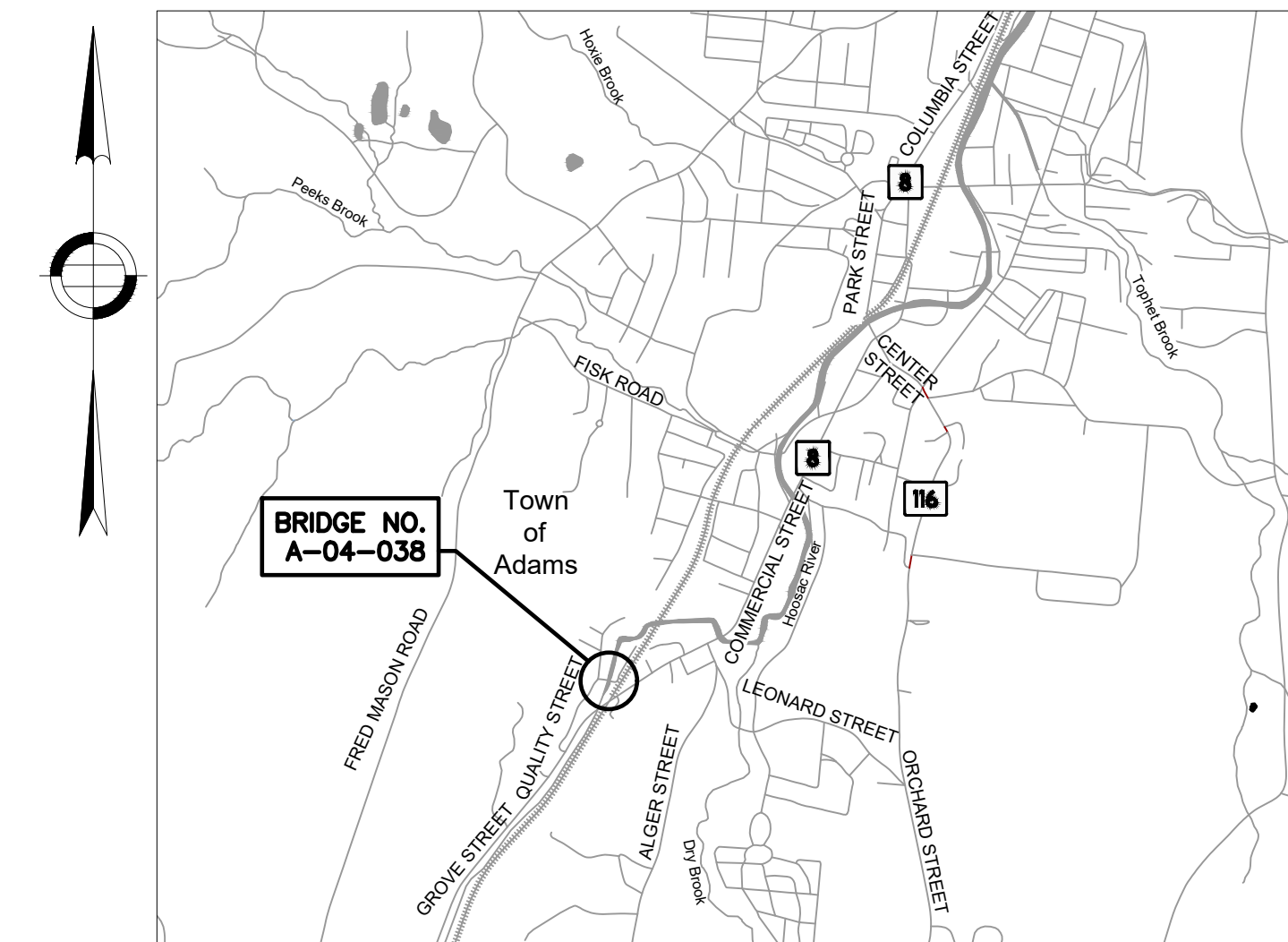


KEY PLAN
SCALE: 1" = 20'



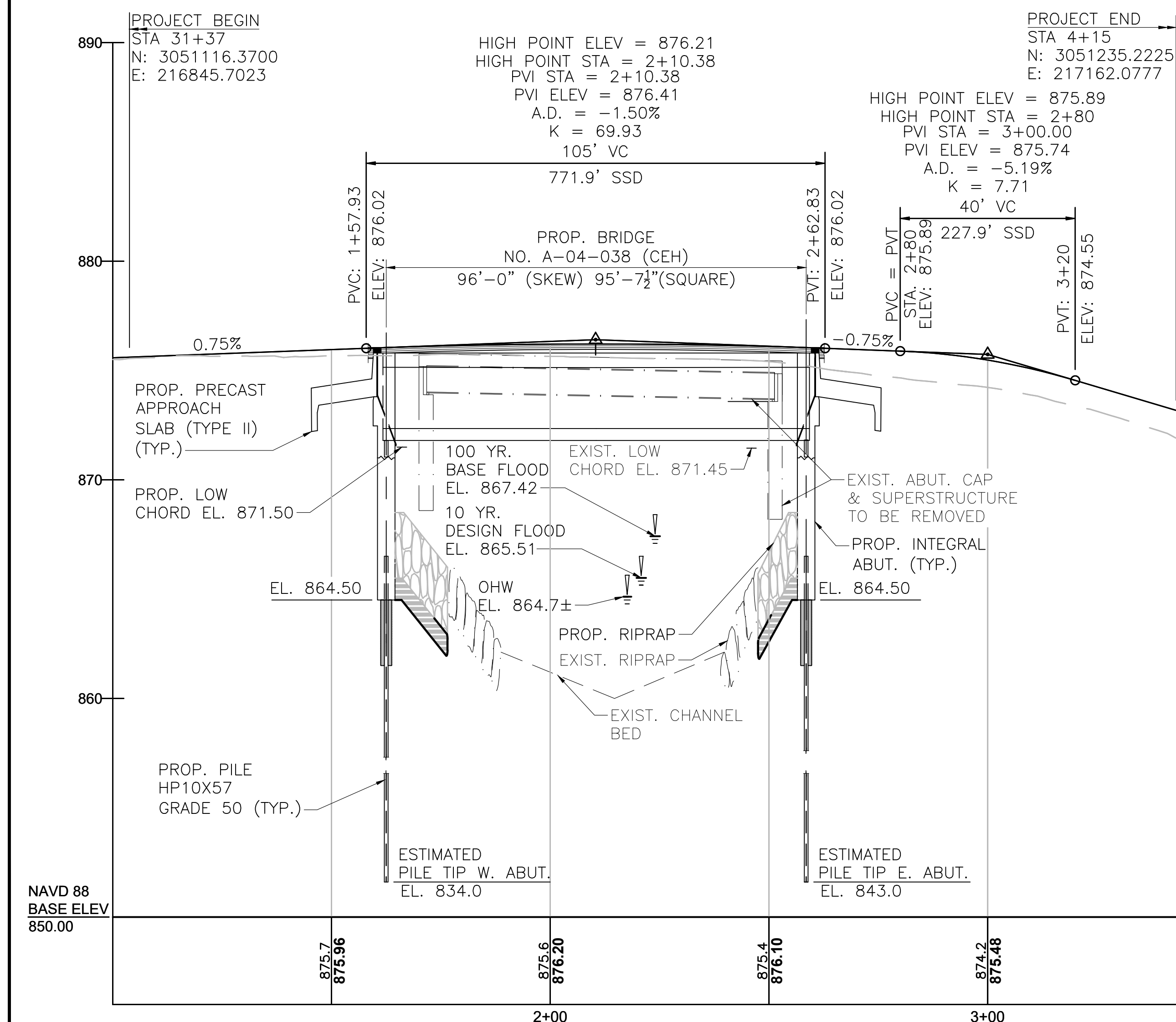
LOCUS PLAN
SCALE: 1" = 2000'

PROJECT INFORMATION	
PROJECT FILE NO.:	610777
PROJECT DESCRIPTION:	PROPOSED BRIDGE
BRIDGE DESIGN LOADING:	HL-93
SURVEY:	BSC GROUP
ELEVATION REFERENCE:	NAVD OF 1988
BENCH MARK:	SPIKE IN UTILITY POLE, N = 3051110.9639 E = 216936.7967 EL. 874.88

