

GENERAL NOTES:

- 1. THE WORK AND MATERIAL SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE 2024 MASSDOT STANDARD SPECIFICATIONS WITH SUPPLEMENTAL SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
- 2. THE CONTRACTOR SHALL SUBMIT A WATER CONTROL PLAN DEFINING AND DETAILING THE METHODS FOR CONTROL OF WATER TO THE TOWN AND THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
- 3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS.
- 4. EXISTING CONDITIONS SHOWN ARE BASED ON MASSDOT FIELD INSPECTION REPORTS, SURVEY, AND GEA SITE VISIT ON 6/27/24.

PLAN REVISIONS:

IF THERE ARE REVISIONS TO APPROVED PLANS, THE CONTRACTOR SHALL SUBMIT THESE CHANGES TO THE ENGINEER OF RECORD AND MASSDOT FOR THE REVIEW AND APPROVAL PRIOR TO CONSTRUCTION

BENCHMARK:

ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING LINE AND GRADE ON THE PROJECT. IF THE EXISTING CONTROL POINTS NEED TO BE REESTABLISHED, THIS SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.

BENCHMARK: BREN 2 N: 3041881.1126 E: 336024.8230 ELEV = 573.28

BENCHMARK: BREN 3 N: 3041874.3299 E: 336065.1524 ELEV = 573.24

UTILITIES:

CONTRACTOR SHALL LOCATE AND PROTECT FROM DAMAGE ALL EXISTING UTILITIES.

SCALES:

SCALES AS NOTED ON PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. FOR 🖯 SIZE PRINTS DIVIDE SCALE BY TWO.

SURVEY NOTES:

- 1. A FIELD SURVEY WAS CONDUCTED BY BRENNAN CONSULTING, INC. FROM APRIL 17-18 AND 20-23. 2024.
- 2. THE VERTICAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1988 (NAVD88)
- 3. THE LOCATIONS AND INFORMATION ABOUT UNDERGROUND PIPES, UTILITIES, OR OTHER STRUCTURES ARE COMPILED FROM AVAILABLE RECORD DATA AND VISIBLE FIELD EVIDENCE AND ARE NOT REPRESENTED AS BEING EXACT OR COMPLETE. PRIOR TO BEGINNING EXCAVATION, THE EXCAVATOR SHALL GIVE ADEQUATE ADVANCE NOTICE TO THE DIG SAFE CENTER, THE MUNICIPAL AND/OR STATE PUBLIC WORKS DEPARTMENT, AND PRIVATE UTILITY COMPANIES, TO ALLOW FOR FIELD LOCATION OF FACILITIES IN THE VICINITY.
- 4. IF CONTRACTOR OBSERVES ANY FIELD CONDITIONS WHICH VARY SIGNIFICANTLY FROM WHAT IS SHOWN ON THESE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEER FOR RESOLUTION OF THE CONFLICTING INFORMATION.
- 5. THE CONTRACTOR SHALL RECORD TIE MEASUREMENTS, DEPTHS, DIMENSIONS, MATERIALS, FIELD CONDITIONS, AND OTHER PERTINENT DATA ABOUT ALL UNDERGROUND PIPES, UTILITIES, AND STRUCTURES ENCOUNTERED DURING THE WORK, BOTH EXISTING AND CONSTRUCTED. CONTRACTOR SHALL SUBMIT RECORD DRAWINGS WITH THIS INFORMATION TO THE OWNER AND ENGINEER PRIOR TO COMPLETION OF THE WORK.
- 6. CONTRACTOR SHALL IMMEDIATELY REPORT ANY DAMAGE TO EXISTING PIPES, UTILITIES, OR STRUCTURES TO THE OWNER AND ENGINEER, AND OBTAIN DIRECTIONS AS TO REPAIR, REPLACE, OR ABANDONMENT.
- 7. WETLAND RESOURCE AREAS DELINEATED BY SWCA ON MAY 07, 2024.

EXISTING CONDITIONS:

DIMENSIONS SHOWN ARE TAKEN FROM SURVEY ALONG WITH RECORD PLANS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE AND NOT ORDER ANY MATERIAL OR COMMENCE IN ANY FABRICATION UNTIL HE HAS MADE THE REQUIRED MEASUREMENTS ON THE ACTUAL STRUCTURE AND THE EXTENT ON THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

CONCRETE:

THE FOLLOWING MASSDOT APPROVED CONRETE MIXES ARE TO BE USED:

5000 PSI, $\frac{3}{4}$ ", 685 HP CEMENT CONCRETE CIP APPROACH SLAB, CORBEL

ABUTMENT BREASTWALL AND FOOTING REPAIR SEE SPECIAL PROVISIONS

REINFORCEMENT:

REINFORCING STEEL SHALL BE EPOXY COATED AND CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60. UNLESS OTHERWISE NOTED ON THE PLANS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITION	#4 BARS	#5 BARS	#6 BAI
1. NONE	——————————————————————————————————————	17"	21"
2. 12" OF CONCRETE BELOW BAR	18"	22"	27"
3. EPOXY COATED BARS, COVER $<$ 3d _b ,	21"	26"	31"
OR CLEAR SPACING < 6db			
4. COATED BARS, ALL OTHER CASES	17"	21"	25"
5. CONDITION 2 AND 3	23"	29"	35"
6. CONDITION 2 AND 4	21"	27"	32"

ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

TEMPORARY WATER CONTROL

TEMPORARY WATER CONTROL DESIGN DATA							
DESIGN FLOOD DISCHARGE (C.F.S)	99.6						
DESIGN FLOOD FREQUENCY (YEARS)	2.0						
DESIGN FLOOD VELOCITY (F.P.S)	9.4						
DESIGN FLOOD ELEVATION (FEET)	560.7						

- 1. TEMPORARY WATER CONTROL SHALL BE ESTABLISHED TO PERMIT FOUNDATION CONSTRUCTION IN THE DRY.
- 2. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE TOWN CONSERVATION COMMISSION AND THE ENGINEER OF RECORD A PROPOSED WATER DIVERSION AND DEWATERING PLAN DESIGNED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- 3. THE HEIGHT OF THE TEMPORARY WATER CONTROL SYSTEM SHALL BE AS REQUIRED TO DIVERT THE LOW SEASONAL FLOW TO THE OTHER SIDE OF THE BRIDGE OPENING DURING CONSTRUCTION. THE SANDBAG WATER CONTROL SYSTEM SHOWN IS CONCEPTUAL. THE CONTRACTOR SHALL DESIGN AND SUBMIT PROPOSED WATER CONTROL SYSTEM FOR REVIEW. SHOULD HEAVY RAINFALL BE PREDICTED TO OCCUR DURING CONSTRUCTION, ALL CONSTRUCTION EQUIPMENT, TOOLS, AND LOOSE SEDIMENT LOCATED WITHIN THE WATER CONTROL SYSTEM SHALL BE REMOVED IN ADVANCE OF WATER OVERTOPPING THE SANDBAGS. PREVENTING SEDIMENT FROM ENTERING THE THE WATER COLUMN IS REQUIRED

CONSTRUCTION NOTES

- 1. THE CONTRACTOR SHALL PERFORM ALL PROPOSED WORK IN COMPLIANCE WITH THE ORDER OF CONDITION ISSUES BY THE SHELBURNE CONSERVATION COMMISSION AND THE U.S. ARMY CORPS OF ENGINEERS GENERAL PERMIT. SEE SPECIAL PROVISIONS FOR SUBMITTAL REQUIREMENTS.
- 2. THE CONTRACTOR SHALL DISPOSE OF ANY UNSUITABLE OR EXCESS EARTH MATERIAL EXCAVATED FROM THE SITE IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.
- 3. THE CONTRACTOR SHALL USE SMALL HAND EQUIPMENT WITHIN STREAM AND SHALL NOT OBSTRUCT MORE THAN 50% OF FLOW THROUGH THE STREAM CHANNEL.

DRILLING AND GROUTING DOWELS

DECODIDATION

GROUT TO BE USED FOR DRILLING AND GROUTING DOWELS SHALL BE CEMENTITIOUS GROUT LISTED ON THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION QUALIFIED MATERIALS LIST. THE DEPTH OF THE HOLES SHALL BE THE MORE CONSERVATIVE OF WHAT IS SHOWN ON THESE DRAWINGS OR THE MANUFACTURER'S RECOMMENDATIONS. THE DIAMETER OF THE HOLES SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS WITH A MINIMUM DIAMETER OF 2".

