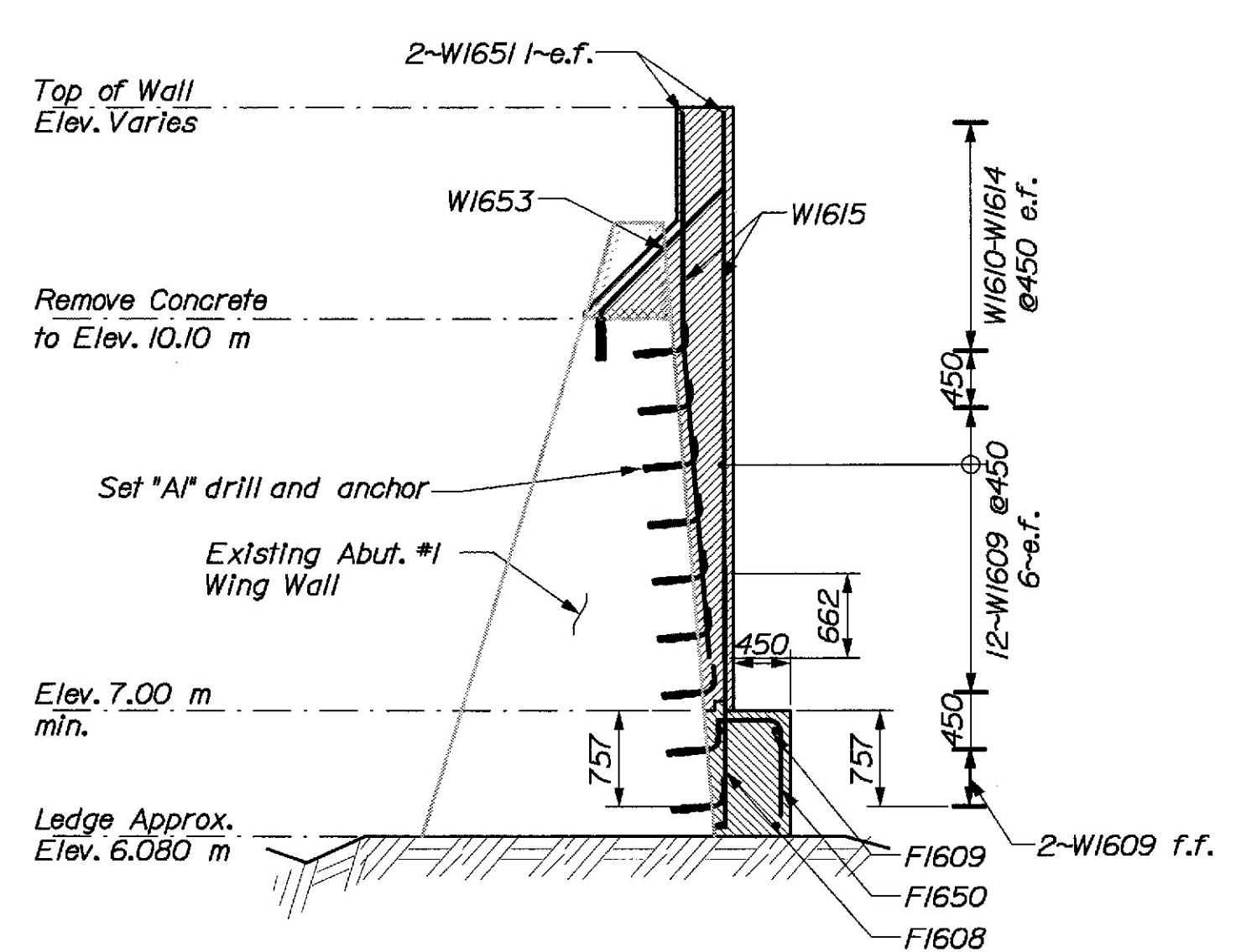
Abut. #1 Section B-B
Dimensions



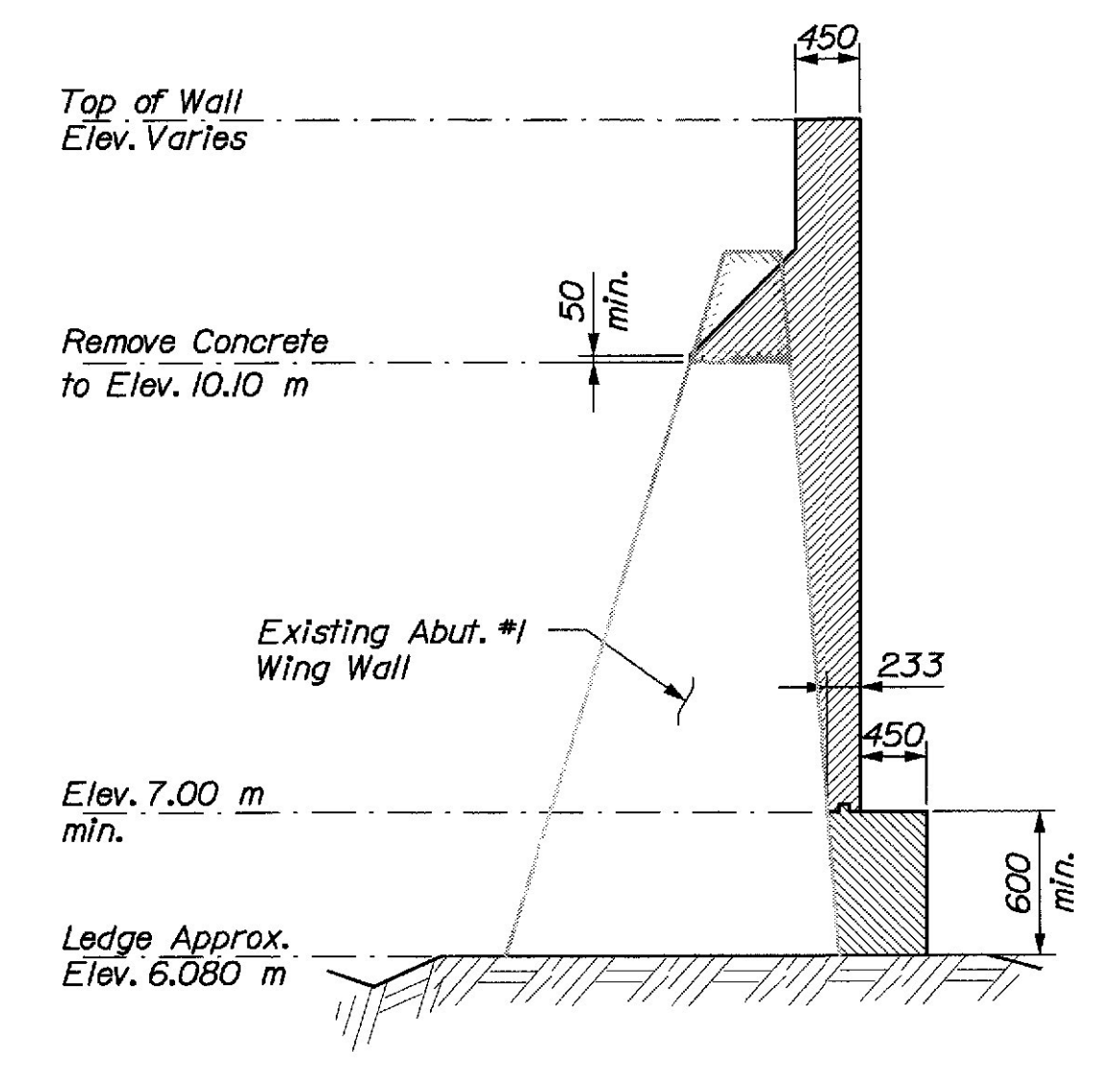
Abut. #1 Section C-C
Wing Section Dimensions



Abut. #1 Section D-D
Wing Section Dimensions



Abut. #1 Section E-E
Wing Section Rebar Layout



Abut. #1 Section E-E
Wing Section Dimensions

Set #	Components of Set
F1	1-F1606, 1-F1607
F2	1-F1610, 1-F1607

BRIDGE NO. 1470

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Abutment #1 Sections

SHEET OF AUGUSTA, MAINE

Date: 14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

Filename: ... \023_abutwingwallsec.dgn

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

PLANS

METRIC

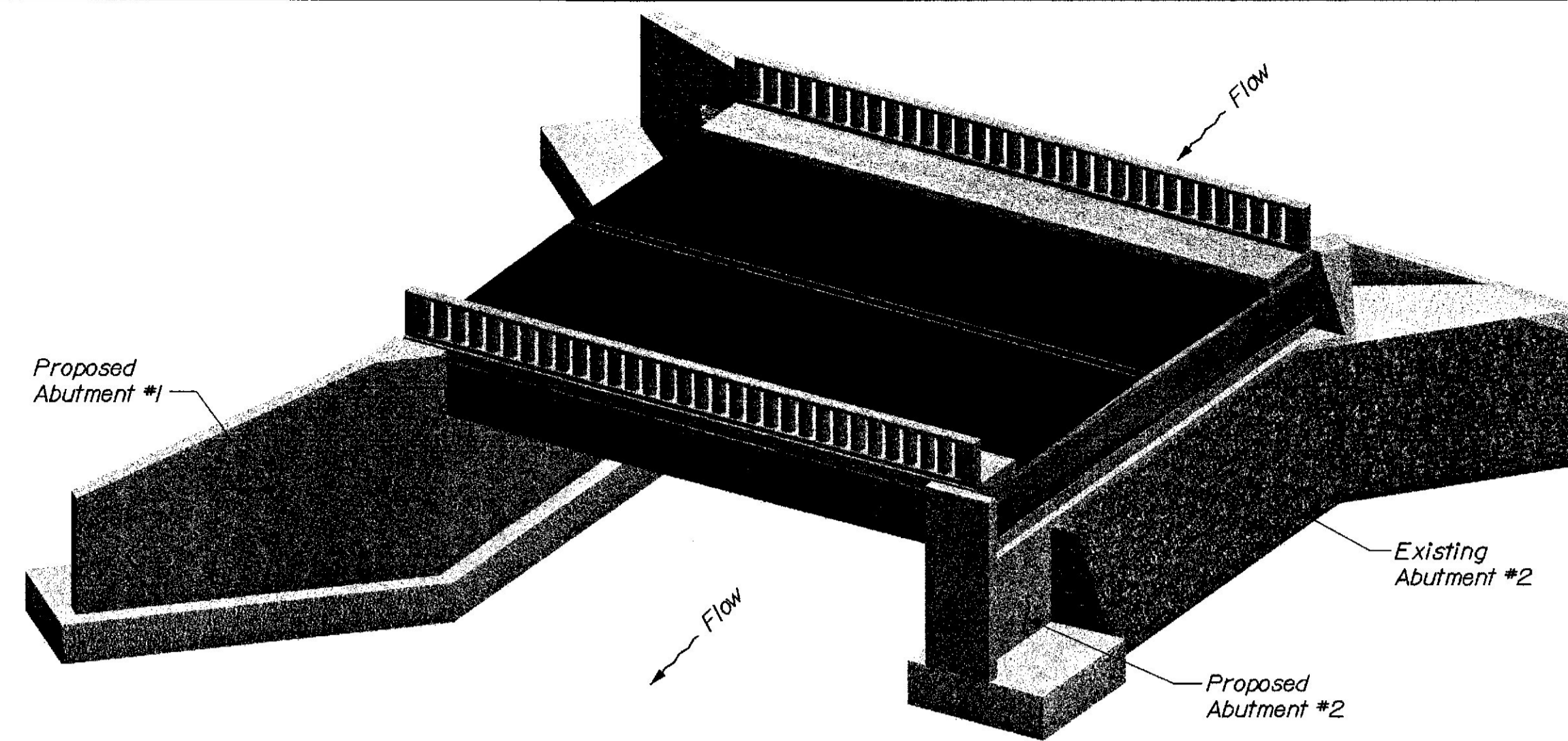
1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

FHWA REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 (00)X	24	45

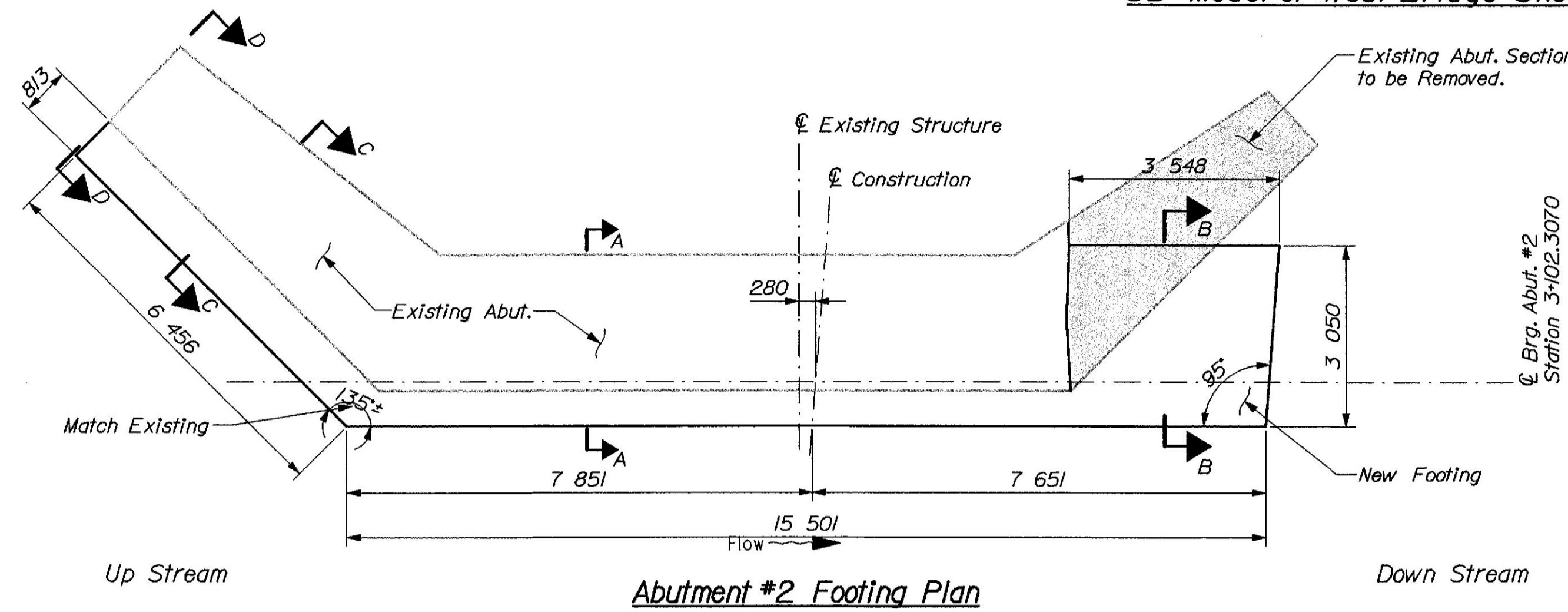
007681.00

ABUTMENT NOTES

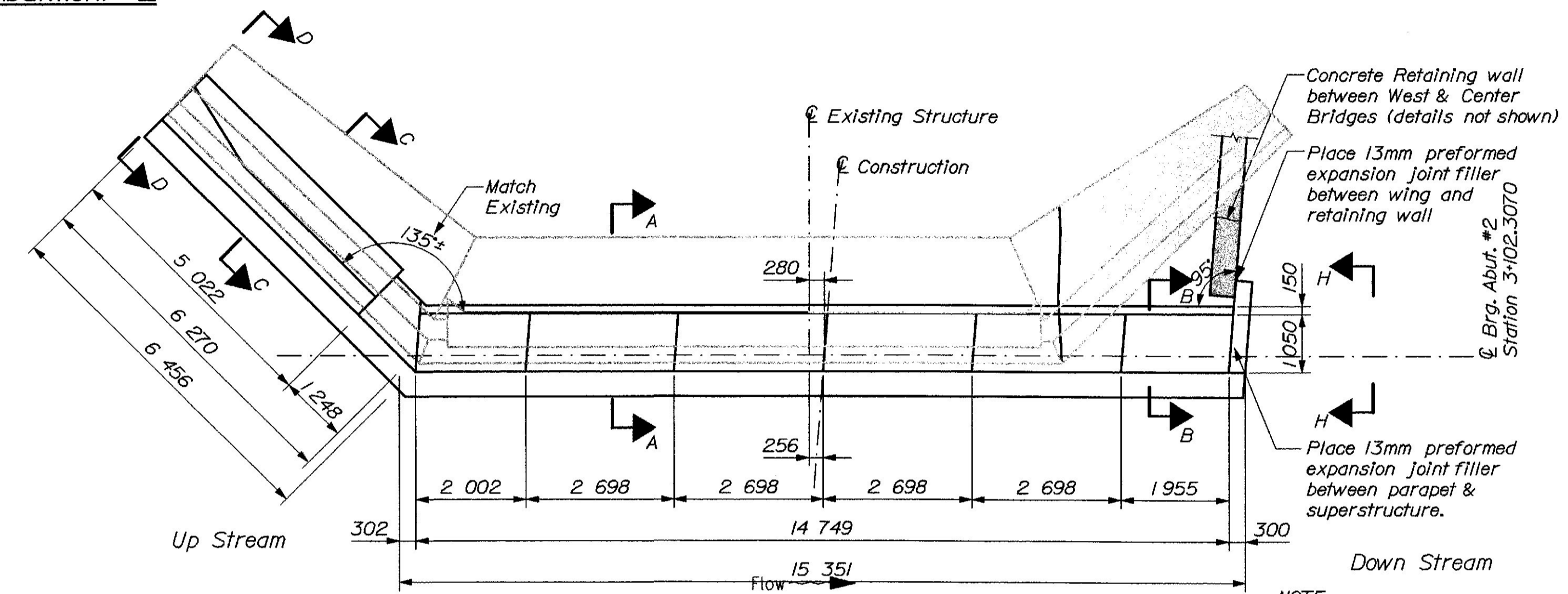
1. Reinforcing steel shall have 50 mm cover in the walls and 75 mm cover in the footings unless otherwise noted.
2. Cover joints in accordance with Standard Detail 502(1) where waterstops are not required.
3. Place 2-100 mm diameter drains in breastwall at new portions of the Abutment. Exact location to be determined by the Engineer in the field.
4. Construct French drains behind new portions of the abutments and wings in accordance with Standard Specification Section 512, French Drains.
5. Abutments and wings shall be backfilled with granular borrow. Pay limits will be the structural excavation limits in cut areas and a vertical plane located 3 m behind the walls in fill areas.
6. Maximum calculated footing pressure is 275 KPa.