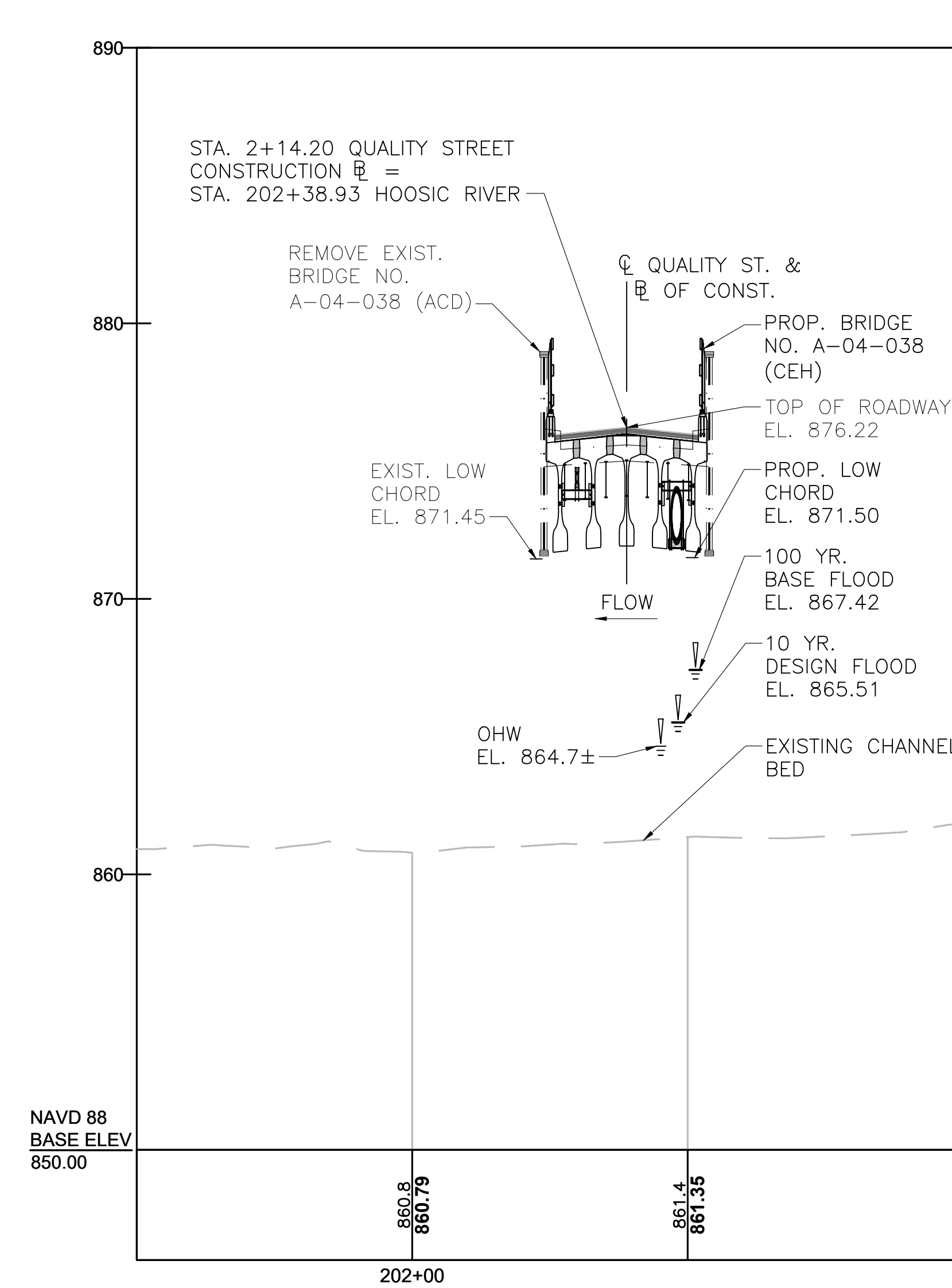
TRAFFIC DATA		
	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	2032	
AVERAGE DAILY TRAFFIC - PRESENT	129	
AVERAGE DAILY TRAFFIC - DESIGN YEAR	160	
DESIGN HOURLY VOLUME		
DIRECTIONAL DISTRIBUTION		
TRUCK PERCENTAGE - AVERAGE DAY	1%	
TRUCK PERCENTAGE - PEAK HOUR		
DESIGN SPEED	20 MPH	
DIRECTIONAL DESIGN HOURLY VOLUME		

SEISMIC DESIGN CRITERIA	
DESIGN RETURN PERIOD:	1000 YRS
DESIGN SPECTRA	
As	0.091
SDs	0.208
SD1	0.096
SITE CLASS	D
SEISMIC DESIGN CATEGORY (SDC)	A

HYDRAULIC DESIGN DATA	
DRAINAGE AREA (SQ. MILES)	N/A
DESIGN FLOOD DISCHARGE (C.F.S.)	N/A
DESIGN FLOOD FREQUENCY (YEARS)	N/A
DESIGN FLOOD VELOCITY (F.P.S.)	N/A
DESIGN FLOOD ELEVATION (FEET, NAVD)	865.51
BASE (100-YEAR) FLOOD DATA	
BASE FLOOD DISCHARGE (C.F.S.)	N/A
BASE FLOOD ELEVATION (FEET, NAVD)	867.42
DESIGN AND CHECK SCOUR DATA	
DESIGN SCOUR FLOOD EVENT	
RETURN FREQUENCY (YEARS)	N/A
DESIGN FLOOD ABUTMENT SCOUR DEPTH (FEET)	0.0
DESIGN FLOOD PIER SCOUR DEPTH (FEET)	N/A
CHECK SCOUR FLOOD EVENT	
RETURN FREQUENCY (YEARS)	N/A
CHECK FLOOD ABUTMENT SCOUR DEPTH (FEET)	0.0
CHECK FLOOD PIER SCOUR DEPTH (FEET)	N/A
FLOOD OF RECORD	
DISCHARGE (C.F.S.)	N/A
FREQUENCY (IF KNOWN, YEARS)	N/A
MAXIMUM ELEVATION (FEET, NAVD)	N/A
DATE (MM/YYYY)	N/A
HISTORY OF ICE FLOES	N/A
EVIDENCE OF SCOUR AND EROSION	N/A



QUALITY ST. PROFILE
1" = 20' HORIZONTAL
1" = 4' VERTICAL



HOOSIC RIVER PROFILE
1" = 20' HORIZONTAL
1" = 4' VERTICAL

DESIGN

IN ACCORDANCE WITH THE 2020 (9TH EDITION) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS FOR HL-93 LOADING.

NOTES:

- APPROVAL DOES NOT INCLUDE STRUCTURAL ANALYSIS.
- DIMENSIONS OF STRUCTURAL MEMBERS ARE APPROXIMATE, AND WILL BE FINALIZED DURING THE FINAL DESIGN PHASE.
- SEE GEOTECHNICAL REPORT, DATED JULY 27, 2022.
- SEE PRELIMINARY HYDRAULICS ANALYSIS, DATED MARCH 01, 2022.
- NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
- SEE SHEET 8 OF 8 FOR TEMP. BRIDGE BASELINE INFORMATION

BSC GROUP 803 SUMMER STREET
BOSTON, MA 02127

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

SKETCH PLANS OF
PROPOSED BRIDGE
ADAMS
QUALITY STREET
OVER HOOSIC RIVER


MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

APPROVED BY	DATE
STRUCTURAL ELEMENTS: <i>John J. Bechar</i>	9/26/2023
TITLE: State Bridge Engineer	
HIGHWAY ELEMENTS: John J. Bechar, PE	09/27/2023
TITLE: Deputy Chief Engineer	

610777_BRSK1_TITLE.DWG Plotted on 27-July-2023 9:03 PM

27-July-2023

610777 Second Sketch Plan Submittal (SP2)


	BORING LOG		Boring No.: <u>BB-2</u>
	Project: <u>MassDOT Quality Street over Hoosic River</u>		Boring Location: N: 3051161 E: 216968
	Location: <u>Adams, Massachusetts</u>		Plan
	Nobis Project No.: <u>88644.00</u>		Checked by: <u>A. Fragoso</u>
Contractor: <u>Seaboard Drilling, Inc.</u>		Rig Type / Model: <u>Truck / B-53 Mobile</u>	Ground Surface Elev.: <u>(+/-) 876</u>
Driller: <u>J. Nitsch</u>		Hammer Type: <u>Automatic Hammer</u>	
Nobis Rep.: <u>K. Kocia</u>		Hammer Hoist: <u>Automatic</u>	Datum: <u>NAVD88</u>

Type	Drilling Method	Sampler	Groundwater Observations			
			Date	Time	Depth Below Ground (ft.)	Stabilization Time
Casing	Drive and Wash	Split-Spoon	06/06/22	15:00	28.5	10 min
Size ID (in.)	4 & 3	1-3/8	06/07/22	09:30	12.5	15 min
Advancement	Drive and Wash	140-lb Hammer				

Depth (ft.)	SAMPLE INFORMATION				REC % / RQD %	Drilling Rate (min/ft)	Ground Water	LITHOLOGY	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	Type & No.	Rec (in.)	Depth (ft.)	Blows / 6 in.						
1	S-1	14	1-3	8			ASPHALT	Approximately 5.5 inches of asphalt in two layers.		1
2				7			BASE COURSE	Approximately 4.5 inches of gravel base course.		
3				13						
4	S-2	11	3-5	7			FILL	S-1: Medium dense, brown - gray, fine to coarse SAND, some fine to coarse Gravel, little Silt, few asphalt fragments/particles. Dry to moist. (FILL).		
5				2				S-2: Loose, brown - black, fine to coarse SAND, little Silt, trace fine Gravel, several asphalt fragments/particles. Dry to moist. (FILL).		
6	S-3	7	5-7	3				S-3: Loose, brown - white, fine to coarse GRAVEL and fine to coarse Sand, trace Silt. Dry to moist. (FILL).		
7				4						
8	S-4	13	7-9	14				S-4A (6"): Medium dense, brown - gray, fine to coarse SAND, little Silt, trace fine Gravel. Dry to moist. (FILL).		
9				11				S-4B (7"): Medium dense, tan, fine to medium SAND, some Silt, very few wood fragments. Moist.		
10				10						
11	S-5	13	10-12	30			ALLUVIUM	S-5A (6"): Dense, gray, numerous cobble fragments/particles. Wet.		
12				11			COARSE DEPOSITS W/ COBBLES	S-5B (7"): Medium dense, brown, fine to coarse SAND, some fine Gravel, little Silt. Wet.		
13				10						
14				8						
15										
16	S-6	7	15-17	5				S-6: Loose, olive - orangish-brown, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt. Redoximorphic staining present. Wet. [Laboratory Analysis Performed - Grain Size: GRAVEL = 64.7%, SAND = 28.5%, FINES = 6.8%].		
17				2						
18				4						
19				9						
20										
21	S-7	6	20-22	10			COARSE DEPOSITS	S-7: Medium dense, gray - tan, fine GRAVEL and fine to coarse Sand, trace Silt. Creosote-like odor present in sample. Wet.		
22				5						
23				6						
24				4						
25										
26	S-8	10	25-27	15				S-8: Medium dense, white - tan, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt. Faint creosote-like odor present in sample. Wet.		
27				13						
28				11						
				5						

Soil	Percentage	Non-Soil	NOTES:
Trace	5 - 10	very few	1) Boring location topped off with asphalt cold patch upon completion.
little	10 - 20	few	
some	20 - 35	several	
and	35 - 50	numerous	

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual. Page No. 1 of 2

	BORING LOG		Boring No.: <u>BB-2</u>
	Project: <u>MassDOT Quality Street over Hoosic River</u>		Boring Location: N: 3051161 E: 216968
	Location: <u>Adams, Massachusetts</u>		Plan
	Nobis Project No.: <u>88644.00</u>		Checked by: <u>A. Fragoso</u>
Contractor: <u>Seaboard Drilling, Inc.</u>		Rig Type / Model: <u>Truck / B-53 Mobile</u>	Ground Surface Elev.: <u>(+/-) 876</u>
Driller: <u>J. Nitsch</u>		Hammer Type: <u>Automatic Hammer</u>	
Nobis Rep.: <u>K. Kocia</u>		Hammer Hoist: <u>Automatic</u>	Datum: <u>NAVD88</u>

