

SPRINGFIELD WATER AND SEWER COMMISSION

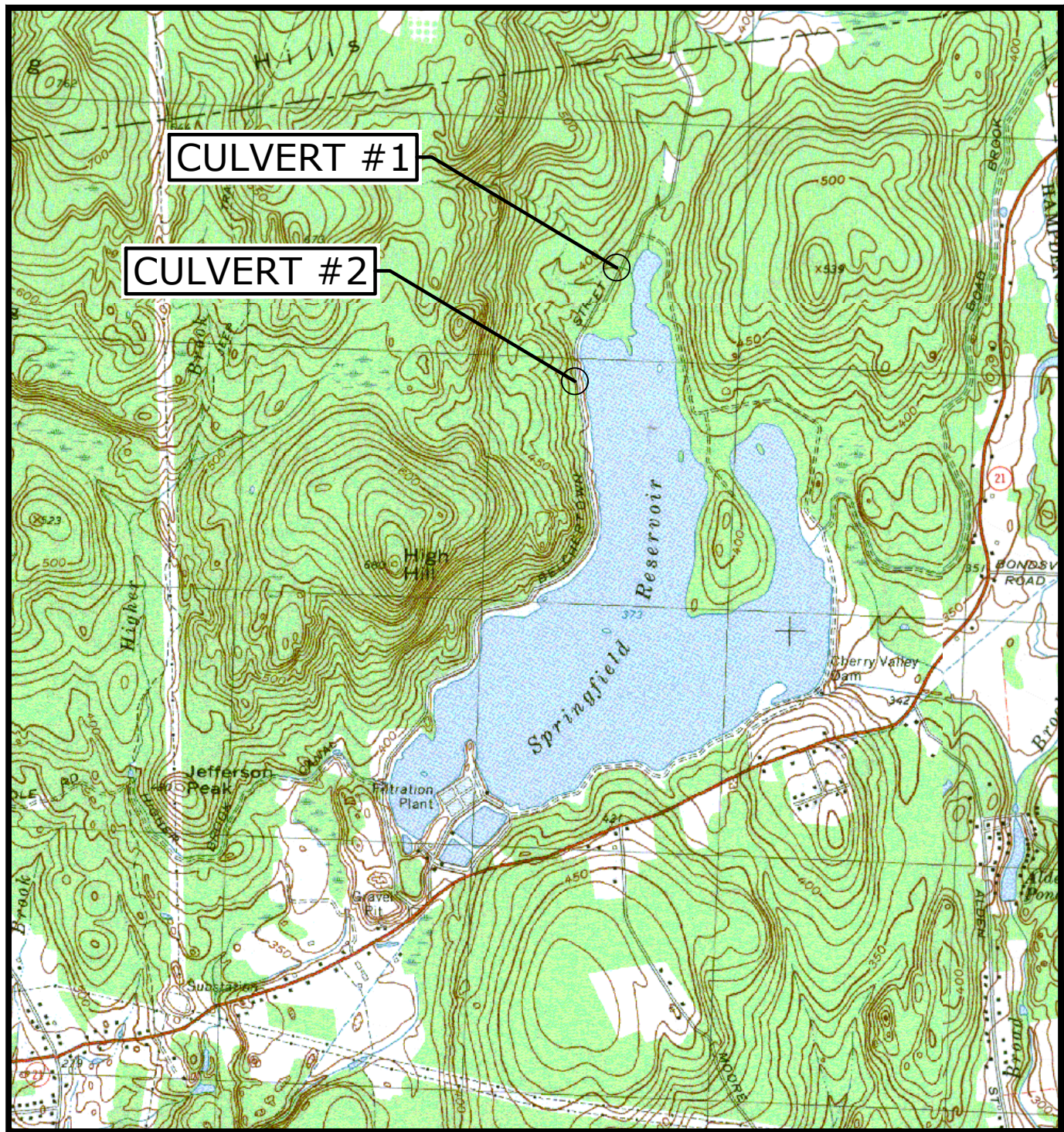
SPRINGFIELD RESERVOIR

CULVERT REPLACEMENT

LUDLOW, MASSACHUSETTS

SEPTEMBER 2026

LIST OF DRAWINGS	
DRAWING NO.	DRAWING TITLE
G-001	COVER SHEET
G-002	LEGEND AND GENERAL NOTES
C-101	EXISTING CONDITIONS PLAN - CULVERT 1
C-102	SITE PREPARATION AND WATER HANDLING PLAN - CULVERT 1
C-103	PROPOSED CONDITIONS PLAN - CULVERT 1
C-104	EXISTING CONDITIONS PLAN - CULVERT 2
C-105	SITE PREPARATION AND WATER HANDLING PLAN - CULVERT 2
C-106	PROPOSED CONDITIONS PLAN - CULVERT 2
C-501	CULVERT DETAILS
C-502	GENERAL DETAILS



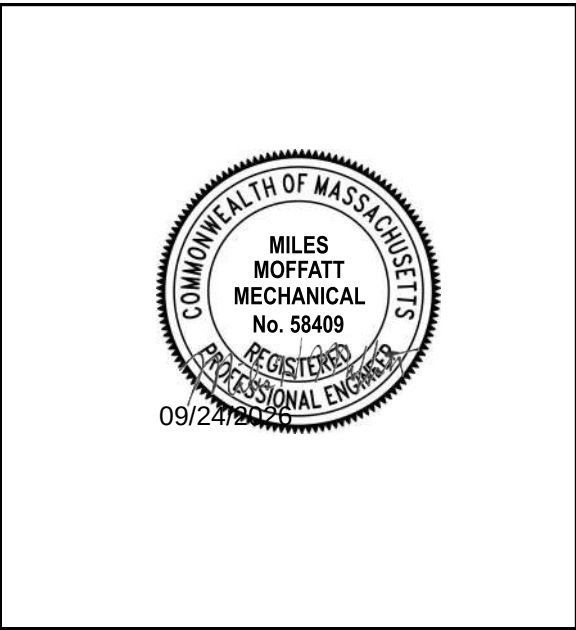
LOCATION MAP
SCALE: 1" = 2000'

PREPARED BY:

Tighe & Bond

PREPARED FOR:

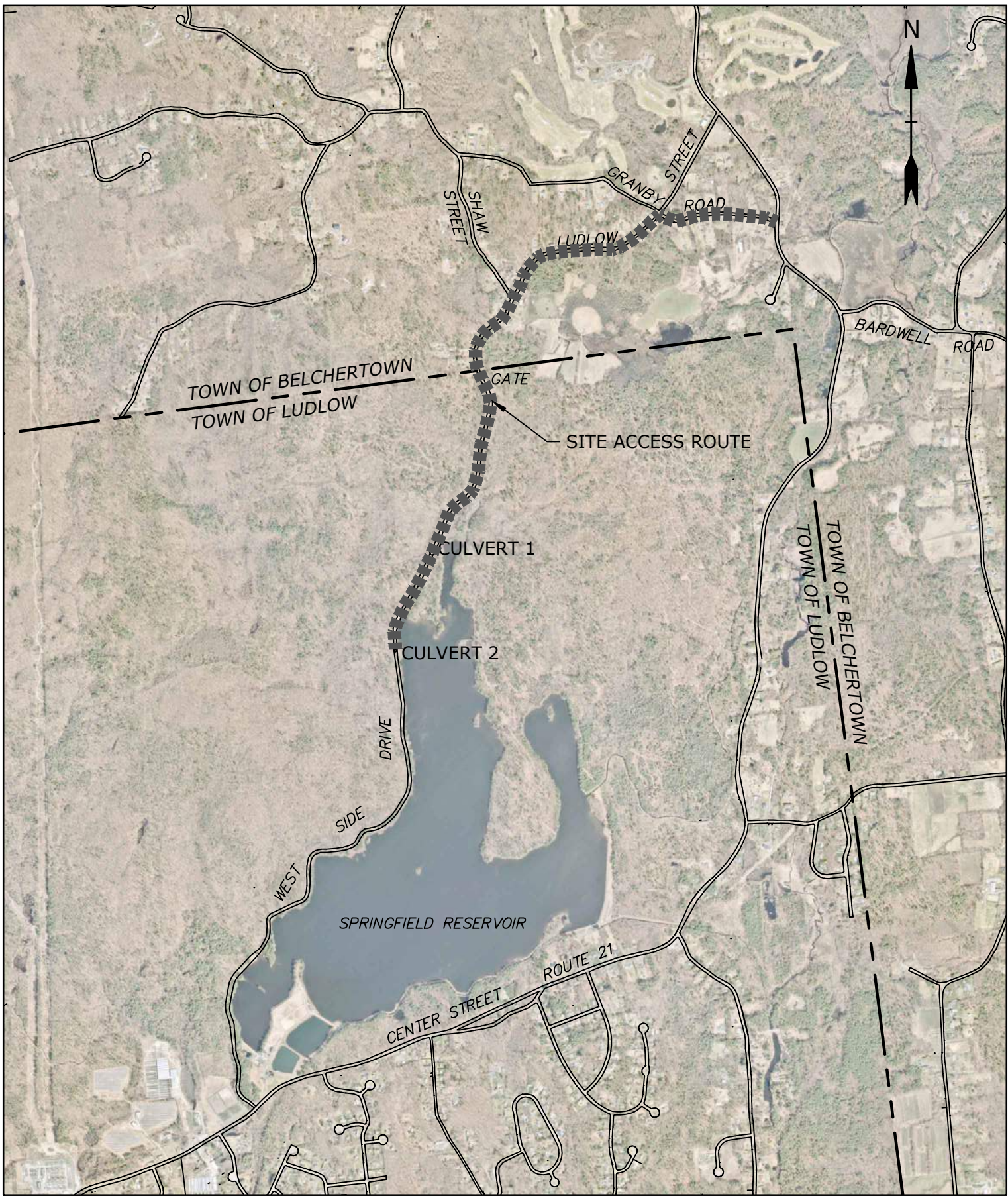
SPRINGFIELD WATER AND
SEWER COMMISSION



MILES H. MOFFATT, PE

COMPLETE SET 10 SHEETS

Last Saved: 9/24/2026
Plotted On: Sep 24, 2026 - 7:50am By: Agordon
Tighe & Bond\313524027_SWS\02 - Ludlow Reservoir Culvert Replacement\Drawings_Figures\AutoCAD\Sheet\3057-062_G-002.dwg



SITE ACCESS PLAN
SCALE 1" = 2000'

GENERAL NOTES:

- EXISTING CONDITIONS WERE DEVELOPED FROM THE DECEMBER 2023 TOPOGRAPHICAL SURVEY TITLED "EXISTING CONDITIONS, WEST SIDE DRIVE, SPRINGFIELD RESERVOIR, PLAN OF LAND IN LUDLOW, MA, PREPARED FOR TIGHE & BOND" BY SHERMAN AND FRYDRYK, A DIVISION OF HANCOCK SURVEY ASSOCIATES, INC.
- NORTH ARROW REFERENCES THE NORTH AMERICAN DATUM OF 1983, MASSACHUSETTS STATE PLANE MAINLAND COORDINATE SYSTEM.
- VERTICAL DATUM REFERENCES NAVD88 VERTICAL DATUM.
- WETLAND RESOURCE AREAS WERE DELINEATED BY A TIGHE & BOND WETLAND SCIENTIST ON DECEMBER 13, 2023, AND LOCATED BY SURVEY.
- LIGHT TEXT AND LINES INDICATE APPROXIMATE EXISTING CONDITIONS. BOLD TEXT AND LINES INDICATE PROPOSED WORK.
- PER MASSACHUSETTS LAW, CALL 1-888-DIG-SAFE, (1-888-344-7233) AND SWSC (413) 310-3501 PRIOR TO ANY UNDERGROUND EXCAVATION ON SITE. THE DIG-SAFE VERIFICATION NUMBER SHALL BE SUBMITTED TO SWSC PRIOR TO ANY EXCAVATION, DEMOLITION, AND REMOVAL OR CONSTRUCTION WORK.
- FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. IF FIELD CONDITIONS ARE OBSERVED THAT VARY SIGNIFICANTLY FROM THOSE SHOWN ON THESE DRAWINGS, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING FOR RESOLUTION OF THE CONFLICTING INFORMATION.
- CONDUCT TEST PITS TO LOCATE EXISTING UTILITIES OR OTHER UNDERGROUND FEATURES AS NECESSARY, AND ONLY AS APPROVED BY OWNER.
- COMPLY WITH OSHA'S LATEST STANDARDS FOR EXCAVATION WORK. FOLLOW ALL REQUIREMENTS OF OSHA'S EXCAVATION STANDARDS INCLUDING, BUT NOT LIMITED TO, THE PROVISION FOR A COMPETENT PERSON ON SITE AND ANY REQUIRED DOCUMENTATION THAT MAY REQUIRE CERTIFICATION BY A PROFESSIONAL ENGINEER.
- ENSURE ALL UTILITIES CONTINUE TO FUNCTION PROPERLY IN THE AREAS UNDER CONSTRUCTION PRIOR TO THE TIME WHEN FINAL SYSTEM IS PUT INTO USE. LEAVE ALL PIPES AND STRUCTURES WITHIN THE LIMITS OF THIS CONTRACT IN A CLEAN AND OPERABLE CONDITION AT THE COMPLETION OF THE WORK. TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SAND AND SILT FROM DISTURBED AREAS FROM ENTERING THE SYSTEM. CONTRACTOR IS RESPONSIBLE FOR DAMAGE SUSTAINED TO ANY EXISTING UTILITIES AND IS RESPONSIBLE FOR REPAIRS THAT COMPLY WITH THE REQUIREMENTS OF THE SWSC, THE TOWN OF LUDLOW OR RESPECTIVE UTILITY COMPANY.
- 4" LOAM & HYDROSEED ALL DISTURBED AREAS UNLESS OTHERWISE SPECIFIED. OVER-EXCAVATE LOAM & SEED AREAS AS REQUIRED TO MEET GRADE. HYDROSEED ALL DISTURBED AREAS OUTSIDE OF PAVEMENT OR STREAMBED LIMITS.
- CONDUCT ALL CLEARING, GRADING, DRAINAGE, CONSTRUCTION, AND DEVELOPMENT IN STRICT ACCORDANCE WITH THE DRAWINGS.
- ACCOMPLISH ALL EXCAVATION SO THAT UNDERGROUND UTILITIES OR STRUCTURES ARE NOT DAMAGED. BE RESPONSIBLE FOR ANY DAMAGE INCURRED DURING EXCAVATION OPERATIONS, AND REPAIR ANY EXISTING PIPE OR UTILITY DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
- THE CONSTRUCTION SITE AND ADJACENT PROPERTIES MUST BE ACCESSIBLE TO EMERGENCY VEHICLES AND COMMISSION VEHICLES AT ALL TIMES.
- PREPARE AND MAINTAIN AN EMERGENCY/CONTINGENCY PLAN RELATIVE TO STREAM DIVERSION/BYPASS MECHANISMS.
- COMPLY WITH THE EXCAVATION, BACKFILL, AND COMPACTION REQUIREMENTS OUTLINED IN SPECIFICATION SECTION 02315 FOR CULVERT AND HEADWALL CONSTRUCTION.