3D Model of West Bridge Showing Abutment #2

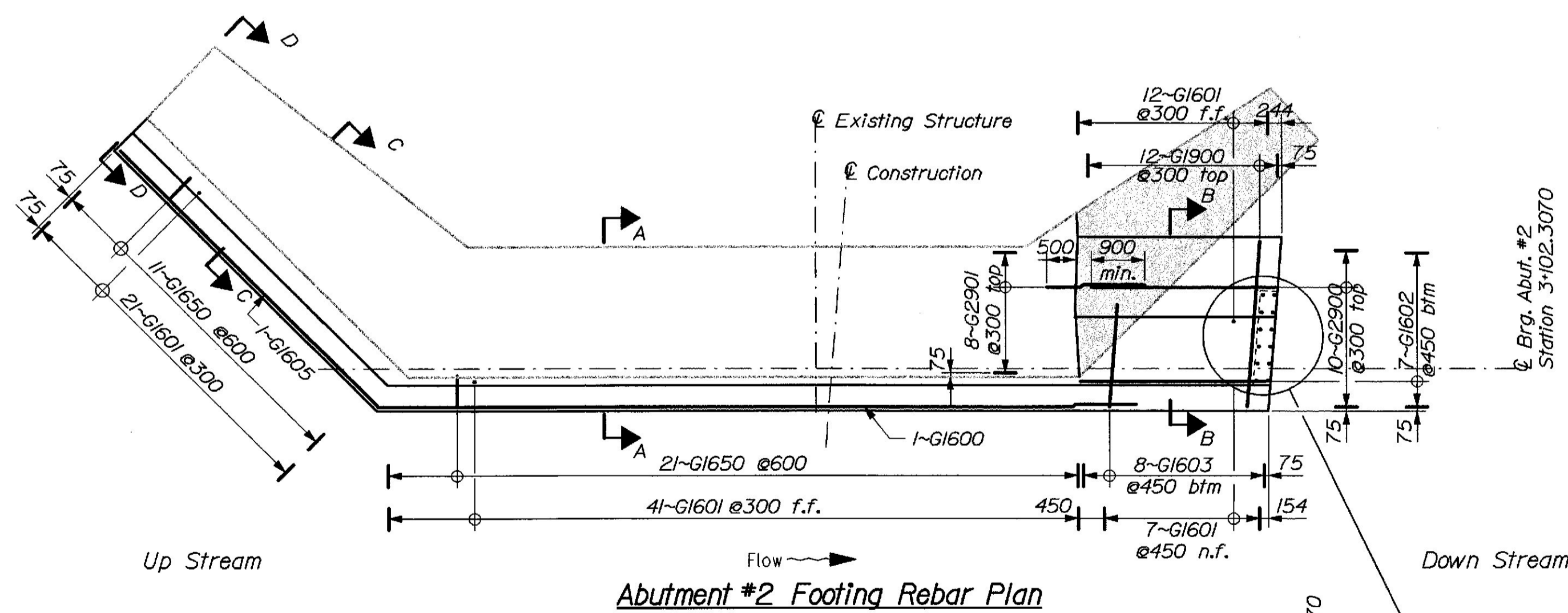


Abutment #2 Footing Plan

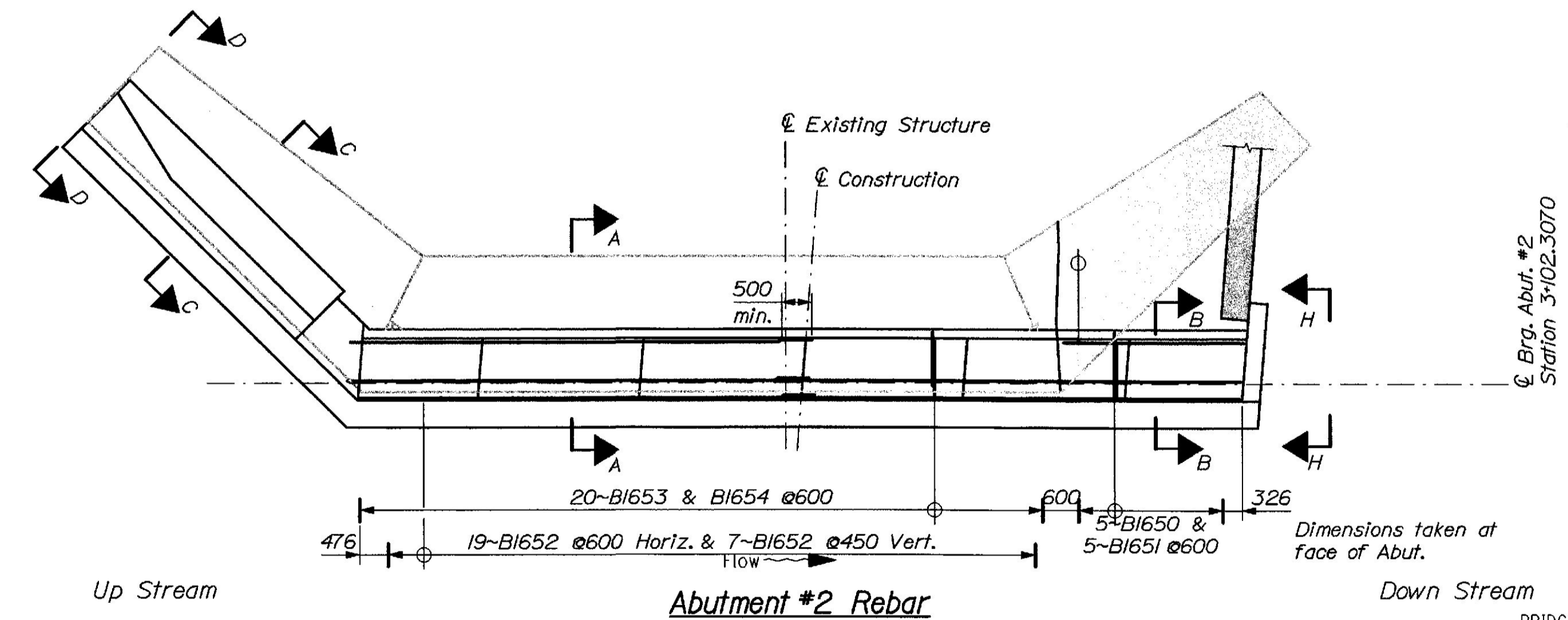


Abutment #2 Plan

NOTE: Dimensions taken at face of Abut.

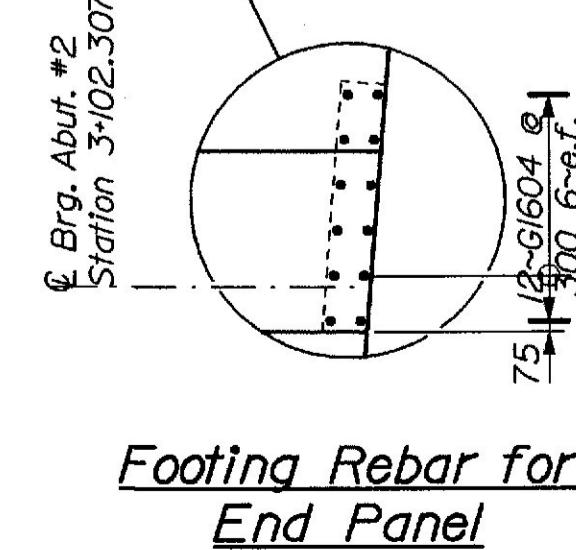


Abutment #2 Footing Rebar Plan



Abutment #2 Rebar

NOTE: Dimensions taken at face of Abut.



Footing Rebar for End Panel

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

PLANS

Date: 14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

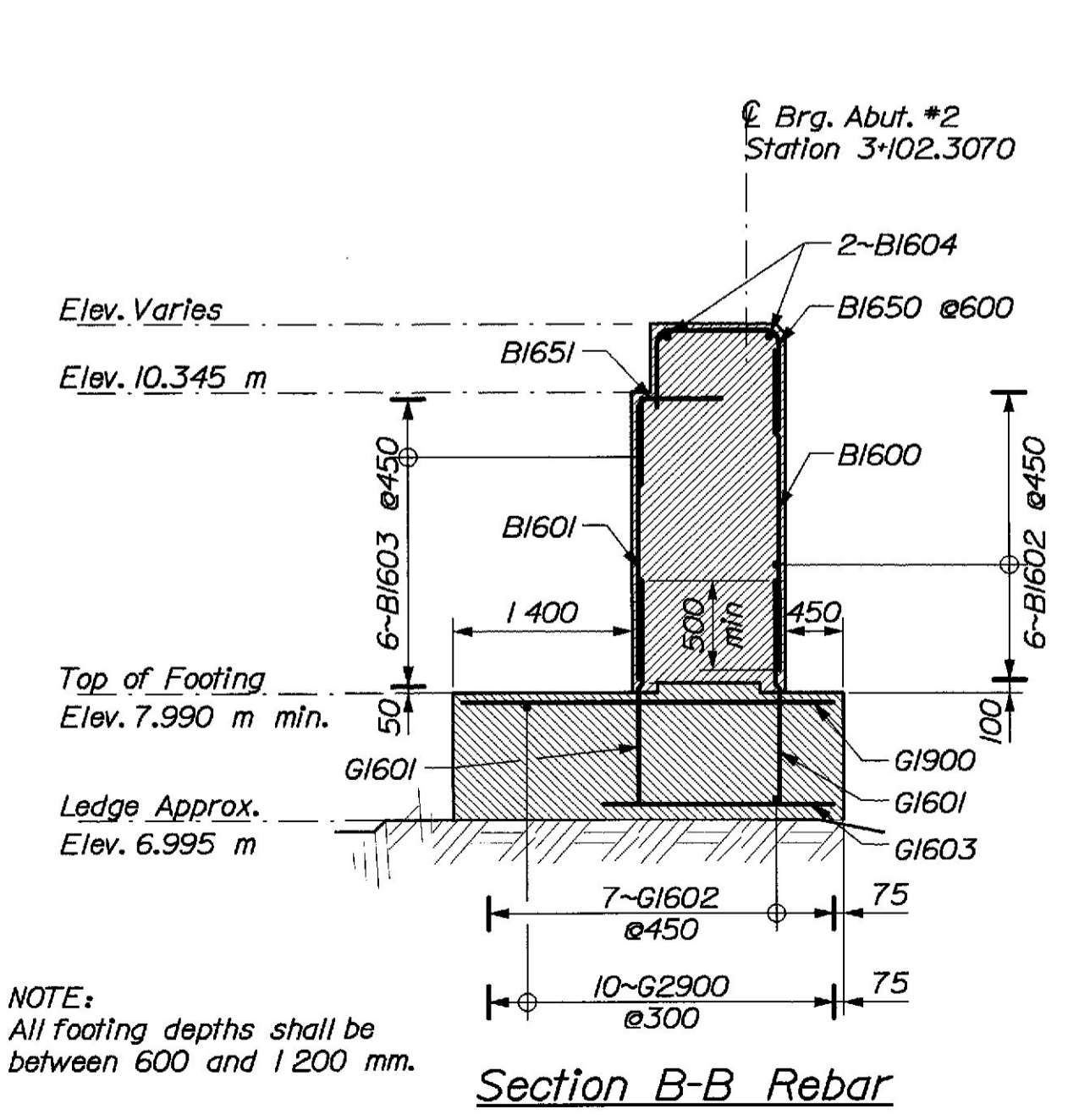
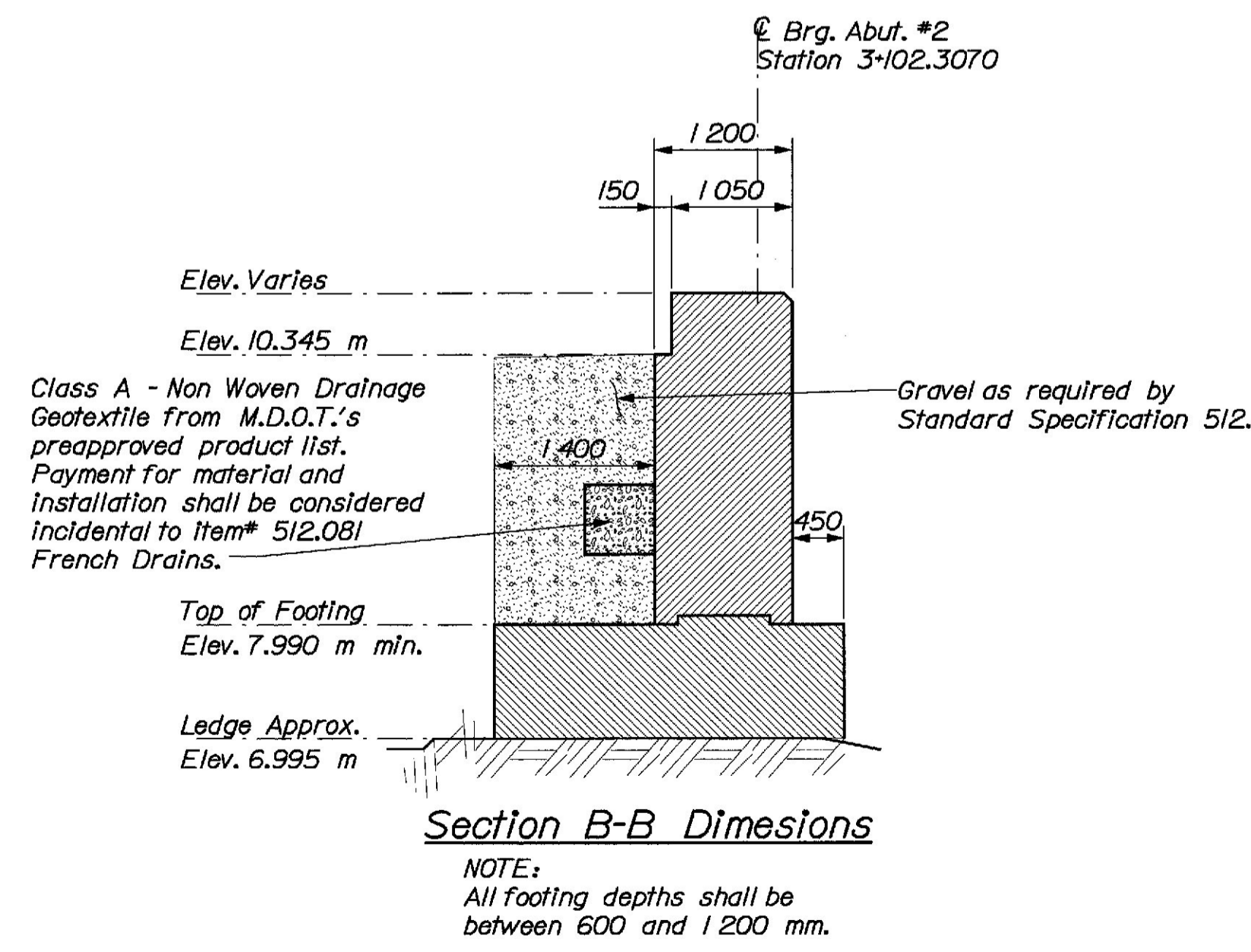
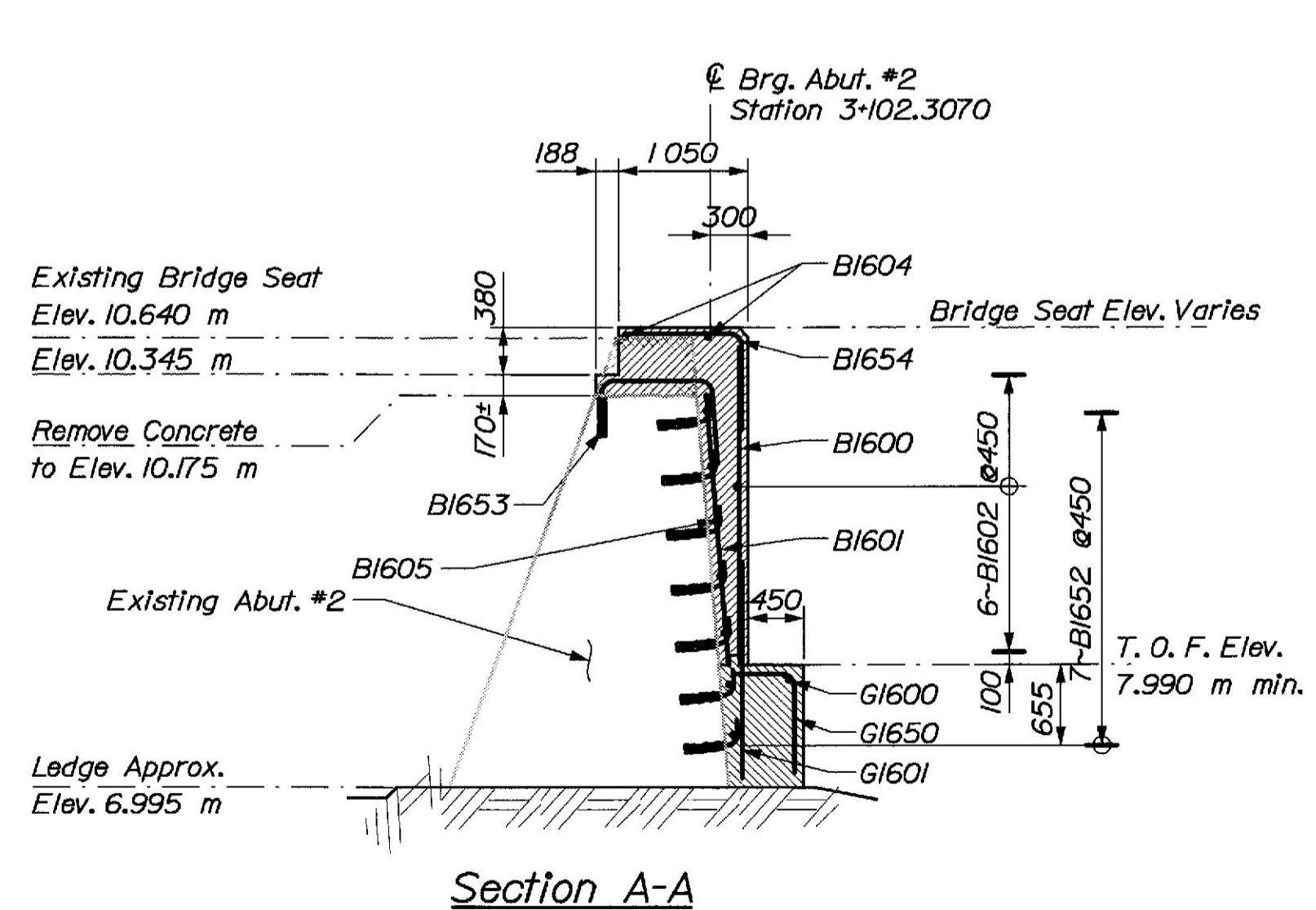
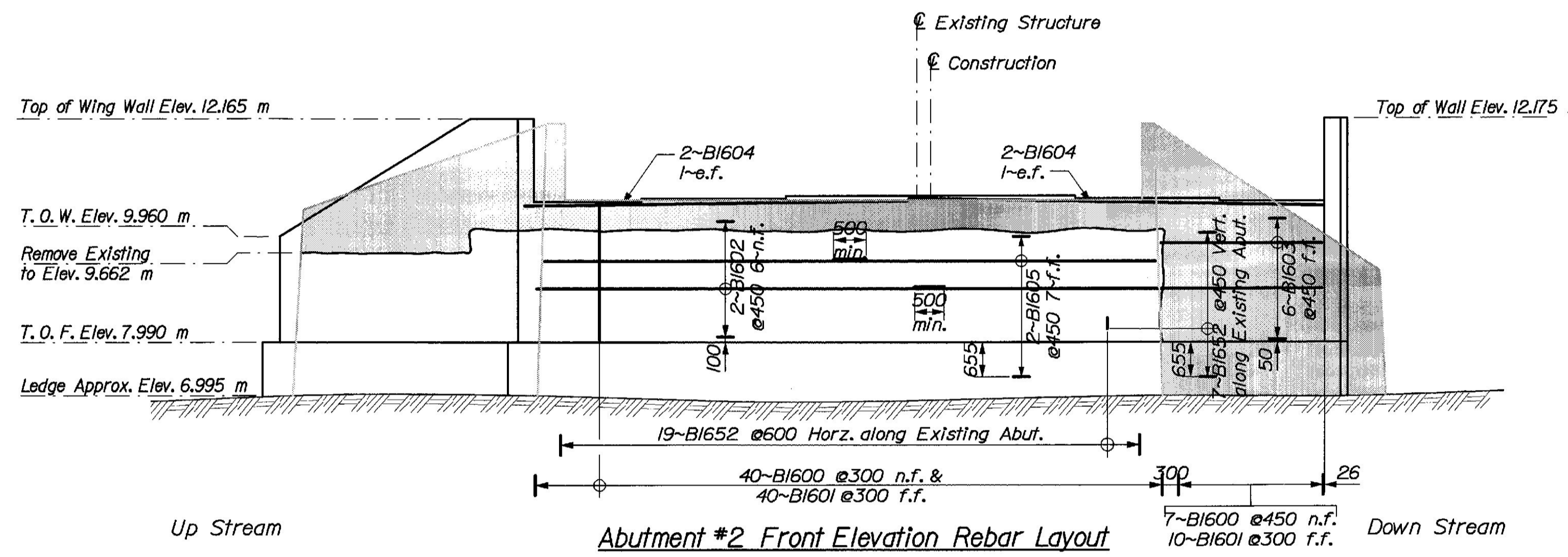
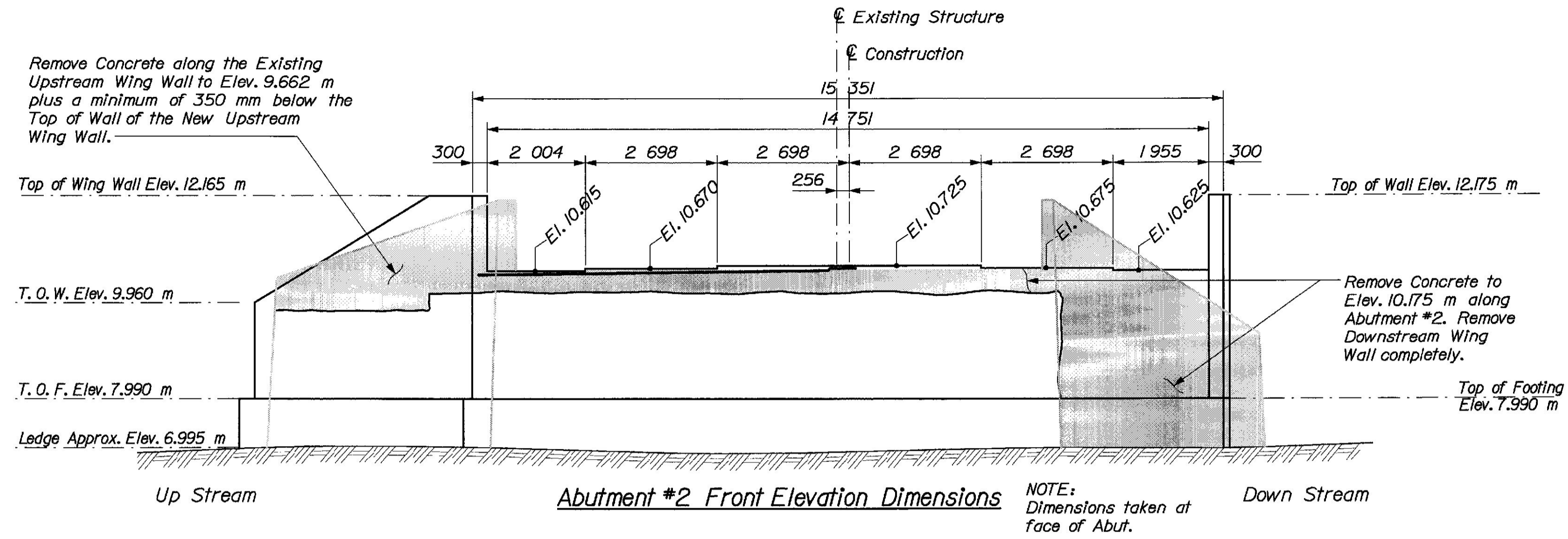
Filename: ...024_Abut 2Plan.dgn