Type	Drilling Method	Sampler	Groundwater Observations			
			Date	Time	Depth Below Ground (ft.)	Stabilization Time
Casing	Drive and Wash	Split-Spoon	06/06/22	15:00	28.5	10 min
Size ID (in.)	4 & 3	1-3/8	06/07/22	09:30	12.5	15 min
Advancement	Drive and Wash	140-lb Hammer				

Depth (ft.)	SAMPLE INFORMATION				REC % / RQD %	Drilling Rate (min/ft)	Ground Water	LITHOLOGY	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	Type & No.	Rec (in.)	Depth (ft.)	Blows / 6 in.						
29								847.5 / 28.5		
30									INFERRED COBBLES AND BOULDERS	Inferred cobbles and boulders encountered based on drilling resistance and soil cuttings..
31	S-9	17	30-32	45					S-9: Very dense, brown - dark gray, fine to coarse SAND, some Silt, little fine Gravel, few cobble fragments/particles. Wet.	
32				35						
33				33						
34				32						
35										
36	S-10	17	35-37	32					S-10: Very dense, gray - tan, fine to coarse SAND and Silt, some fine Gravel, few cobble fragments/particles. Wet.	
37				30						
38				40						
39	C-1	4	38.5-39	67	8			837.5 / 38.5	C-1: gray, fine to medium-grained, cobble pieces/fragments.	
40	C-2	17	39-42	47	6			COBBLES AND BOULDERS	C-2: light gray to gray, fine to medium-grained, cobble and boulder pieces/fragments.	
41					3					
42					2					
43	C-3	49	42-47	82/35	5.5			834.0 / 42.0	C-3: Medium Hard to Hard, fresh to slightly weathered, slightly to moderately, dark gray, fine to medium-grained, BERKSHIRE SCHIST, moderately dipping to low angle joints.	
44					7					
45					5					
46					5					
47					4.5					
48	C-4	41	47-50.5	98/10	10			BEDROCK	C-4: Medium Hard to Hard, slightly to moderately weathered, moderately fractured, dark gray, fine to medium-grained, BERKSHIRE SCHIST, moderately dipping to low angle joints.	
49					5.5					
50					8					
51	C-5	38	50.5-54	90/31	6.5				C-5: Medium Hard to Hard, slightly to moderately weathered, slightly to moderately, dark gray, fine to medium-grained, BERKSHIRE SCHIST, moderately dipping to low angle joints.	
52					3.5					
53					4					
54					4					
55					2			822.0 / 54.0	Boring terminated at 54 feet.	2
56										

Soil	Percentage	Non-Soil	NOTES:
Trace	5 - 10	very few	2) Boring backfilled with soil cuttings and three (3) bags of gravel upon termination.
little	10 - 20	few	
some	20 - 35	several	
and	35 - 50	numerous	

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual. Page No. 2 of 2

BORING LOG BB-2

SCALE: 3/8" = 1'-0"



BORING LOG

Project: MassDOT Quality Street over Hoosic River
 Location: Adams, Massachusetts
 Nobis Project No.: 88644.00

Boring No.: BB-3
 Boring Location: N: 3051140 E: 217061
 Plan _____
 Checked by: A. Fragoso
 Date Start: June 8, 2022
 Date Finish: June 9, 2022

Contractor: Seaboard Drilling, Inc.
 Driller: J. Nitsch
 Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
 Hammer Type: Automatic Hammer
 Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 875
 Datum: NAVD88

Type	Drilling Method	Sampler	Groundwater Observations					
			Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
Casing	Split-Spoon		06/08/22	14:45	Not Encountered	10	12	10 min
Size ID (in.)	4	1-3/8	06/09/22	09:00	13	25	26.8	15 min
Advancement	Drive and Wash	140-lb Hammer						

Depth (ft.)	SAMPLE INFORMATION				Cased Water	LITHOLOGY	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	Type & No.	Rec (in.)	Depth (ft.)	Blows/6 in.				
875.00	1	S-1	14	0.5-2	22	874.9 / 0.1 ASPHALT 874.7 / 0.3 BASE COURSE	Approximately 1.5 inches of asphalt. Less than 2 inches of base course.	1
	2				7	FILL	S-1: Medium dense, brown - black, fine to coarse SAND, little Silt, several asphalt fragments/particles. Dry to moist. (FILL).	
	3	S-2	16	2-4	7		S-2: Dense, brown - dark brown, fine to coarse SAND, some fine to coarse Gravel, little Silt, few asphalt fragments/particles. Dry to moist. (FILL).	
	4				11			
	5				10			
870.00	6	S-3	9	5-6.8	4	868.4 / 6.6 868.0 / 7.0 COBBLES	S-3: Medium dense, brown - dark brown, fine to coarse SAND and fine Gravel, little Silt, very few asphalt fragments/particles. Dry to moist. (FILL).	
	7				4	Encountered cobble during driving of split-spoon and casing operations.		
	8	S-4	12	7-9	8		S-4: Medium dense, brown - black, fine to coarse SAND, little Silt, trace fine Gravel, several asphalt fragments/particles. Dry to moist. (FILL).	
	9				9	FILL		
	10				7			
	11	S-5	11	10-12	9		S-5: Medium dense, dark brown - white, fine to coarse SAND, some fine Gravel, some Silt. Moist. (FILL). [Laboratory Analysis Performed - Grain Size: GRAVEL = 31.4%, SAND = 48.5%, FINES = 20.1%].	
	12				12			
865.00	13				5	COARSE DEPOSITS		
	14				4			
	15	S-6	9	15-17	7		S-6: Loose, dark brown - black, fine to coarse SAND, some Silt, little fine Gravel. Sewage-like odor present in sample. Wet. (FILL).	
	16				5			
860.00	17				2	857.5 / 17.5		
	18				1			
	19							
	20	S-7	5	20-22	3		S-7: Loose, gray - dark gray, fine to coarse SAND and fine Gravel, little Silt, very few organic fibers. Faint sewage-like odor present in sample. Wet.	
855.00	21				3	849.0 / 26.0 GLACIAL TILL w/ COBBLES & BOULDERS 848.2 / 26.8		
	22				5			
	23				6			
	24							
850.00	25	S-8	8	25-26.2	4		S-8: Very dense, tan - dark gray, fine to coarse SAND, little Silt, very few weathered rock fragments/particles. Wet.	
	26				20	Inferred cobbles and boulders encountered based on wash and soil cuttings during drive and wash procedures.		
	27				50/2"		Boring terminated at 26.8 feet on roller bit refusal.	2
	28							

Soil	Percentage	Non-Soil	NOTES:
trace	5 - 10	very few	1) Boring location topped off with asphalt cold patch upon completion.
little	10 - 20	few	2) Boring backfilled with soil cuttings and two (2) bags of gravel upon termination.
some	20 - 35	several	
and	35 - 50	numerous	

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual. Page No. 1 of 1

ELEVATION (FEET)

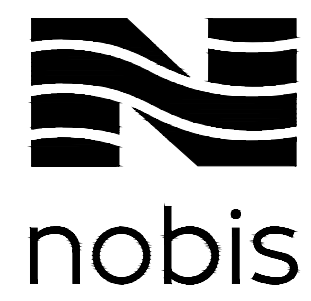
BORING LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 7/22/22 15:58 - A\88644.00 - MASSDOT QUALITY STREET OVER HOOSIC RIVER, ADAMS, GEOTECHNICAL EXPLORATIONS\BORING LOGS\GINT\88644.00_BORINGS.GPJ

BOT. OF PROP. INTEGRAL ABUT. EL. 864.50

EST. PILE TIP EL. 843.0

BORING LOG BB-3

SCALE: 3/8" = 1'-0"


	BORING LOG		Boring No.: <u>BB-4</u>
	Project: <u>MassDOT Quality Street over Hoosic River</u>		Boring Location: N: 3051152 E: 217068
	Location: <u>Adams, Massachusetts</u>		Plan
	Nobis Project No.: <u>88644.00</u>		Checked by: <u>A. Fragoso</u>
Contractor: <u>Seaboard Drilling, Inc.</u>		Rig Type / Model: <u>Truck / B-53 Mobile</u>	Ground Surface Elev.: <u>(+/-) 875</u>
Driller: <u>J. Nitsch</u>		Hammer Type: <u>Automatic Hammer</u>	
Nobis Rep.: <u>K. Kocia</u>		Hammer Hoist: <u>Automatic</u>	Datum: <u>NAVD88</u>

Drilling Method		Sampler		Groundwater Observations				
Type	Casing	Split-Spoon	Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
			06/07/22	15:00	12.5	15	17	10 min
Size ID (in.)	4	1-3/8	06/08/22	12:00	12	32	44	15 min
Advancement		Drive and Wash	140-lb Hammer					

SAMPLE INFORMATION				LITHOLOGY				SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/6 in.	REC % / ROD %	Drilling Rate (min/ft)	Ground Water		
1	S-1	6	0.5-2	25				Approximately 2.5 inches of asphalt.	1
2				16				Approximately 2.5 inches of base course.	
3	S-2	11	2-4	8				S-1: Medium dense, brown - gray, fine to coarse GRAVEL, little fine to coarse Sand, trace Silt, very few asphalt fragments/particles. Dry. (FILL).	
4				3				S-2: Loose, tan - gray, fine to coarse SAND, trace fine Gravel, trace Silt, very few asphalt fragments/particles. Dry. (FILL).	
5				5					
6	S-3	9	5-7	4				S-3: Medium dense, brown - gray, fine to coarse SAND, some fine Gravel, little Silt. Dry to moist. (FILL).	
7				10					
8	S-4	10	7-9	8				S-4: Very dense, brown - gray, fine to coarse SAND and fine to coarse Gravel, trace Silt. Dry to moist. (FILL).	
9				6					
10				9					
11	S-5	3	10-12	18				S-5: Loose, gray, fine to coarse SAND, trace Silt. Moist.	
12				35					
13				4					
14				3					
15									
16	S-6	12	15-17	10				S-6: Medium dense, brown, fine to coarse SAND and fine to coarse Gravel, trace Silt. Very faint redoximorphic staining present. Wet.	
17				8					
18				10					
19									
20									
21	S-7	5	20-22	7				S-7: Loose, tan - gray, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt. Wet.	
22				4					
23				3					
24				2					
25									
26	S-8	5	25-27	4				S-8: Loose, tan - brown, fine to coarse SAND and fine to coarse Gravel, trace Silt. Wet.	
27				3					
28				3					

