

RIDEM WETLAND PHASE 2C APPLICATION

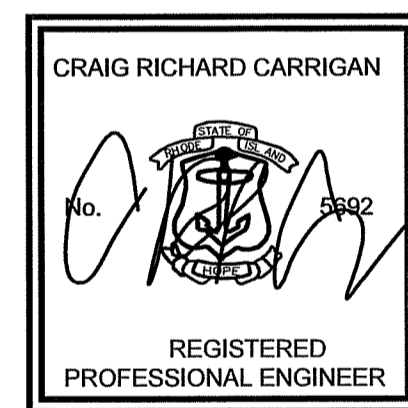
THE PRESERVE AT BOULDER HILLS, LLC
&
MTM DEVELOPMENT CORPORATION

87 KINGSTOWN ROAD
A.P. 5B, LOT 38
RICHMOND, RHODE ISLAND

ISSUED FOR PERMITTING

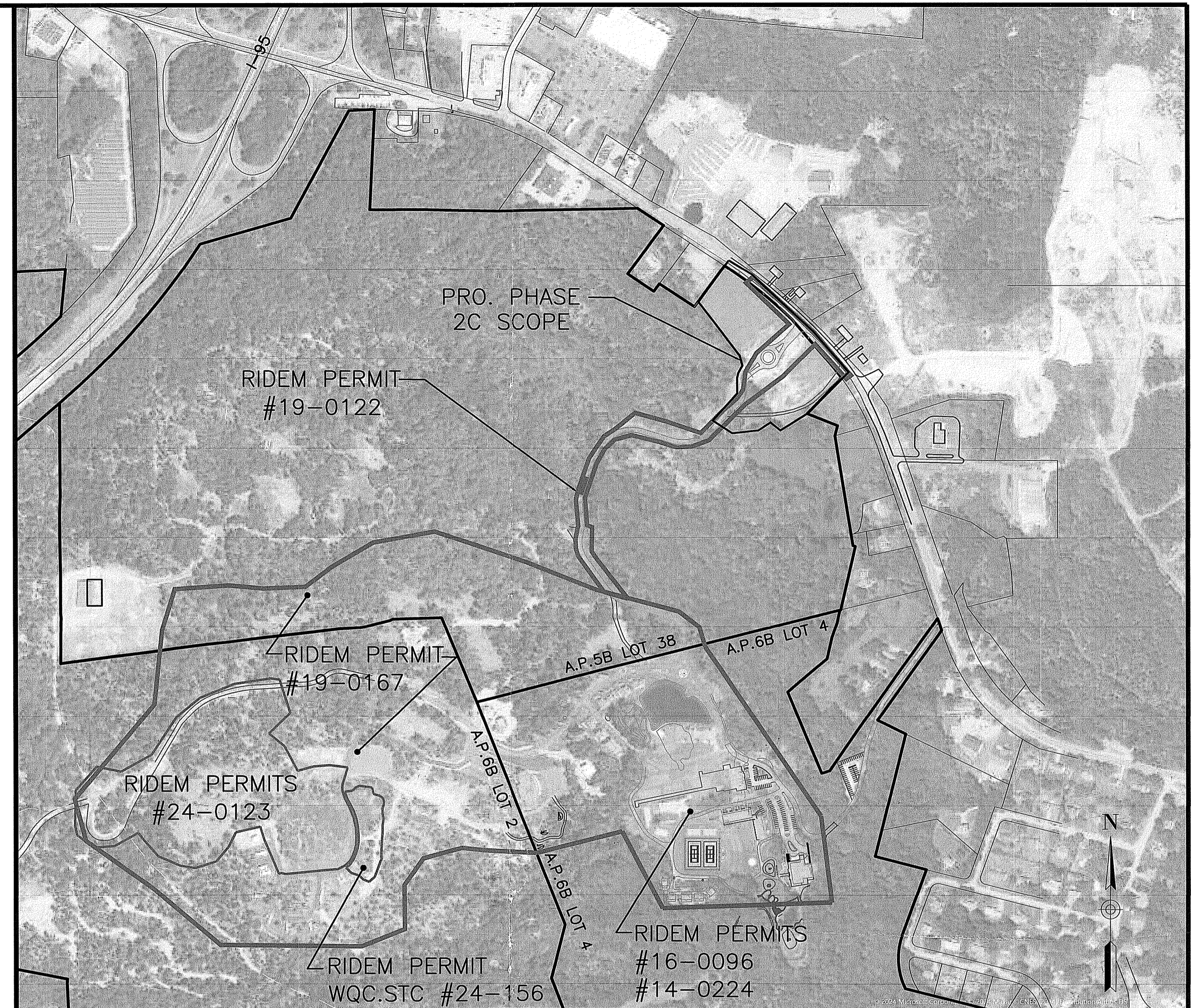
PREPARED FOR
THE PRESERVE AT BOULDER HILLS, LLC

DATE: July 10, 2023
REVISED: June 17, 2024
REVISED: January 17, 2025



CARRIGAN ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL ENGINEERING
86 BROOK FARM ROAD SOUTH
WAKEFIELD, RI 02879
PHONE: (401) 789-6865

REVISIONS
6/17/2024
1/17/2025



LOCATION MAP
SCALE: 1"=400'

LIST OF DRAWINGS

- TITLE SHEET
- EXISTING CONDITIONS SHEET
- PROJECT SCOPE PLAN
- LAYOUT & UTILITY PLAN
- GRADING & DRAINAGE PLANS
- SECC PLAN
- DETAIL SHEET - 1
- DETAIL SHEET - 2

- INCLUDED SHEETS BY OTHERS
- SHEET 7 OF 23 - C2 OVERALL MASTER PLAN
 - SHEET 1 OF 1 - SV-1 EXISTING CONDITIONS PLAT 6B LOT 2

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL

DATED: MAR 11 2025 FILE # A3-C153
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

PROJECT DATA

ASSESSORS REFERENCE: STATE PERMITS:

A.P. 5B LOT 38

RHODE ISLAND DEPT. OF TRANSPORTATION PHYSICAL ALTERATION PERMIT #190307
RHODE ISLAND DEPT. OF ENVIRONMENTAL INSIGNIFICANT ALTERATION PERMIT #19-0167

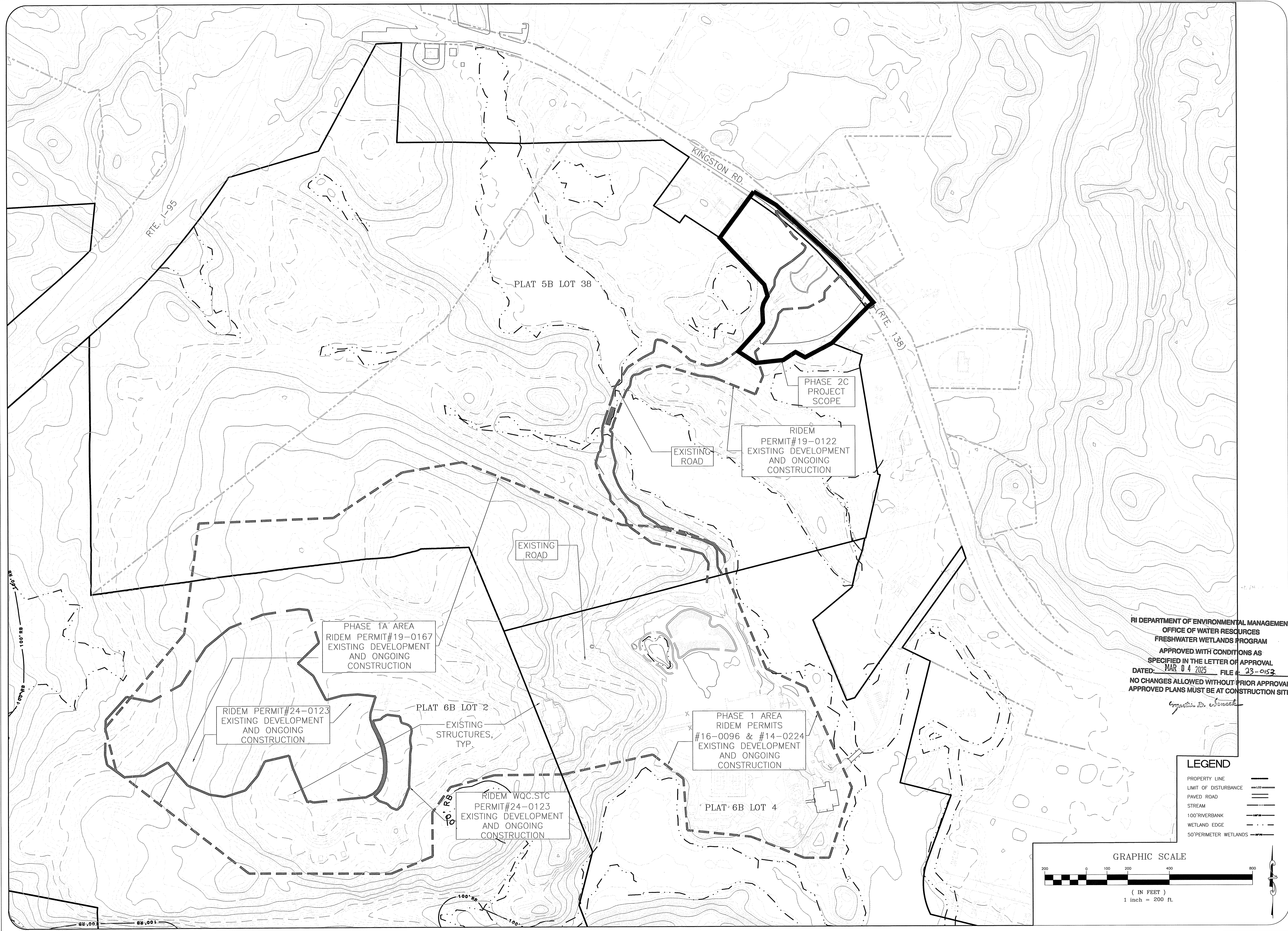
REFERENCES:

- PROPERTY LINE INFORMATION OBTAINED FROM SURVEY PLANS TITLED "SV-1 EXISTING CONDITIONS SURVEY LIMITED CONTENT PERIMETER SURVEY PREPARED FOR THE PRESERVE AT BOULDER HILLS III, LLC KINGSTOWN ROAD PLAT 5B LOT 38 RICHMOND, RHODE ISLAND", PLAN DATED APRIL 18, 2018 AND PREPARED BY CHERENZIA & ASSOCIATES, LTD.
- ROUTE 138 EDGE OF PAVEMENT, SPOT GRADES, AND EXISTING UTILITY POLES AND HYDRANTS OBTAINED BY SURVEY PERFORMED IN DECEMBER, 2018 BY EAST GREENWICH SURVEYORS.
- EXISTING WATERLINE INFORMATION WITHIN STATE RIGHT OF WAY OBTAINED FROM PLAN TITLED "CONSTRUCTION AS-BUILT ROUTE 138 WATER TRANSMISSION MAIN EXTENSION PLAN STA. 0+00 TO 23+65", DWG. NO. C-1 SHEET 2 OF 9 DATED 03/2011.
- EXISTING 2-FOOT CONTOURS OUTSIDE OF SURVEYED AREA OBTAINED FROM RIGIS LIDAR DATA.

GENERAL NOTES:

- ALL PLANS AND IMPROVEMENTS CONFORM TO ALL EXISTING AND AMENDED STANDARDS OF THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS, BOARD OF REGISTRATION OF PROFESSIONAL ENGINEERS AND BOARD OF REGISTRATION OF LAND SURVEYORS.
- ONLY PLANS STAMPED ISSUED FOR CONSTRUCTION SHALL BE USED FOR CONSTRUCTION.
- THE LOCATION AND ELEVATION FOR ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ANY CROSSINGS OF PROPOSED UTILITIES AND EXISTING UTILITIES. ANY DISCREPANCIES IN THE LOCATION OF ANY UTILITY SHOWN OR ENCOUNTERED DURING CONSTRUCTION SHALL BE REPORTED TO MTM DEVELOPMENT CORPORATION, 87 KINGSTOWN RD, RICHMOND, RHODE ISLAND 02898; (401) 539-4653.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-800-344-7233) A MINIMUM OF 72 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.
- IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES, AND ADJUTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.
- ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH MUTCD 2009 LATEST REVISION.

