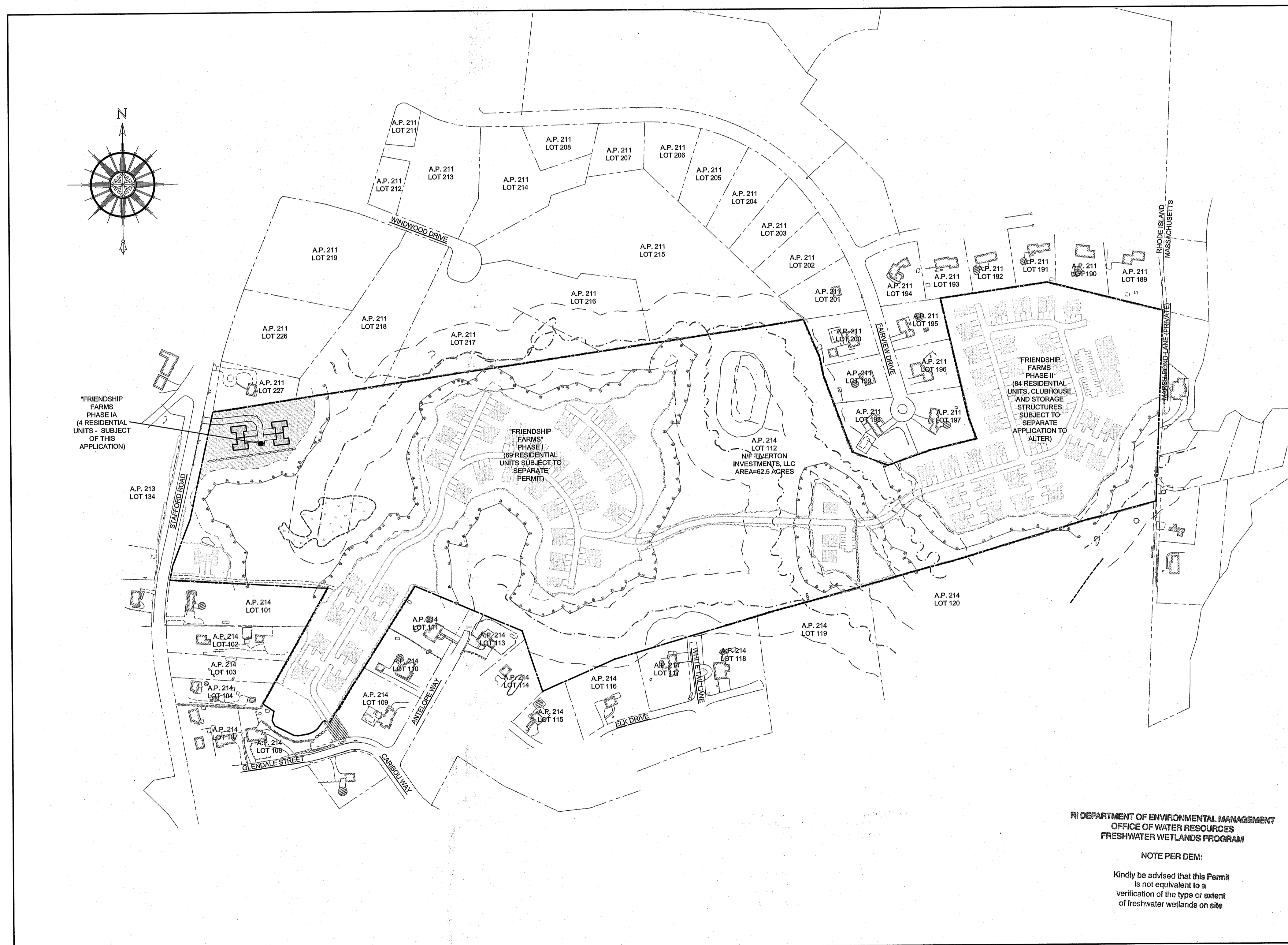


# FRIENDSHIP FARMS: PHASE IA

**PROPOSED MULTIFAMILY DEVELOPMENT  
ASSESSOR'S PLAT 214 LOT 112  
STAFFORD ROAD  
TIVERTON, RHODE ISLAND**

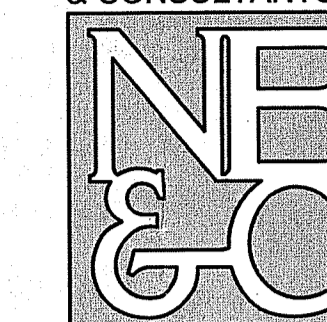


## SITE PLAN

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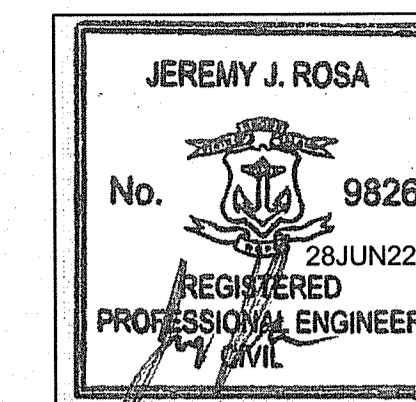
CIVIL ENGINEER:

NORTHEAST ENGINEERS & CONSULTANTS, INC.



SITE/CIVIL  
LAND PLANNING  
WATERFRONT  
SURVEYING  
GEOTECHNICAL  
ENVIRONMENTAL  
TRANSPORTATION  
STRUCTURAL  
MATERIALS TESTING

A KNOWLEDGE CORPORATION  
6 VALLEY ROAD MIDDLETOWN RI 02842  
PHONE (401) 849-0810 FAX (401) 846-4169  
WWW.NORTHEASTENGINEERS.COM



ENGINEER CERTIFICATION

OWNER:

TIVERTON INVESTMENTS LLC  
150 CHESTNUT STREET 4TH FLOOR  
PROVIDENCE, RI 02903  
davidm@dsmrealty.com  
(401) 277-0300

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS AS  
SPECIFIED IN THE LETTER OF APPROVAL  
DATED: SEP 02 2022 FILE #: 22-0249  
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
*David J. Freeman*

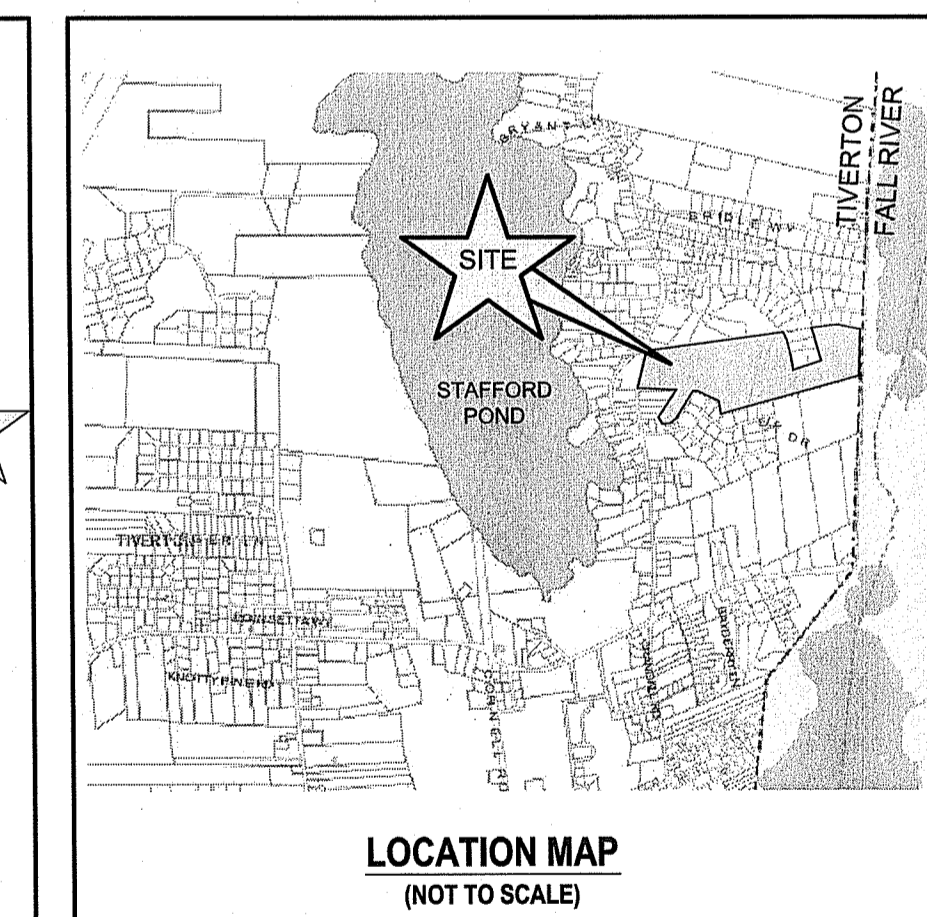
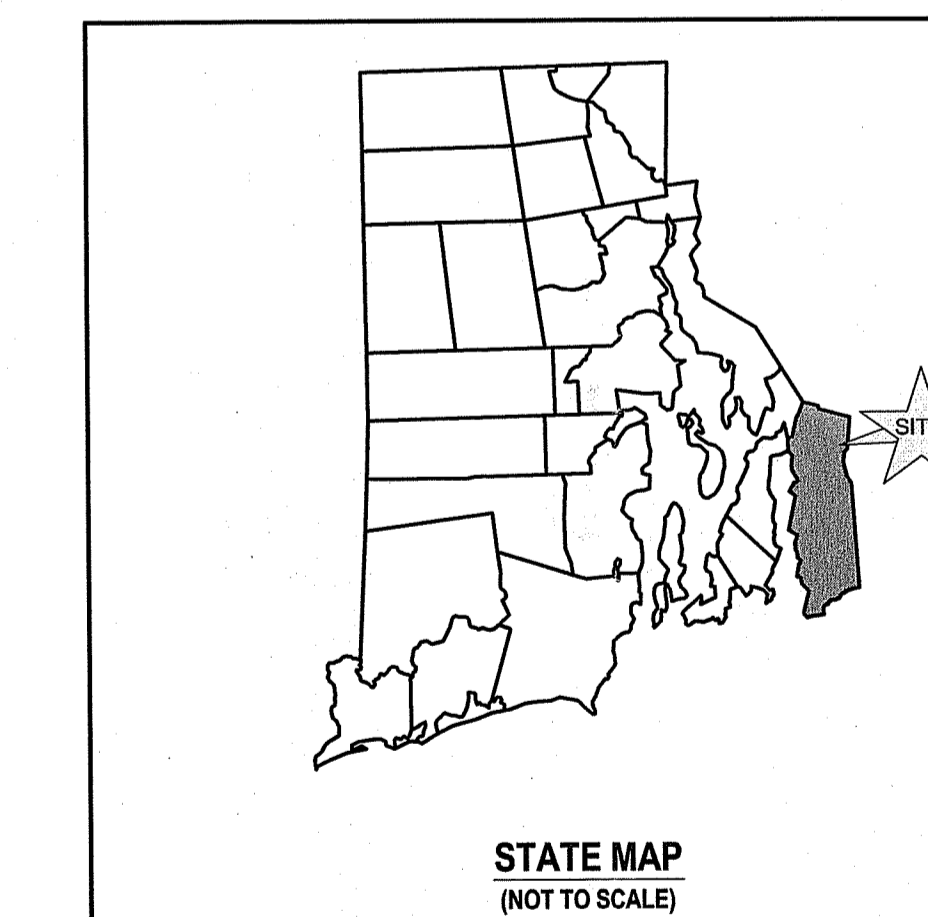
## JUNE 27, 2022 PERMIT SET