Soil	Percentage	Non-Soil	NOTES:
trace	5 - 10	very few	1) Boring location topped off with asphalt cold patch upon completion.
little	10 - 20	few	
some	20 - 35	several	
and	35 - 50	numerous	

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual. Page No. 1 of 2

	BORING LOG		Boring No.: <u>BB-4</u>
	Project: <u>MassDOT Quality Street over Hoosic River</u>		Boring Location: N: 3051152 E: 217068
	Location: <u>Adams, Massachusetts</u>		Plan
	Nobis Project No.: <u>88644.00</u>		Checked by: <u>A. Fragoso</u>
Contractor: <u>Seaboard Drilling, Inc.</u>		Rig Type / Model: <u>Truck / B-53 Mobile</u>	Ground Surface Elev.: <u>(+/-) 875</u>
Driller: <u>J. Nitsch</u>		Hammer Type: <u>Automatic Hammer</u>	
Nobis Rep.: <u>K. Kocia</u>		Hammer Hoist: <u>Automatic</u>	Datum: <u>NAVD88</u>

Drilling Method		Sampler		Groundwater Observations				
Type	Casing	Split-Spoon	Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
			06/07/22	15:00	12.5	15	17	10 min
Size ID (in.)	4	1-3/8	06/08/22	12:00	12	32	44	15 min
Advancement		Drive and Wash	140-lb Hammer					

SAMPLE INFORMATION				LITHOLOGY				SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/6 in.	REC % / ROD %	Drilling Rate (min/ft)	Ground Water		
29									EST. PILE TIP EL. 843.0
30									
31	S-9	10	30-31.6	10				S-9: Very dense, brown - dark gray, fine to coarse GRAVEL and fine to coarse Sand, little Silt, few weathered rock fragments/particles. Wet.	
32				8					
33	C-1	36	32.5-36	50	86/10	6.5		Inferred weathered bedrock encountered based on drilling resistance, wash and soil cuttings during drive and wash procedures.	
34				60/17					
35									
36									
37	C-2	54	36-41	7	90/73	3.5		C-1: Soft to Medium Hard, fresh to slightly weathered, moderately fractured, dark gray, fine to medium-grained, BERKSHIRE SCHIST, moderately dipping to low angle joints.	
38				3.5					
39				4					
40				3.5					
41				3.5					
42	C-3	36	41-44	4	100/100	4		C-2: Medium Hard to Hard, fresh to slightly weathered, sound to slightly fractured, dark gray, fine to medium-grained, BERKSHIRE SCHIST, moderately dipping to low angle joints.	
43				4					
44				5					
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

Soil	Percentage	Non-Soil	NOTES:
trace	5 - 10	very few	2) Boring backfilled with soil cuttings and three (3) bags of gravel upon termination.
little	10 - 20	few	
some	20 - 35	several	
and	35 - 50	numerous	

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual. Page No. 2 of 2

BORING LOG BB-4
SCALE: 3/8" = 1'-0"

610777_BRSK_BORINGS.DWG Plotted on 27-July-2023 3:03 PM

	BORING LOG		Boring No.: <u>BB-5A</u>
	Project: <u>MassDOT Quality Street over Hoosic River</u>		Boring Location: <u>See Exploration Location</u>
	Location: <u>Adams, Massachusetts</u>		Plan N: <u>3051198.00</u> E: <u>216973.00</u>
	Nobis Project No.: <u>88644.00</u>		Checked by: <u>S. Pape</u>
Contractor: <u>Seaboard Drilling, Inc.</u>		Rig Type / Model: <u>ATV / Diedrich D-50</u>	Ground Surface Elev.: <u>(+/-) 875</u>
Driller: <u>D. Feeley</u>		Hammer Type: <u>Automatic Hammer</u>	Date Start: <u>July 13, 2022</u>
Nobis Rep.: <u>K. Stanway</u>		Hammer Hoist: <u>Automatic</u>	Date Finish: <u>July 13, 2022</u>
		Datum: <u>NAVD88</u>	

Drilling Method		Sampler		Groundwater Observations					
Type	Hollow Stem Auger	Split-Spoon		Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
Type	Hollow Stem Auger	Split-Spoon		07/13/22	13:25	15	17	17.2	10 minutes
Size ID (in.)	4	1-3/8							
Advancement	Augered	140-lb Hammer							

Depth (ft.)	SAMPLE INFORMATION				Ground Water	LITHOLOGY	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	Type & No.	Rec (in.)	Depth (ft.)	Blows/6 in.				
1	S-1	11	0-2	2		874.8 / 0.2 TOPSOIL	TOPSOIL (2"): Loose, brown, Organic SILT, trace fine Sand, numerous roots and organic fibers. Dry.	
2				2			S-1: Loose, light brown, SILT, little fine Sand, very few roots/ organic fibers. Dry.	
3	S-2	4	2-4	2			S-2: Medium dense, light brown, SILT, some fine to coarse Sand, trace fine Gravel, very few roots/ organic fibers. Dry. Pulverized rock in bottom of sampler. Rig chatter observed from 3 to 4 feet.	
4				4				
5	S-3	5	4-5.3	11			S-3: Very dense, brown, fine to coarse SAND and fine to coarse Gravel, little Silt. Moist.	
6				12			Increased rig chatter observed from 5.3 to 7.5 feet.	
7				50/3"				
8								
9	S-4	0	8-10	13		FILL	S-4: No recovery. Wood/root material in bottom of sampler.	
10				11				
11	S-5	10	10-12	9			S-5A (6"): Medium dense, light brown, fine to coarse GRAVEL and fine to coarse Sand, little Silt, trace ash and burnt material. Moist.	
12				10			S-5B (4"): Medium dense, dark brown, fine to coarse SAND, trace ash and burnt material, several brick fragments. Moist.	
13				8				
14				4				
15								
16	S-6	8	15-17	10		860.0 / 15.0	S-6: Very dense, brown, fine to coarse GRAVEL, some fine to coarse Sand, little Silt. Wet.	
17				35			Increased rig chatter observed from 15.5 to 17 feet.	
18	S-7	0	17-17.2	48		COARSE DEPOSITS 857.8 / 17.2	S-7: No recovery. Boring terminated at 17.2 feet.	1
19				60/2"				
20								
21								
22								
23								
24								
25								
26								
27								
28								

Soil	Percentage	Non-Soil	NOTES:
trace	5 - 10	very few	1) Boring backfilled with soil cuttings and multiple bags of sand.
little	10 - 20	few	2) Upon auger refusal, the boring was offset 7 feet northeast (N: 3051205 E: 216973) then 15 feet northeast (N: 3051208 E: 216984) from the original location. Auger refusal was encountered at a depth of 10.5 and 10.2 feet bgs, and
some	20 - 35	several	
and	35 - 50	numerous	respectively.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual.

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BORING LOG BB-5A
SCALE: 3/8" = 1'-0"

	BORING LOG		Boring No.: <u>BB-6</u>
	Project: <u>MassDOT Quality Street over Hoosic River</u>		Boring Location: <u>See Exploration Location</u>
	Location: <u>Adams, Massachusetts</u>		Plan N: <u>3051181.00</u> E: <u>217082.00</u>
	Nobis Project No.: <u>88644.00</u>		Checked by: <u>S. Pape</u>
Contractor: <u>Seaboard Drilling, Inc.</u>		Rig Type / Model: <u>ATV / Diedrich D-50</u>	Ground Surface Elev.: <u>(+/-) 869</u>
Driller: <u>D. Feeley</u>		Hammer Type: <u>Automatic Hammer</u>	Date Start: <u>July 13, 2022</u>
Nobis Rep.: <u>K. Stanway</u>		Hammer Hoist: <u>Automatic</u>	Date Finish: <u>July 13, 2022</u>
		Datum: <u>NAVD88</u>	

Drilling Method		Sampler		Groundwater Observations					
Type	Hollow Stem Auger	Split-Spoon		Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
Type	Hollow Stem Auger	Split-Spoon		07/13/22	11:00	13	25	25.5	15 minutes
Size ID (in.)	4	1-3/8							
Advancement	Augered	140-lb Hammer							

