

CONSULTANTS DESIGN TEAM:

ATTORNEY:
MANN & MANN COUNSELORS AT LAW
191 S MAIN STREET #104
MIDDLETON, MA 01949
978.762.6238

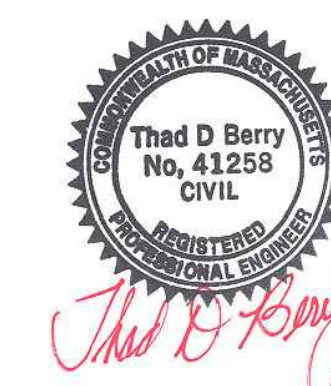
CIVIL ENGINEER:
ASB DESIGN GROUP, LLC
363 BOSTON STREET
TOPSFIELD MA 01983
978.500.8419

SURVEYOR:
DONOHOE SURVEY, INC.
363 BOSTON STREET
TOPSFIELD MA 01983
978.887.6161

WETLANDS
NORSE ENVIRONMENTAL
SERVICES, INC.
92 MIDDLESEX ROAD
UNIT 4
TYNGSBORO, MA 01871
978.649.9932

INDEX OF SHEETS

- C1 SHEET 1 OF 7 OVERALL SITE PLAN & NRCS SOIL DATA
- C2 SHEET 2 OF 7 SITE PLAN
- C3 SHEET 3 OF 7 WETLAND CROSSING PLAN
- C4 SHEET 4 OF 7 ROADWAY ENTRANCE CULVERT PLAN
- C5 SHEET 5 OF 7 EROSION CONTROL DETAILS
- C6 SHEET 6 OF 7 WETLAND RESTORATION PLAN & DETAILS
- C7 SHEET 7 OF 7 WETLAND RESTORATION PLAN & DETAILS



510 NEWBURYPORT TURNPIKE
ROWLEY, MA 01969

Map: 19 Block: 8 Lot: 4A

NOTICE OF INTENT PLANS

Date: 09/26/2022 Job No: 2020-10 DEP No. T.B.D.

prepared for:
510 NEWBURYPORT REALTY TRUST
& DOAKS LANE
MARBLEHEAD, MA 01945

applicant:
BITTERROOT LLC
357 NORTH STREET
GEORGETOWN, MA 01833

OVERALL SITE PLAN

ASB design group llc
363 boston street, route 1
topsfeld, ma 01983
978-500-8419

no.	date	description
0	09/26/22	ISSUED FOR REVIEW

NAD 83 MA S.P.C.

PARCEL B
NOT A BUILDABLE LOT

N/F
COURTNEY A. JOHNSON & JOHN C. WEST
PARCEL 19-11-1
BK. 36992 PG. 370

N/F
524 NEWBURYPORT TURNPIKE LLC
PARCEL 19-9
BK. 35054 PG. 182

N/F
TOWN OF ROWLEY
PARCEL 19-8-3-A
BK. 21253 PG. 502

N/F
VERNON J. BELL III
PARCEL 19-8-2-A
BK. 34535 PG. 468

N/F
VERNON J. BELL III
PARCEL 19-8-1-A
BK. 28149 PG. 531

EROSION CONTROL

STORMWATER POLLUTION PREVENTION PLAN NOTES:

1. EROSION CONTROL BARRIER TO BE STAKED IN THE FIELD BY SURVEYOR PRIOR TO CONSTRUCTION.
2. MATERIAL STOCKPILE AREA WILL BE SURROUNDED BY AN EROSION CONTROL BARRIER (HAY BALES, SILTATION FENCE, AND/OR SILTATION SOCK). LOTS 2, 3 AND 5 WILL ACT AS MATERIAL STOCKPILE AREA DURING CONSTRUCTION. MATERIAL STOCKPILE AREAS SHALL BE PLACED WITHIN AREA TO BE CLEAR FOR EACH HOUSE CONSTRUCTION AND OUTSIDE THE 100' BUFFER ZONE.
3. ALL LOAM IS TO REMAIN ON SITE UNTIL ALL AREAS ARE LOAMED AND SEEDED. EXCESS LOAM SHALL BE REMOVED FROM THE SITE AT THE COMPLETION FOR ROADWAY AND LOT CONSTRUCTION.
4. FOR INDIVIDUAL LOT CONSTRUCTION CONTRACTOR SHALL PLACE ALL MATERIALS WITHIN THE ZONE OF CONSTRUCTIONS SURROUNDED BY EROSION CONTROL BARRIER (HAY BALES, SILTATION FENCE, AND/OR SILTATION SOCK). CONTRACTOR IS RESPONSIBLE FOR MOVEMENT OF ALL MATERIALS ON THE LOTS IN ORDER TO COMPLETE CONSTRUCTION IN CONFORMANCE WITH THE PLANS, DETAILS, SPECIFICATIONS AND NORTH READING CONSERVATION COMMISSION ORDER OF CONDITIONS.
5. CONSTRUCTION ENTRANCE WILL BE INSTALLED FOR VEHICLE ACCESS TO CONSTRUCTION STAGING AREA.
6. CONCRETE WASHOUT AREA WILL BE A MINIMUM OF 6'X6' AND BE SURROUNDED BY A SINGLE ROW OF STACKED HAY BALES. ALL HARDENED CONCRETE WILL BE REMOVED AND DISPOSED OF OFF SITE IN ACCORDANCE WITH THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION'S (MADEP) RULES AND REGULATIONS.
7. ALL CATCH BASINS WILL BE PROTECTED BY A "SILT BAG INLET PROTECTION".
8. BMP'S SHALL ACT AS TEMPORARY SEDIMENTATION POND DURING CONSTRUCTION. THEREFOR THE INITIAL BASIN EXCAVATION SHOULD BE TAKEN TO NO MORE THAN 1 FT OF THE FINISH BASIN FLOOR ELEVATION EXCEPT TO ACCOMMODATE THE BASIN OUTLET. ACCUMULATED SEDIMENTS SHALL BE REMOVED DURING FINAL BMP CONSTRUCTION AND STABILIZATION. REMOVE SEDIMENTS WHEN DEPTH REACHES 12".
9. DURING BUILDING CONSTRUCTION A VEHICLE WASH AREA WILL BE LOCATED WITHIN THE GENERAL BUILDING AREA CONSTRUCTION LIMITS.
10. CONTRACTOR SHALL OBTAIN NPDES GENERAL PERMIT PRIOR TO CONSTRUCTION.
11. CONTRACTOR SHALL KEEP A COPY OF THE APPROVED PLANS ALONG WITH THE NORTH READING CONSERVATION COMMISSION'S ORDER OF CONDITIONS AND TOWN OF ROWLEY'S PLANNING BOARD CONDITIONS OF APPROVAL AT ALL TIMES.

PARCEL A
NOT A BUILDABLE LOT

TOTAL BUFFER ZONE IMPACTS:

1. TOTAL BUFFER ZONE SUMMARY (ROADWAY ONLY)
 - 0' - 25' BUFFER ZONE IMPACTS:
 - 272 S.F. FOR ROADWAY ENTRANCE AT ROUTE 1 DRAINAGE SWALE.
 - 5,498 S.F. WETLAND RESTORATION AREA.
 - 5,297 S.F. FOR ROADWAY CROSSING, BMP'S 1A, 1B AND 2, GRADING FOR WETLAND RESTORATION AREA
 - 25' - 100' BUFFER ZONE IMPACTS:
 - 951 S.F. FOR WETLAND RESTORATION AREA
 - 10,004 S.F. GRADING FOR WETLAND RESTORATION AREA.
 - 36,363 S.F. ROADWAY AND BMP'S 1A, 1B, AND 2
2. TOTAL BUFFER ZONE SUMMARY (LOTS ONLY)
 - LOT 1: 25'-100' BUFFER ZONE IMPACT = 2,816 S.F.
 - LOT 3: 25'-100' BUFFER ZONE IMPACT = 319 S.F.
 - LOT 4: 25'-100' BUFFER ZONE IMPACT = 1,664 S.F.
 - LOT 5: 25'-100' BUFFER ZONE IMPACT = 130 S.F.
 - LOT 6: 25'-100' BUFFER ZONE IMPACT = 9,166 S.F.

CURRENT OWNER:
510 NEWBURYPORT REALTY TRUST
& DOAKS LANE
MARBLEHEAD, MA 01945

WETLAND REPLICATION

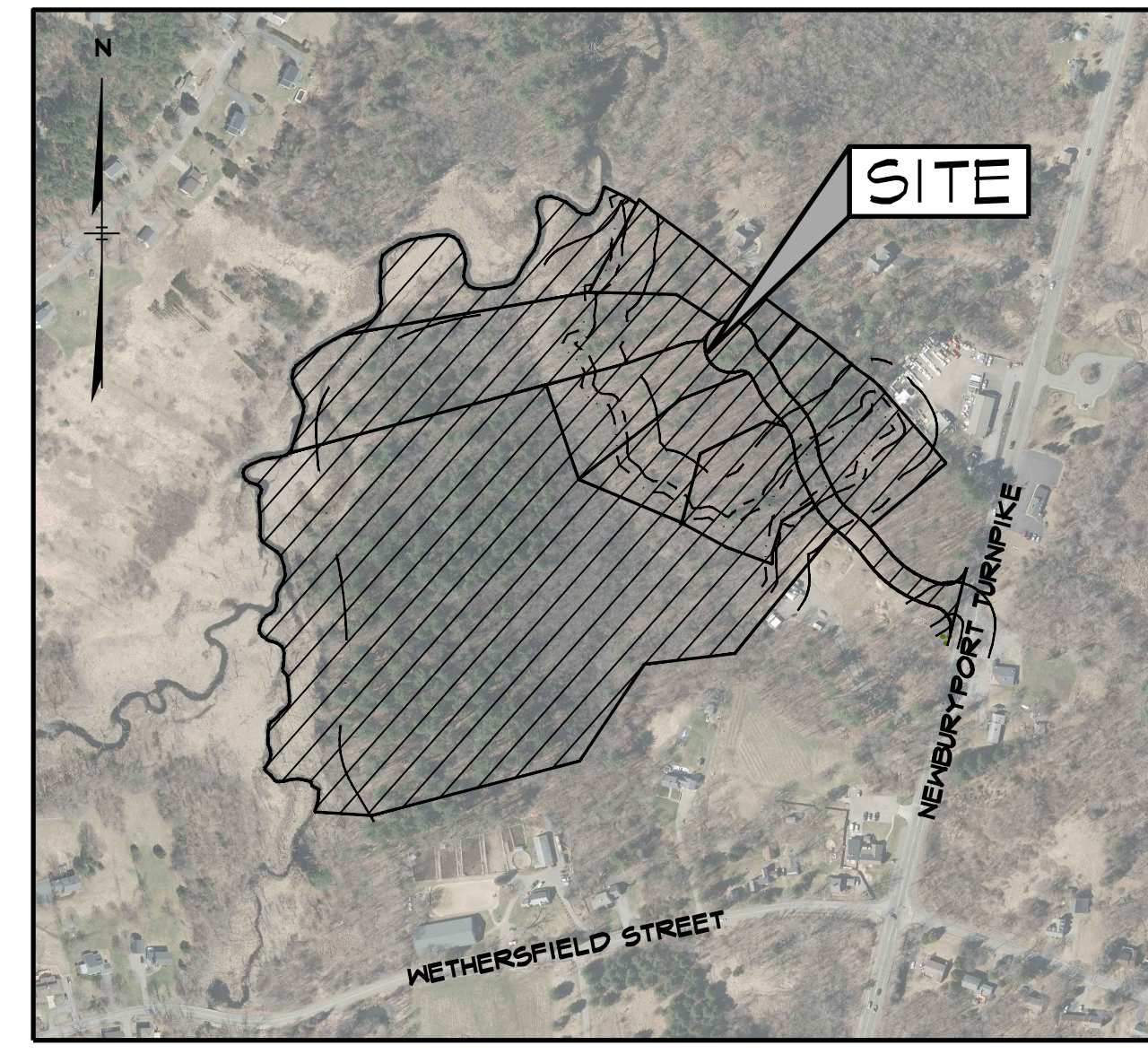
WETLAND FILLING ROADWAY CROSSING = 3,151 S.F.
WETLAND REPLICATION AREA:
REQUIRED AREA = 3,151 S.F. X 2 = 6,302 S.F.
PROVIDED AREA = 6,449 S.F. > 6,302 S.F.

PROPOSED WETLAND RESOURCE AREA IMPACTS

RESOURCE AREA	TOTAL AREA
WETLAND FILL AREA	3,151 S.F.
WETLAND REPLICATION AREA	6,449 S.F.
TOTAL BUFFER ZONE AREA ROADWAY (BUFFER ZONE IMPACTS)	47,318 S.F.
TOTAL BUFFER ZONE AREA LOTS 1, 3, 4, 5, AND 6 (BUFFER ZONE IMPACTS)	14,095 S.F.
TOTAL IMPERVIOUS SURFACE HSG A	38,666 S.F.
TOTAL IMPERVIOUS SURFACE HSG B	764 S.F.
TOTAL IMPERVIOUS SURFACE HSG C	17,016 S.F.
TOTAL IMPERVIOUS SURFACE	56,446 S.F.

NOTES:

1. PROPOSED HOUSES, DECKS, DRIVEWAYS, AND GRADING SPECIFIC TO EACH LOT, ARE SHOWN CONCEPTUAL FOR PLANNING PURPOSES ONLY. FINAL HOUSE PLANS/DESIGN FOR EACH LOT WITHIN THE BUILDING ENVELOPE AS SHOWN WILL BE REQUIRED PRIOR TO CONSTRUCTION.
2. FOUNDATION ELEVATIONS SHOWN WILL BE ADJUSTED AS MAY BE REQUIRED WITH FINAL HOUSE AND SEPTIC SYSTEM DESIGN PLANS
3. SEPTIC SYSTEMS SHOWN ARE BASED ON A FOUR BEDROOM HOUSE. FINAL SEPTIC SYSTEM PLANS WILL SUBMITTED TO THE ROWLEY BOARD OF HEALTH FOR REVIEW AND APPROVAL.
4. SOIL AND PERCOLATION TESTING WAS CONDUCTED ON JUNE 14 AND 29 WITH THE ROWLEY BOARD OF HEALTH FOR LOTS 1-6.