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
BVW	BORDERING VEGETATED WETLANDS
C/L	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
ELEV	ELEVATION
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
MTN	MOUNTAIN
NAVD	NORTH AMERICAN VERTICAL DATUM
NTU	NEPHELOMETRIC TURBIDITY UNIT
PROP	PROPOSED
STA	STATION
WF	WETLAND FLAG

LEGEND

	EXISTING CULVERT PIPE
	PROPOSED BOX CULVERT AND HEADWALLS
	PROPERTY LINE
	PROPOSED CONSTRUCTION BASELINE
	LIMIT OF WORK
	EXISTING EDGE OF ASPHALT ROAD
	EXISTING INTERMEDIATE CONTOURS
	EXISTING INDEX CONTOURS
	PROPOSED INTERMEDIATE CONTOURS
	PROPOSED INDEX CONTOURS
	EXISTING TREELINE
	EXISTING STONE WALL
	EXISTING LOGS
	EXISTING STONE RIPRAP
	TOP OF BANK (DELINEATED)
	LIMIT OF BORDERING VEGETATED WETLANDS (DELINEATED)
	PROPOSED COFFERDAM
	EROSION CONTROL BARRIER
	FEATURE TO BE REMOVED
	PROPOSED GUARDRAIL
	LIMIT OF CLEARING
	TREE TO BE REMOVED WITH STUMP
	TREE TO BE REMOVED STUMP TO REMAIN
	PROPOSED BITUMINOUS ROAD REPAIR
	PROPOSED EROSION CONTROL MATTING
	BENCHMARK

EROSION CONTROL:

- PROVIDE ALL EROSION CONTROL MEASURES SHOWN, SPECIFIED, AND REQUIRED BY SWSC AND THE ENGINEER PRIOR TO ANY CONSTRUCTION OR IMMEDIATELY UPON REQUEST. MAINTAIN ALL SUCH CONTROL MEASURES UNTIL FINAL SURFACE TREATMENTS ARE IN PLACE AND/OR UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- PRIOR TO STARTING WORK, CLEARLY STAKE WORK LIMIT LINE(S). DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMIT LINE. COORDINATE WITH THE ENGINEER AND SWSC THE LOCATIONS FOR THE TEMPORARY STOCKPILING OF TOPSOIL DURING CONSTRUCTION. STOCKPILING AREAS MAY NOT NECESSARILY BE IN THE IMMEDIATE AREA OF THE CULVERTS.
- PROVIDE ALL SLOPES GREATER THAN 25% WITH EROSION CONTROL MATTING. REFER TO SHEETS C-103 AND C-106 FOR MATTING LOCATIONS.
- SIDE SLOPES, SHOULDER AREAS AND DISTURBED VEGETATED AREAS SHALL BE A MAXIMUM GRADE OF 2:1, COMPACTED, STABILIZED, LOAMED AND SEEDED AS SHOWN ON DRAWINGS. IMMEDIATELY FINE GRADE AND SEED ALL SIDE SLOPES IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- REMOVE SILT TRAPPED AT BARRIERS AND PROPERLY DISPOSE IN UPLAND AREAS OUTSIDE RIVERFRONT AREA AND BUFFER ZONES. REMOVE MATERIALS DEPOSITED IN ANY TEMPORARY SETTLING BASINS OR FILTER BAG AT THE COMPLETION OF THE PROJECT. RESTORE ALL DISTURBED AREAS.
- SETTLE OR FILTER (IN A SEDIMENTATION OR FILTER BAG) ALL SILT-LADEN WATER TO REMOVE SEDIMENTS PRIOR TO RELEASE TO THE WATERWAY.
- DEWATER AS NECESSARY TO KEEP CONSTRUCTION AREAS FREE OF WATER. DISCHARGE WATER FROM DEWATERING SHALL BE LOCATED IN LEVEL, UPLAND AREA AND SHALL BE SEDIMENT FREE.

DEWATERING REQUIREMENTS:

AS A MINIMUM, A DEWATERING PLAN SHALL BE PROVIDED TO ADDRESS THE FOLLOWING CONCERNS AND SHALL ADHERE TO THE FOLLOWING REQUIREMENTS (SEE SECTION 01580 FOR FURTHER REQUIREMENTS):

- IF THE WATER TABLE IS INTERCEPTED DURING EXCAVATION, WATER COLLECTED IN THE TRENCH SHALL BE PUMPED OUT SO THAT THE WORK CAN BE PERFORMED "IN THE DRY." PROVIDE ADEQUATELY SIZED DEWATERING EQUIPMENT WITH 100% BACKUP AND SEDIMENTATION/EROSION CONTROL STRUCTURES TO ENSURE CONSTRUCTION "IN THE DRY" AND ADEQUATELY PROTECT ADJACENT WETLAND RESOURCE AREAS AND WATERCOURSES.

ALL GROUNDWATER REMOVED (PUMPED) FROM THE EXCAVATION AND DISCHARGED ADJACENT TO DESIGNATED WETLAND RESOURCE AREAS SHALL BE A "CLEAN DISCHARGE." PROVIDE DEVICES AS REQUIRED TO ACHIEVE THE "CLEAN DISCHARGE." IF THE ENGINEER DETERMINES THE PUMPED DISCHARGE IS CLEAN (LESS THAN 50 NTU), THE FLOW CAN BE DIRECTED OVERLAND TOWARD THE RECEIVING BODY OF WATER. IF THE ENGINEER DETERMINES THAT THE FLOW IS NOT CLEAN, DIRECT THAT FLOW TO ONE OR MORE FILTRATION DEVICES FOR THE PURPOSE OF SUBSTANTIALLY REMOVING SUSPENDED SOLIDS FROM THE WATER. THE FILTRATION DEVICES SHALL BE APPROVED BY THE ENGINEER. GROUNDWATER ELEVATION IS ASSUMED TO BE AT THE SAME ELEVATION AS THE STREAM SURFACE. REFER TO SHEETS C-102 AND C-105 FOR BYPASS PIPING PLAN AND PROFILES.

- OBTAIN ALL NECESSARY STATE AND LOCAL PERMITS RELATING TO DEWATERING ACTIVITIES.
- DEWATERING DISCHARGE LOCATIONS ARE TO BE PRE-DETERMINED AND APPROVED BY THE ENGINEER.
- FOR STREAM DEWATERING, TEMPORARY COFFERDAMS (SAND BAG, JERSEY BARRIER, WATER FILLED BARRIER OR EQUIVALENT) SHALL BE INSTALLED TO MAINTAIN A DRY WORK AREA DURING CONSTRUCTION ACTIVITIES AND TO PREVENT SEDIMENTATION AS A RESULT OF THE PROPOSED WORK. INSTALL 24" CORRUGATED HDPE TEMPORARY PIPE BETWEEN THE TWO COFFERDAMS TO MAINTAIN BASE FLOW. IF NEEDED, THE WORK AREA EXCAVATION SHALL BE DEWATERED USING A DISCHARGE HOSE, FILTER BAG, AND SEDIMENT TRAP.

**ISSUED FOR
BID**

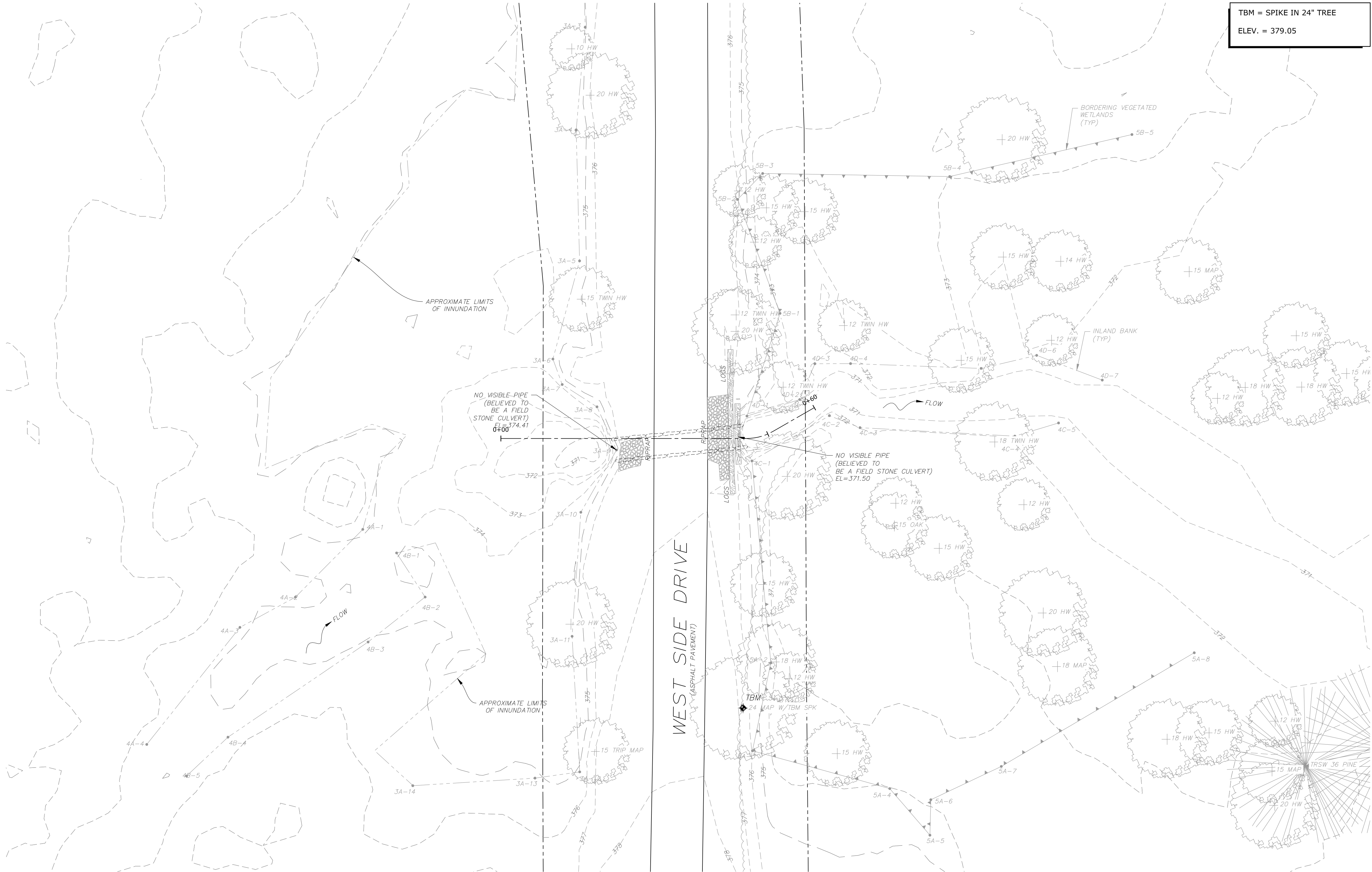
**Springfield
Reservoir
Culvert
Replacement**