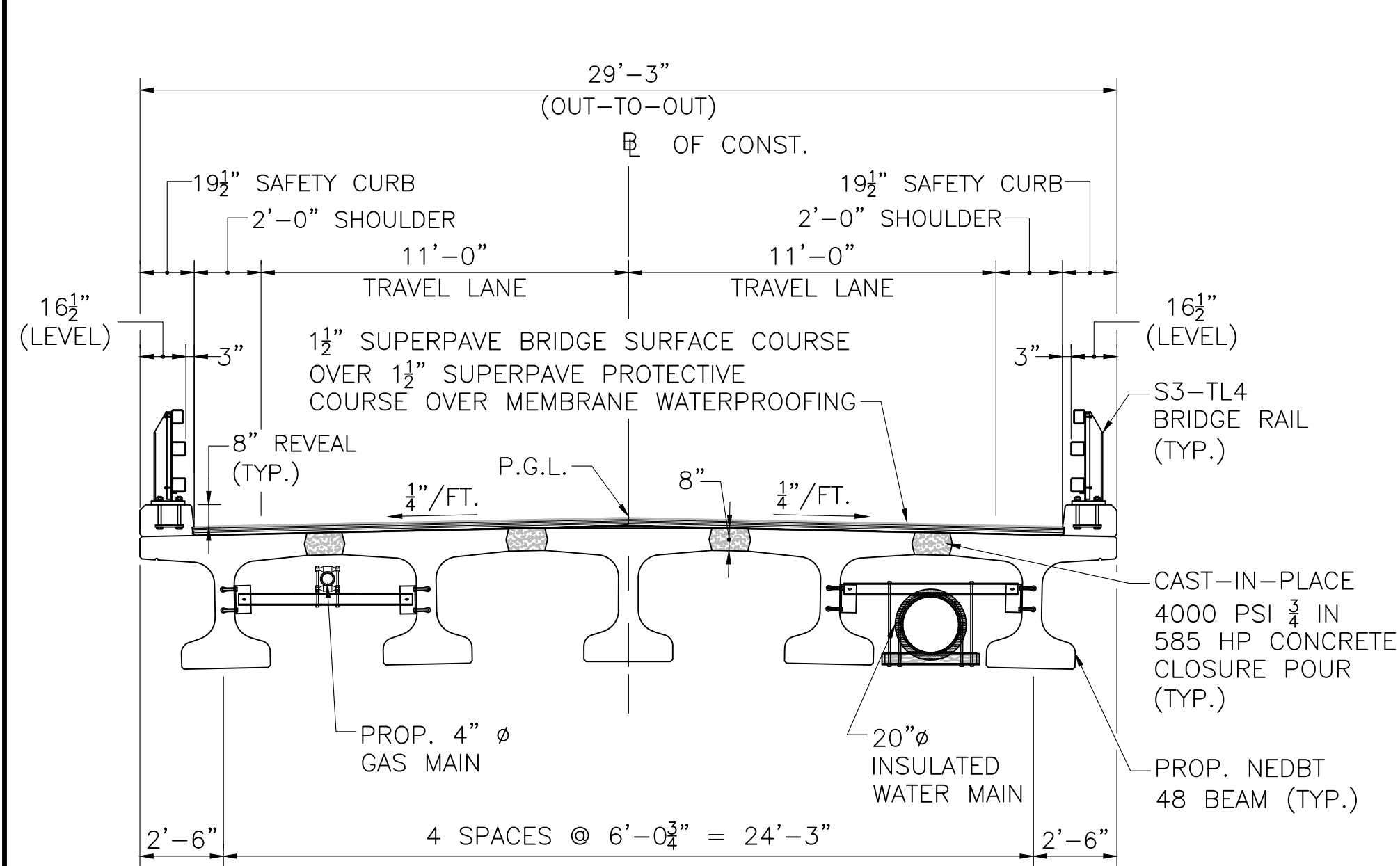
Depth (ft.)	SAMPLE INFORMATION				Ground Water	LITHOLOGY	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	Type & No.	Rec (in.)	Depth (ft.)	Blows/6 in.				
1	S-1	12	0-2	3		868.5 / 0.5 TOPSOIL	TOPSOIL (6"): Loose, brown, Organic SILT, little fine to medium Sand, numerous roots and wood fragments. Dry.	
2				4			S-1: Loose, light brown to very light brown, fine to coarse SAND and fine to coarse Gravel, little Silt. Moist.	
3	S-2	11	2-4	4			S-2A (5"): Loose, light brown, fine to coarse SAND, some Silt, trace fine Gravel, Very few roots/ organic fibers. Moist.	
4				2			S-2B (2"): Loose, black, fine to coarse SAND, some Silt, trace ash/ burnt material. Moist.	
5	S-3	4	4-4.4	10			S-2C (4"): Loose, dark brown, fine to coarse SAND, some Silt, little fine Gravel. Moist.	
6				100/5"			S-3: Very dense, dark brown to black, fine to coarse SAND, some Silt, little fine Gravel, trace ash, very few brick particles. Moist.	
7				11				
8	S-4	11	5-7	3		863.5 / 5.5	S-4: Loose, gray-brown to dark brown, fine to medium SAND AND SILT, very few fine roots. Moist. Top 2 inches of sample consist of pulverized rock with trace brick particles.	
9				2				
10				2				
11	S-5	5	7-9	5		ALLUVIUM 861.0 / 8.0	S-5A (2"): Loose, gray-brown, fine to medium SAND, some Silt. Moist.	
12				5				
13				6				
14								
15								
16	S-6	0	10-12	6			S-5B (3"): Loose, orange-gray-brown, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt, very few roots/ organic fibers. Moist.	
17				3				
18				1			S-6: No recovery. Coarse gravel stuck in bottom of sampler.	
19								
20								
21								
22								
23								
24								
25								
26	S-7	6	15-17	4			S-7: Medium dense, brown, fine to coarse SAND, some fine to coarse Gravel, little Silt. Wet.	
27				6				
28				7				
29				4				
30				4				
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Soil	Percentage	Non-Soil	NOTES:
trace	5 - 10	very few	1) Boring backfilled with soil cuttings and multiple bags of sand.
little	10 - 20	few	
some	20 - 35	several	
and	35 - 50	numerous	

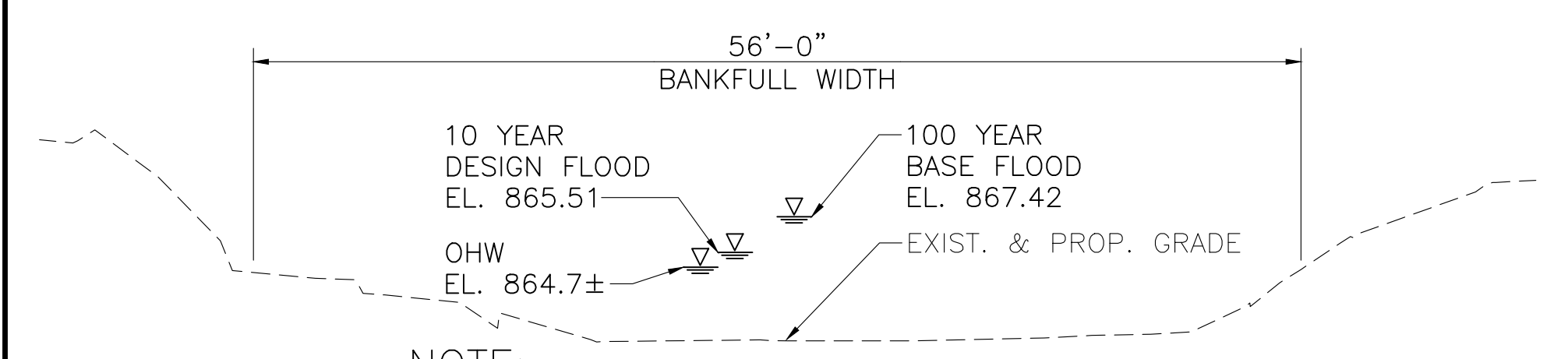
Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between strata; transitions may be gradual.

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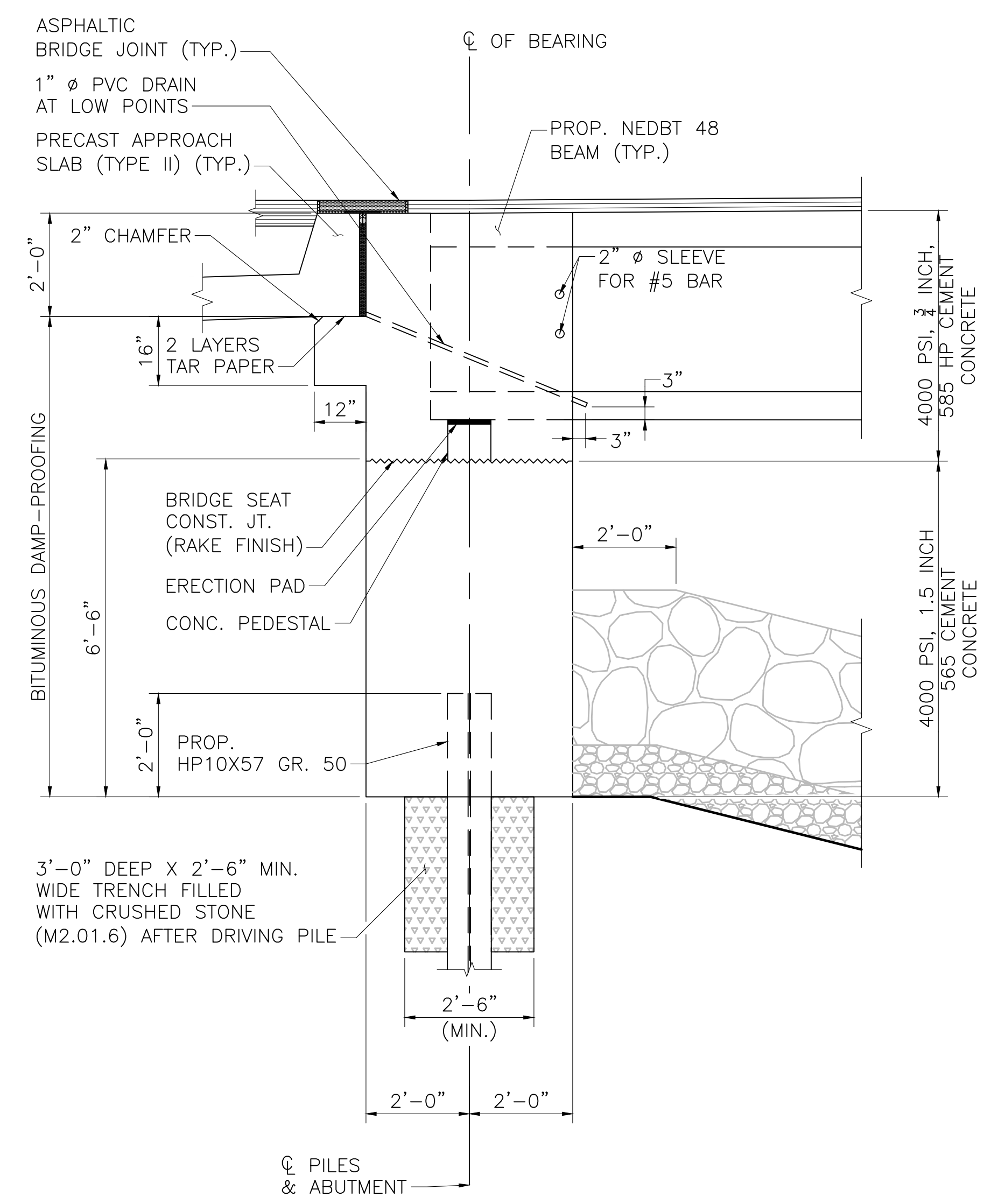
BORING LOG BB-6
SCALE: 3/8" = 1'-0"