BRIDGE NO. 1470

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Abutment #2 Plan

SHEET OF AUGUSTA, MAINE



BRIDGE NO. 1470
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Abutment #2 Details

Date: 14 MAR 2002
Username: Brian Nichols
Division: BRIDGE
Filename: ... \025_abut2details.dgn

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

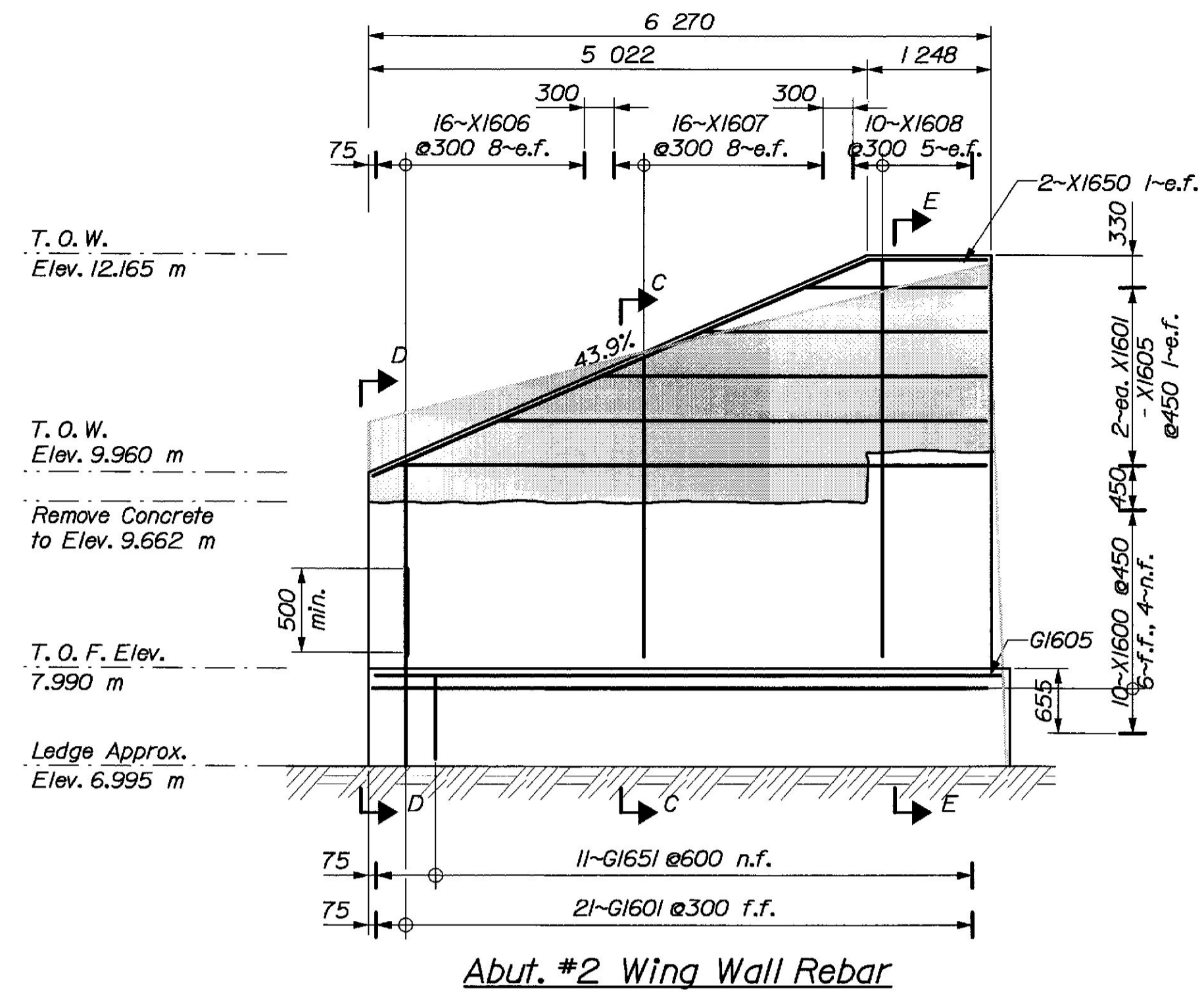
PLANS

METRIC

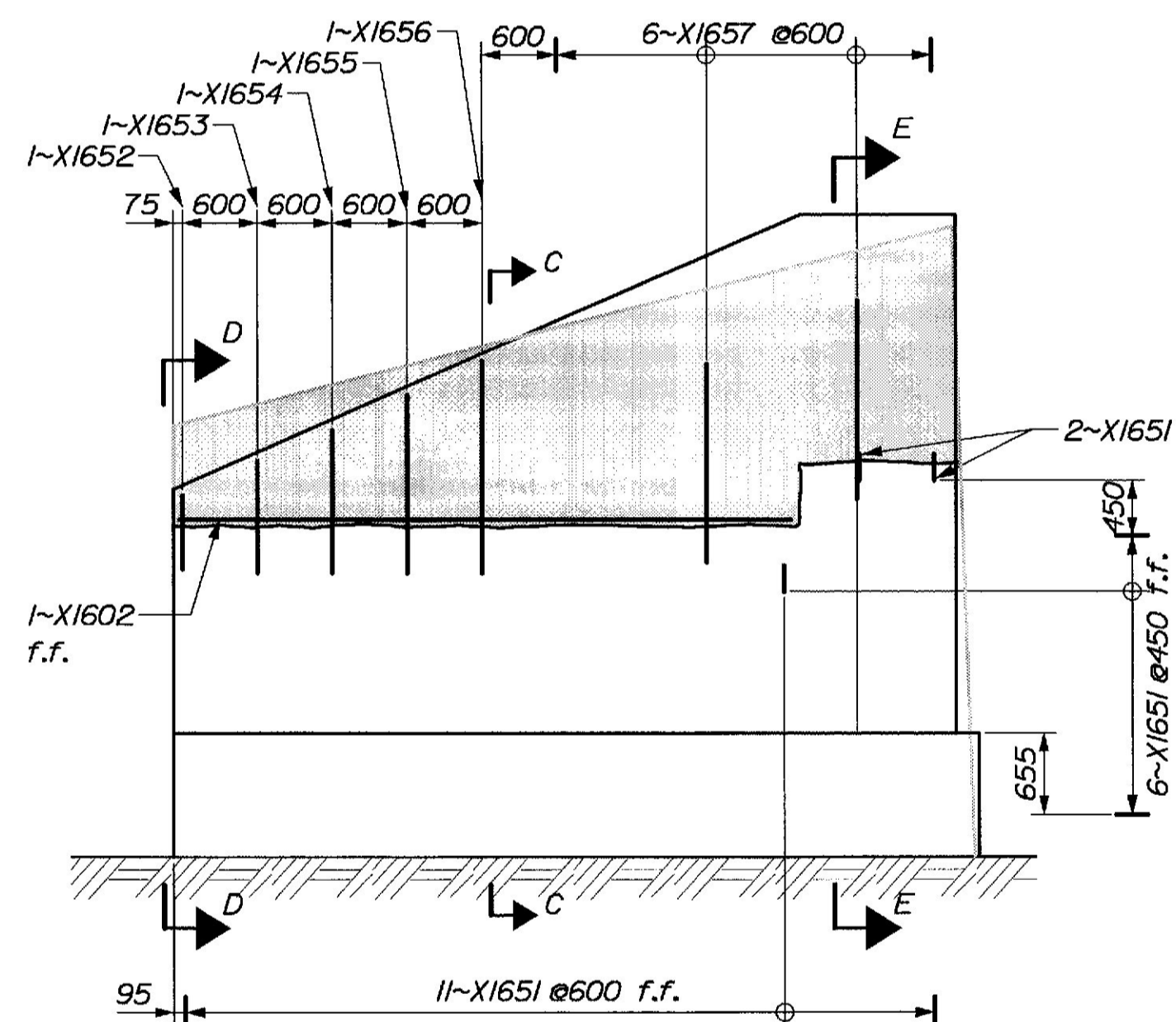
1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 (00)X	26	45