JAN 21 2025

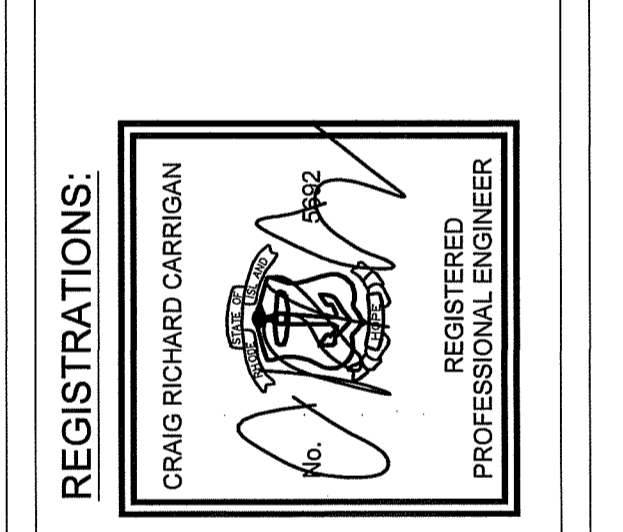


RIDEW PHASE 2C WETLAND APPLICATION
EXISTING CONDITIONS PLAN
 A.P. 5B, LOT 38
 87 KINGSTOWN ROAD
 RICHMOND, RHODE ISLAND
 PREPARED FOR: THE PRESERVE AT BOULDER HILLS LLC.
 SCALE: AS SHOWN DATE: 7/10/2023 SHEET 2 OF 10

REVISIONS:

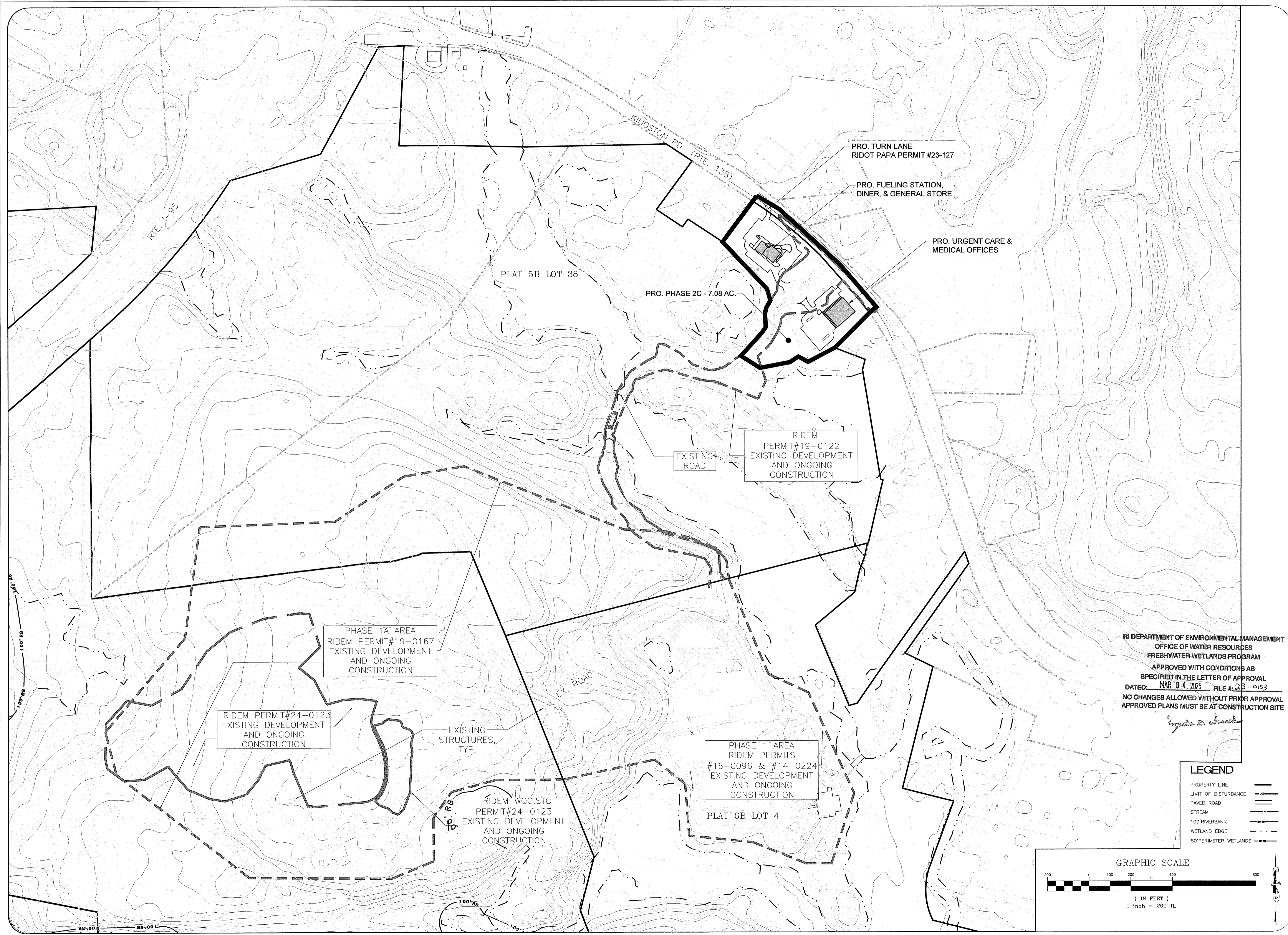
NO.	DATE	DESCRIPTION	BY
1.	6/17/24	RIDEW COMMENTS	BM/JCC
2.	7/3/24	FIX TEST HOLE LABELS	BM/JCC
3.	1/17/25	RIDEW COMMENTS	BM/JCC

JOB NO.



CARRIGAN ENGINEERING, INC.
 CIVIL AND ENVIRONMENTAL ENGINEERING
 86 BROOK FARM ROAD SOUTH
 WAKEFIELD, RI 02879
 PHONE: (401) 789-6865

Environmental Management
JAN 21 2025
 Office of Water Resources



RIDEM PHASE 2C WETLAND APPLICATION

PROJECT SCOPE PLAN
 A.P. 5B, LOT 38
 87 KINGSTOWN ROAD
 RICHMOND, RHODE ISLAND

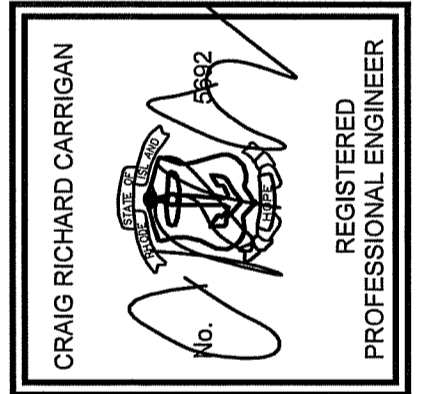
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3.	1/17/25	RIDEM COMMENTS	BM/CC

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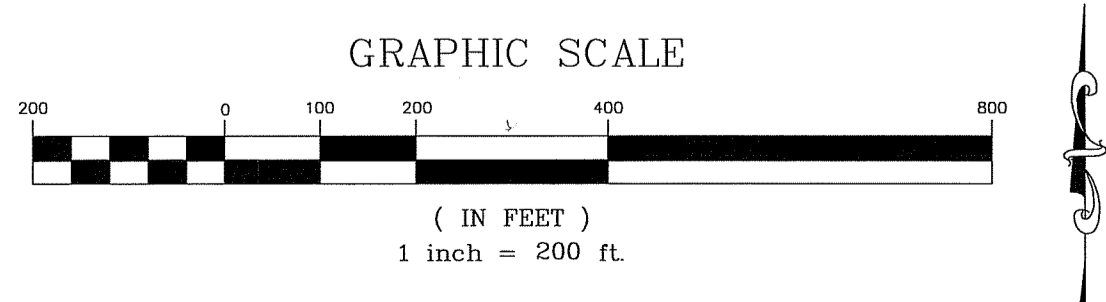
REGISTRATIONS:



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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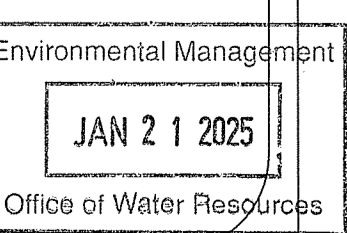
LEGEND

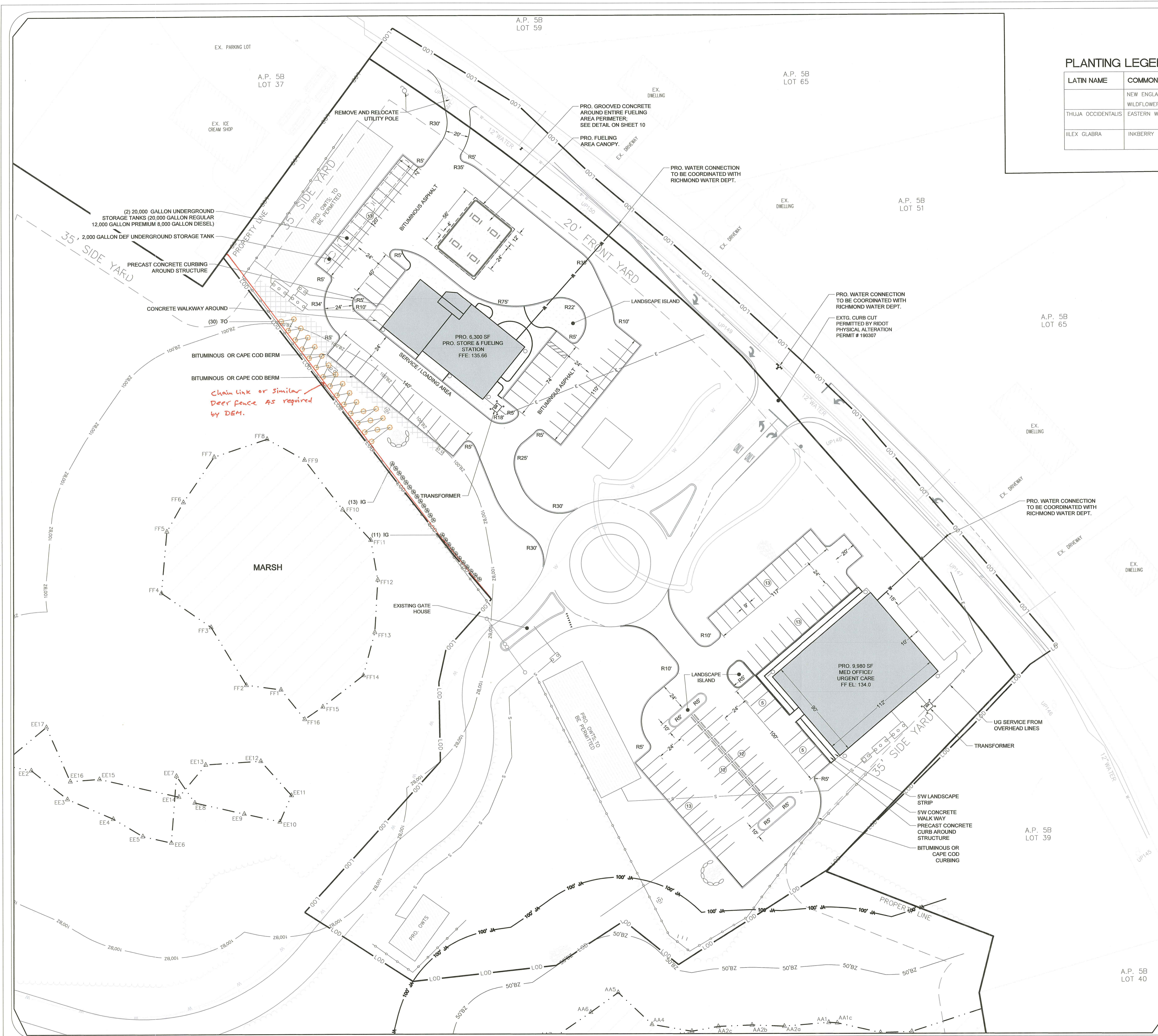
PROPERTY LINE	---
LIMIT OF DISTURBANCE	----
PAVED ROAD	=====
STREAM	~~~~~
100' RIVERBANK	- - - - -
WETLAND EDGE
50' PERIMETER WETLANDS	- . - . - .



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PLANTING LEGEND

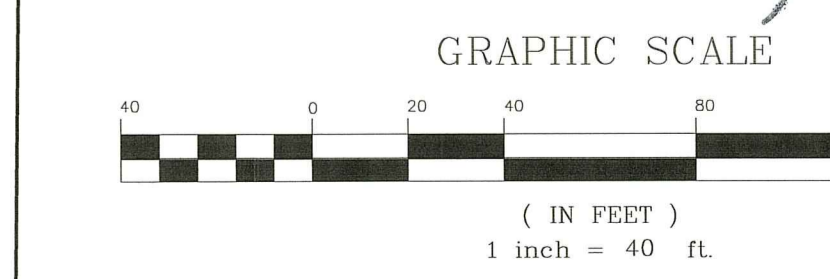
LATIN NAME	COMMON NAME	KEY	SYMBOL	SPACING	HEIGHT	COUNT
	NEW ENGLAND WILDFLOWER MIX					1,900 SF
THUJA OCCIDENTALIS	EASTERN WHITE CEDAR	TO		10' O.C.	4'-6'	30
ILEX GLABRA	INKBERRY	IG		5' O.C.	2'-3'	24

LEGEND

	EXIST	PROP
TOP/BOTTOM CURB ELEVATION	27.65 TO 27.15 BC-X	27.65 TO 27.15 BC-X
SPOT GRADE w/LEADER	21.25 X	21.25 X
BORING LOCATION	⊕B-1	⊕B-1
TEST PIT LOCATION	⊕TP-1	⊕TP-1
MONITORING WELL	⊕MW-1	⊕MW-1
BENCH MARK	⊕	⊕
DRAIN MANHOLE	⊕DMH	⊕DMH
CATCH BASIN	⊕CB	⊕CB
DOUBLE CATCH BASIN	⊕DCB	⊕DCB
GUTTER INLET	⊕GI	⊕GI
FLARED END SECTION	FES	FES
DRAINAGE LINE	D	D
OVERHEAD WIRE	—OW—	—OW—
WATER LINE	—W—	—W—
GAS LINE	—G—	—G—
UNDERGROUND ELECTRIC	—UE—	—UE—
UNDERGROUND TELEPHONE	—TEL—	—TEL—
CABLE TV	—CATV—	—CATV—
SEWER MANHOLE	⊕SMH	⊕SMH
SEWER LINE	—S—	—S—
WATER GATE	⊕WG	⊕WG
TAPPING SLEEVE, VALVE, & BOX	⊕TSV	⊕TSV
FIRE HYDRANT	⊕FH	⊕FH
WATER METER	⊕WM	⊕WM
WELL	⊕W	⊕W
GAS GATE	⊕GG	⊕GG
ELECTRIC MANHOLE	⊕EMH	⊕EMH
ELECTRIC BOX	⊕EB	⊕EB
ELECTRIC METER	⊕EM	⊕EM
LIGHT POLE	⊕LP	⊕LP
TELEPHONE MANHOLE	⊕TMH	⊕TMH
UTILITY POLE	⊕UP	⊕UP
HAND HOLE	⊕HH	⊕HH
PULL BOX	⊕PB	⊕PB
PROPERTY LINE	—LOD	—LOD
LIMIT OF DISTURBANCE	—LOD	—LOD
EASEMENT	—EAS	—EAS
ZONING LINE	—ZON	—ZON
GRAVEL ROAD	—GRV	—GRV
PAVED ROAD	—PAV	—PAV
SAWCUT	—SAW	—SAW
EDGE OF VEGETATION	—EOV	—EOV
CHAIN LINK FENCE	—CLF	—CLF
STONE WALL	—STW	—STW
RETAINING WALL	—RET	—RET