### PLAN INDEX

#### SITE/CIVIL ENGINEERING PLANS

TITLE SHEET  
PROJECT NOTES  
EXISTING CONDITIONS  
PROPOSED CONDITIONS  
PROPOSED DETAILS

SHEET 1  
SHEET 2  
SHEET 3  
SHEET 4  
SHEET 5



#### SUBMISSION AND REVISION SUMMARY

AGENCY OR REVISION	DATE:	COMMENTS:
RIDEM	JUN 27, 2022	FWW AND RIPDES PROGRAMS

**GENERAL NOTES**

- PROPERTY LINE INFORMATION SHOWN ON SHEETS 3 AND 4 TAKEN FROM PLAN ENTITLED "PLAN OF SURVEY OF EAST SIDE OF STAFFORD ROAD, PLAT 4-11, BLOCK 99 LOT 88, TIVERTON, RI 02878" PREPARED BY JOHN BRAGA & ASSOCIATES, INC., DATED 4/8/91. GROUND FEATURES SHOWN BASED ON A 2008 AERIAL SURVEY PREPARED BY EASTERN TOPOGRAPHICS.
- TOPOGRAPHY CONTOURS SHOWN TAKEN FROM AVAILABLE RIGIS STATEWIDE LIDAR INFORMATION. BASE OF ELEVATIONS: NAVD83.
- PROPERTY IS ZONED R60 (RESIDENTIAL). ABUTTING PROPERTIES ARE ALL RESIDENTIALLY ZONED AS R60.
- UNDERGROUND UTILITIES SHOWN FROM OBSERVED EVIDENCE AND SUPPLEMENTED WITH ADDITIONAL RESEARCH.
- NORTH ARROW REFERENCES GRID NORTH (RISP NAD83).
- THERE ARE FRESHWATER WETLANDS ON THE SUBJECT PROPERTY PER A DELINEATION PERFORMED BY MCCUE ENVIRONMENTAL, LLC IN DECEMBER OF 2021.
- SOIL EVALUATIONS SHOWN PERFORMED BY NORTHEAST ENGINEERS & CONSULTANTS IN OCTOBER 2021 AND JUNE OF 2022.
- SUBJECT SITE IS NOT SITUATED IN A 100-YEAR FLOOD ZONE, AS SHOWN ON FEMA FIRM 44095C0044H LAST REVISED APRIL 5, 2010.
- THE UNDERGROUND UTILITIES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. ALL DAMAGED PORTIONS SHALL BE REPLACED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE AFFECTED UTILITY COMPANY AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY. PERSONAL INJURY RESULTING FROM CONTACT WITH EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. WHEREVER CONNECTION OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR NEW LINES. (PLEASE CALL DIG SAFE PRIOR TO CONSTRUCTION AT 1-888-DIG-SAFE AND ALL LOCAL UTILITY COMPANIES.)
- THE CONTRACTOR SHALL NOTIFY ALL AGENCIES TO VERIFY THE ACTUAL LOCATIONS OF ALL UTILITIES IN THE PROJECT AREA PRIOR TO EXCAVATING.
- THE CONTRACTOR SHALL RESTORE TO THEIR ORIGINAL CONDITION OR BETTER, ALL IMPROVEMENTS DAMAGED AS A RESULT OF THE CONSTRUCTION, INCLUDING: PAVEMENTS, EMBANKMENTS, CURBS, SIGNS, LANDSCAPING, STRUCTURES, UTILITIES, WALLS, FENCES, ETC. UNLESS PROVIDED FOR SPECIFICALLY IN THE PLANS
- THE CONTRACTOR SHALL VERIFY THE PROPOSED LAYOUT AND DETAILS WITH THEIR RELATIONSHIP TO THE EXISTING SITE SURVEY. CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS OR DISCREPANCIES BEFORE COMMENCING WORK.
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PRESERVE PROPERTY MONUMENTS.
- DEVIATIONS OR CHANGES FROM THESE PLANS WILL NOT BE ALLOWED UNLESS APPROVED BY THE PROJECT ENGINEER, APPROPRIATE AGENCY AND OWNER.
- RELOCATION OF ANY UTILITIES SHALL BE AT THE OWNERS EXPENSE AND BE COMPLETED WITH THE UTILITY WORK. THE OWNER SHALL BE NOTIFIED AS TO THE RELOCATION REQUIRED PRIOR TO THE START OF CONSTRUCTION.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
- CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT TO BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEERS HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLIED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM "THE SOLE NEGLIGENCE OF THE OWNER OR PROJECT ENGINEER."
- SEVERAL UNNAMED STREAMS ARE LOCATED ON THE PROPERTY, THE PRIMARY STREAM IDENTIFIED BY RIDEM AS "UNNAMED TRIBUTARY #2 TO SOUTH WATUPPA POND, MA, TIVERTON" (R0007037R-04). NONE OF THESE WATERWAYS ARE KNOWN TO BE IMPAIRED.
- THERE ARE HYDRIC SOILS ON THE SUBJECT PROPERTY LOCATED WITHIN THE AREAS OF FRESHWATER WETLANDS AND OUTSIDE ALL AREAS OF DEVELOPMENT AS IDENTIFIED BY THE USDA NCRS SOIL SURVEY. ALL SOILS WITHIN THE AREA OF DEVELOPMENT ARE IDENTIFIED AS HYDROLOGIC GROUP "C".
- THERE ARE NO KNOWN AREAS OF LEDGE OR OUTCROPPINGS ON THE SUBJECT PROPERTY.
- THERE ARE NO KNOWN RECREATIONAL RESOURCES ON THE SUBJECT PROPERTY.
- PORTIONS OF THE THE SUBJECT PROPERTY ARE CONSIDERED PRIME FARMLAND SOILS PER THE RIDEM ENVIRONMENTAL RESOURCE MAPS.
- THE PROPOSED DEVELOPMENT DOES NOT LIE IN ANY OF THE FOLLOWING AREAS:
  - NATURAL HERITAGE AREAS (RIDEM)
  - CULTURAL RESOURCE AREA
  - SPECIAL AREA MANAGEMENT PLAN (CRMC)
  - GROUNDWATER ACQUIFERS, STATE DESIGNATED "GROUNDWATER RESERVOIRS", RECHARGE AREAS, OR WELLHEAD PROTECTION AREAS
  - STATE, REGIONAL OR LOCAL GREENWAYS, OR GREENSPACE PRIORITIES
  - COMMUNITY WELLHEAD PROTECTION AREA
- ALL WORK TO BE DONE WITHIN THE STATE HIGHWAY RIGHT OF WAY (ROW) SHALL CONFORM TO THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION (AMENDED MARCH 2018) WITH ALL REVISIONS AND ADDENDA. STANDARD DETAILS FOR THIS WORK ARE R.I. STANDARD DETAILS 1998 EDITION (AMENDED JUNE 2019) WITH ALL REVISIONS.
- ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION, INCLUDING ALL REVISIONS.
- ALL DISTURBED AREAS WITHIN THE RIDOT R.O.W. SHALL BE LOAMED AND SEEDED. REFER TO VEGETATIVE PRACTICE NOTES ON SHEET C-2.

**GRADING NOTES**

- ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATERS FROM DAMAGING THE CUT FACE OF AN EXCAVATION OR THE SLOPED SURFACES OF A FILL. FURTHERMORE, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SEDIMENT RUNOFF FROM LEAVING THE SITE.
- ALL GRADED AREAS SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER THE GRUBBING WORK HAS BEEN COMPLETED.
- THE TOWN SHALL BE INFORMED OF THE LOCATION OF THE DISPOSAL SITE, IF ANY, FOR THE PROJECT.
- NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE MUNICIPALITY, PROVIDED SUCH GRADING WORK IS ALSO IN CONFORMANCE WITH ANY COMMUNITY NOISE CONTROL STANDARDS.
- THE LIMITS OF DISTURBANCE SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND THE MUNICIPALITY.
- WHERE APPLICABLE AND FEASIBLE THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE GRADING WORK IS INITIATED.
- TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.
- IF THE GRADING WORK INVOLVES CONTAMINATED SOIL, THEN ALL GRADING WORK SHALL BE DONE IN CONFORMANCE WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS.
- NONCOMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIAL WORK SHALL COMMENCE IMMEDIATELY. ALL COSTS INCURRED SHALL BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS SHALL BE SUBJECT TO ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES.