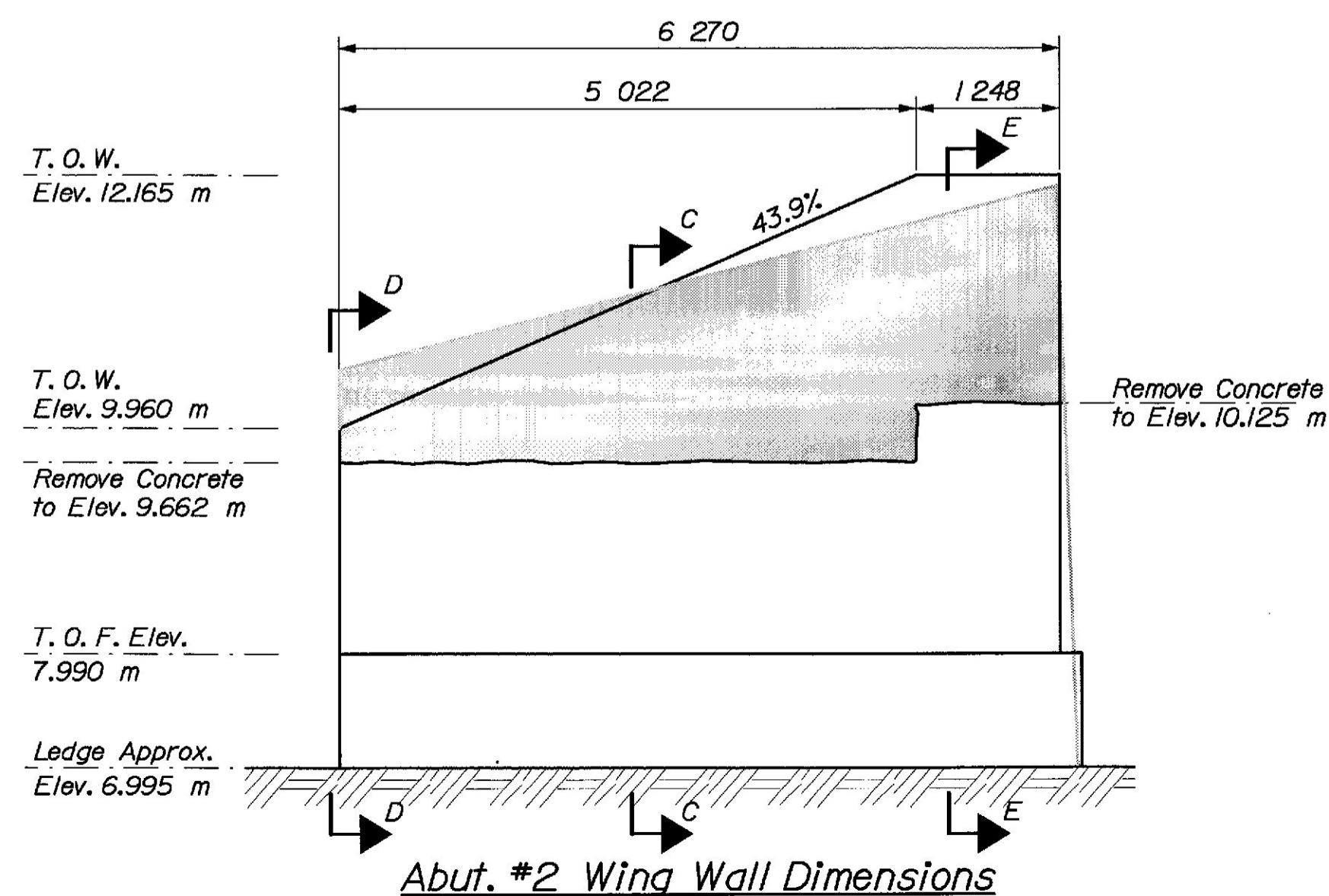
007681.00



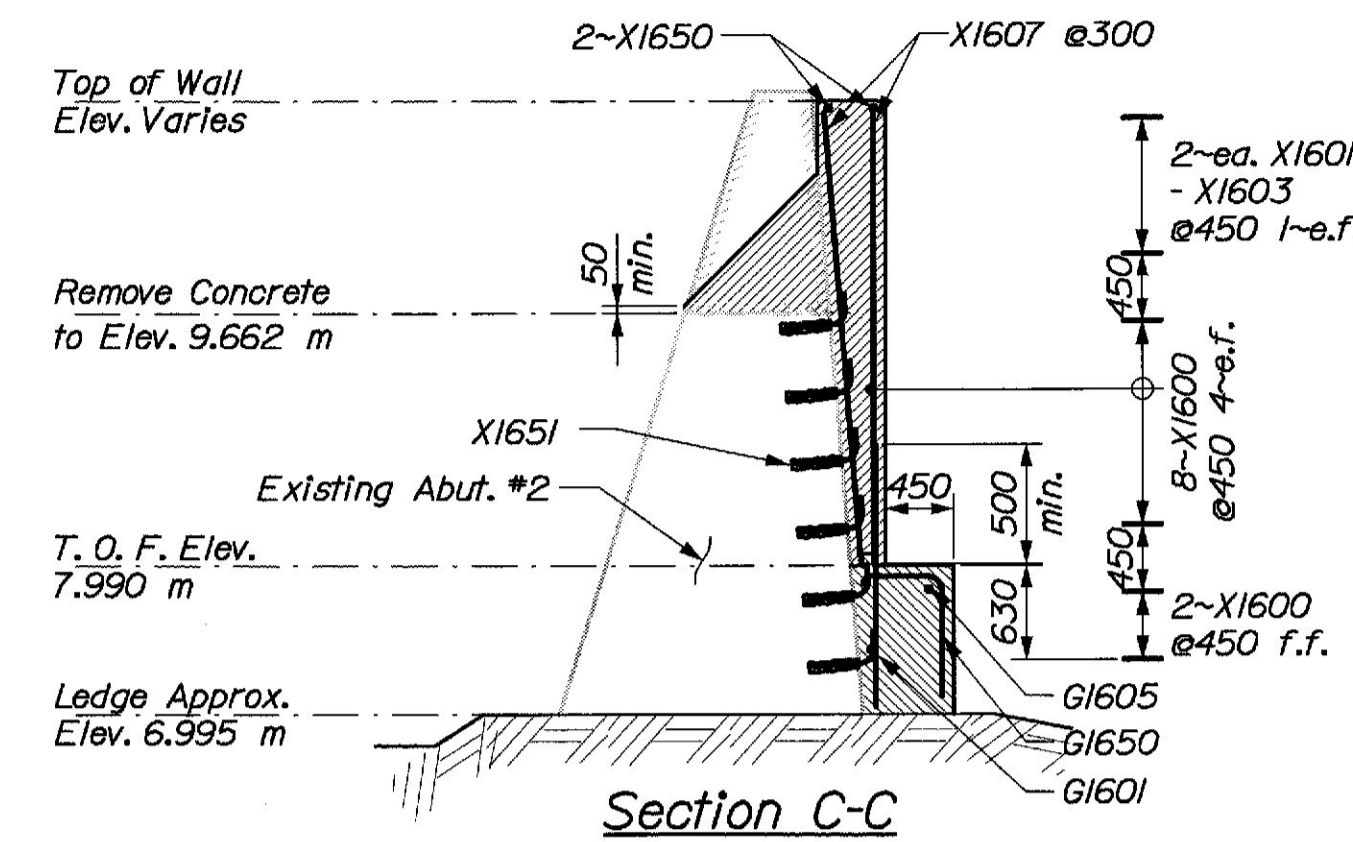
Abut. #2 Wing Wall Rebar



Abut. #2 Wing Wall Rebar Drilled & Anchored to Existing Abut.

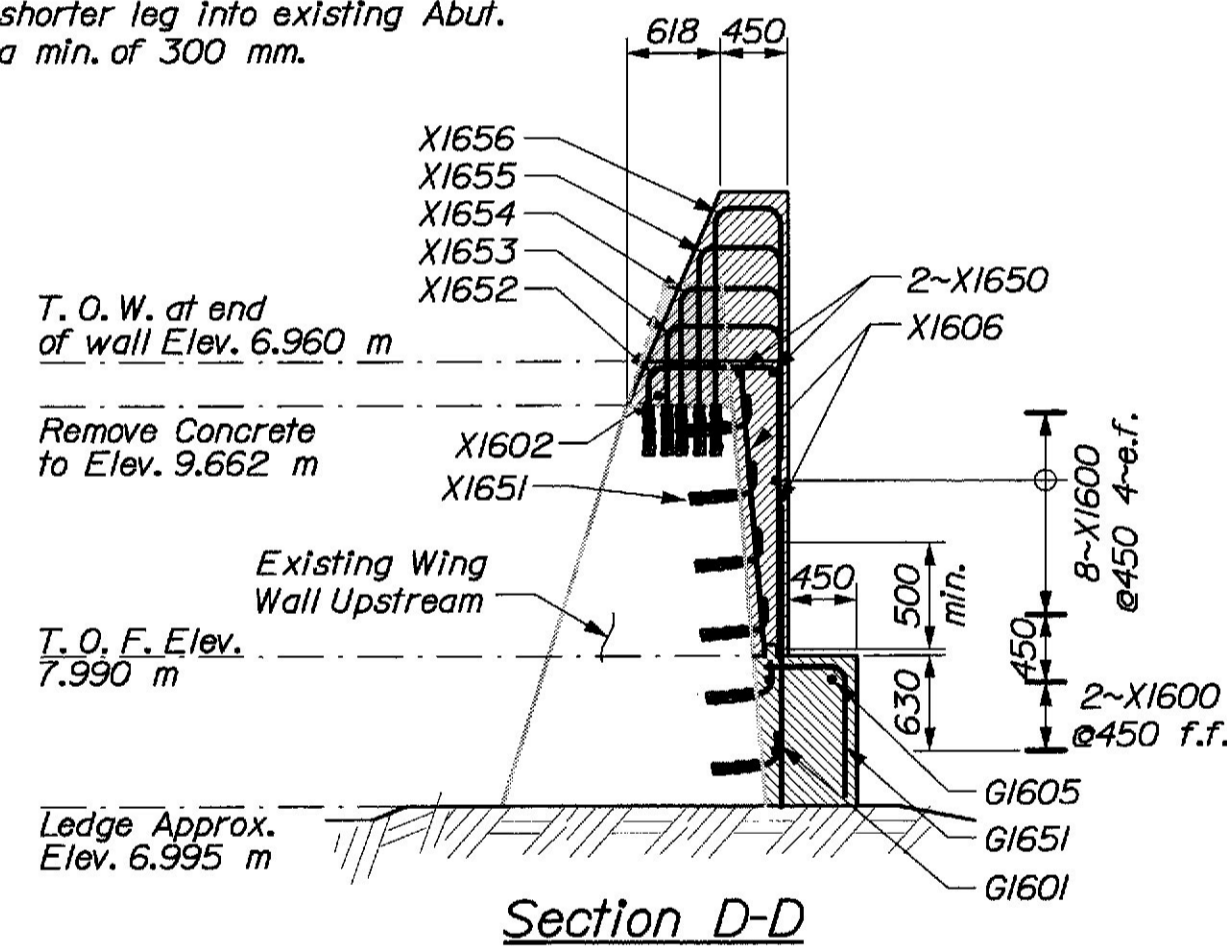


Abut. #2 Wing Wall Dimensions

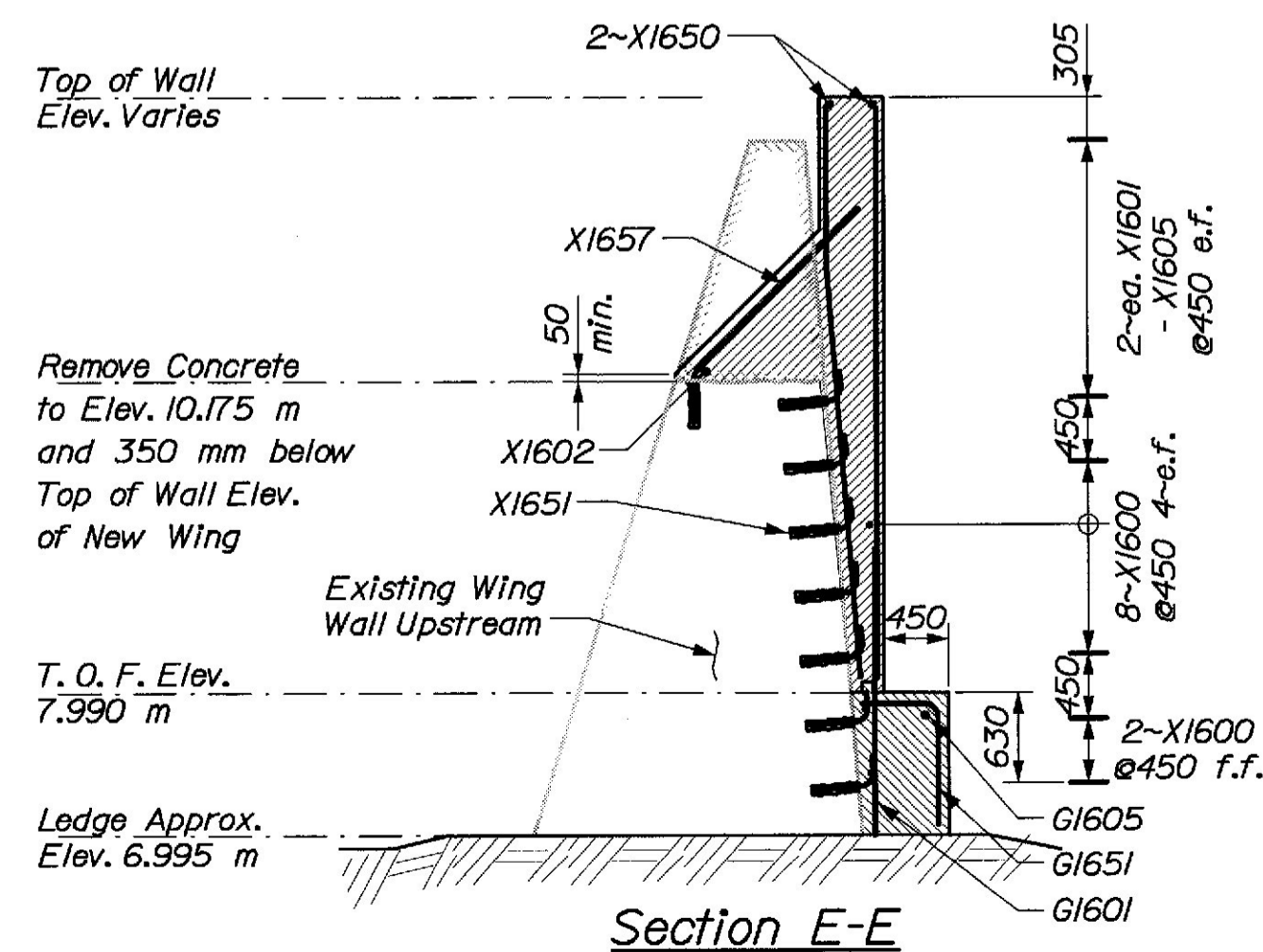


Section C-C

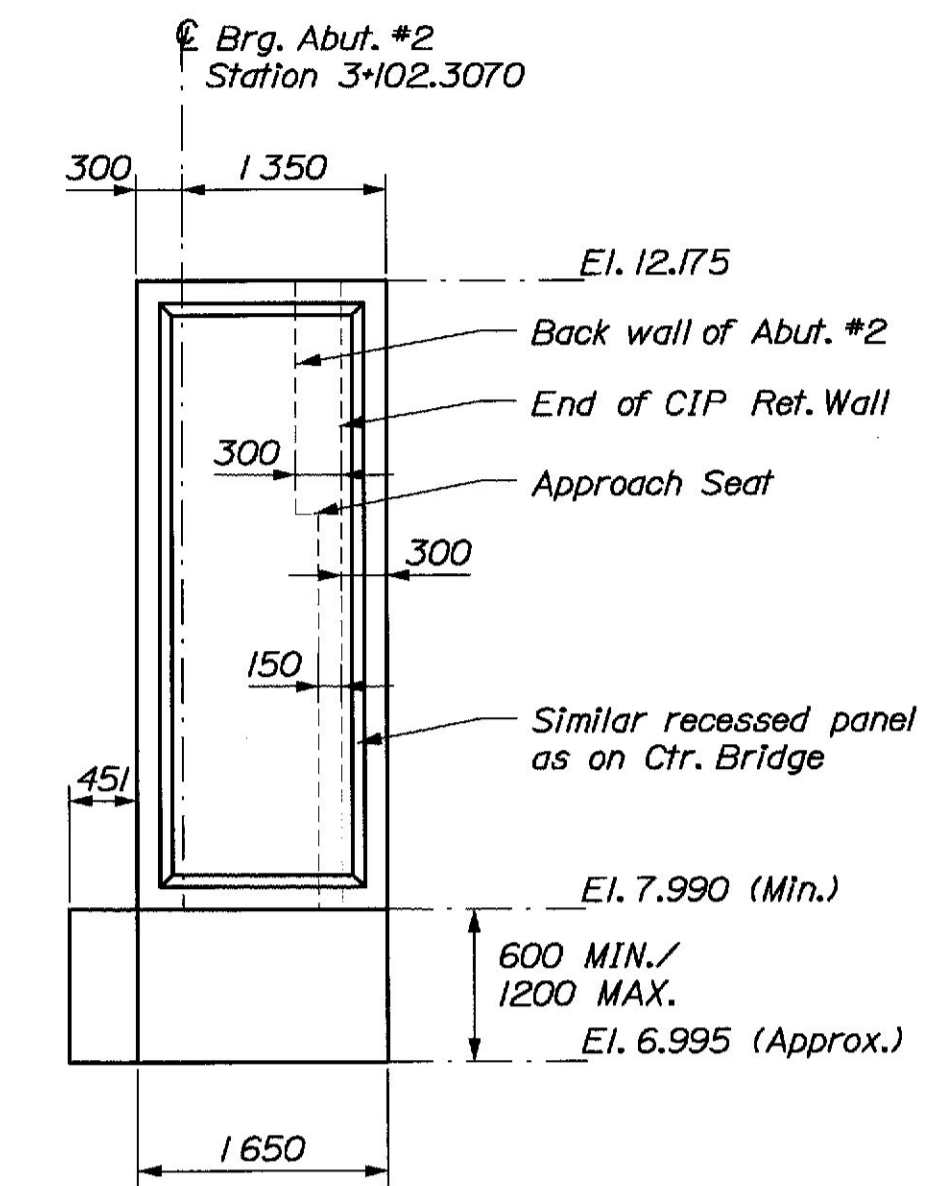
NOTE:
Bars X1652 - X1656 - Embed shorter leg into existing Abut. a min. of 300 mm.