CONTRACTOR MAY USE ADHESIVE ANCHORS FROM THE MASSDOT APPROVE LIST IN LIEU OF DRILL AND GROUT WITH APPROVAL OF THE ENGINEER.

TRAFFIC:

THE ROAD WILL BE CLOSED FOR CONSTRUCTION. SEE ROAD CLOSURE AND DETOUR PLAN ON SHEET 11.

LINUT OT

QUANTITIES

<u>NO.</u>	DESCRIPTION	<u>UNIT</u>	QTY.
102.	SELECTIVE CLEARING AND THINNING	A	0.01
107.855	PRESSURE INJECTION OF CRACKS	FT	13
127.12	REINFORCED CONCRETE EXCAVATION — SUBSTRUCTURE	CY	2
140.	BRIDGE EXCAVATION	CY	220
151.	GRAVEL BORROW	CY	150
170.	FINE GRADING AND COMPACTING - SUBGRADE AREA	SY	280
452.	ASPHALT EMULSION FOR TACK COAT	GAL	24
460.22	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5)	TON	30
460.31	SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC - 12.5)	TON	48
509.	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - STRAIGHT	FT	20
620.131	GUARDRAIL, DEEP POST (SINGLE FACED)	FT	40
627.1	TRAILING ANCHORAGE	EA	3
628.25	TRANSITION TO THRIE BEAM	EA	3
657.	TEMPORARY FENCE	FT	300
698.3	GEOTEXTILE FABRIC FOR SEPARATION	SY	3
751.7	COMPOST BLANKET	CY	1
765.	SEEDING	SY	35
767.121	SEDIMENT CONTROL BARRIER	FT	170
769.	PAVEMENT MILLING MULCH UNDER GUARD RAIL	FT	110
852.	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	SF	229
853.1	PORTABLE BREAKAWAY BARRICADE TYPE III	EA	11
853.2	TEMPORARY BARRIER (TL-2)	FT	60
859.	REFLECTORIZED DRUM	DAY	1080
909.41	SELF-CONSOLIDATING CONCRETE REPAIR MORTAR	CF	300
983.1	RIPRAP	TON	5
991.1	CONTROL OF WATER - STRUCTURE NO. S-11-011	LS	1
992.1	ALTERATION TO BRIDGE STRUCTURE NO. S-11-011	LS	1

COMMONWEALTH OF MASSACHUSETTS MassDOT, Highway Division APPROVED UNDER PROVISIONS OF MASS. GEN. LAWS CH 85 S 35 3/5/2025 STATE BRIDGE ENGINEER

3 KENDRICK STREET EEDHAM, MA 02494 81-355-7100 81-355-7101 (FAX) 63 | NE| 781 781 GINEERING

DESCRIPTION	ISSUE FOR CONSTRUCTION						IEER DATE
APPRV. BY	XTX						NAL ENGIN
CALC. BY	SOT						PROFESSIC
DATE DRW. BY CALC. BY APPRV. BY	TFK						REGISTERED PROFESSIONAL ENGINEER
DATE	2/4/2025						R
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(5FW) BROOM **HABILITATION** 011 GON BURNE \leftarrow

SHEL R Q ION ROA RF \circ NWOL BRIDGE

BRIDGE REHABILITAT HELBURNE CENTER

GENERAL NOTES & QUANTITIES

SHEET 2 OF 11

			Gill I	Engineering Asso	· ·).		Boring No.	1
				63 Kendrick S Needham, MA			Page 1 of 1		
City/Tov	vn: Shelburn	e, MA	Bridge Num	ber: S11011	Project File	Number:		Contract Number:	
Location	n: North Abu	tment, West			Date & Tim	e Started: 6/27/2	4 @ 12:45 PM To		Total Hours
Ground	water Depth	(Feet): N/A	Date & Time	e: 6/27/24 12:45PM	Date & Tim	e Completed: 6/2	27/24 @ 1:30) PM	.75
Coordin	ates: N 3041	1852.0685, E 336			Driller's Co	mpany & Name:	NEBC, Mike	St. John & Aar	
Ground	Elevation (F	eet): 571.87			Gill Repres	sentative: NIN & 7	ΓFK		
Depth	Sample	Depth Range	Blow Cou	ınts per 6 Inches	Recovery				Strata
(Feet)	Number	(Feet)		es Minutes per Foot	(inches)	F	ield Descrip	tion	Changes
	S1	1' - 3'	18 –	20 – 20 – 9	17"	Dense, Light G	ray/Brown, D	ory Sand w/	
- 5	S2	3' – 5'	14 -	14 - 14 – 9	23"	Moist, Medium Brown Sand w/		t to Medium Gra	y/
-	S3	5' – 7'	7 –	6 – 23 – 8	14"	Moist, Medium	Dense Brow	n Sand w/ Cobb	ole
-	S4	7' – 9'	10 –	10 – 19 – 19	15"	Medium Dense Cobble	, Moist, Brow	vn Sand w/	
10 - -	S5	9' – 11'	10 – 20 – 47 - 44		10"	Moist, Very Der w/ Gravel & Co		ay to Brown Sa	nd
- - 15									
-									
-									
20									
-									
-									
25									
-									
-									
-									
30									
Remark	s: N/A				Arrow-Boa Signs: N/A		Well Depth		d Pipe: N/A
		Pen	etration Resis	tance (N) Guide	Cones: N/A	1	Stick Up Pi	ipe: N/A Scre ill Rig: B-53	en Pipe: N/A
		Soils (Sands, Gr		` '	Soils (Silts,	Clays)	Casing Typ	pe: HW	Size: 3"
	e Density Loose	Penetration F		Consistency Very Soft		on Resistance 0 – 2	Hamm Fall: 3	ner Weight: 300 0"	lb
	oose	4 – 1	-	Soft	2 – 4		Depth		0' 4 2 '-
	m Dense ense	10 – 3 30 – 3		Medium Stiff Stiff		4 – 8 3 – 15	Sampler Ty	ype: S/S latic Hammer W	Size: 1-3/8 eight: N/A
	ense ⁄ Dense	30 – s Over		Very Stiff	1	5 – 30	Safety	Hammer Weigl	nt: 140 lb
		NI = 0	of Constant	Hard		ver 30	4	Hammer Weigh	nt: N/A
Terms l	Jsed for Sec			d Third 6" Blow count d = 40-50%, some =		e = 10% or less	Fall: 3 Core Barre		Size: N/A
		<u> </u>					1		

			Gill E	С.		Boring No. 2				
			T	Needham, MA	I			Page 1 of 1		
City/Tov	vn: Shelburr	ne, MA	Bridge Num	ber: S11011	Project File			Contract Num	_	
Location	n: North Abu	tment, Center			Date & Tim	ne Started: 6/27/2	024 @ 9:45	AM	lo	tal Hours
	water Depth		Date & Time 9:45AM	e: 6/27/2024		ne Completed: 6/2				.5
Coordin	ates: N 304	1853.2717, E 336	6040.0423	Driller's Co	mpany & Name:	NEBC, Mike	St. John & Aar	on		
Ground	Elevation (F	eet): 571.80			Gill Repres	sentative: NIN & 7	TFK			
Depth (Feet)	Sample Number	Depth Range (Feet)		nts per 6 Inches s Minutes per Foot	Recovery (inches)	F	ield Descript	tion		Strata Changes
-										
-	S1	1' - 3'	20 –	18 – 14 – 14	20"	Moist, Dense, C	Gray/Brown S	Sand/Silt w/ trac	ce	
- 5	S2	3' – 5'	16 –	10 - 12 – 11	17"	Moist, Dense, C	Gray/Brown S	Sand/Silt w/ trac	ce	
-	S3	5' – 7'	8 –	3 – 6 – 60	12"	Moist, Losse, D	ark Gray/Bro	own Sand/Silt w	//	
-	S4	7' – 9'	25 –	9 – 11 – 14	5"	trace Cobble Moist, Medium	Dense Brow	n Sand/Silt w/		
10	S5	9' – 11'	29 –	20 – 27 - 34	13"	Cobble Dense, Moist, D Cobble	Dark Brown Sand/Silt w/			
-						Copple				
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30										
Remarks: N/A				Arrow-Boa Signs: N/A		Protective Device – Stand: N/A Box: N/ Well Depth: N/A Solid Pipe: N/A				
		D	otrotion D:	tongo (NI) Coda	Cones: N/A		Stick Up Pi	pe: N/A Scr		Pipe: N/A
С	ohesionless	Soils (Sands, Gr		tance (N) Guide Cohesive	Soils (Silts,	Clavs)	Casing Type	II Rig: B-53 be: HW	S	ize: 3"
	e Density	Penetration F	· · · · · · · · · · · · · · · · · · ·	Consistency		on Resistance		er Weight: 300		-
-	/ Loose	0 -		Very Soft		0 – 2	Fall: 30			
	oose m Dense	4 – 1 10 – 3	-	Soft Modium Stiff		2 – 4 4	Depth: Sampler Ty		Q;	ze: 1-3/8'
	m Dense ense	10 – 3 30 –		Medium Stiff Stiff		4 – 8 3 – 15		/pe: ১/১ atic Hammer W		
	Dense	Over		Very Stiff Hard	1	5 – 30 ver 30	Safety	Hammer Weigl Hammer Weigl	ht: 14	10 lb
		N - Sum	of Cooond and	Third 6" Blow count			Fall: 30	•"		