LOCATION PLAN
SCALE: 1" = 400'
SOURCE: MASSMAPPER

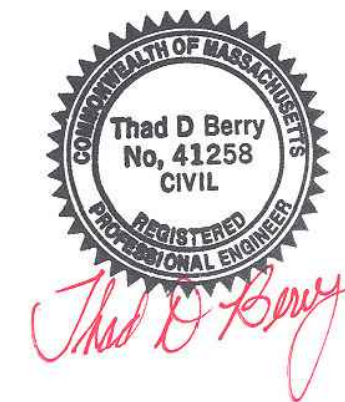
PARCEL A & B:

ASB REVISED THE PLANS TO CREATE TWO (2) PARCELS OF LAND, SHOWN AS PARCEL A (786,184 SF) AND PARCEL B (21,183 SF). THE PARCELS ABUT LAND OWNED BY THE TOWN OF ROWLEY AND WERE CREATED AS OPEN SPACE LOTS THAT THE PETITIONER INTENDS ON CONVEYING TO THE TOWN UNDER THE CARE AND CUSTODY OF THE ROWLEY CONSERVATION COMMISSION.

LEGEND

SEE LEGEND ON SHEET C2

SCALE BAR
0 80' 160' 240'
SCALE: 1" = 80'



510 NEWBURYPORT TURNPIKE
ROWLEY, MA 01969

Map: 19 Block: 8 Lot: 4A

NOTICE OF INTENT PLANS
Date: 04/26/2022 Job No: 2020-10 DEP No. T.B.D.

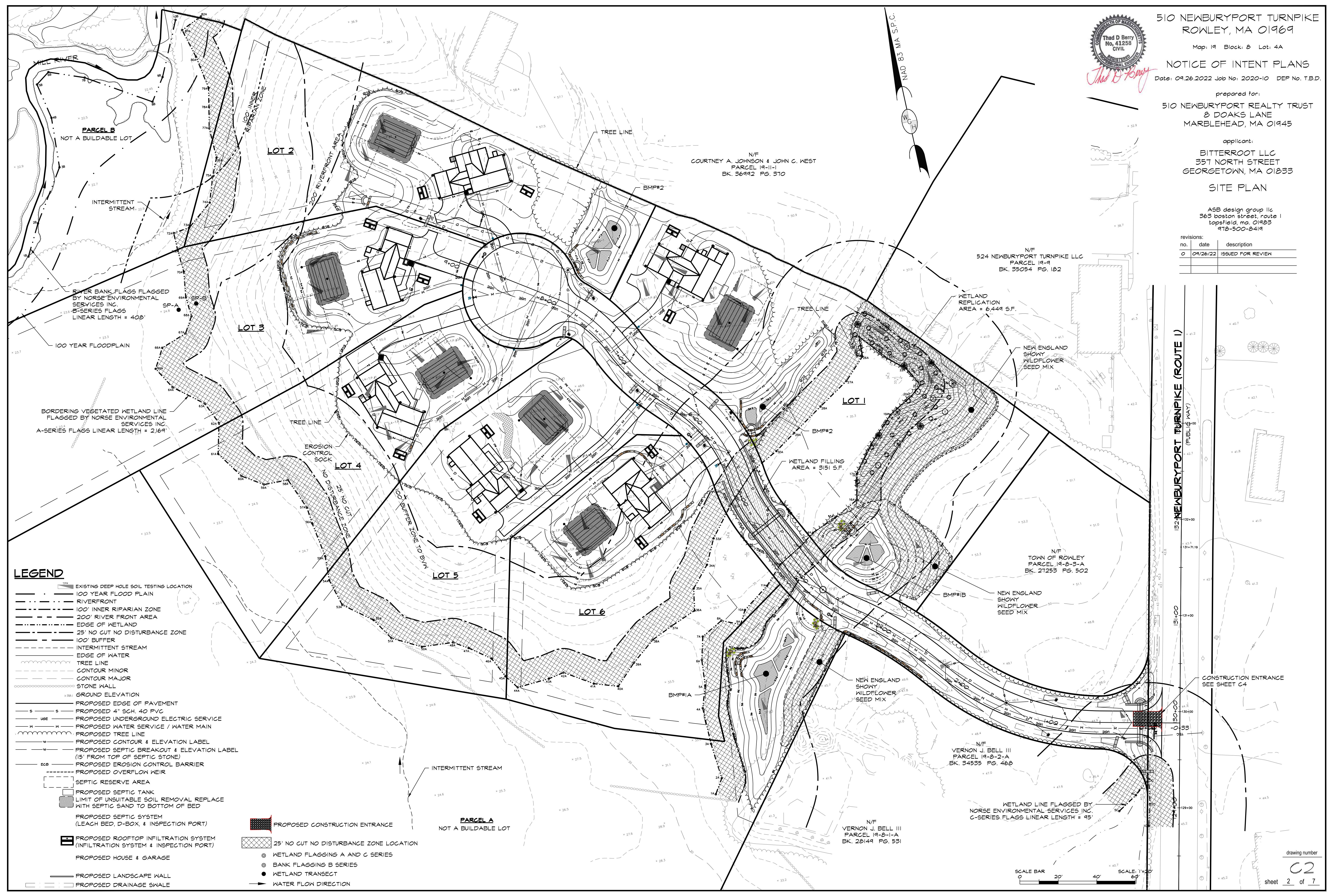
prepared for:
510 NEWBURYPORT REALTY TRUST
8 DOAKS LANE
MARBLEHEAD, MA 01945

applicant:
BITTERROOT LLC
357 NORTH STREET
GEORGETOWN, MA 01833

SITE PLAN

ASB design group llc
363 boston street, route 1
topfield, ma. 01983
978-500-8419

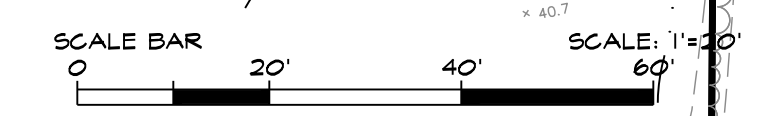
no.	date	description
0	04/26/22	ISSUED FOR REVIEW



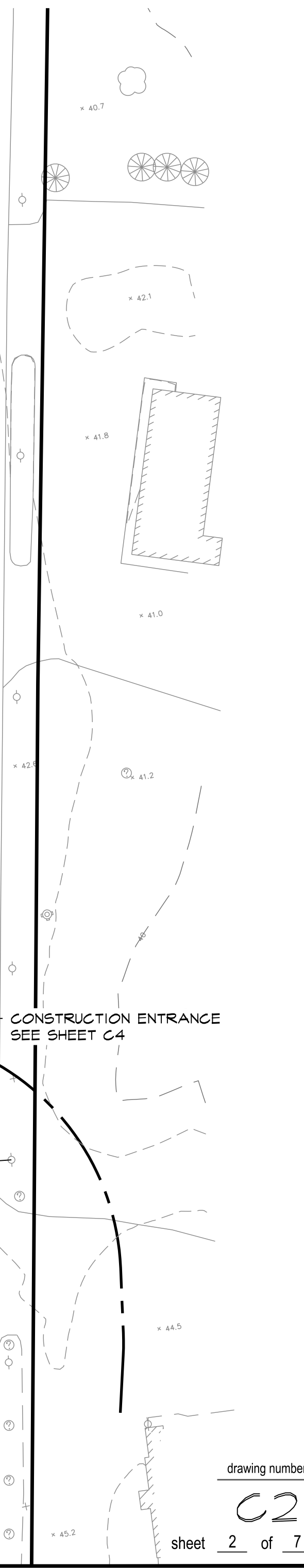
LEGEND

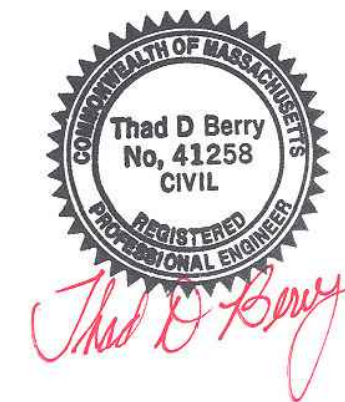
- EXISTING DEEP HOLE SOIL TESTING LOCATION
- 100 YEAR FLOOD PLAIN
- RIVERFRONT
- 100' INNER RIPARIAN ZONE
- 200' RIVER FRONT AREA
- EDGE OF WETLAND
- 25' NO CUT NO DISTURBANCE ZONE
- 100' BUFFER
- INTERMITTENT STREAM
- EDGE OF WATER
- TREE LINE
- CONTOUR MINOR
- CONTOUR MAJOR
- STONE WALL
- GROUND ELEVATION
- PROPOSED EDGE OF PAVEMENT
- PROPOSED 4" SCH. 40 PVC
- PROPOSED UNDERGROUND ELECTRIC SERVICE
- PROPOSED WATER SERVICE / WATER MAIN
- PROPOSED TREE LINE
- PROPOSED CONTOUR & ELEVATION LABEL
- PROPOSED SEPTIC BREAKOUT & ELEVATION LABEL (15' FROM TOP OF SEPTIC STONE)
- PROPOSED EROSION CONTROL BARRIER
- PROPOSED OVERFLOW WEIR
- SEPTIC RESERVE AREA
- PROPOSED SEPTIC TANK
- LIMIT OF UNSUITABLE SOIL REMOVAL REPLACE WITH SEPTIC SAND TO BOTTOM OF BED
- PROPOSED SEPTIC SYSTEM (LEACH BED, D-BOX, & INSPECTION PORT)
- PROPOSED ROOFTOP INFILTRATION SYSTEM (INFILTRATION SYSTEM & INSPECTION PORT)
- PROPOSED HOUSE & GARAGE
- PROPOSED LANDSCAPE WALL
- PROPOSED DRAINAGE SWALE

- PROPOSED CONSTRUCTION ENTRANCE
- 25' NO CUT NO DISTURBANCE ZONE LOCATION
- WETLAND FLAGGING A AND C SERIES
- BANK FLAGGING B SERIES
- WETLAND TRANSECT
- WATER FLOW DIRECTION



152 NEWBURYPORT TURNPIKE (ROUTE 1)
(PUBLIC WAY)





510 NEWBURYPORT TURNPIKE
ROWLEY, MA 01969

Map: 19 Block: 8 Lot: 4A

NOTICE OF INTENT PLANS

Date: 04/26/2022 Job No: 2020-10 DEP No. T.B.D.

