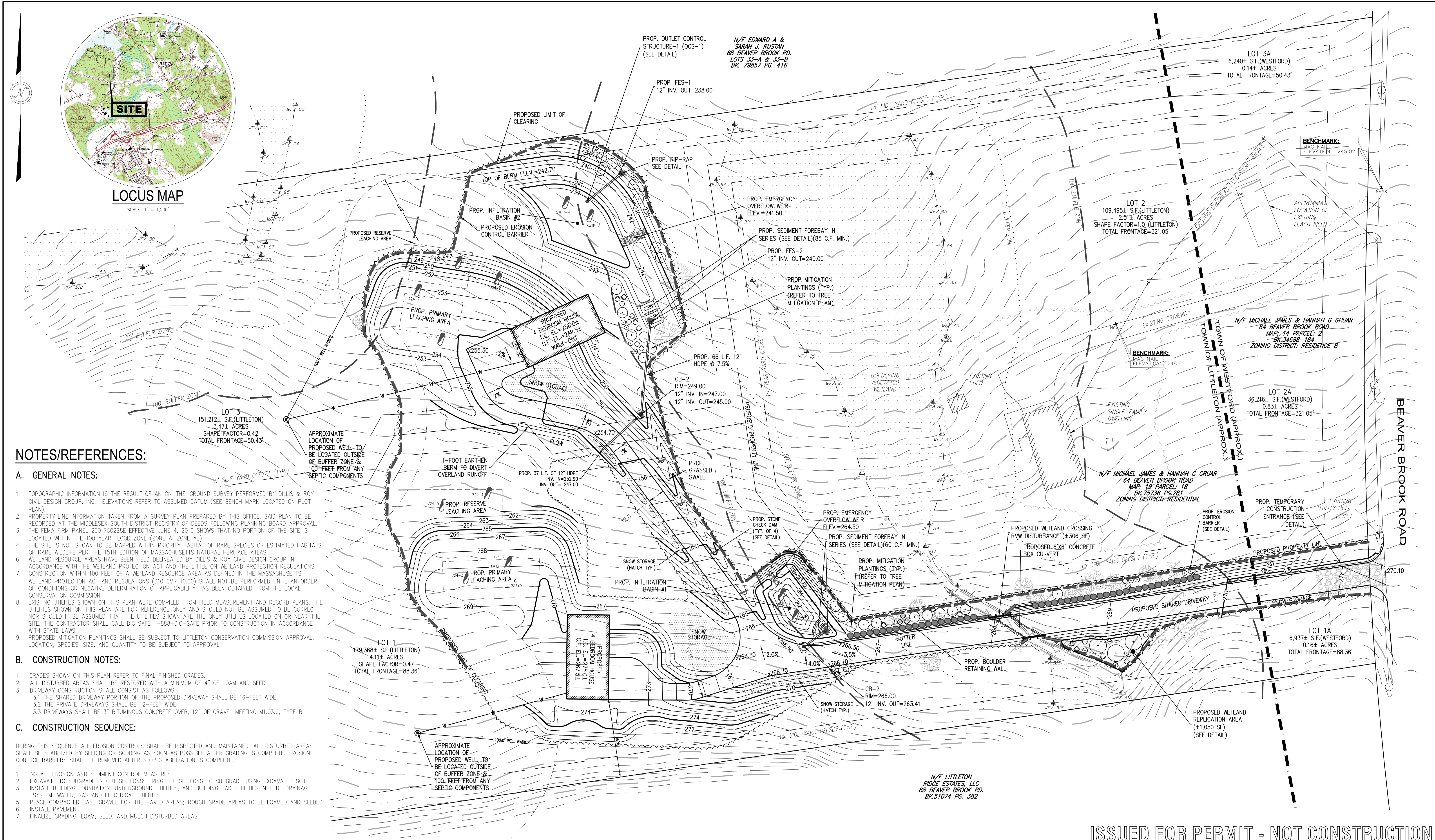




NOTES/REFERENCES:

- A. GENERAL NOTES:
- TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ON-THE-GROUND SURVEY PERFORMED BY DILLIS & ROY CIVIL DESIGN GROUP, INC. ELEVATIONS REFER TO ASSUMED DATUM (SEE BENCH MARK LOCATED ON PLOT PLAN).
 - PROPERTY LINE INFORMATION TAKEN FROM A SURVEY PLAN PREPARED BY THIS OFFICE. SAID PLAN TO BE RECORDED AT THE MIDDLESEX SOUTH DISTRICT REGISTRY OF DEEDS FOLLOWING PLANNING BOARD APPROVAL.
 - THE FEMA FIRM PANEL 25017C0228E EFFECTIVE JUNE 4, 2010 SHOWS THAT NO PORTION OF THE SITE IS LOCATED WITHIN THE 100 YEAR FLOOD ZONE (ZONE A, ZONE AE).
 - THE SITE IS NOT SHOWN TO BE MAPPED WITHIN PRIORITY HABITAT OF RARE SPECIES OR ESTIMATED HABITATS OF RARE WILDLIFE PER THE 15TH EDITION OF MASSACHUSETTS NATURAL HERITAGE ATLAS.
 - WETLAND RESOURCE AREAS HAVE BEEN FIELD DELINEATED BY DILLIS & ROY CIVIL DESIGN GROUP IN ACCORDANCE WITH THE WETLAND PROTECTION ACT AND THE LITTLETON WETLAND PROTECTION REGULATIONS.
 - CONSTRUCTION WITHIN 100 FEET OF A WETLAND RESOURCE AREA AS DEFINED IN THE MASSACHUSETTS WETLAND PROTECTION ACT AND REGULATIONS (310 CMR 10.00) SHALL NOT BE PERFORMED UNTIL AN ORDER OF CONDITIONS OR NEGATIVE DETERMINATION OF APPLICABILITY HAS BEEN OBTAINED FROM THE LOCAL CONSERVATION COMMISSION.
 - EXISTING UTILITIES SHOWN ON THIS PLAN WERE COMPILED FROM FIELD MEASUREMENT AND RECORD PLANS. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND SHOULD NOT BE ASSUMED TO BE CORRECT NOR SHOULD IT BE ASSUMED THAT THE UTILITIES SHOWN ARE THE ONLY UTILITIES LOCATED ON OR NEAR THE SITE. THE CONTRACTOR SHALL CALL DIG SAFE 1-888-DIG-SAFE PRIOR TO CONSTRUCTION IN ACCORDANCE WITH STATE LAWS.
 - PROPOSED MITIGATION PLANTINGS SHALL BE SUBJECT TO LITTLETON CONSERVATION COMMISSION APPROVAL. LOCATION, SPECIES, SIZE, AND QUANTITY TO BE SUBJECT TO APPROVAL.
- B. CONSTRUCTION NOTES:
- GRADES SHOWN ON THIS PLAN REFER TO FINAL FINISHED GRADES.
 - ALL DISTURBED AREAS SHALL BE RESTORED WITH A MINIMUM OF 4" OF LOAM AND SEED.
 - DRIVEWAY CONSTRUCTION SHALL CONSIST AS FOLLOWS:
 - THE SHARED DRIVEWAY PORTION OF THE PROPOSED DRIVEWAY SHALL BE 16- FEET WIDE.
 - THE PRIVATE DRIVEWAYS SHALL BE 12- FEET WIDE.
 - DRIVEWAYS SHALL BE 3" BITUMINOUS CONCRETE OVER, 12" OF GRAVEL MEETING M1.03.0, TYPE B.
- C. CONSTRUCTION SEQUENCE:
- DURING THIS SEQUENCE ALL EROSION CONTROLS SHALL BE INSPECTED AND MAINTAINED. ALL DISTURBED AREAS SHALL BE STABILIZED BY SEEDING OR SODDING AS SOON AS POSSIBLE AFTER GRADING IS COMPLETE. EROSION CONTROL BARRIERS SHALL BE REMOVED AFTER SLOP STABILIZATION IS COMPLETE.
- INSTALL EROSION AND SEDIMENT CONTROL MEASURES.
 - EXCAVATE TO SUBGRADE IN CUT SECTIONS; BRING FILL SECTIONS TO SUBGRADE USING EXCAVATED SOIL.
 - INSTALL BUILDING FOUNDATION, UNDERGROUND UTILITIES, AND BUILDING PAD. UTILITIES INCLUDE DRAINAGE SYSTEM, WATER, GAS AND ELECTRICAL UTILITIES.
 - PLACE COMPACTED BASE GRAVEL FOR THE PAVED AREAS; ROUGH GRADE AREAS TO BE LOAMED AND SEEDED.
 - INSTALL PAVEMENT
 - FINALIZE GRADING. LOAM, SEED, AND MULCH DISTURBED AREAS.