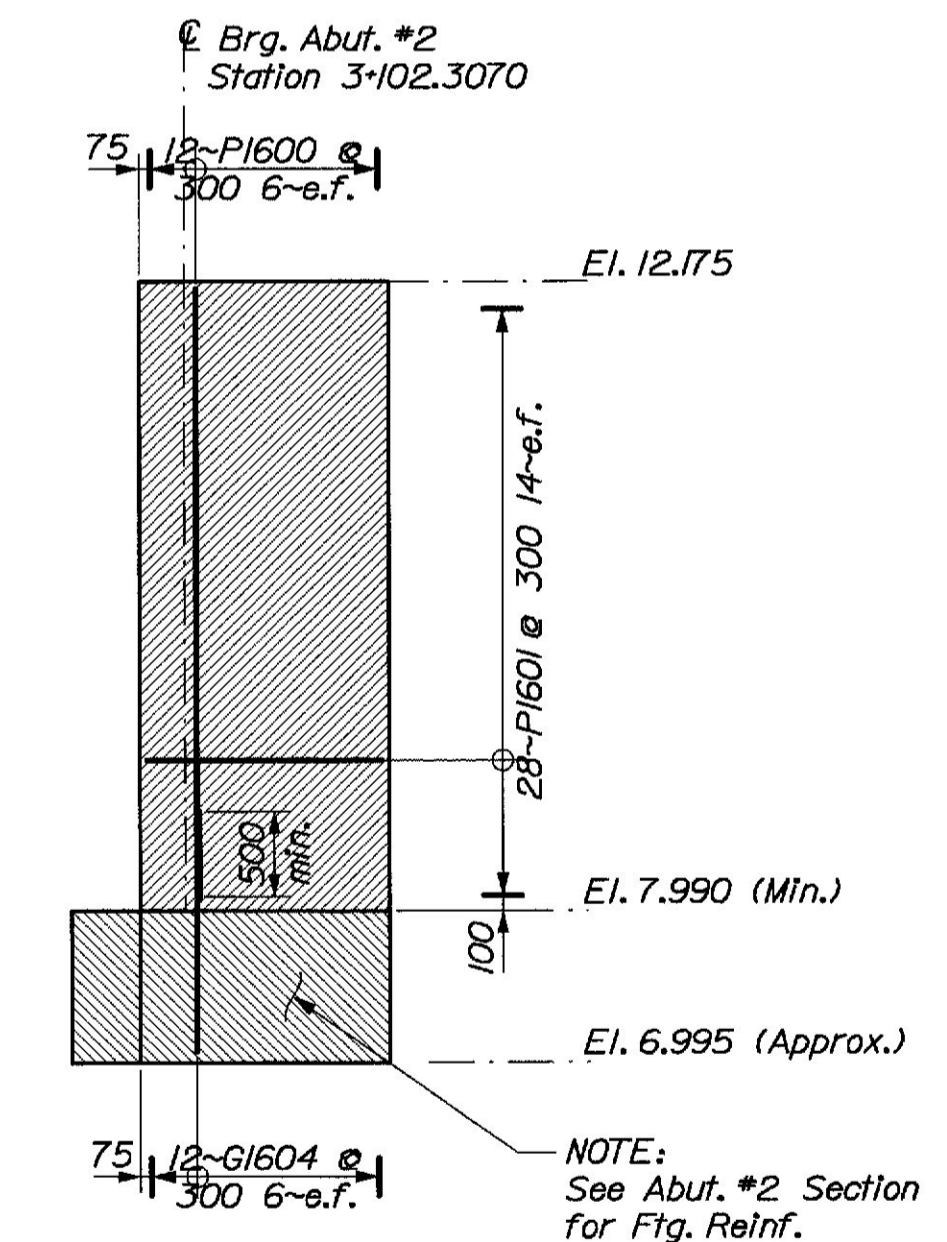
Section D-D



Section E-E



Elevation H-H Dimensions



Section H-H Rebar Layout

BRIDGE NO. 1470

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Abut. #2 Wing Walls

SHEET OF AUGUSTA, MAINE

Date: 14 MAR 2002

Username: Brian Nichols

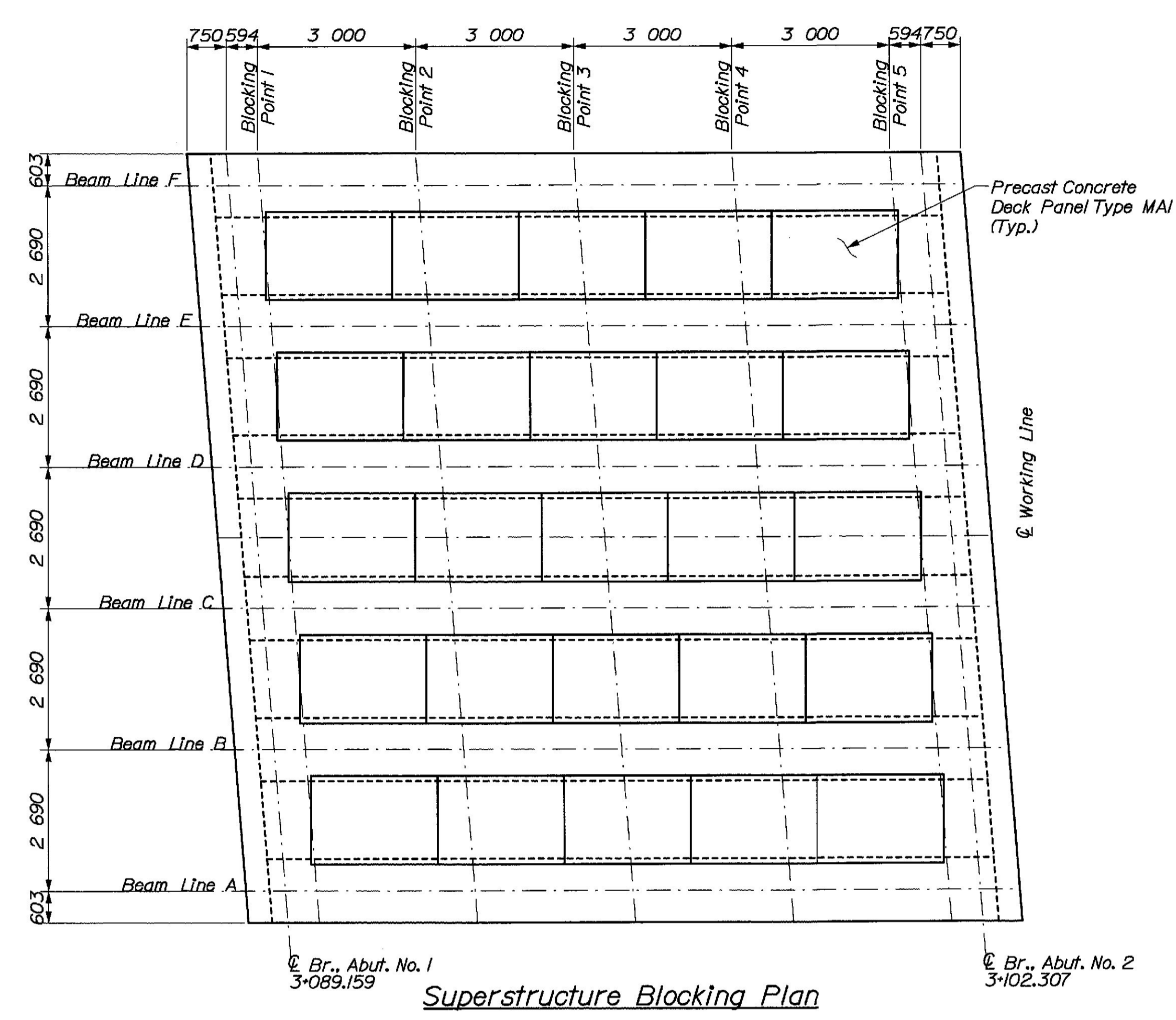
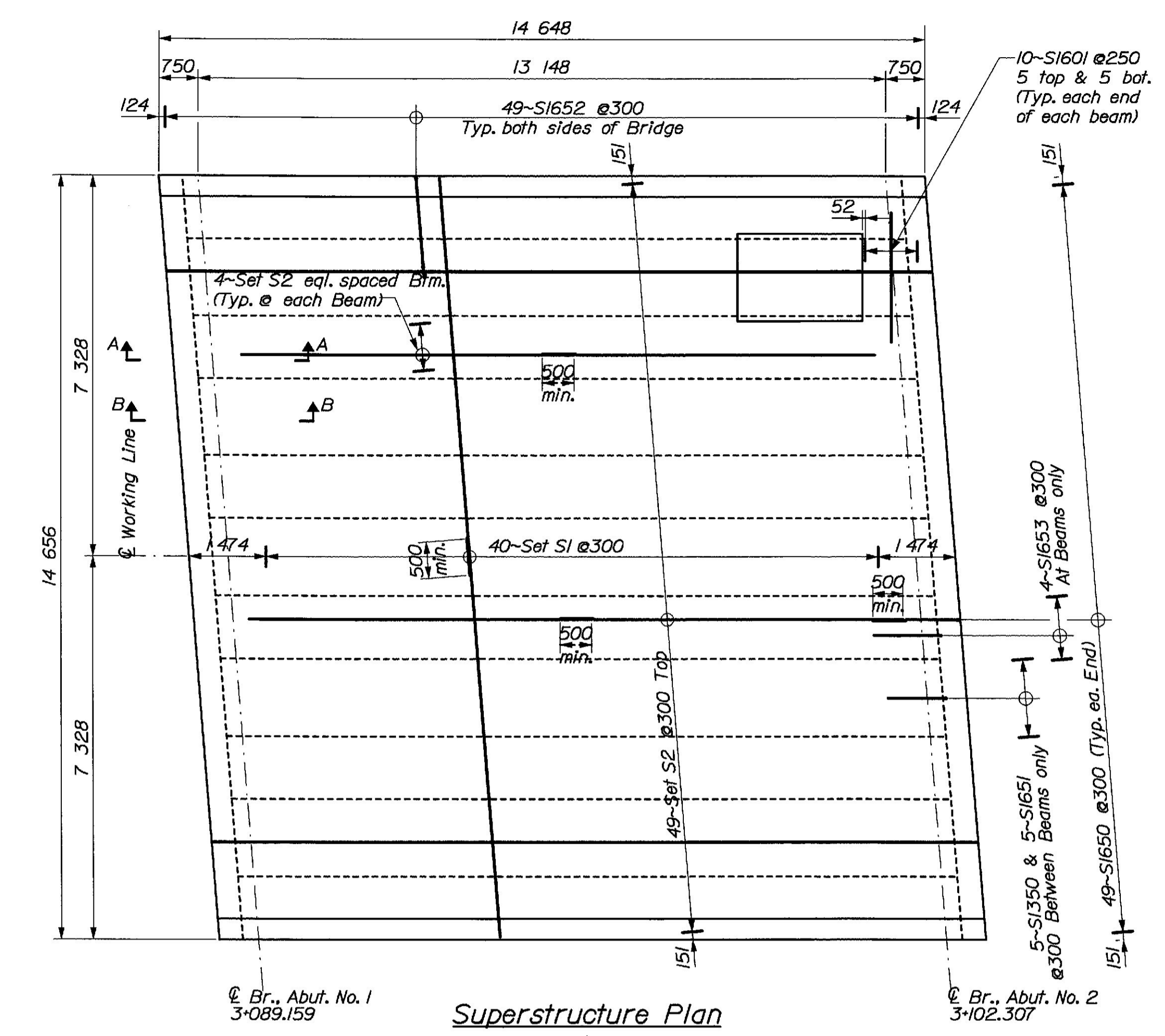
Division: BRIDGE

Filename: ... \026_abut2wingwall.dgn

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

PLANS

- SUPERSTRUCTURE NOTES**
- Unless otherwise noted, reinforcing steel not embedded or anchored in precast concrete Box Beams will be paid for under the appropriate reinforcing steel pay items.
 - Form a 30 mm V-groove on the fascias at the horizontal joint between the sidewalk slab and cast in place concrete slab; and between the cast in place concrete slab and precast box beams.
 - The surface of the precast concrete box beams and the surface of the precast deck panels shall be cleaned and bonding grout applied prior to placement of the concrete slab in accordance with subsection 502.11(g) of the Standard Specifications. Payment will be considered incidental to contract items.
 - Protective coating for concrete surfaces shall be applied to all exposed areas of sidewalk and fascia down to the drip notch.
 - The concrete slab shall be paid for under item 502.25, Structural Concrete Superstructure Slab. Payment for the precast portion shall be considered incidental to item no. 502.25, no separate payment shall be made.
 - After the precast box beams have been placed, drill for and anchor dowels into the bridge seat. Fill sleeves at Abutment No. 1 with the same material used to anchor the dowels to within 50 mm of the top of the precast unit and cap with an approved self leveling caulk. At Abutment No. 2, fill the bottom 75 mm of the sleeves with an approved self leveling caulk using an approved device capable of delivering the caulk to the lowest portion of the hole. Then fill the hole to within 50 mm of the top with asphalt material meeting the requirements of Subsection 702.09. The sleeves at Abutment No. 2 may be filled full depth with an approved self leveling caulk.
 - Neoprene pads shall be either polychloroprene or natural polyisoprene of 50+/-5 shore A durometer hardness and shall conform to the requirements of Division 2, section 18.2 of AASHTO Standard Specifications for Highway Bridges. Neoprene pads shall cover the entire surface of the Box Beam bearing area. Payment will be considered incidental to contract items.
 - The sidewalks shall be constructed of Low Permeability Concrete. The sidewalks shall be paid for under item 502.49, Structural Concrete Curbs and Sidewalks
 - Tensioning of prestressing strands shall be done in accordance with Standard and Supplemental Specifications Section 535. The jacking force applied to the prestressing strands shall be 138 kN.
 - All prestressing strands shall be ASTM A416 Grade 1862 Mpa 12.7 mm diameter Low Relaxation Strand.
 - Precast Concrete : $f'c$ (Final) = 48 MPa
 $f'c$ (release) = 31 MPa

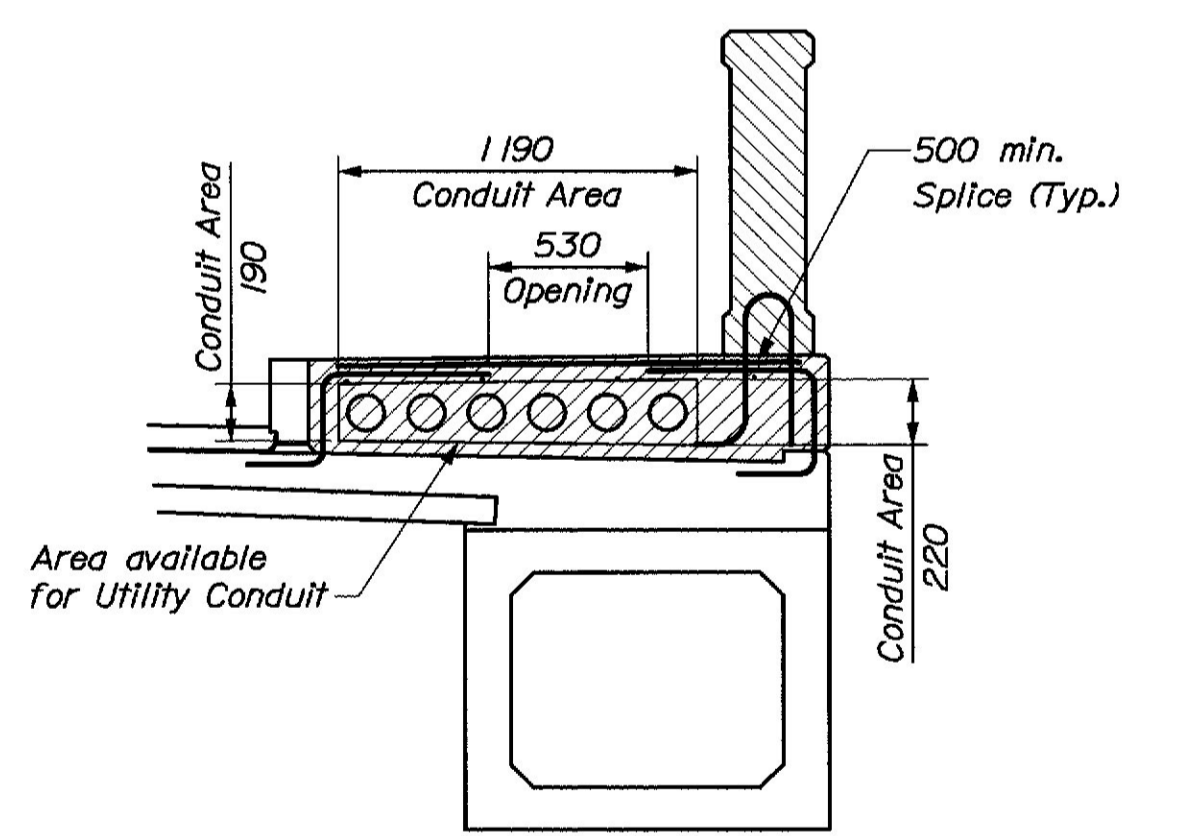


Rebar Set Table

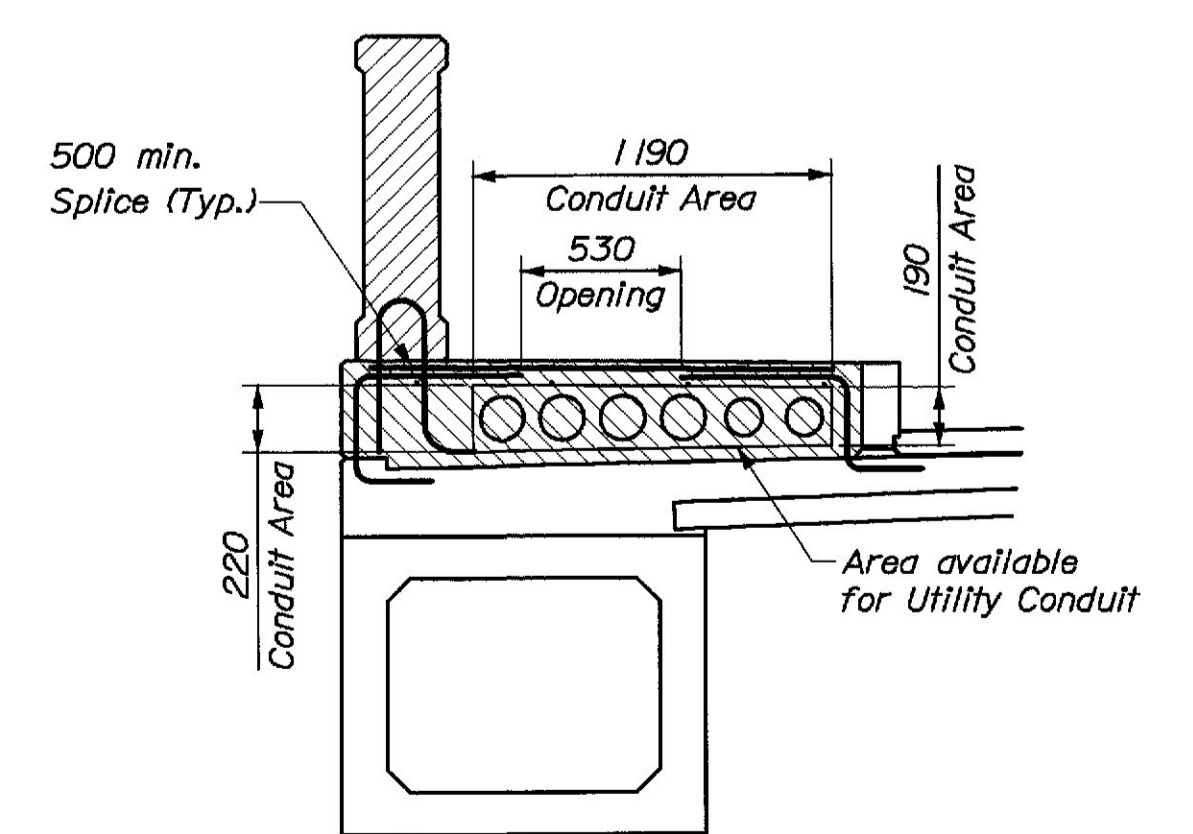
Set #	Components of Set
S1	2-S1600
S2	2-S1602
C	2-R1050
D	2-W1051, W1303, S1655, 2-S1656, 2-S1603
E	2-W1051, W1303, S1655