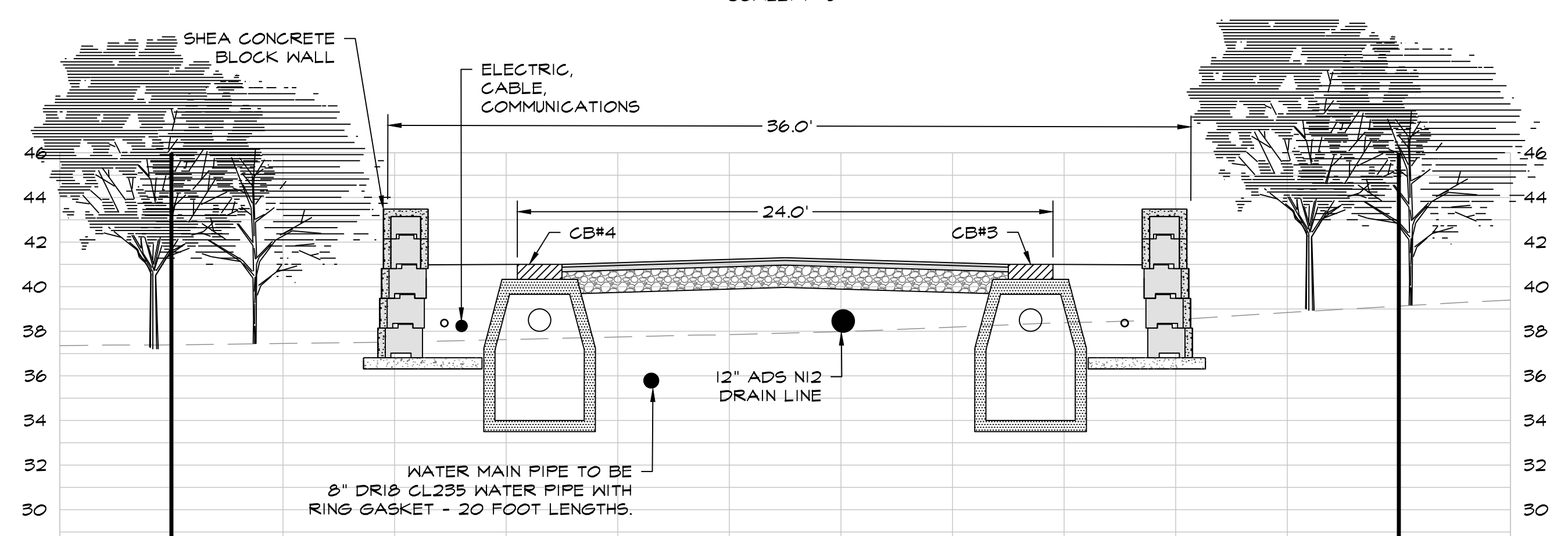
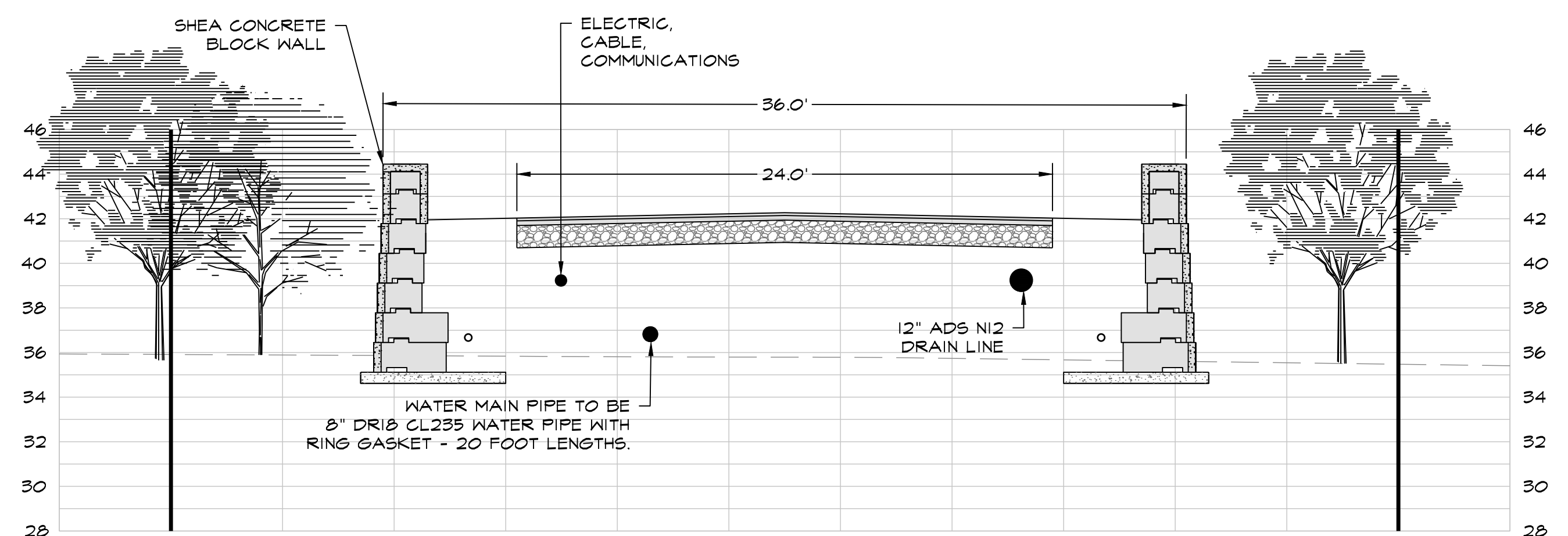
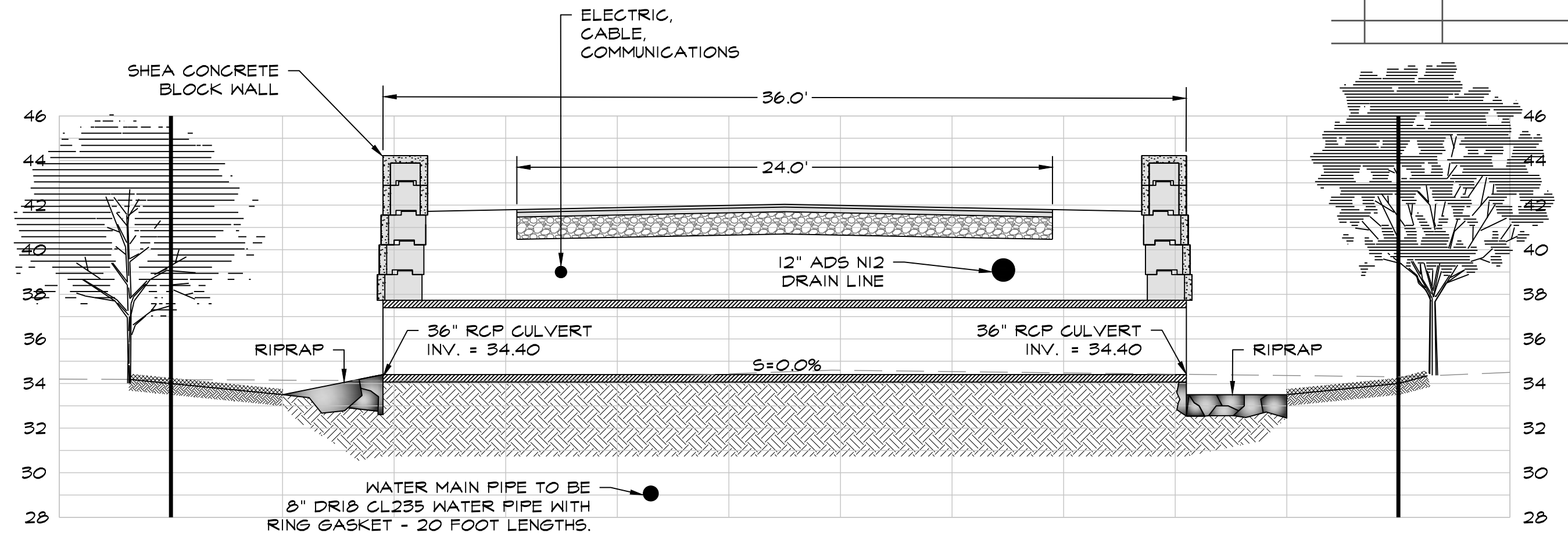
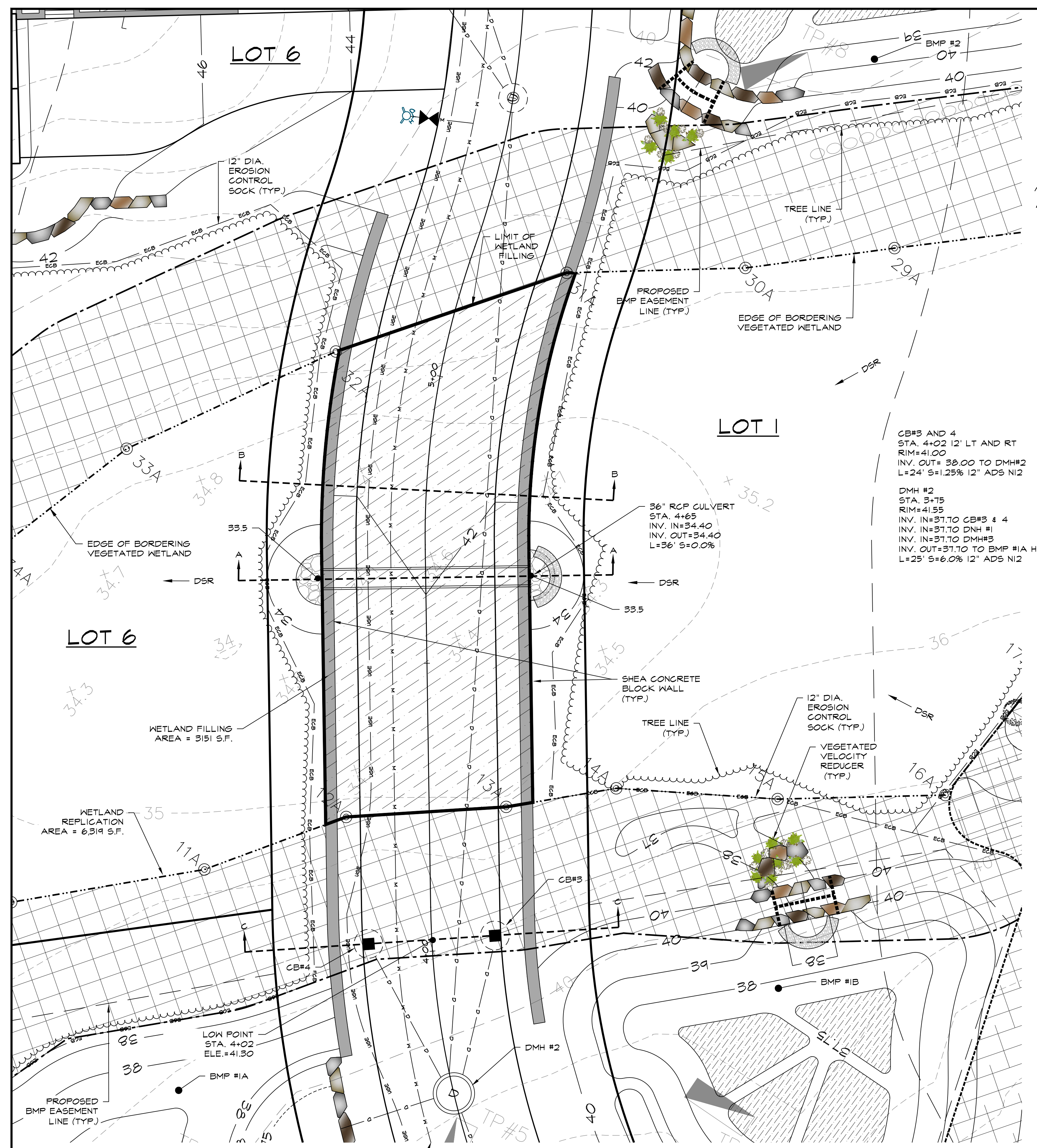
prepared for:
510 NEWBURYPORT REALTY TRUST
& DOAKS LANE
MARBLEHEAD, MA 01945

applicant:
BITTERROOT LLC
357 NORTH STREET
GEORGETOWN, MA 01833

WETLAND CROSSING PLAN

ASB design group llc
363 boston street, route 1
topfield, ma. 01963
978-500-8419

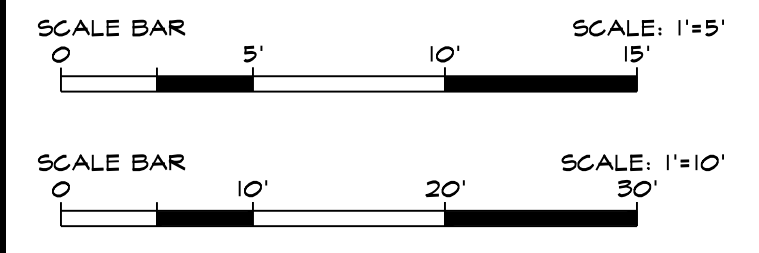
no.	date	description
0	04/26/22	ISSUED FOR REVIEW

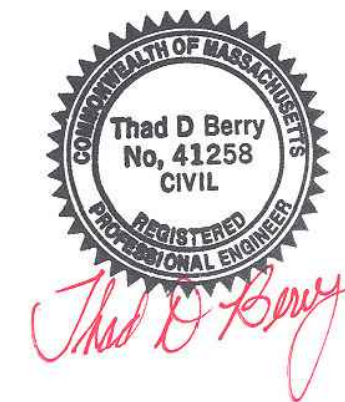


WETLAND CROSSING
SCALE: 1"=10'

DIRECTION STORMWATER FLOW
← DIRECTION OF STORMWATER RUNOFF (DSR)
← DSR

SPOT GRADES
99.5 ↙ FINISH GRADE SPOT ELEVATION





510 NEWBURYPORT TURNPIKE
ROWLEY, MA 01969

Map: 19 Block: 8 Lot: 4A

NOTICE OF INTENT PLANS

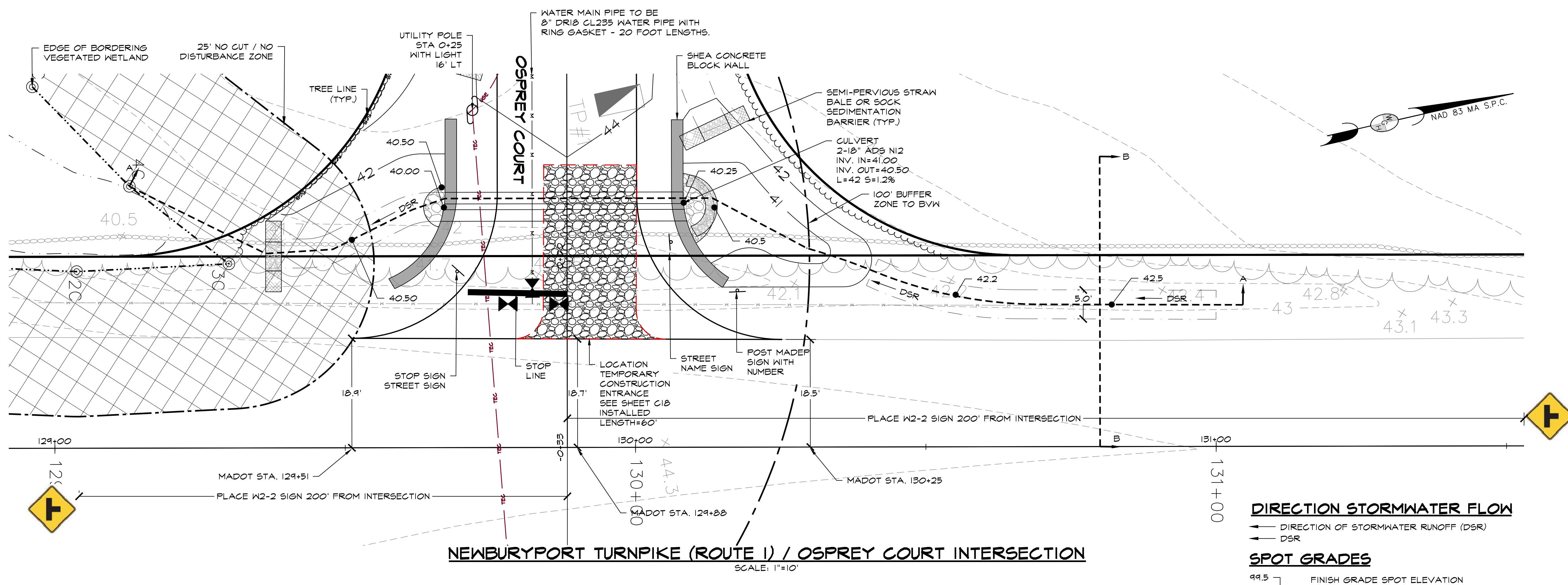
Date: 09/26/2022 Job No: 2020-10 DEP No. T.B.D.