ISSUED FOR PERMIT - NOT CONSTRUCTION

PREPARED BY:

DILLIS & ROY

CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

CORPORATE OFFICE: 1 MAIN STREET, SUITE 1 LUNENBURG, MA 01462 978-779-6091 www.dillisandroy.com

CONCORD OFFICE: 100 MAIN ST., SUITE 310 CONCORD, MA 01742

OWNER:

MICHAEL & HANNAH GRUAR

64 BEAVER BROOK ROAD LITTLETON, MASSACHUSETTS 01460

APPLICANT:

MICHAEL & HANNAH GRUAR

64 BEAVER BROOK ROAD LITTLETON, MASSACHUSETTS 01460

SCALE:

30 0 15 30 60 120

1 in. = 30 ft.

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DIG SAFE

1-888-344-1233

STAMP DATE: 9/29/2025

DATE: 02/11/25

DESIGN BY: RPV

DRAWN BY: RPV

CHECKED BY: CSR

SHARED RESIDENTIAL DRIVEWAY PLAN

BEAVER BROOK RD. (M:R19 P:18)

LITTLETON, MASSACHUSETTS 01460

NO.	DATE	DESCRIPTION	BY
1.	6/18/25	REVISED PER CONSERVATION COMMISSION & DEP	RPV
2.	9/15/25	REVISED PER ENGINEERING PEER REVIEW	RPV
3.	9/29/25	REVISED PER CONSERVATION COMMISSION	RPV

JOB NO. 7462

DRAWING NO. 7462-SP

SHEET NO. 1 OF 4

NOTES:

A. SPECIFICATIONS

1. REPLICATION AREA SHALL BE STAKED PRIOR TO CONSTRUCTION. NOTIFY THE LITTLETON CONSERVATION COMMISSION FOR INSPECTION AFTER STAKING AND PRIOR TO CONSTRUCTION.
2. ALL CONSTRUCTION AND EXCAVATED MATERIAL SHALL BE STORED OUTSIDE OF THE RESOURCE AREA.
3. PRIOR TO CONSTRUCTION CONTRACTOR SHALL PLACE SIGN CONTAINING DEP FILE NUMBER WHERE IT CAN BE SEEN FROM THE STREET.
4. CONTRACTOR SHALL PLACE EROSION AND SEDIMENTATION CONTROL BARRIER AS SHOWN HEREON PRIOR TO CONSTRUCTION. NOTIFY LITTLETON CONSERVATION COMMISSION FOR INSPECTION AFTER INSTALLATION AND PRIOR TO CONSTRUCTION.
5. CONTRACTOR SHALL NOTIFY WETLAND SPECIALIST AFTER TO STAKING AND PLACEMENT OF EROSION CONTROL BARRIERS. WETLAND SPECIALIST TO ESTABLISH PHOTOMETRIC REFERENCE POINTS AT THIS TIME.
6. CONTRACTOR TO EXCAVATE ALL REPLICATION AREAS PRIOR TO EXCAVATING WITHIN THE EXISTING WETLAND FILL AREAS. EXCAVATE ALL REPLICATION AREA TO 12" BELOW FINAL FINISHED GRADES AS SHOWN HEREON. DE-WATER EXCAVATIONS AS REQUIRED.
7. WETLAND SOIL SHALL BE TRANSLOCATED WHEN POSSIBLE. SOILS TO BE USED AT THE REPLICATION SITE SHOULD BE USED IMMEDIATELY IF POSSIBLE OR STOCKPILED FOR AS LITTLE TIME AS POSSIBLE. WHILE STOCKPILED, THE SOILS SHOULD BE KEPT WET AND NOT BE ALLOWED TO DRY OUT. THE METHOD FOR MAINTAINING THE APPROPRIATE MOISTURE LEVEL SHOULD BE DOCUMENTED BY CONTRACTOR AND SUBMITTED TO THE PROJECT ENGINEER. CONTAMINATION OF THESE SOILS SHOULD BE PREVENTED. TRUCKS THAT HAVE PREVIOUSLY BEEN ON OTHER SITES SHOULD BE WASHED PRIOR TO INTRODUCTION TO THE REPLICATION SITE SO THAT MUD/DIRT WITH EXOTIC/INVASIVE SEEDS IS NOT INADVERTENTLY BROUGHT TO THE REPLICATION SITE.
8. PLACE TRANSLOCATED SOIL TO 12" DEPTH IN NEW REPLICATIONS AREAS TO FINAL FINISHED GRADES AS SHOWN HEREON.
9. CONTRACTOR TO PROVIDE ADDITIONAL WETLAND SOIL AS REQUIRED TO ACHIEVE THE 12" MINIMUM DEPTH IN THE REPLICATION AREAS. SUPPLEMENTAL SOIL SHALL CONSIST OF EQUAL VOLUMES OF A GOOD QUALITY LOAM AND WELL COMPOSTED ORGANIC MATERIAL. THE LOAM AND COMPOST SHOULD BE FREE OF LARGE STONES AND DEBRIS. CONTRACTOR TO FURNISH CONSERVATION COMMISSION WITH THE SOURCE OF OFF SITE SOIL ADDITIVES.
10. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE WETLAND SPECIALIST TO INSPECT THE WETLAND AREAS FOR THE PRESENCE OF INVASIVE SPECIES. INVASIVE SPECIES SHALL BE REMOVED PRIOR TO CONSTRUCTION.
11. CONTRACTOR TO PLACE TRANSLOCATED SOIL WITH SIMILAR DENSITY AS OBSERVED WITHIN THE EXISTING WETLAND AREA.
12. ALL PLANTING SHOULD OCCUR AT THE BEGINNING OR END OF THE GROWING SEASON UNLESS A WATERING PLAN IS SUBMITTED AND APPROVED BY THE COMMISSION. FALL PLANTINGS SHOULD BE DONE BEFORE THE FIRST FROST. SHRUBS SHALL BE PLANTED IN ACCORDANCE WITH PLANTINGS SHOWN ON PLAN. REFER TO PLANTING DETAIL FOR TREES AND SHRUBS. SEED MIXTURES SHALL BE SOWN IN ACCORDANCE WITH NURSERY SPECIFICATIONS. EXISTING TREES SHALL BE EXCAVATED AROUND IN A MANNER TO MINIMIZE ROOT DAMAGE WHERE APPLICABLE. STABILIZED CANOPY FROM EXISTING TREES WILL FURTHER ENHANCE THE SUCCESS OF NEW PLANTINGS. NEW ENGLAND WETMIX SHALL BE SPREAD THROUGHOUT THE REPLICATION AREAS IN ACCORDANCE WITH NURSERY SPECIFICATIONS. UPON COMPLETION OF PLANTINGS REPLICATION AREAS SHALL BE COVERED WITH CLEAN STRAW HAY AND WATERED.

