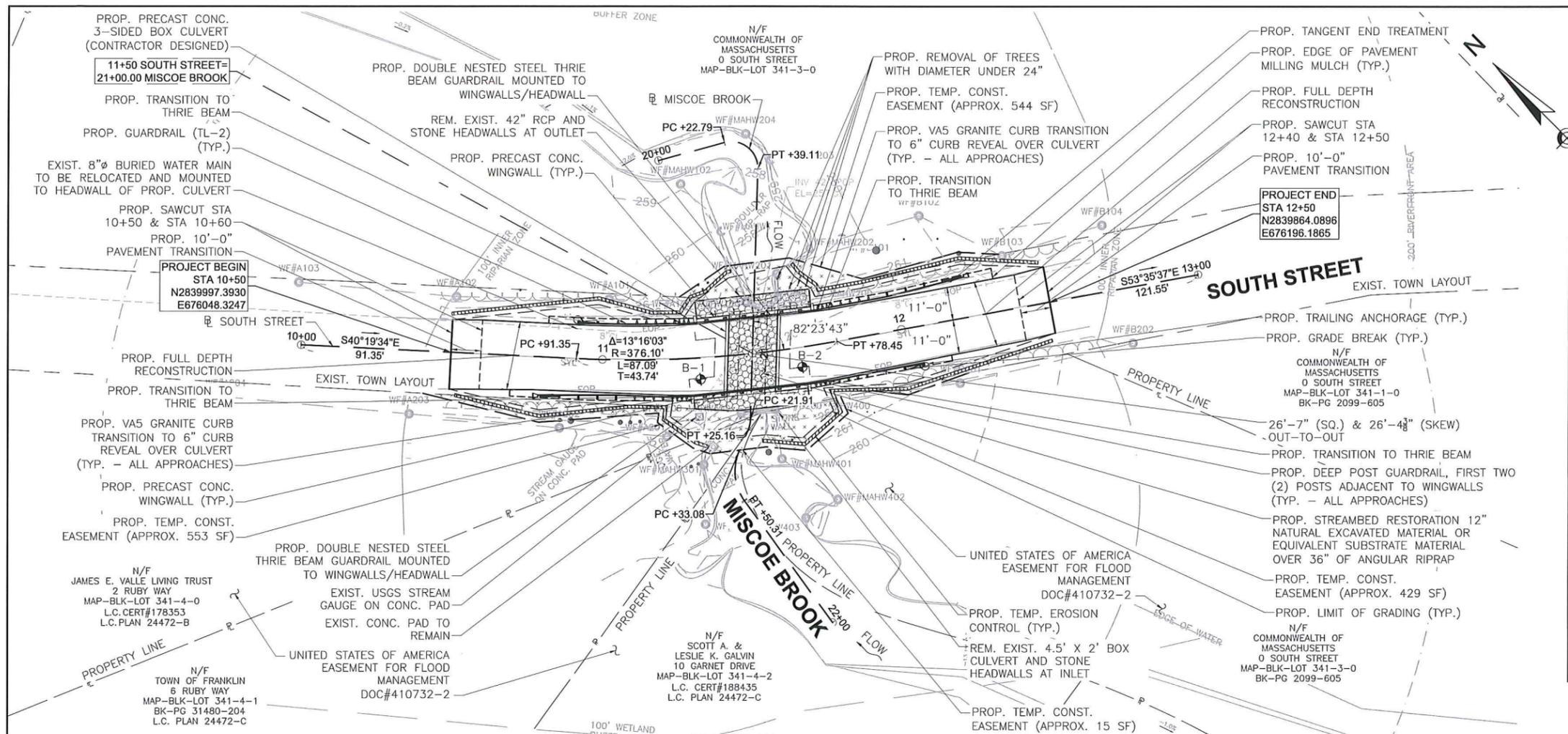
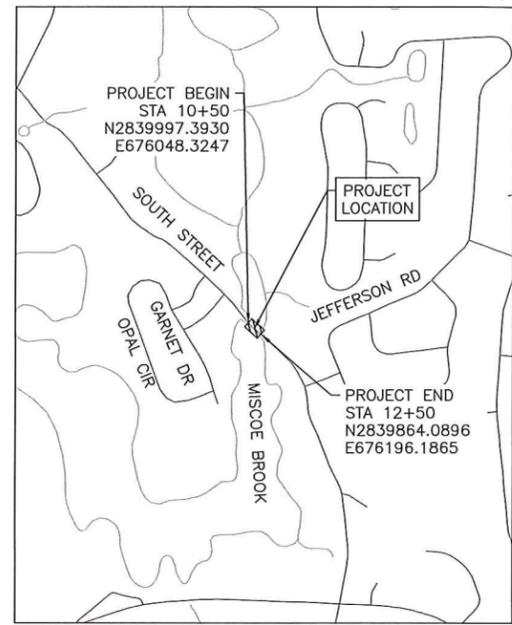


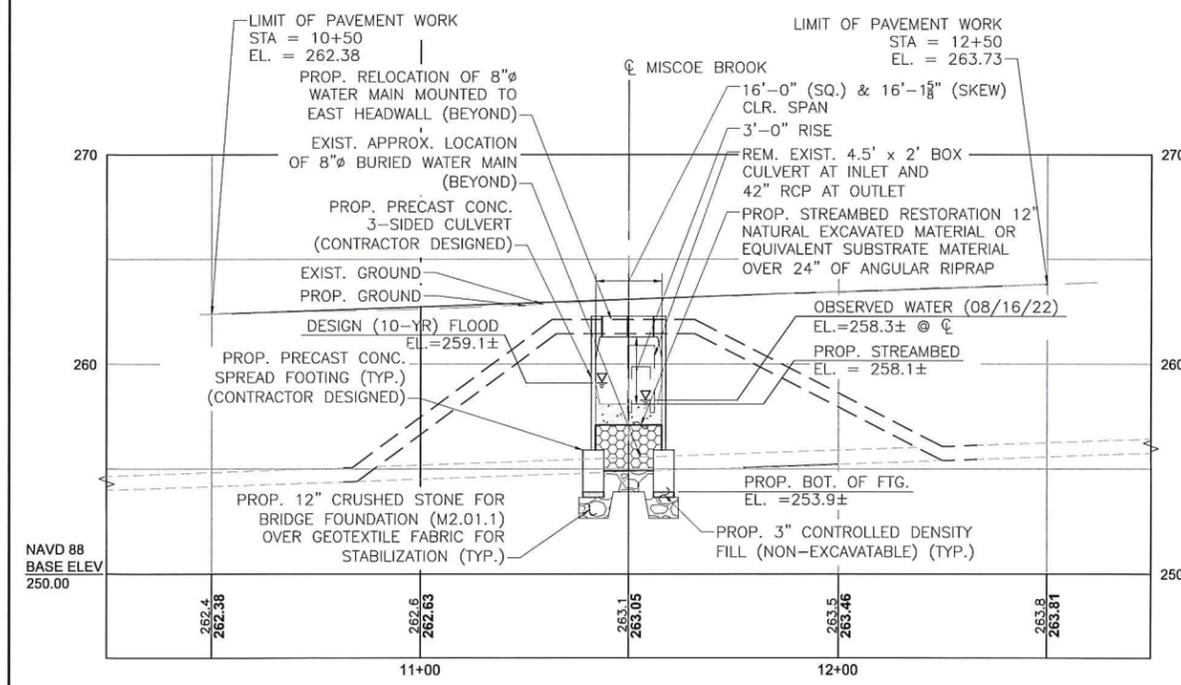
PROJECT INFORMATION	
PROJECT FILE NO.:	T1406
PROJECT DESCRIPTION:	CULVERT REPLACEMENT
BRIDGE DESIGN LOADING:	HL-93
SURVEY:	ELECTRONIC SURVEY BY HANCOCK ASSOCIATES
ELEVATION REFERENCE:	NAVD OF 1988
BENCH MARK:	BENCHMARK, SET IN N/W CORNER CONC. PAD