prepared for:
510 NEWBURYPORT REALTY TRUST
8 DOAKS LANE
MARBLEHEAD, MA 01945

applicant:
BITTERROOT LLC
357 NORTH STREET
GEORGETOWN, MA 01833
**ROADWAY ENTRANCE
CULVERT PLAN**

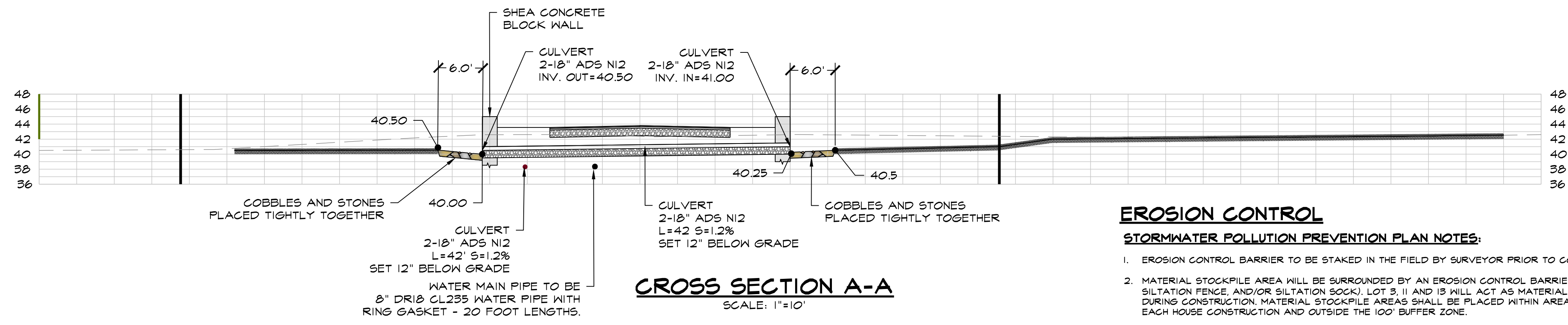
ASB design group llc
363 Boston Street, route 1
Topsfield, ma 01983
978-500-8419

no.	date	description
0	09/26/22	ISSUED FOR REVIEW



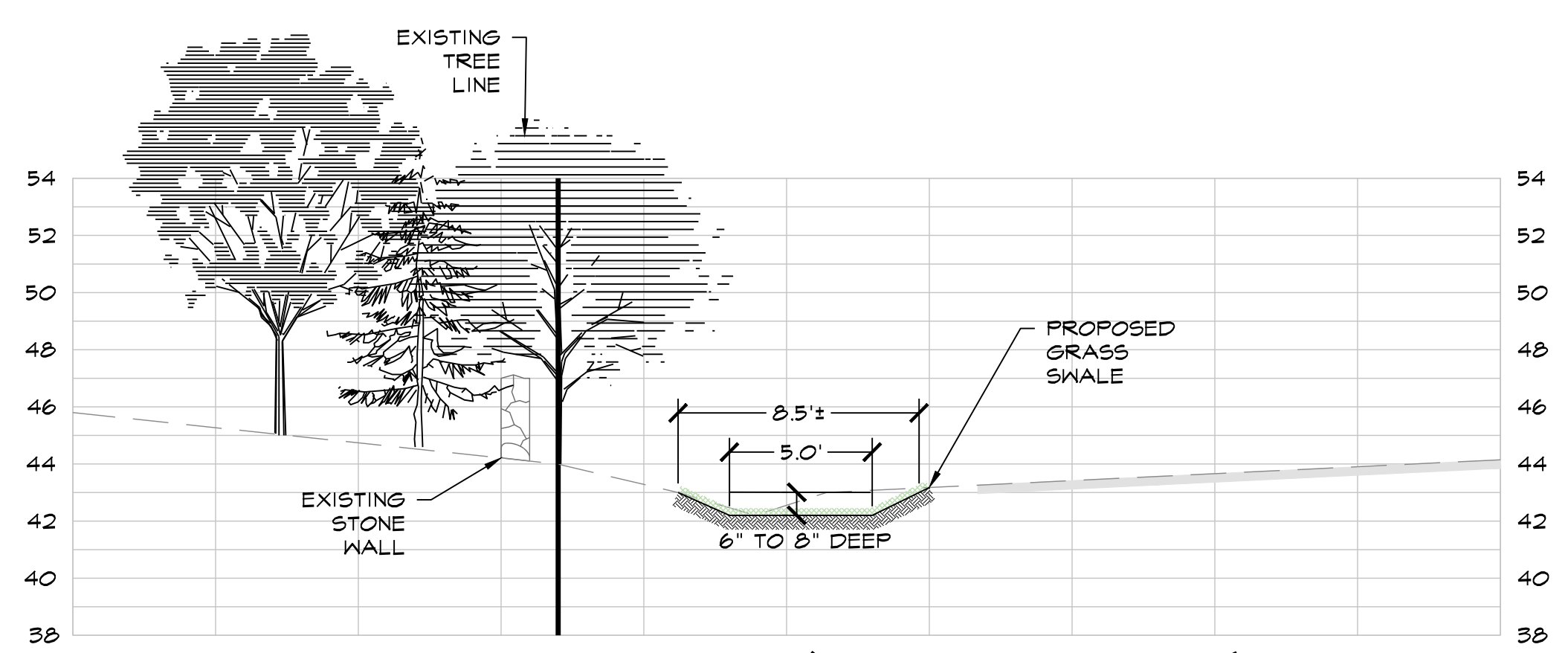
NEWBURYPORT TURNPIKE (ROUTE 1) / OSPREY COURT INTERSECTION

SCALE: 1"=10'



CROSS SECTION A-A

SCALE: 1"=10'



CROSS SECTION B-B (STA 130+80 LEFT)

SCALE: 1"=5'

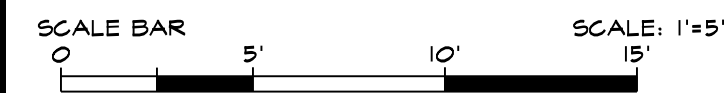
EROSION CONTROL

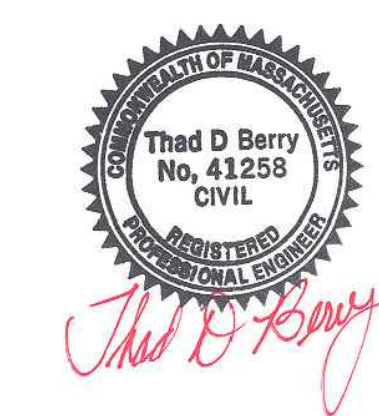
STORMWATER POLLUTION PREVENTION PLAN NOTES:

1. EROSION CONTROL BARRIER TO BE STAKED IN THE FIELD BY SURVEYOR PRIOR TO CONSTRUCTION.
2. MATERIAL STOCKPILE AREA WILL BE SURROUNDED BY AN EROSION CONTROL BARRIER (HAY BALES, SILTATION FENCE, AND/OR SILTATION SOCK). LOT 3, 11 AND 13 WILL ACT AS MATERIAL STOCKPILE AREA DURING CONSTRUCTION. MATERIAL STOCKPILE AREAS SHALL BE PLACED WITHIN AREA TO BE CLEAR FOR EACH HOUSE CONSTRUCTION AND OUTSIDE THE 100' BUFFER ZONE.
3. CONSTRUCTION ENTRANCE WILL BE INSTALLED FOR VEHICLE ACCESS TO CONSTRUCTION STAGING AREA AT THE INTERSECTION OF NEW ROADWAY AND ROUTE 1 - NEWBURYPORT TURNPIKE.
4. CONTRACTOR SHALL SHEEP ROUTE 1 - NEWBURYPORT TURNPIKE AT THE END OF EACH WORK DAY TO REMOVE ANY SILTATION DEPOSITED DURING THE WORK DAY.

MASSDOT ACCESS PERMIT

1. CONTRACTOR SHALL REFER TO THE MASSDOT ACCESS PERMIT FOR TRAFFIC MANAGEMENT REQUIREMENTS.
2. PROPER CONSTRUCTION SIGNAGE SHALL BE PLACED TO WARN ON COMING TRAFFIC TO THE CONSTRUCTION ENTRANCE (OSPREY COURT).
3. CONSTRUCTION ENTRANCE (OSPREY COURT) SHALL BE CLOSED AT THE END OF EACH WORK DAY.





NOTICE OF INTENT PLANS

Date: 04/26/2022 Job No: 2020-10 DEP No. T.B.D.

prepared for:
510 NEWBURYPORT REALTY TRUST
& DOAKS LANE
MARBLEHEAD, MA 01945

applicant:
BITTERROOT LLC
357 NORTH STREET
GEORGETOWN, MA 01833

WETLAND CROSSING PLAN

ASB design group llc
363 Boston Street, Suite 1
Topsfield, ma 01983
978-500-8419

no.	date	description
0	04/26/22	ISSUED FOR REVIEW

EROSION CONTROL NOTES

EROSION CONTROL PRINCIPLES

- THE FOLLOWING EROSION CONTROL PRINCIPLES SHALL APPLY TO THE LAND GRADING AND CONSTRUCTION PHASES:
 - STRIPPING OF VEGETATION, GRADING, OR OTHER SOIL DISTURBANCE SHALL BE DONE IN A MANNER WHICH WILL MINIMIZE SOIL EROSION.
 - WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED.
 - EXTENT OF AREA WHICH IS EXPOSED AND FREE OF VEGETATION AND DURATION OF ITS EXPOSURE SHALL BE KEPT WITHIN PRACTICAL LIMITS.
 - TEMPORARY SEEDING, MULCHING, OR OTHER SUITABLE STABILIZATION MEASURES SHALL BE USED TO PROTECT EXPOSED CRITICAL AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE.
 - DRAINAGE PROVISIONS SHALL ACCOMMODATE INCREASED RUNOFF RESULTING FROM MODIFICATIONS OF SOIL AND SURFACE CONDITIONS DURING AND AFTER DEVELOPMENT OR DISTURBANCE. SUCH PROVISIONS SHALL BE IN ADDITION TO EXISTING REQUIREMENTS.
 - SEDIMENT SHALL BE RETAINED ON-SITE.
 - EROSION CONTROL DEVICES SHALL BE INSTALLED AS EARLY AS POSSIBLE IN THE CONSTRUCTION SEQUENCE PRIOR TO START OF CLEARING AND GRUBBING OPERATIONS AND EXCAVATION WORK.
- CUT AND FILL SLOPES AND STOCKPILED MATERIALS SHALL BE PROTECTED TO PREVENT EROSION. SLOPES SHALL BE PROTECTED WITH PERMANENT EROSION PROTECTION WHEN EROSION EXPOSURE PERIOD IS GREATER THAN OR EQUAL TO SIX MONTHS, AND TEMPORARY EROSION PROTECTION WHEN EROSION EXPOSURE PERIOD IS EXPECTED TO BE LESS THAN SIX MONTHS (SEE NOTE 1B).
- PERMANENT EROSION PROTECTION SHALL BE ACCOMPLISHED BY SEEDING WITH GRASS AND COVERING WITH AN EROSION PROTECTION MATERIAL, AS APPROPRIATE FOR PREVAILING CONDITIONS.
- EXCEPT WHERE SPECIFIED SLOPE IS INDICATED ON DRAWINGS, FILL SLOPES SHALL BE LIMITED TO A GRADE OF 3:1 (HORIZONTAL:VERTICAL) AND CUT SLOPES SHALL BE LIMITED TO A GRADE OF 3:1.

LOAM AND SEED NOTES

- IF REQUIRED THE CONTRACTOR SHALL FURNISH ALL TOPSOIL OR ADDITIONAL TOPSOIL NEEDED TO COMPLETE THE JOB. IF THE EXISTING TOPSOIL IS SUFFICIENT TO COMPLETE THE JOB, ANY EXCESS TOPSOIL WILL REMAIN ON SITE. AN AREA WILL BE PROVIDED ON SITE FOR FINAL STORAGE.
- THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED ON THE DESIGNATED AREAS AND IT SHALL BE A MINIMUM DEPTH OF SIX INCHES AFTER FIRING. SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SEEDING.
- AFTER LOAM HAS BEEN PLACED, LIME AND FERTILIZER SHALL BE UNIFORMLY MIXED INTO THE TOP FOUR INCHES OF SOIL BY DISCING, HARROWING OR USING OTHER APPROVED METHODS.
- ANY UNDULATIONS OR IRREGULARITIES IN THE SURFACE RESULTING FROM FERTILIZING, LIMING, SURFACE ROUGHENING OR OTHER CAUSES SHALL BE LEVELED PRIOR TO SEEDING. FLOODED, WASHED-OUT OR OTHERWISE DAMAGED AREAS SHALL BE RECONSTRUCTED AND ALL GRADES RE-ESTABLISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE DRAWINGS AND/ OR OTHER APPLICABLE SPECIFICATIONS.
- PRIOR TO SEEDING THE SURFACE SHALL BE CLEARED OF ALL TRASH, DEBRIS AND STONES LARGER THAN ONE AND ONE-HALF INCHES IN DIAMETER, AND OF ALL ROOTS, BRUSH WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING OR MAINTENANCE OPERATIONS.
- BROADCAST SEED AND MULCH. PLACE STRAW AND ANCHOR IT TO TOPSOIL. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDLINGS WITH ADEQUATE WATER FOR PLANT GROWTH. (1/2"-1" EVERY 3-4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED.

REPAIRS AND MAINTENANCE

INSPECT ALL SEEDED AREAS FOR FAILURES AND MAKE NECESSARY REPAIRS, REPLACEMENTS AND RESEEDINGS WITHIN THE PLANTING SEASON.

- ONCE THE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 95% GROUND COVER TO BE CONSIDERED ADEQUATELY STABILIZED.
- IF THE STAND PROVIDES LESS THAN 40% GROUND COVERAGE, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER, SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS.
- IF THE STAND PROVIDES BETWEEN 40% AND 94% GROUND COVER AGE, OVERSEEDING AND FERTILIZING USING HALF OF THE RATES ORIGINALLY APPLIED MAY BE NECESSARY.