B. OVERSIGHT/MONITORING

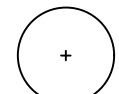
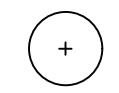
THE PROJECT SUPERVISOR OR MONITOR SHOULD BE PRESENT DURING THE MOST IMPORTANT TASKS IN REPLICATION CONSTRUCTION AS DESCRIBED BELOW.

1. INSPECT SITE FLAGGING BEFORE EXCAVATION OR EROSION CONTROL INSTALLATION BEGINS.
2. DURING EXCAVATION OF THE ALTERED AREA IF VEGETATION IS TO BE TRANSLOCATED TO THE REPLICATION AREA TO ENSURE SURVIVAL OF THE PLANTINGS.
3. BEFORE SOIL TRANSLOCATION OR ADDITION INTO THE REPLICATION AREA TO INSPECT EXCAVATED ELEVATIONS AND LIKELY POST-CONSTRUCTION GROUND WATER ELEVATIONS FOR THE REPLICATION AREA.
4. AFTER EACH STAGE OF GRADING WORK IS COMPLETED TO INSPECT FINISHED ELEVATIONS.
5. DURING PLANTING AND SEEDING AND AFTER THE FIRST MONTH OF THE GROWING SEASON TO INSPECT PROPAGATION TECHNIQUES.
6. AFTER ONE GROWING SEASON TO OBSERVE VEGETATION DEVELOPMENT AND REGULATORY COMPLIANCE.
7. AFTER TWO GROWING SEASONS TO DETERMINE VEGETATION DEVELOPMENT AND REGULATORY COMPLIANCE.
8. AFTER SUBSEQUENT GROWING SEASONS, IF A GREATER THAN 2-YEAR MONITORING PROGRAM IS REQUIRED.
9. MONITORING SHALL BE PERFORMED IN ACCORDANCE WITH THE LITTLETON WETLAND REGULATIONS.
10. PLANTS SHALL BE REPLACED AS NECESSARY TO ENSURE A 75% SURVIVAL RATE.
11. EROSION CONTROLS SHALL BE REMOVED PRIOR TO ISSUANCE OF A CERTIFICATE OF COMPLIANCE.

C. EROSION CONTROL SPECIFICATIONS

1. WORK SHALL BE PERFORMED DURING A DRY PERIOD TO THE MAX EXTENT POSSIBLE
2. PLACE EROSION CONTROL BARRIER (SILT FENCE ONLY AROUND REPLICATION AREAS) PRIOR TO CONSTRUCTION. NOTIFY THE BOLTON CONSERVATION COMMISSION AFTER INSTALLATION FOR INSPECTION.

WETLAND PLANTING SCHEDULE

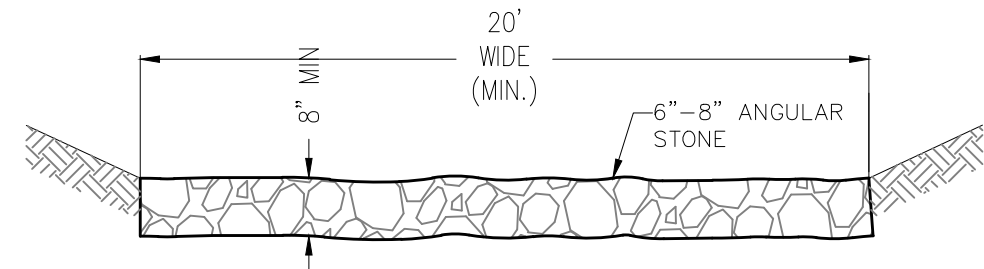
SYMBOL:	COMMON NAME:	BOTANICAL NAME:	SIZE:	SPACING:	QUANTITY:
	RED MAPLE	ACER RUBRUM	B&B 6'-8" HEIGHT	AS SHOWN	3
	HIGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	#3 CONTAINER 18"-24" HEIGHT	AS SHOWN	6
	CINNAMON FERN	OSMUNDA CINNAMOMEA	#1 CONTAINER	AS SHOWN	20
	RED OSIER DOGWOOD	CORNUS SERICEA	#3 CONTAINER 18"-24" HEIGHT	AS SHOWN	5

NOTE: THE ENTIRE REPLICATION AREA WILL BE SEEDED WITH "NEW ENGLAND WET MIX" (WETLAND SEED MIX) AT AN APPLICATION RATE OF 1 LB/2500 S.F.

SEEDING:

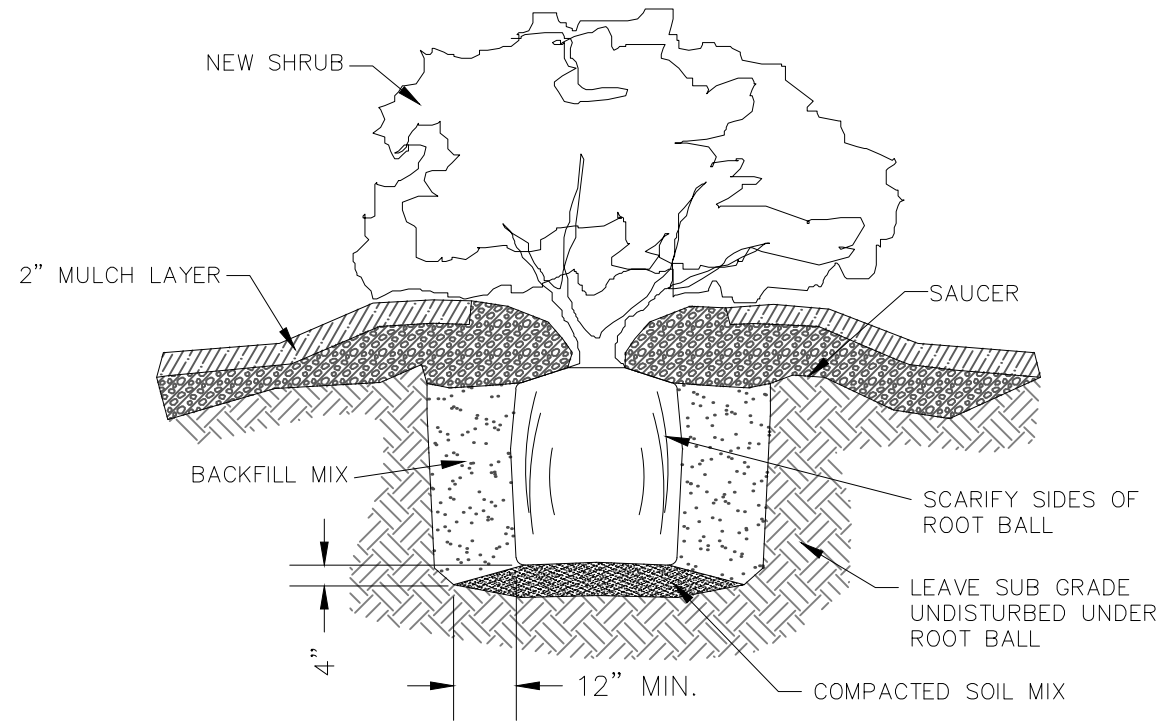
THE MIX MAY BE APPLIED BY MECHANICAL SPREADER, OR BY HAND. WHEN APPLYING ON BARE SOIL, RAKE THE SOIL TO CREATE GROOVES, APPLY SEED, THEN LIGHTLY RAKE OVER. IN NEW ENGLAND, THE BEST RESULTS ARE OBTAINED WITH AN EARLY SPRING SEEDING. SUMMER SEEDING CAN BE SUCCESSFUL WITH A LIGHT MULCHING OF WEED FREE STRAW TO CONSERVE MOISTURE. LATE FALL AND WINTER DORMANT SEEDING REQUIRE A SLIGHT INCREASE IN THE SEEDING RATE. FERTILIZATION IS NOT REQUIRED UNLESS THE SOIL IS PARTICULARLY INFERTILE.