NEW ENGLAND WILDFLOWER MIX:
 APPLICATION RATE: 23 LBS / ACRE (1,900 SF / LB)
 Little Bluestem (Schizachyrium scoparium)
 Red Fescue (Festuca rubra)
 Indian Grass (Sorghastrum nutans)
 Partridge Pea (Chamaecrista fasciculata)
 Canada Wild Rye (Elymus canadensis)
 Virginia Wild Rye (Elymus virginicus)
 Blue Vervain (Verbena hastata)
 Butterfly Milkweed (Asclepias tuberosa)
 Narrowleaved Blue Eyed Grass (Sisyrinchium angustifolium)
 Black eyed Susan (Rudbeckia hirta)
 New England Aster (Aster lateriflorus/Symphotrichum lateriflorum)
 Spiked Gayfeather/ Marsh Blazing Star (Liatris spicata)
 Starved/Calico Aster (Aster lateriflorus/Symphotrichum lateriflorum)
 Early Goldenrod (Solidago juncea)
 Hollow-stem Joe Pye Weed (Eupatorium fistulosum)

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RIDEM PHASE 2C WETLAND APPLICATION
LAYOUT & UTILITY
 A.P. 5B, LOT 38
 87 KINGSTOWN ROAD
 RICHMOND, RHODE ISLAND
 PREPARED FOR: THE PRESERVE AT BOULDER HILLS LLC.
 SCALE: AS SHOWN DATE: 7/10/23 SHEET 4 OF 10

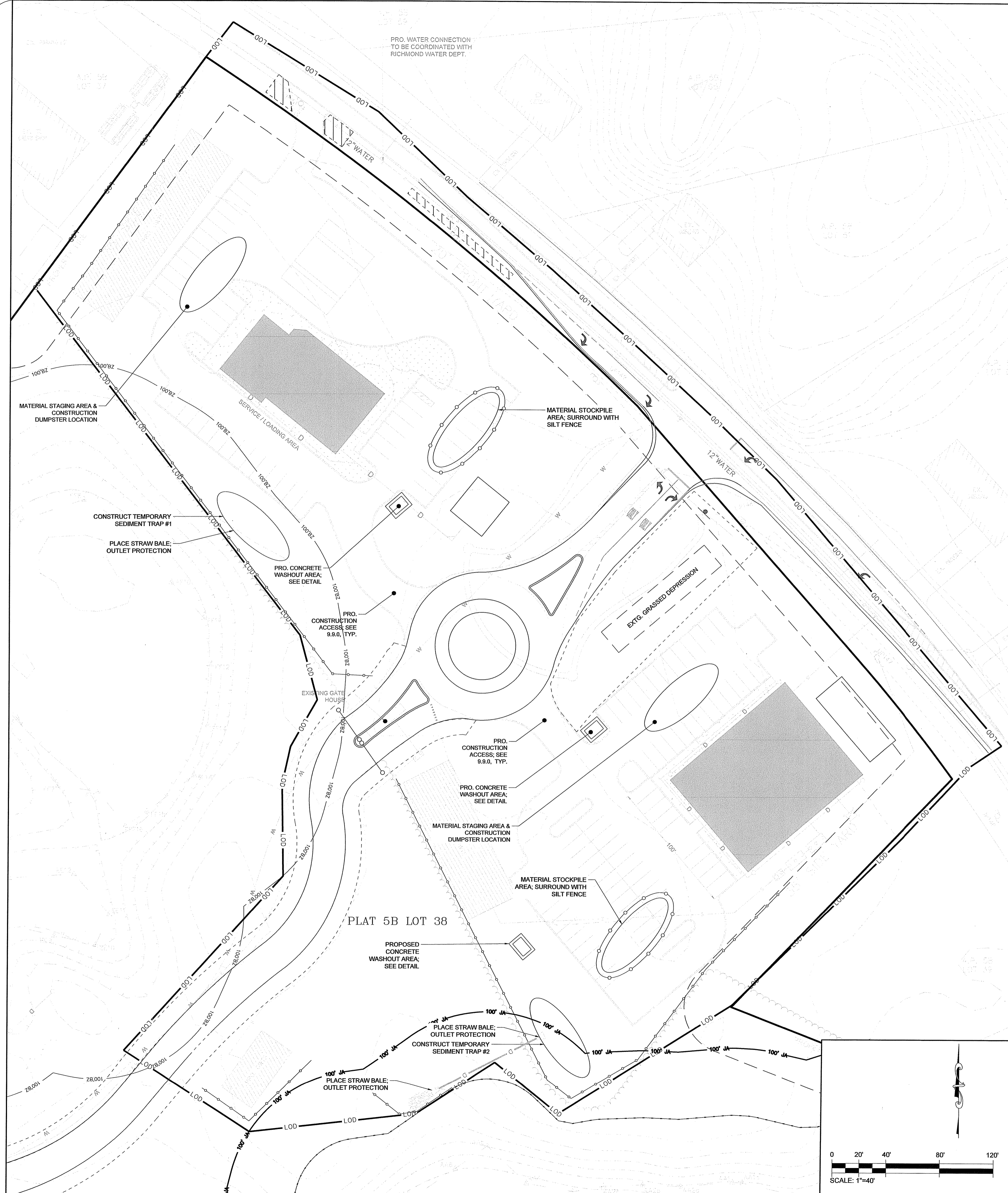
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1.	6/17/24	RIDEM COMMENTS	BM/CC
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REGISTRATIONS:

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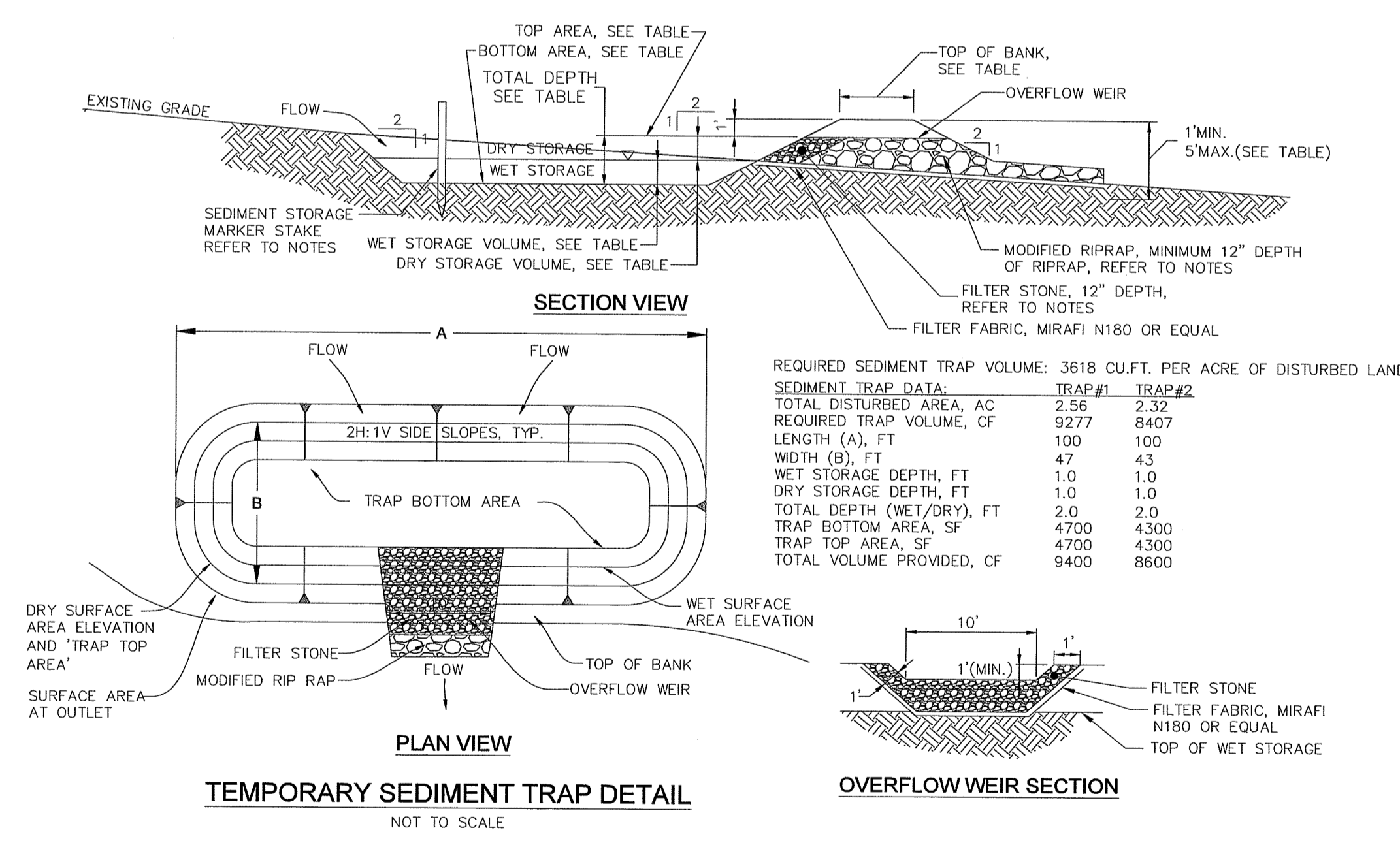
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- INSPECTION, MAINTENANCE AND REMOVAL REQUIREMENTS:**
1. INSTALL SEDIMENT STORAGE STAKE WITH A MARKER AT ONE HALF OF THE WET STORAGE VOLUME.
 2. INSPECT THE TEMPORARY SEDIMENT TRAP AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCHES OR GREATER.
 3. CHECK THE OUTLET TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OF CONSTRUCTION EQUIPMENT.
 4. CHECK FOR SEDIMENT ACCUMULATION AND FILTRATION PERFORMANCE.
 5. WHEN SEDIMENTS HAVE ACCUMULATED TO ONE HALF THE MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATER THE TRAP AS NEEDED, REMOVE SEDIMENTS AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS.
 6. DISPOSE OF THE SEDIMENT REMOVED FROM THE BASIN IN A SUITABLE AREA.
 7. THE TEMPORARY SEDIMENT TRAP MAY BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA IS STABILIZED.

- INSTALLATION NOTES:**
1. CLEAR GRUB AND STRIP ANY VEGETATION AND ROOT MAT FROM ANY PROPOSED EMBANKMENT AND OUTLET AREA.
 2. REMOVE STONES AND ROCKS WHOSE DIAMETER IS GREATER THAN 3 INCHES AND OTHER DEBRIS.
 3. EXCAVATE WET STORAGE AND CONSTRUCT THE EMBANKMENT AND/OR OUTLET AS NEEDED TO ATTAIN THE NECESSARY STORAGE REQUIREMENTS.
 4. USE ONLY FILL MATERIAL FOR THE EMBANKMENT THAT IS FREE FROM EXCESSIVE ORGANICS, DEBRIS, LARGE ROCKS (OVER SIX INCHES) OR OTHER UNSUITABLE MATERIALS. COMPACT THE EMBANKMENT IN 9 INCH LAYERS BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
 5. STABILIZE THE EARTHEN EMBANKMENT USING ANY OF THE FOLLOWING MEASURES, SEEDING FOR TEMPORARY VEGETATION COVER, SEEDING FOR PERMANENT VEGETATIVE COVER, OR SLOPE PROTECTION, IMMEDIATELY AFTER INSTALLATION.

- GENERAL NOTES:**
1. THE TEMPORARY SEDIMENT TRAP SHALL MEET ALL REQUIREMENTS FOR TEMPORARY SEDIMENT TRAPS OUTLINED IN THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK (LATEST REVISION) SECTION SIX: SEDIMENT CONTROL MEASURES.
 2. THE TEMPORARY SEDIMENT TRAP SHALL HAVE AN INITIAL STORAGE VOLUME OF 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA.
 3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
 4. THE OUTLET SHALL BE LOCATED AT THE MOST DISTANT HYDRAULIC POINT FROM THE INLET.
 5. THE OUTLET CONSISTS OF A PERVIOUS STAKE DIKE WITH A CORE OF MODIFIED RIP RAP AND FACED ON THE UPSTREAM SIDE WITH STONE.
 6. TEMPORARY SEDIMENT TRAPS MUST OUTLET ONTO STABILIZED GROUND.
 7. MAXIMUM HEIGHT OF A TEMPORARY SEDIMENT TRAP EMBANKMENT IS LIMITED TO FIVE FEET.
 8. SIDE SLOPES OF THE EMBANKMENT SHALL BE 2:1 OR FLATTER.
 9. MODIFIED RIP RAP SHALL MEET THE REQUIREMENTS OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.10.03.2 AND BE R-4 GRADE RIPRAP.
 10. FILTER STONE SHALL MEET THE REQUIREMENTS OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.01.03 TABLE 1 COLUMN V FILTER STONE.



REQUIRED SEDIMENT TRAP VOLUME: 3618 CU.FT. PER ACRE OF DISTURBED LAND			
SEDIMENT TRAP DATA:	TRAP #1	TRAP #2	
TOTAL DISTURBED AREA, AC	2.56	2.32	
REQUIRED TRAP VOLUME, CF	9277	8407	
LENGTH (A), FT	100	100	
WIDTH (B), FT	47	43	
WET STORAGE DEPTH, FT	1.0	1.0	
DRY STORAGE DEPTH, FT	1.0	1.0	
TOTAL DEPTH (WET/DRY), FT	2.0	2.0	
TRAP BOTTOM AREA, SF	4700	4300	
TRAP TOP AREA, SF	4700	4300	
TOTAL VOLUME PROVIDED, CF	9400	8600	

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RIDEM PHASE 2C WETLAND APPLICATION
SESC PLAN 1
 A.P. 5B, LOT 38 / A.P. 6B, LOT 2 / A.P. 6B, LOT 4
 87 KINGSTOWN ROAD
 RICHMOND, RHODE ISLAND
 PREPARED FOR: THE PRESERVE AT BOULDER HILLS LLC.