			Oiii L	Engineering Asso 63 Kendrick S		J.		Boring No. 3	5	
				Needham, MA				Page 1 of 1		
City/Tow	vn: Shelburn	e, MA	Bridge Num	ber: S11011	Project File	Number:		Contract Numb	er:	
Location	n: North Abu	ment, East			Date & Tim	ne Started: 6/27/2	4 @ 8:30 Al	M	Total Ho	
Groundy	water Depth	(Feet): N/A	Date & Time	e: 6/27/24 8:30 AM	Date & Tim	ne Completed: 6/2	27/24 @ 9:1	5 AM	.75	
Coordina	ates: N 3041	846.6125, E 336	6043.7751		Driller's Co	mpany & Name:	NEBC, Mike	St. John & Aaro	n	
Ground	Elevation (F	eet): 571.32			Gill Repres	sentative: NIN & 7	ΓFK			
Depth	Sample	Depth Range	Blow Cou	ınts per 6 Inches	Recovery		iald Dagawin	4: _ :_	Stra	
(Feet)	Number	(Feet)	Coring Time	es Minutes per Foot	(inches)	F	ield Descrip	uon	Chan	
- -	S1	1' - 3'	8 – 1	15 – 32 – 42	20"	Moist, Dense, C	Gray/Brown S	Sand w/ some		
-	S2	3' – 5'	14 - 1	13 - 13 – 11	12"	Cobble Moist, Medium	Dense, Ligh	t Gray to Dark		
5 -	S3	5' – 7'	5 -	-3-4-8	14"	Gray/Brown Sa Moist, Loose, G				
-	S4	7' – 9'		- 13 – 4 – 6	8"		·	/Brown Sand w/		
-	S5	9' – 11'		6 – 26 - 50	15"	Some Cobble Wet, Dense, Gr	·			
10 -	ან	9 – 11	/-	u – 20 - 3U	10	vvet, Delise, Gl	ayıbıbwii S	and w/ Cobbie		
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- 15										
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- 25										
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-										
- 30										
Remarks	s: N/A		<u> </u>		Arrow-Boa			Device – Stand:		
		Pen	etration Resis	tance (N) Guide	Signs: N/A Cones: N/A		Well Depth Stick Up P		l Pipe: N/A en Pipe: N	
C	ohesionless	Soils (Sands, Gr		` '	Soils (Silts,	Clays)	Casing Type		Size: 3"	
	e Density	Penetration F		Consistency	l	on Resistance	1	ner Weight: 300 l	b	
-	/ Loose oose	0 – 4 – ´		Very Soft Soft		0 – 2 2 – 4	Fall: 3 Depth			
	oose m Dense	4 – 1 10 – 1	-	Sort Medium Stiff		2 – 4 4 – 8	Sampler T		Size: 1-	
De	ense	30 –		Stiff		3 – 15	Autom	atic Hammer We	eight: N/A	
_		Over	50	Very Stiff		5 – 30		Safety Hammer Weight: 140 lb		
2.51.00				Hard Over 30			Donut Hammer Weight: N/A Fall: 30"			

BORING NOTES

- 1. LOCATION OF BORINGS SHOWN ON THE PLUS THUS:
- BORINGS ARE TAKEN FOR THE PURPOSE OF DESIGN AND TO SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
- 3. WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
- 4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A $1\frac{3}{8}$ " I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
- 5. ALL BORINGS WERE MADE IN JUNE 2024.
- 6. BORINGS WERE MADE BY: NEW ENGLAND BORING CONTRACTORS P.O. BOX DERRY, NH 03038
- 7. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
- 8. SAMPLES STORED AT: GILL ENGINEERING 63 KENDRICK STREET NEEDHAM, MA 02494