Bottom Of Slab Elevations

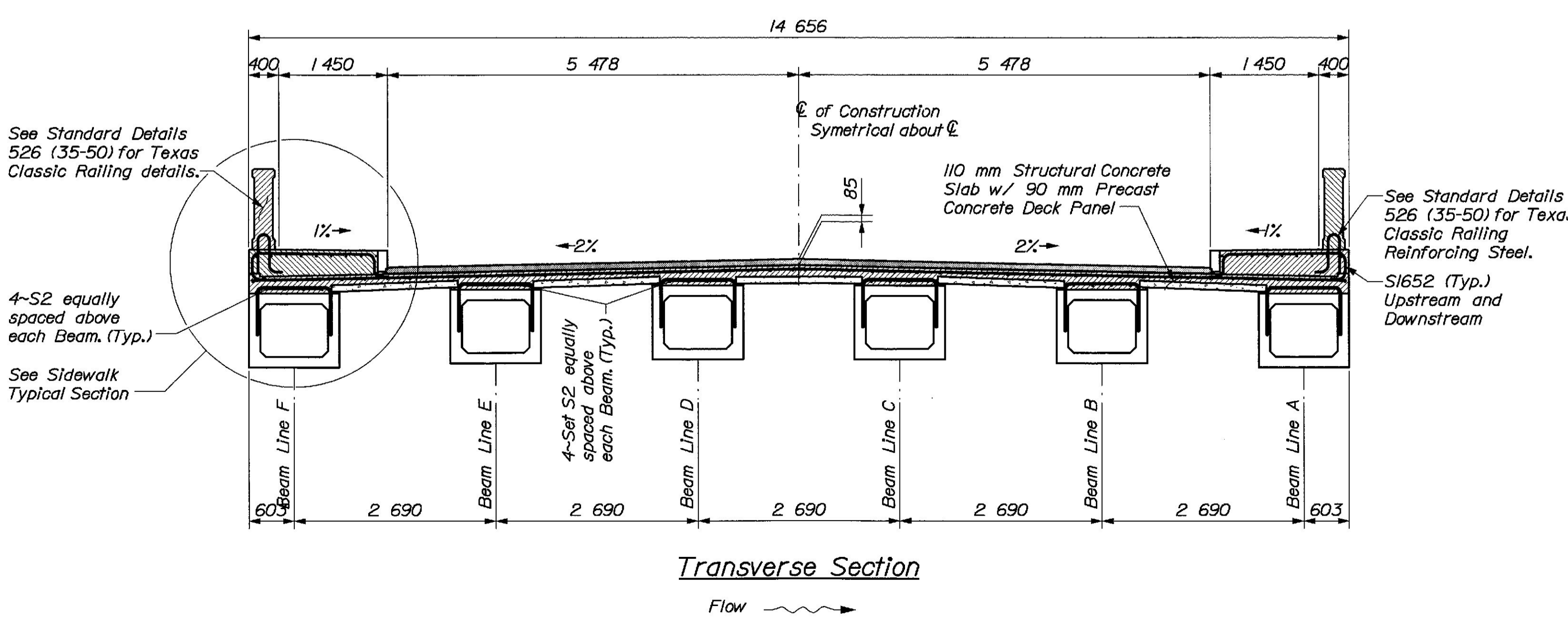
Blocking Point	Beam Line					
	A	B	C	D	E	F
1	11.600	11.650	11.705	11.700	11.645	11.590
2	11.615	11.665	11.720	11.715	11.660	11.605
3	11.630	11.680	11.735	11.730	11.675	11.620
4	11.645	11.695	11.750	11.745	11.690	11.635
5	11.655	11.710	11.760	11.760	11.705	11.650



Downstream Sidewalk Utility Conduit Detail
Not To Scale



Upstream Sidewalk Utility Conduit Detail
Not To Scale



Transverse Section

Username: Brian Nichols Date: 14 MAR 2002
 Division: BRIDGE
 Filename: ... \027_super.dgn

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

BRIDGE NO. 1470

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County

Superstructure

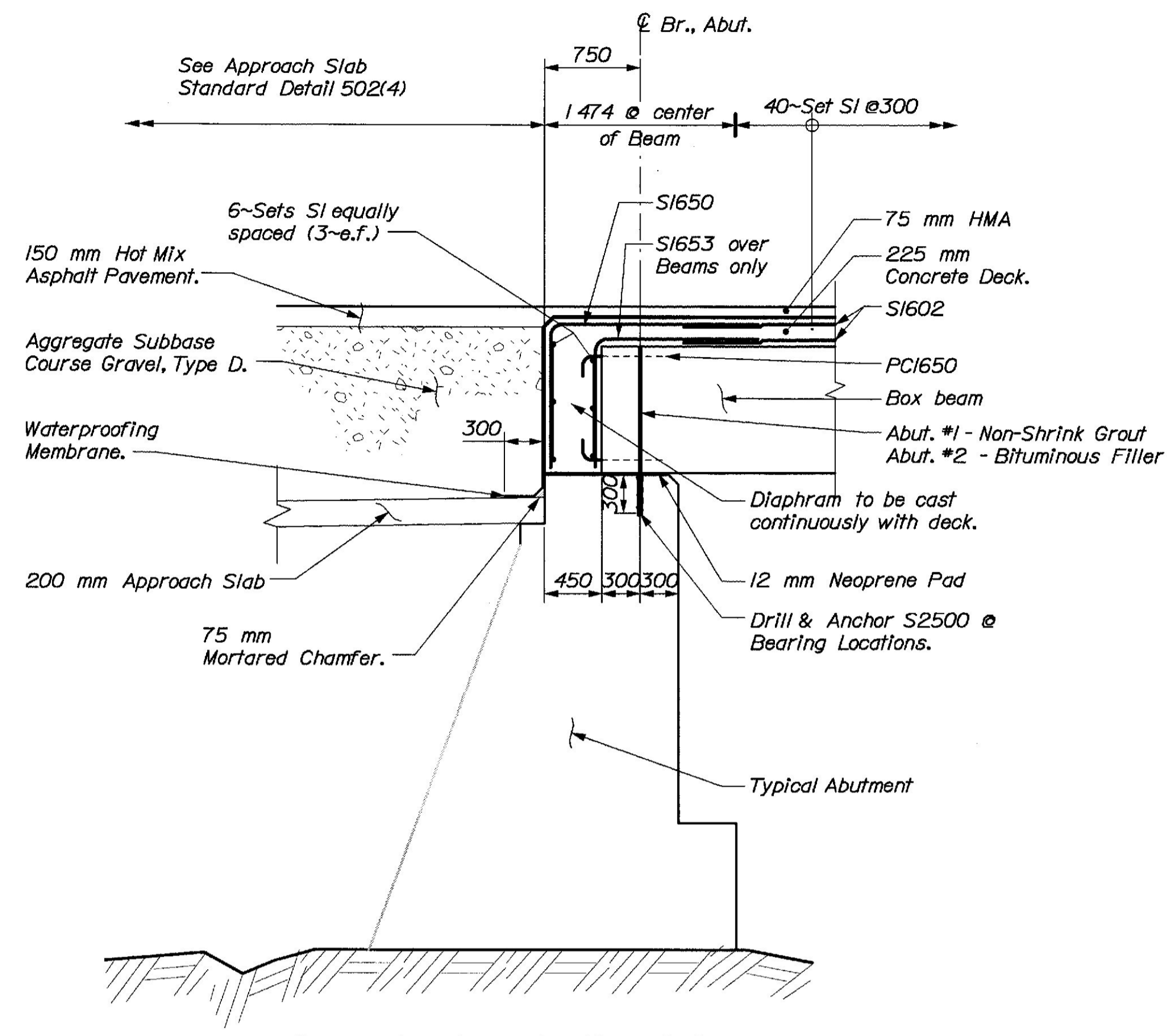
SHEET OF AUGUSTA, MAINE

METRIC

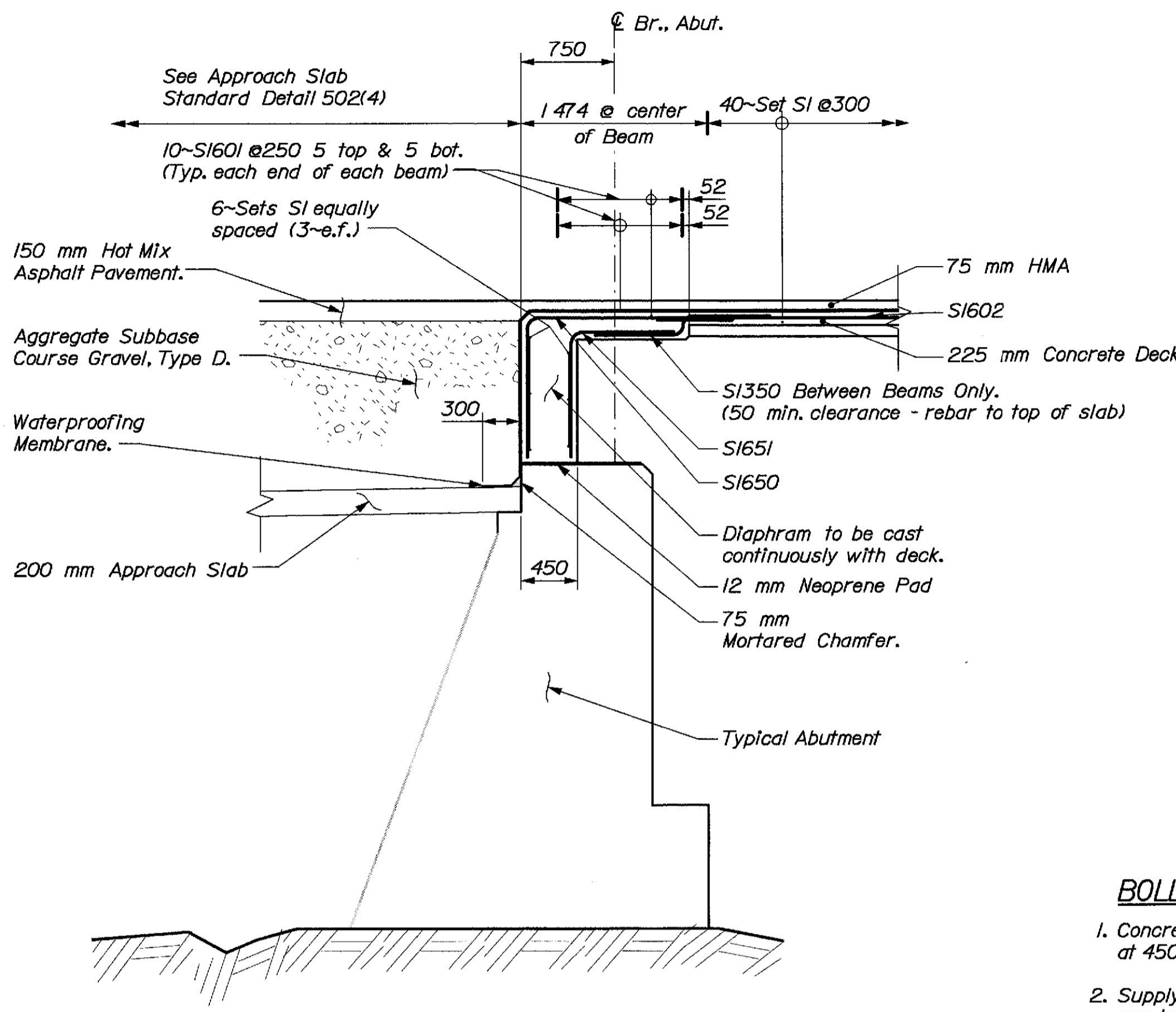
1. All dimensions are in millimeters unless otherwise noted.
2. All elevations and stations are in meters.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 (00)X	28	45

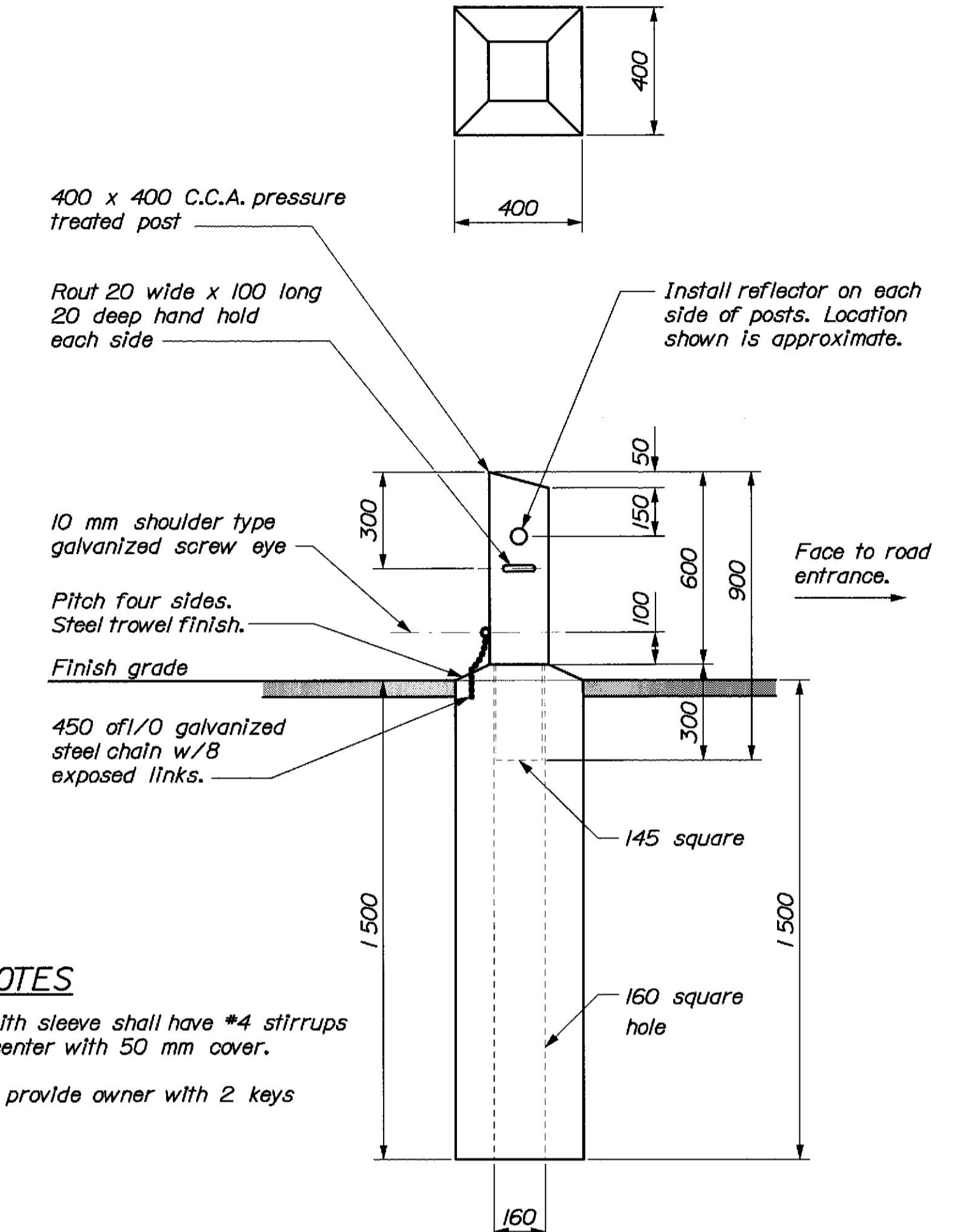
007681.00



Superstructure Section A-A
Typical for Abutment #1 & #2



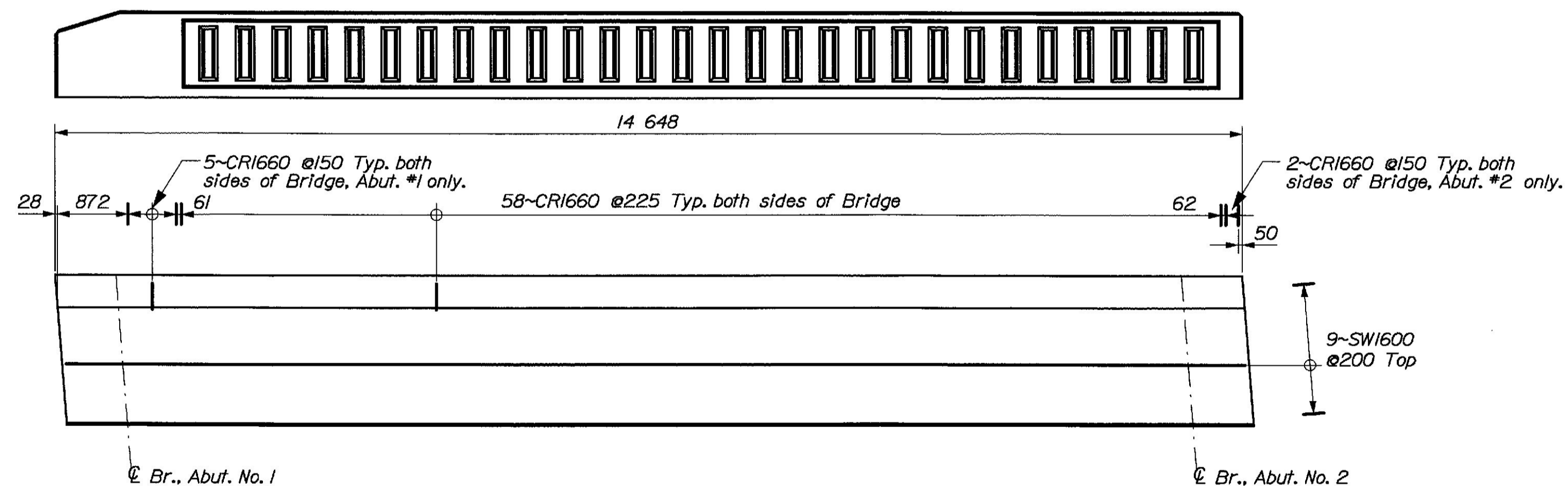
Superstructure Section B-B
Typical for Abutment #1 & #2