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1.	16/17/24	RIDEM COMMENTS	BM/CC
2.	7/3/24	FIX TEST HOLE LABELS	BM/CC
3.	1/17/25	RIDEM COMMENTS	BM/CC

REGISTRATIONS:

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 86 BROOK FARM ROAD SOUTH
 WAKEFIELD, RI 02879
 PHONE: (401) 789-6865

CARRIGAN RICHARD CARRIGAN
 REGISTERED PROFESSIONAL ENGINEER

SCALE: AS SHOWN DATE: 7/10/23 SHEET 6 of 10
 JOB NO.

GENERAL EROSION CONTROL NOTES:

- THE STATE OF RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED AUG. 2013, AND THE RHODE ISLAND STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO. THE 2013 STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION WEBSITE. THESE SPECIFICATIONS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO.
- LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 48-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-800-344-7233) A MINIMUM OF 48 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.
- IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY, BUT NOT LIMITED TO, THE STATE OF RHODE ISLAND, THE FEDERAL GOVERNMENT, LOCAL (TOWN/CITY) GOVERNMENT AND ALL INDIVIDUAL UTILITY COMPANIES PRIOR TO COMMENCING ANY WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND EROSION CONTROLS. ALL MATERIAL FOR FILL SHALL BE CLEAN AND FREE OF MATTER WHICH COULD POLLUTE ANY DOWN STREAM WATERCOURSE.
- FILL MATERIAL SHALL BE COMPACTED IN ONE FOOT (MAXIMUM) LIFTS TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-1557 (MODIFIED PROCTOR TEST).
- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ALL AREAS NOT TO BE DEVELOPED THAT ARE COMPACTED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED BY TILLING THE TOP 12" OF SOIL.

EROSION CONTROL AND SOIL STABILIZATION PROGRAM:

- ALL STRAW BALES OR TEMPORARY PROTECTION SHALL REMAIN IN-PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
- THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH RHODE ISLAND STANDARD SPECIFICATION M.20.01, AS AMENDED.
- THE SEED MIX SHALL BE INOCULATED WITH 24-HOURS BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
- THE DESIGN MIX UTILIZED IN ALL DISTURBED AREAS TO BE SEEDED SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	% BY WEIGHT	SEEDING DATE
CREEPING RED FESCUE	70	APRIL 1 - JUNE 15
ASTORIA BENTGRASS	5	AUGUST 15 - OCT.
BIRDFOOT TREFOIL	15	
PERENNIAL RYEGRASS	10	

- APPLICATION RATE: 100 LBS/ACRE
LIMING AND FERTILIZING AS REQUIRED TO COMPLEMENT OR UPGRADE EXISTING CONDITIONS.
- ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR SHALL BE REPAIRED AND/OR RESEEDED.
 - THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THROUGH OCTOBER 15TH.
 - STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
 - STOCKPILES OF TOPSOIL AND EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 2:1 AND STOCKPILE SHALL ALSO BE SEEDED AND/OR STABILIZED. THE STOCKPILES SHALL BE SURROUNDED BY STACKED STRAW BALES AND/OR SILT FENCE.
 - ON SLOPES STEEPER THAN 30% MULCH APPLICATIONS SHALL BE TACKED DOWN BY "CRIMPING" OR "TRACKING".
 - TREES TO BE RETAINED SHALL BE FENCED OR ROPED OFF TO PROTECT THEM FROM CONSTRUCTION EQUIPMENT.
 - ALL PROPOSED PLANTINGS MUST BE ACCOMPLISHED AS EARLY AS POSSIBLE UPON COMPLETION OF GRADING AND CONSTRUCTION, AND AT LEAST PRIOR TO ANY ON-SITE OCCUPANCY.
 - PLANTINGS SHALL BE MAINTAINED BY THE PROPERTY OWNER TO ENSURE SURVIVAL.
 - SHOULD ANY OR ALL OF THE PROPOSED PLANTS FAIL TO SURVIVE AT LEAST ONE (1) FULL GROWING SEASON FROM THE TIME THEY HAVE BEEN PLANTED, THE OWNER SHALL BE FULLY RESPONSIBLE FOR REPLACING AND MAINTAINING THE SAME PLANT SPECIES FOR ONE (1) ADDITIONAL GROWING SEASON.
 - ALL DISTURBED AREAS MUST BE SEEDED OR PLANTED WITHIN THE CONSTRUCTION SEASON.
 - TEMPORARY SEEDING MUST BE DONE WITHIN ONE (1) MONTH AFTER DISTURBANCE.
 - ALL DISTURBED AREAS MUST BE PERMANENTLY SEEDED OR PLANTED BEFORE OCTOBER 1ST, IF NOT THEY MUST BE TEMPORARILY SEEDED. SLOPES CONSTRUCTED AT OR STEEPER THAN 15% SHALL HAVE TEMPORARY EROSION CONTROL MATTING UTILIZED AS A SUPPORTIVE METHOD IN ADDITION TO THE METHODS DESCRIBED ABOVE UNLESS IN THE CASE WHERE PERMANENT TURF REINFORCEMENT MATS ARE INSTALLED IMMEDIATELY UPON CONSTRUCTION OF THE SLOPE. IN NO CASE SHALL STEEP SLOPES BE LEFT UNPROTECTED.
 - ALL PROPOSED INLETS AND OUTLETS SHALL BE PROTECTED WITH TURF REINFORCEMENT AS PROPOSED ON THE PLANS AND/OR STRAW BALE INLET AND OUTLET PROTECTION DEVICES. SEE DETAILS.
 - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND PROCEDURES SET FORTH IN THE TOWN ZONING ORDINANCES, RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, AMENDED MARCH 2015 AS PREPARED BY THE RIDEM AND CRMC, AND RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK AS PREPARED BY RHODE ISLAND STATE CONSERVATION COMMITTEE, REVISED 2014, (AS REVISED).

- EXTREME CARE SHALL BE EXERCISED AS TO PREVENT ANY MATERIALS FROM ENTERING THE ROADWAYS, ROADWAY DRAINAGE SYSTEMS, ADJACENT PROPERTY, WETLANDS, PERIMETER WETLANDS, AND RIVERBANK WETLANDS.
- STACKED STRAW BALES AND/OR SILT FENCE SHALL BE INSTALLED WHERE SHOWN ON THE PLAN AND AS REQUIRED TO PREVENT SEDIMENTATION INTO PERIMETER AND RIVERBANK WETLANDS.
- DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR MORE THAN 2 WEEKS OF TIME OR FOR THE INACTIVE WINTER SEASON.
- ALL DISTURBED SOILS EXPOSED PRIOR TO OCTOBER 15 OF ANY CALENDAR YEAR SHALL BE SEEDED OR PROTECTED BY THAT DATE. ANY SUCH AREAS THAT DO NOT HAVE ADEQUATE VEGETATIVE STABILIZATION AS DETERMINED BY THE RESIDENT ENGINEER OR ENVIRONMENTAL INSPECTOR, BY NOVEMBER 15 OF ANY CALENDAR YEAR, MUST BE STABILIZED THROUGH THE USE OF EROSION CONTROL MATTING OR STRAW MULCH, IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK OR AS DIRECTED BY THE RESIDENT ENGINEER OR INSPECTOR. IF WORK CONTINUES WITHIN ANY OF THESE AREAS DURING THE PERIOD FROM OCTOBER 15 THROUGH APRIL 15, CARE MUST BE TAKEN TO ENSURE THAT ONLY THE AREA REQUIRED FOR THAT DAY'S WORK IS EXPOSED, AND ALL ERODIBLE SOIL MUST BE RESTABILIZED WITHIN 5 WORKING DAYS. ANY WORK TO CORRECT PROBLEMS RESULTING FROM FAILURE TO COMPLY WITH THIS PROVISION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THERE WILL BE NO SEPARATE PAYMENT FOR THIS PROVISION. IT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OPERATIONS. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 2 WEEKS OF FINAL GRADING.
- PREPARE TEMPORARY SEEDING AREA, PROVIDE AND PLANT SEED IN ACCORDANCE WITH "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" AS PREPARED BY THE RHODE ISLAND STATE CONSERVATION COMMITTEE, REVISED 2014, (AS REVISED).

SEED MIX:
ANNUAL RYE GRASS 1.5 LBS/1,000 SQ. FT.

- TEMPORARY TREATMENTS TO STABILIZE EXPOSED SOILS SHALL CONSIST OF STRAW OR FIBER MULCH OR PROTECTIVE COVERS, SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK WHEN SOILS ARE EXPOSED FOR TWO WEEKS OR MORE OR AS ORDERED BY THE RESIDENT ENGINEER OR OWNER AT NO ADDITIONAL COST.
- STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 4,000 LBS/ACRE.
- ALL NEW STRAW BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED AND POTENTIAL SEDIMENTATION SOURCES ARE REMOVED.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT/REPLACE AS NEEDED.
- ADDITIONAL STRAW BALES/SILT FENCE OR OTHER TREATMENTS SHALL BE PROVIDED AS DIRECTED BY ENGINEER, RIDEM OR LOCAL REPRESENTATIVES AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL INSPECT THE SOIL EROSION CONTROL DEVICES AFTER EVERY RAIN STORM EVENT AND EVERY 7 DAYS (WHICH EVER COMES FIRST). ANY SOIL MIGRATION PAST THE DEVICES SHALL BE REMOVED AND THE SOIL EROSION CONTROL DEVICES SHALL BE RE-ESTABLISHED TO PREVENT SOIL EROSION. ALL ACCUMULATED SEDIMENT IN FRONT OF THE DEVICES SHALL BE REMOVED AFTER EVERY RAIN STORM EVENT.
- ALL DISTURBED SOIL AREAS SHALL BE PROTECTED AGAINST SOIL EROSION BY PLACING OR LAYING STRAW MULCH, SILT FENCE OR ON THE DOWN GRADIENT SIDE OF THE DISTURBED AREA(S). SHOULD THE VOLUME AND/OR RATE OF STORMWATER RUNOFF BE TOO GREAT FOR A SINGLE DEVICE, THEN MULTIPLE DEVICES ARE REQUIRED SUCH AS SILT FENCE BACKED-UP WITH STRAW BALES. THESE ADDITIONAL DEVICES ARE NOT SHOWN ON THE PLAN BUT SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- AT THE END OF THE PROJECT CONSTRUCTION ALL SEDIMENT IN MANHOLE SUMPS AND WITHIN ANY DRAINAGE STRUCTURE OR BMP SHALL BE REMOVED.

SEQUENCE AND STAGING OF LAND DISTURBING ACTIVITIES:

- CONTRACTOR TO REFER TO RIDEM RPDES SOIL EROSION AND SEDIMENT CONTROL (SESC) REPORT AS WELL AS THESE DRAWINGS.
- INSTALL SEDIMENTATION PROTECTION DEVICES IN EXISTING CATCH BASINS AND INLET STRUCTURES.
- SURVEY AND STAKE LIMIT OF DISTURBANCE FOR PLACEMENT OF SEDIMENTATION CONTROL DEVICES.
- PLACE PERIMETER SEDIMENTATION CONTROL DEVICES, SEE DETAILS. IN NO CASE SHALL THE LIMIT OF WORK EXTEND BEYOND THE SEDIMENTATION CONTROL DEVICES.
- CONSTRUCT CONSTRUCTION ENTRANCE DEVICES LOCATED ALONG ROUTE 138, SEE DETAIL.
- CLEAR AND GRUB AREA WITHIN THE LIMIT OF DISTURBANCE.
- CONSTRUCT TEMPORARY SEDIMENT TRAPS.
- CLEAR AND ROUGH GRADE ROADS.
- INSTALL AND COMPACT GRAVEL BASE COURSE FOR ROADS.
- CONSTRUCT UTILITIES (WATER, DRAINAGE, ETC.)
- POUR BITUMINOUS CONCRETE BASE COURSE.
- FINISH REMAINDER OF CONSTRUCTION AND PAVE BITUMINOUS CONCRETE SURFACE COURSE.
- REMOVE TEMPORARY SOIL EROSION DEVICES.
- CLEAN OUT ALL DRAINAGE BASINS AND STRUCTURES AS NEEDED. REMOVE AND DISPOSE ALL ACCUMULATED SEDIMENT IN A SUITABLE AREA.