**Springfield
Water and
Sewer
Commission**

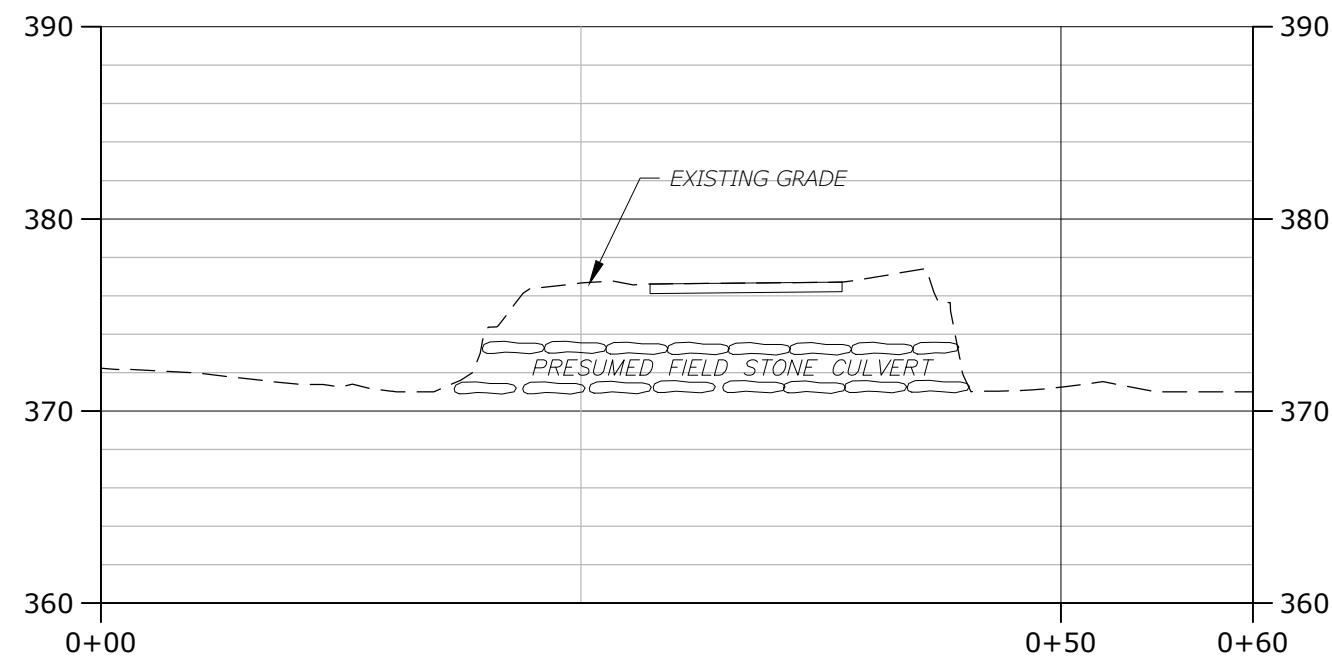
Ludlow,
Massachusetts

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PROJECT NO:		S2057-062
DATE:		SEPTEMBER 2026
FILE:		S2057-062_G-002.dwg
DRAWN BY:		A. GORDON
DESIGNED BY:		A. GORDON
CHECKED BY:		M. MOFFATT
APPROVED BY:		M. MOFFATT
LEGEND AND GENERAL NOTES		
SCALE:		AS SHOWN
G-002		

Last Saved: 1/22/2026
Plotted On: Sep 24, 2026 - 7:50am By: Agordon
Tighe & Bond\GIS\2025\2025-062 Springfield Reservoir Culvert Replacements\Drawings\AutoCAD Sheet\Existing - Culvert 1.dwg



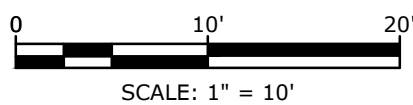
TBM = SPIKE IN 24" TREE
ELEV. = 379.05



CULVERT 1 PROFILE - STA: 0+00 TO 0+60

NOTE:

- LIMITS OF INUNDATION ARE AS OBSERVED IN DECEMBER 2023.
- THERE ARE NO VISIBLE PIPES BENEATH THE EXISTING ROADWAY. REFER TO SPEC SECTION 02315 FOR EXCAVATION AND BACKFILL REQUIREMENTS.



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Reservoir
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Commission

Ludlow,
Massachusetts

1	09/26	Issued For Bidding
MARK	DATE	DESCRIPTION
PROJECT NO: S2057-062		
DATE: SEPTEMBER 2026		
FILE: Existing - Culvert 1.dwg		
DRAWN BY: A. GORDON		
DESIGNED BY: A. GORDON		
CHECKED BY: M. MOFFATT		
APPROVED BY: M. MOFFATT		

EXISTING CONDITIONS
PLAN - CULVERT 1

SCALE: AS SHOWN

Last Saved: 1/21/2026
Plotted On: Sep 24, 2026 - 7:50am By: Agordon
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Springfield Reservoir Culvert Replacement

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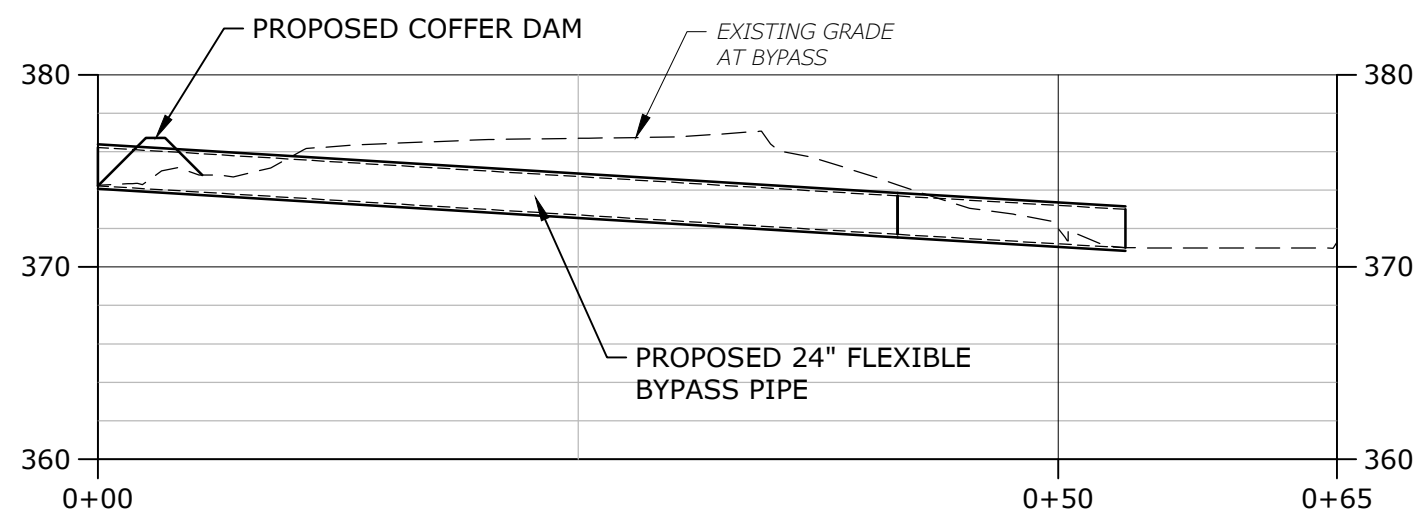
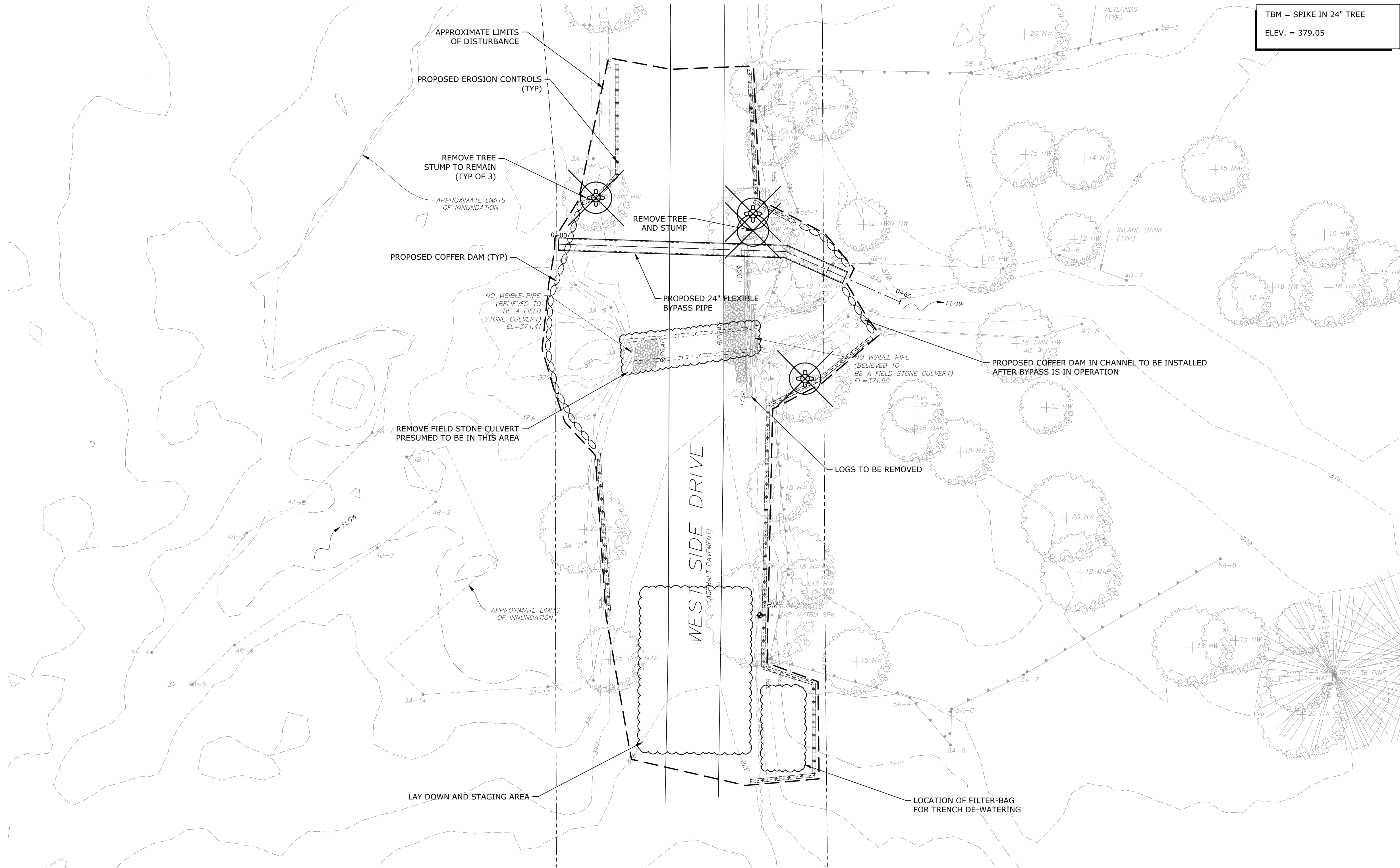
Ludlow,
Massachusetts

1	09/26	Issued For Bidding
MARK	DATE	DESCRIPTION
PROJECT NO: S2057-062		
DATE: SEPTEMBER 2026		
FILE: Demo - Culvert 1.dwg		
DRAWN BY: A. GORDON		
DESIGNED BY: A. GORDON		
CHECKED BY: M. MOFFATT		
APPROVED BY: M. MOFFATT		