SURFACE PREPARATION

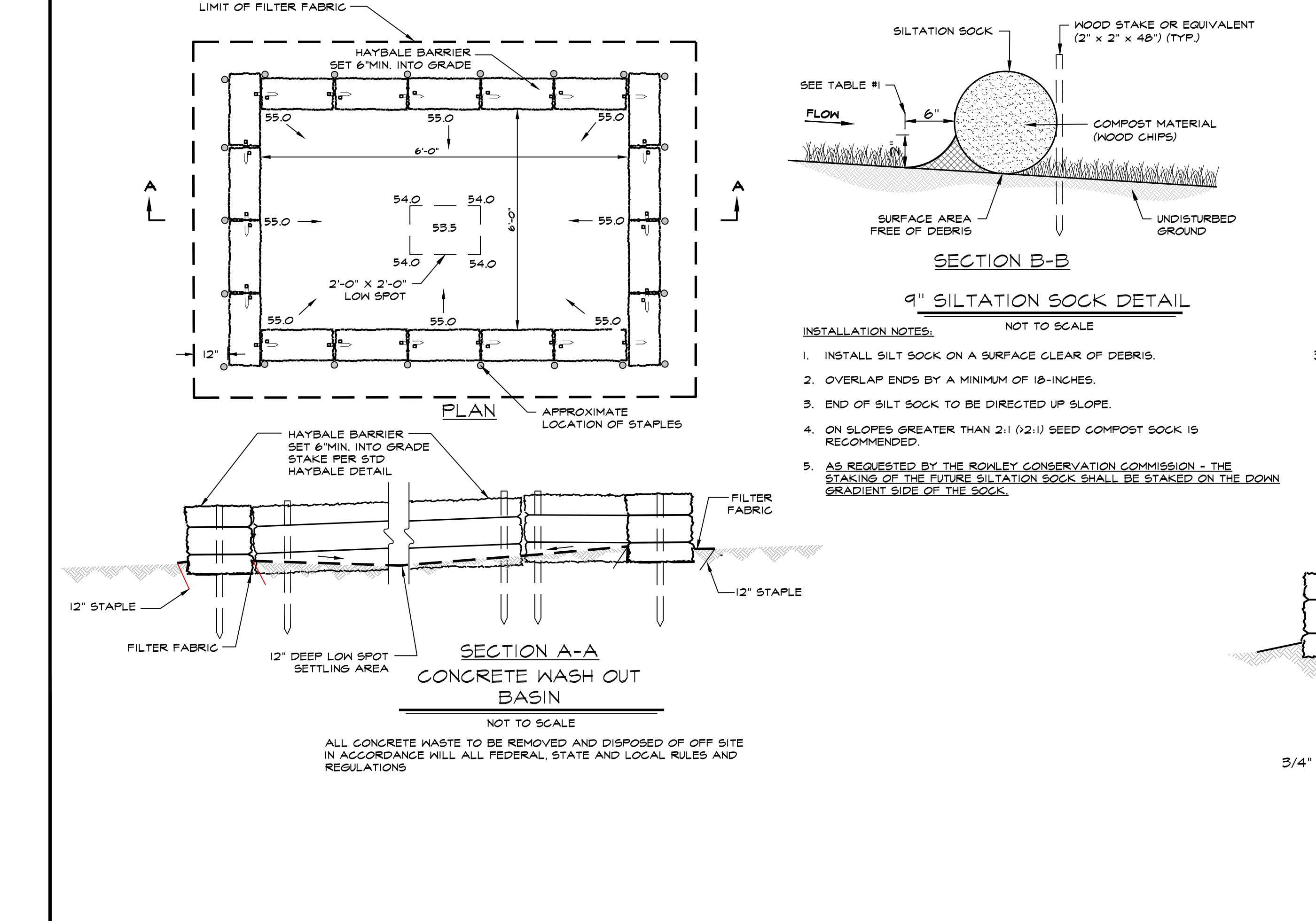
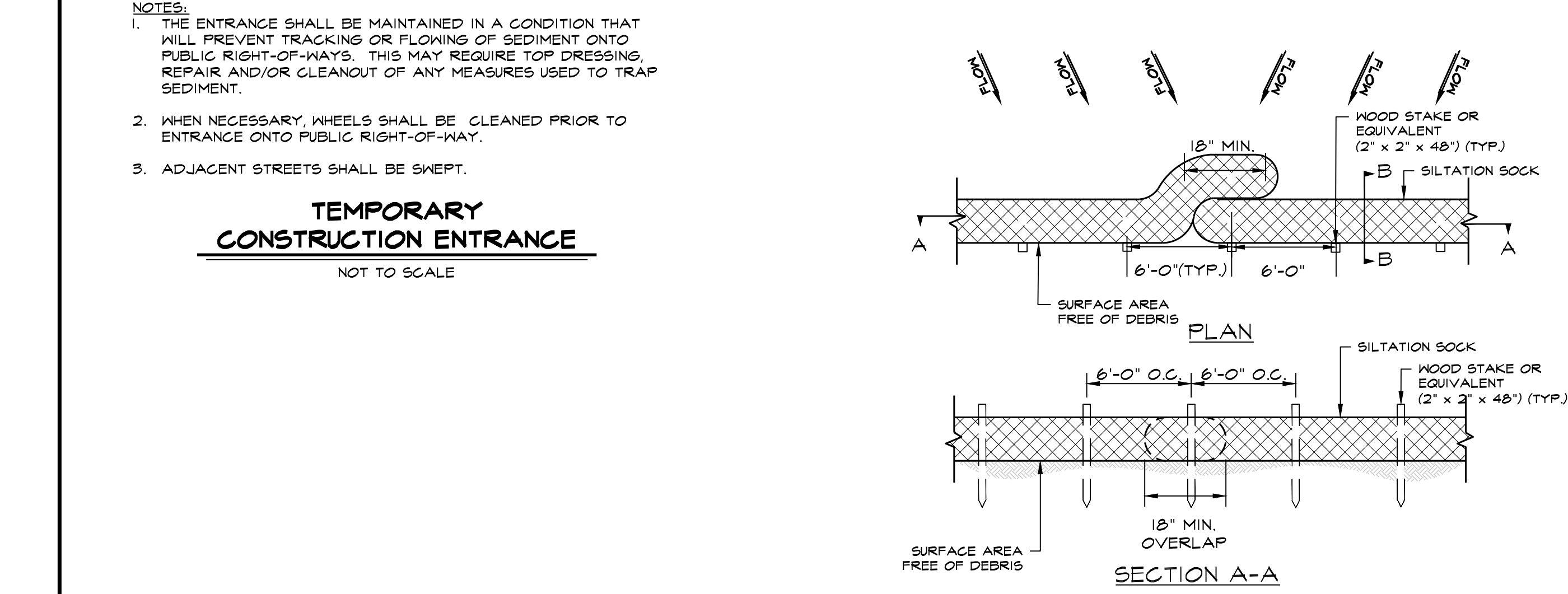
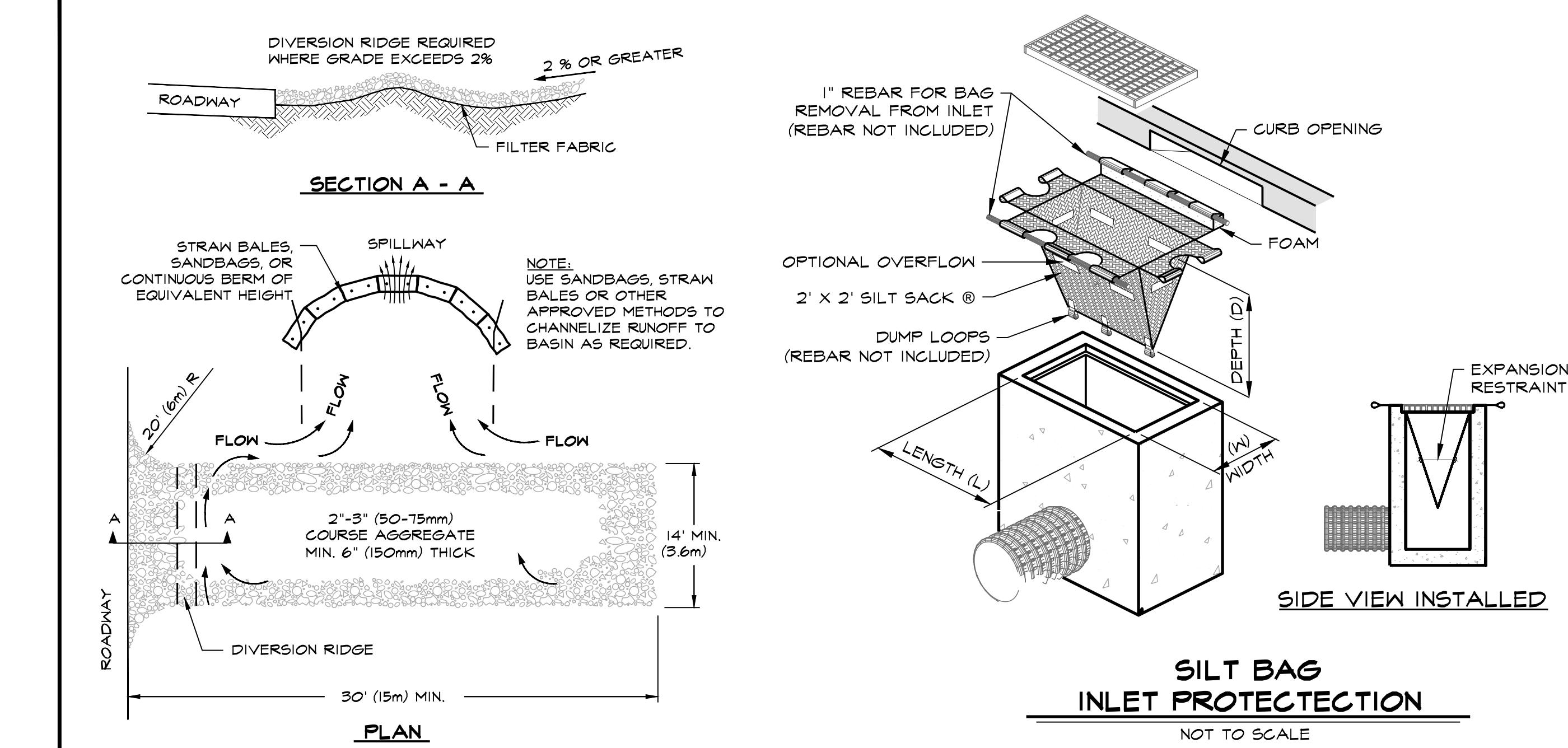
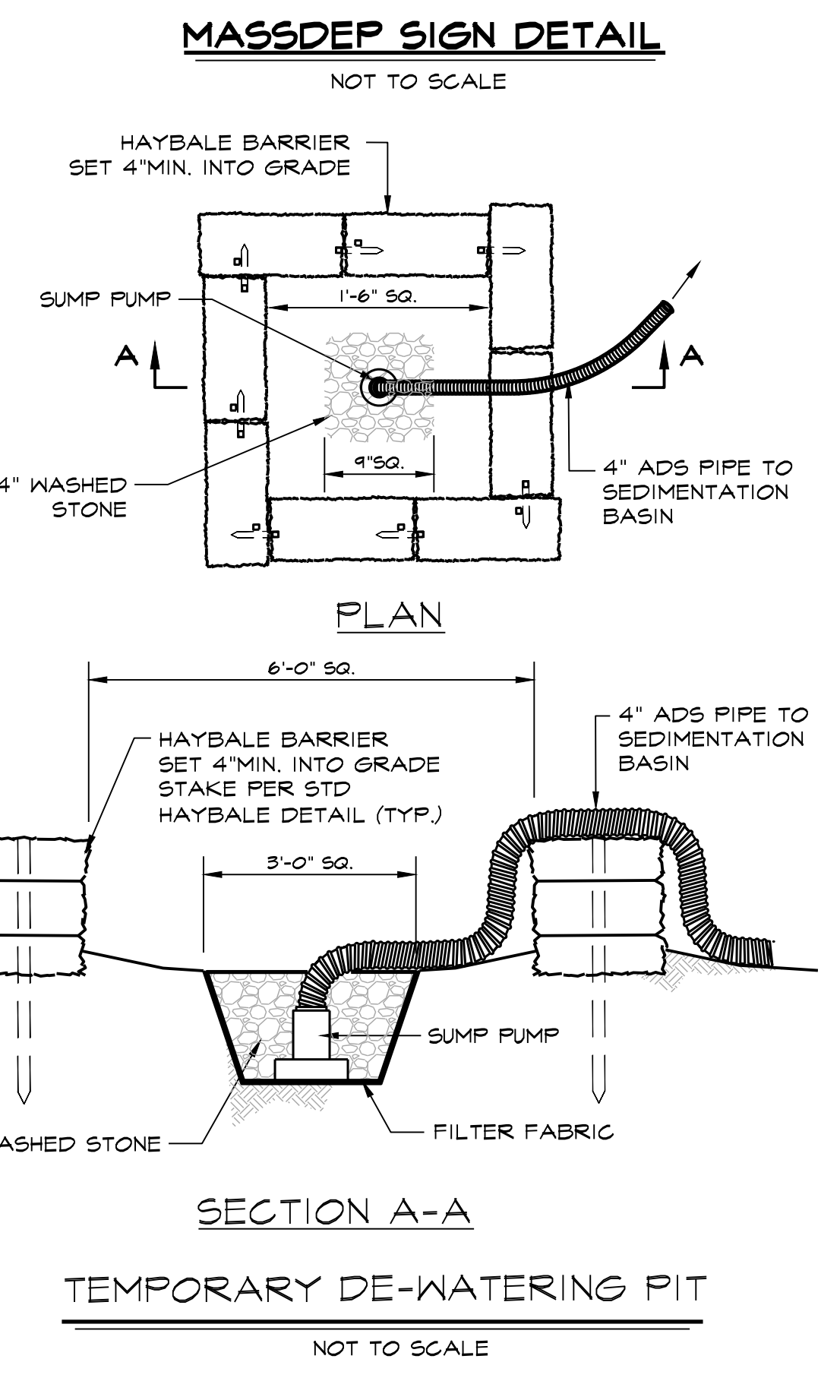
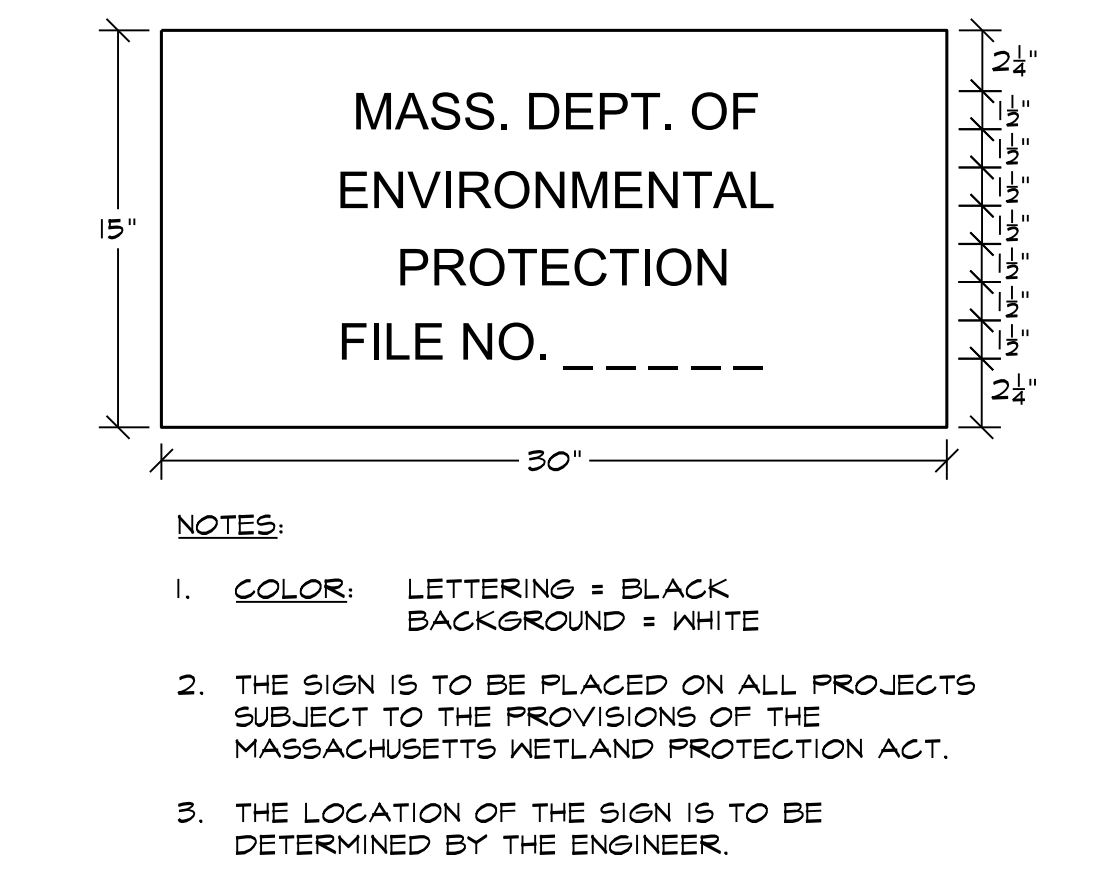
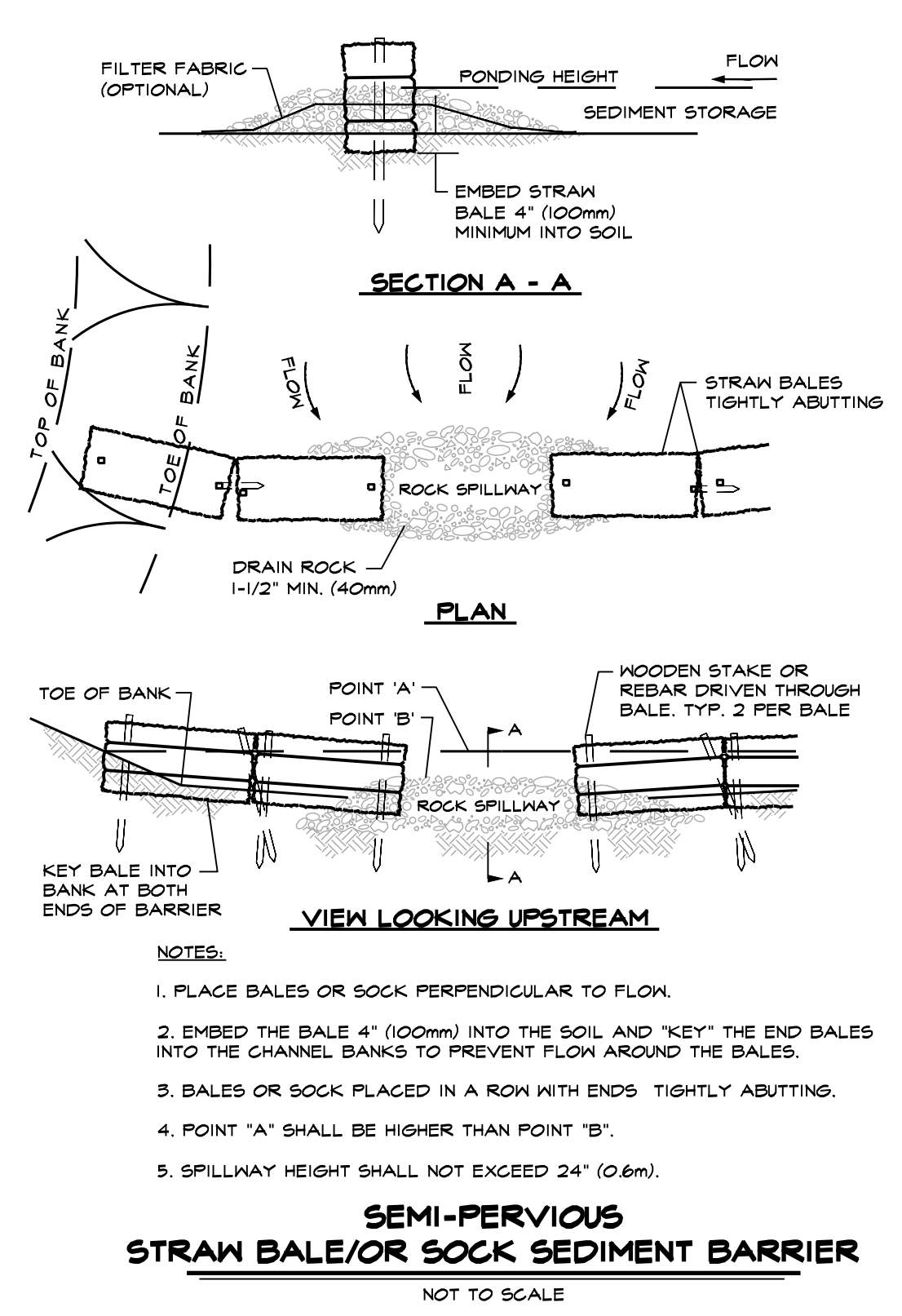
- STRIP AND STOCKPILE ALL EXISTING LOAM FROM PROPOSED WORK AREAS. PROTECT LOAM FROM EROSION. ALL LOAM WILL REMAIN ON SITE UNLESS THE OWNER APPROVES OFF SITE REMOVAL.
- SET FIELD GRADES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. PROVIDE PROPER SURVEY CONTROL AND MAINTAIN THROUGHOUT CONSTRUCTION. PROVIDE ENGINEER WITH COPIES OF ALL SURVEY NOTES AND LOCATIONS OF BOTH VERTICAL AND HORIZONTAL CONTROL.
- BRING BASE MATERIAL TO FINISH GRADE. PROVIDE ENGINEER WITH AS-BUILT DRAWINGS SHOWING FINISH ELEVATIONS AND CONTOURS PRIOR TO PLACEMENT OF LOAM.
- SOIL TESTS SHALL BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR BOTH LIME AND FERTILIZER. SOIL TESTS SHALL BE CONDUCTED BY A STATE LABORATORY OR RECOGNIZED COMMERCIAL LABORATORY. PROVIDE ENGINEER WITH COPY OF TEST RESULTS AND RECOMMENDATIONS FOR LIMING AND FERTILIZING.
- AFTER THE AREAS TO BE TOPSOILED HAVE BEEN APPROVED BY THE OWNER OR ENGINEER, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSEND BY ROUGHENING TO THE DEPTH OF AT LEAST TWO INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL AND TO INCORPORATE THE LIME.
- ACCEPTANCE SHALL BE GIVEN BY THE OWNER OR ENGINEER UPON SATISFACTORY COMPLETION OF EACH SECTION OR AREA AS INDICATED ON THE DRAWINGS OR AS OTHERWISE SPECIFIED BEFORE PLACEMENT OF TOPSOIL.