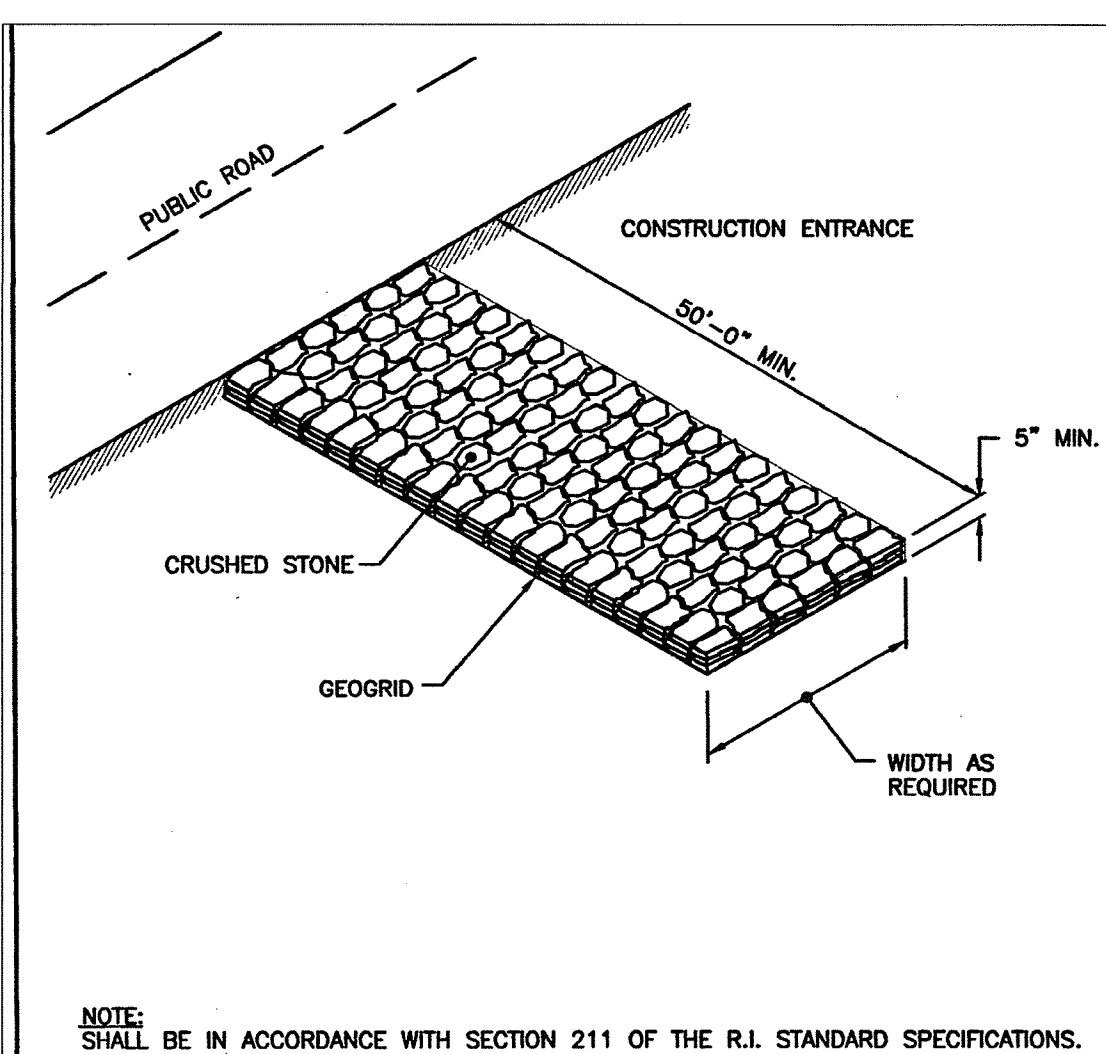
- REFERENCE IS MADE TO APPENDIX C "POLLUTION PREVENTION AND SOURCE CONTROLS" OF THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, AMENDED 2015. THIS DOCUMENT SHALL BE REFERENCED WHEN IMPLEMENTING THE POLLUTION PREVENTION TECHNIQUES. A BRIEF SUMMARY OF THE TECHNIQUES IS PROVIDED BELOW. REFER TO THE ABOVE REFERENCE FOR ALL TECHNIQUES TO BE IMPLEMENTED.
- SOLID WASTE CONTAINMENT:**
A. OWNER TO PROVIDE TRASH CONTAINER. CONTAINER TO HAVE A COVER TO PREVENT TRASH FROM BLOWING OUT.
B. SWEEP STREET/PARKING AREA ANNUALLY.
- HAZARDOUS MATERIALS CONTAINMENT:**
A. CONTRACTOR TO STORE ALL HAZARDOUS MATERIALS INSIDE STORAGE LOCKERS OR OTHER APPROVED METHODS WHICH HAVE SECONDARY CONTAINMENT SYSTEMS.
B. SECONDARY CONTAINMENT MUST BE INCLUDED WHEREVER SPILLS MIGHT OCCUR (E.G. FUELING AND HAZARDOUS MATERIAL TRANSFER AND LOADING AREAS).
- ROADS AND PARKING AREA MANAGEMENT:**
A. SWEEP STREET/PARKING AREA ANNUALLY.
B. USE DEICING CHEMICALS AND SAND JUDICIOUSLY SINCE THEY CAUSE WATER QUALITY PROBLEMS. PROVIDE AND SPREAD IN ACCORDANCE WITH APPENDIX C RECOMMENDATIONS.
C. FLOW SNOW AND STORE ACCUMULATED SNOW PILES AWAY FROM SAND FILTER SYSTEM AND SEDIMENT FOREBAY.
* DEBRIS SHOULD BE CLEANED FROM THE SITE PRIOR USING THE SITE FOR SNOW DISPOSAL.
* DEBRIS SHOULD BE CLEANED FROM THE SITE AND PROPERLY DISPOSED OF AT THE END OF THE SNOW SEASON.
D. ONLY USE ASPHALT BASED SEALANTS WHEN SEALING THE PAVEMENTS. DO NOT USE COAL-TAR BASED SEALANTS SINCE THESE ARE MORE TOXIC.
- SEPTIC SYSTEM:**
A. NO SEPTIC SYSTEMS PROPOSED.
- LAWN, GARDEN, AND LANDSCAPE MANAGEMENT:**
A. LAWN CONVERSION - REDUCE THE AMOUNT OF LAWN BY REPLANTING LAWN WITH GARDEN BEDS CONTAINING FLOWERS/SHRUBS. LAWNS REQUIRE MORE MAINTENANCE THAN FLOWER BEDS.
B. SOIL BUILDING - MAINTAIN A HEALTHY LAWN BY TESTING SOIL FOR PH, FERTILITY, COMPACTION, TEXTURE, AND EARTH WORM CONTENT.
C. GRASS SELECTION - SELECT DROUGHT TOLERANT GRASS SPECIES. REFER TO APPENDIX G FOR ADDITIONAL INFORMATION.
D. MOWING AND THATCH MANAGEMENT - KEEP GRASS HEIGHT HIGH SUCH AS 2 TO 3 INCHES IN HEIGHT. THIS WILL REDUCE WEED GROWTH.
E. FERTILIZATION - MINIMIZE FERTILIZATION. FERTILIZE NO MORE THAN TWICE A YEAR. APPLY CAREFULLY SO FERTILIZER DOES NOT SPREAD ONTO IMPERVIOUS SURFACES. REFRAIN FROM THE USE OF PHOSPHORUS BASED FERTILIZERS. REFER TO APPENDIX G FOR ADDITIONAL INFORMATION.
F. WEED MANAGEMENT - NEVER USE CHEMICAL HERBICIDES TO ELIMINATE OR CONTROL WEEDS. OWNER SHALL REMOVE WEEDS BY PULLING OR DIGGING OUT. REFER TO APPENDIX G FOR ADDITIONAL INFORMATION.
G. PEST MANAGEMENT - LIMIT PESTICIDE USE. CHOOSE PESTICIDES THAT POSE THE LEAST RISK TO HUMAN HEALTH AND THE ENVIRONMENT. REFER TO APPENDIX G FOR ADDITIONAL INFORMATION.
H. SENSIBLE IRRIGATION - WATER NO MORE THAN 1" PER WEEK. USE DROUGHT-RESISTANT GRASSES. CUT GRASS AT 2-3 INCHES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
CONSTRUCTION ACCESS
JAMES G. GIBLIN STEPHEN W. WILSON
SPECIAL ENGINEER RESIDENT ENGINEER
JUNE 15, 1998
R.I. STANDARD 9.9.0

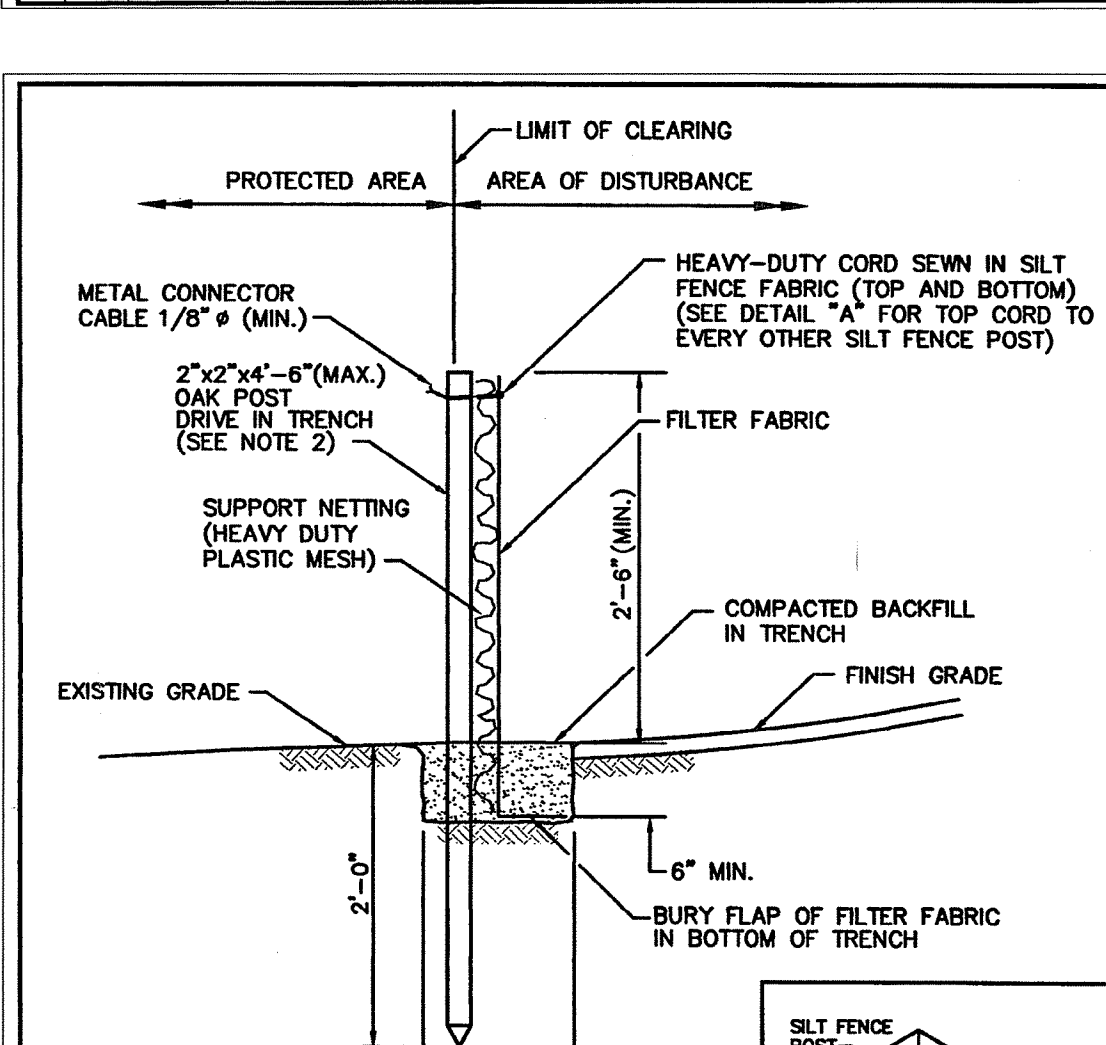
- EXTREME CARE SHALL BE EXERCISED AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING DOWNSTREAM WATERCOURSES AND STORMWATER DRAINAGE SYSTEMS.
- DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUN-OFF FLOW DURING STORMS.
- SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
- CARE SHALL BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECTED TO STORMWATER FLOWAGE.
- ADDITIONAL STRAW BALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
- SEDIMENTATION TRAPS SHALL BE PROVIDED AT ALL DRAINAGE STRUCTURES DURING CONSTRUCTION (SILT SACS, STRAW BALES, TEMPORARY DITCHES, ETC).
- EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THE SITE PRIOR TO THE START OF CONSTRUCTION AND BE PROPERLY MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED INCLUDING:

SEDIMENTATION CONTROL PROGRAM:

- EXTREME CARE SHALL BE EXERCISED AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING DOWNSTREAM WATERCOURSES AND STORMWATER DRAINAGE SYSTEMS.
- DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUN-OFF FLOW DURING STORMS.
- SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
- CARE SHALL BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECTED TO STORMWATER FLOWAGE.
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- EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THE SITE PRIOR TO THE START OF CONSTRUCTION AND BE PROPERLY MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED INCLUDING:



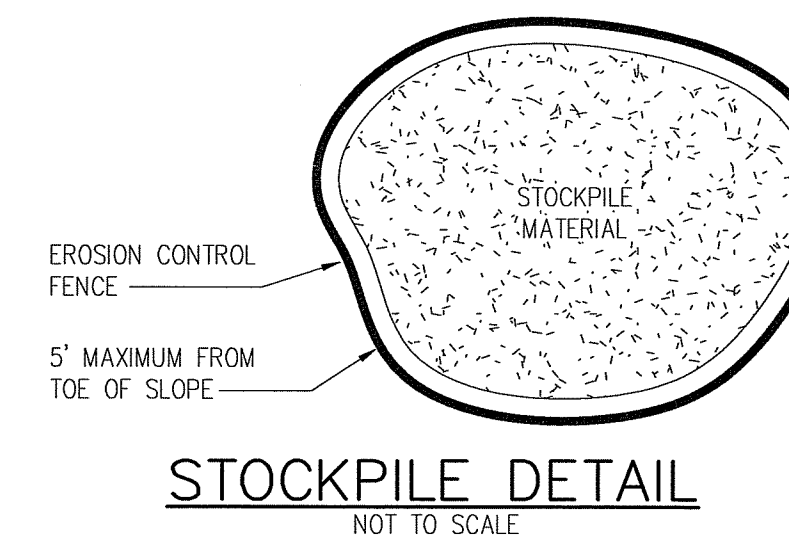
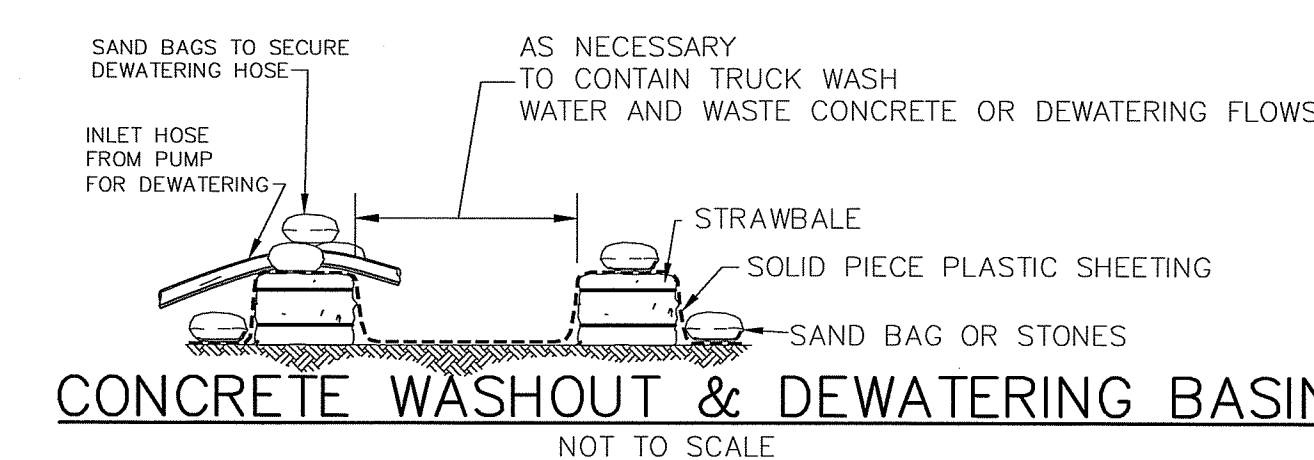
RHODE ISLAND DEPARTMENT OF TRANSPORTATION
CONSTRUCTION ACCESS
JAMES G. GIBLIN STEPHEN W. WILSON
SPECIAL ENGINEER RESIDENT ENGINEER
JUNE 15, 1998
R.I. STANDARD 9.9.0