SITE PREPARATION AND
WATER HANDLING PLAN -
CULVERT 1

SCALE: AS SHOWN

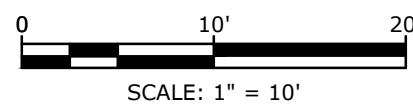
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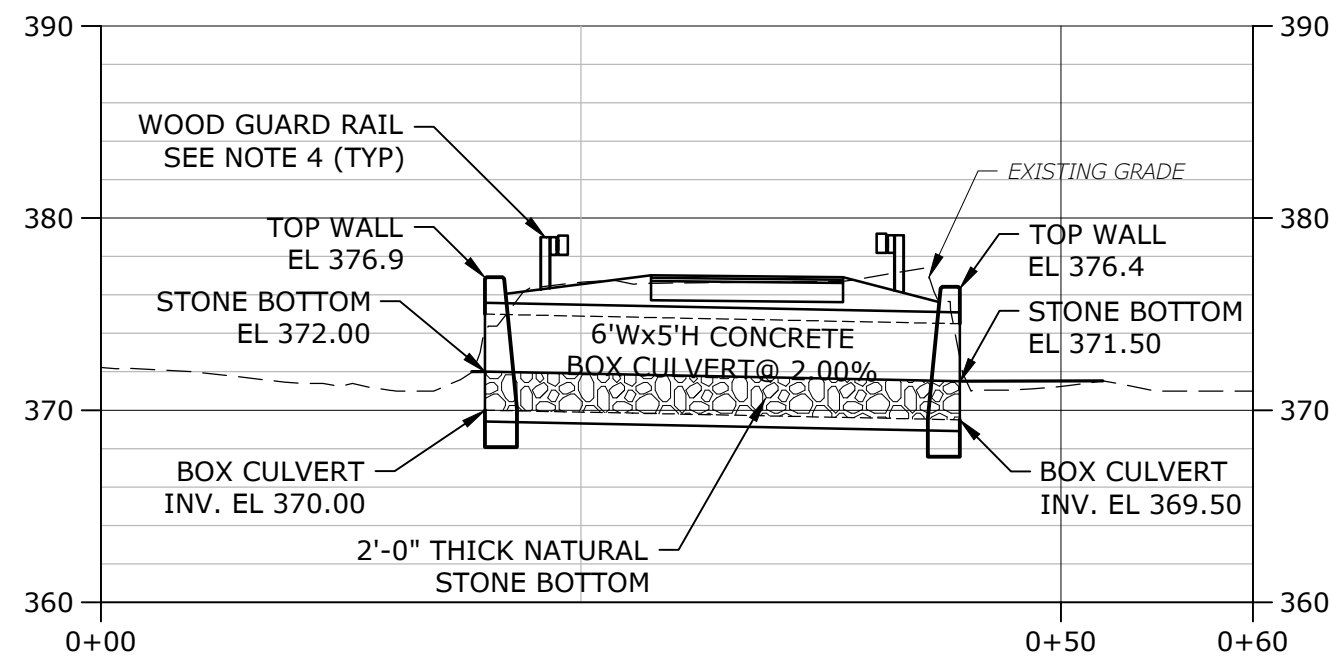
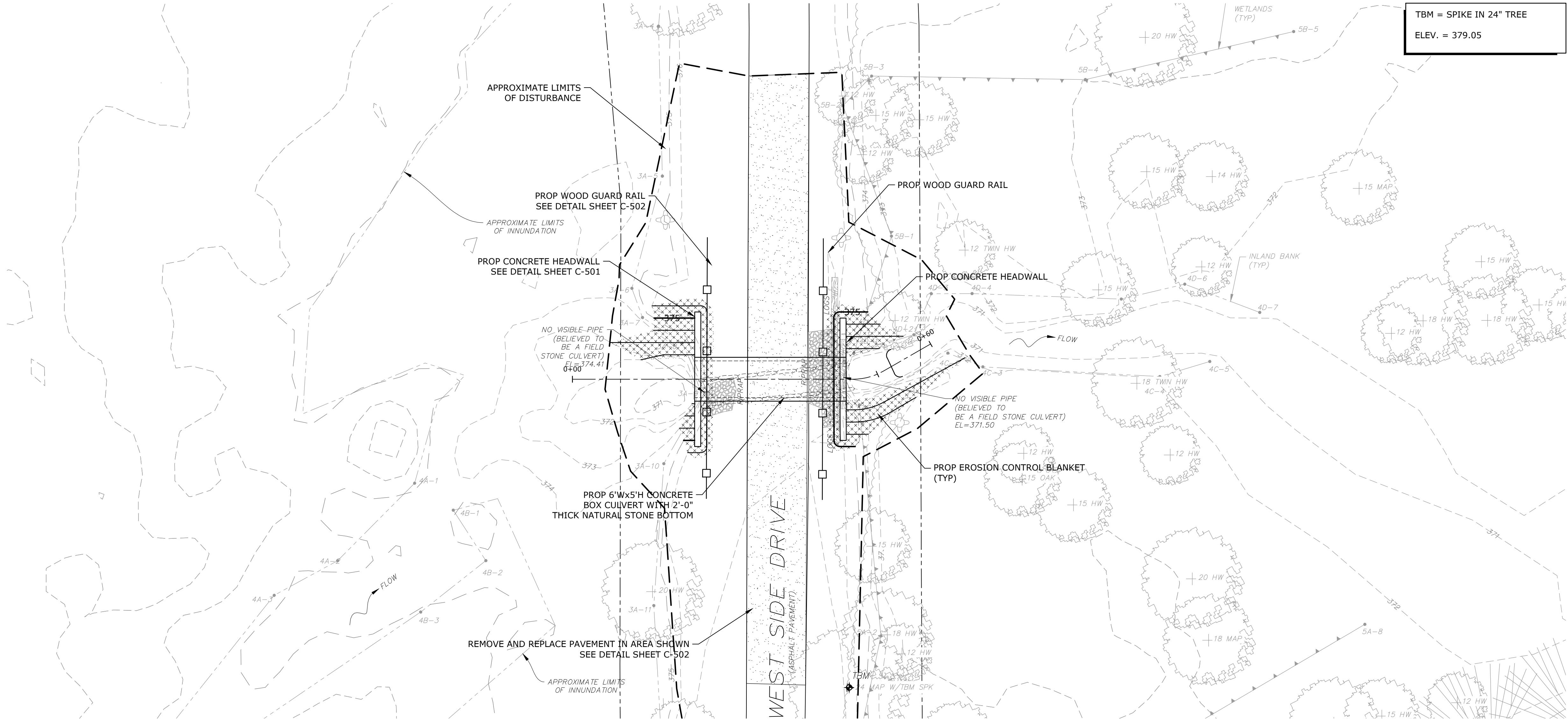
CULVERT 1 BYPASS PIPING PROFILE

NOTE:

- LIMITS OF INUNDATION ARE AS OBSERVED IN DECEMBER 2023.
- ALL AREA SHOWN ON THIS SHEET LIES WITHIN THE 100-FOOT BUFFER ZONE.
- THERE ARE NO VISIBLE PIPES BENEATH THE EXISTING ROADWAY. REFER TO SPEC SECTION 02315 FOR EXCAVATION AND BACKFILL REQUIREMENTS.



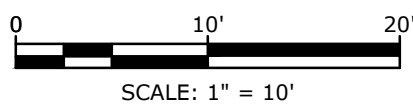
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CULVERT 1 PROFILE - STA: 0+00 TO 0+60

NOTE:

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- ALL AREA SHOWN ON THIS SHEET LIES WITHIN THE 100-FOOT BUFFER ZONE.
- THERE ARE NO VISIBLE PIPES BENEATH THE EXISTING ROADWAY. REFER TO SPEC SECTION 02315 FOR EXCAVATION AND BACKFILL REQUIREMENTS.
- GUARD RAIL POSTS TO BE SPACED SO THAT POSTS CLEAR PROPOSED CULVERT.



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Culvert
Replacement**

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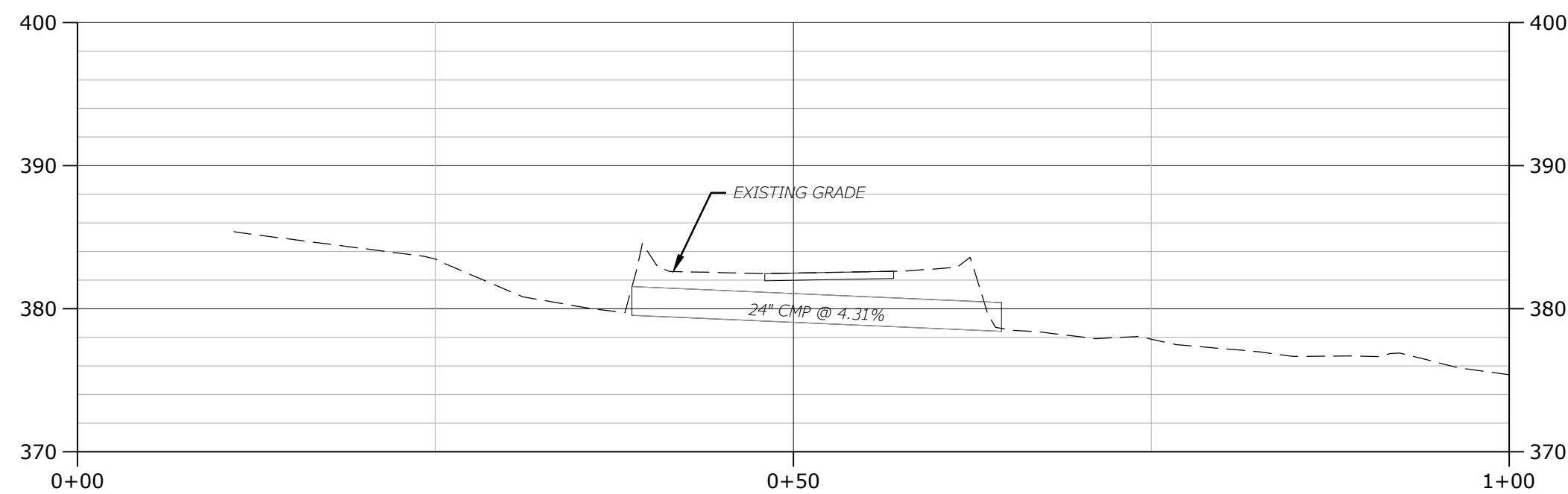
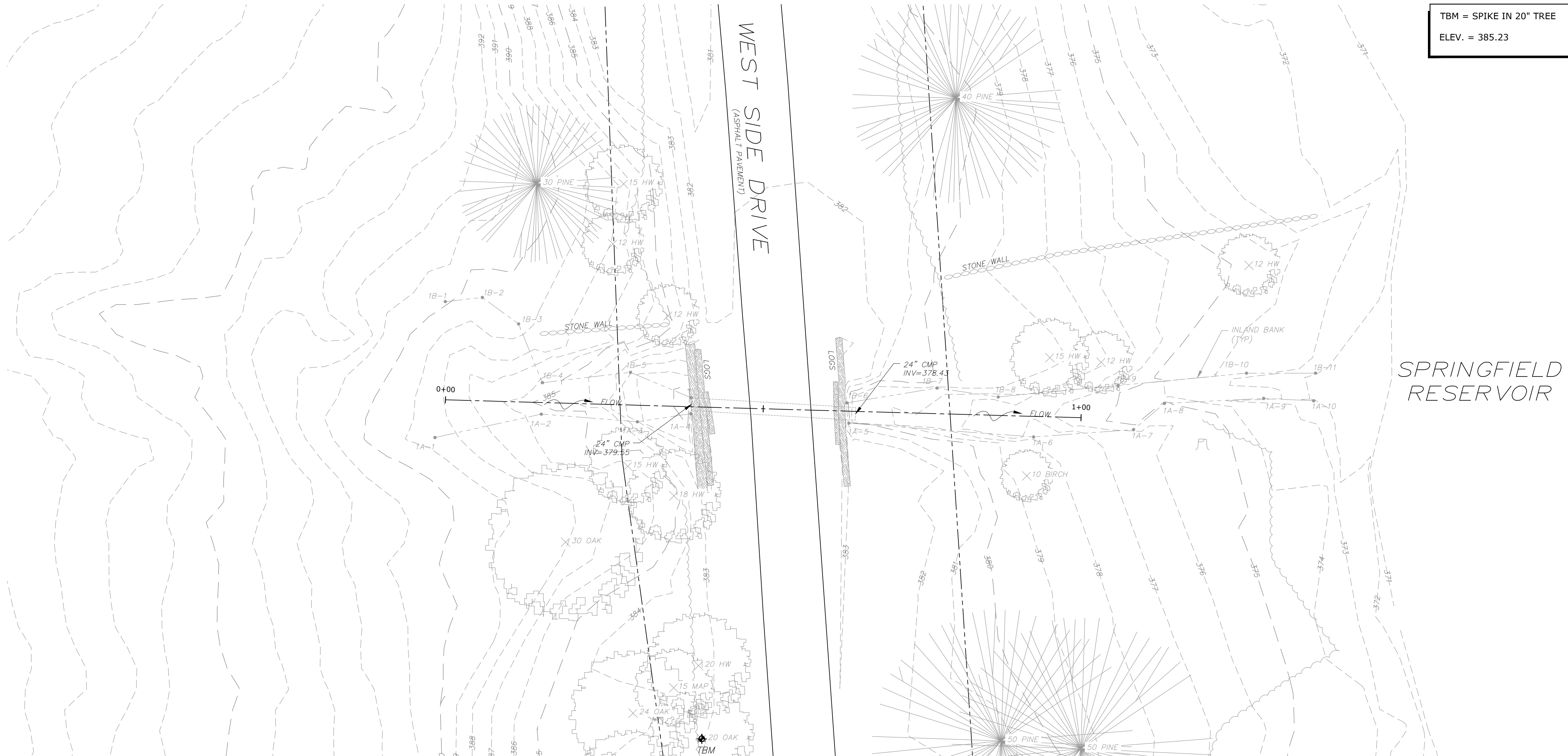
Ludlow,
Massachusetts

1	09/26	Issued For Bidding
MARK	DATE	DESCRIPTION
PROJECT NO: S2057-062		
DATE: SEPTEMBER 2026		
FILE: Proposed - Culvert 1.dwg		
DRAWN BY: A. GORDON		
DESIGNED BY: A. GORDON		
CHECKED BY: M. MOFFATT		
APPROVED BY: M. MOFFATT		

**PROPOSED CONDITIONS
PLAN - CULVERT 1**

SCALE: AS SHOWN

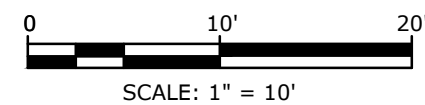
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Tighe & Bond\\J1526257 SHP\\CADD\\Ludlow Reservoir Culvert Replacements\\Drawings\\AutoCAD Sheet\\Existing - Culvert 2.dwg



CULVERT 2 PROFILE - STA: 0+00 TO 1+00

NOTE:

1. ALL AREA SHOWN ON THIS SHEET LIES WITHIN THE 100-FOOT BUFFER ZONE.



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Replacement**

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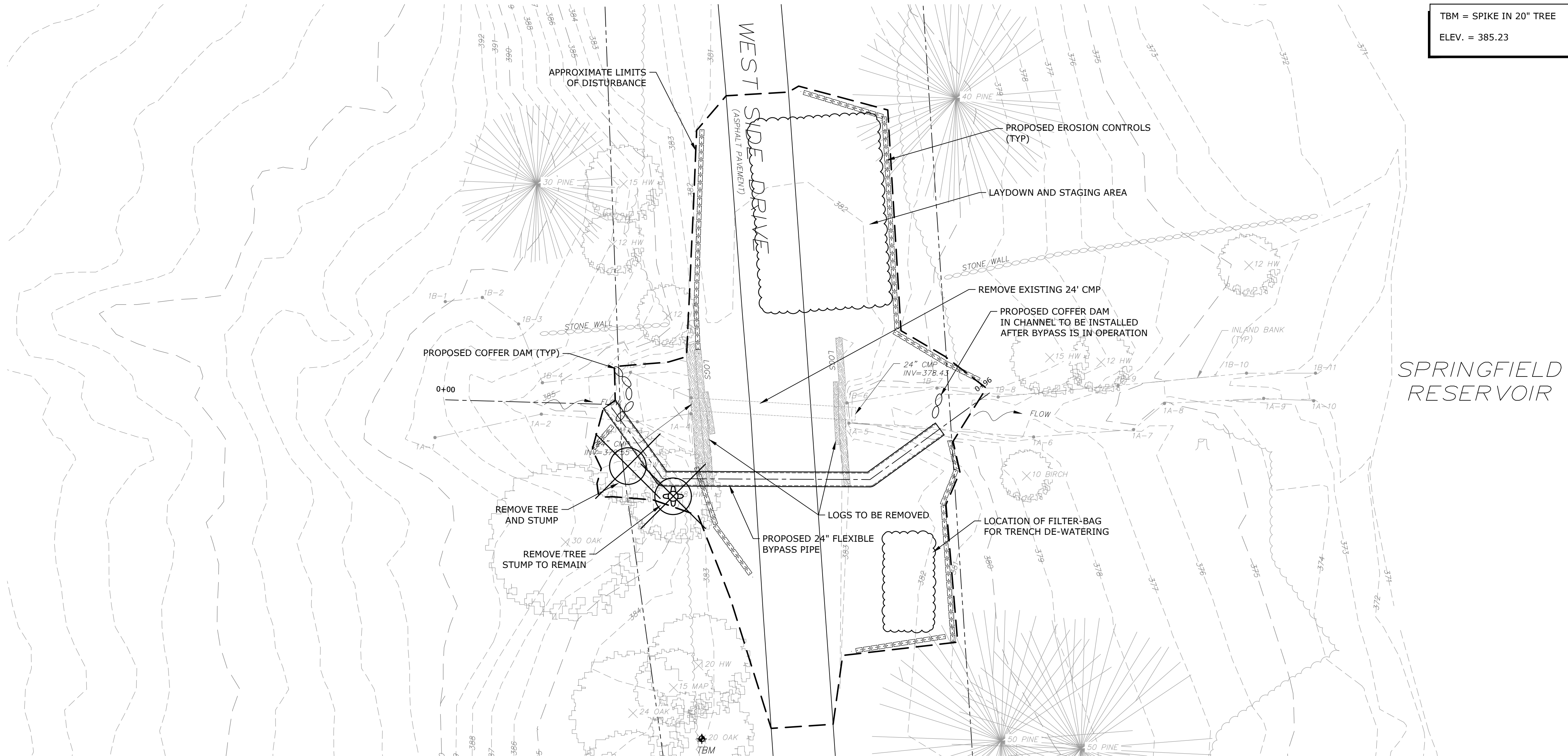
Ludlow,
Massachusetts

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DRAWN BY: A. GORDON		
DESIGNED BY: A. GORDON		
CHECKED BY: M. MOFFATT		
APPROVED BY: M. MOFFATT		

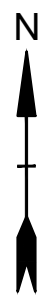
EXISTING CONDITIONS
PLAN - CULVERT 2

SCALE: AS SHOWN

Last Saved: 1/21/2026
Plotted On: Sep 24, 2026 - 7:51am By: Agordon
Tighe & Bond\GIS\2025\2025-09-24\Springfield Reservoir Culvert Replacement\Drawings\AutoCAD Sheet\Demo - Culvert 2.dwg



TBM = SPIKE IN 20" TREE
ELEV. = 385.23



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Springfield Reservoir Culvert Replacement

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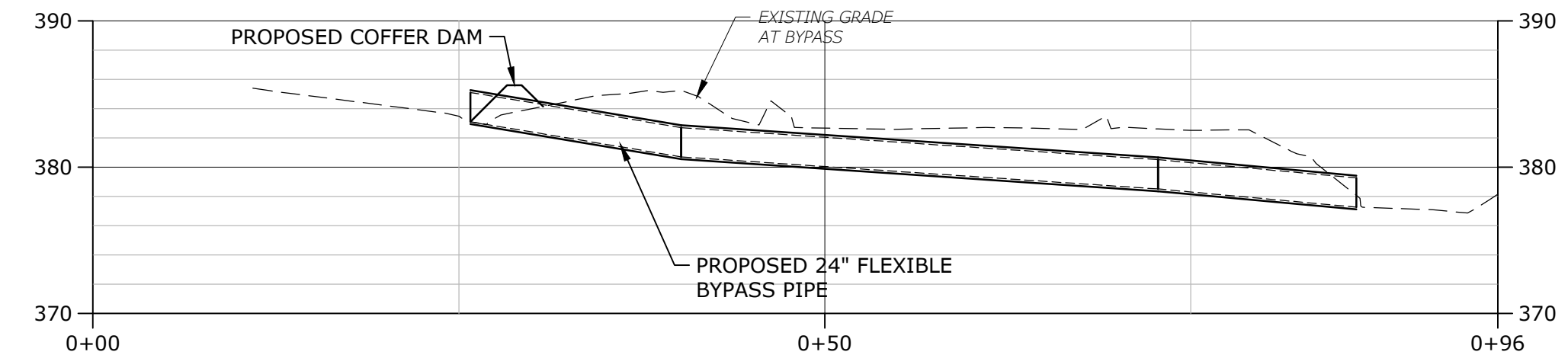
Ludlow,
Massachusetts

1	09/26	Issued For Bidding
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PROJECT NO: S2057-062		
DATE: SEPTEMBER 2026		
FILE: Demo - Culvert 2.dwg		
DRAWN BY: A. GORDON		
DESIGNED BY: A. GORDON		
CHECKED BY: M. MOFFATT		
APPROVED BY: M. MOFFATT		

SITE PREPARATION AND
WATER HANDLING PLAN -
CULVERT 2

SCALE: AS SHOWN

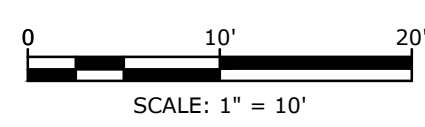
C-105



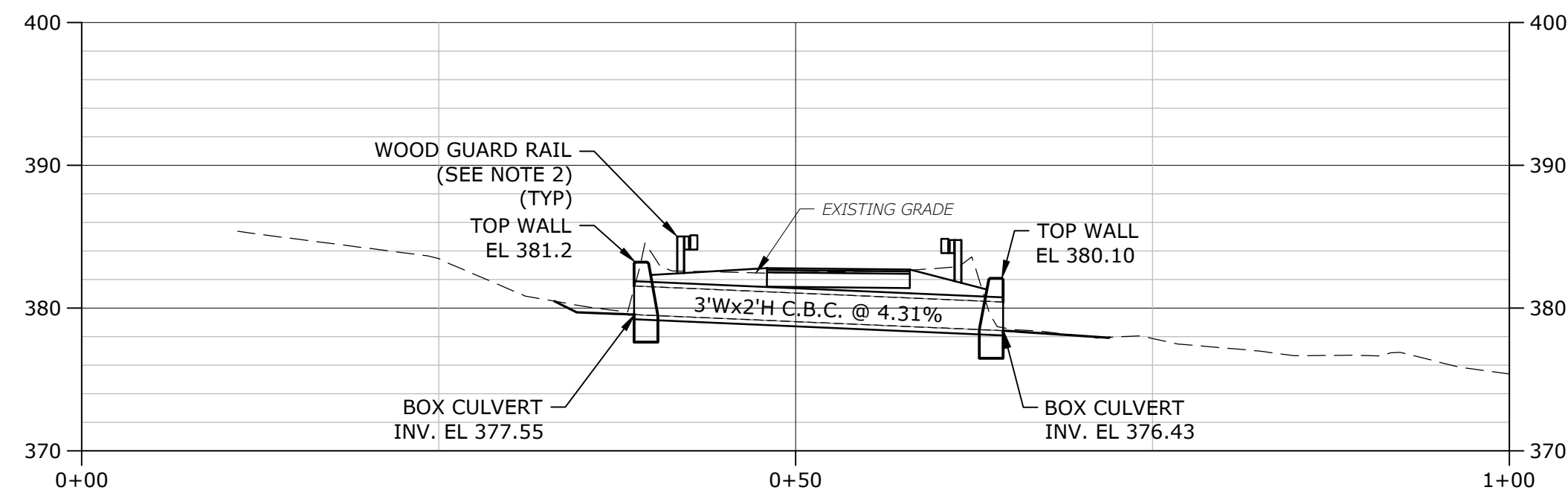
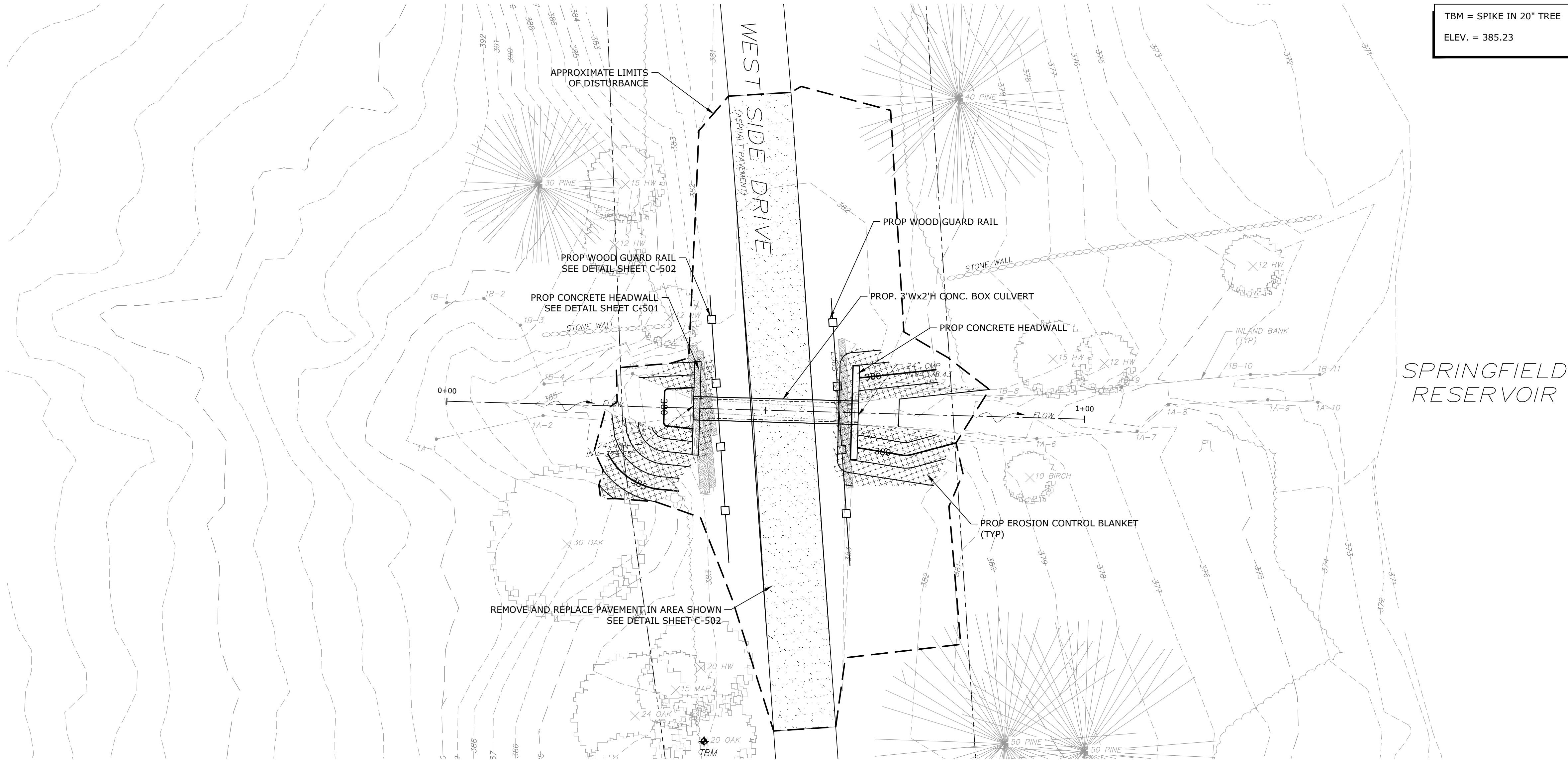
CULVERT 2 BYPASS PIPING PROFILE

NOTE:

- ALL AREA SHOWN ON THIS SHEET LIES WITHIN THE 100-FOOT BUFFER ZONE.



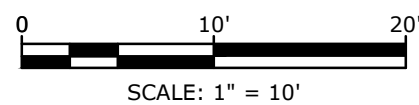
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Tighe & Bond\GIS\2026\S2057-062 - Ludlow Reservoir Culvert Replacements\Drawings\AutoCAD Sheet\Proposed - Culvert 2.dwg



CULVERT 2 PROFILE - STA: 0+00 TO 1+00

NOTE:

- ALL AREA SHOWN ON THIS SHEET LIES WITHIN THE 100-FOOT BUFFER ZONE.
- GUARD RAIL POSTS TO BE SPACED SO THAT POSTS CLEAR PROPOSED CULVERT.