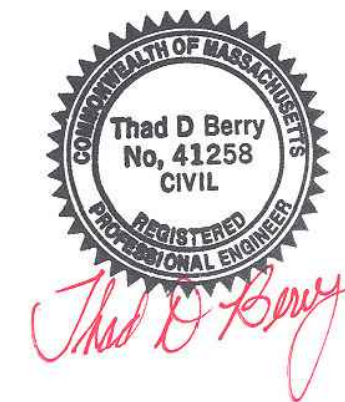
SILTATION SOCK

INSTALL SILTATION SOCK IN ACCORDANCE WITH THE PLAN DETAIL.

MAINTENANCE AND REMOVAL OF CONTROL DEVICES

- WETLAND AREAS, WATER COURSES, AND DRAINAGE SWALES ADJACENT TO CONSTRUCTION ACTIVITIES SHALL BE MONITORED TWICE EACH MONTH FOR EVIDENCE OF SILT INTRUSION AND OTHER ADVERSE ENVIRONMENTAL IMPACTS, WHICH SHALL BE CORRECTED IMMEDIATELY UPON DISCOVERY.
- CULVERTS AND DRAINAGE DITCHES SHALL BE KEPT CLEAN AND CLEAR OF OBSTRUCTIONS DURING CONSTRUCTION PERIOD.
- EROSION CONTROL DEVICES:
 - SEDIMENT BEHIND THE EROSION CONTROL DEVICE SHALL BE CHECKED TWICE EACH MONTH AND AFTER EACH HEAVY RAIN. SILT SHALL BE REMOVED IF GREATER THAN 6-INCHES DEEP.
 - CONDITION OF EROSION CONTROL DEVICE SHALL BE CHECKED TWICE EACH MONTH OR MORE FREQUENTLY AS REQUIRED. DAMAGED AND/OR DETERIORATED ITEMS SHALL BE REPLACED. EROSION CONTROL DEVICES SHALL BE MAINTAINED IN-PLACE AND IN EFFECTIVE CONDITION.
 - HAY BALES SHALL BE INSPECTED FREQUENTLY AND MAINTAINED OR REPLACED AS REQUIRED TO MAINTAIN BOTH EFFECTIVENESS AND INSTALLED CONDITION. UNDERSIDE OF BALES SHALL BE KEPT IN CLOSE CONTACT WITH THE EARTH BELOW AT ALL TIMES, AS REQUIRED TO PREVENT WATER FROM WASHING BENEATH BALES.
 - SEDIMENT SHALL BE REMOVED FROM THE RETENTION PONDS AT THE COMPLETION OF THE PROJECT AND PERIODICALLY DURING CONSTRUCTION. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO A DEPTH OF 6 INCHES, OR AS DIRECTED.
 - SEDIMENT DEPOSITS SHALL BE DISPOSED OF OFF-SITE, IN A LOCATION AND MANNER WHICH WILL NOT CAUSE SEDIMENT NUISANCE ELSEWHERE.
- REMOVAL OF EROSION CONTROL DEVICES:
 - THE CONSERVATION COMMISSION AGENT MUST INSPECT THE SITE AND APPROVE REMOVAL OF ANY EROSION CONTROL DEVICE.
 - EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL ALL DISTURBED EARTH HAS BEEN PAVED OR VEGETATED. AT WHICH TIME THEY SHALL BE REMOVED. AFTER REMOVAL, AREAS DISTURBED BY THESE DEVICES SHALL BE RE-GRADED AND SEEDED.
 - EROSION CONTROL NETTING SHALL BE KEPT SECURELY ANCHORED UNTIL START OF PERMANENT TURF CONSTRUCTION.
 - EROSION PROTECTION MATERIAL SHALL BE KEPT SECURELY ANCHORED UNTIL ACCEPTANCE OF COMPLETED SLOPE OR ENTIRE PROJECT, WHICHEVER IS LATER.





510 NEWBURYPORT TURNPIKE
ROWLEY, MA 01969

Map: 19 Block: 8 Lot: 4A

NOTICE OF INTENT PLANS

Date: 09/26/2022 Job No: 2020-10 DEP No. T.B.D.

prepared for:

510 NEWBURYPORT REALTY TRUST
& DOAKS LANE
MARBLEHEAD, MA 01945

applicant:

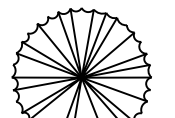
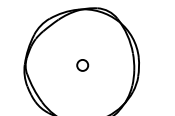


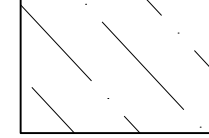
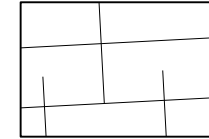
BITTERROOT LLC
357 NORTH STREET
GEORGETOWN, MA 01833

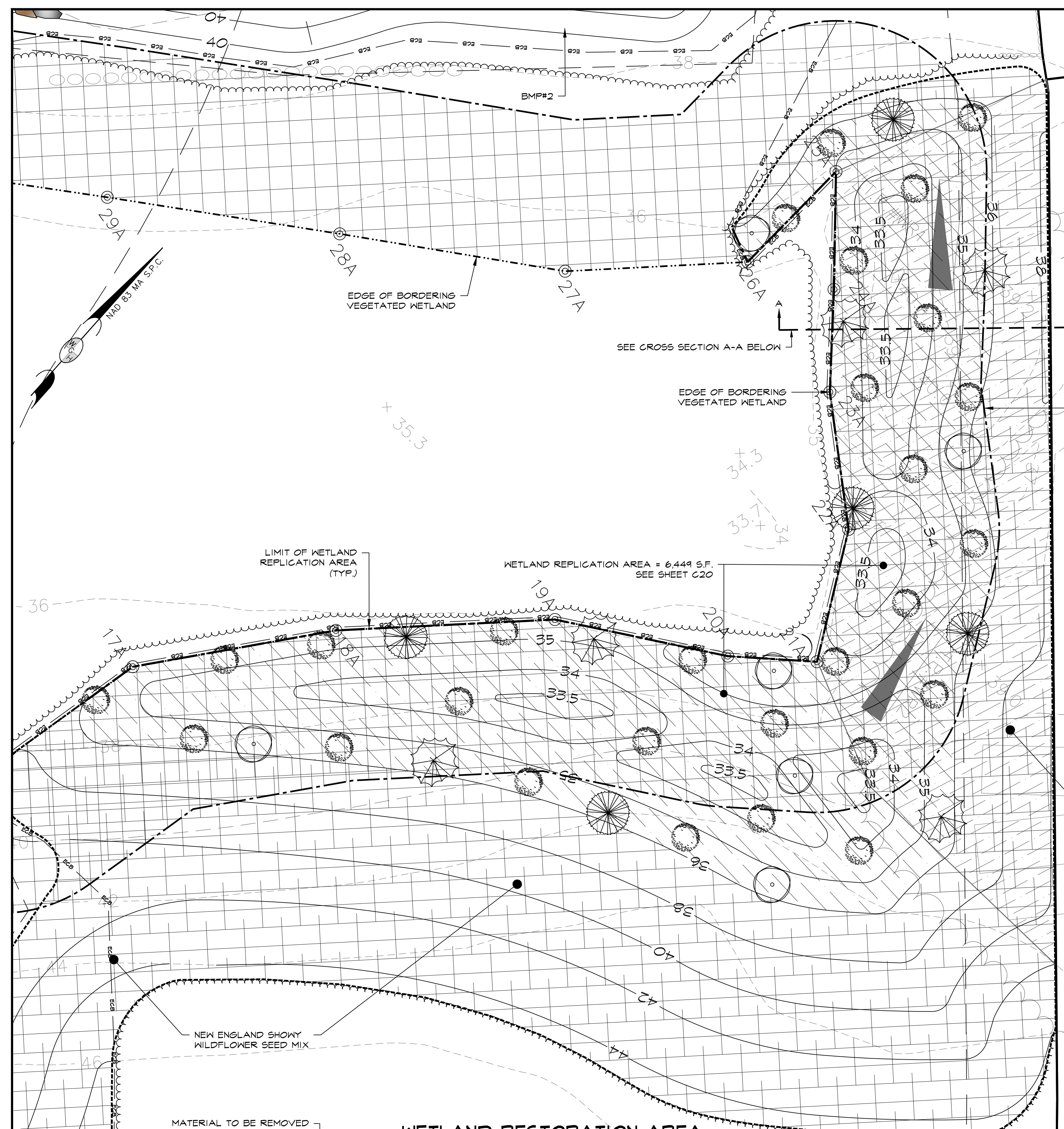
**WETLAND RESTORATION
PLAN & DETAILS**

ASB design group llc
363 Boston Street, Route 1
Topsfield, MA 01963
978-500-8419

revisions:		
no.	date	description
0	09/26/22	ISSUED FOR REVIEW

LEGEND

-  RED MAPLE TREE
-  AMERICAN ELM TREE
-  SWAMP WHITE OAK TREE
-  SHRUBS
-  NEW ENGLAND WETMIX (WETLAND SEED MIX)
-  NEW ENGLAND SHOWY WILDFLOWER SEED MIX