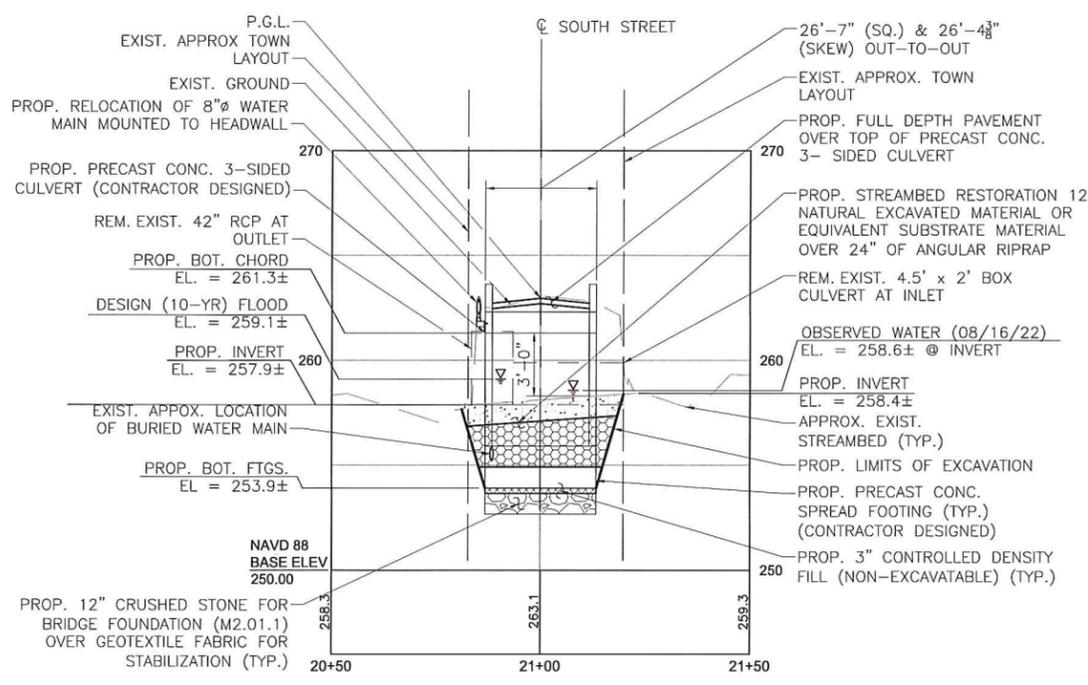
KEY PLAN
SCALE: 1" = 20'



LOCUS
SCALE: 1" = 1000'



SOUTH STREET PROFILE
VERTICAL SCALE: 1" = 4'
HORIZONTAL SCALE: 1" = 20'



MISCOCO BROOK PROFILE
VERTICAL SCALE: 1" = 4'
HORIZONTAL SCALE: 1" = 20'

TEC
The Engineering Corp
TEC, INC.
282 MERRIMACK STREET
LAWRENCE, MA 01843



SKETCH PLANS OF
CULVERT REPLACEMENT
FRANKLIN
SOUTH STREET OVER
MISCOCO BROOK

APPROVED BY _____ DATE _____

STRUCTURAL ELEMENTS: _____

TITLE: _____

HIGHWAY ELEMENTS: _____

TITLE: _____

GENERAL NOTES

DESIGN:

IN ACCORDANCE WITH THE 2020 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS, FOR HL-93 LOADING. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH MASSDOT 2023 STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.

CHAPTER 85 SECTION 35 REVIEW AND APPROVAL:

IN ACCORDANCE AND COMPLIANCE WITH THE REQUIREMENTS OF CHAPTER 85 SECTION 35 OF THE MASSACHUSETTS GENERAL LAWS, THE CONTRACTOR SHALL SUBMIT TO THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION ALL CONSTRUCTION DRAWINGS AND DESIGN CALCULATIONS THAT SHALL BE USED TO FABRICATE AND CONSTRUCT THE STRUCTURE DENOTED ON THESE PLANS FOR REVIEW AND APPROVAL. THIS APPROVAL SHALL CONSTITUTE THE FINAL APPROVAL AS STIPULATED BY CHAPTER 85 SECTION 35 OF THE MASSACHUSETTS GENERAL LAWS.

SURVEY BENCHMARKS:

BENCHMARK: HYDRANT-BOLT OVER MAIN OUTLET
N2840122.6163'
E675964.1531'
EL. = 264.95'

BENCHMARK: N/W CORNER CONCRETE PAD
N2839924.4941'
E676088.8582'
EL. = 263.57'

BENCHMARK: HYDRANT-BOLT OVER MAIN OUTLET
N2839706.4990'
E676397.7938'
EL. = 269.53'

DATE:

TO BE PLACED ON THE OUTSIDE FACE OF BOTH HEADWALLS. A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. THE DATE USED SHALL BE THE LATEST YEAR OF CONTRACT COMPLETION AS OF THE DATE THE FIRST HEADWALL IS CONSTRUCTED. BOTH HEADWALLS SHALL FEATURE THE SAME DATE.

SURVEY NOTES:

1. THE HORIZONTAL DATUM FOR THIS SURVEY IS THE MASSACHUSETTS COORDINATE SYSTEM, NAD 1983, MAINLAND ZONE. THE VERTICAL DATUM FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). SAID DATUMS WERE ESTABLISHED VIA GPS OBSERVATIONS UTILIZING REALIZATION NAD83(2011) AND GEOID 12A.
2. THE LIMIT OF BORDERING VEGETATED WETLANDS SHOWN HEREON WAS DELINEATED BY HANCOCK ASSOCIATES ON SEPTEMBER 28, 2022.
3. THIS PLAN IS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY HANCOCK ASSOCIATES IN OCTOBER 2022.
4. ABUTTING PROPERTY LINES HAVE BEEN COMPILED FROM RECORD INFORMATION.
5. AT THE TIME OF THE SURVEY, PORTIONS OF MISCOE BROOK ON THE SOUTHERLY SIDE OF SOUTH STREET WERE FLOODED DUE TO PARTIAL DAMMING OF THE STREAM BY LOCAL WILDLIFE.