**UTILITY NOTES**

- THE LOCATIONS OF PROPOSED ELECTRICAL CONNECTIONS TO THE OVERHEAD SERVICES ALONG STAFFORD ROAD ARE PRELIMINARY. FINAL DESIGN OF THE ELECTRICAL SERVICES ARE SUBJECT TO DESIGN REVIEW AND APPROVAL OF NATIONAL GRID.
- THE PROPOSED CONNECTIONS TO THE WATER MAINS IN STAFFORD ROAD ARE PRELIMINARY AND SUBJECT TO REVIEW AND APPROVAL BY THE PROVIDING WATER DEPARTMENT.
- ALL NEW ELECTRIC, TELEPHONE AND CABLE SERVICES SHALL BE INSTALLED UNDERGROUND.
- PROPOSED WASTEWATER TREATMENT SYSTEM SHOWN IS SUBJECT TO FURTHER TESTING AND PERMITTING.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL ASSUMPTIONS, DEDUCTIONS, OR CONCLUSIONS HE/SHE MAY MAKE OR DERIVE FROM THE SUBSURFACE INFORMATION OR DATA FURNISHED ON THE PLANS. THE CONTRACTOR MUST SATISFY HIMSELF/HERSELF THROUGH HIS/HER OWN INVESTIGATIONS AS TO WHAT SUBSURFACE CONDITIONS ARE TO BE ENCOUNTERED.
- IF THE CONTRACTOR ELECTS NOT TO EXPOSE AND VERIFY ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES AT CROSSINGS PRIOR TO PIPELINE EXCAVATION, HE/SHE FORFEITS HIS/HER RIGHTS FOR ANY CLAIMS FOR COMPENSATION CAUSED BY ANY CONFLICTS WITH EXISTING UTILITIES AND STRUCTURES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL EFFLUENT ASSOCIATED WITH THE CONSTRUCTION ACTIVITY AND THE DISINFECTION AND HYDROTESTING OPERATIONS TO SAFEGUARD PUBLIC HEALTH AND SAFETY IN ACCORDANCE WITH APPLICABLE DEPARTMENT OF HEALTH REQUIREMENTS. ALL PERMITS AND LICENSES FOR CONSTRUCTION WATER DISPOSAL, INCLUDING ALL APPLICATIONS, CHARGES, FEES, AND TAXES, ARE THE RESPONSIBILITY OF THE CONTRACTOR.

**SOIL EROSION AND SEDIMENT CONTROL NOTES**

- CONSTRUCTION SEQUENCE:
  - DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED. THIS INCLUDES ALL PERMITS FROM APPLICABLE UTILITIES.
  - ALL CONSTRUCTION VEHICLES SHALL ENTER AND LEAVE THE SITE VIA THE PROPOSED CONSTRUCTION ENTRANCE CONFORMING TO THE DETAIL PROVIDED.
  - INSTALL SILT FENCES, SILT SACKS, CHECK DAMS, FILTER SOCKS, STRAW WATTLE AND/OR STRAW BALES AS INDICATED ON THE DRAWINGS TO CONTROL EROSION AND PREVENT SEDIMENT CONTAMINATION OF DOWNSTREAM AREAS PRIOR TO ANY EARTH MOVING ACTIVITIES. THE CONTRACTOR SHALL CONFIRM WITH THE TOWN BUILDING OFFICIAL/TOWN ENGINEER WHICH TYPE OF SEDIMENTATION BARRIERS ARE PREFERRED BY THE TOWN PRIOR TO INSTALLATION.
  - CONTRACTOR TO FIELD LOCATE EXISTING WATER MAIN TO WHICH CONNECTIONS ARE PROPOSED PRIOR TO ANY CONSTRUCTION.
  - LIMITS OF CLEARING SHALL BE FLAGGED PRIOR TO THE REMOVAL OF ANY VEGETATION. REMOVE VEGETATION ONLY WHERE NECESSARY. ANY STUMPS TO BE GROUND OR DISPOSED OF OFF SITE. LIMITS OF PERIMETER AND RIVERBANK WETLANDS SHALL ALSO BE FLAGGED TO PREVENT DISTURBANCE.
  - AREA OF FUTURE WASTEWATER DISPOSAL SYSTEM SHALL BE IDENTIFIED AND PROTECTED FROM CONSTRUCTION DISTURBANCE.
  - ROUGH GRADE SITE AS SHOWN ON SOIL EROSION AND SEDIMENT CONTROL PLANS. EXCAVATE FOR DRIVEWAY BASE GRAVEL.
  - INSTALL DRIVEWAY BASE. ANY EXCAVATED MATERIAL SHALL BE STOCKPILED OR REGRADED ON SITE UNTIL GRADING OPERATIONS ARE COMPLETE.
  - CONSTRUCT STORMWATER CONVEYANCE SYSTEM BEGINNING AT THE LOWEST POINTS AND WORKING UPSTREAM.
  - BEGIN BUILDING CONSTRUCTION. INSTALL ANY ROOFTOP RUNOFF COLLECTION PIPING AS SHOWN ON PLANS TO CONVEYANCE SYSTEM.
  - INSTALL UTILITY SERVICES FOR EACH STRUCTURE PER DESIGNS APPROVED BY PROVIDING ENTITIES. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED UNDER SUPERVISION BY THE PROVIDING ENTITIES.
  - FINAL GRADE SITE AND COMPLETE DETENTION AREA EXCAVATIONS PER THE DESIGN PLANS. PLACE LOAM, AND ESTABLISH VEGETATIVE COVERAGE.
  - REMOVE CONSTRUCTION ENTRANCE AND INSTALL AREAS OF IMPERVIOROUS BINDER PAVEMENT COURSE AND CURBING.
  - ESTABLISH FINAL VEGETATIVE GROWTH ON ALL DISTURBED AREAS.
  - INSTALL TOP PAVEMENT COURSE.
  - ENSURE THAT ROOF DOWNSPOUTS ARE ROUTED TO STORMWATER SYSTEM WHERE SHOWN ON PLANS.
  - MAINTAIN SITE IN ACCORDANCE WITH THE OPERATIONS AND MAINTENANCE DOCUMENT. BASIC MAINTENANCE OUTLINE ALSO PROVIDED ON THIS SHEET.
- NOTES:
  - DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. ONLY THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME.
  - AREA OF INDIVIDUAL WASTEWATER DISPOSAL SYSTEM AND INFILTRATION AREAS SHALL NOT BE USED FOR STOCKPILES OR STORAGE OF MATERIALS OR EQUIPMENT.
  - ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE STABILIZED WITHIN FOURTEEN DAYS IN ACCORDANCE WITH TEMPORARY MEASURES IN THE VEGETATIVE PRACTICE NOTES.
  - AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOP SOIL TO REMOVE VEGETATION, ROOTS, AND ANY OTHER OBJECTIONABLE MATERIAL.
  - ALL FILL SHALL BE COMPACTED TO 95% MAX. DENSITY TO REDUCE EROSION, SLIPAGE, SETTLEMENT SUBSIDENCE, OR OTHER RELATED PROBLEMS.
  - FILL INTENDED TO SUPPORT BUILDING STRUCTURES AND CONDUITS, ETC., SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL CODES AND SPECIFICATIONS.
  - ALL FILL SHALL BE PLACED AND COMPACTED TO 95% MAX. DENSITY IN LAYERS NOT TO EXCEED 12" IN THICKNESS FILLS.
  - FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
  - FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIAL SHALL NOT BE INCORPORATED INTO FILLS.
  - FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION SUBGRADE.
  - SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
  - ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF FINISH GRADING IN ACCORDANCE WITH THE VEGETATIVE PRACTICE NOTES.
  - REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED AND VEGETATED AREAS HAVE RECEIVED TWO MOWINGS.
- VEGETATIVE PRACTICE:
 

PERMANENT MEASURES:

  - SLOPES SHALL NOT BE STEEPER THAN 1 VERTICAL TO 3 HORIZONTAL UNLESS OTHERWISE SPECIFIED.
  - LOAM AND SEED REQUIREMENTS ARE SPECIFIED IN RIDOT L01 & L02.
  - A MINIMUM OF 4 INCHES OF LOAM SHALL BE INSTALLED. THE LOAM SHALL BE GRADED TO A SMOOTH CONDITION AND STONES AND OTHER OBJECTS LARGER THAN 2 INCHES SHALL BE REMOVED.

TEMPORARY MEASURES (FOR TEMPORARY PROTECTION OF DISTURBED AREAS)

  - LIMESTONE AND FERTILIZER SHALL BE APPLIED AT THE FOLLOWING RATE:
    - LIMESTONE: 3 TONS/ACRE
    - FERTILIZER: (10-10-10): 600 LBS/ACRE
  - SEED SHALL BE APPLIED AT THE FOLLOWING RATE:
    - WINTER RYE: 100 LBS/ACRE
    - STRAW MULCH SHALL BE APPLIED AT THE RATE OF 1.5 TONS/ACRE.

**DRAINAGE NOTES**

- ALL DRAIN PIPES SHALL BE ADS N-12 HDPE OR SCH40 PVC AS SHOWN ON SITE PLANS.
- STRUCTURE ROOFTOPS SHALL DISCHARGE TO INFILTRATION AREAS AS SHOWN ON PLANS.
- PIPED CONVEYANCE AND INFILTRATION AREA BASINS SHALL BE CONSTRUCTED ACCORDING TO THE DETAILS PROVIDED. ANY DISCREPANCIES OR INCONGRUENCIES WITH THE EXISTING SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.

**STORMWATER MAINTENANCE NOTES**

**SEDIMENT FOREBAY MAINTENANCE:**

GENERAL INSPECTIONS SHALL BE CONDUCTED ON A MONTHLY BASIS AND AFTER STORM EVENTS GREATER THAN OR EQUAL TO THE 1-YEAR, 24-HOUR TYPE III PRECIPITATION EVENT (2.8 INCHES). THE MAINTENANCE OBJECTIVES FOR THIS DEVICE INCLUDE MONITORING THE COLLECTED SEDIMENT VOLUME AND MAINTAINING STRUCTURAL INTEGRITY.

- THE SLOPES OF A FOREBAY SHALL BE INSPECTED FOR EROSION AND GULLING. REINFORCE EXISTING INLET RIPRAP IF RIPRAP IS FOUND TO BE DEFICIENT, EROSION IS PRESENT AT THE OUTFALLS, OR THE EXISTING RIPRAP HAS BEEN COMPROMISED.
- ALL STRUCTURAL COMPONENTS, WHICH INCLUDE, BUT ARE NOT LIMITED TO, TRASH RACKS, ACCESS GATES, VALVES, PIPES, WEIR WALLS, ORIFICE STRUCTURES, AND SPILLWAY STRUCTURES SHALL BE INSPECTED AND ANY DEFICIENCIES SHOULD BE RESOLVED.
- SEDIMENT SHALL BE REMOVED FROM A FOREBAY WHEN THE DEPTH HAS BEEN REDUCED BY 50%. ALL MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL AND LOCAL REGULATIONS.