COMMONWEALTH OF MASSACHUSETTS MassDOT, Highway Division APPROVED UNDER PROVISIONS OF MASS. GEN. LAWS CH 85 S 35

STATE BRIDGE ENGINEER 3/5/2025

GINEERING



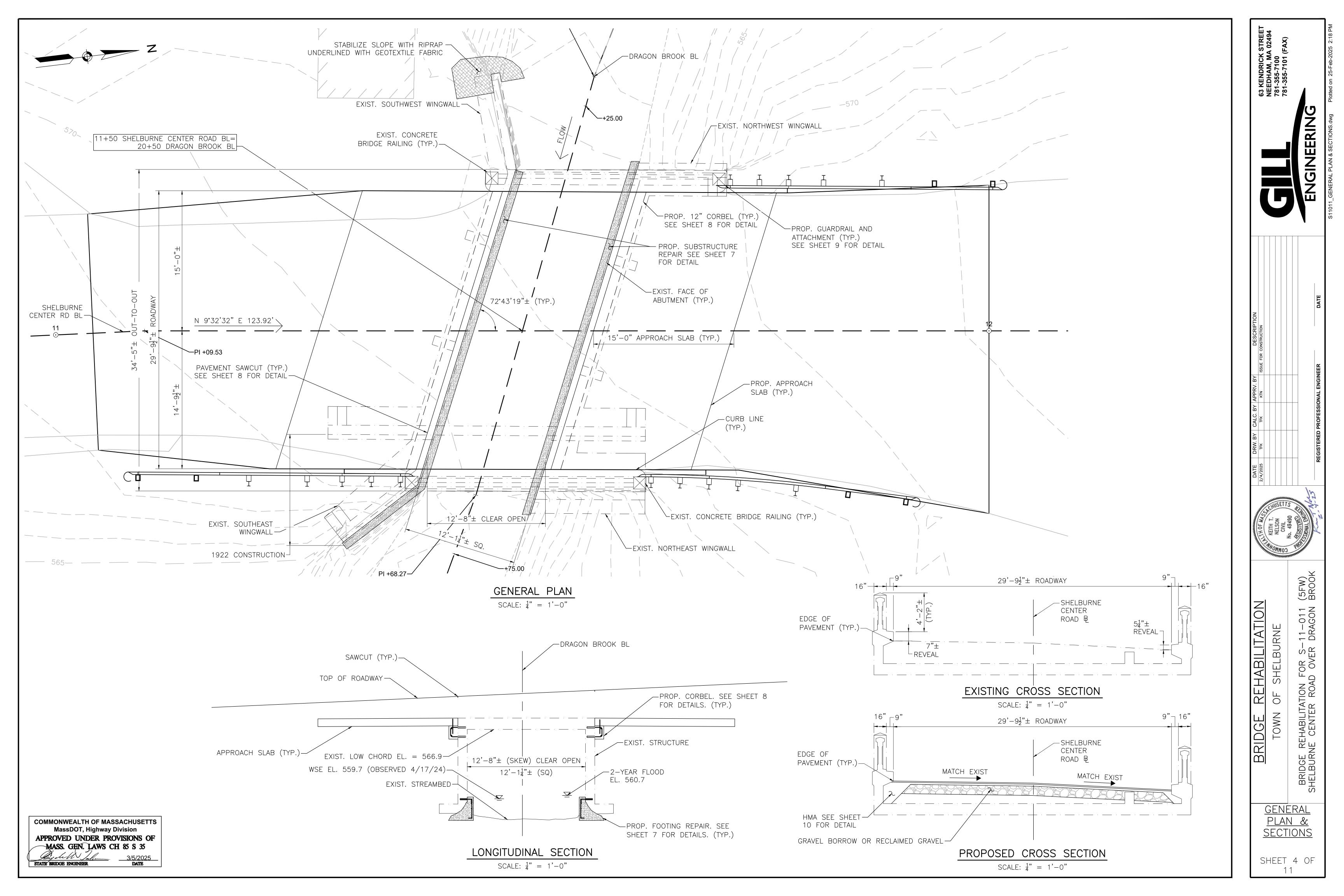
(5FW) BROOK REHABILITATION
OF SHELBURNE 11-011 DRAGON

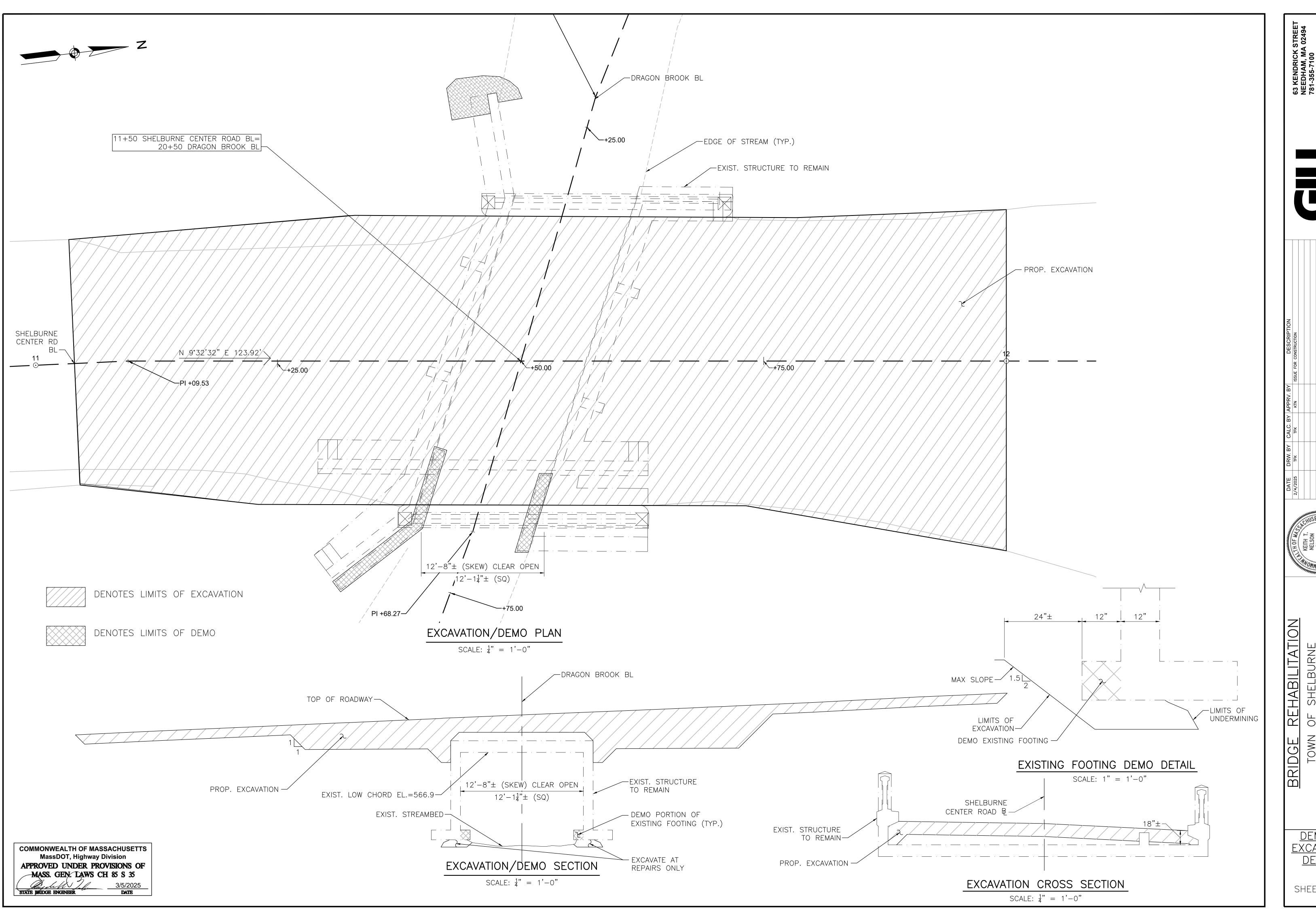
BRIDGE

BRIDGE REHABILITATION FOR S-SHELBURNE CENTER ROAD OVER

BORING LOGS

SHEET 3 OF





63 KENDRICK STREET NEEDHAM, MA 02494 781-355-7100 781-355-7101 (FAX) GINEERIN

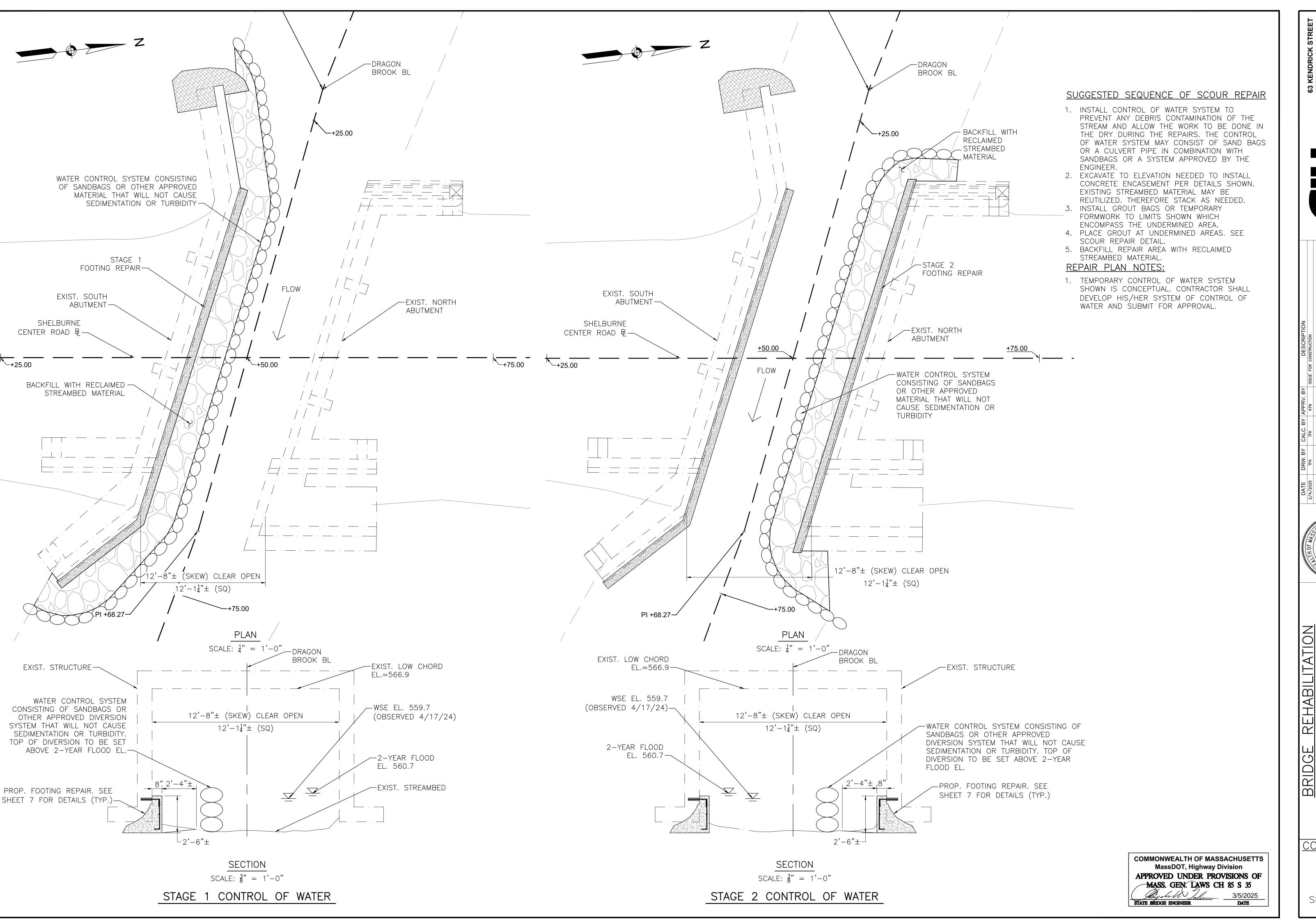
(5FW) BROOK

.11-011 DRAGON SHELBURNE

BRIDGE REHABILITATION FOR S-SHELBURNE CENTER ROAD OVER TOWN