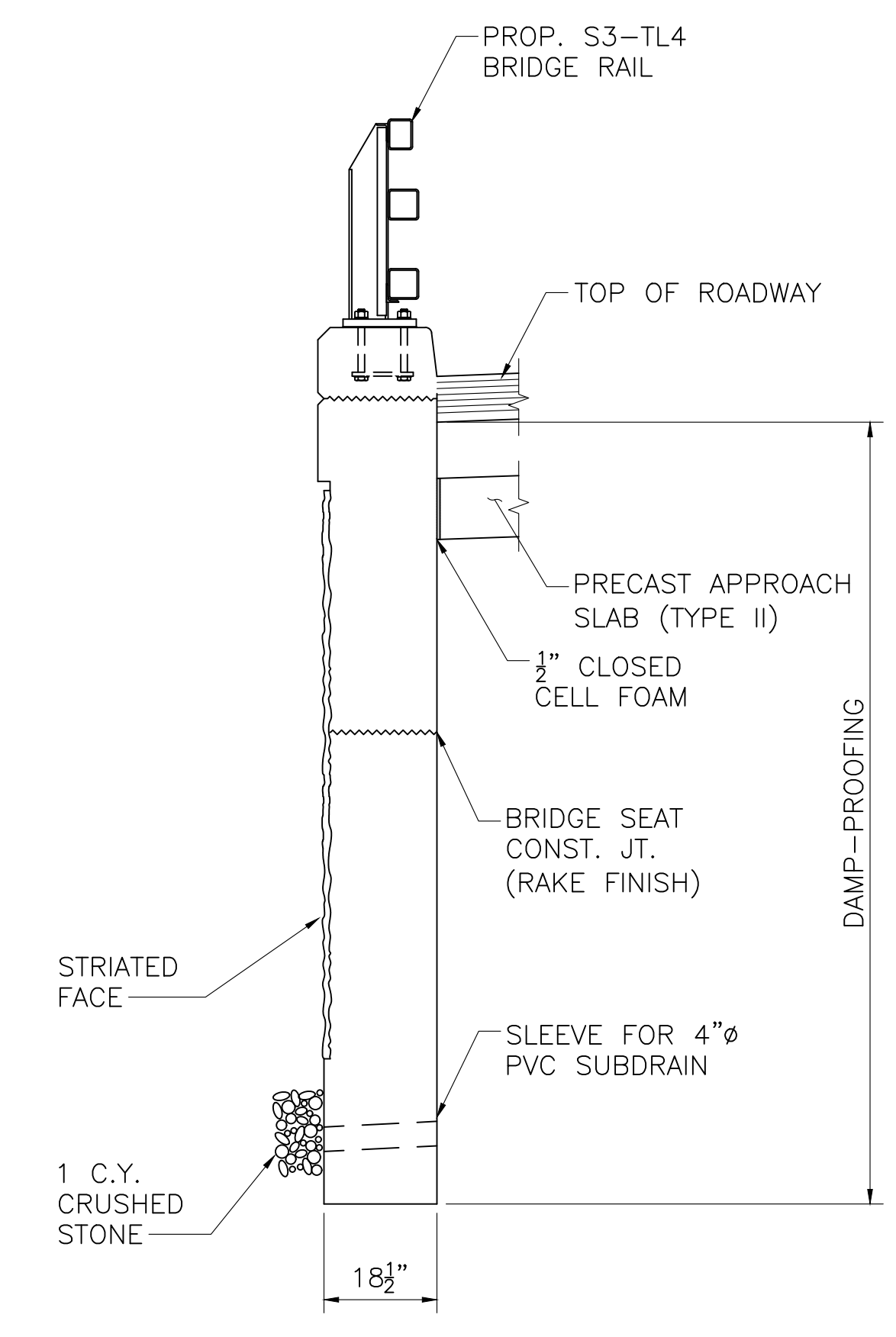
CROSS SECTION
SCALE: 1/4" = 1'-0"



APPROACH CHANNEL SECTION 202+00
SCALE: 1/8" = 1'-0"



INTEGRAL ABUTMENT SECTION
SCALE: 1/2" = 1'-0"

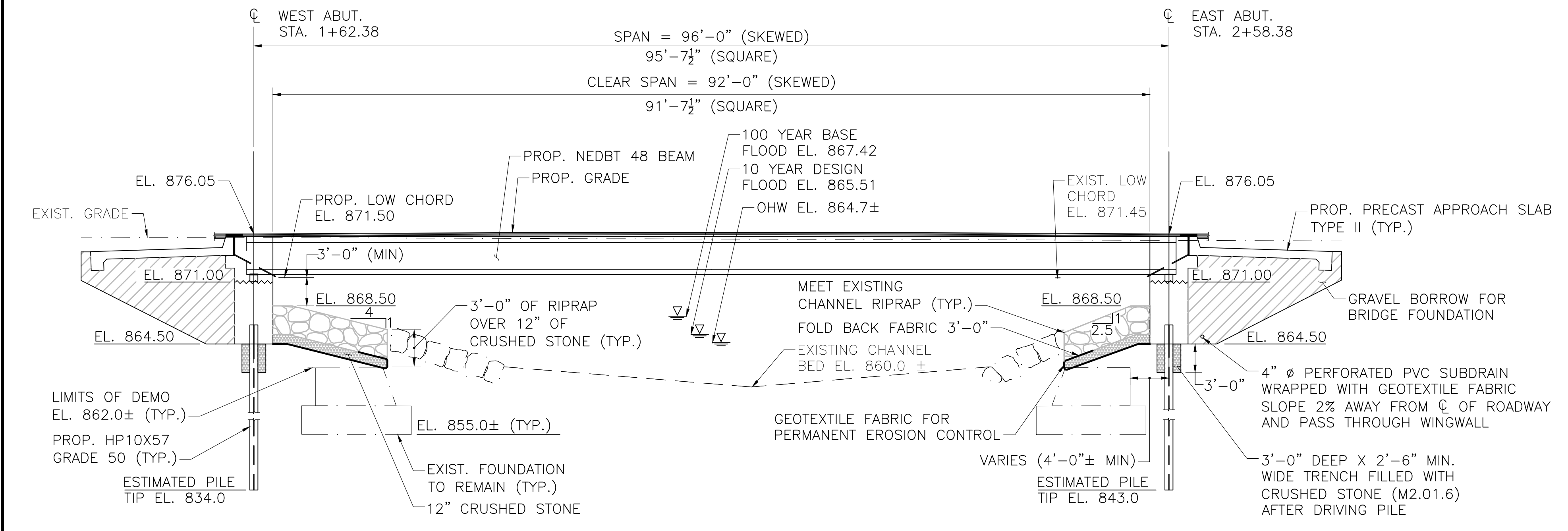


INTEGRAL WINGWALL SECTION
SCALE: 1/2" = 1'-0"

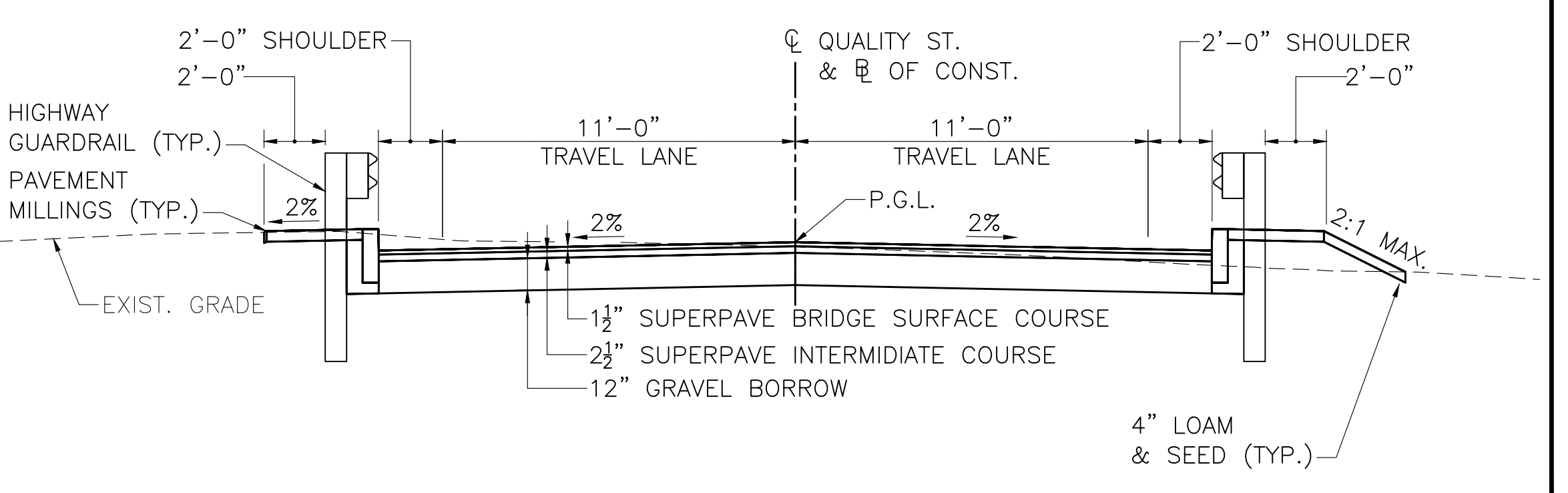
- INTEGRAL ABUTMENT PILE NOTES:**
- TRENCH WITH A DEPTH OF 3'-0" AND A MINIMUM WIDTH OF 2'-6" SHALL BE CONSTRUCTED DIRECTLY BELOW THE BOTTOM OF THE PILE CAP ELEVATION. AFTER THE PILES ARE DRIVEN, THE TRENCH SHALL BE FILLED WITH CRUSHED STONE (M2.01.6).
 - ALL SPLICES SHALL HAVE COMPLETE PENETRATION BUTT WELDS. THERE SHALL BE NO SPLICES WITHIN THE TOP 20 FEET OF PILE. SPLICE WELDS SHALL BE 100% UT.
 - THE FACTORED AXIAL DESIGN LOAD PER PILE IS 261 KIPS AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
 - THE FACTORED STRUCTURAL RESISTANCE PER PILE IS 417 KIPS AND IS THE PRODUCT OF THE NOMINAL STRUCTURAL RESISTANCE OF 835 KIPS AND A RESISTANCE FACTOR OF 0.50.
 - PILES SHALL BE DRIVEN TO BEDROCK WITH AN ESTIMATED TIP ELEVATION OF 834 FEET AT THE WEST ABUTMENT & 843 FEET AT THE EAST ABUTMENT.
 - THE MINIMUM TIP ELEVATION FOR PILE FIXITY IS EL. 846 FOR THE EAST AND WEST ABUTMENT PILES. HEAVY DUTY PILE SHOES SHALL BE INSTALLED TO TIPS OF ALL PILES. PREFABRICATED PILE SHOES MAY BE USED IF APPROVED BY THE ENGINEER.
 - DETERMINATION OF THE DRIVEN PILE RESISTANCE, PILE DRIVING CRITERIA, AND PILE INTEGRITY SHALL BE PERFORMED USING THE PDA DRIVING/TESTING METHOD WITH A RESISTANCE FACTOR OF 0.65. PILES SHALL BE INSTALLED TO ACHIEVE A FACTORED DRIVEN RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED AXIAL DESIGN LOAD.
 - THE CONTRACTOR SHALL BE PREPARED TO PRE-DRILL THROUGH POTENTIAL OBSTRUCTIONS (E.G. COBBLES/BOULDERS). IT IS UP TO THE MEANS AND METHODS OF THE CONTRACTOR TO REMOVE OBSTRUCTIONS. CASING MAY BE NEEDED TO KEEP THE PRE-DRILL HOLE FROM COLLAPSING. ADDITIONALLY, THE CONTRACTOR SHALL PROVIDE CASING AT THE DISCRETION OF THE RESIDENT ENGINEER. PRIOR TO PILE DRIVING, THE PRE-DRILLED HOLE SHALL BE FILLED WITH FINE GRAVEL.
 - PILES SHALL CONFORM TO AASHTO M270 GRADE 50.