EXISTING CONDITIONS:

ALL DIMENSIONS AND DETAILS SHOWN FOR THE EXISTING STRUCTURE 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 FOR THE ADEQUACY AND ACCURACY THEREOF, AND NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION OR WORK UNTIL HE/SHE HAS MADE THE REQUIRED MEASUREMENTS ON THE ACTUAL STRUCTURE AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

FOUNDATIONS:

FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH THE APPROVAL OF THE ENGINEER.

UNSUITABLE MATERIAL:

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE ENGINEER.

ANCHOR BOLTS:

ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE BEFORE THE CONCRETE IS PLACED.

CONCRETE

THE FOLLOWING CONCRETE MIXES ARE TO BE USED:

5000 PSI, 3/4 INCH, 685 HP CEMENT CONCRETE SHALL BE USED FOR PRECAST CULVERT, PRECAST HEADWALL, PRECAST WINGWALLS, AND PRECAST CULVERT FOOTINGS.

REINFORCEMENT:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 GRADE 60. ALL REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITION

	#4 BARS	#5 BARS	#6 BARS
1. NONE	16"	19"	23"
2. 12" OF CONCRETE BELOW BARS	20"	25"	30"
3. COATED BARS, COVER<3db, OR CLEAR SPACING<6db	23"	29"	34"
4. COATED BARS, ALL OTHER CASES	18"	23"	27"
5. CONDITION 2. AND 3.	26"	32"	39"
6. CONDITION 2. AND 4.	24"	30"	36"

IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE. ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

TRAFFIC:

THE BRIDGE WILL BE CLOSED TO VEHICULAR TRAFFIC DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION. VEHICULAR TRAFFIC WILL BE DETOURED AS SHOWN ON THE PLANS.

UTILITIES:

DURING CONSTRUCTION, THE CONTRACTOR SHALL LOCATE AND PROTECT FROM DAMAGE ALL UTILITIES THAT ARE TO REMAIN. ANY TEMPORARY UTILITY SUPPORTS OR UTILITY RELOCATIONS REQUIRED AND SHOWN ON THE CONSTRUCTION DRAWINGS SHALL BE COORDINATED WITH THE ENGINEER.

CONTROL OF WATER SYSTEM:

CONTROL OF WATER SYSTEM SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL, PER ITEM 991.1. THE FINAL LOCATION SHALL BE DETERMINED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE TOWN.

TRAFFIC DATA		
	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	--	N/A
AVERAGE DAILY TRAFFIC - PRESENT	--	N/A
AVERAGE DAILY TRAFFIC - DESIGN YEAR	--	N/A
DESIGN HOURLY VOLUME	--	N/A
DIRECTIONAL DISTRIBUTION	--	N/A
TRUCK PERCENTAGE - AVERAGE DAY	--	N/A
TRUCK PERCENTAGE - PEAK HOUR	--	N/A
DESIGN SPEED	--	N/A
DIRECTIONAL DESIGN HOURLY VOLUME	--	N/A

SEISMIC DESIGN CRITERIA	
DESIGN RETURN PERIOD:	1000
DESIGN SPECTRA	
As	0.078g
SDs	0.156 g
SD1	0.061 g
SITE CLASS	C
SEISMIC DESIGN CATEGORY (SDC)	High A

HYDRAULIC DESIGN DATA	
DRAINAGE AREA (SQ. MILES)	1.14
DESIGN FLOOD DISCHARGE (C.F.S.)	69.8
DESIGN FLOOD FREQUENCY (YEARS)	10
DESIGN FLOOD VELOCITY (F.P.S.)	3.2
DESIGN FLOOD ELEVATION (FEET, NAVD)	259.1
BASE (100-YEAR) FLOOD DATA	
BASE FLOOD DISCHARGE (C.F.S.)	137
BASE FLOOD ELEVATION (FEET, NAVD)	263.0
DESIGN AND CHECK SCOUR DATA	
DESIGN SCOUR FLOOD EVENT RETURN FREQUENCY (YEARS)	25
DESIGN FLOOD ABUTMENT SCOUR DEPTH (FEET)	1.6
DESIGN FLOOD PIER SCOUR DEPTH (FEET)	0.3
CHECK SCOUR FLOOD EVENT RETURN FREQUENCY (YEARS)	50
CHECK FLOOD ABUTMENT SCOUR DEPTH (FEET)	2.9
CHECK FLOOD PIER SCOUR DEPTH (FEET)	0.3
FLOOD OF RECORD	
DISCHARGE (C.F.S.)	UNKNOWN
FREQUENCY (IF KNOWN, YEARS)	UNKNOWN
MAXIMUM ELEVATION (FEET, NAVD)	UNKNOWN
DATE (MM/YYYY)	UNKNOWN
HISTORY OF ICE FLOES	NO
EVIDENCE OF SCOUR AND EROSION	NO

BORING B-1 TEST BORING LOG

		Project: Miscos Brook Culvert Franklin, MA Project No: 22.133.NH Date Start: 08-23-22 Date End: 08-23-22		Sheet 1 of 1 Boring No: B-1 Location: See Notes Approx. Surface Elev: 261'								
100 Sheffield Road - Manchester, NH 03103 Ph. (603) 668-6016 - Fax: (603) 668-8641												
GROUNDWATER OBSERVATIONS												
Type	CASING	SAMPLER	Date	Depth	Stabilization Period							
Size	HSA	SS	08-23-22	5'	Upon Completion							
Hammer		140 lbs.										
Fall		30"										
Depth/Elev.	Cas b/ft	Sample No.	Depth Range	Pen.	Rec.	0-6"	6-12"	12-18"	18-24"	Strata Change	Sample Description	Notes
0 - 261		-	0.0-0.4	5							- 5" Asphalt	
		S-1	0.6-2.0	17	12		9/5"	13	15		S-1: Brown, fine to coarse sand, little gravel, little silt (FILL)	B
		S-2	2.0-4.0	24	7	12	20	21	31		S-2: Brown, fine to coarse sand, little gravel, little silt (rock fragment in bottom 2" of sample) (FILL)	
4 - 257		S-3	4.0-5.0	12	7	9	13				S-3: Dark brown/black, fine to coarse sand, some organic silt, trace gravel (FILL)	
		S-3A	5.0-6.0	12	4			11	9		S-3A: Gray, fine sand, some silt, trace gravel, wet (rock in tip of split-spoon)	
8 - 253												
		S-4	9.0-11.0	24	15	5	14	13	10		S-4: Red, fine to medium sand, some silt, little gravel and coarse sand, wet	
12 - 249												
		S-5	14.0-16.0	24	15	17	35	23	21		S-5: Red, fine to medium sand, trace gravel, trace silt	
16 - 245												
		S-6	19.0-19.5	6	4	64					S-6: Red, fine to medium sand, trace gravel, trace silt Auger Refusal at 23.5'	
20 - 241												
24 - 237												
BORING TERMINATED AT 23.5 ft												
Driller: R. Marcoux Helper: J. Donahue Inspector: T. Young		COHESIVE CONSISTENCY (Blows/Feet) 0-2 VERY SOFT 2-4 SOFT 4-8 MEDIUM STIFF 8-15 STIFF 15-30 HARD		COHESIONLESS (Blows/Feet) 0-4 VERY LOOSE 4-10 LOOSE 10-30 MEDIUM DENSE 30-50 DENSE 50+ VERY DENSE		PROPORTIONS USED TRACE: 0-10% LITTLE: 10-20% SOME: 20-35% AND: 35-50%						
NOTES: 42°02'27.16"N 71°25'35.70"W		REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL. WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.										