- NOTES:**
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. 2"X2"X4"-6"(MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAUINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
3. 1"X1"X4"-6" (MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
SILT FENCE DETAIL
JAMES G. GIBLIN STEPHEN W. WILSON
SPECIAL ENGINEER RESIDENT ENGINEER
JUNE 15, 1998
R.I. STANDARD 9.2.0

- THE INSTALLATION OF AN EROSION CONTROL FENCE IN ALL LOCATIONS SHOWN ON THE APPROVED SITE PLANS AND WHERE OTHERWISE NECESSARY TO PREVENT SEDIMENTS FROM ENTERING DOWNSTREAM WATERCOURSES AND STORMWATER DRAINAGE SYSTEMS.
- ALL DISTURBED AREAS ARE TO BE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER PRIOR TO THE COMPLETION OF THE PROJECT. AREAS EXPOSED FOR EXTENDED PERIODS ARE TO BE COMPLETELY COVERED WITH SPREAD STRAW MULCH, CATCH BASINS WILL BE PROTECTED WITH SILT SACS & STRAW BALE FILTERS THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED. SUMPS ARE TO BE CLEANED IMMEDIATELY FOLLOWING INSTALLATION OF PERMANENT PAVEMENT.
- OUTLETS ARE TO BE PROTECTED BY STRAW BALE FILTERS UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER.
- ALL CONTROL MEASURES WILL BE MAINTAINED IN EFFECTIVE WORKING CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
- THE LIMITS OF ALL CLEARING, GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE SHALL REMAIN TOTALLY UNDISTURBED.
- UPON COMPLETION OF CONSTRUCTION OF SITE IMPROVEMENTS AND THE STORMWATER DRAINAGE SYSTEM, ALL CATCH BASINS AND STORM DRAIN PIPING SHALL BE CLEANED OF SEDIMENT. SEDIMENT FOREBAY AND SAND FILTER SHALL BE CLEANED OF SEDIMENT TO THE DESIGN GRADES INDICATED.
- AT NO TIME DURING CONSTRUCTION SHALL THE SUBGRADE OF THE SITE BE SUCH THAT SURFACE RUNOFF WILL BE PERMITTED TO DIRECTLY ENTER ANY DRAINAGE STRUCTURE. A TEMPORARY DEPRESSED AREA AROUND THE STRUCTURE SHALL BE INCORPORATED AS A SEDIMENTATION TRAP. THE MOUTH OF THE TRAP SHALL BE LINED WITH STRAW BALES AROUND THE COMPLETE PERIMETER. DURING ALL PRELIMINARY STAGES, THE TOP OF THE STRUCTURE SHALL ALWAYS BE HIGHER THAN THE SUBGRADE.
- STRAW BALE EROSION CHECKS SHALL BE MAINTAINED AROUND ALL CATCH BASINS UNTIL ALL UPGRADIENT DISTURBED AREAS ARE STABILIZED BY PAVEMENT OR VEGETATION.
- ALL COMPONENTS OF THE DRAINAGE SYSTEM MUST BE CLEANED OF SEDIMENT BY THE APPLICANT OR HIS REPRESENTATIVE IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED.
- INSPECT TEMPORARY DIVERSIONS AND THEIR COMPONENTS ONCE A WEAR AND AFTER EVERY RAINFALL. DAMAGE CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY SHOULD BE REPAIRED BEFORE THE END OF EACH WORKING DAY.
- CHECK DAMS SHALL BE INSTALLED EVERY 300 FEET FOR SLOPES OF 1% OR LESS, EVERY 200 FEET FOR SLOPES OF 2%, EVERY 150 FEET FOR SLOPES OF 3% TO 5%, AND EVERY 100 FEET FOR SLOPES OF 5% OR GREATER.
- CHECK DAMS SHALL BE INSTALLED EVERY 20 FEET ALONG THE PROPOSED SWALE.
- SEDIMENTS SHOULD BE REMOVED FROM THE CHECK DAM WHEN IT REACHES ONE-HALF THE DAM HEIGHT.



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POSITIVE LIMITING BARRIER
IN THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
SELF SERVICE FIRE PROTECTION SYSTEM OF WATER RESOURCES
PARTIAL SECTIONS OF CONCRETE BARRIERS FOR WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED: MAR 0 4 2025 FILE # 23-cv 53
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

NOTE: The positive limiting barrier to be 5 continuous square or "V" grooves 3/4"x3/4" deep, on 4 3/4 centers with cross interconnecting grooves, either square or "V", equally spaced on min. 12" max. 48" centers. The outside groove to be at limits of hazard protection area and the potential spill area to be within this protection area.
The positive limiting barrier to be shown on plan drawings (appendix A) showing relationship (to scale) of pump island, dispenser or pump locations, max. potential spill area and fire system hazard protected area.
Grooves may be saw cut or scored into concrete.
Grooves must be kept clean of dirt and debris.
Groove cover patterns to be shown on plan drawing.

RIDEM PHASE 2C WETLAND APPLICATION
DETAIL SHEET-1
A.P. 5B, LOT 38 / A.P. 6B, LOT 2 / A.P. 6B, LOT 4
87 KINGSTOWN ROAD
RICHMOND, RHODE ISLAND
PREPARED FOR: THE PRESERVE AT BOULDER HILLS LLC.
SCALE: AS SHOWN DATE: 7/10/23 SHEET 7 OF 10

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1.	6/17/24	RIDEM COMMENTS	BW/CC
2.	7/3/24	FIX TEST HOLE LABELS	BW/CC
3.	1/17/25	RIDEM COMMENTS	BW/CC

REGISTRATIONS:
ORANG RICHARD CARRIGAN
REGISTERED PROFESSIONAL ENGINEER

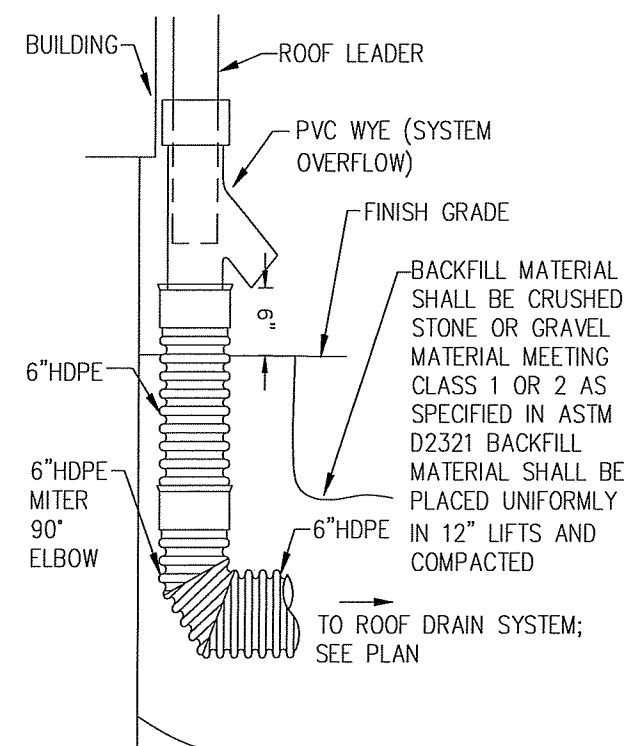
CARRIGAN ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL ENGINEERING
86 BROOK FARM ROAD SOUTH
WAKEFIELD, RI 02879
PHONE: (401) 789-6865
Environmental Management
JAN 21 2025
Source of Water Resources

DRY SWALE & VEGETATED SWALE MAINTENANCE NOTES:

1. OPEN CHANNEL PRACTICES SHALL BE INSPECTED ANNUALLY AND AFTER STORMS OF GREATER THAN OR EQUAL TO THE 1-YEAR, 24-HOUR TYPE III PRECIPITATION EVENT.
2. SEDIMENT BUILD-UP WITHIN THE BOTTOM OF THE CHANNEL SHALL BE REMOVED WHEN GREATER THAN OR EQUAL TO 3" DEPTH OF SEDIMENT HAS BEEN ACCUMULATED IN THE CHANNEL.
3. ERODED SIDE SLOPES AND CHANNEL BOTTOMS SHALL BE STABILIZED AS NECESSARY.
4. IN THE ABSENCE OF EVIDENCE OF CONTAMINATION, REMOVED DEBRIS MAY BE TAKEN TO A LANDFILL OR OTHER PERMITTED FACILITY.
5. SEDIMENT TESTING MAY BE REQUIRED PRIOR TO SEDIMENT DISPOSAL WHEN CONTAMINATION IS PRESENT.
6. VEGETATION SHALL BE MOWED AS REQUIRED TO MAINTAIN GRASS HEIGHTS IN THE 4-6 INCH RANGE, WITH MANDATORY MOWING ONCE GRASS HEIGHTS EXCEED 10 INCHES.
7. IF THE SURFACE OF THE DRY SWALE BECOMES CLOGGED TO THE POINT THAT STANDING WATER IS OBSERVED ON THE SURFACE 48 HOURS AFTER PRECIPITATION EVENTS, THE BOTTOM SHALL BE ROTOTILLED OR CULTIVATED TO BREAK UP ANY HARD-PACKED SEDIMENT, AND THEN RESEDED.
8. EVERY FIVE YEARS, THE CHANNEL BOTTOM SHOULD BE SCRAPED TO REMOVE SEDIMENT AND TO RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE, AND SHOULD BE SEDED TO RESTORE GROUND COVER.
9. DURING INSPECTION, ANY STRUCTURAL COMPONENTS OF THE SYSTEM, INCLUDING TRASH RACKS, VALVES, PIPES, AND SPILLWAY STRUCTURES, SHOULD BE CHECKED FOR PROPER FUNCTION. ANY CLOGGED OPENINGS SHOULD BE CLEANED OUT AND REPAIRS SHOULD BE MADE WHERE NECESSARY.

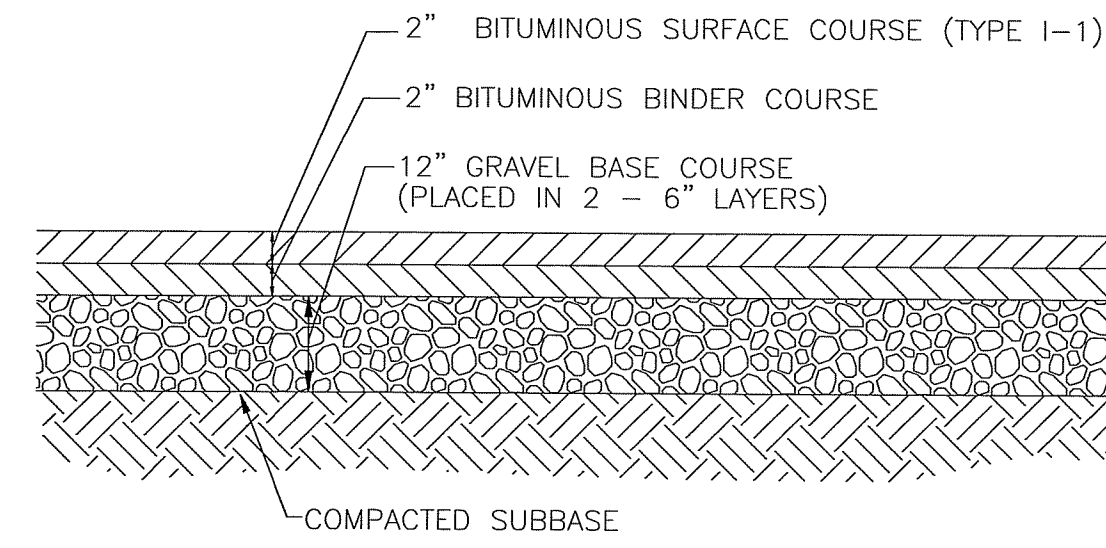
BIORETENTION SOIL SPEC:

1. BIORETENTION SOIL MIX (BY VOLUME):
 - SAND 85 TO 88%
 - ORGANIC MATTER 3 TO 5%
 - SILT 0 TO 12%
 - CLAY 0 TO 2%
2. THE BIORETENTION SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OTHER WOODY MATERIAL OVER 1" IN DIAMETER, OR BRUSH/SEEDS FROM NOXIOUS WEEDS. PLACEMENT OF THE SOIL SHOULD BE IN LIFTS OF 6 INCHES, LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET).