REQUIRED PILE LOCATION TOLERANCES:

- CONFORMANCE TO THE FOLLOWING TOLERANCES IS OF EXTREME IMPORTANCE TO FOUNDATIONS OF THIS TYPE.
- PRIOR TO DRIVING, EACH ABUTMENT PILE SHALL BE HELD BY TEMPLATE TO WITHIN 1" OF PLAN LOCATION.
- AFTER EACH ABUTMENT PILE IS DRIVEN, THE TOP OF THE PILE SHALL BE WITHIN 3" OF PLAN LOCATION.

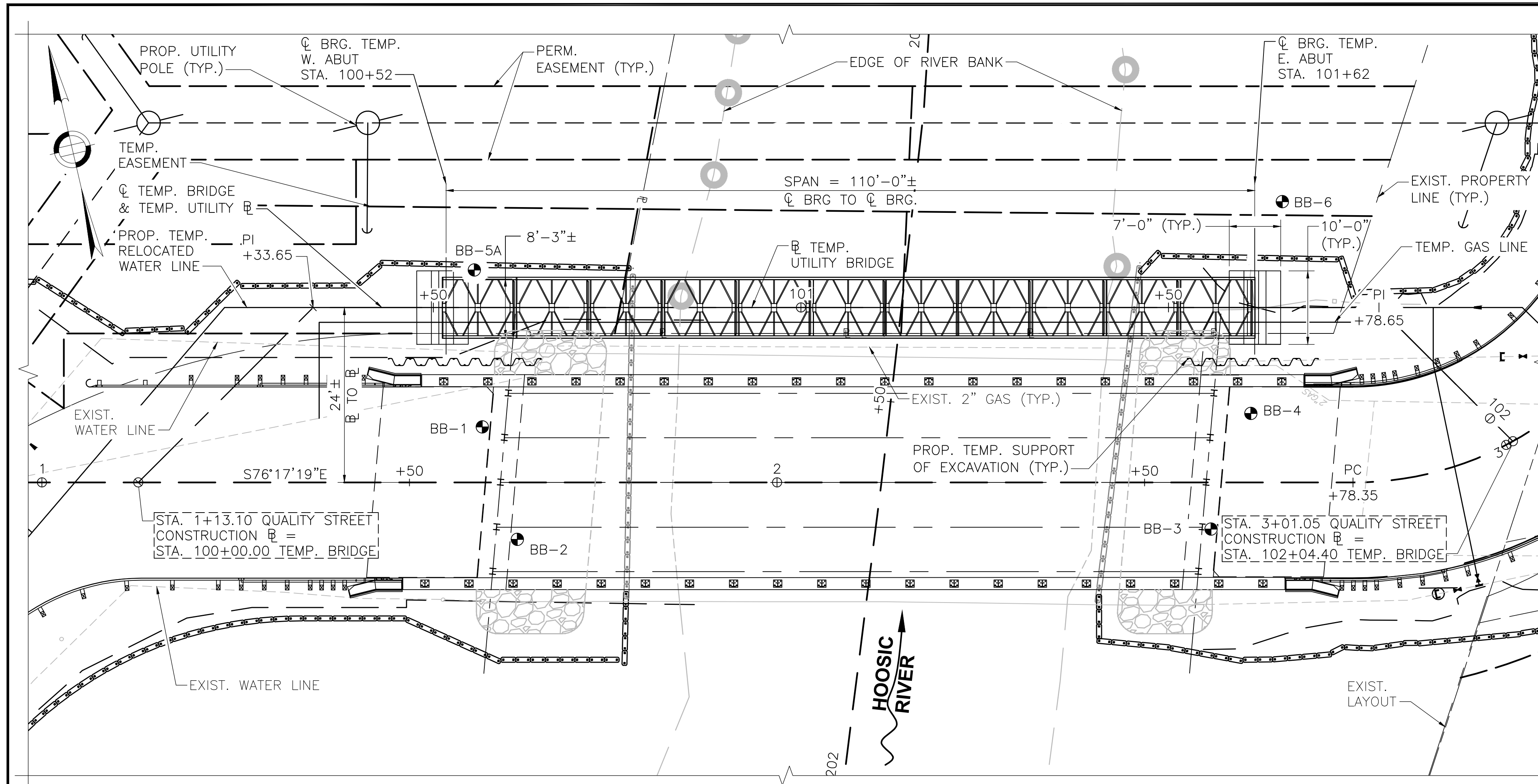


LONGITUDINAL SECTION
SCALE: 1/8" = 1'-0"

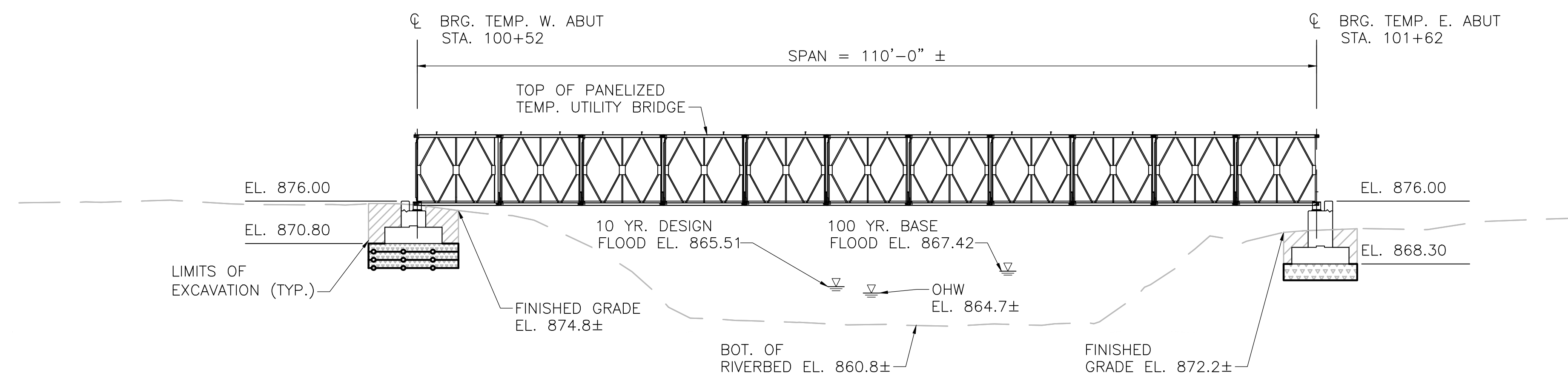


TYPICAL APPROACH ROADWAY SECTION
SCALE: 1/4" = 1'-0"

610777_BRSK_DETALS.DWG Plotted on 27-July-2023 3:03 PM
610777 Second Sketch Plan Submittal (SP2) 27-July-2023



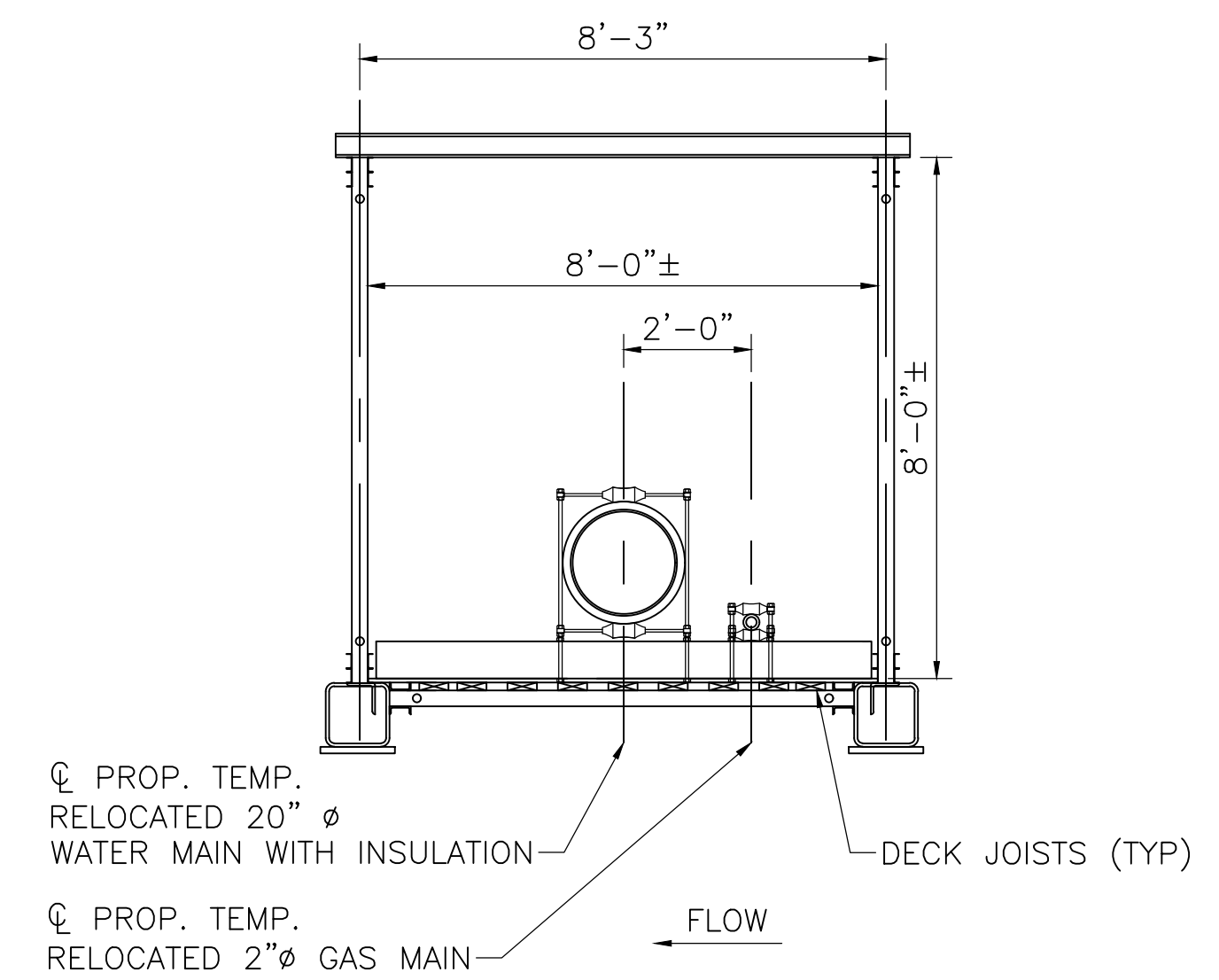
TEMPORARY UTILITY BRIDGE PLAN
SCALE: 1" = 10'