**INFILTRATION AREAS:**

GENERAL INSPECTIONS SHALL BE CONDUCTED ON A MONTHLY BASIS AND AFTER STORM EVENTS GREATER THAN OR EQUAL TO THE 1-YEAR, 24-HOUR TYPE III PRECIPITATION EVENT (2.8 INCHES).

- THE SLOPES OF THE INFILTRATION AREA SHALL BE INSPECTED FOR EROSION AND GULLING. ANY ERODED AREAS SHALL BE REPAIRED AND REINFORCED WITH A SEEDING OF GRASS. SLOPE PROTECTION MATERIAL SHOULD BE PLACED IN AREAS PRONE TO EROSION.
- REINFORCE INLET AREAS WITH EROSION CONTROL BLANKETS OR STONE OVER A BED OF FILTER FABRIC IF EROSION IS FOUND.
- ALL MATERIAL, INCLUDING ANY TRASH, DEBRIS, AND SEDIMENTS WITHIN THE EXTENTS OF AN INFILTRATION AREA SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS. SHOULD EXCESSIVE SEDIMENTS BE FOUND WITHIN THE BASIN, THE OWNER SHOULD CONSIDER MORE FREQUENT SWEEPING OF THE DRIVEWAY.
- THE OVERFLOW WEIR SHALL BE INSPECTED FOR STRUCTURAL FAILURES. IT SHOULD BE DETERMINED IF ANY STORMWATER IS ESCAPING THE BASIN AROUND THE SIDES OF THE WEIR. ANY FAILURES SHALL BE CORRECTED IMMEDIATELY. ALL WORK SHALL BE CARRIED OUT BY A QUALIFIED CONTRACTOR.
- EMBANKMENTS OF AN INFILTRATION AREA SHALL BE INSPECTED FOR SEEPAGE AND BURROWING ANIMALS. PEST CONTROL WILL BE REQUIRED SHOULD EVIDENCE OF BURROWING ANIMALS BE REQUIRED. ANY EVIDENCE OF GROUNDWATER SEEPAGE SHALL BE BROUGHT TO THE ATTENTION OF A LICENSED ENGINEER IMMEDIATELY.
- IF DEAD OR DYING GRASS ON THE BOTTOM IS OBSERVED OR IF STANDING WATER IS OBSERVED MORE THAN 48 HOURS AFTER A STORM EVENT, THE BOTTOM OF THE INFILTRATION AREA SHALL BE TILLED TO A DEPTH OF 3/8 INCHES TO BREAK UP ANY HARD PACKED MATERIAL. THE BOTTOM OF THE INFILTRATION AREA SHALL BE RE-SEEDDED VEGETATION RE-ESTABLISHED.
- THE INSPECTOR SHALL ENSURE THAT THE GRASS AROUND THE PERIMETER OF AND WITHIN AN INFILTRATION AREA HAS BEEN MOWED AT LEAST THREE TIMES PER GROWING SEASON, FOLLOWING EACH MOWING, BARE AREAS SHOULD BE SEEDED. THE INTENTION IS TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN TWELVE INCHES.
- DURING INSPECTION, REMOVE ANY INVASIVE VEGETATION WITHIN THE EXTENTS OF THE INFILTRATION AREA. ANY INVASIVE VEGETATION ENCROACHING UPON THE PERIMETER OF THE DEPRESSION SHALL BE PRUNED OR REMOVED.
- INSPECT STONE SPILLWAY FROM OUTLET WEIR. MISSING STONE SHALL BE REPLACED IN KIND. SHOULD EVIDENCE OF STONE TRANSPORT BE FOUND, THE REPLACEMENT STONE SHALL BE OF A LARGER DIAMETER.

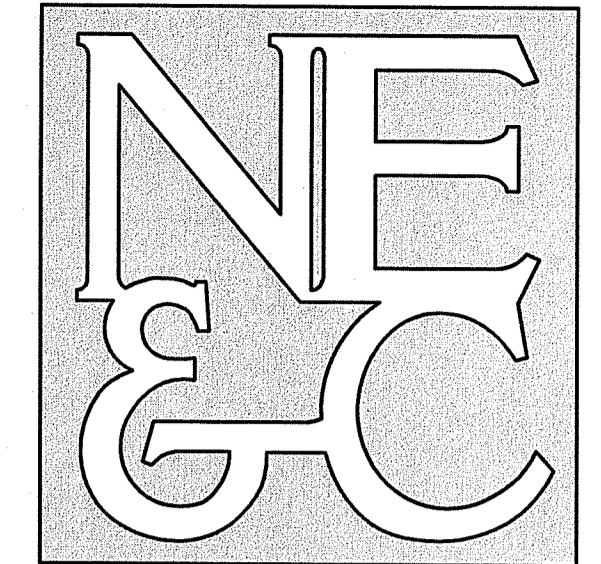
**GENERAL NOTES:**

- MAINTENANCE OF THE STORMWATER SYSTEM DURING CONSTRUCTION OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- UPON COMPLETION OF THE CONSTRUCTION, MAINTENANCE OF THE STORMWATER SYSTEM SHALL BECOME THE RESPONSIBILITY OF THE OWNER.

RI Environmental Management  
JUN 29 2022  
Office of Water Resources

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED: SEP 02 2022 FILE #: 22-0249  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
*Nancy L. Freeman*

**NORTHEAST ENGINEERS & CONSULTANTS, INC.**



A KNOWLEDGE CORPORATION®

6 VALLEY ROAD MIDDLETOWN RHODE ISLAND 02842  
PHONE (401) 849-0810 FAX (401) 846-4169  
WWW.NORTHEASTENGINEERS.COM

- SITE/CIVIL
- LAND PLANNING
- WATERFRONT
- SURVEYING
- GEOTECHNICAL
- ENVIRONMENTAL
- TRANSPORTATION
- STRUCTURAL

**TOWN OF TIVERTON ZONING DATA:**

ZONING DISTRICT:	R60 (RESIDENTIAL)
MINIMUM LOT AREA:	60,000 SQ. FT.
MINIMUM LOT WIDTH:	175 FEET
MINIMUM BUILDING SETBACK:	FRONT YARD 40 FEET SIDE YARD 30 FEET REAR YARD 60 FEET
MAXIMUM LOT COVERAGE:	15%
MAXIMUM BUILDING HEIGHT:	35 FEET

**RECEIVING WATER CONDITIONS TABLE:**

NAME	UNNAMED TRIBUTARY
STREAM ORDER	01
WATERBODY ID	R0007037R-04
WB DESCRIPTION	UNNAMED TRIBUTARY #2 TO SOUTH WATUPPA POND, MA, TIVERTON
IMPAIRMENTS	NONE
TMDL	NONE
WATER QUALITY STANDARD	A
303D CATEGORY	3
FISHERY TYPE	WARM
SRPFW	NO
STORMWATER POT. IMPAIR.	NO
STORMWATER CONFIRM IMPAIR.	NO

No.	Revision	Date	App.
Designed By:	JJR	Drawn by:	JJR
Checked by:	GES	Scale:	N/A
Date:	27JUN22	Project Title:	

**FRIENDSHIP FARMS**  
PHASE IA  
A.P. 214, LOT 112  
STAFFORD ROAD  
TIVERTON, RHODE ISLAND

Client/Owner:  
TIVERTON INVESTMENTS, LLC  
150 CHESTNUT STREET, 4TH FLOOR  
PROVIDENCE, RI 02903

Issued for:  
PERMITTING

Drawing Title:

**PROJECT NOTES**

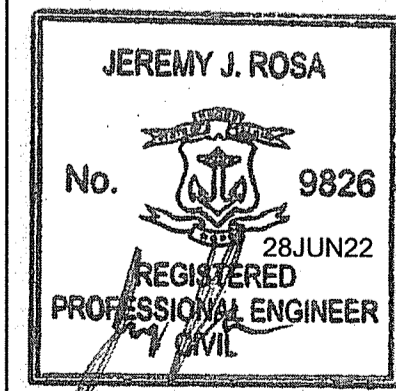
Drawing Number:	C-2
Sheet	2 of 5
Project Number:	21265.0
Survey Index:	11 - 214 - 112

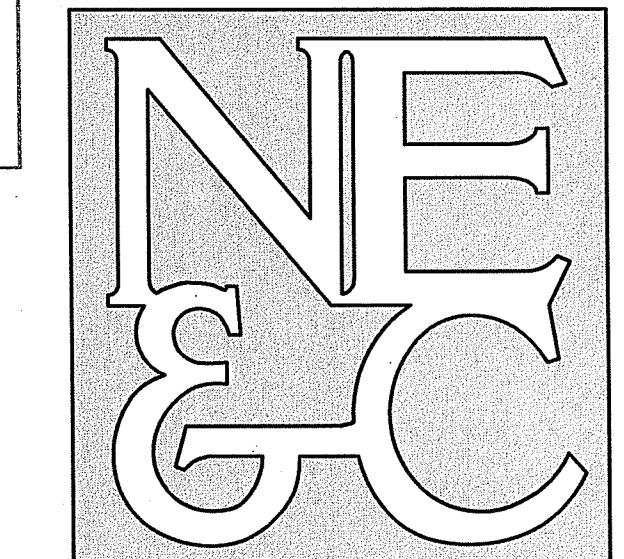
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OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM

NOTE PER DEM:

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site

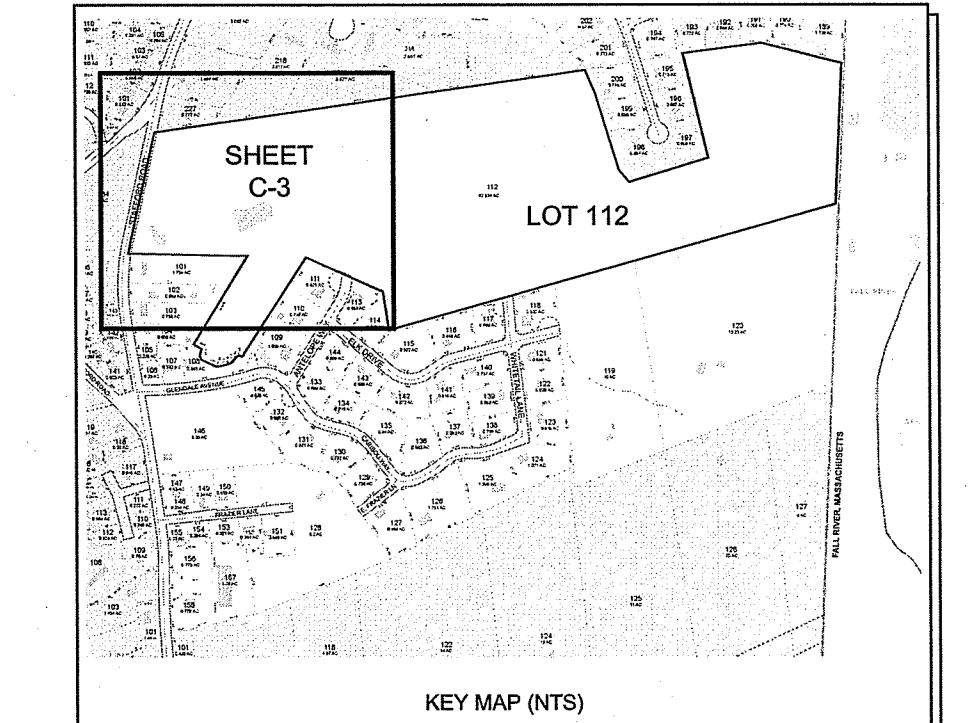




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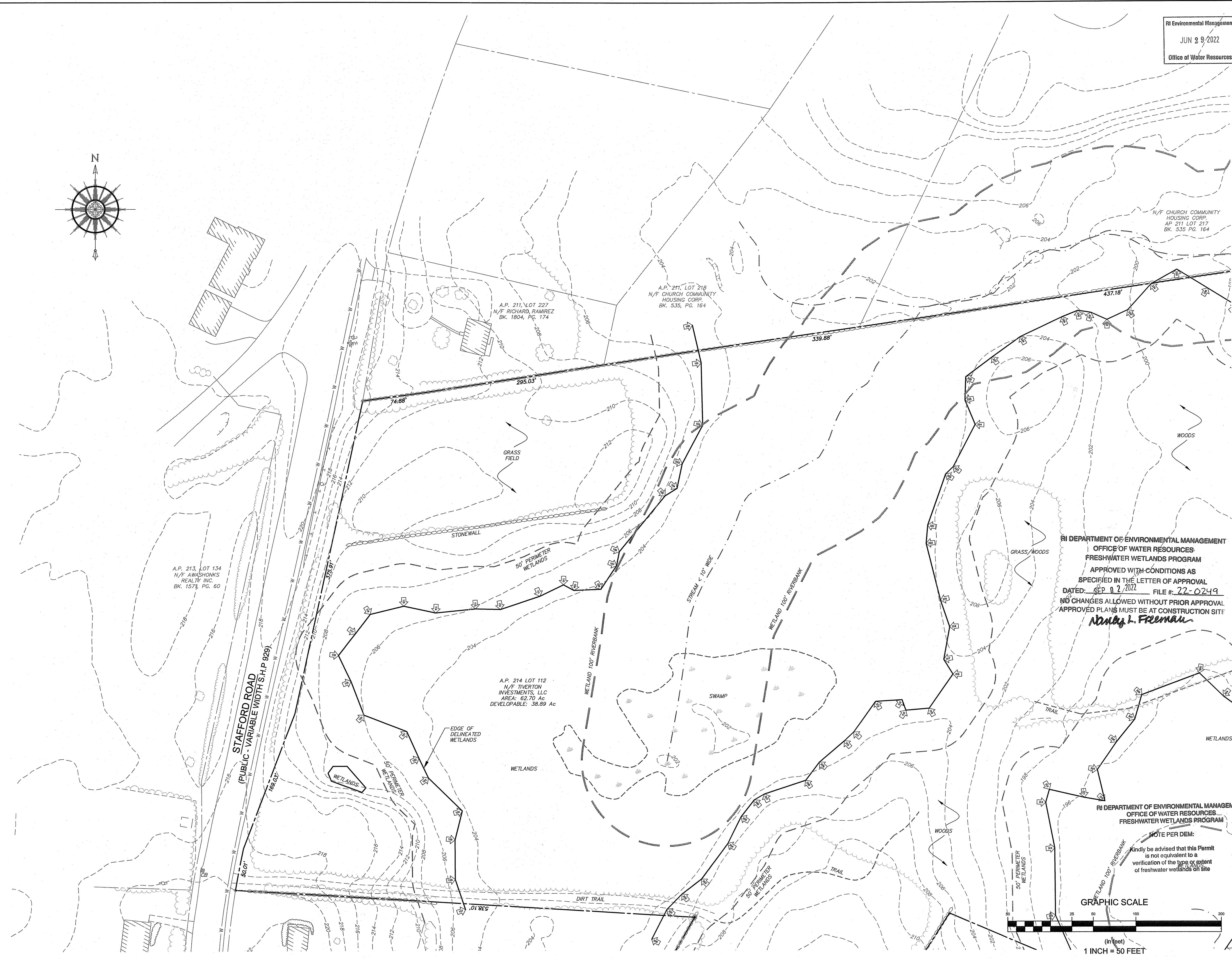
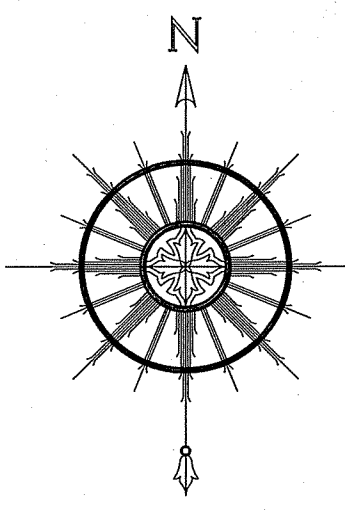


LEGEND

	PROPERTY LINE
	ABUTTER PROPERTY LINE
	TOPOGRAPHIC CONTOUR
	STREAM
	WETLAND BOUNDARY
	PERIMETER WETLAND BOUNDARY
	RIVERBANK WETLAND BOUNDARY
	WATER LINE
	WETLAND FLAG
	UTILITY POLE

No.	Revision	Date	App.				
Designed By: JJR	Drawn by: JJR	Checked by: GES					
Scale: 1" = 50'	Date: 27JUN22						
Project Title:							
<b>FRIENDSHIP FARMS PHASE IA</b>							
A.P. 214, LOT 112 STAFFORD ROAD TIVERTON, RHODE ISLAND							
Client/Owner:							
TIVERTON INVESTMENTS, LLC 150 CHESTNUT STREET, 4TH FLOOR PROVIDENCE, RI 02903							
Issued for:							
PERMITTING							
Drawing Title:							
<b>EXISTING CONDITIONS</b>							
Drawing Number:		<b>C-3</b>					
Sheet		3 of 5					
Project Number:		21265.0					
Survey Index:		11 - 214 - 112					
<table border="1"> <tr> <td colspan="2"> </td> <td colspan="2">                 Drawing Number: C-3                  Sheet 3 of 5                  Project Number: 21265.0                  Survey Index: 11 - 214 - 112             </td> </tr> </table>						Drawing Number: C-3 Sheet 3 of 5 Project Number: 21265.0 Survey Index: 11 - 214 - 112	
		Drawing Number: C-3 Sheet 3 of 5 Project Number: 21265.0 Survey Index: 11 - 214 - 112					
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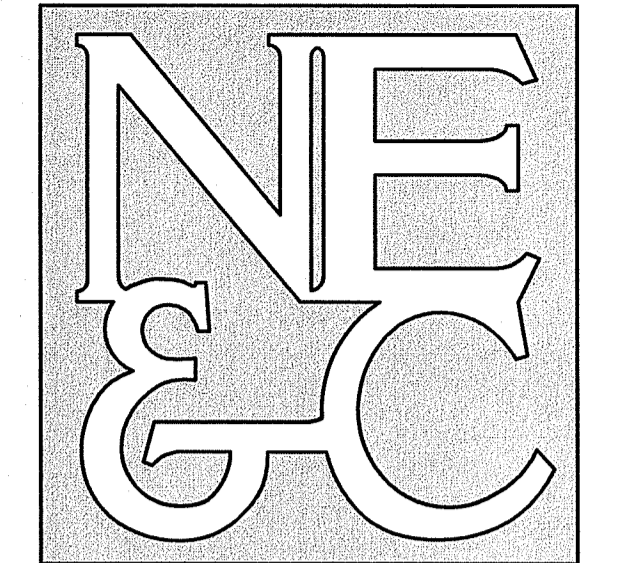
RI Environmental Management  
JUN 29 2022  
Office of Water Resources



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS AS  
SPECIFIED IN THE LETTER OF APPROVAL  
DATED: SEP 12 2022 FILE #: 22-0249  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
*Nancy L. Freeman*

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
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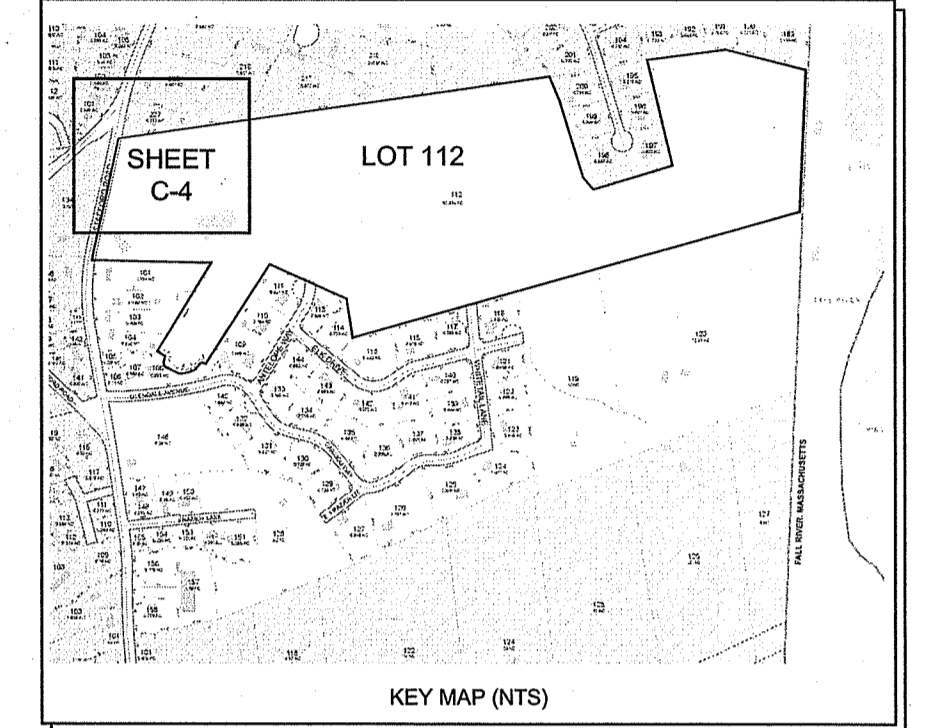
GRAPHIC SCALE  
1 INCH = 50 FEET