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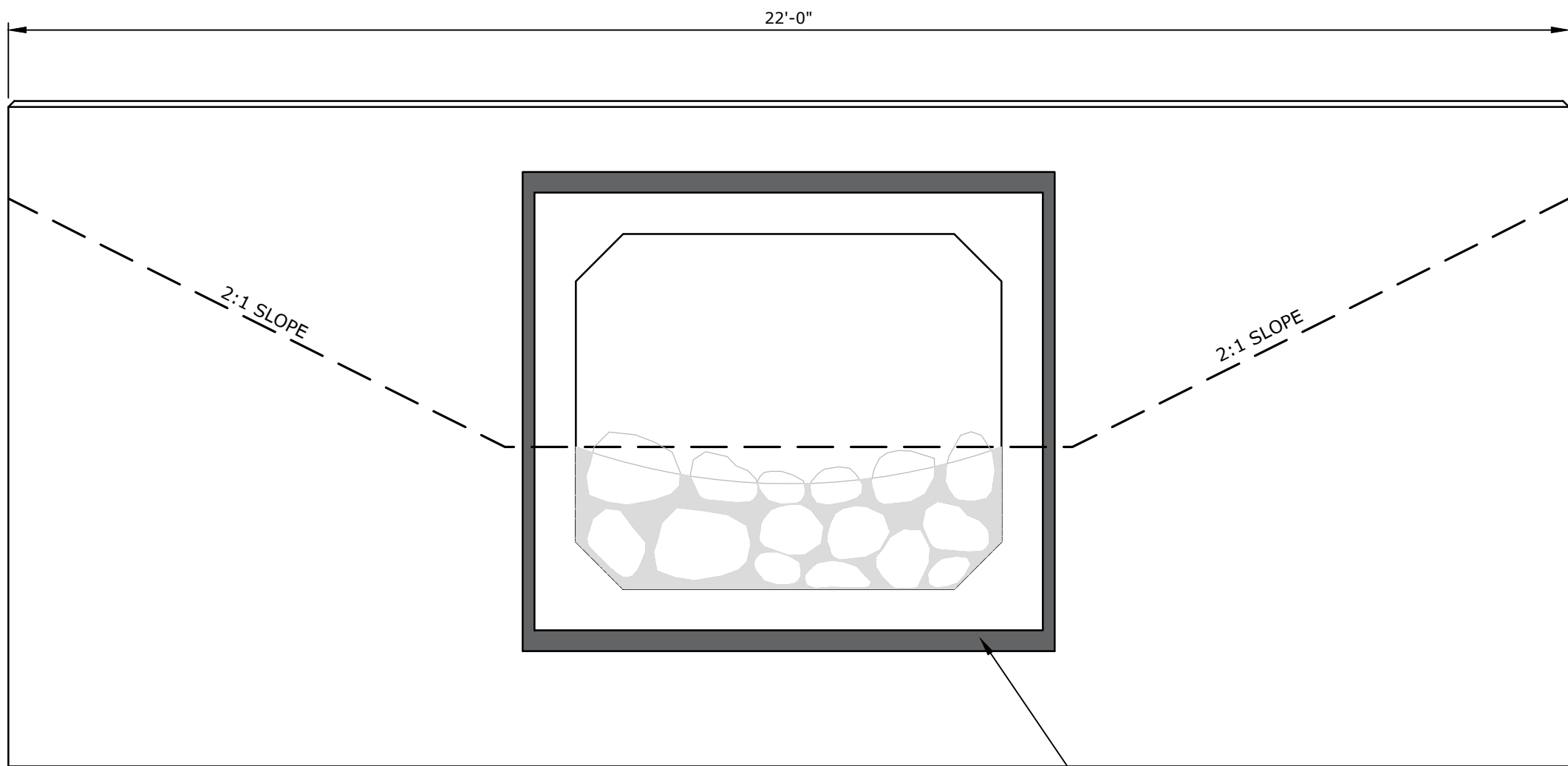
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MARK	DATE	DESCRIPTION
PROJECT NO: S2057-062		
DATE: SEPTEMBER 2026		
FILE: Proposed - Culvert 2.dwg		
DRAWN BY: A. GORDON		
DESIGNED BY: A. GORDON		
CHECKED BY: M. MOFFATT		
APPROVED BY: M. MOFFATT		

**PROPOSED CONDITIONS
PLAN - CULVERT 2**

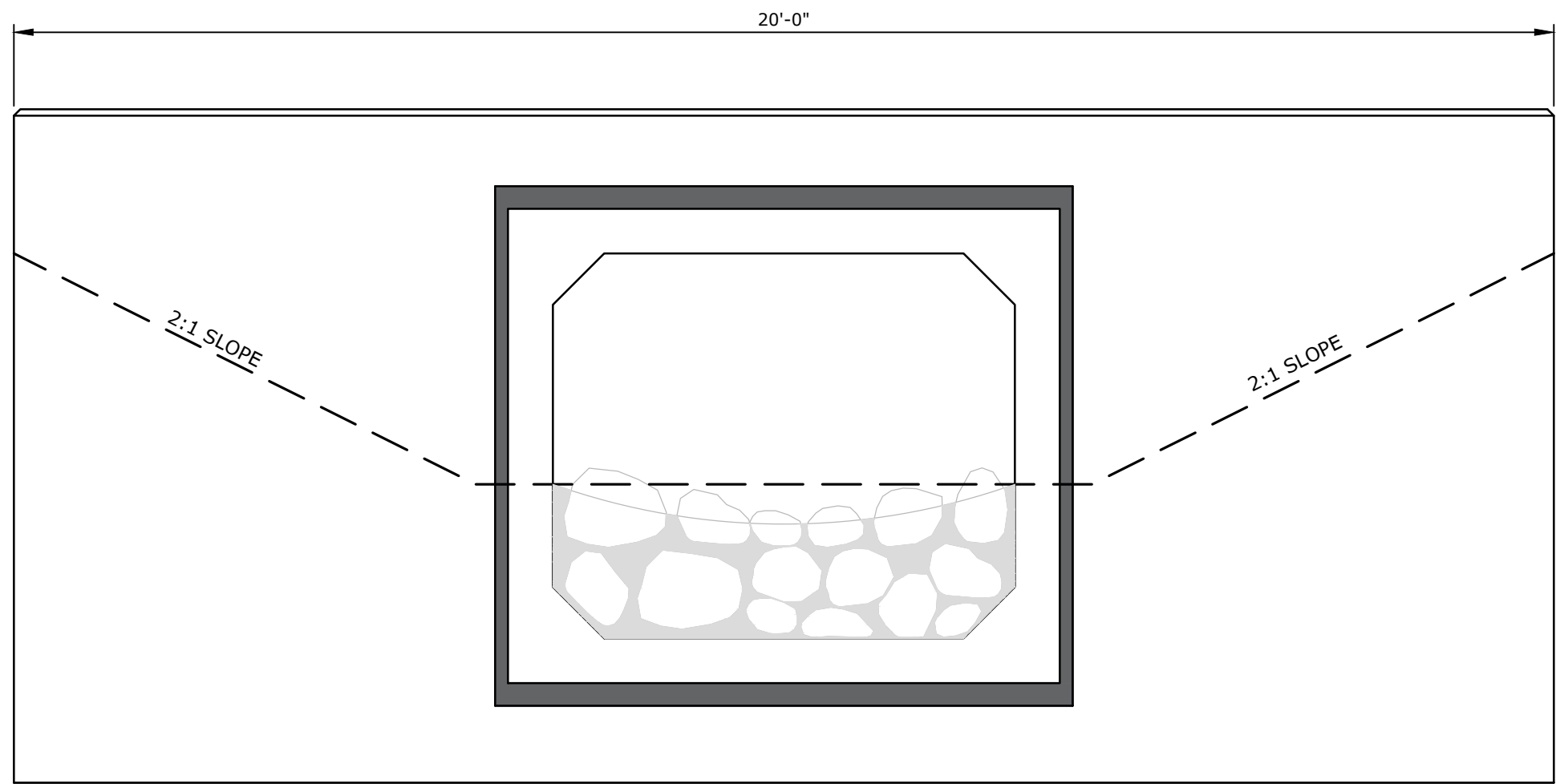
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C-106

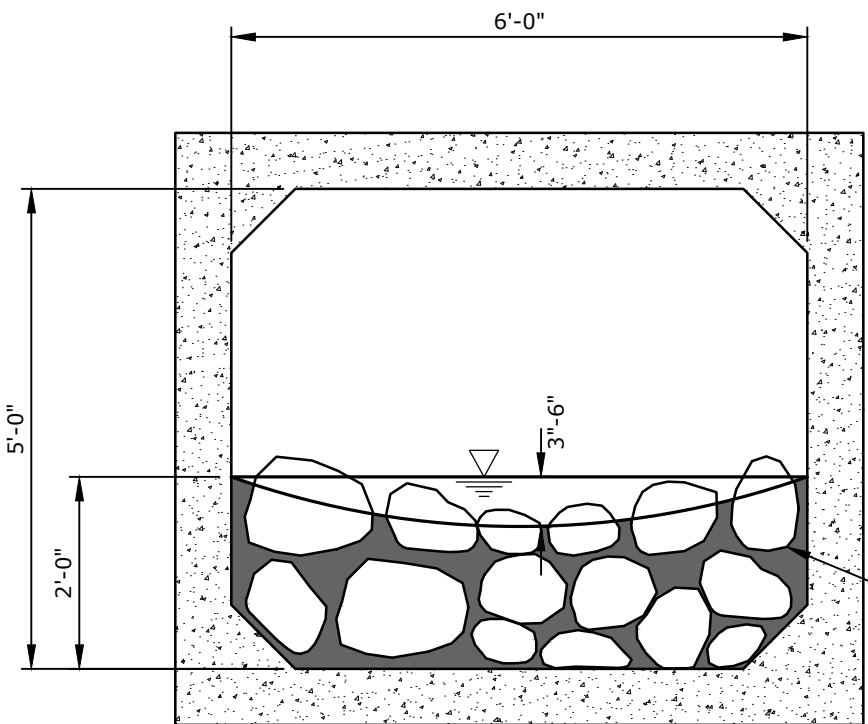
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Plotted On: Sep 24, 2026 - 7:51am By: Agordon
Tighe & Bond\3\526267 -SPSC\02 - Ludlow Reservoir Culvert Replacements\Drawings\Figures\AutoCAD Sheet Details.dwg