DEMO & **EXCAVATION** <u>DETAILS</u>

SHEET 5 OF



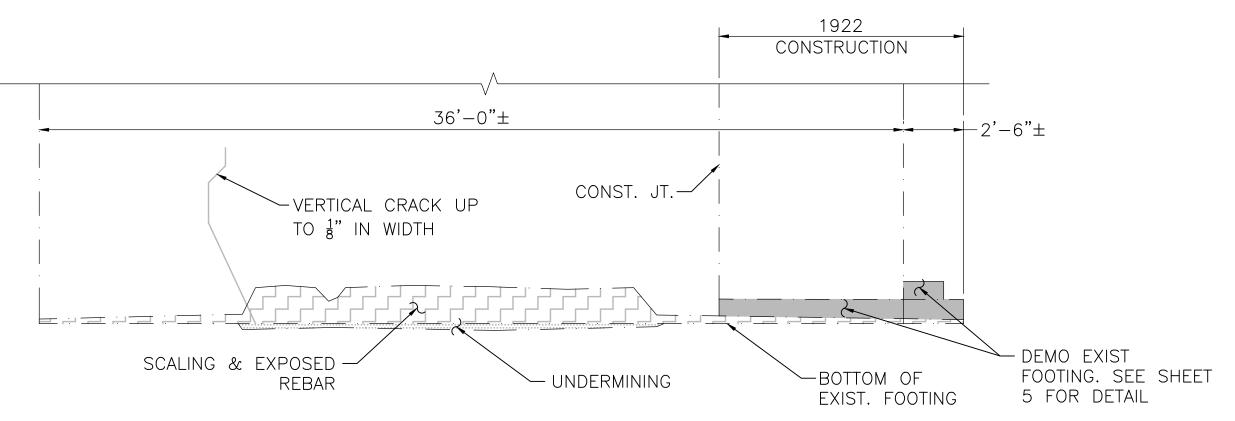
63 KENDRICK STREET NEEDHAM, MA 02494 781-355-7100 781-355-7101 (FAX) GINEERIN

11-011 DRAGON SHELBURNE

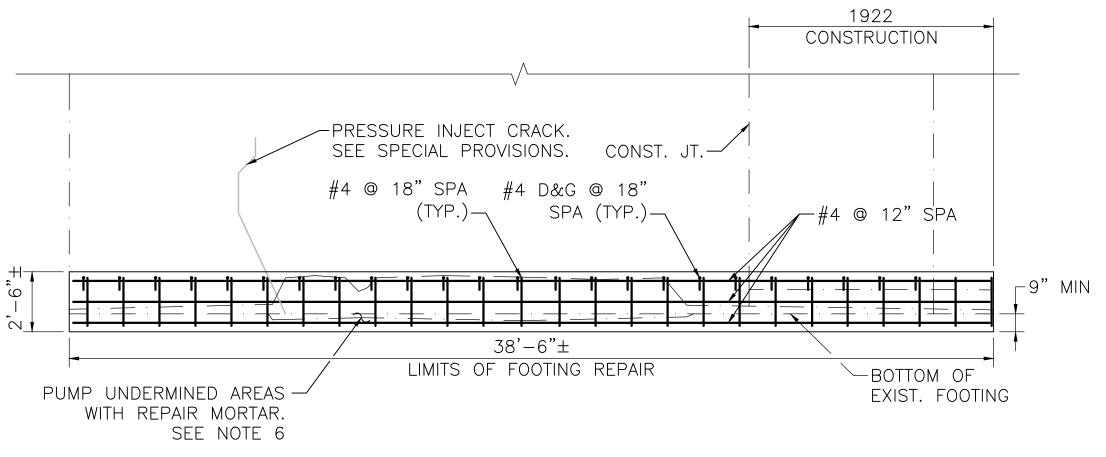
BRIDGE REHABILITATION F SHELBURNE CENTER ROAD

CONTROL OF **WATER**

SHEET 6 OF

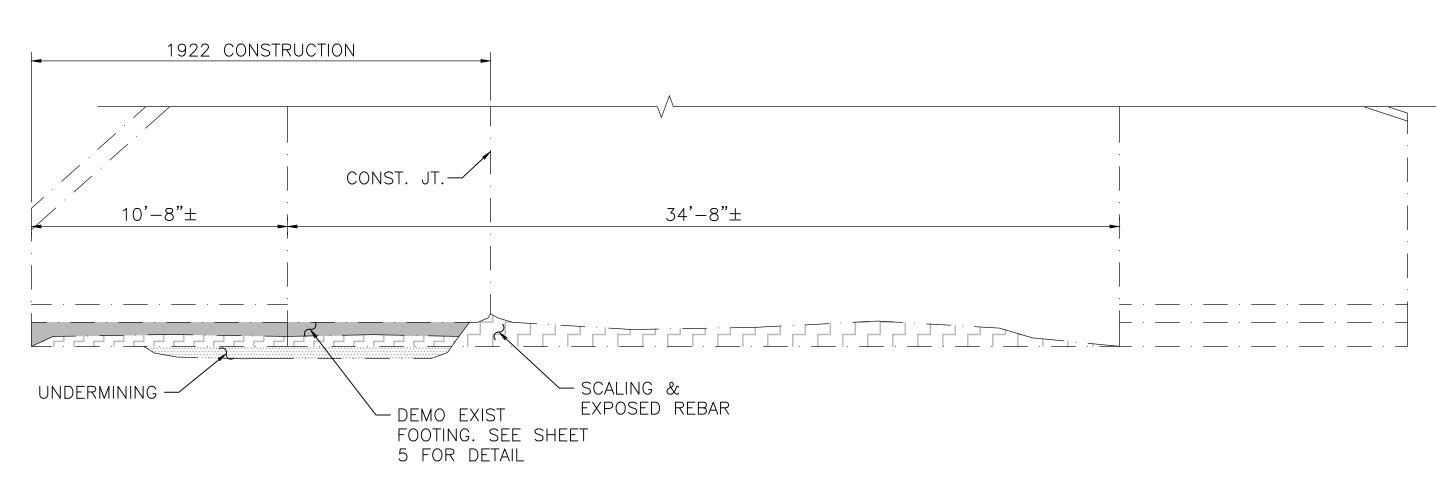


EXISTING NORTH ABUTMENT PART ELEVATION SCALE: $\frac{1}{4}$ " = 1'-0"

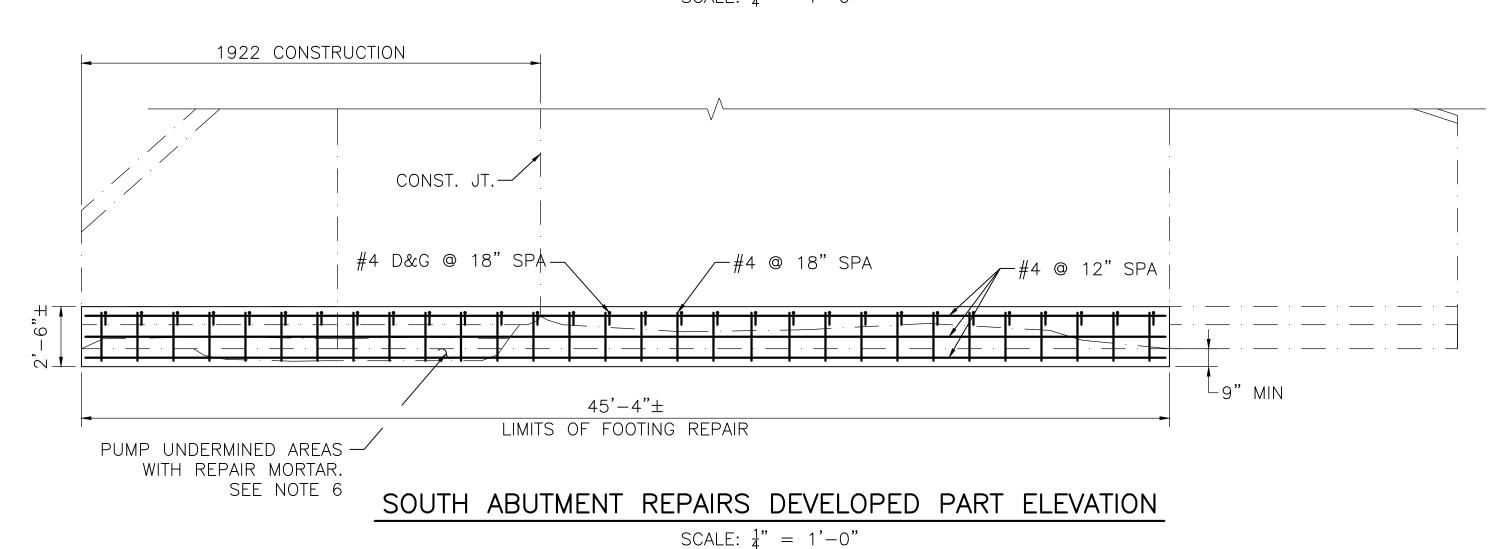


NORTH ABUTMENT REPAIRS PART ELEVATION

SCALE: $\frac{1}{4}$ " = 1'-0"