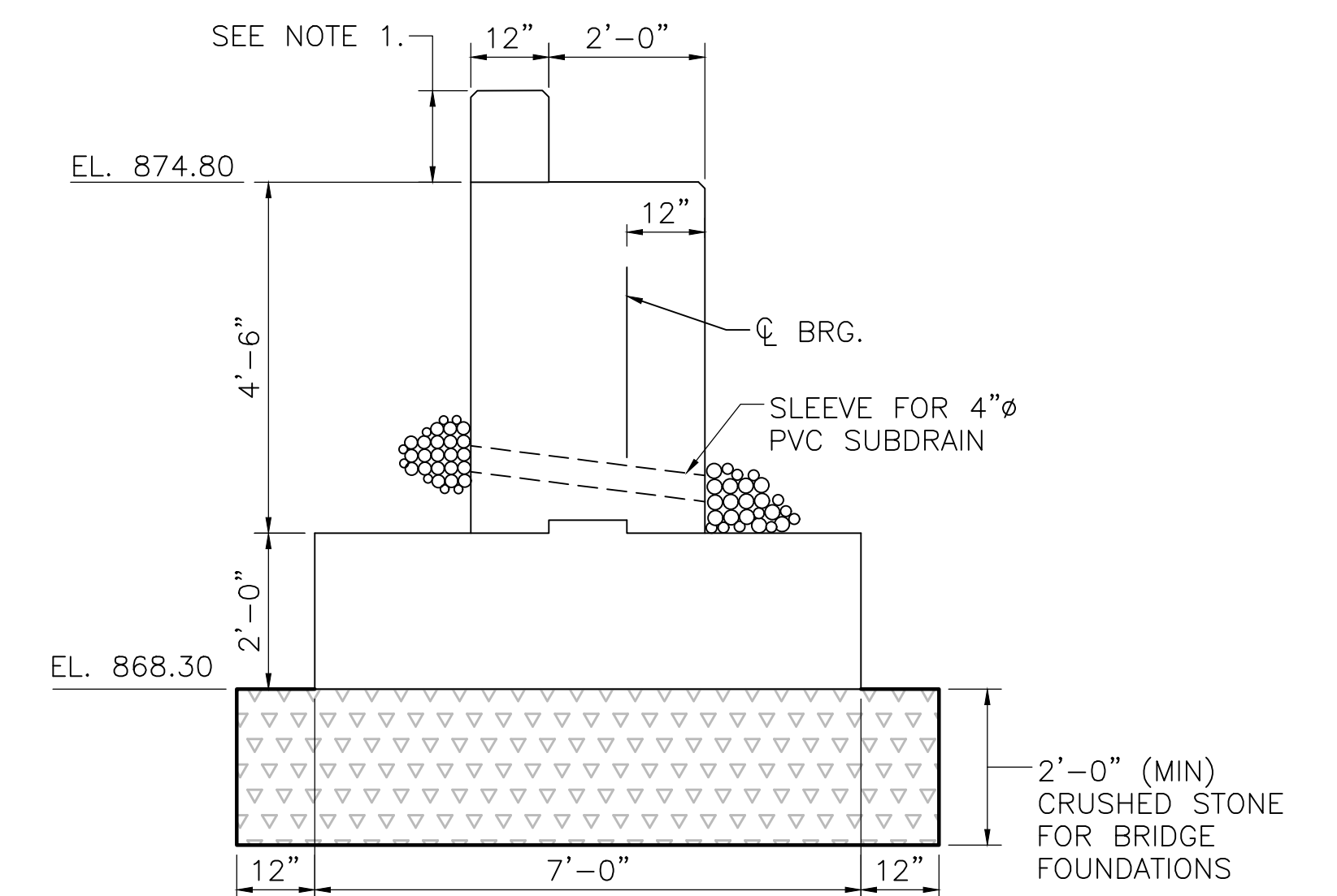
TEMPORARY UTILITY BRIDGE ELEVATION
SCALE: 1" = 10'

TEMPORARY UTILITY BRIDGE NOTES:

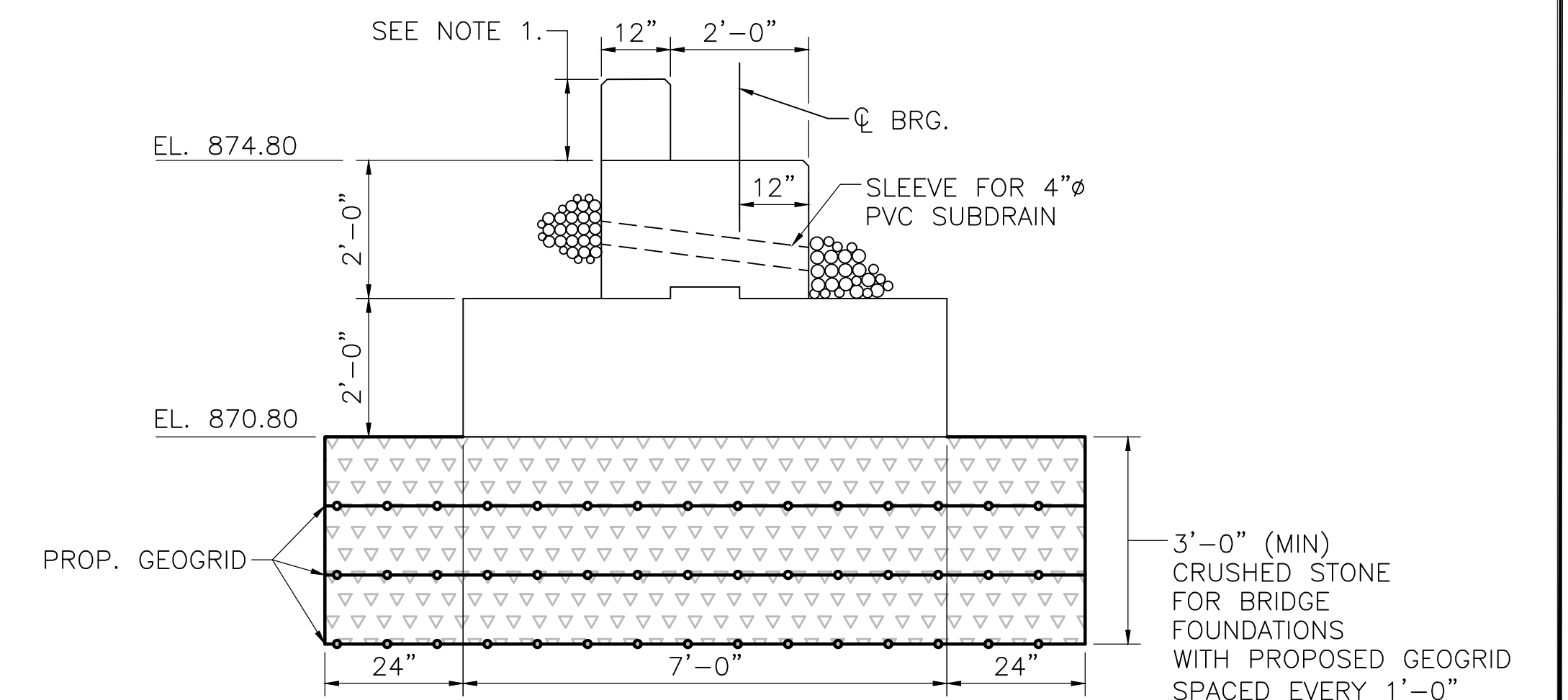
1. DIMENSIONS AND SEAT ELEVATIONS MAY VARY DEPENDING UPON THE SUPERSTRUCTURE SYSTEM SELECTED BY THE CONTRACTOR. THE CONTRACTOR SHALL ADJUST THE SUBSTRUCTURE DIMENSIONS FOR THE SELECTED SUPERSTRUCTURE SYSTEM.
2. THE FACTORED BEARING PRESSURE IS 3.0 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD.
3. THE FACTORED BEARING RESISTANCE IS 7.2 KSF. THE FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
4. BOTTOM OF TEMPORARY ABUTMENT FOOTING SHALL BE A MINIMUM OF 4'-0" BELOW FINISHED GRADE.



TEMPORARY UTILITY BRIDGE SECTION
SCALE: 3/8" = 1'-0"



TEMPORARY UTILITY BRIDGE E. ABUTMENT SECTION
SCALE: 1/2" = 1'-0"



TEMPORARY UTILITY BRIDGE W. ABUTMENT SECTION
SCALE: 1/2" = 1'-0"