EXIST. GROUND SURFACE
EL = 261.0±

OBSERVED GROUNDWATER (08/23/22)
EL = 256.0±

PROP. BOT. OF FOOTING
EL = 253.9±

BORING B-2 TEST BORING LOG

		Project: Miscos Brook Culvert Franklin, MA Project No: 22.133.NH Date Start: 08-23-22 Date End: 08-23-22		Sheet 1 of 1 Boring No: B-2 Location: See Notes Approx. Surface Elev: 261'								
100 Sheffield Road - Manchester, NH 03103 Ph. (603) 668-6016 - Fax: (603) 668-8641												
GROUNDWATER OBSERVATIONS												
Type	CASING	SAMPLER	Date	Depth	Stabilization Period							
Size	HSA	SS	08-23-22	5'	Upon Completion							
Hammer		140 lbs.										
Fall		30"										
Depth/Elev.	Cas b/ft	Sample No.	Depth Range	Pen.	Rec.	0-6"	6-12"	12-18"	18-24"	Strata Change	Sample Description	Notes
0 - 261		-	0.0-0.4	5							- 6" Asphalt	
		S-1	0.5-2.0	18	8		8	13	17		S-1: Brown, fine to coarse sand, some gravel, little silt (FILL)	
		S-2	2.0-4.0	24	13	12	22	23	35		S-2: Brown, fine to coarse sand, some gravel, little silt (FILL)	
4 - 257		S-3	4.0-5.0	12	3	8	2	23			S-3: Brown, fine to coarse sand, some gravel, little silt (FILL)	
		S-3A	5.0-5.5	6	3			44			S-3A: Dark brown/black, fine to coarse sand, some organic silt, little gravel (FILL)	
		S-3B	5.5-6.0	6	1				15		S-3B: Gray, fine to coarse sand, some gravel, trace silt (rock in top of split-spoon)	
8 - 253												
		S-4	9.0-11.0	24	9	20	11	7	6		S-4: Red, fine to medium sand, some silt, trace gravel	
12 - 249												
		S-5	14.0-14.3	3	0	50/0"					S-5: No recovery Auger Refusal at 14.5' BORING TERMINATED AT 14.5 ft	
16 - 245												
20 - 241												
24 - 237												
BORING TERMINATED AT 14.5 ft												
Driller: R. Marcoux Helper: J. Donahue Inspector: T. Young		COHESIVE CONSISTENCY (Blows/Feet) 0-2 VERY SOFT 2-4 SOFT 4-8 MEDIUM STIFF 8-15 STIFF 15-30 HARD		COHESIONLESS (Blows/Feet) 0-4 VERY LOOSE 4-10 LOOSE 10-30 MEDIUM DENSE 30-50 DENSE 50+ VERY DENSE		PROPORTIONS USED TRACE: 0-10% LITTLE: 10-20% SOME: 20-35% AND: 35-50%						
NOTES: 42°02'27.06"N 71°25'35.55"W		REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITION MAY BE GRADUAL. WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF THE GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.										

EXIST. GROUND SURFACE
EL = 261.0±

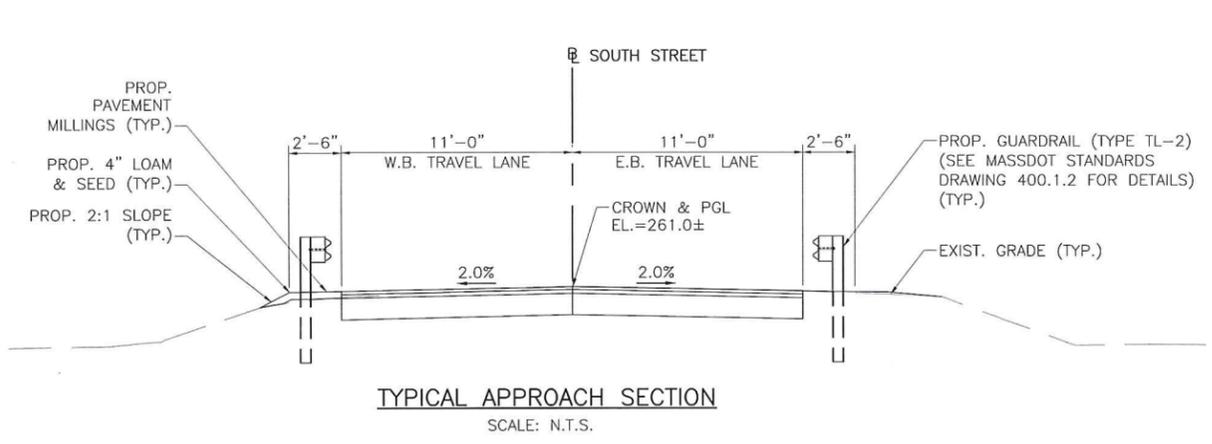
OBSERVED GROUNDWATER (08/23/22)
EL = 256.0±

PROP. BOT. OF FOOTING
EL = 253.9±

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE PLAN THUS: ↗
2. BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE 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 2" O.D. SPLIT SPOON SAMPLER USING A 140 POUND WEIGHT FALLING 30".
5. ALL BORINGS WERE MADE IN AUGUST OF 2022 BY MILLER ENGINEERING & TESTING, INC.
6. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.