NOTE:
LENGTH = 50' MINIMUM
SEE PLAN FOR LOCATION(S)



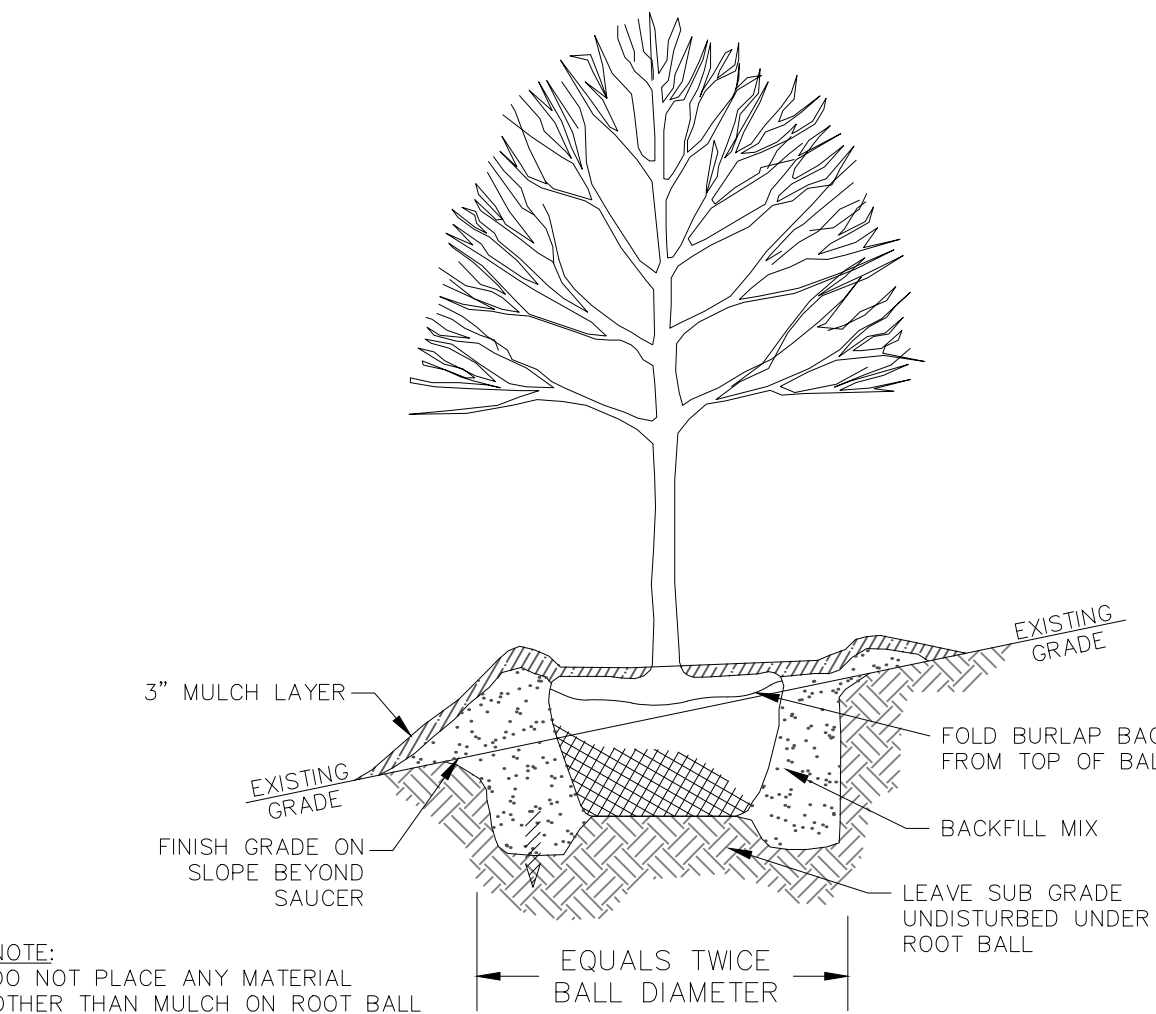
TEMP. CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE



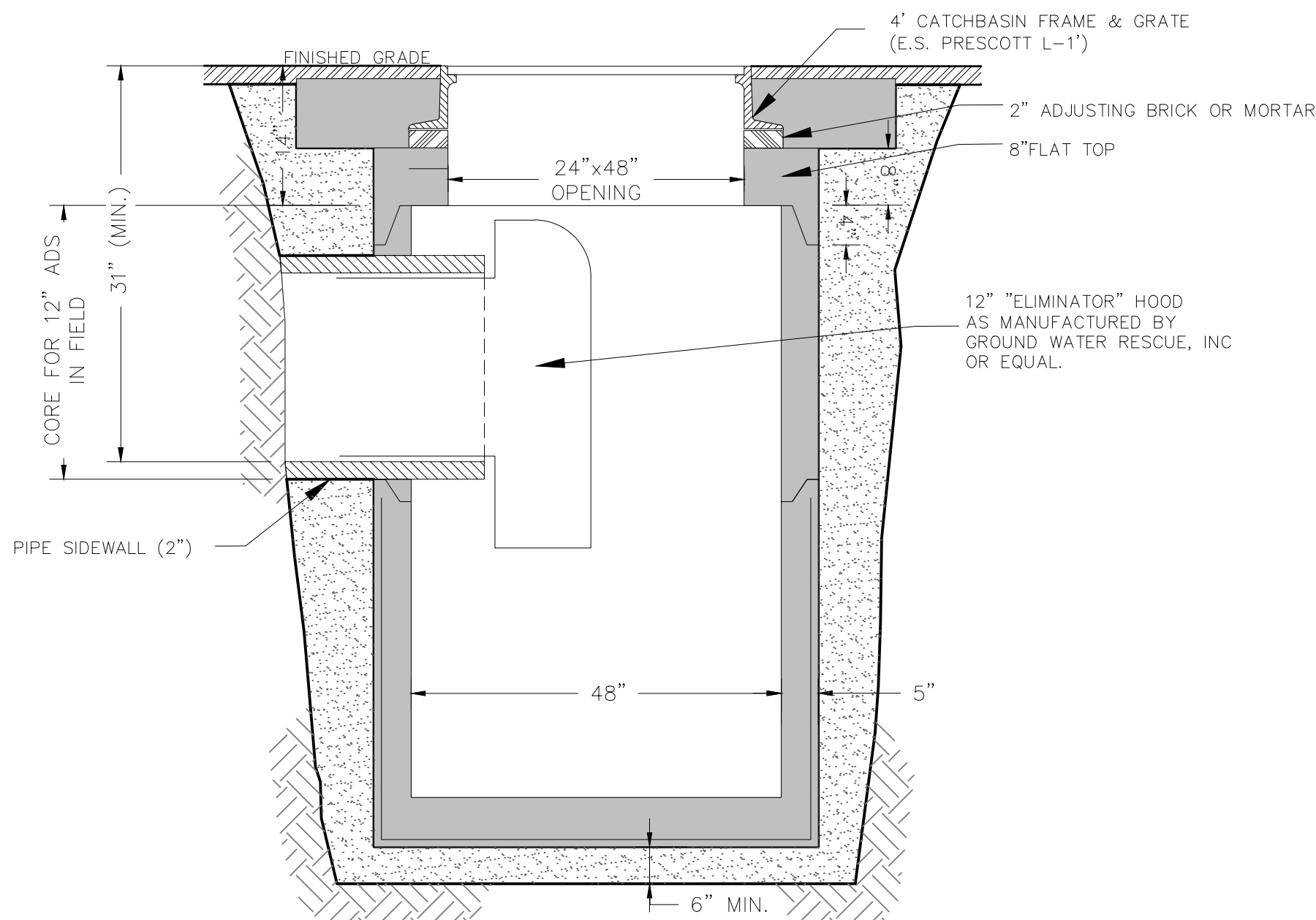
SHRUB PLANTING DETAIL

NOT TO SCALE



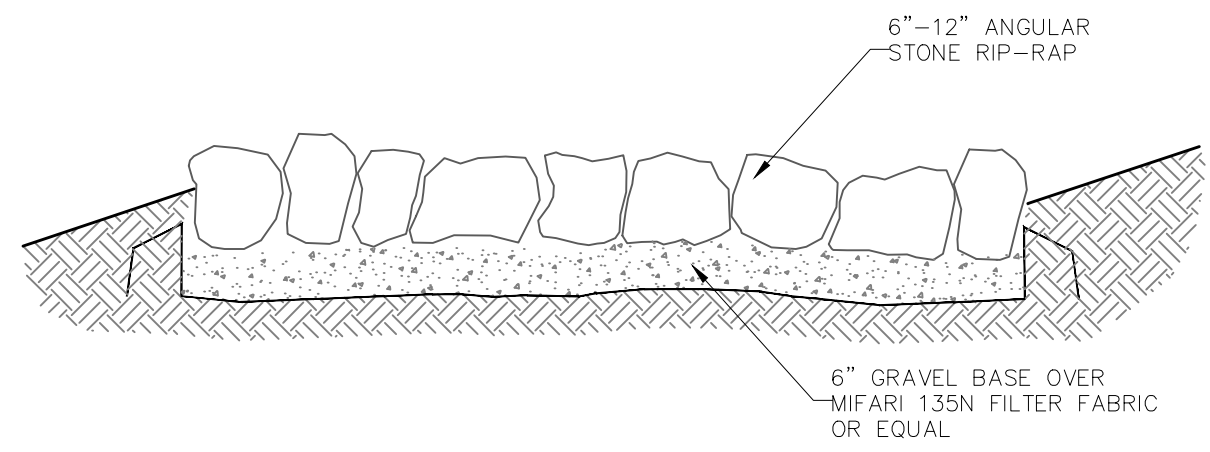
TREE PLANTING DETAIL

NOT TO SCALE



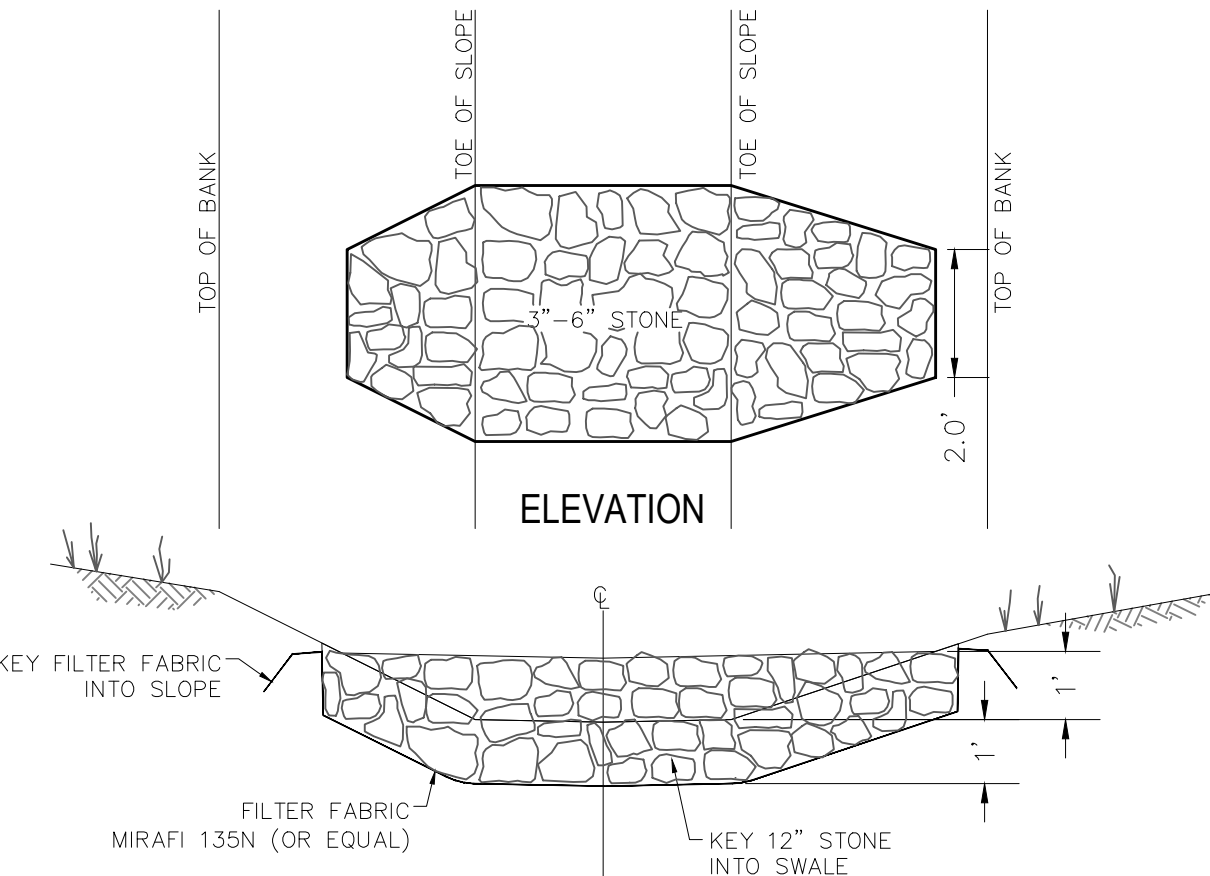
LOW PROFILE CATCH BASIN

NOT TO SCALE



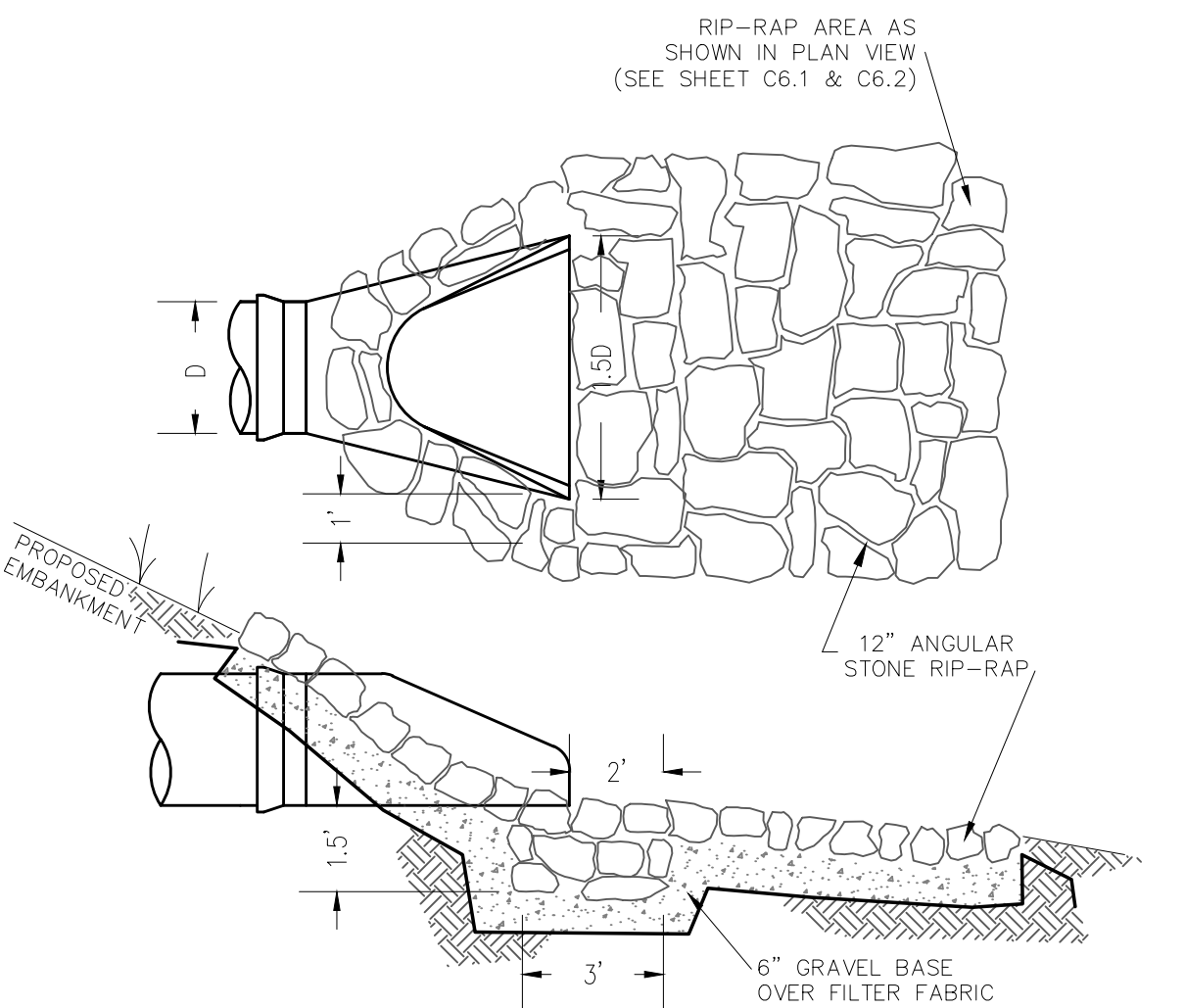
STONE RIP-RAP DETAIL

NOT TO SCALE



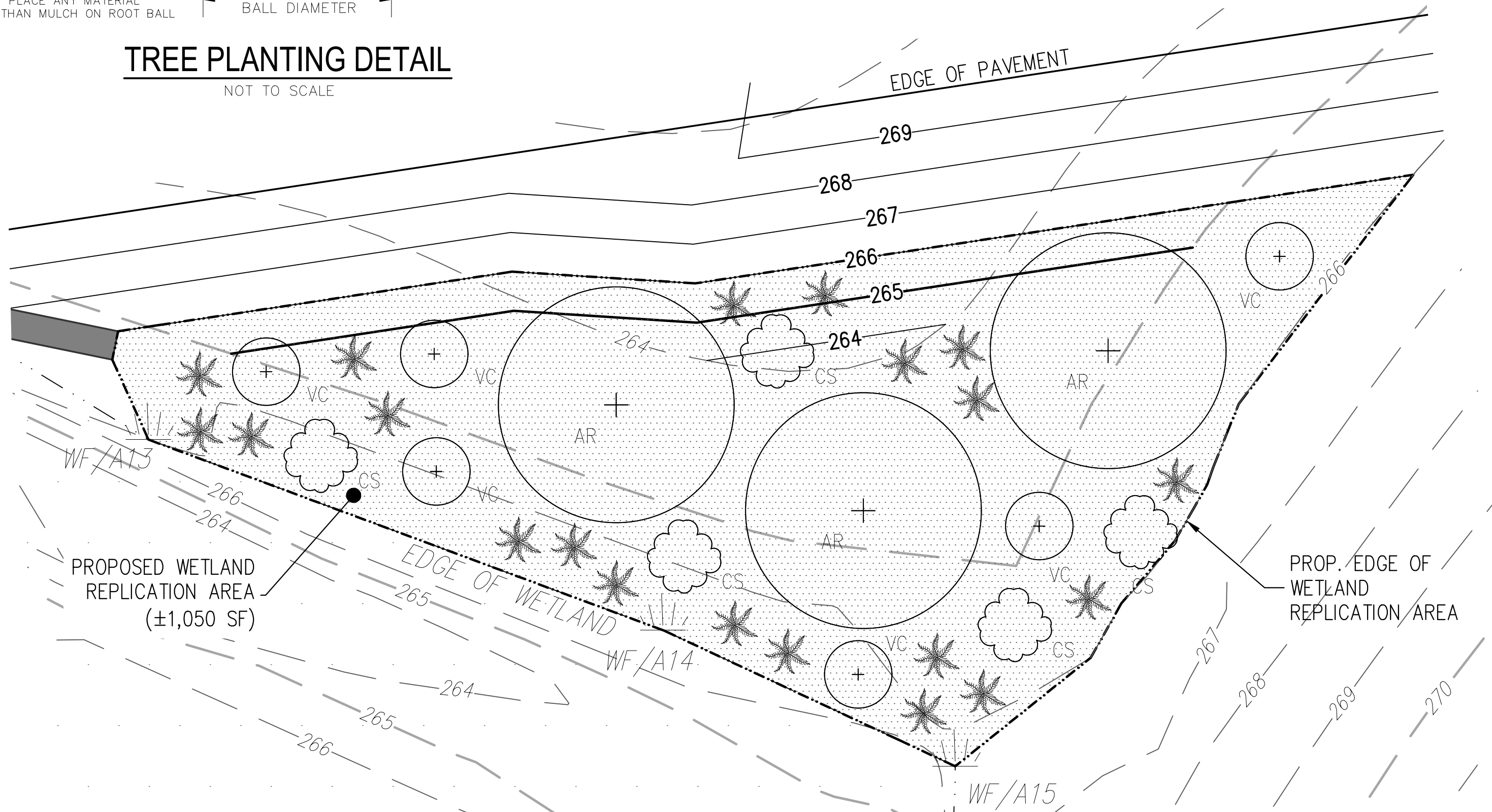
CROSS-SECTION
CHECK DAM DETAIL

SCALE: 1"=3'



FLARED END SECTION

NOT TO SCALE



WETLAND REPLICATION AREA

SCALE: 1"=5'