25' NO CUT / NO DISTURBANCE ZONE

NEW ENGLAND SHOWY WILDFLOWER SEED MIX

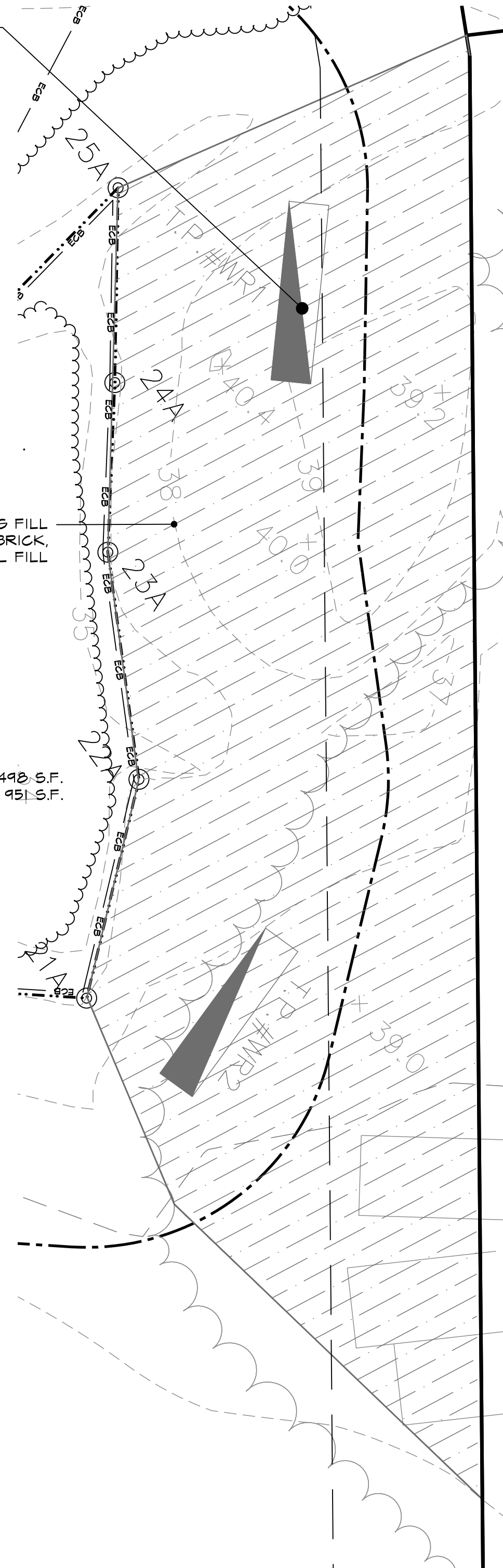
APPROXIMATE LIMIT OF EXISTING FILL
CONSISTS OF BOULDERS, PLASTIC, WOOD, METAL, BRICK,
CONCRETE, LOAM, TRASH, PAVEMENT, AND GENERAL FILL

WETLAND REPLICATION

WETLAND FILLING ROADWAY CROSSING = 3,151 S.F.
WETLAND REPLICATION AREA:
REQUIRED AREA = 3,151 S.F. X 2 = 6,302 S.F.
PROVIDED AREA = 6,449 S.F. > 6,302 S.F.
WETLAND RESTORATION AREA 0-25' BUFFER ZONE = 5,498 S.F.
WETLAND RESTORATION AREA 25'-100' BUFFER ZONE = 451 S.F.

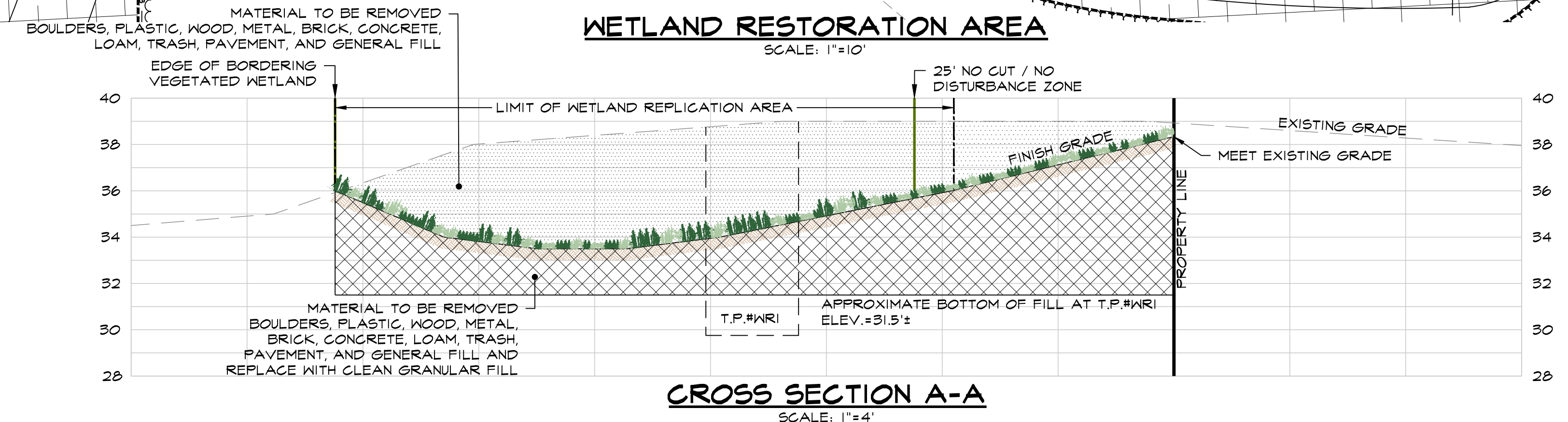
T.P.#WR1
0-90°
FILL
BOULDERS,
PLASTIC,
WOOD, METAL,
BRICK,
CONCRETE,
LOAM, TRASH,
PAVEMENT,
AND GENERAL
FILL
S.H.N.T. @ 90°
90"-108"
CI S.L.
2.5Y 6/3
GRAVELLY

T.P.#WR2
0-60°
FILL
BOULDERS,
PLASTIC,
WOOD, METAL,
BRICK,
CONCRETE,
LOAM, TRASH,
PAVEMENT,
AND GENERAL
FILL
60"-66"
B S.L.
10YR 5/6
ROOTS
S.H.N.T. @ 66°
66"-84"
CI S.L.
2.5Y 6/3
GRAVELLY



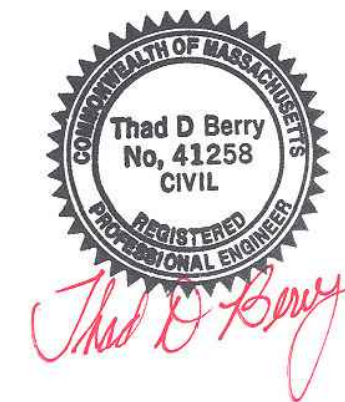
EXISTING FILL AREA

SCALE: 1"=10'



CROSS SECTION A-A

SCALE: 1"=4'



510 NEWBURYPORT TURNPIKE
ROWLEY, MA 01969

Map: 19 Block: 8 Lot: 4A

NOTICE OF INTENT PLANS

Date: 09/26/2022 Job No: 2020-10 DEP No. T.B.D.

prepared for:

510 NEWBURYPORT REALTY TRUST
8 DOAKS LANE
MARBLEHEAD, MA 01945

applicant:

BITTERROOT LLC
357 NORTH STREET
GEORGETOWN, MA 01833

**WETLAND RESTORATION
PLAN & DETAILS**

ASB design group llc
363 Boston Street, route 1
Topsfield, ma 01983
978-500-8419

no.	date	description
0	09/26/22	ISSUED FOR REVIEW

PROPOSED WETLAND PLANTING LIST				
COMMON NAME	LATIN NAME	REGIONAL INDICATOR	TOTAL PLANTED	SYMBOL
TREES:	---	---	---	---
RED MAPLE	ACER RUBRUM	Fac	5	
AMERICAN ELM	ULMUS AMERICANA	Fac	6	
SWAMP WHITE OAK	QUERCUS BIGLOE	FacW+	5	
SHRUBS:	---	---	---	---
ARROW-WOOD	VIBURNUM DENTATUM	FacW-	4	
SWAMP AZALEA	RHODODENDRON VISCOSUM	Obl	4	
SILKY DOGWOOD	CORNUS AMOMUM	FacW	4	
SPICEBUSH	LINDERA BENZOIN	FacW-	4	
HIGH BUSH BLUEBERRY	VACCINIUM CORYMBOSUM	FacW	4	
COMMON WINTERBERRY	ILEX VERTICILLATA	FacW+	4	
COMMON ELDERBERRY	SAMBUCUS CANADENSIS	FacW-	4	

NOTE:
CONTRACTOR TO COORDINATE FINAL PLANTING LOCATION WITH NORSE ENVIRONMENTAL AT TIME OF CONSTRUCTION.

NEW ENGLAND WETLAND PLANTS, INC

820 WEST STREET, AMHERST, MA 01002
PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

New England Showy Wildflower Mix

Botanical Name	Common Name	Indicator
<i>Schizachyrium scoparium</i>	Little Bluestem	FACU
<i>Chamaecrista fasciculata</i>	Partridge Pea	FACU
<i>Sorghastrum nutans</i>	Indian Grass	UPL
<i>Festuca rubra</i>	Red Fescue	FACU
<i>Elymus canadensis</i>	Canada Wild Rye	FACU+
<i>Elymus riparius</i>	Riverbank Wild Rye	FACW
<i>Heliopsis helianthoides</i>	Ox Eye Sunflower	UPL
<i>Coreopsis lanceolata</i>	Lance Leaved Coreopsis	FACU
<i>Rudbeckia hirta</i>	Black Eyed Susan	FACU-
<i>Liatris spicata</i>	Spiked Gayfeather/Marsh Blazing Star	FAC+
<i>Asclepias syriaca</i>	Common Milkweed	FACU-
<i>Vernonia noveboracensis</i>	New York Ironweed	FACW+
<i>Aster novae-angliae (Symphyotrichum novae-angliae)</i>	New England Aster	FACW-
<i>Eupatorium purpureum (Eutrochium maculatum)</i>	Purple Joe Pye Weed	FAC
<i>Asclepias tuberosa</i>	Butterfly Milkweed	NI
<i>Solidago juncea</i>	Early Goldenrod	FACW
<i>Eupatorium perfoliatum</i>	Boneset	FACW

APPLY: 23 LBS/ACRE :1900 sq ft/lb

The New England Showy Wildflower mix includes a selection of native wildflowers and grasses that will mature into a colorful and vibrant native meadow. It is appropriate seed mix for roadsides, commercial landscaping, parks, golf courses, and industrial sites. Always apply on clean bare soil. The mix may be applied by mechanical spreader, or on small sites it can be spread by hand. Lightly rake, or roll to ensure proper seed to soil contact. Best results are obtained with a Spring or late Fall dormant seeding. Late Spring and early Summer seeding will benefit with a light mulching of weed-free straw to conserve moisture. If conditions are drier than usual, watering may be required. Late Fall and Winter dormant seeding require an increase in the seeding rate. Fertilization is not required unless the soils are particularly infertile. Preparation of a clean weed free seed bed is necessary for optimal results.

New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is \$/bulk pound, FOB warehouse, Plus SH and applicable taxes.