T:\06_BORINGS\BORINGS.DWG
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 Preliminary Design Plans



PAVEMENT NOTES:

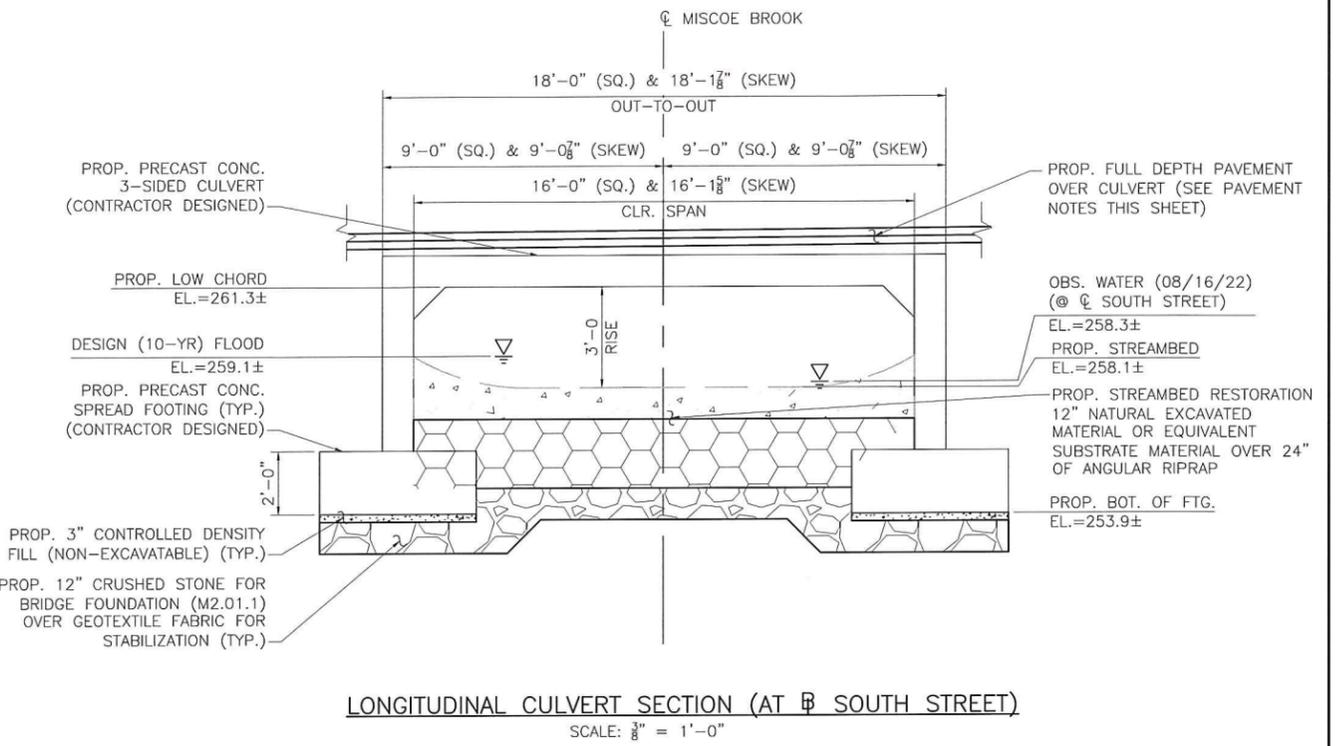
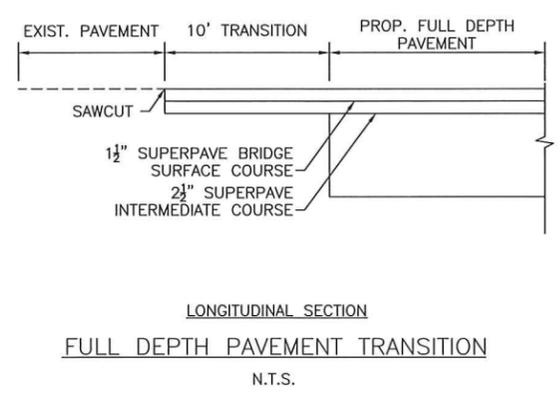
PROPOSED FULL DEPTH PAVEMENT OVER CULVERT:
SURFACE: 1½" SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5) OVER 2½" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC - 12.5) OVER

SUBBASE: VARIABLE DEPTH GRAVEL FOR BACKFILLING STRUCTURES & PIPES.

PROPOSED FULL DEPTH PAVEMENT:
SURFACE: 1½" SUPERPAVE BRIDGE SURFACE COURSE - 9.5 (SSC-B-9.5) OVER 2½" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC - 12.5) OVER

SUBBASE: 12" GRAVEL BORROW, TYPE B OVER GRAVEL BURROW OR EXISTING MATERIAL MEETING TYPE B SPECIFICATIONS

PROPOSED PAVEMENT MILLING TRANSITION:
SURFACE: 1½" SUPERPAVE BRIDGE SURFACE COURSE - 9.5 POLYMER (SSC-B-9.5) OVER 2½" PAVEMENT MILLING