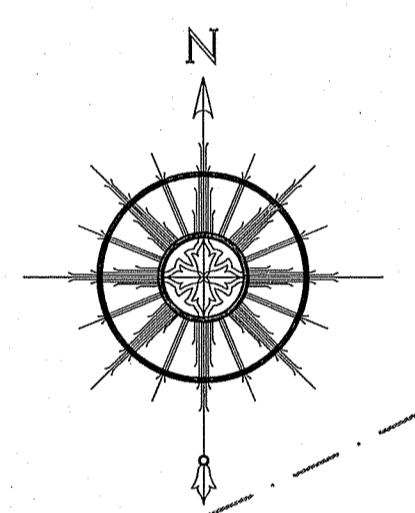
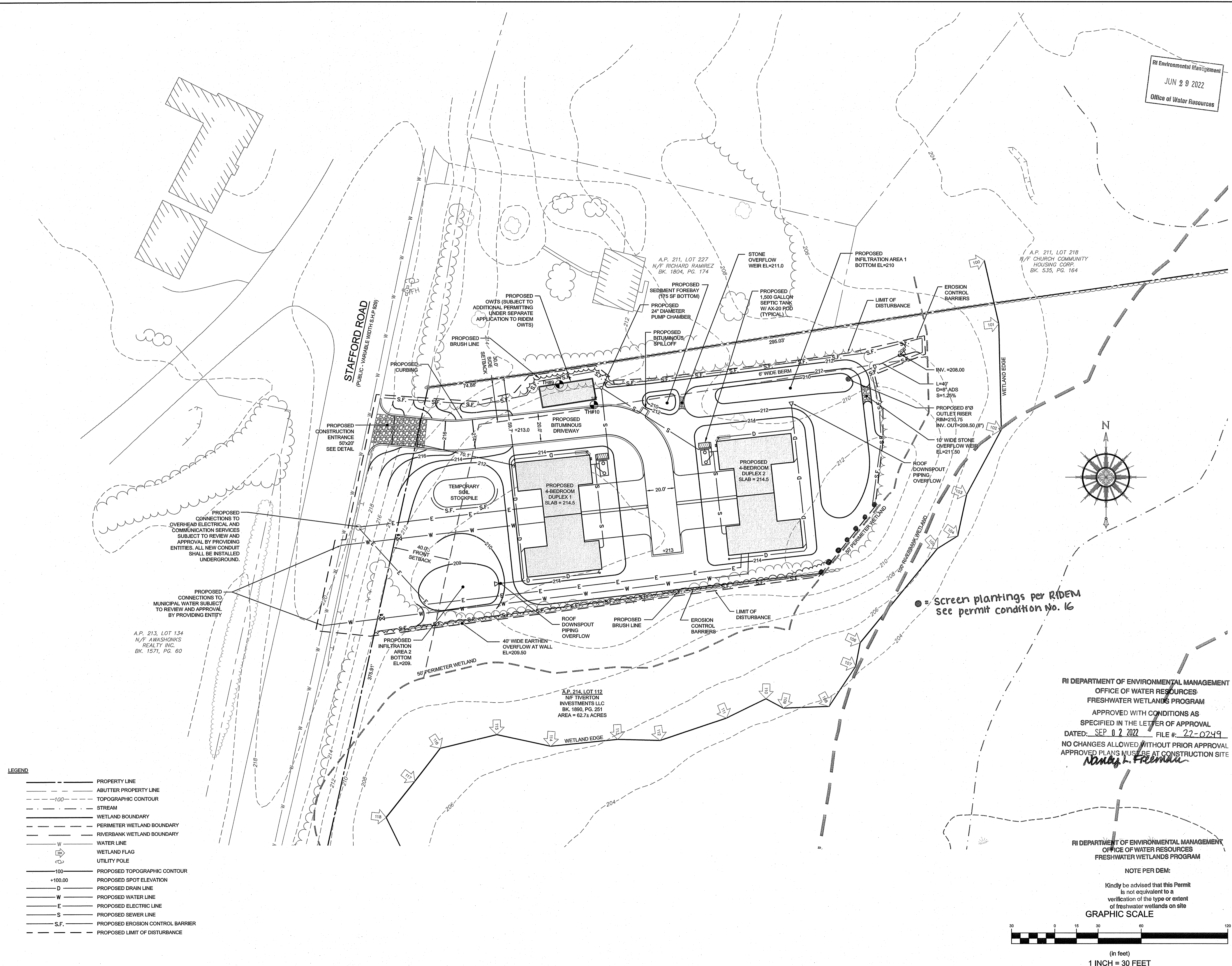
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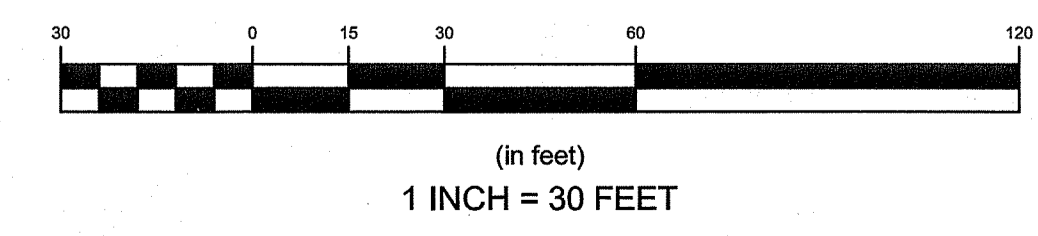
RI Environmental Management  
JUN 29 2022  
Office of Water Resources



• Screen plantings per RIDEM  
See permit condition No. 16

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GRAPHIC SCALE



LEGEND

---	PROPERTY LINE
---	ABUTTER PROPERTY LINE
---	TOPOGRAPHIC CONTOUR
---	STREAM
---	WETLAND BOUNDARY
---	PERIMETER WETLAND BOUNDARY
---	RIVERBANK WETLAND BOUNDARY
W	WATER LINE
W	WETLAND FLAG
U	UTILITY POLE
---	PROPOSED TOPOGRAPHIC CONTOUR
+100.00	PROPOSED SPOT ELEVATION
D	PROPOSED DRAIN LINE
W	PROPOSED WATER LINE
E	PROPOSED ELECTRIC LINE
S	PROPOSED SEWER LINE
S.F.	PROPOSED EROSION CONTROL BARRIER
---	PROPOSED LIMIT OF DISTURBANCE

NOTES:  
1. REFER TO COMPLETE PROJECT NOTES ON SHEET C-2.

No.	Revision	Date	App.
Designed By:	JJR	Drawn by:	JJR
Scale:	1" = 30'	Date:	27JUN22
Checked by:	GES		

Project Title:  
**FRIENDSHIP FARMS  
PHASE IA**  
A.P. 214, LOT 112  
STAFFORD ROAD  
TIVERTON, RHODE ISLAND

Client/Owner:  
TIVERTON INVESTMENTS, LLC  
150 CHESTNUT STREET, 4th FLOOR  
PROVIDENCE, RI 02903

Issued for:  
PERMITTING

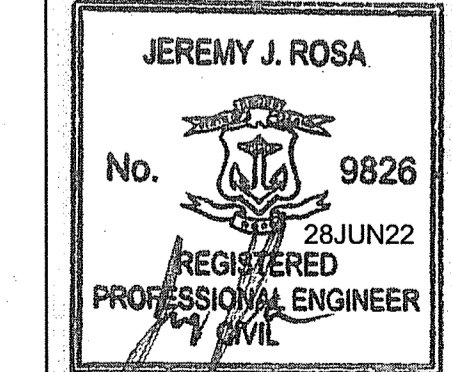
Drawing Title:  
**PROPOSED CONDITIONS**