NEW ENGLAND SHOWY WILDFLOWER MIX

NEW ENGLAND WETLAND PLANTS, INC

820 WEST STREET, AMHERST, MA 01002
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>	Blurt 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 (Symphyotrichum lateriflorum)</i>	Starved/Calico Aster	FACW
<i>Iris versicolor</i>	Blue Flag	OBL
<i>Glyceria grandis</i>	American Mannagrass	OBL
<i>Mimulus ringens</i>	Square Stemmed Monkey Flower	OBL
<i>Eupatorium maculatum (Eutrochium maculatum)</i>	Spotted Joe Pye Weed	OBL

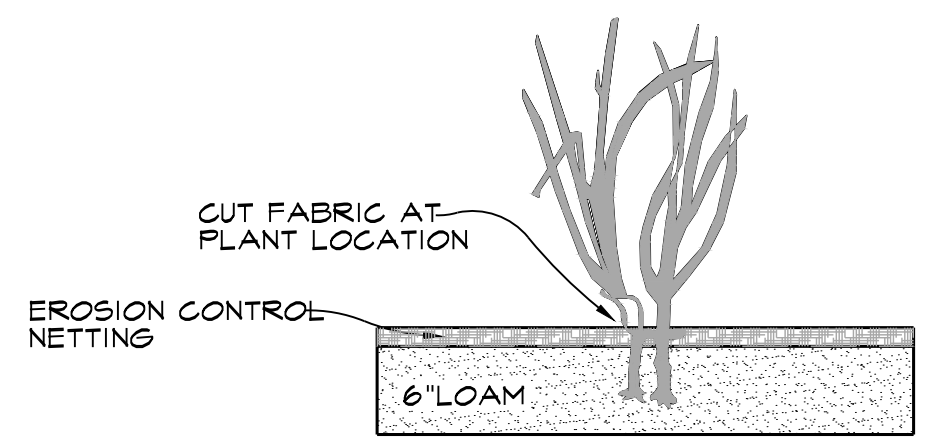
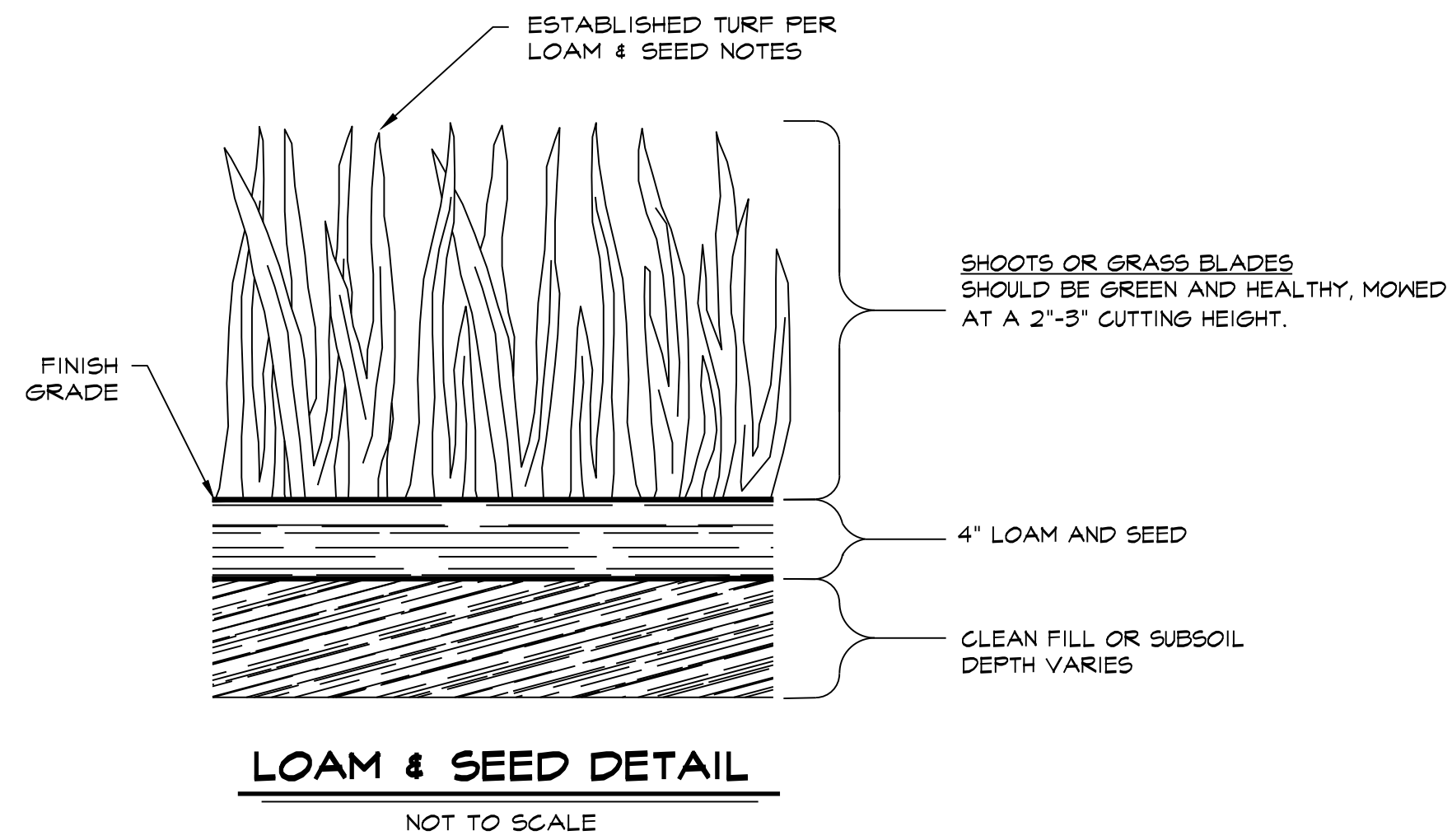
APPLY: 18 LBS/ACRE :2500 sq ft/lb

The New England Wetmix (Wetland Seed Mix) contains a wide variety of native seeds that are suitable for most wetland restoration sites that are not permanently flooded. All species are best suited to moist ground as found in most wet meadows, scrub shrub, or forested wetland restoration areas. The mix is well suited for detention basin borders and the bottom of detention basins not generally under standing water. The seeds will not germinate under inundated conditions. If planted during the fall months the seed mix will germinate the following spring. During the first season of growth several species will produce seeds while other species will produce seeds after the second growing season. Not all species will grow in all wetland situations. This mix is comprised of the wetland species most likely to grow in created/restored wetlands and should produce more than 75% ground cover in two full growing seasons.

The wetland seeds in this mix can be sown by hand, with a hand-held spreader, or hydro-seeded on large or hard to reach sites. Lightly rake to insure good seed-to-soil contact. Seeding can take place on frozen soil, as the freezing and thawing weather of late fall and late winter will work the seed into the soil. If spring conditions are drier than usual watering may be required. If sowing during the summer months supplemental watering will likely be required until germination. A light mulch of clean, weed free straw is recommended.

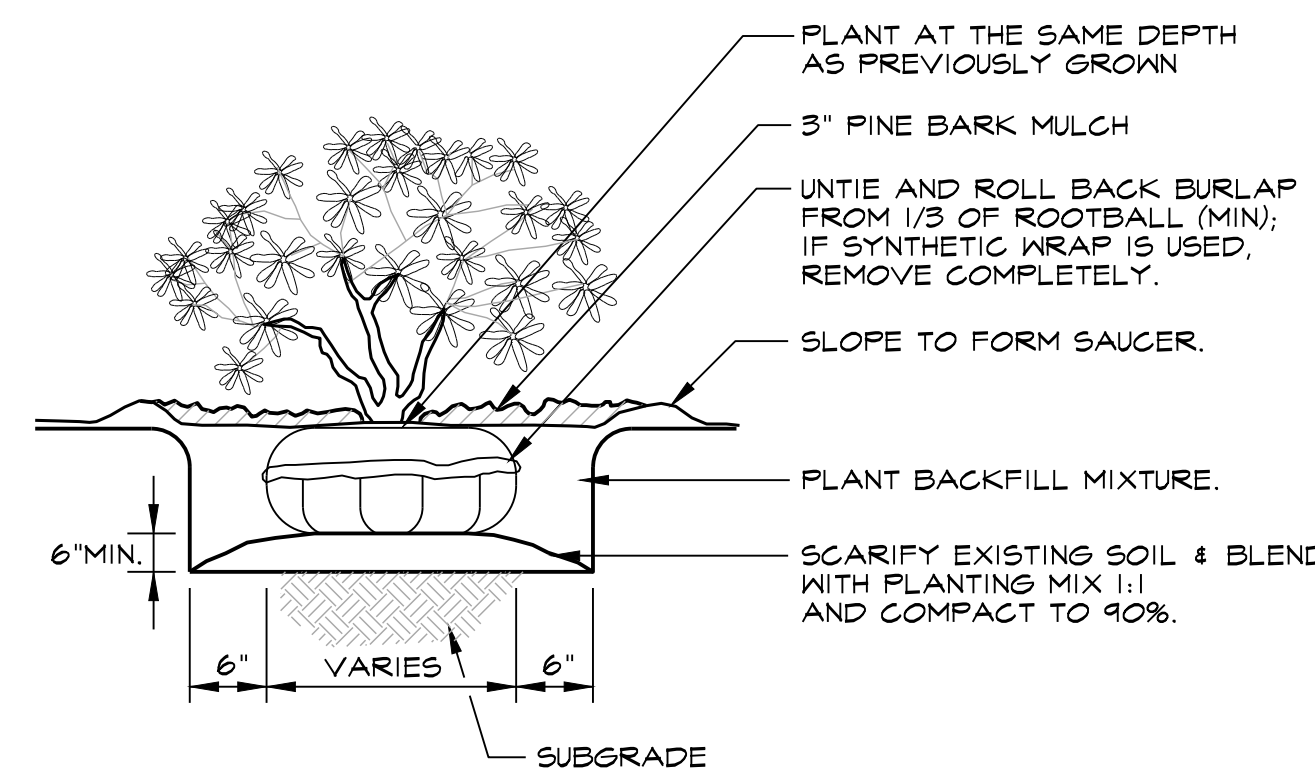
New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is \$/bulk pound, FOB warehouse, Plus SH and applicable taxes.

NEW ENGLAND WETMIX (WETLAND SEED MIX)



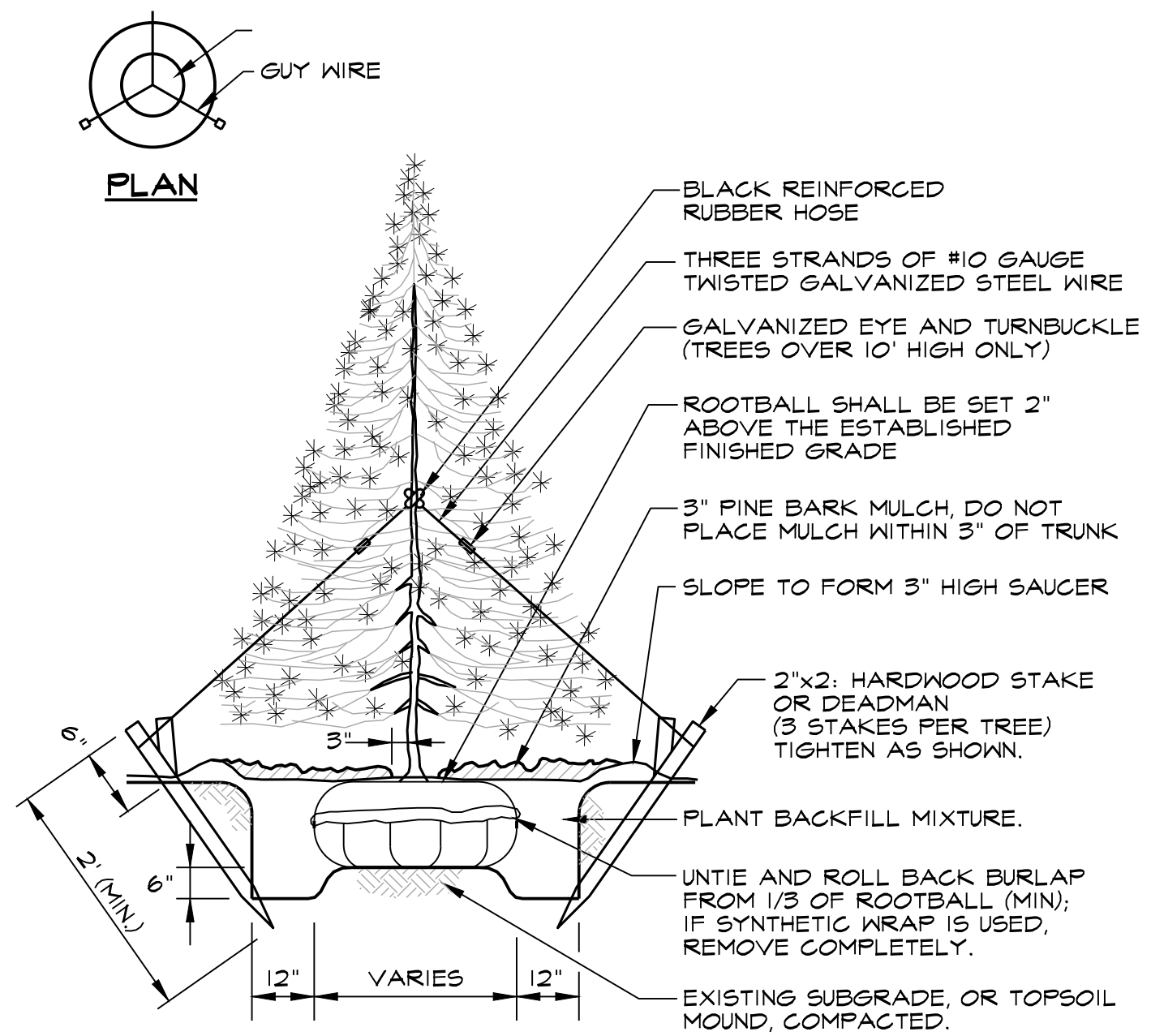
PLANTING SHALL BE DONE BY HAND USING A DIBBLE, PLANTING SPADE, OR OTHER METHOD APPROVED BY THE OWNER OR ENGINEER. THE DIBBLE OR SPADE SHALL BE USED TO CREATE A SHALLOW HOLE IN THE MOIST TOPSOIL FOR PLANTING. THE HOLE SHALL BE OF SUFFICIENT DEPTH AND WIDTH TO ALLOW THE ROOT TO BE INSERTED WITHOUT BREAKAGE OR OTHER DAMAGE. THE PLANTS SHALL BE PLANTED SO THAT THE LEAF BASES ARE AT THE SOIL SURFACE. AFTER PLACEMENT OF THE PLANT IN THE HOLE, THE HOLE SHALL BE CAREFULLY CLOSED AROUND THE PLANT ROOT BY GENTLY APPLYING PRESSURE TO THE EDGE OF THE HOLE WITH ONE'S FOOT OR OTHER METHOD APPROVED BY THE OWNER OR ENGINEER. PLANTS WHICH HAVE BEEN JUDGED BY THE OWNER OR ENGINEER TO BE DAMAGED BY MISHANDLING DURING THE PLANTING PROCESS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

BASIN PLANTINGS



SHRUB PLANTING

NOT TO SCALE



TYPICAL TREE PLANTING

NOT TO SCALE