ISSUED FOR PERMIT - NOT CONSTRUCTION

PREPARED BY:



CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
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CONCORD OFFICE: 100 MAIN ST., SUITE 310 CONCORD, MA 01742
978-779-6091
www.dillisandroy.com

OWNER:

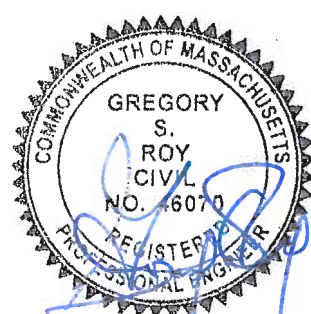
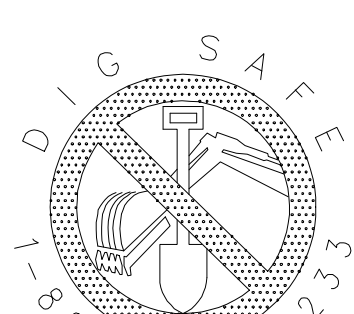
MICHAEL & HANNAH GRUAR
64 BEAVER BROOK ROAD
LITTLETON, MASSACHUSETTS 01460

APPLICANT:

MICHAEL & HANNAH GRUAR
64 BEAVER BROOK ROAD
LITTLETON, MASSACHUSETTS 01460