EXISTING SOUTH ABUTMENT DEVELOPED PART ELEVATION SCALE: $\frac{1}{4}$ " = 1'-0"



SURFACE PREPARATION:

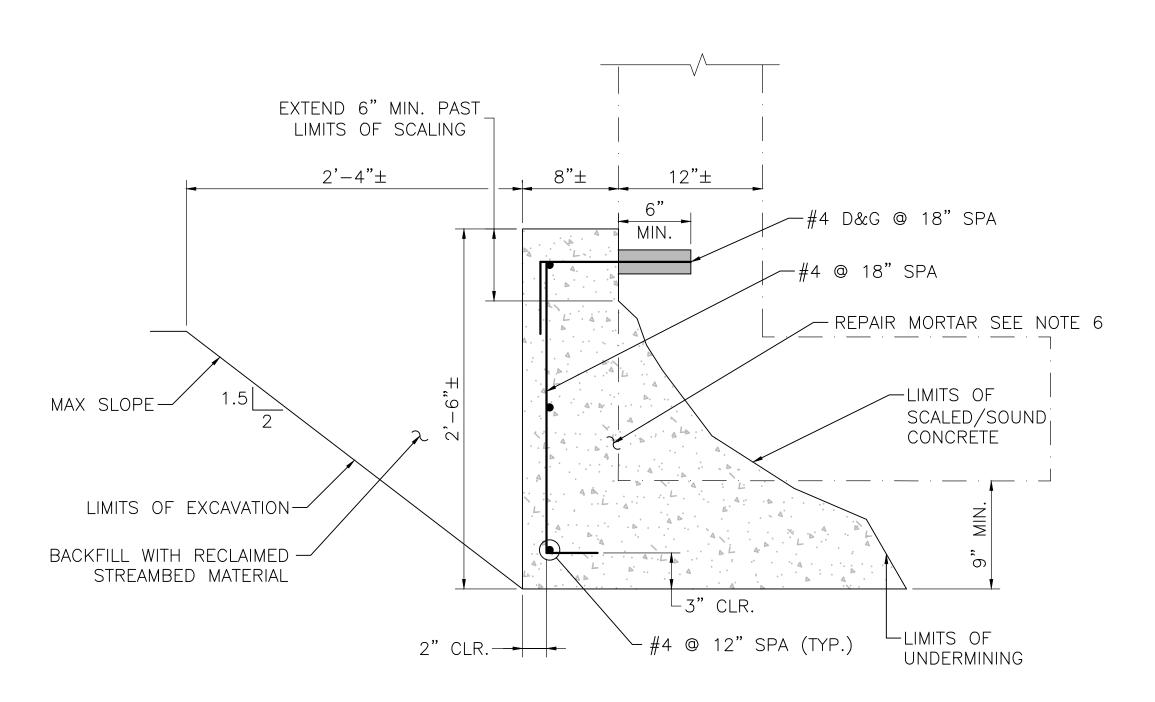
- 1. THE CONTRACTOR SHALL ESTABLISH LIMITS OF REPAIR AS SHOWN ON THE PLANS AND AT THE DIRECTION OF THE ENGINEER. THE LOCATION SHOWN ON THE PLANS IS BASED UPON RECORDS OF BRIDGE INSPECTIONS AND OBSERVATION FROM GROUND AND IS NOT GUARANTEED. THE LOCATION AND EXTENT OF THE VOID AND UNDERMINING REPAIRS IS TO BE FIELD VERIFIED AND APPROVED BY THE ENGINEER AFTER THE CONTRACTOR HAS DETERMINED THE REPAIR AREA.
- 2. THE LIMITS OF THE REPAIR SHALL BE SAWCUT ALONG NEAT LINES TO A DEPTH OF ₹ TO PRODUCE A CLEAN EDGE.
- 3. REMOVE DETERIORATED AND UNSOUND CONCRETE TO SOUND CONCRETE WITH A MINIMUM DEPTH OF 1" BEYOND THE INNER MOST LAYER OF REINFORCING STEEL BUT NOT LESS THAN 4" FROM ORIGINAL SURFACE.
- 4. AFTER REMOVAL AND EDGE PREPARATION ARE COMPLETE, REMOVE BOND INHIBITING MATERIALS (DIRT, GREASE, LOOSELY BONDED AGGREGATE) BY ABRASION BLASTING OR HIGH PRESSURE WATER BLASTING WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS. CHECK THE CONCRETE SURFACES AFTER CLEANING TO INSURE THAT THE SURFACE IS FREE FROM ADDITIONAL LOOSE AGGREGATE OR THAT ADDITIONAL DELAMINATIONS ARE NOT PRESENT.

REPAIR MORTAR PLACEMENT:

- 5. PRESOAK CONCRETE SUBSTRATE WITH A WATER HOSE AS LONG AS SITE CONSTRAINS PERMIT. AT THE TIME OF THE REPAIR CONCRETE PLACEMENT, SUBSTRATE SHALL BE SATURATED SURFACE DRY WITH NO STANDING WATER.
- 6. MASTEREMACO S440CI OR EQUIVALENT SHELF-CONSILIDATING REPAIR MORTAR SHALL BE USED FOR THE STRUCTURAL REPAIRS.
- 7. IF MASTEREMACO S440CI IS USED, THEN THE FOLLOWING APPLY:
- 7.A. VERTICAL REPAIR MORTAR SHALL BE USED TO MAKE THE REPAIR AND SHALL BE MIXED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
- 7.B. THE PUMP MUST BE CAPABLE OF CONTINUOUS EVEN FLOW OF MATERIAL TO THE REPAIR AREA WITHOUT HAVING ANY LINE SURGE. LINE SURGE WILL RESULT IN AIR VOIDS AND POSSIBLE AGGREGATE SEGREGATION
- 7.C. PRIOR TO PUMPING MATERIALS, ALL HOSES MUST BE WET OUT WITH CLEAN WATER TO ENSURE INITIAL FLOW PROPERTIES ARE MAINTAINED.
- 7.D. THE PUMPING DISTANCE MUST BE KEPT TO A MINIMUM. THE PUMPING HOSE SHALL BE A MINIMUM 3 TIMES THE SIZE OF THE LARGEST AGGREGATE IN THE VERTICAL REPAIR MORTAR (3"x3).
- 7.E. ADDITIONAL WATER BEYOND THE RECOMMENDED LEVEL WILL NOT INCREASE THE FLOW CHARACTERISTICS OF THE VERTICAL REPAIR MORTAR.
- 7.F. KEEP PUMPING PRESSURE TO A MINIMUM NECESSARY TO FILL FORMS.
- 7.G. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REPAIR MORTAR CURING:

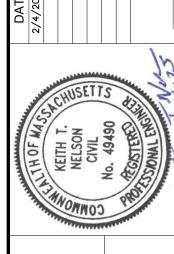
- 8. FORMWORK SHALL REMAIN IN PLACE UNTIL A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI IS REACHED, OR 5 DAYS, WHICHEVER IS GREATER.
- 9. IF THE REPAIR AREA IS NOT TO RECEIVE A PROTECTIVE COATING, AN APPROVED CURING COMPOUND SHALL BE APPLIED TO THE REPAIR AREA UPON FORM REMOVAL.
- 10. IF THE REPAIR AREA IS TO RECEIVE A PROTECTIVE COATING, POLYETHYLENE SHEETING SHALL BE APPLIED TO THE REPAIR AREA AND THE SHEETING PERIMETER SHALL BE TAPED DOWN UNTIL THE COMPLETION OF A 7-DAY CURING PERIOD.