Drawing Number:  
**C-4**

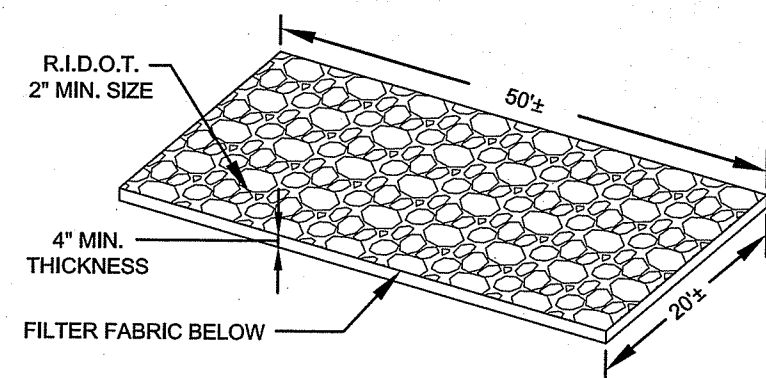
Sheet **4** of **5**

Project Number:  
**21265.0**

Survey Index:  
**11 - 214 - 112**

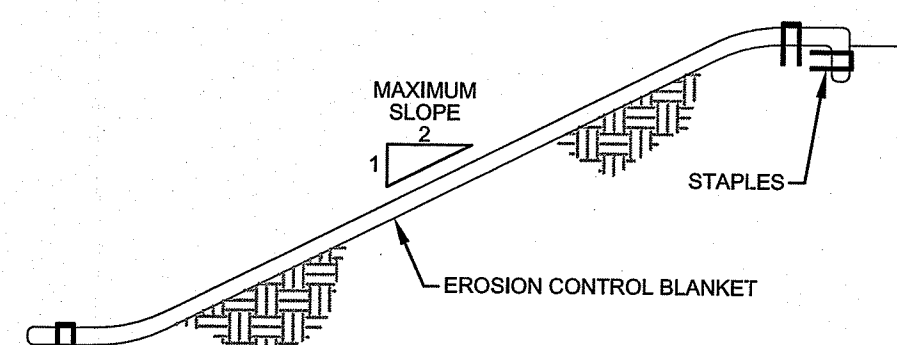


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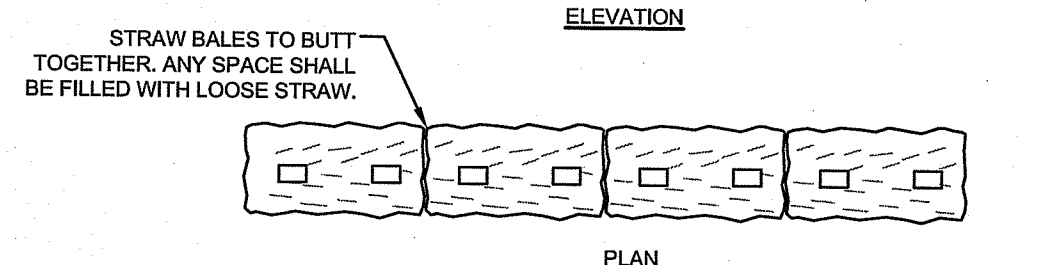
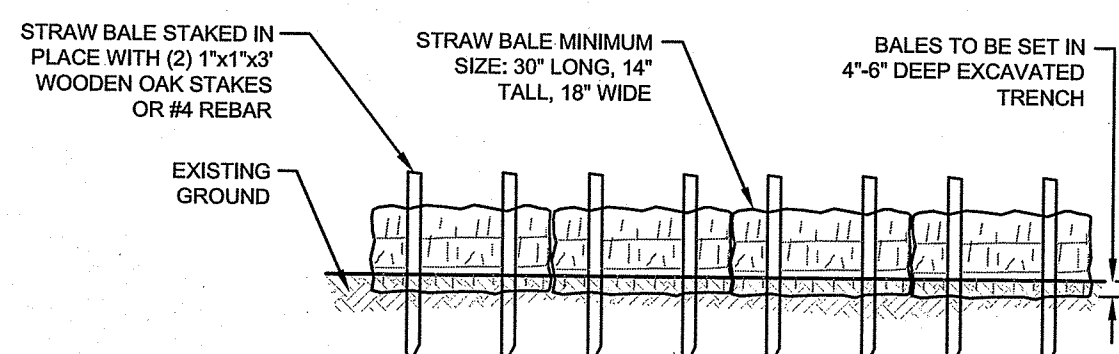
NOTE: CONSTRUCTION ENTRANCE SHALL BE REMOVED PRIOR TO BINDER PLACEMENT.

**CONSTRUCTION ENTRANCE**  
SCALE: NOT TO SCALE



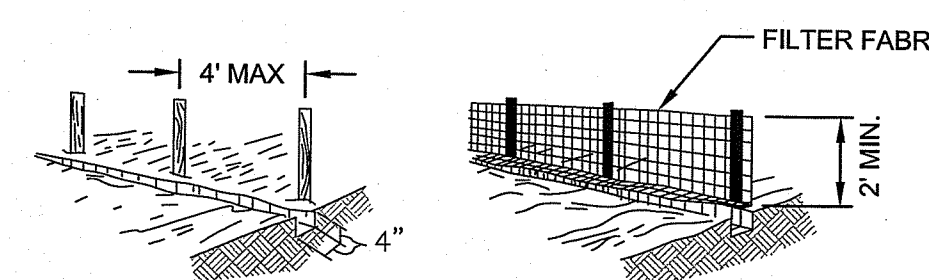
- NOTES:**
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED.
  2. ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
  3. ROLL THE BLANKETS DOWN THE SLOPE IN THE DIRECTION OF THE WATER FLOW.
  4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
  5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

**EROSION CONTROL BLANKET**  
SCALE: NOT TO SCALE

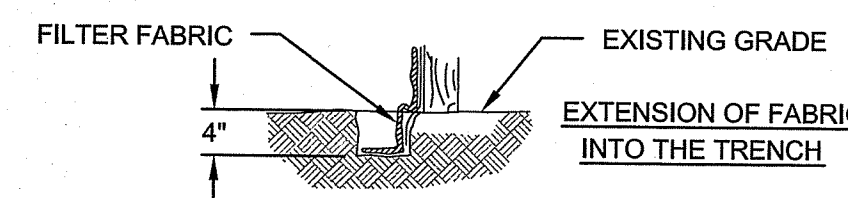


- NOTES:**
1. BALE WEIGHT SHALL NOT BE LESS THAN 50 LBS AND SHALL BE BOUND WITH NO LESS THAN TWO STRINGS OR WIRES CONTAINING A MINIMUM OF FIVE (5) CUBIC FEET OF MATERIAL. MINIMUM DIMENSIONS SHOWN IN DETAIL.
  2. STRAW BALES SHALL BE CERTIFIED AS BEING NOXIOUS WEED-FREE BALES. TO BE "CERTIFIED" MEANS THAT THE PRODUCT IS FREE OF ANY NOXIOUS WEEDS.
  3. STAKES SHALL BE DRIVEN THROUGH STAKES AT A SLIGHT UPSTREAM ANGLE TO PREVENT BALE FROM OVERTURNING.
  4. LOOSE STRAW SHALL BE WEDGED BETWEEN BALES AFTER INSTALLATION.
  5. MATERIAL EXCAVATED FROM TRENCH SHALL BE BACKFILLED, COMPACTED, AND STABILIZED.

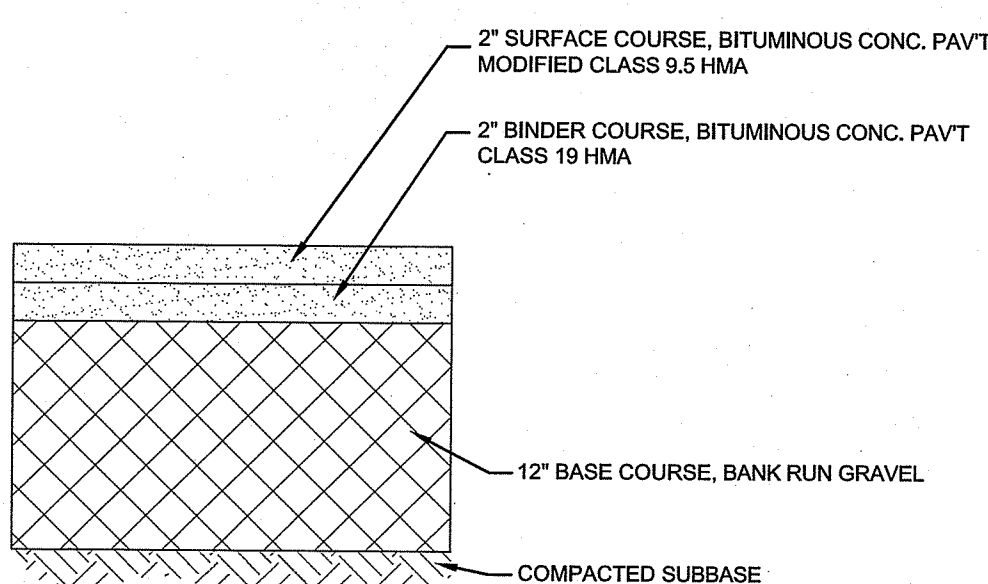
**BALED STRAW EROSION CONTROL BARRIER**  
SCALE: NOT TO SCALE



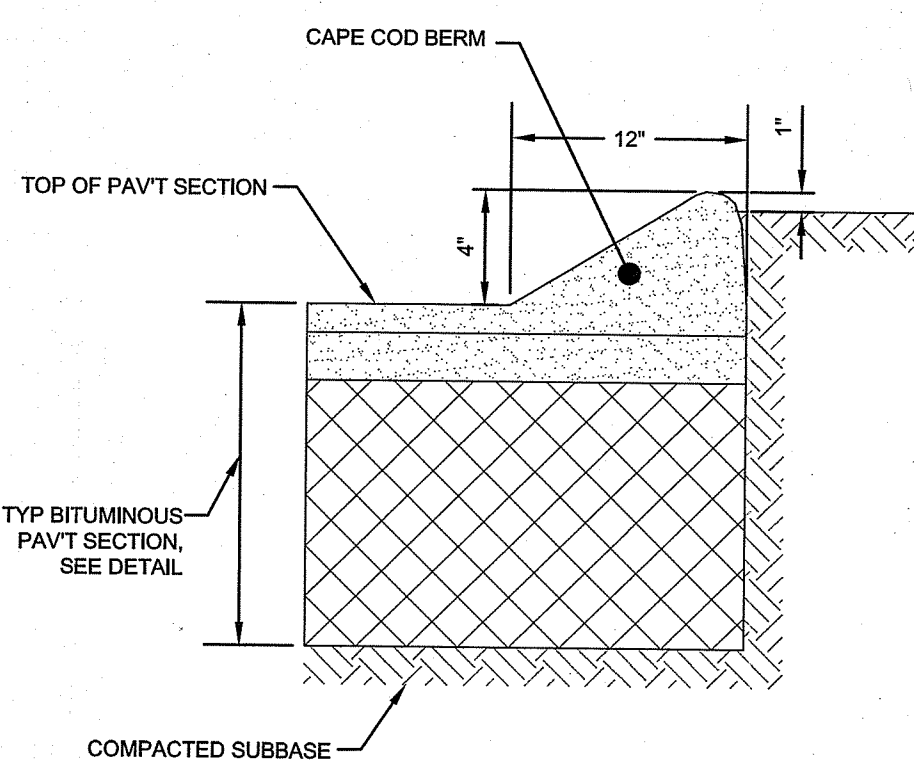
1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.
2. STAPLE FILTER FABRIC TO THE POSTS AND EXTEND INTO TRENCH.
3. BACK FILL AND COMPACT THE EXCAVATED SOIL INTO THE TRENCH.