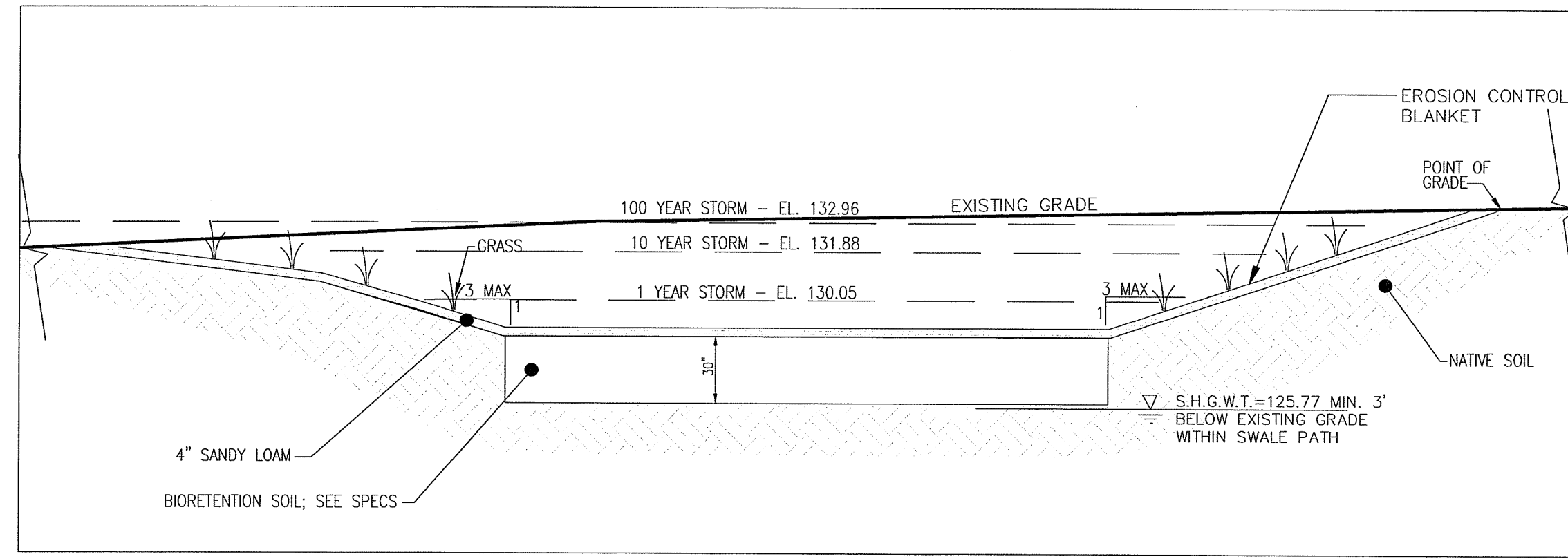


NOTE:
FOR PIPE BELOW A PAVED SURFACE: A MIN. OF 12" OF BACKFILL MATERIAL IS REQUIRED OVER THE TOP OF THE PIPE CROWN MEASURED FROM THE BOTTOM OF THE PAVEMENT.

ROOF LEADER DETAIL
NOT TO SCALE

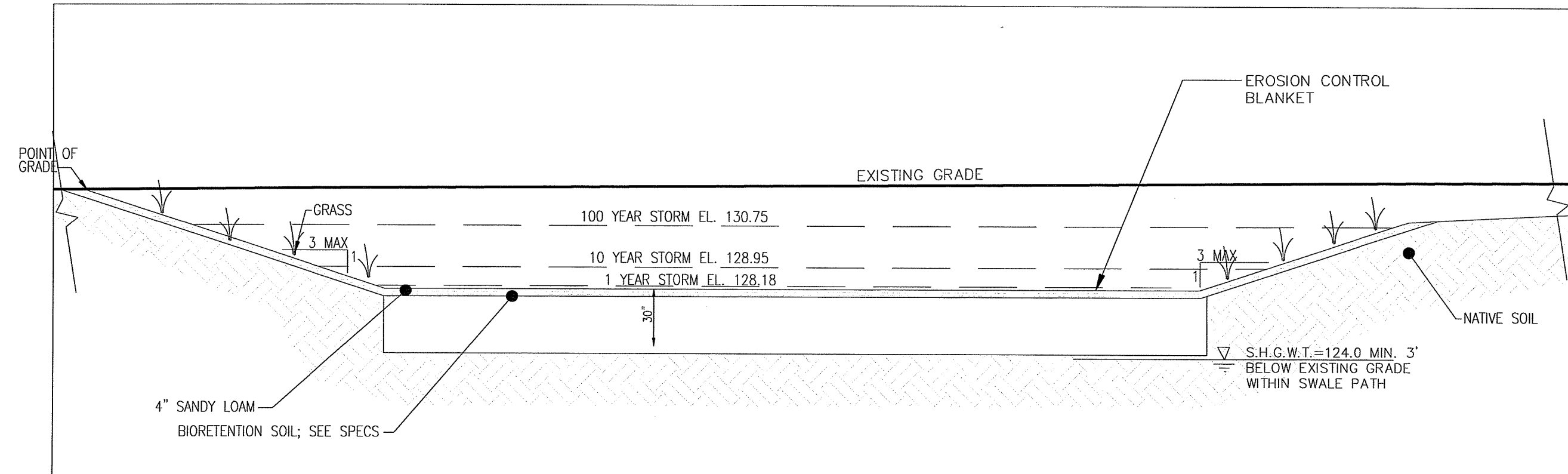


SITE DRIVEWAYS AND PARKING AREAS
NOT TO SCALE



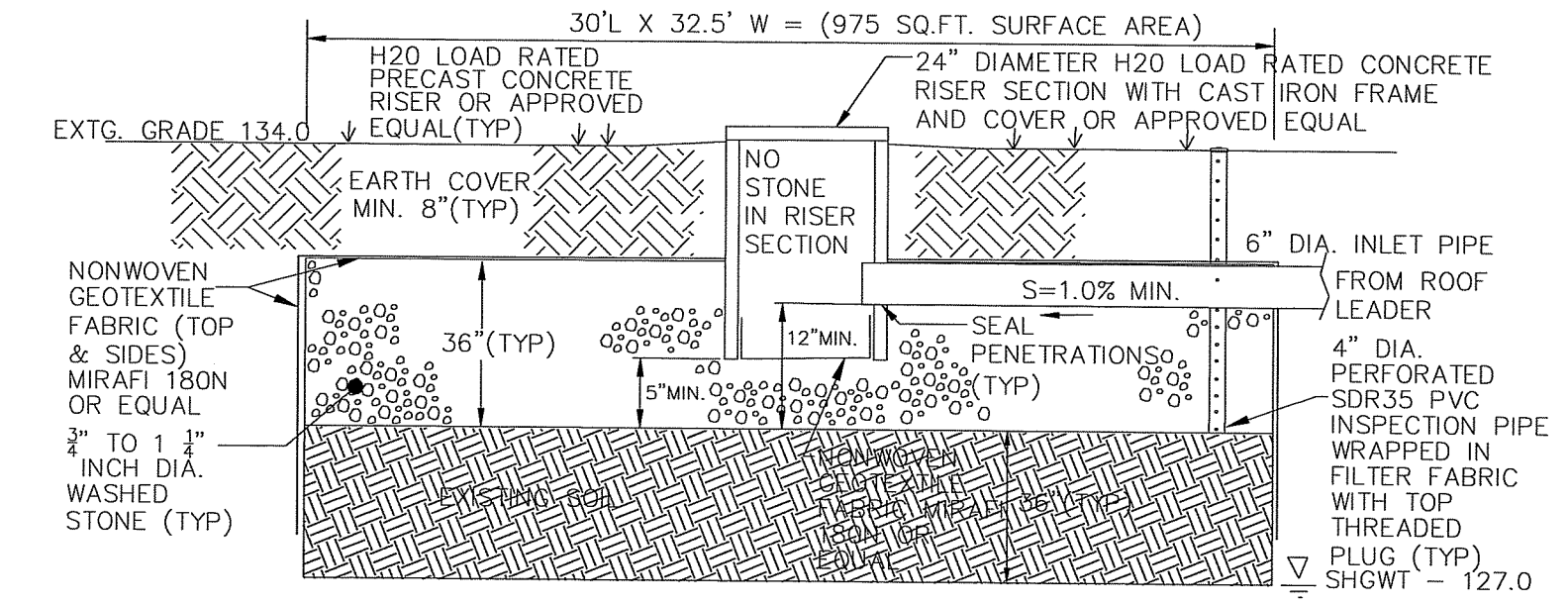
GAS STATION BIORETENTION SECTION VIEW

SCALE: 1" = 5' - 0"



URGENT CARE BIORETENTION SECTION VIEW

SCALE: 1" = 5' - 0"

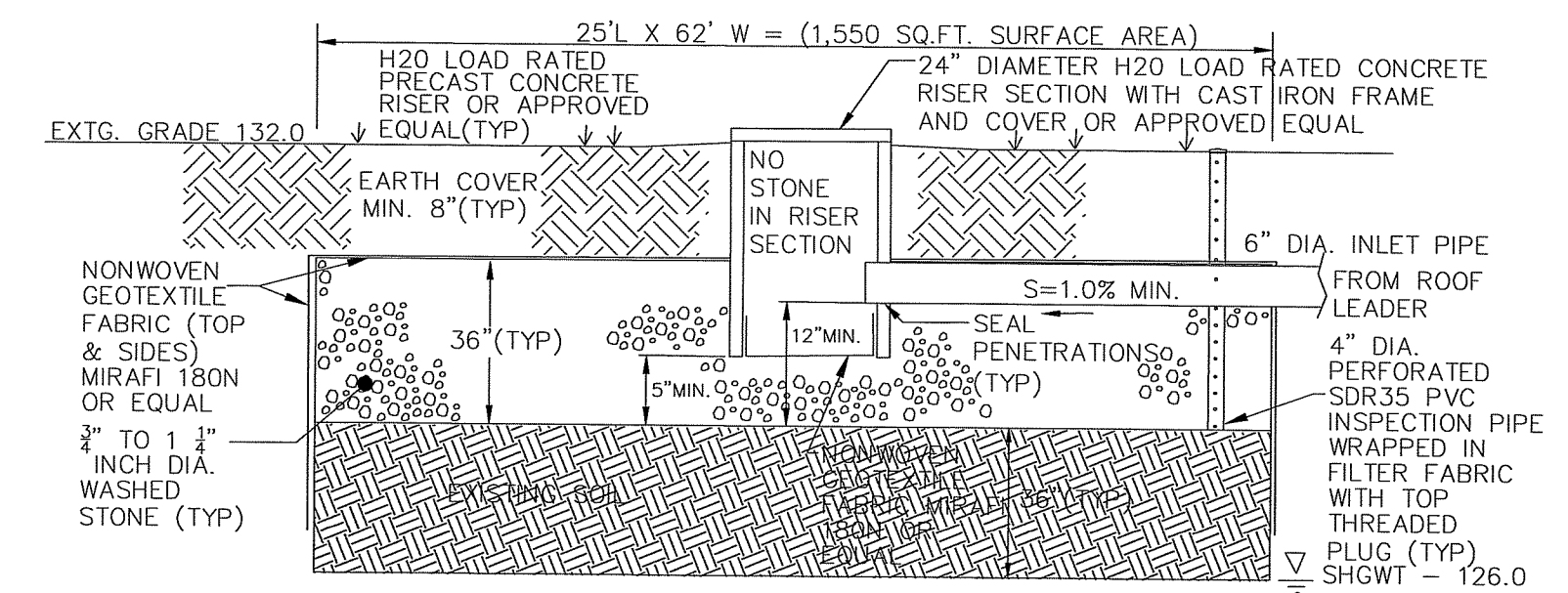


GAS STATION - DRYWELL SECTION VIEW

NOT TO SCALE

TYPICAL NOTES:

1. CRUSHED STONE SHALL BE CLEAN WITH NO FINES.
2. CRUSHED STONE SHALL BE WRAPPED WITH FABRIC ON TOP & SIDES.
3. SCARIFY BOTTOM PRIOR TO PLACEMENT OF SAND AND STONE.
4. PIPE ROOF RUNOFF FROM DOWNSPOUTS (WHERE INDICATED) TO DRYWELL TO MAXIMUM EXTENT POSSIBLE.
5. DO NOT ALLOW SEDIMENT LAIDEN RUNOFF TO ENTER DRYWELL.
6. 6" PIPE SHALL BE HDPE OR APPROVED EQUAL, MINIMUM SLOPE = 1.0% (1/8" PER FOOT).
7. DRY WELLS PROVIDE 96 CUBIC FEET OF VOLUME; PROVIDING WOV FOR UP 1,150 SF OF ROOFTOP.



URGENT CARE - DRYWELL SECTION VIEW

NOT TO SCALE

TYPICAL NOTES:

1. CRUSHED STONE SHALL BE CLEAN WITH NO FINES.
2. CRUSHED STONE SHALL BE WRAPPED WITH FABRIC ON TOP & SIDES.
3. SCARIFY BOTTOM PRIOR TO PLACEMENT OF SAND AND STONE.
4. PIPE ROOF RUNOFF FROM DOWNSPOUTS (WHERE INDICATED) TO DRYWELL TO MAXIMUM EXTENT POSSIBLE.
5. DO NOT ALLOW SEDIMENT LAIDEN RUNOFF TO ENTER DRYWELL.
6. 6" PIPE SHALL BE HDPE OR APPROVED EQUAL, MINIMUM SLOPE = 1.0% (1/8" PER FOOT).
7. DRY WELLS PROVIDE 96 CUBIC FEET OF VOLUME; PROVIDING WOV FOR UP 1,150 SF OF ROOFTOP.

**RIDEM PHASE 2C WETLAND APPLICATION
DETAIL SHEET-2**

A.P. 5B, LOT 38 / A.P. 6B, LOT 2 / A.P. 6B, LOT 4
87 KINGSTOWN ROAD
RICHMOND, RHODE ISLAND

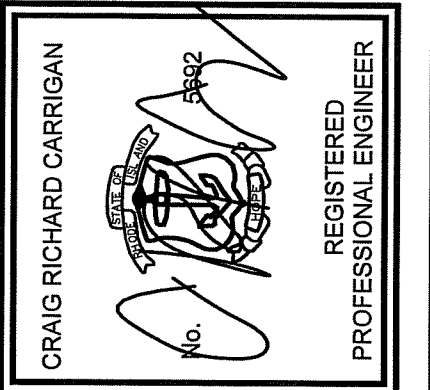
PREPARED FOR: THE PRESERVE AT BOULDER HILLS LLC.
SCALE: AS SHOWN DATE: 7/10/23 SHEET 8 OF 10

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1.	6/17/24	RIDEM COMMENTS	BM/CC
2.	7/3/24	FIX TEST HOLE LABELS	BM/CC
3.	1/17/25	RIDEM COMMENTS	BM/CC

JOB NO.