SCALE:

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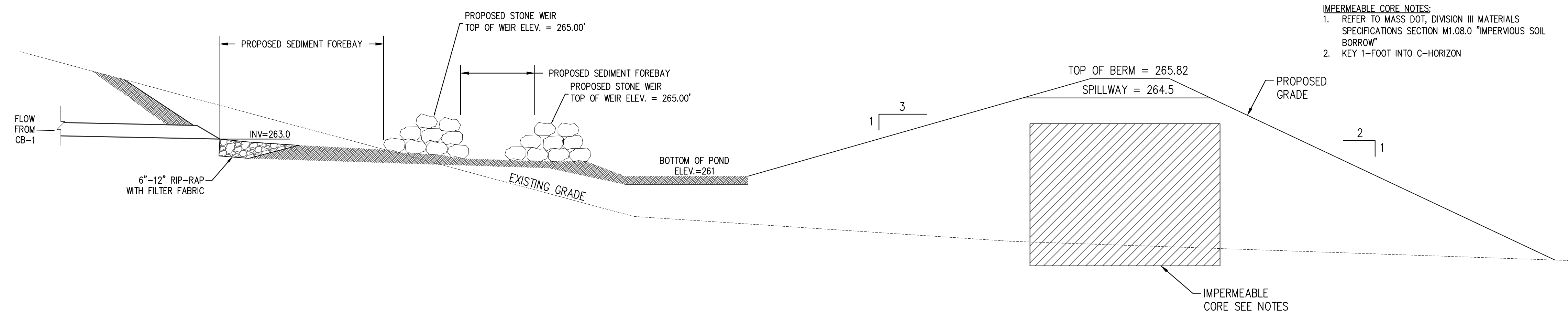


STAMP DATE: 9/29/2025

DATE:	02/11/25
DESIGN BY:	RPV
DRAWN BY:	RPV
CHECKED BY:	CSR

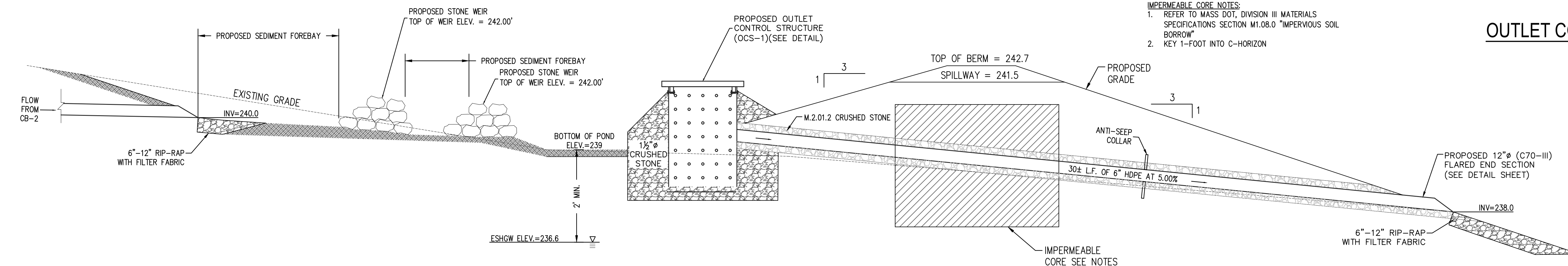
CONSTRUCTION DETAILS BEAVER BROOK RD. (M:R19 P:18) LITTLETON, MASSACHUSETTS 01460			
NO.	DATE	DESCRIPTION	BY
1.	6/18/25	REVISED PER CONSERVATION COMMISSION & DEP	RPV
2.	9/15/25	REVISED PER ENGINEERING PEER REVIEW	RPV
3.	9/29/25	REVISED PER CONSERVATION COMMISSION	RPV