UPSTREAM HEADWALL



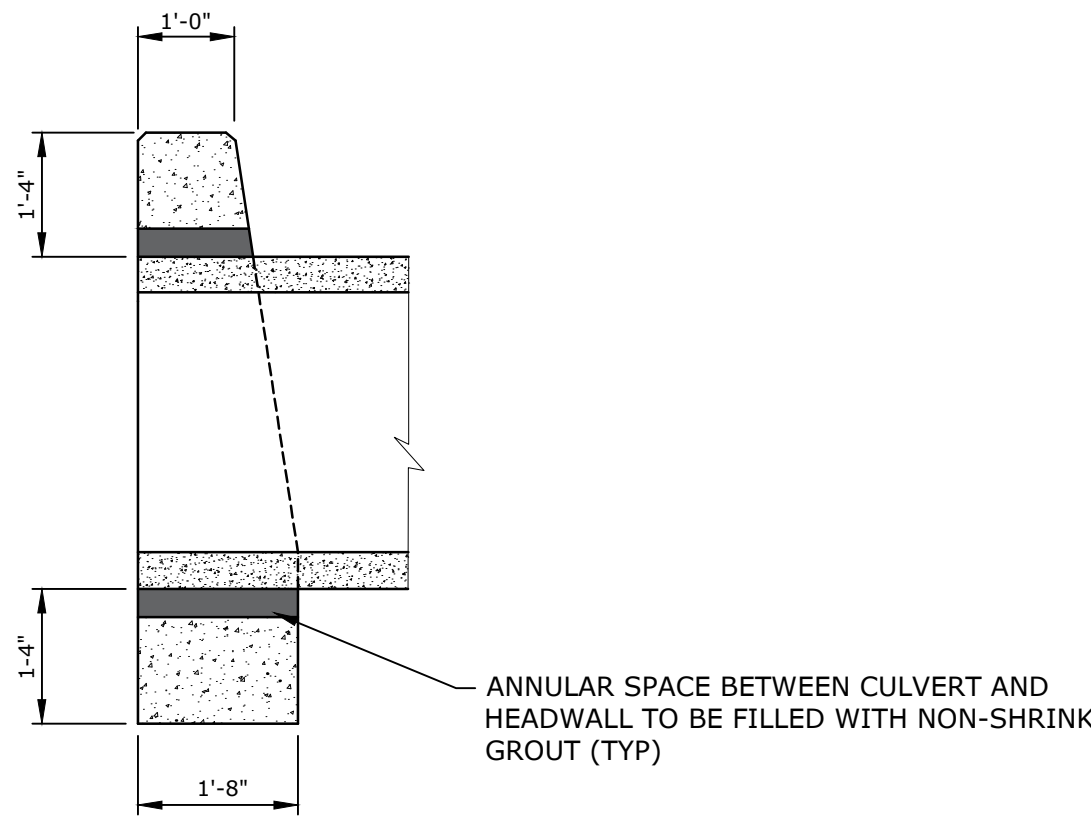
DOWNSTREAM HEADWALL



6'Wx5'H CULVERT SECTION

CULVERT #1 DETAILS
NO SCALE

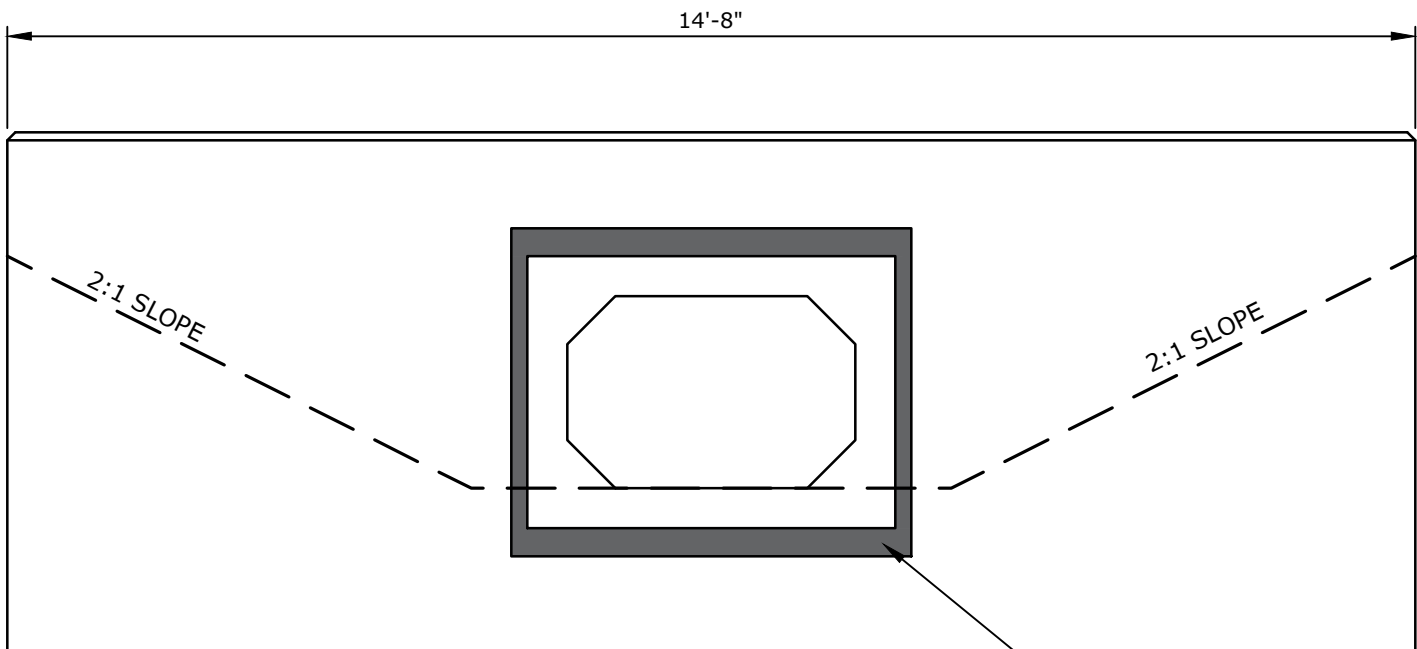
INFILL BOTTOM 2'-0" OB BOX CULVERT WITH 6" TO 12" DIAMETER STONE. GROUT BOTTOM LAYERS OF STONE IN PLACE. LEAVE APPROXIMATELY 1/4 DIAMETER OF TOP LAYER OF STONE UNGROUTED AND INFILL VOIDS WITH NATURAL STREAM BED MATERIAL.



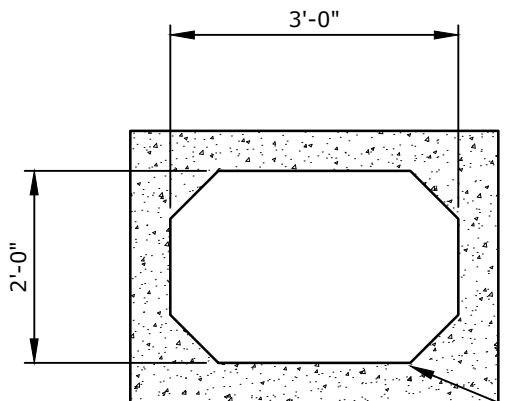
END ELEVATION

- NOTES:
1. HEADWALL SECTION IS TYPICAL FOR BOTH CULVERT #1 AND CULVERT #2
 2. HEADWALL SHALL BE PRECAST CONCRETE.
 3. ALL CONCRETE DIMENSIONS SHOWN ARE MINIMUM.

CONCRETE HEADWALL SECTION
NO SCALE



UPSTREAM AND DOWNSTREAM HEADWALL



3'Wx2'H CULVERT SECTION

CULVERT #2 DETAILS
NO SCALE

- NOTES:
1. PROVIDE SILT-TIGHT BOX CULVERT JOINTS FOR BOTH CULVERTS BY INSTALLING A PRE-EXTRUDED BUTYL RUBBER GASKET BETWEEN EACH BOX SECTION (PER ASTM C990) AND WRAPPING EACH JOINT.

ISSUED FOR
BID

Springfield Reservoir Culvert Replacement

Springfield
Water and
Sewer
Commission

Ludlow,
Massachusetts

1	09/26	Issued For Bidding
MARK	DATE	DESCRIPTION
PROJECT NO:	S2057-062	
DATE:	SEPTEMBER 2026	
FILE:	Details.dwg	
DRAWN BY:	A. GORDON	
DESIGNED BY:	A. GORDON	
CHECKED BY:	M. MOFFATT	
APPROVED BY:	M. MOFFATT	

CULVERT DETAILS

SCALE: AS SHOWN

C-501

NEW ENGLAND WETLAND PLANTS, INC

14 Pearl Lane South Hadley, MA 01075
PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

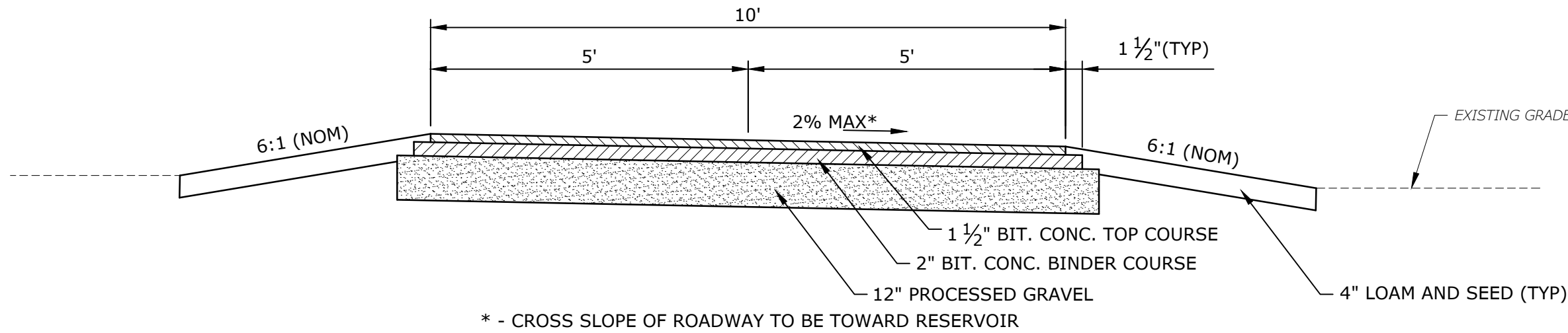
New England Wetmix (Wetland Seed Mix)

Botanical Name	Common Name	Indicator
<i>Carex vulpinoidea</i>	Fox Sedge	OBL
<i>Carex scoparia</i>	Blunt Broom Sedge	FACW
<i>Carex lurida</i>	Lurid Sedge	OBL
<i>Carex lupulina</i>	Hop Sedge	OBL
<i>Poa palustris</i>	Fowl Bluegrass	FACW
<i>Bidens frondosa</i>	Beggar Ticks	FACW
<i>Scirpus atrovirens</i>	Green Bulrush	OBL
<i>Asclepias incarnata</i>	Swamp Milkweed	OBL
<i>Carex crinita</i>	Fringed Sedge	OBL
<i>Vernonia noveboracensis</i>	New York Ironweed	FACW+
<i>Juncus effusus</i>	Soft Rush	FACW+
<i>Aster lateriflorus</i> (<i>Symphotrichum lateriflorum</i>)	Starved/Calico Aster	FACW
<i>Iris versicolor</i>	Blue Flag	OBL
<i>Glyceria grandis</i>	American Mannagrass	OBL
<i>Minulus ringens</i>	Square Stemmed Monkey Flower	OBL
<i>Eupatorium maculatum</i> (<i>Eutrochium maculatum</i>)	Spotted Joe Pye Weed	OBL

APPLY: 18 LBS/ACRE :2500 sq ft/lb

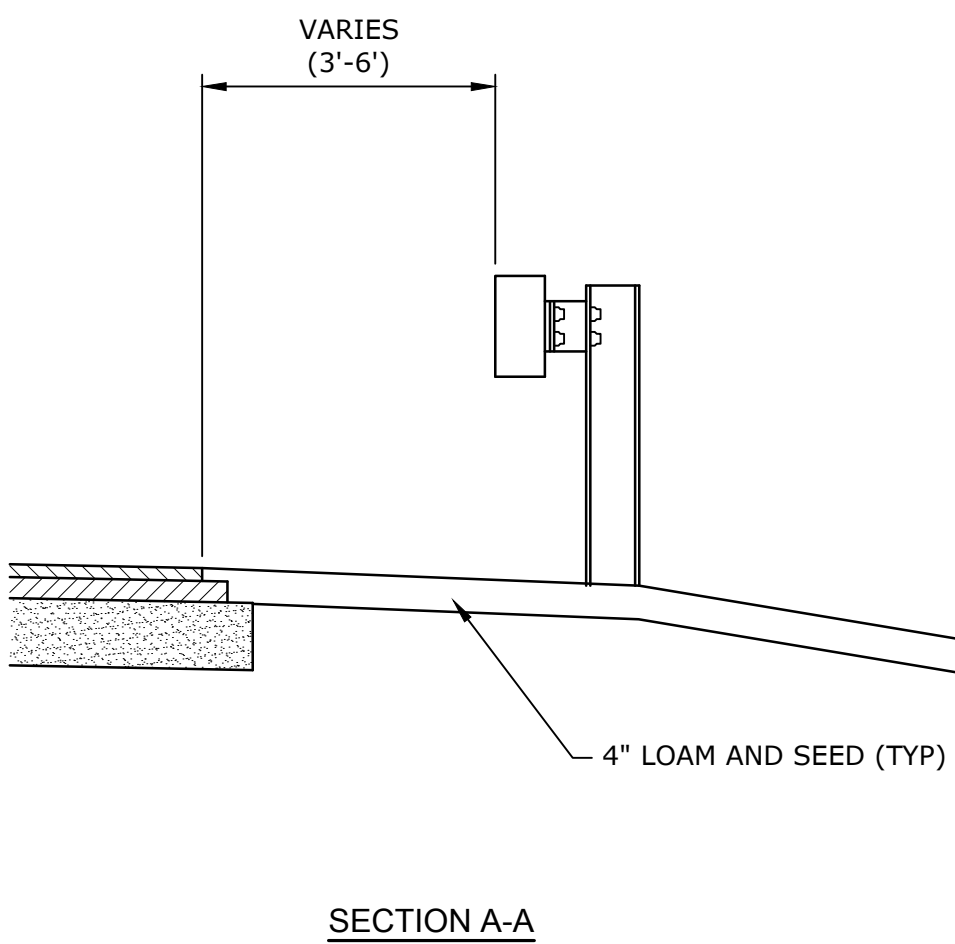
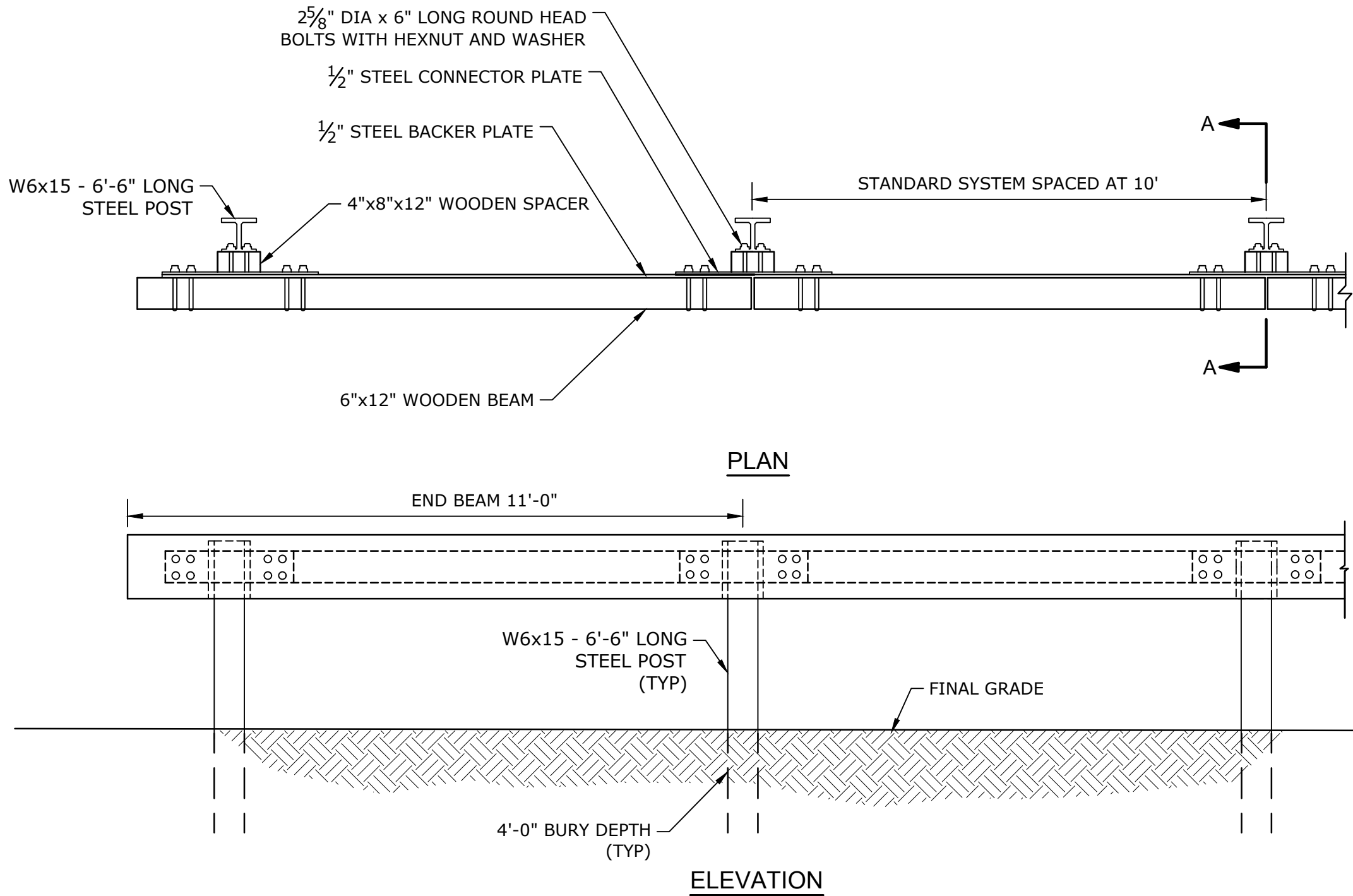
WETLAND SEED MIX