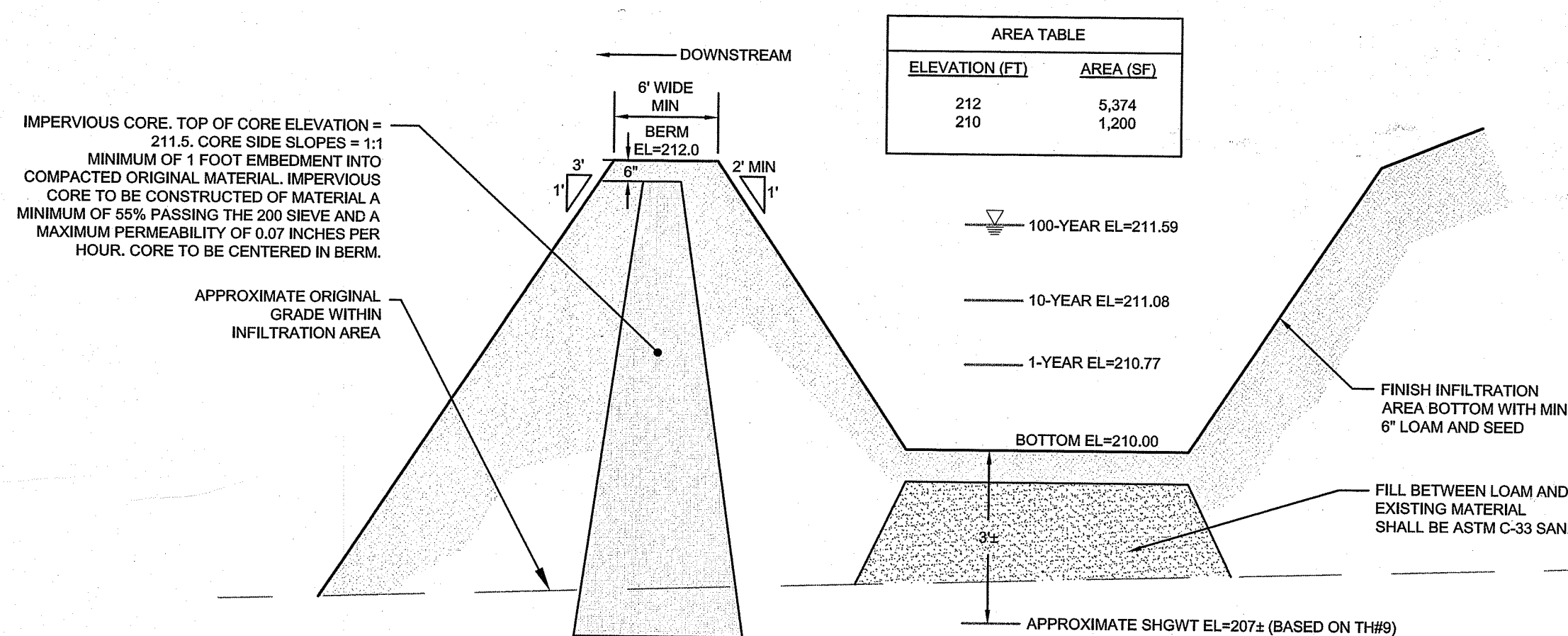
**SILT FENCE**  
SCALE: NOT TO SCALE



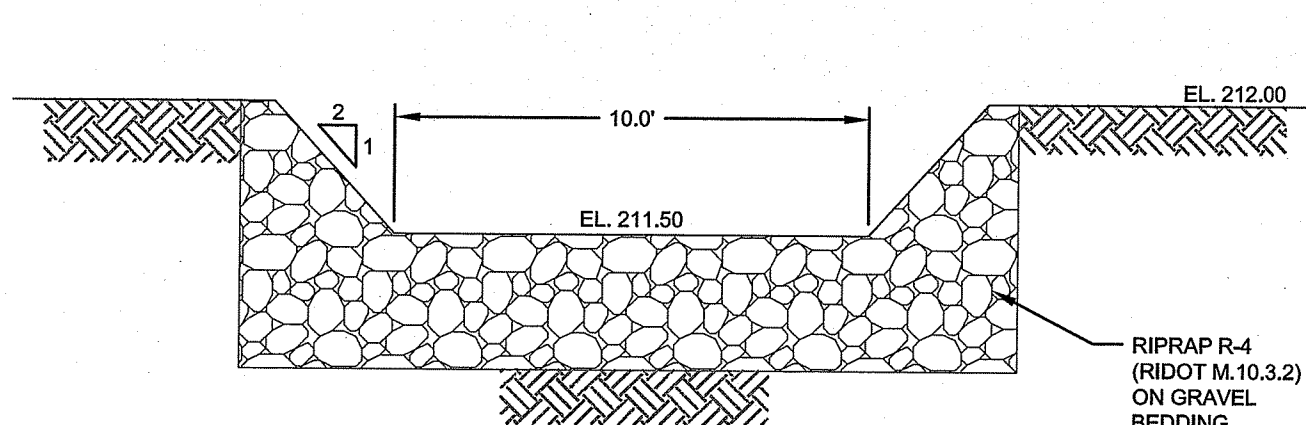
**TYPICAL BITUMINOUS PAVEMENT SECTION**  
SCALE: NOT TO SCALE



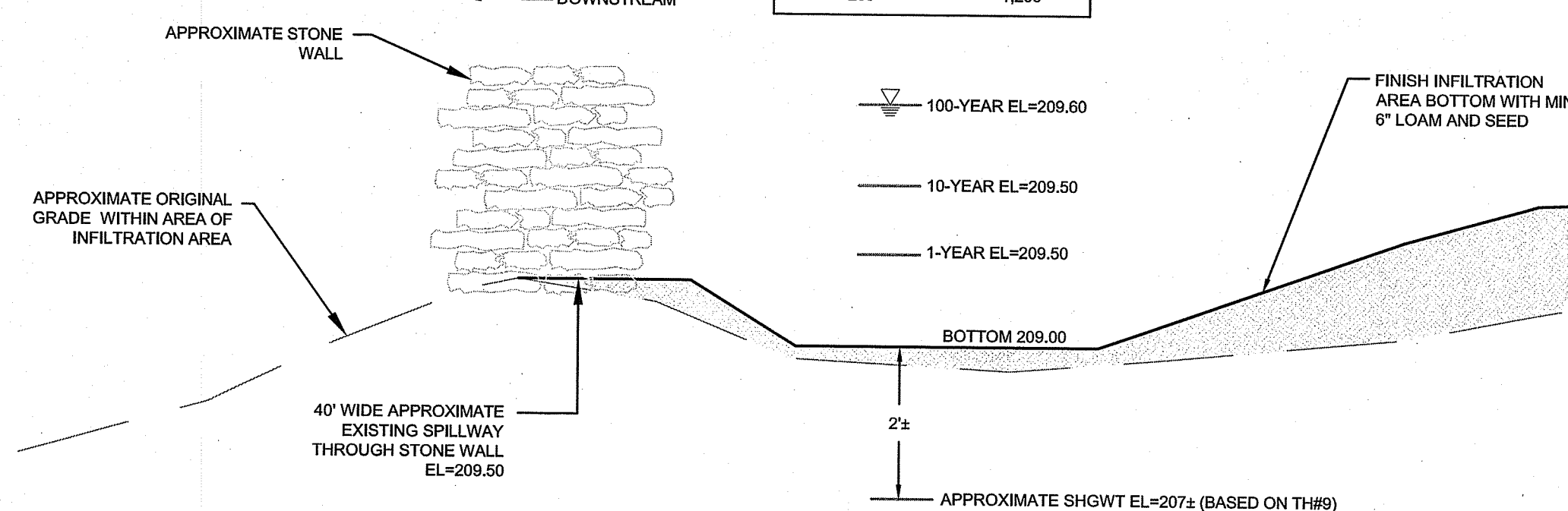
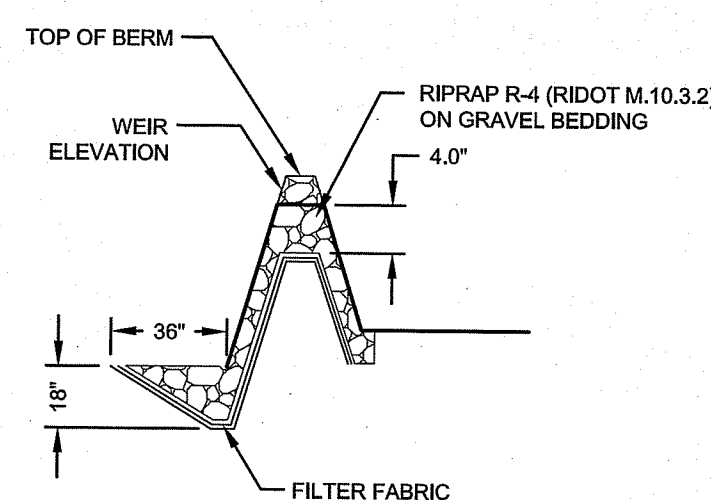
**TYPICAL CAPE COD BERM**  
SCALE: NOT TO SCALE



**INFILTRATION AREA 1 SECTION**  
SCALE: NOT TO SCALE

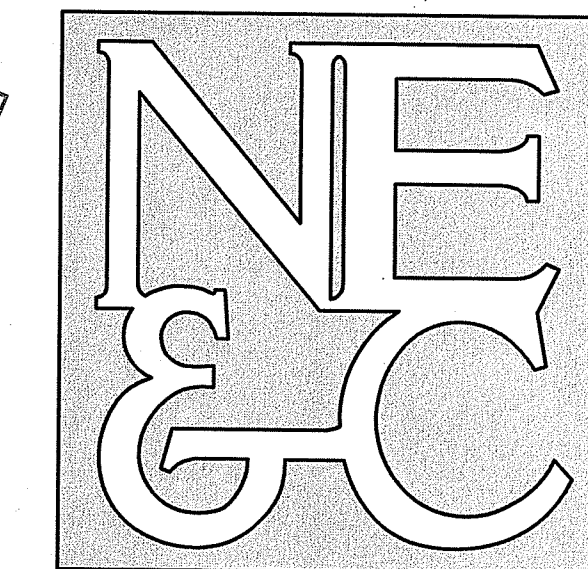


**INFILTRATION AREA 1 STONE WEIR DETAIL**  
SCALE: NOT TO SCALE



**INFILTRATION AREA 2 SECTION**  
SCALE: NOT TO SCALE

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JUN 29 2022  
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*Nancy L. Freeman*

No.	Revision	Date	App.

Designed By: JJR Drawn by: JJR Checked by: GES  
Scale: AS SHOWN Date: 27JUN22

**FRIENDSHIP FARMS  
PHASE IA**  
A.P. 214, LOT 112  
STAFFORD ROAD  
TIVERTON, RHODE ISLAND

Client/Owner:  
TIVERTON INVESTMENTS, LLC  
150 CHESTNUT STREET, 4th FLOOR  
PROVIDENCE, RI 02903

Issued for:  
PERMITTING

Drawing Title:  
**SITE DETAILS**

	Drawing Number:
	<b>C-5</b>
	Sheet <b>5</b> of <b>5</b>
	Project Number: <b>21265.0</b>
Survey Index: <b>11 - 214 - 112</b>	

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