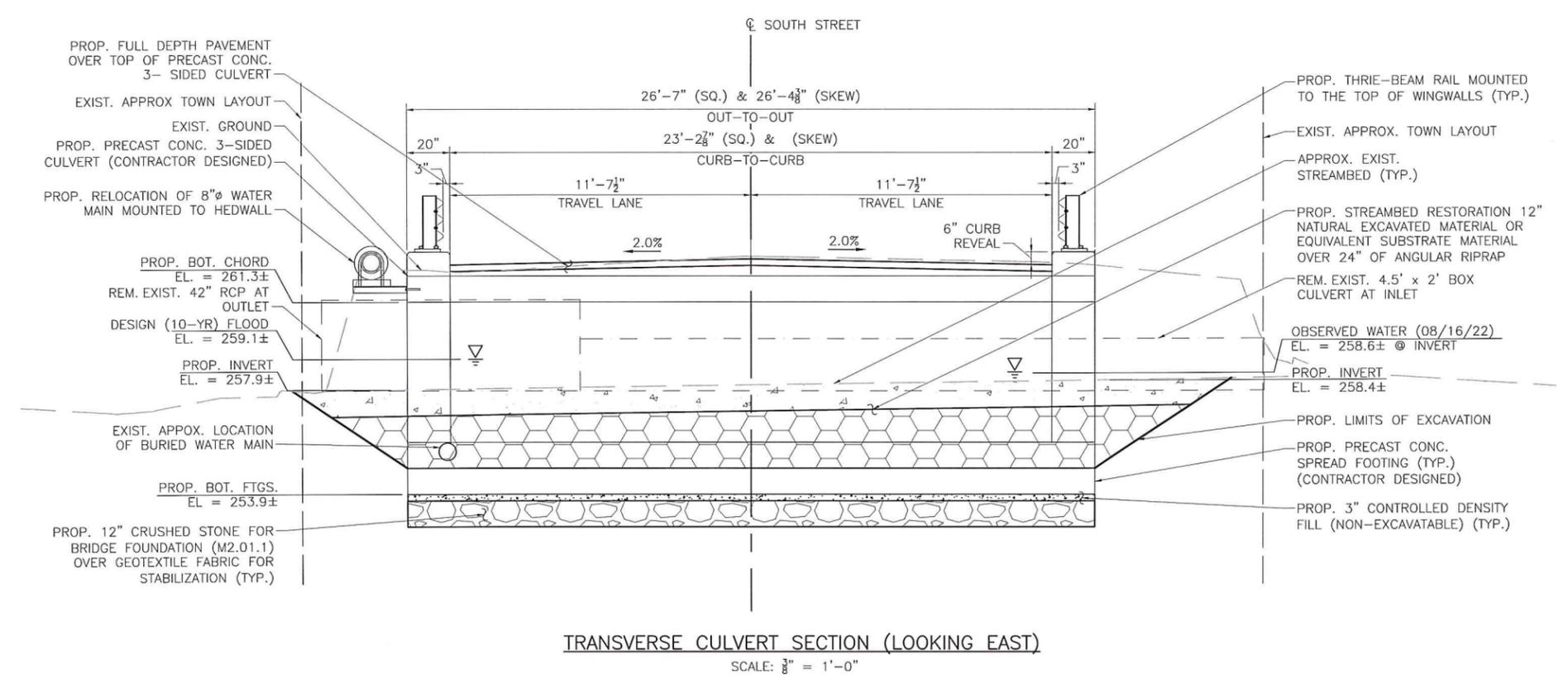


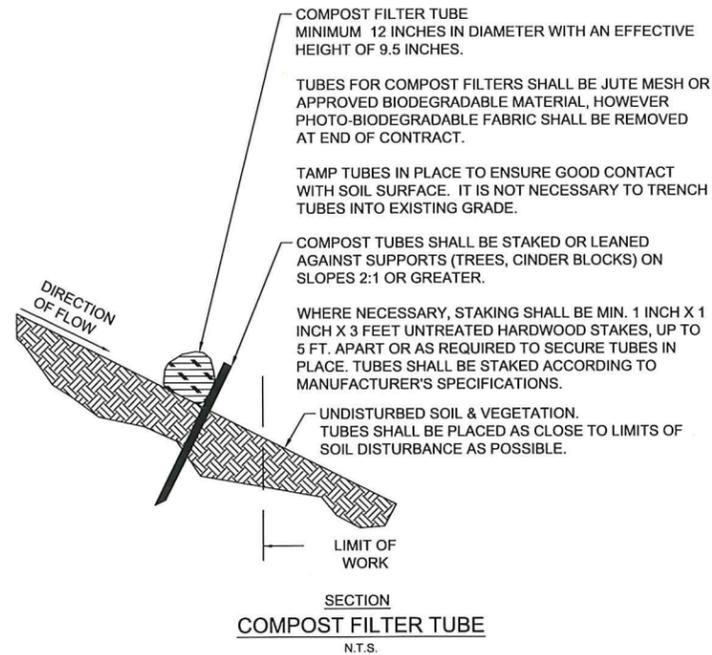
PRECAST CONCRETE CULVERT NOTES:

1. CONTRACTOR SHALL SUBMIT PRECAST CONCRETE 3-SIDED BOX CULVERT AND FOOTING DESIGN CALCULATIONS AND SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS FOR APPROVAL PRIOR TO FABRICATION. PRESCRIBED HYDRAULIC OPENING (16'x3') SHALL BE MAINTAINED.
2. ALL CULVERT AND CULVERT FOOTING CONCRETE SHALL BE 5000 PSI, 3/4", 685 HP CEMENT CONCRETE.
3. THE CONTRACTOR SHALL APPROVE ALL ELEVATIONS AND DIMENSIONS OF THE SHOP DRAWINGS PRIOR TO FABRICATION. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
4. REINFORCEMENT SHALL BE PLACED WITH A MINIMUM OF 1½" COVER.
5. ALL CULVERT REINFORCEMENT SHOWN IS CONCEPTUAL FOR BIDDING PURPOSES. THE CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS AS PART OF THE SHOP DRAWINGS.
6. DESIGN SHALL BE IN ACCORDANCE WITH THE 2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR HL-93 LOADING.
7. A FACTORED BEARING RESISTANCE OF 14.6 KSF SHALL BE USED IN THE DESIGN OF THE CULVERT FOOTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUBGRADE PREPARATION SUCH THAT THE DESIGN BEARING CAPACITY SHALL BE ACHIEVED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF THIS BEARING CAPACITY CANNOT BE MET.

TRANSVERSE SECTION NOTES:

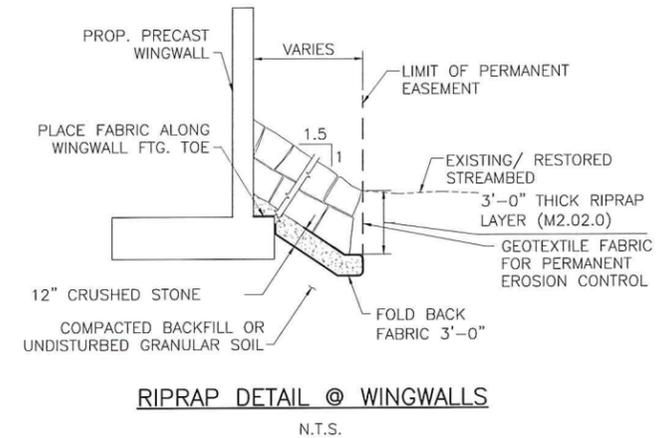
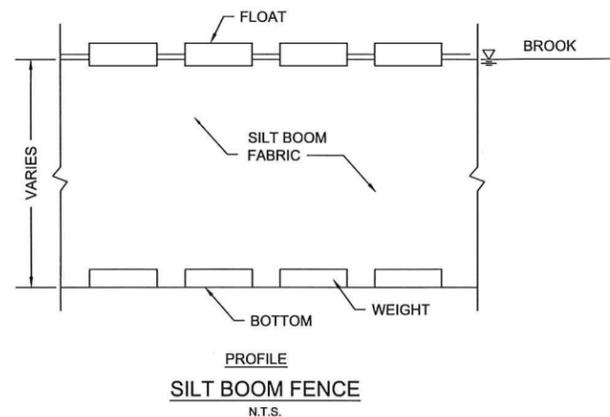
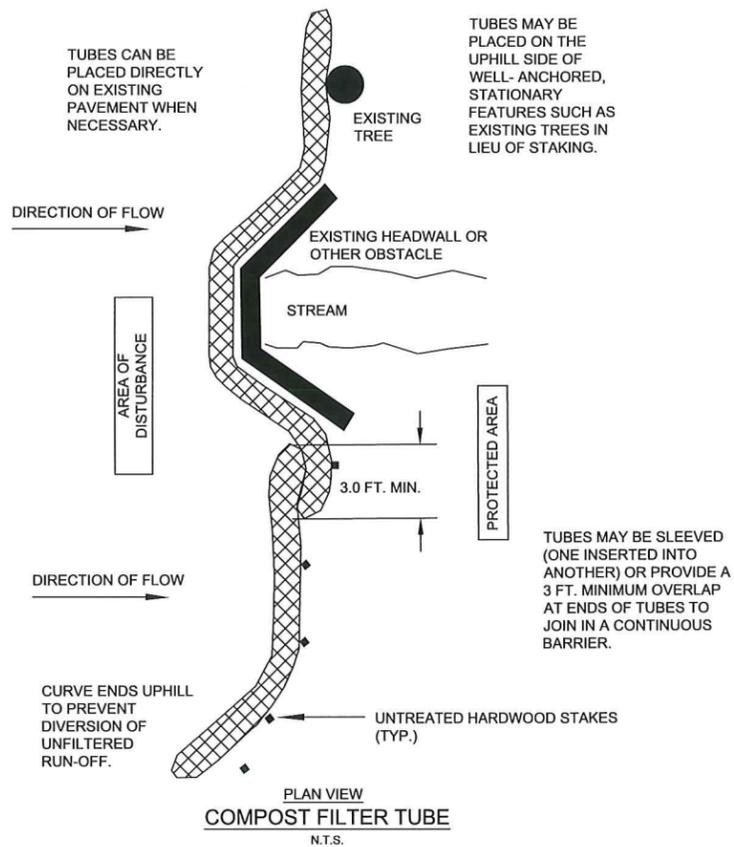
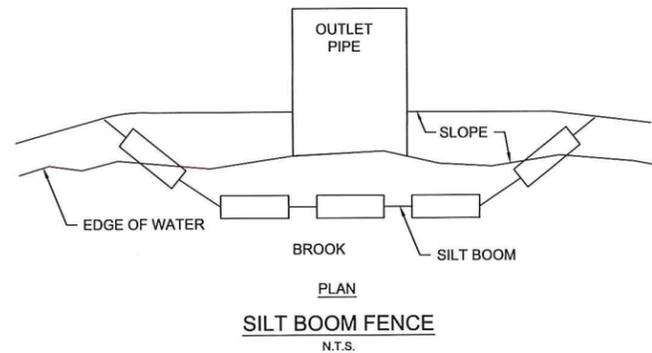
1. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF ALL EXISTING CULVERT INFRASTRUCTURE.
2. THE PROPOSED ROADWAY ELEVATIONS AND CROSS SLOPES ARE INTENDED TO MATCH EXISTING CONDITIONS. CONTRACTOR SHALL SMOOTHLY TRANSITION ALL PROPOSED ELEMENTS INTO THE EXISTING APPROACHES AND EMBANKMENT SLOPES.



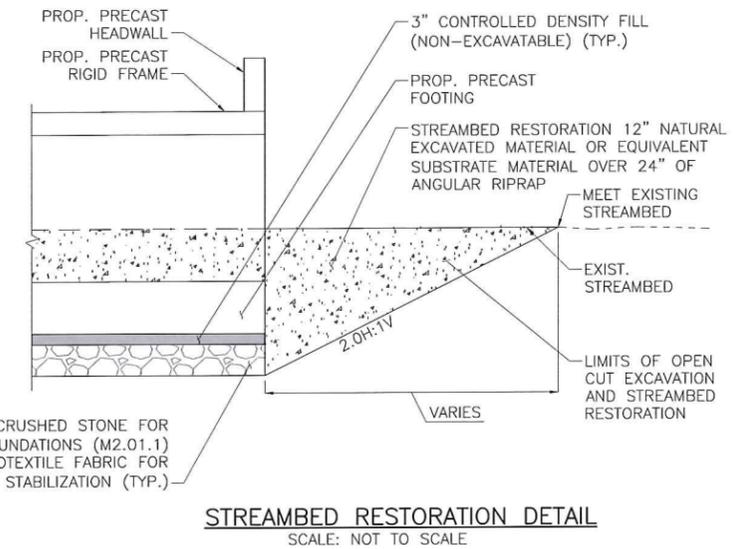


NOTES:

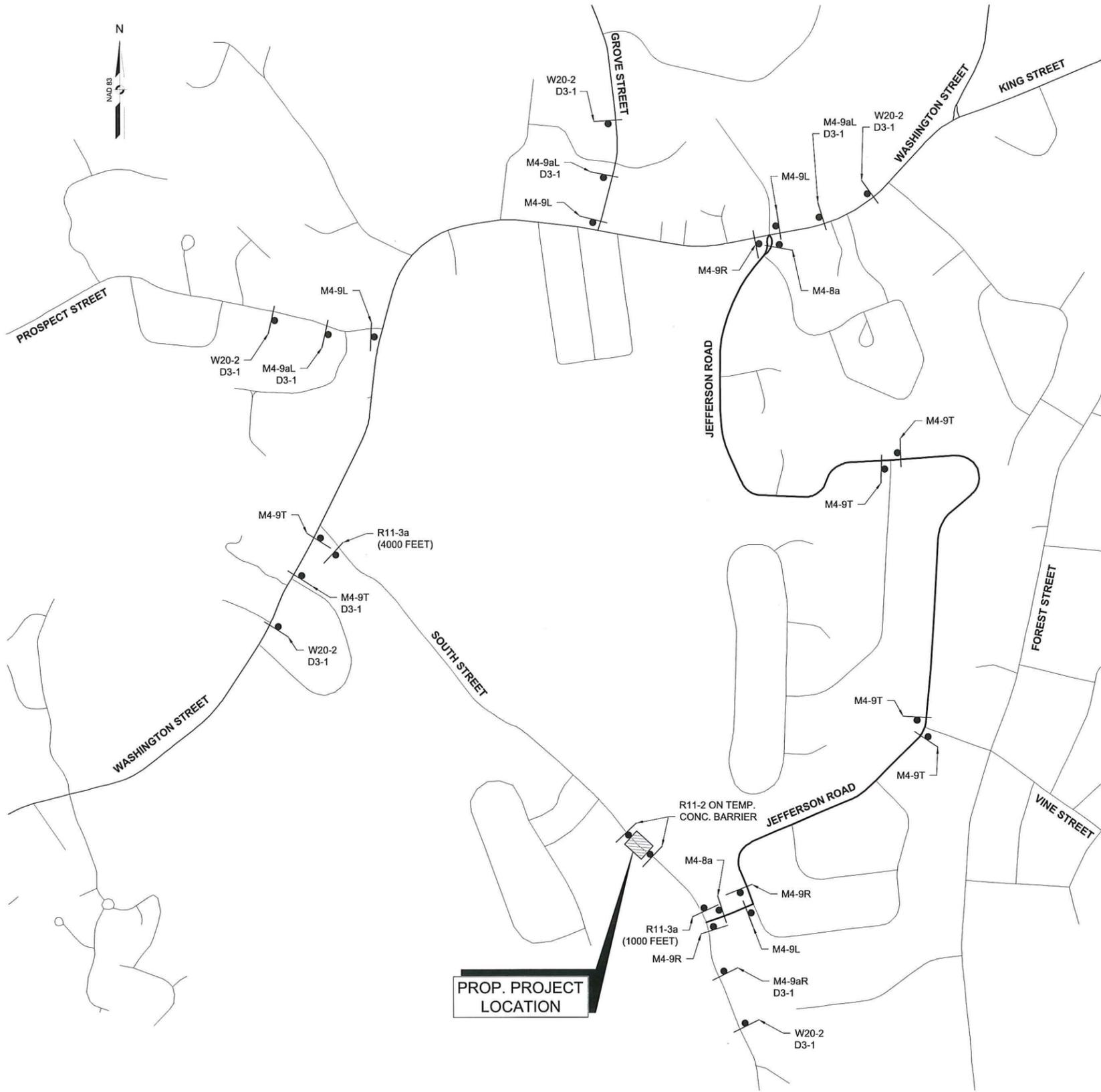
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. TUBE LOCATION MAY BE SHIFTED TO ADJUST TO LANDSCAPE FEATURES, BUT SHALL PROTECT UNDISTURBED AREA AND VEGETATION TO MAXIMUM EXTENT POSSIBLE.
4. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
5. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
6. ADDITIONAL STAKING SHALL BE USED AT THE DIRECTION OF THE ENGINEER.