NO SCALE



ROADWAY TYPICAL SECTION

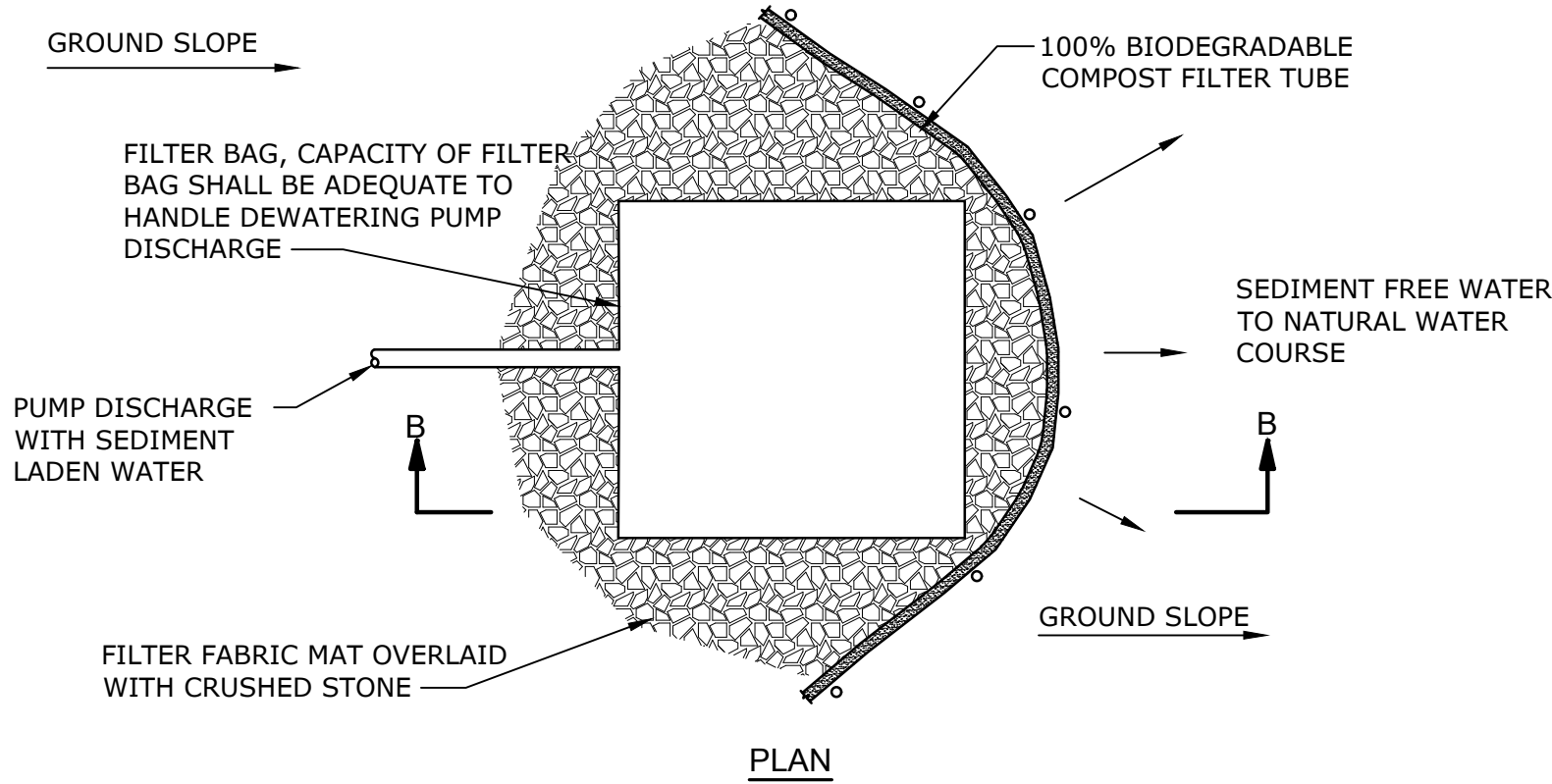
NO SCALE



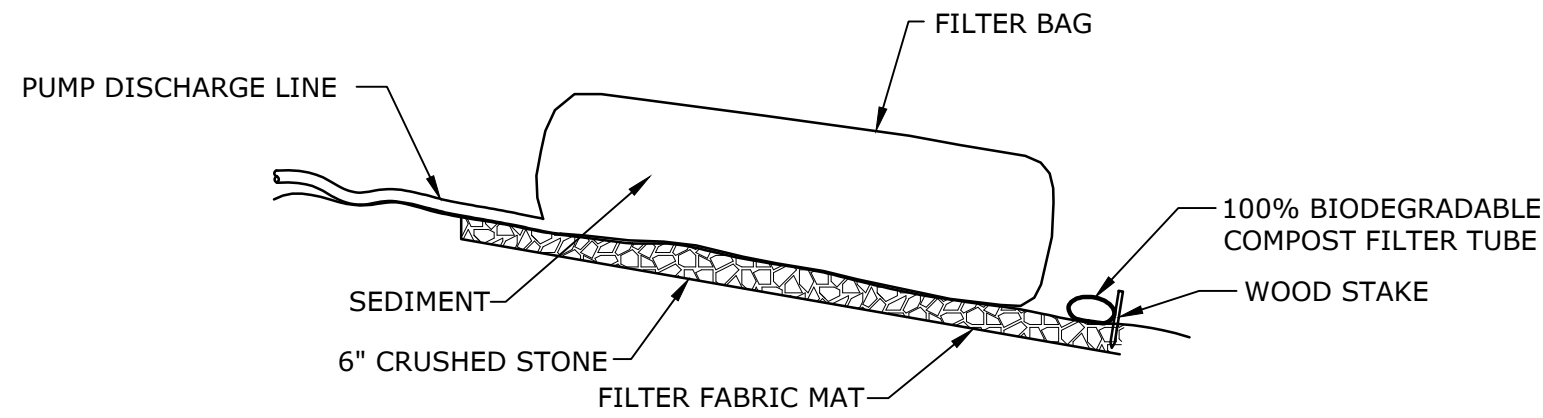
SECTION A-A

WOOD GUARD RAIL

NO SCALE



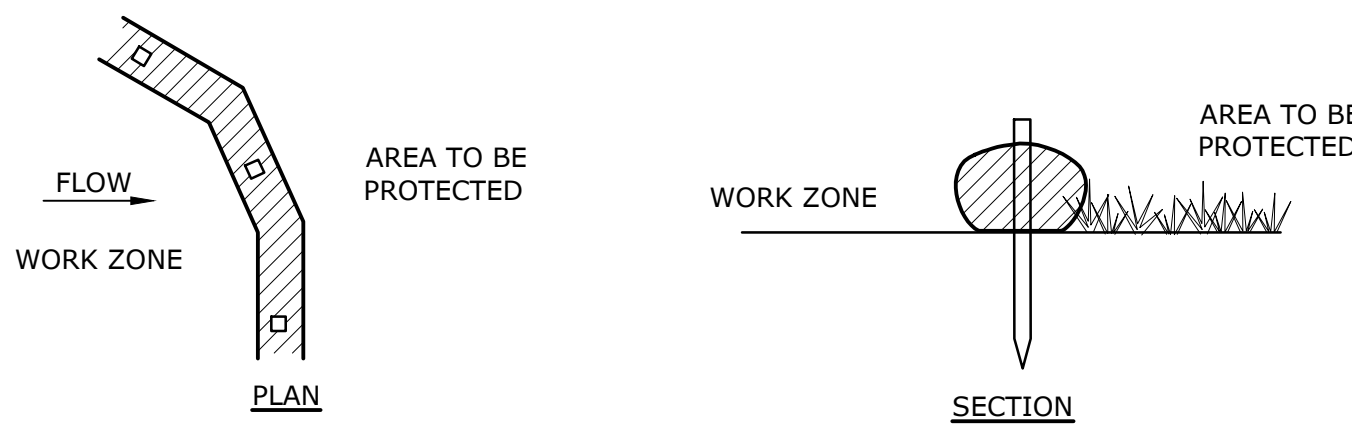
PLAN



SECTION B-B

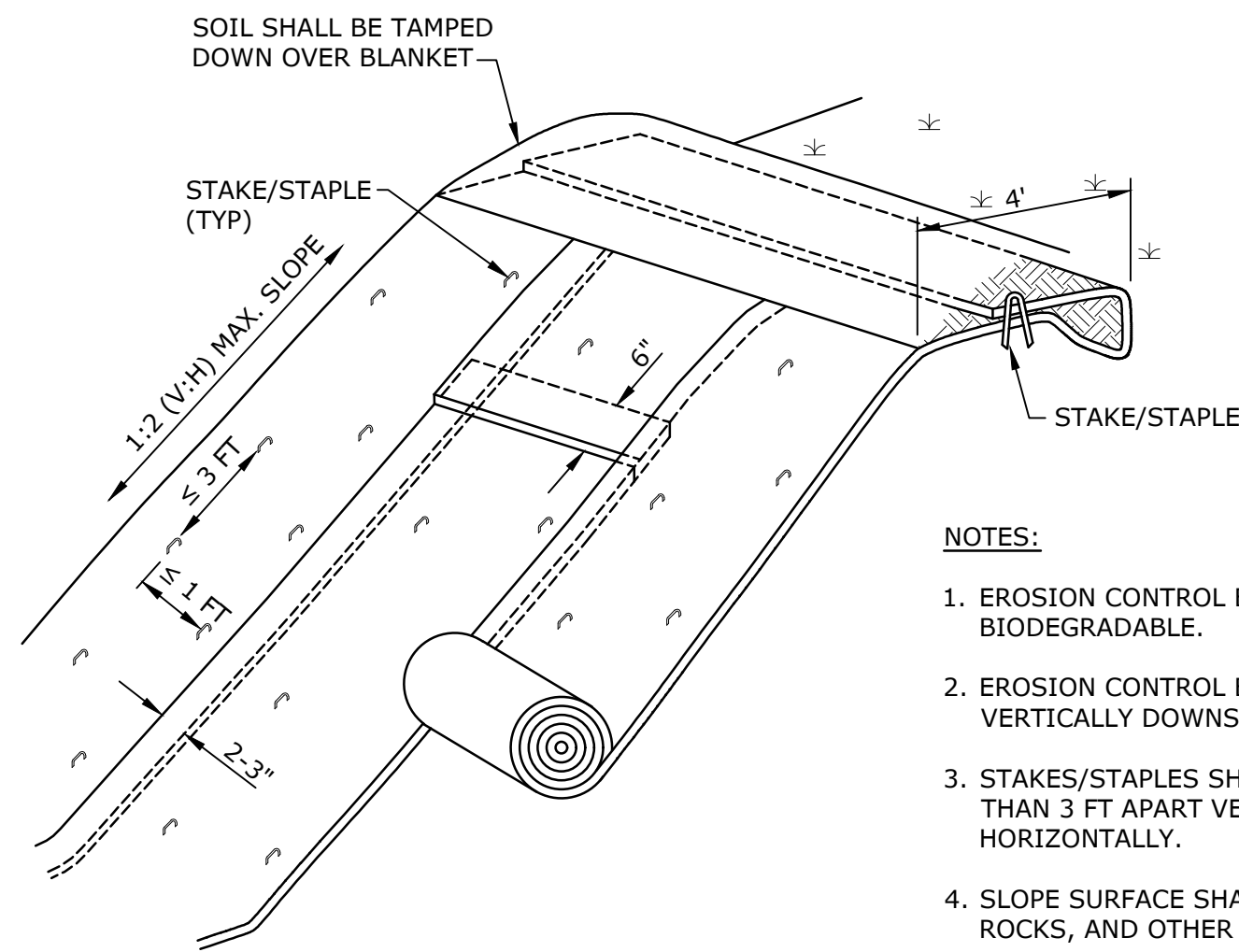
SEDIMENT TRAP

NO SCALE



STRAW WATTLE OR MULCH LOG BARRIER

NO SCALE



NOTES:

1. EROSION CONTROL BLANKET SHALL BE 100% BIODEGRADABLE.
2. EROSION CONTROL BLANKET SHALL BE INSTALLED VERTICALLY DOWNSLOPE.
3. STAKES/STAPLES SHALL BE PLACED NO MORE THAN 3 FT APART VERTICALLY, AND 1 FT APART HORIZONTALLY.
4. SLOPE SURFACE SHALL BE FREE OF STICKS, ROCKS, AND OTHER OBSTRUCTIONS.
5. BLANKETS SHALL BE ROLLED OUT LOOSELY AND STAKED/STAPLED TO MAINTAIN DIRECT SOIL CONTACT. DO NOT STRETCH THE BLANKETS.

EROSION CONTROL BLANKET

NO SCALE



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GENERAL DETAILS

SCALE: AS SHOWN

C-502