FOOTING REPAIR DETAIL SCALE: $1\frac{1}{2}$ " = 1'-0"

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3 KENDRICK STREET EEDHAM, MA 02494 81-355-7100 81-355-7101 (FAX) 63 | NE| 781 GINEERIN

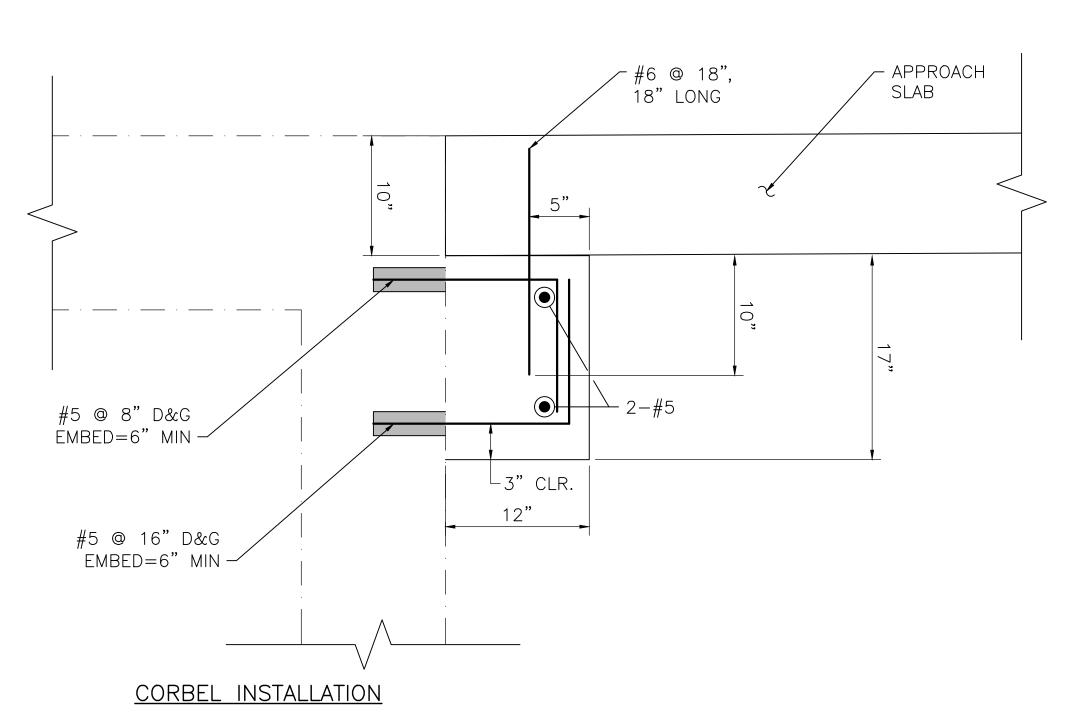


(5FW) BROOK 11-011 DRAGON SHELBURNE BRIDGE

BRIDGE REHABILITATION F HELBURNE CENTER ROAD TOWN

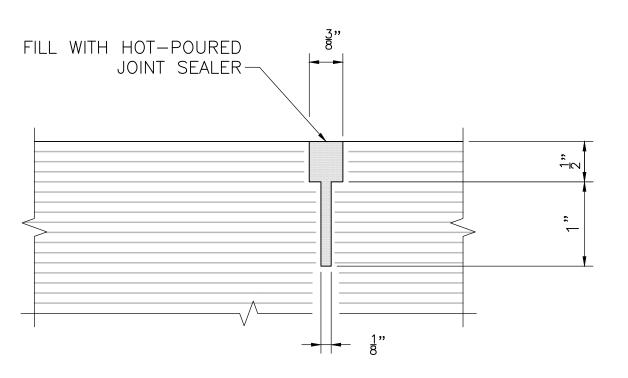
STRUCTURE REPAIR DETAILS 1 o

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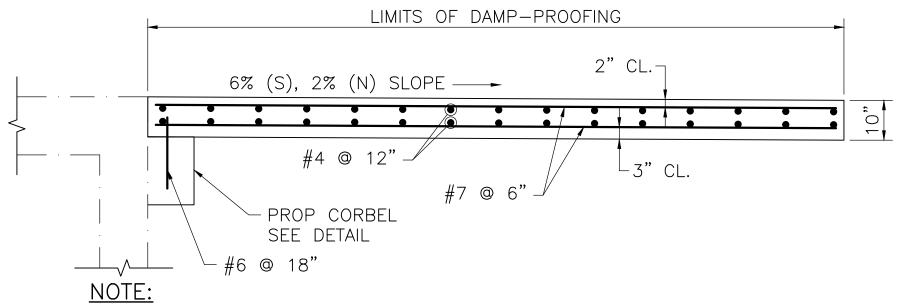


BEFORE PLACING CONCRETE EXISTING CULVERT WALL SHALL BE CLEAN AND PROVIDE A SOLID SURFACE. IF WALL NEEDS REPAIRS IT SHALL BE DONE PRIOR TO INSTALLING CORBEL.

CORBEL DETAIL SCALE: $1\frac{1}{2}$ " = 1'-0"

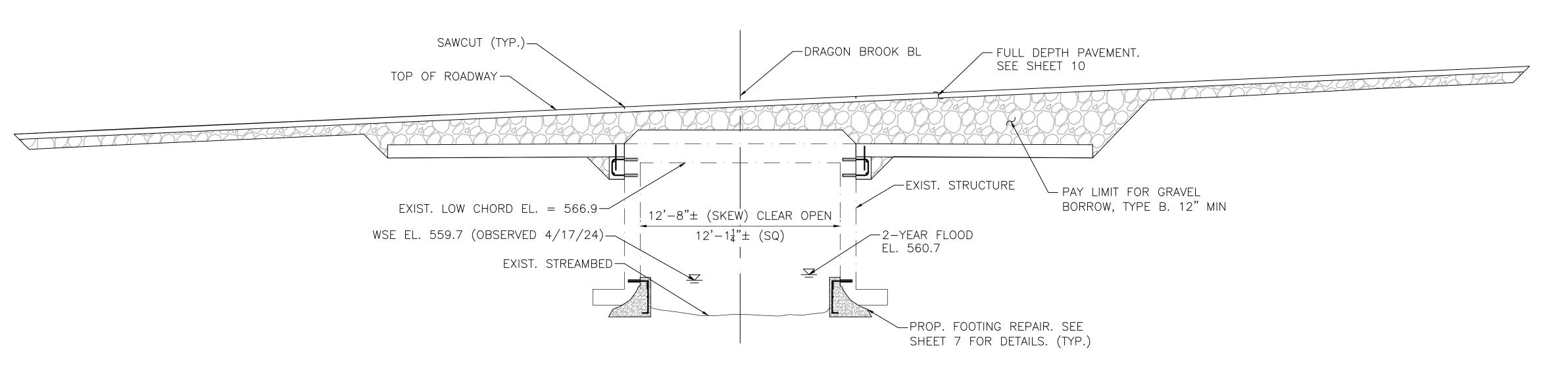


PAVEMENT SAWCUT DETAIL NOT TO SCALE



PLACE LONGITUDINAL REINFORCEMENT PARALLEL TO CENTERLINE OF CONSTRUCTION. PLACE TRANSVERSE REINFORCEMENT PARALLEL TO ABUTMENT. ALL REINFORCEMENT SHALL BE COATED.