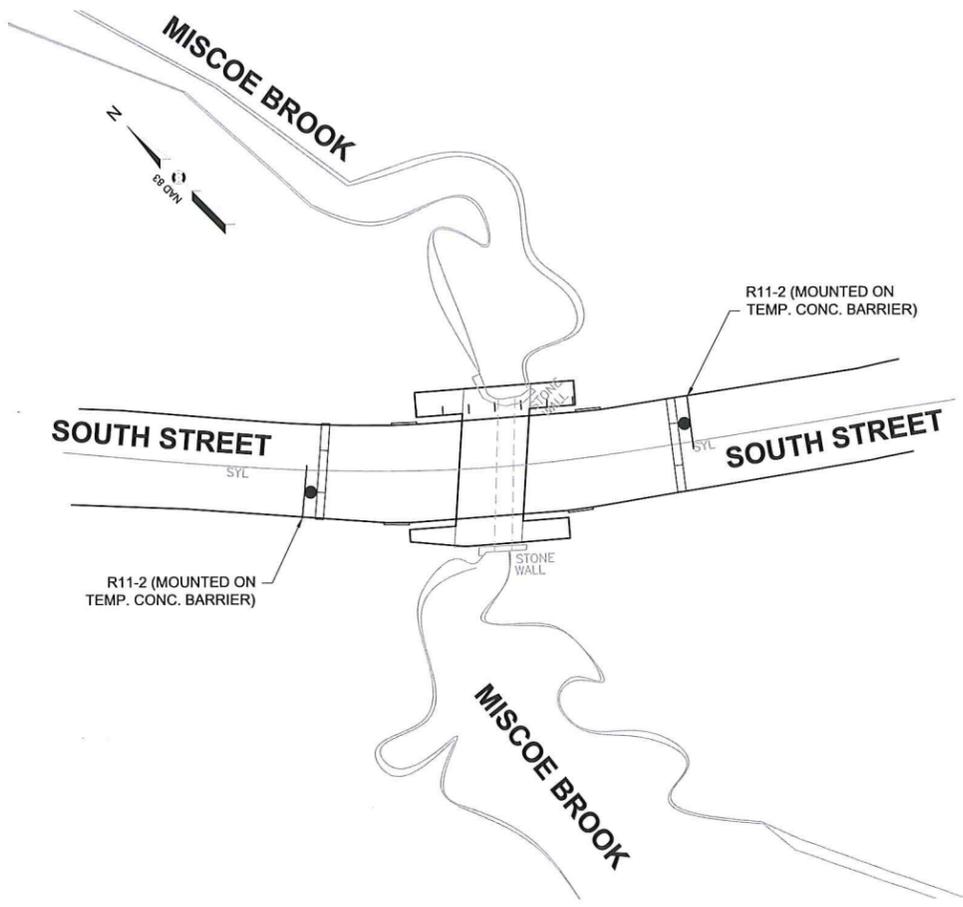
NOTE:
IF BEDROCK IS ENCOUNTERED CLOSER THAN 4'-0" TO FINISHED GRADE, ELIMINATE CRUSHED STONE LAYER AND GEOTEXTILE FABRIC.



STREAMBED RESTORATION DETAIL
SCALE: NOT TO SCALE



DETOUR PLAN & ADVANCED SIGNAGE SCHEMATIC - SOUTH STREET
SCALE: 1" = 500'



SOUTH STREET CLOSURE SET-UP
SCALE: 1" = 20'

GENERAL NOTES:

1. ALL WORK ZONES AND DETOURS ARE ESTABLISHED FOR 24-HOURS A DAY. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
2. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM WITH THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
3. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE M.U.T.C.D.
4. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
7. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS AT THE DISCRETION OF THE ENGINEER.

TRAFFIC SIGN SUMMARY													
IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		LEGEND	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			NUMBER OF SUPPORTS REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACKGROUND	LEGEND	BORDER			
R11-2	48	30			①		2	WHITE	BLACK	BLACK	0 ON TEMP. CONC. BARRIER	10.00	20.00
R11-3a(1000 FEET)	60	30					1	WHITE	BLACK	BLACK	1	12.50	12.50
R11-3a(4000 FEET)	60	30					1	WHITE	BLACK	BLACK	1	12.50	12.50
W20-2	36	36					5	FL. ORANGE	BLACK	BLACK	0 5 W/ D3-1	9.00	45.00
M4-8a	24	18					2	FL. ORANGE	BLACK	BLACK	2	3.00	6.00
M4-9L	30	24					4	FL. ORANGE	BLACK	BLACK	4	5.00	20.00
M4-9aL	30	30					3	FL. ORANGE	BLACK	BLACK	0 3 W/ D3-1	6.25	18.75
M4-9R	30	24					3	FL. ORANGE	BLACK	BLACK	3	5.00	15.00
M4-9aR	30	30					1	FL. ORANGE	BLACK	BLACK	0 1 W/ D3-1	6.25	6.25
M4-9T	30	24					6	FL. ORANGE	BLACK	BLACK	6	5.00	30.00
D3-1	30	24		4D 4D	5.33 5.33 5.33	N/A	10	FL. ORANGE	BLACK	BLACK	4	5.00	50.00

NOTE:

① CONTRACTOR TO FURNISH SIGNS CONSISTENT WITH 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (OR LATEST EDITION). SEE MANUAL FOR TEXT AND LEGEND DIMENSIONS.