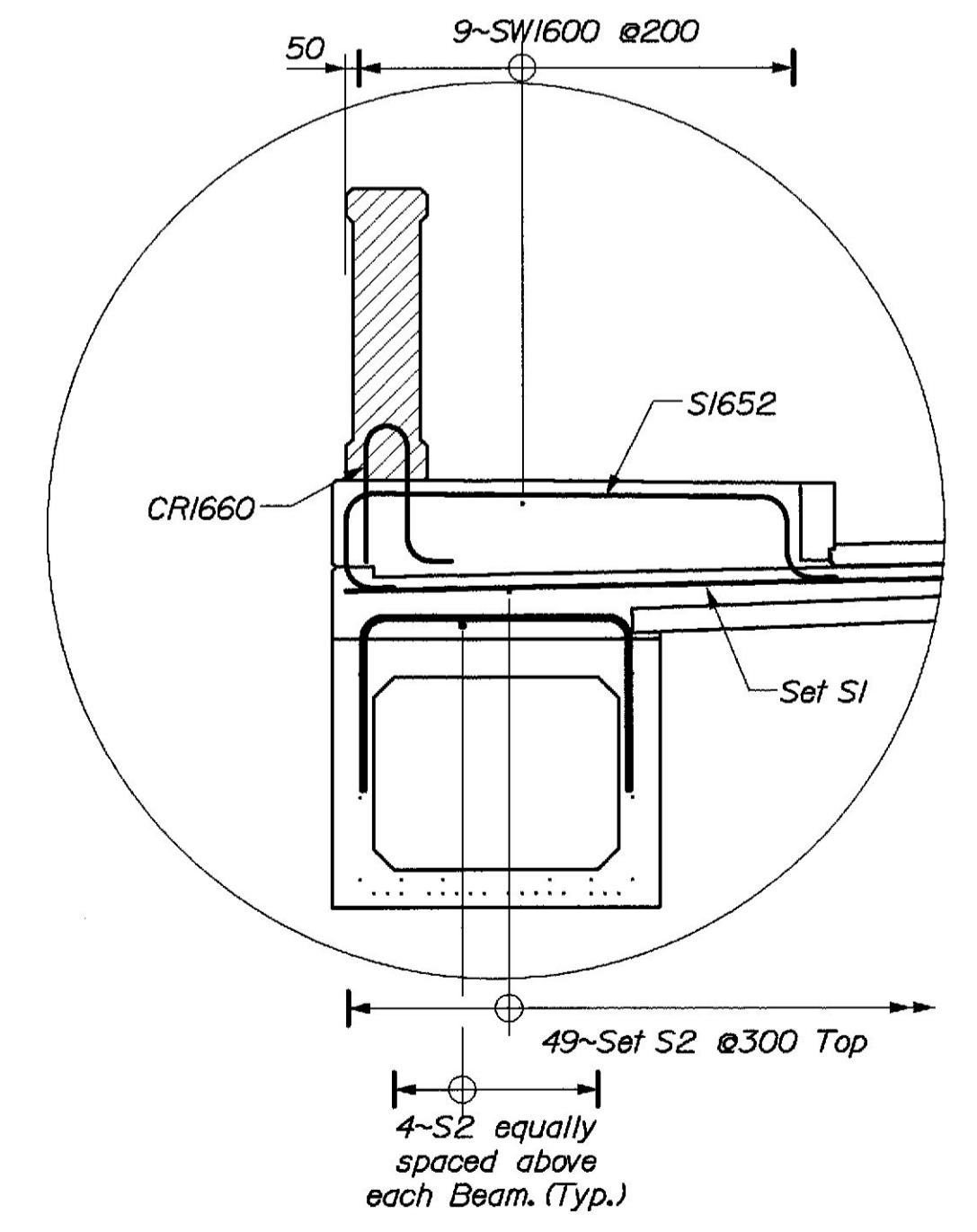
BOLLARD NOTES

1. Concrete base with sleeve shall have #4 stirrups at 450 mm on center with 50 mm cover.
2. Supply padlocks, provide owner with 2 keys per lock.

Removable Bollard Details
(2 Required)



Concrete Sidewalk Plan
(Up Stream Side, Typ. of Down Stream Side)



Sidewalk Typical Section

Date: 14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

Filename: ...028_superdetails.dgn

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

PLANS

BRIDGE NO. 1470

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Superstructure Details

SHEET OF AUGUSTA, MAINE

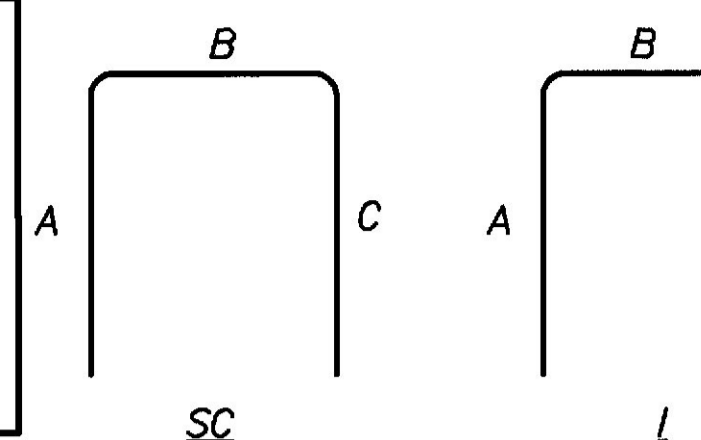
METRIC

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

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 (00)X	29	45

007681.00

BENT BARS														
MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
PC1350	X	2 675	SC	800	1 075	800	*	*	*	*	*	*	*	Transverse
PC1351	X	2 275	SC	900	475	900	*	*	*	*	*	*	*	Transverse
PC1352	X	2 275	SC	650	975	650	*	*	*	*	*	*	*	Transverse
PC1650	96	805	L	650	155									Longitudinal

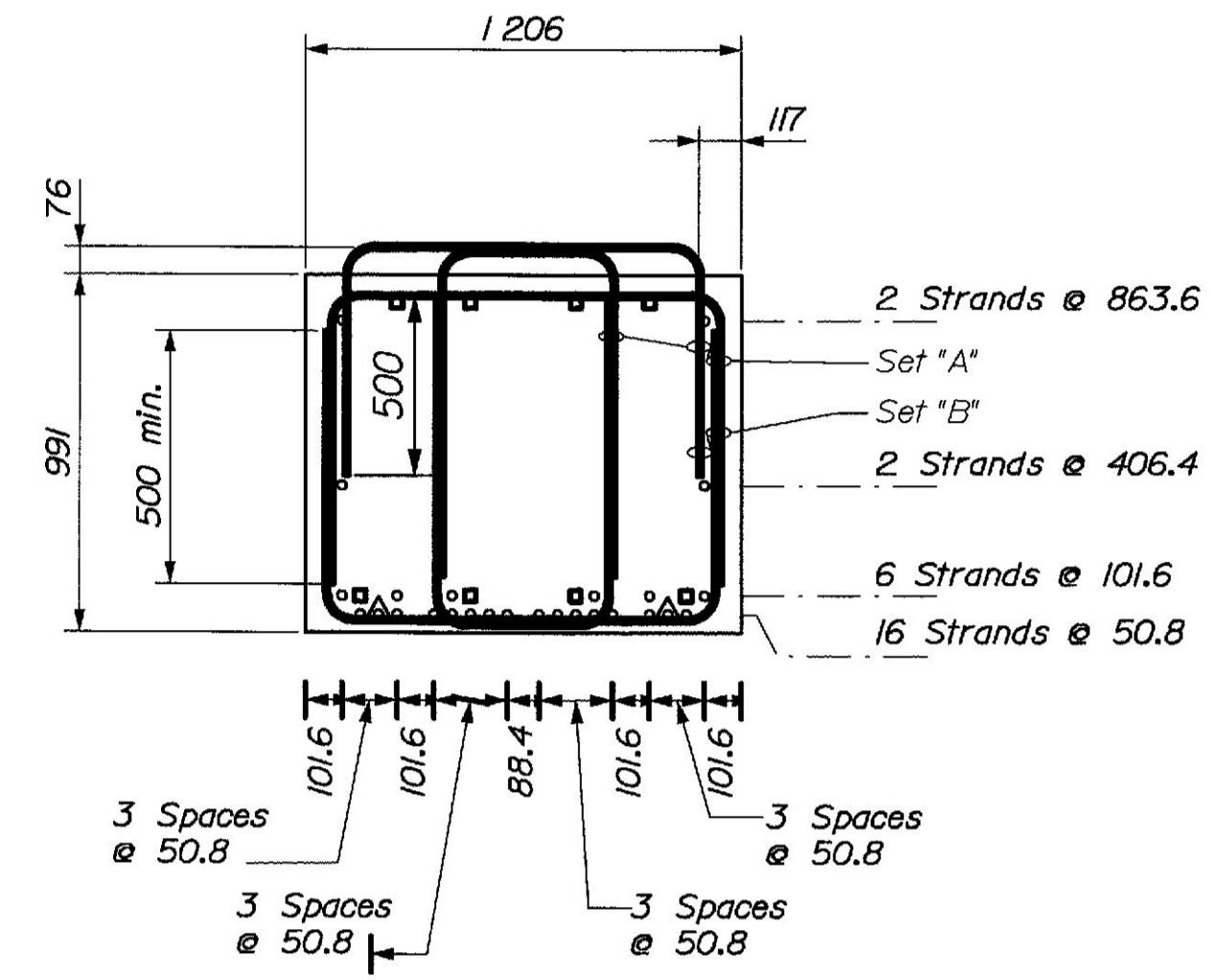


REINFORCING STEEL NOTES

- All dimensions are out-to-out of bar.
- Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318.
- Reinforcing Bar: ASTM A615/A615M, Grade 420.

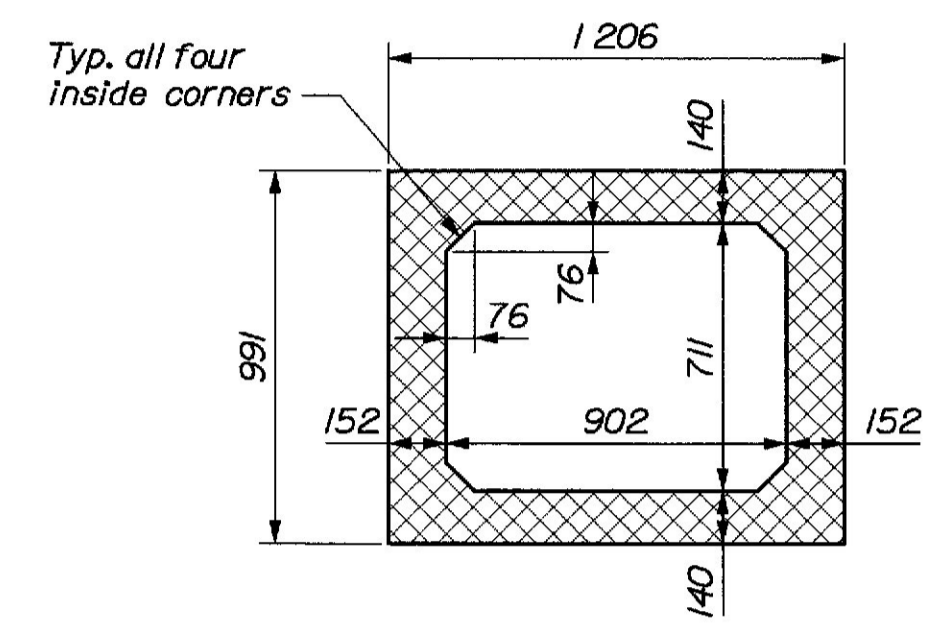
PRECAST CONCRETE SUPERSTRUCTURE NOTES

- The top surface of the upper flange of the prestressed beams shall be raked to a surface roughness of ± 6 mm, except at locations corresponding to the blocking points. At these locations a flattened area of sufficient size shall be left to facilitate taking elevations for setting bottom of slab elevations.
- The drilling of holes in the prestressed beams and the use of power actuated tools on the beams will not be permitted.
- Neoprene pads shall be either polychloroprene or natural polyisoprene of 50 ± 5 Shore A durometer hardness, and shall conform to the requirements of Division 2, Section 18.2 of AASHTO Standard Specifications for Highway Bridges. Neoprene pads will not be paid for directly, but will be considered incidental to related Contract items.
- Install a 25 mm diameter nonmetallic void drain in the bottom of each void at both ends.
- Reinforcing steel shall have 50 mm minimum cover unless otherwise noted.
- Post Tensioning shall be covered by a seamless polypropylene sheath, with corrosion inhibiting grease between the strands and sheath, for the full length of the strand except at the anchorage location.

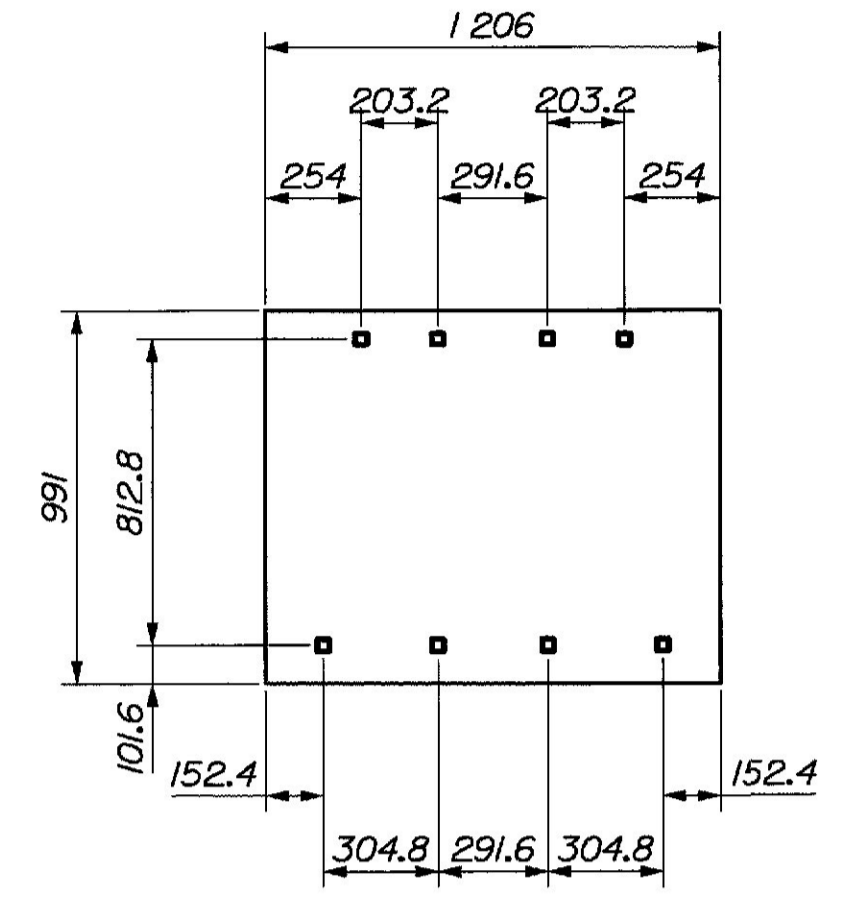


Precast Box Beam End Detail

- Fully Bonded Low Relax 12.7 mm ϕ 7 wire strand
- 12.7 ϕ Low Relaxation Strand Debonded 2 m
- PI65X Bar each end of Bar