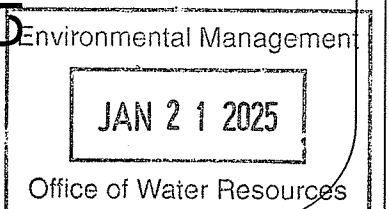
REGISTRATIONS:



CARRIGAN ENGINEERING, INC.

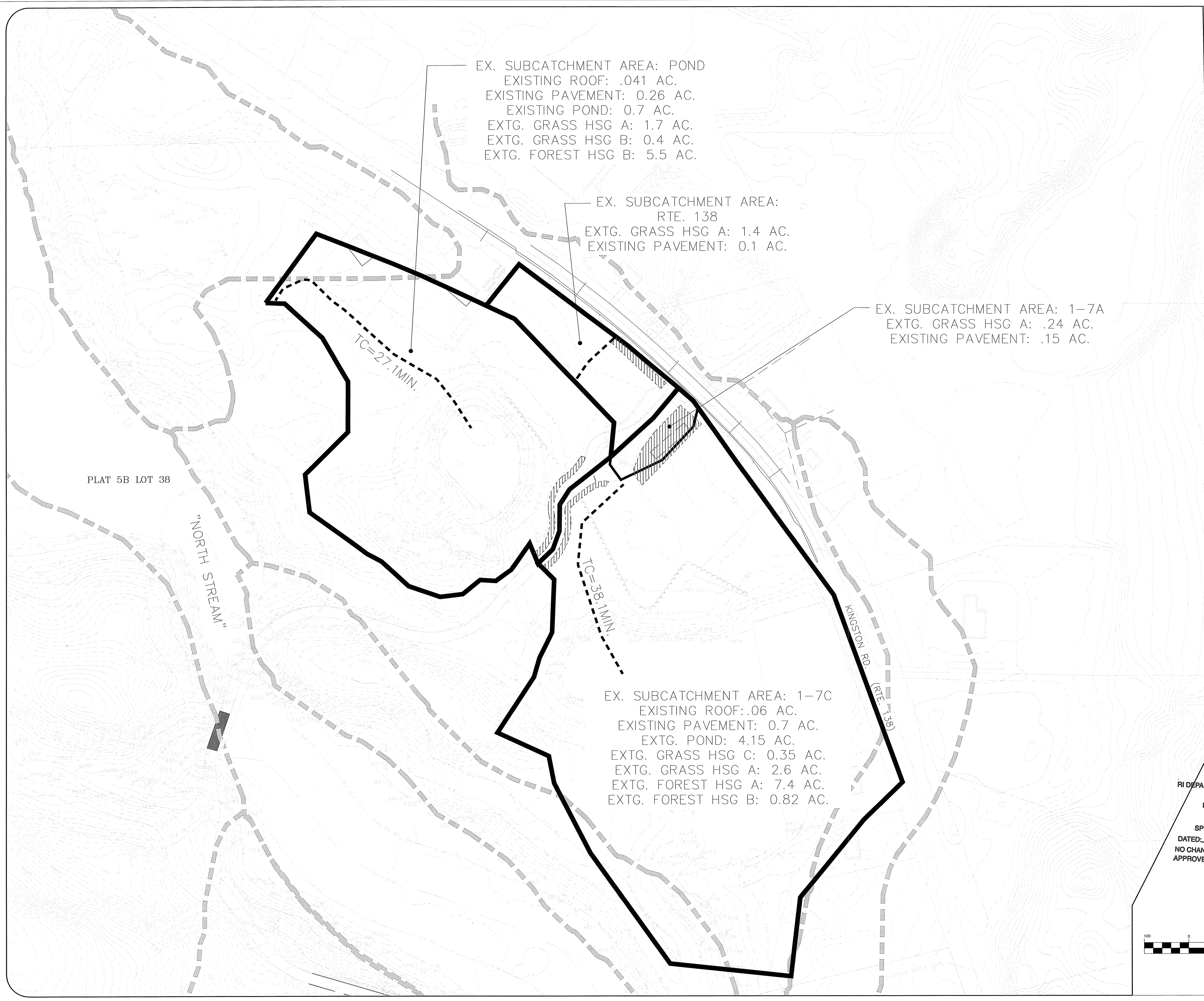
CIVIL AND ENVIRONMENTAL ENGINEERING
86 BROOK FARM ROAD SOUTH
WAKEFIELD, RI 02879
PHONE: (401) 789-6865

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAR 04 2025 FILE #: 23-0153
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



JAN 21 2025

Office of Water Resources



EX. SUBCATCHMENT AREA: POND
 EXISTING ROOF: .041 AC.
 EXISTING PAVEMENT: 0.26 AC.
 EXISTING POND: 0.7 AC.
 EXTG. GRASS HSG A: 1.7 AC.
 EXTG. GRASS HSG B: 0.4 AC.
 EXTG. FOREST HSG B: 5.5 AC.

EX. SUBCATCHMENT AREA:
 RTE. 138
 EXTG. GRASS HSG A: 1.4 AC.
 EXISTING PAVEMENT: 0.1 AC.

EX. SUBCATCHMENT AREA: 1-7A
 EXTG. GRASS HSG A: .24 AC.
 EXISTING PAVEMENT: .15 AC.

EX. SUBCATCHMENT AREA: 1-7C
 EXISTING ROOF: .06 AC.
 EXISTING PAVEMENT: 0.7 AC.
 EXTG. POND: 4.15 AC.
 EXTG. GRASS HSG C: 0.35 AC.
 EXTG. GRASS HSG A: 2.6 AC.
 EXTG. FOREST HSG A: 7.4 AC.
 EXTG. FOREST HSG B: 0.82 AC.

PLAT 5B LOT 38

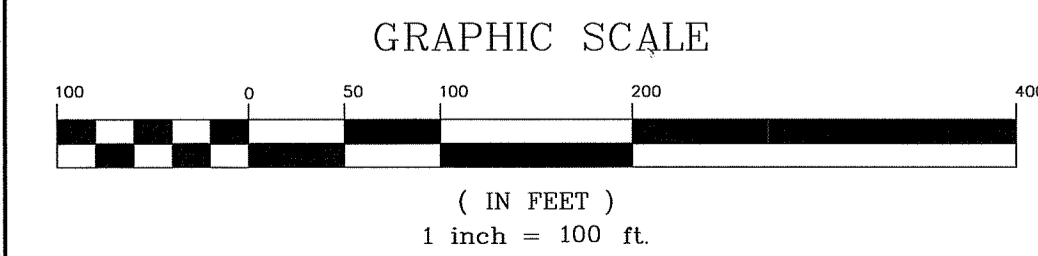
"NORTH STREAM"

KINGSTON RD. (RTE. 38)

TC=27.1MIN.

TC=38.1MIN.

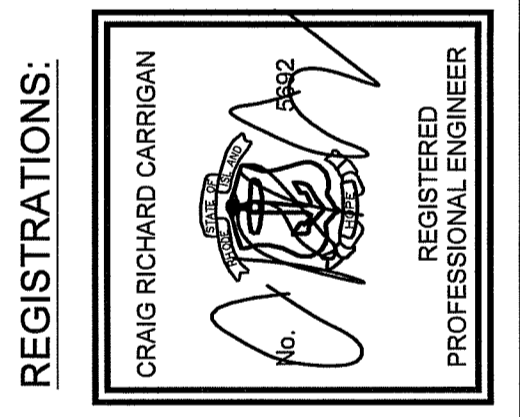
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PHASE 2C EXISTING WATERSHED MAP
 A.P. 5B, LOT 38 / A.P. 6B, LOT 2 / A.P. 6B, LOT 4
 87 KINGSTOWN ROAD
 RICHMOND, RHODE ISLAND
 PREPARED FOR: THE PRESERVE AT BOULDER HILLS LLC.
 SCALE: 1:250 DATE: 7/10/23 SHEET 9 OF 10

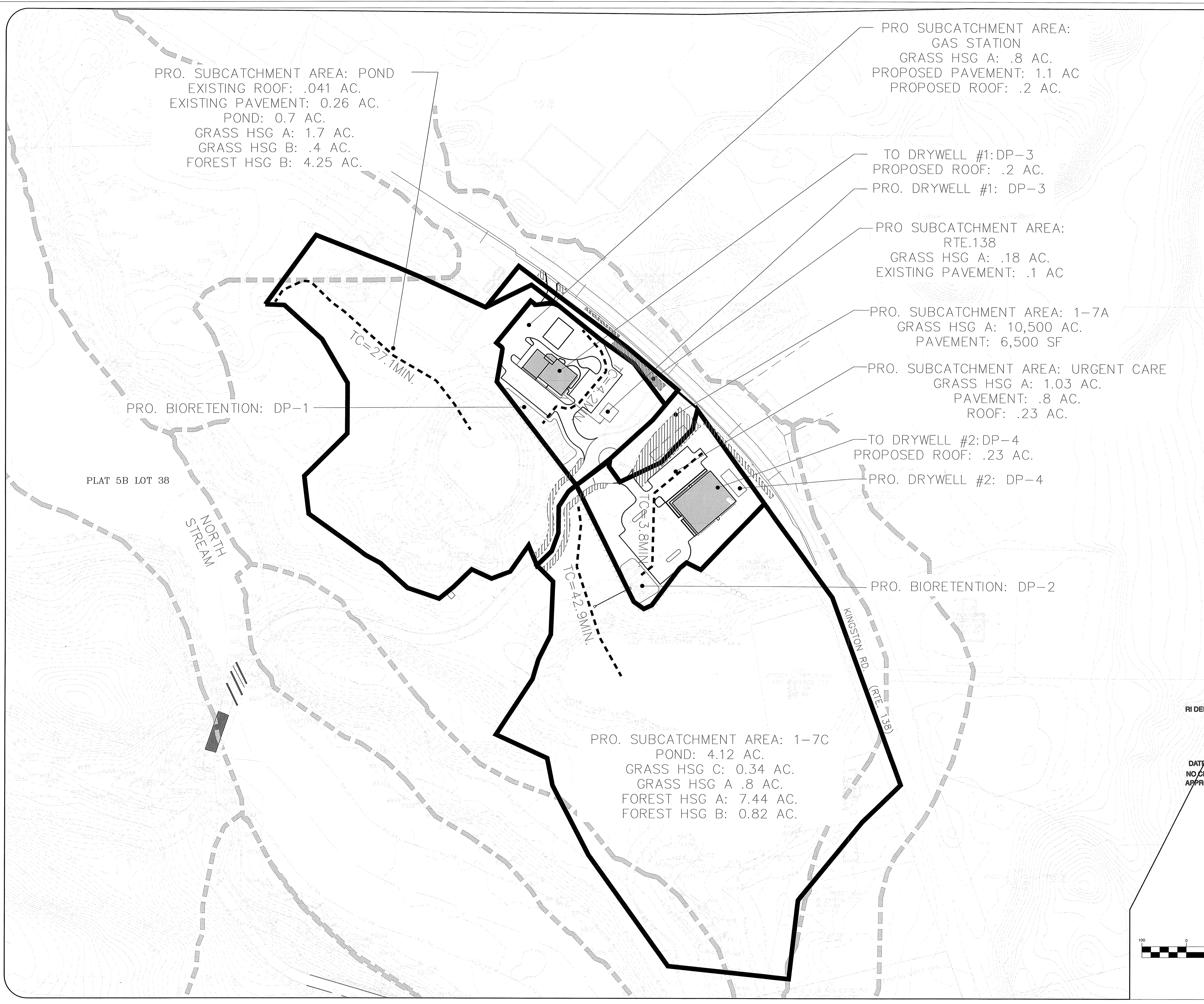
REVISIONS:

NO.	DATE	DESCRIPTION	BY
1.	6/17/24	RIDEM COMMENTS	BM/CC

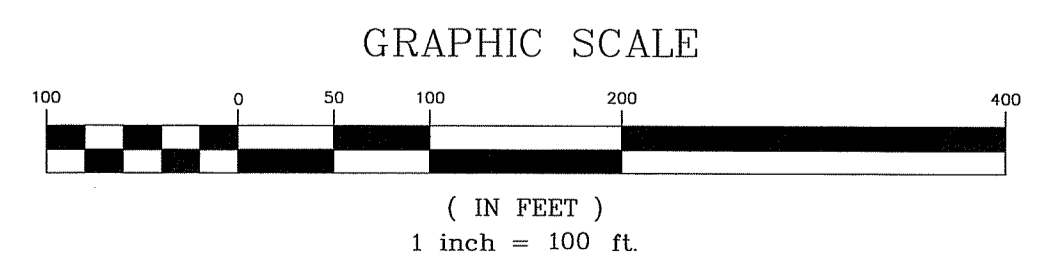


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Environmental Management
 JAN 21 2025
 Office of Water Resources



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
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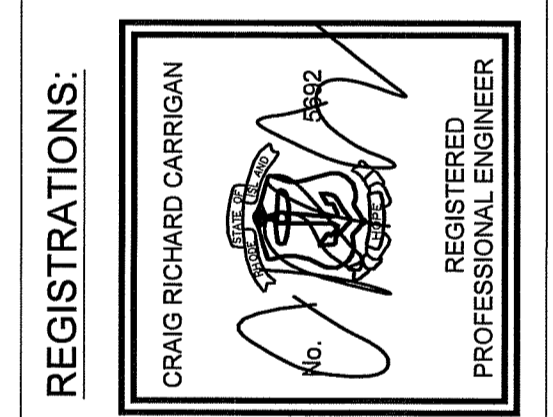


PHASE 2C PROPOSED WATERSHED MAP
 A.P. 5B, LOT 38 / A.P. 6B, LOT 2 / A.P. 6B, LOT 4
 87 KINGSTOWN ROAD
 RICHMOND, RHODE ISLAND
 PREPARED FOR: THE PRESERVE AT BOULDER HILLS LLC.
 SCALE: 1:250 DATE: 7/10/23 SHEET 10 OF 10

REVISIONS:

NO.	DATE	DESCRIPTION	BY	BM/CC
1.	6/17/24	RIDEM COMMENTS		

JOB NO.



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