JOB NO.	7462
DRAWING NO.	7462-SP
SHEET NO.	2
OF 4	



INFILTRATION BASIN #1 BERM CROSS-SECTION DETAIL

NOT TO SCALE

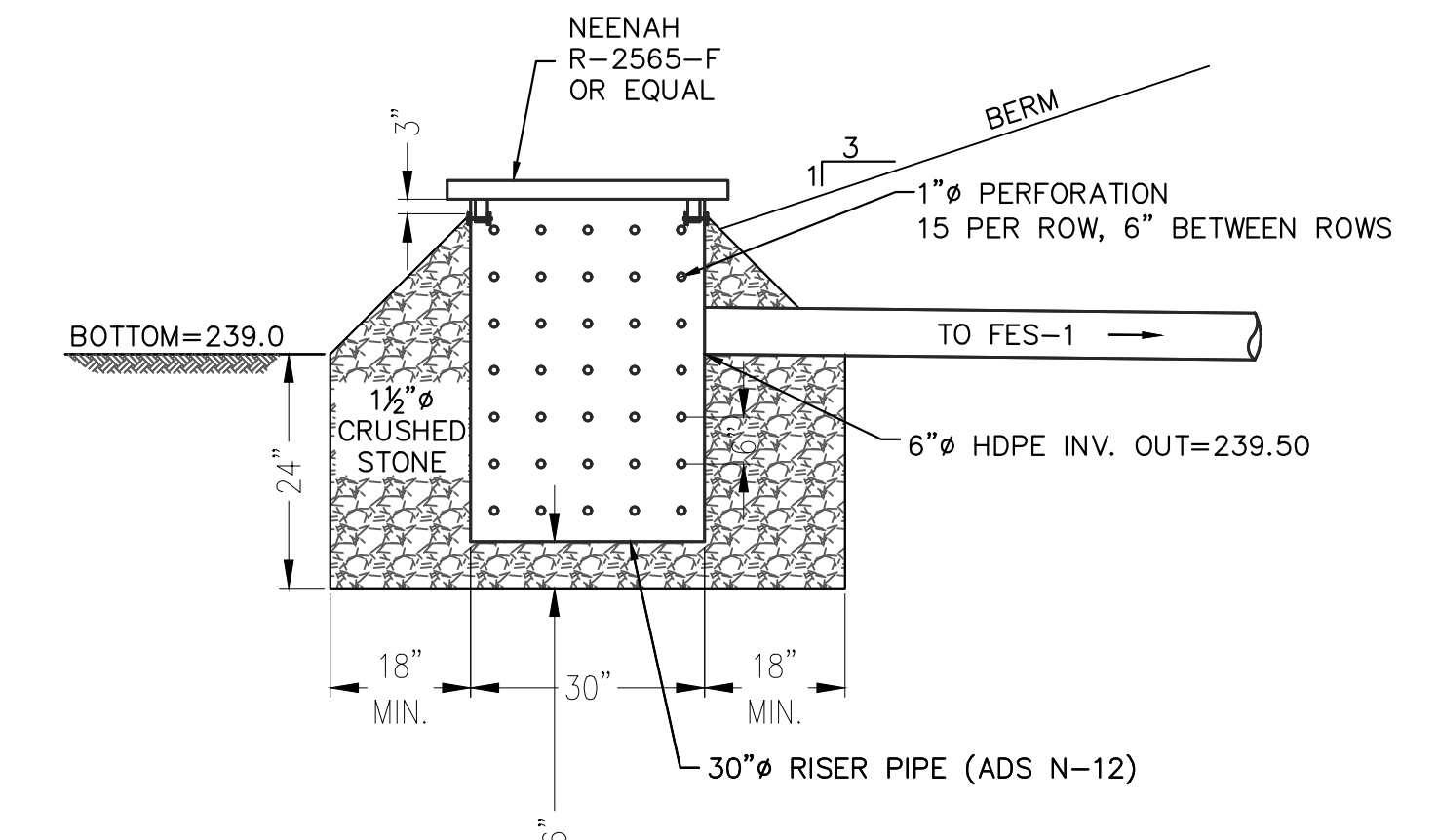


INFILTRATION BASIN #2 BERM CROSS-SECTION DETAIL

NOT TO SCALE

- IMPERMEABLE CORE NOTES:
1. REFER TO MASS DOT, DIVISION III MATERIALS SPECIFICATIONS SECTION M1.08.0 "IMPERVIOUS SOIL BORROW"
 2. KEY 1-FOOT INTO C-HORIZON

- IMPERMEABLE CORE NOTES:
1. REFER TO MASS DOT, DIVISION III MATERIALS SPECIFICATIONS SECTION M1.08.0 "IMPERVIOUS SOIL BORROW"
 2. KEY 1-FOOT INTO C-HORIZON



OUTLET CONTROL STRUCTURE DETAIL (OCS-1)

SCALE: 1" = 2'

ISSUED FOR PERMIT - NOT CONSTRUCTION

PREPARED BY:

DILLIS & ROY
CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

CORPORATE OFFICE: 1 MAIN STREET, SUITE 1 LUNENBURG, MA 01462 978-779-6091 www.dillisandroy.com

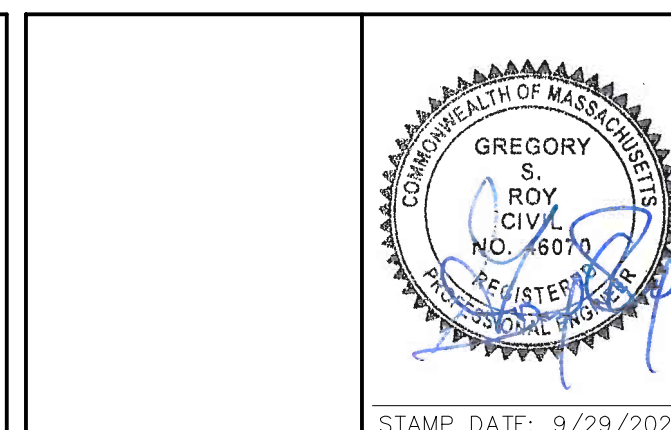
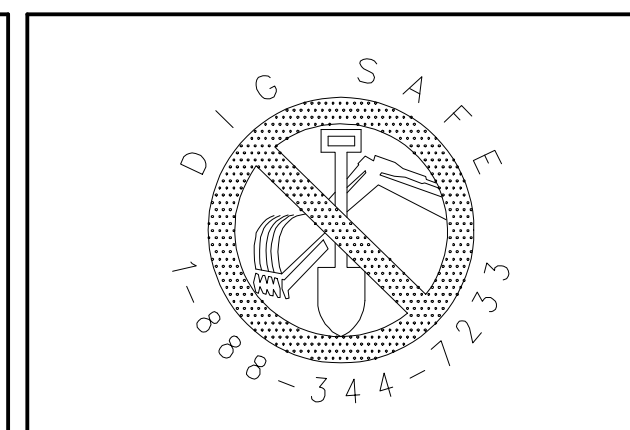
CONCORD OFFICE: 100 MAIN ST., SUITE 310 CONCORD, MA 01742

OWNER: MICHAEL & HANNAH GRUAR
64 BEAVER BROOK ROAD
LITTLETON, MASSACHUSETTS 01460

APPLICANT: MICHAEL & HANNAH GRUAR
64 BEAVER BROOK ROAD
LITTLETON, MASSACHUSETTS 01460

SCALE:

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DATE:	02/11/25
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DRAWN BY:	RPV
CHECKED BY:	CSR

CONSTRUCTION DETAILS BEAVER BROOK RD. (M:R19 P:18) LITTLETON, MASSACHUSETTS 01460			
NO.	DATE	DESCRIPTION	BY
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3.	9/29/25	REVISED PER CONSERVATION COMMISSION	RPV

JOB NO. 7462

DRAWING NO. 7462-SP

SHEET NO. 4 OF 4