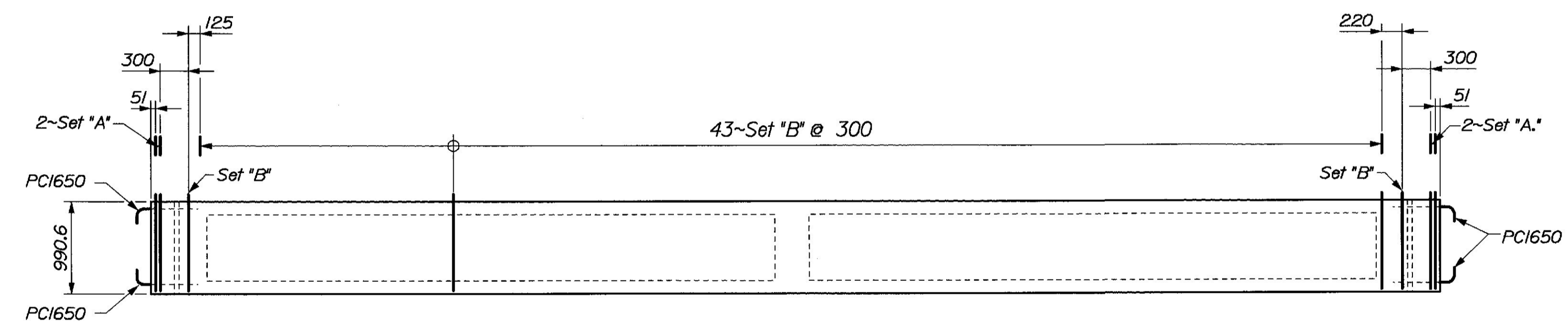


Precast Box Beam Typical Dimensions

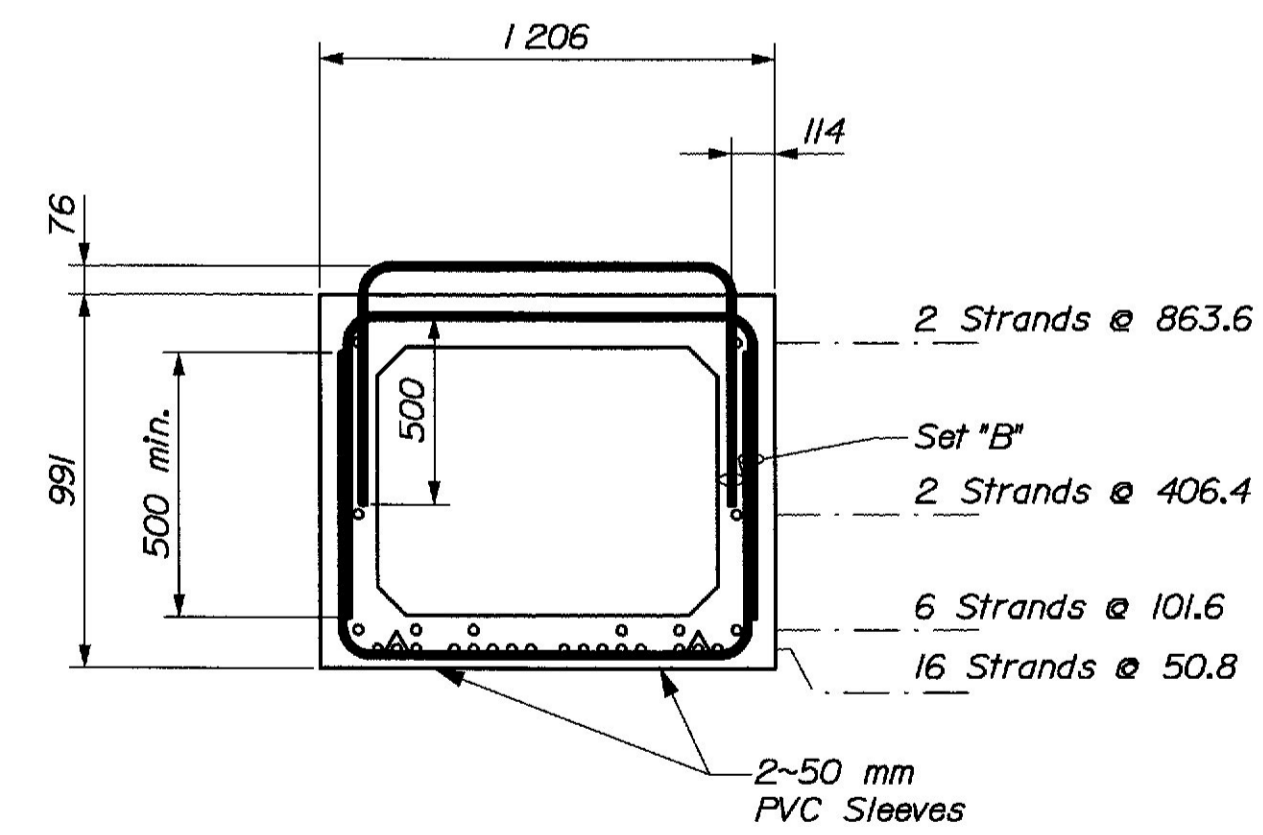


Precast Box Beam End Rebar Dimensions

Set	Description
A	2~PC1350, 2~PC1351, PC1352
B	2~PC1351, PC1352

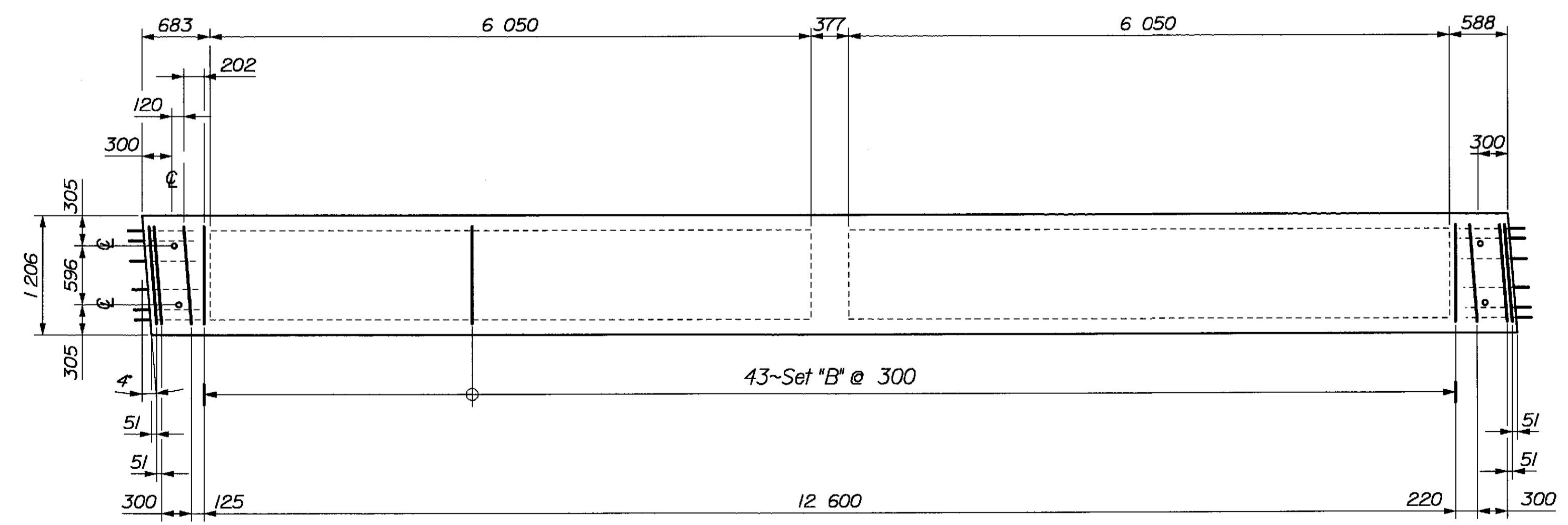


Box Beam Elevation



Precast Box Beam Typical Section

- Fully Bonded Low Relax 12.7 mm ϕ 7 wire strand
- 12.7 ϕ Low Relaxation Strand Debonded 2 m
- PI65X Bar each end of Bar



Box Beam Plan

Date: 14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

Filename: ... \029_box_details.dgn

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

PLANS

BRIDGE NO. 1470

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Box Beam Details

REINFORCING STEEL SCHEDULE

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

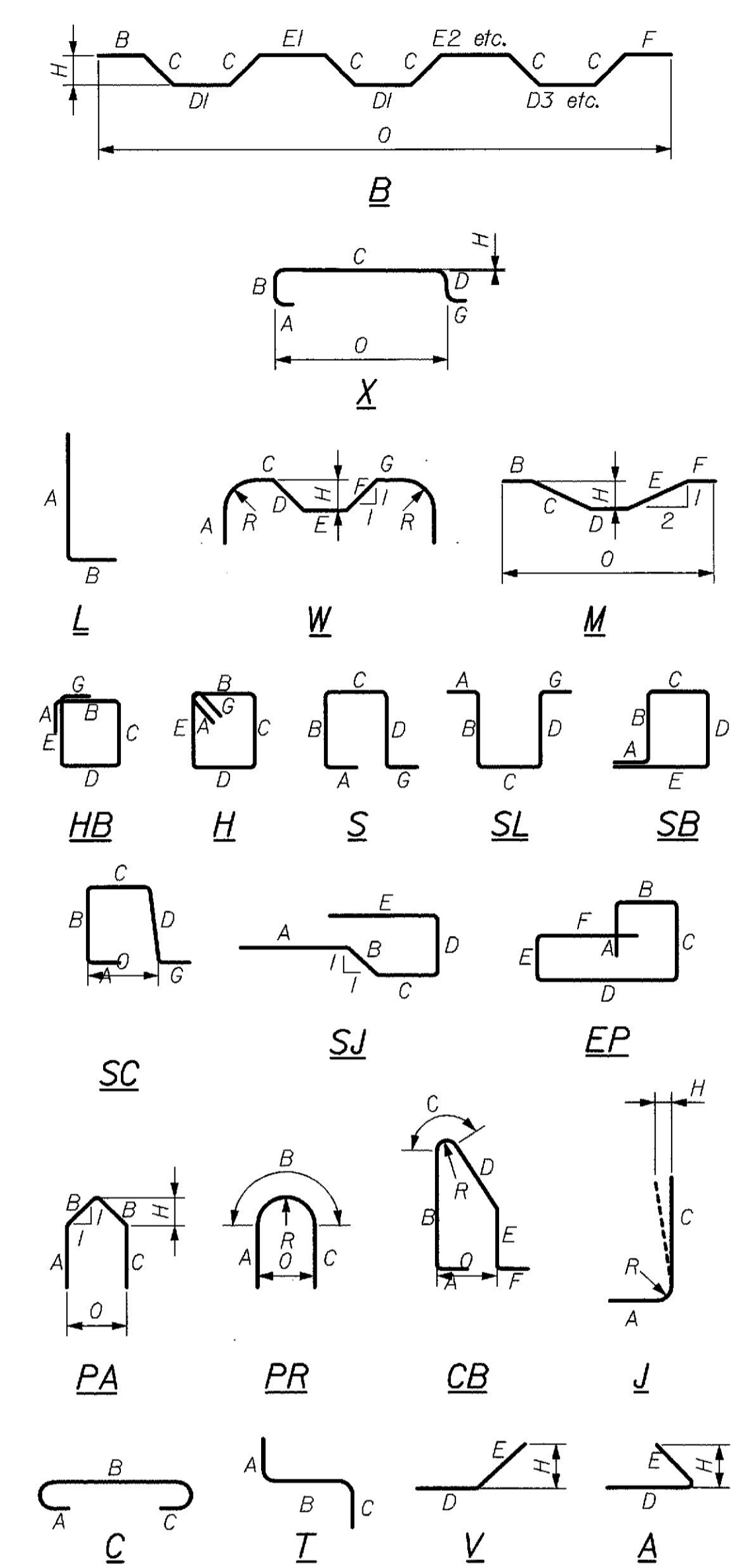
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BH-7681 (00)X	30	45

007681.00

Straight Bars				Retaining Wall Section "B" Footing West			
Mark	Quantity	Length (m)	Location	Mark	Quantity	Length (m)	Location
Abutment #1 Footing				Retaining Wall Section "B" Wall West			
F 1600	1	15.750	Transverse	J 1600	30	11.000	Top & Btm. Long.
F 1601	72	1.500	Vertical Dowel	J 1602	54	2.500	Vertical
F 1602	12	1.700	Longitudinal	J 1603	54	1.950	Btm. Transverse
F 1603	5	2.500	Transverse				
F 1604	31	1.800	Longitudinal Wing Wall	K 1600	55	11.000	Longitudinal
F 1605	10	8.600	Transverse Wing Wall	K 1601	54	3.000	Vertical
F 1606	2	3.900	Transverse Wing Wall				
F 1607	8	0.950	Transverse Wing Wall	K 2200	79	3.000	Vertical
F 1608	51	2.200	Vertical Wing Wall				
F 1609	4	11.600	Transverse Wing Wall				
F 1610	9	5.200	Transverse Wing Wall				
F 1900	6	2.500	Transverse				
F 1901	96	2.400	Vertical Dowel				
F 1902	32	2.850	Longitudinal Wing Wall				
F 1903	15	2.400	Longitudinal Wing Wall				
Abutment #1							
A 1600	9	12.900	Transverse				
A 1601	98	3.200	Vertical				
A 1602	8	15.400	Transverse				
A 1603	2	15.000	Transverse				
A 1604	8	3.200	Vertical				
A 1605	24	2.700	Transverse				
A 1606	4	1.000	Parapet				
A 1607	2	1.200	Parapet				
A 1608	2	0.700	Parapet				
A 1609	16	2.020	Parapet Vertical				
Abutment #1 Wing Wall Down Stream							
W 1600	12	7.910	Horizontal				
W 1601	2	7.650	Horizontal				
W 1602	2	6.400	Horizontal				
W 1603	2	5.200	Horizontal				
W 1604	2	3.900	Horizontal				
W 1605	2	2.700	Horizontal				
W 1606	34	4.300	Vertical				
W 1607	20	3.500	Vertical				
W 1608	20	2.680	Vertical				
Abutment #1 Wing Wall Up Stream							
W 1609	14	10.880	Horizontal				
W 1610	2	9.950	Horizontal				
W 1611	2	8.300	Horizontal				
W 1612	2	6.500	Horizontal				
W 1613	2	4.800	Horizontal				
W 1614	2	3.000	Horizontal				
W 1615	26	4.300	Vertical				
W 1616	14	3.600	Vertical				
W 1617	19	3.300	Vertical				
W 1618	27	2.500	Vertical				
Abutment #2 Footing							
G 1600	1	13.200	Transverse				
G 1601	81	1.750	Vertical Dowel				
G 1602	7	3.200	Transverse				
G 1603	8	1.800	Longitudinal				
G 1604	12	1.600	Vertical Dowel				
G 1605	1	6.300	Transverse Wing Wall				
G 1900	12	2.900	Longitudinal				
G 2900	10	3.200	Transverse				
G 2901	8	1.700	Transverse				
Abutment #2							
B 1600	47	2.500	Vertical n.f.				
B 1601	50	2.200	Vertical f.f.				
B 1602	12	7.600	Transverse n.f.				
B 1603	6	3.000	Transverse f.f.				
B 1604	4	7.700	Transverse top of Abut.				
B 1605	14	6.000	Transverse f.f. Breastwall				
Abutment #2 Wing Wall							
X 1600	10	6.180	Transverse Wing Wall				
X 1601	2	5.930	Transverse Wing Wall				
X 1602	3	4.900	Transverse Wing Wall				
X 1603	2	3.870	Transverse Wing Wall				
X 1604	3	2.850	Transverse Wing Wall				
X 1605	2	1.830	Transverse Wing Wall				
X 1606	16	1.900	Vertical				
X 1607	16	3.000	Vertical				
X 1608	10	4.000	Vertical				
Superstructure							
S 1600	80	7.650	Transverse				
S 1601	100	2.500	Transverse				
S 1602	146	6.550	Longitudinal Top & Bot.				
Sidewalk							
SW 1600	18	14.550	Longitudinal Top				
Downstream Side End Panel							
P 1600	12	4.040	Vertical				
P 1601	28	1.550	Vertical				
Approach Slab							
AS 1600	64	5.700	Transverse				
AS 1900	140	4.600	Longitudinal				

Bent Bars														
Mark	Quantity	Length	Type	A	B	C	D	E	F	G	H	O	R	Location
Abutment #1 Footing														
F 1650	34	1.250	L	0.500	0.750									Longitudinal
Abutment #1														
A 1650	198	0.600	L	0.200	0.400									Connect New to Existing
A 1651	23	2.070	CB	0.400	0.150	0.870	0.650					0.0954		Top of Breastwall
A 1652	23	1.900	L	0.900	1.000									Top of Breastwall
A 1653	4	1.300	L	0.650	0.650									Top of Breastwall
A 1654	4	2.500	S	0.500	1.000	1.000								Top of Breastwall
Abutment #1 Wing Wall Down Stream														
W 1650	2	8.340	V				1.400	6.940						Top of Wing Wall
Abutment #1 Wing Wall Up Stream														
W 1651	2	11.210	V				1.400	9.810						Top of Wing Wall
W 1652	90	0.600	L	0.200	0.400									Connect New to Existing
W 1653	20	1.730	V				0.350	1.380						Top Wing Wall, New to Existing
Abutment #2 Footing														
G 1650	32	1.300	L	0.500	0.800									Longitudinal
Abutment #2														
B 1650	5	2.330	S		0.600	0.950								Longitudinal
B 1651	5	1.300	L	0.650	0.650									Longitudinal
B 1652	133	0.600	L	0.400	0.200									Connect New to Existing
B 1653	20	2.130	CB	0.425	0.890	0.143	0.675						0.0954	Longitudinal
B 1654	20	1.730	L	0.950	0.775									Longitudinal
Abutment #2 Wing Wall Upstream														
X 1650	2	6.630	V				1.190	5.440						Transverse, Top of Wing Wall
X 1651	68	0.610	L	0.410	0.200									Connect New to Existing
X 1652	2	2.060	S	0.550	0.910	0.600								Connect New to Existing
X 1653	2	2.450	S	0.820	0.755	0.870								Connect New to Existing
X 1654	2	2.850	S	1.070	0.660	1.120								Connect New to Existing
X 1655	2	3.270	S	1.340	0.540	1.390								Connect New to Existing
X 1656	2	3.680	S	1.600	0.430	1.650								Connect New to Existing
X 1657	6	1.980	V				0.350	1.630						Longitudinal
Superstructure														
S 1650	98	2.740	L	1.120	1.620									Longitudinal
S 1651	50	1.820	L	1.000	0.820									Longitudinal
S 1652	98	2.900	SC	0.300	0.350	1.625	0.325				0.300			Transverse
S 1653	48	2.270	L	1.000	1.270									Longitudinal
S 1350	50	1.550	T	0.700	0.152	0.700								Longitudinal
CR 1660	126	0.000												Ref. Supp. Std. Det. Book
Retaining Wall Section "B" Footing West														
J 2250	154	2.400	L	2.000	0.400									Vertical
J 2251	79	2.900	L	2.500	0.400									Top Transverse

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.
Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318.
Reinforcing Bar: ASTM A615/A615M, Grade 420

GENERAL NOTES

- The first two digits following the letter(s) of the mark indicate the size of the bar:
Mark "A1602" = bar size #16
Mark "P2501" = bar size #25
Mark "S1950" = bar size #19
- Each crank bar, Type B, may be replaced by two (2) straight bars (one top and one bottom) of the same bar size as the crank bar. Payment in either case shall be based on crank bars as schedule on the plans.

BRIDGE NO. 1470
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
Covered West Bridge
OVER
Machias River
IN THE TOWN OF
Machias
Washington County
Reinforcing Steel Schedule

Date: 14 MAR 2002

Username: Brian Nichols

Division: BRIDGE

Filename: ...030_rebarsched.dgn

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

PLANS