APPROACH SLAB DETAILS SCALE: $\frac{1}{2}$ " = 1'-0"



BACKFILL LIMITS DETAIL

SCALE: $\frac{1}{4}$ " = 1'-0"

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STATE BRIDGE ENGINEER

3/5/2025

DATE

ENGINEERING

DESCRIPTION	ISSUE FOR CONSTRUCTION					EER DATE	
APPRV. BY	KTN					REGISTERED PROFESSIONAL ENGINEER	
DRW. BY CALC. BY APPRV. BY	TFK					PROFESSIC	
DRW. BY	TFK					EGISTERED	
DATE	2/4/2025					R	



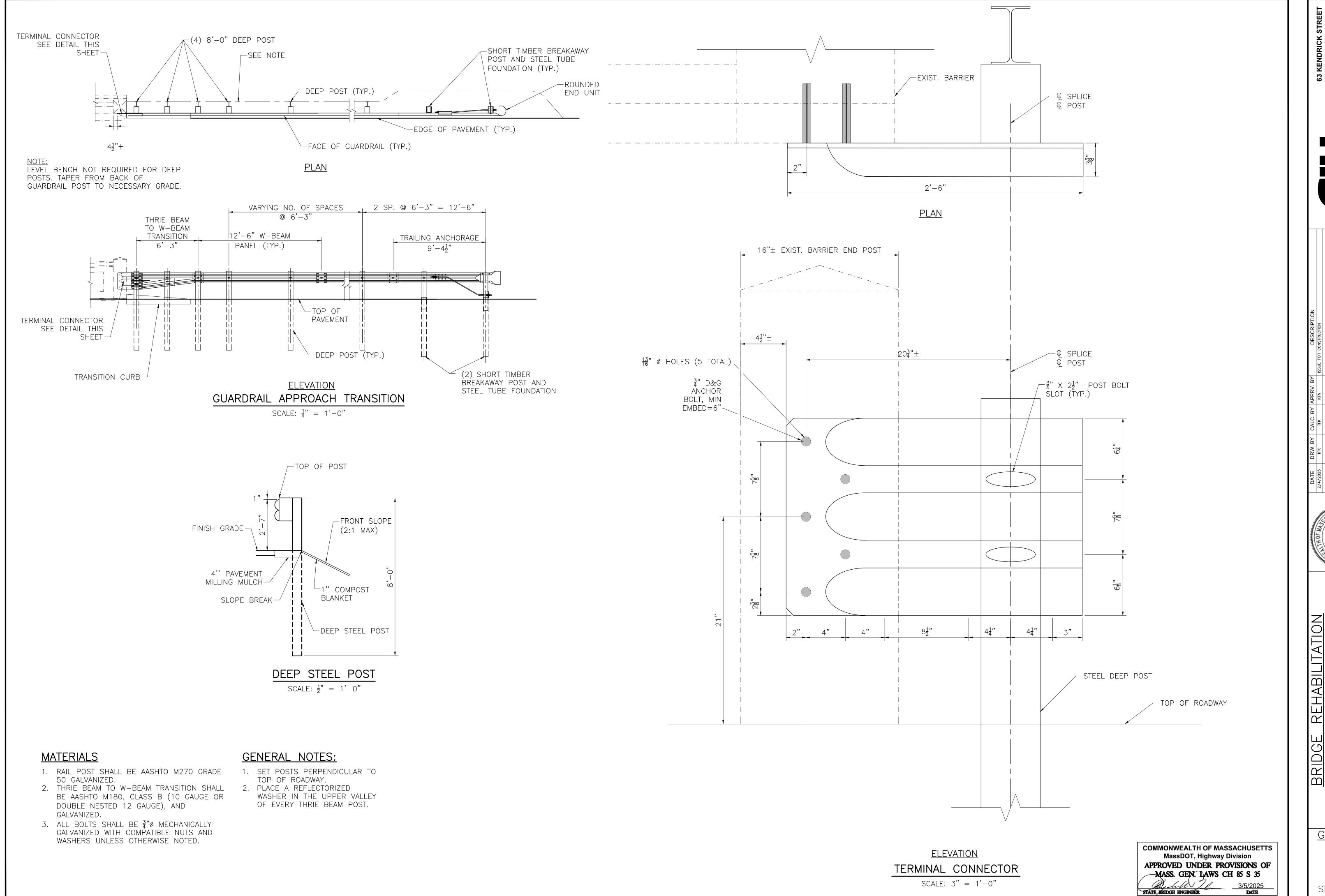
(5FW) BROOK REHABILITATION
OF SHELBURNE 11-011 DRAGON

OF TOWN BRIDGE

BRIDGE REHABILITATION FOR S-SHELBURNE CENTER ROAD OVER

STRUCTURE <u>REPAIR</u> DETAILS 2 of

SHEET 8 OF



DESCRIPTION
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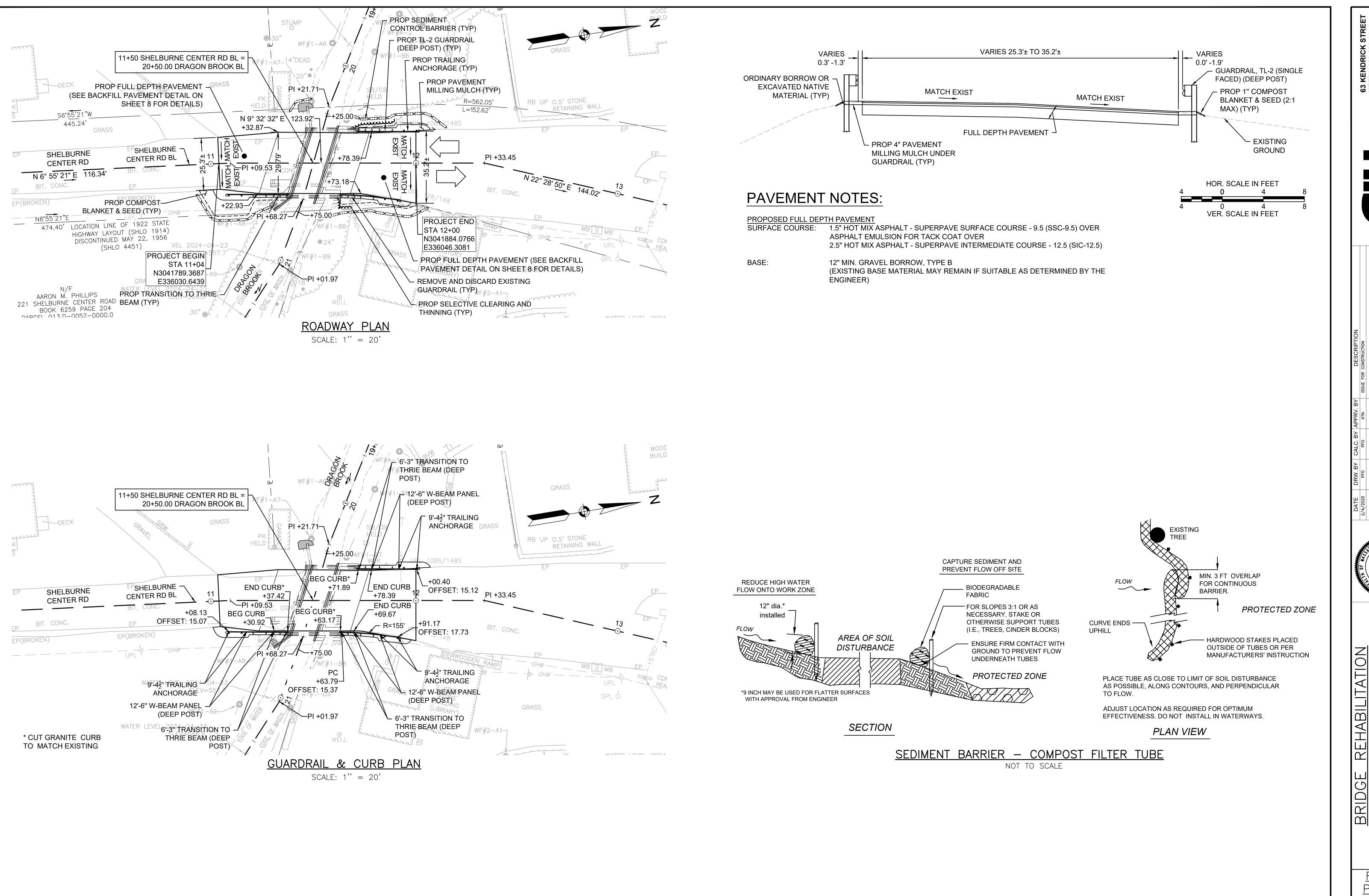
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BRIDGE REHABILITATION F SHELBURNE CENTER ROAD

GUARDRAIL DETAILS

SHEET 9 OF 11



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(5FW) BROOK 11-011 DRAGON BURNE SHEL R S S REHABILITATION F NE CENTER ROAD \circ

TOWN

BRIDGE HELBURN ROADWAY PLAN AND **TYPICAL**

SECTION SHEET 10 OF 11

