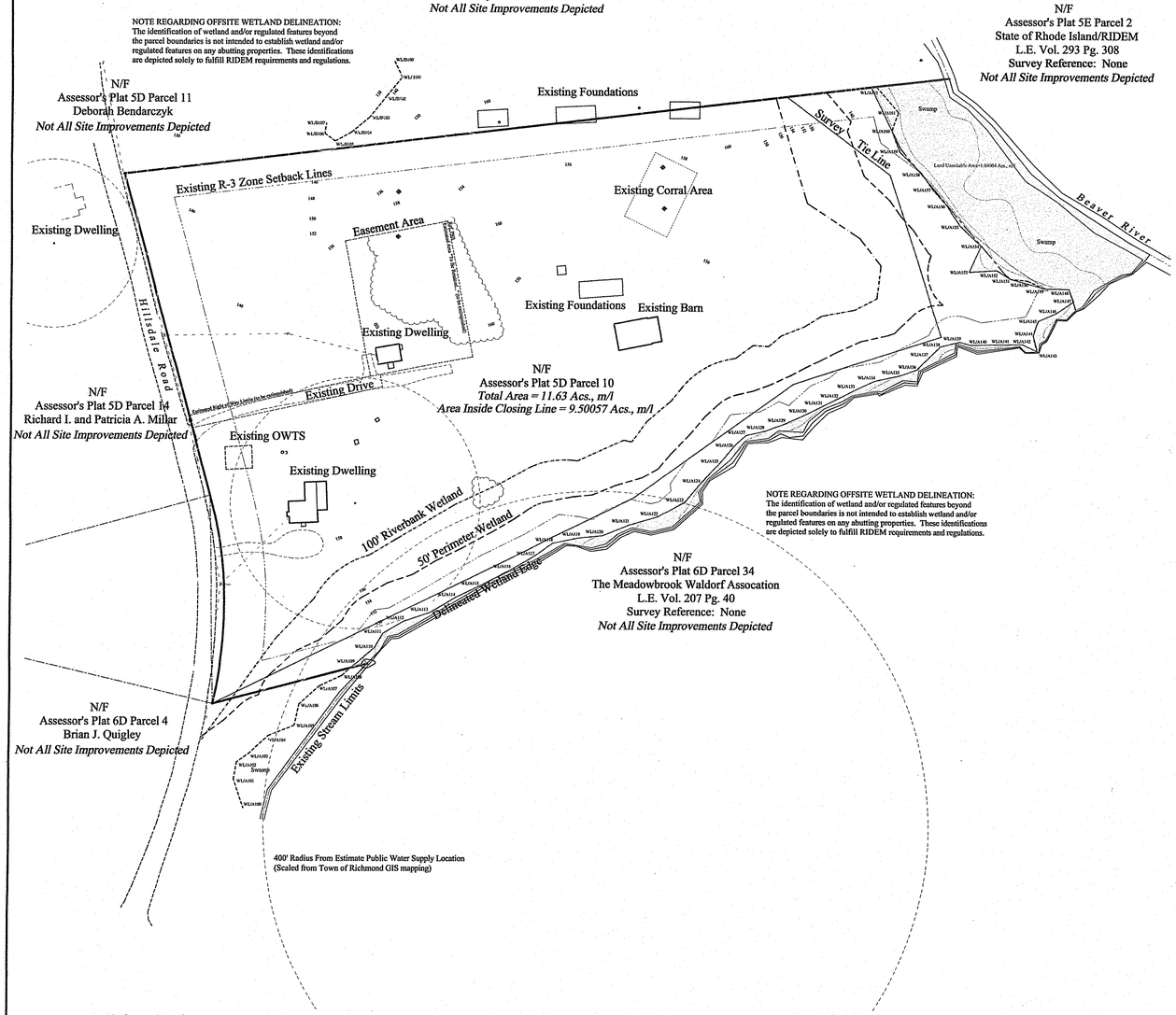

Plan Scale:

1 inch = 80 feet

0 40 80

This mapping was developed and intended to be viewed at a scale of 1"=80' on a 24"X36" sheet. Reduced versions may not be legible.

Revision Schedule	
Revision Date	Revision Description

RIGL 34-13-1 INDEX
ABUTTING STREETS
Hillsdale Road

R-3 Zone Criteria	
Minimum Lot Size	3 acres
Minimum Lot Frontage	300 feet
Max. Building Coverage	10.0%
Max. Height Princ. Bldg.	___ feet
Max Height Acc. Bldg.	___ feet
Minimum Front Yard	50 feet
Minimum Side Yard	35 feet
Minimum Rear Yard	100 feet
Minimum Side Yard (Acc.)	___ feet
Minimum Rear Yard (Acc.)	___ feet

Richmond Planning Board Approved

Planning Board Chair: _____

Date: _____

PLAN NOTES:

1. The parcel is substantially depicted on Richmond, Rhode Island Tax Assessor's Plat Map 5D as Parcel 11.
2. The parcel is zoned Residential (R-3) per Parcel Summary Sheet, dated 06-16-2015. Use of and/or reliance upon this zoning designation shall be subject to verification of current zoning status by the Town of Richmond, Rhode Island.
3. Stone Walls. The line of any stone wall(s) depicted hereon may vary slightly from the geometric centerline represented on the mapping. While reasonable efforts have been made to monument and/or delineate the centerline of the wall(s), these minor variations are typical of wall construction in the locale.
4. Associated Locations. The geometric points and/or monumentation associated with the boundary(s) of the parcel(s) represented hereon are consistent with the Class of Survey specified in the surveyor's certification. The location of all other associated site features as may be depicted hereon are consistent with either a Class III or a Class IV Standard of Survey, unless expressly stated to the contrary.
5. Water Boundaries. Where applicable, the property may contain natural water boundaries which are subject to change due to natural and artificial causes and may or may not represent the actual location of the limits of title.
6. Buildings. Buildings as depicted hereon have been located at the foundation or structure face, unless expressly stated to the contrary. Overhangs and protrusions at elevations above the foundation are NOT necessarily represented.
7. Utilities. Utility lines and locations that are apparent at the time of the survey are depicted hereon. The existence of any underground utilities, and the location of same where represented, have been ascertained from associated surface features and/or recollections of knowledgeable parties, unless expressly stated hereon. Use of and/or reliance upon these locations shall be subject to verification of the actual location by the appropriate regulatory authority at the direction and expense of the end user of that data.
8. Reference Documentation - Plans:
   A. "Survey of Land, Portion of Plat 5D Lot 9, Richmond, Rhode Island, Engr: James P. Lawless, PE, Scale: 1in=50ft, Date: June 1986" as provided to the Surveyor of Record.
   B. "Richard Millar et ux, West Kingston, R.I., Survey of Land in the Town of Richmond, Washington County, State of Rhode Island, Raymond W. Schwab, Surveyed Nov. 10, 1967" as provided to the Surveyor of Record.
   C. "Master/Preliminary Plan for Meadowbrook Waldorf School Campus, 300 Kingstown Road (Route 138) in Richmond, Rhode Island, Layout Key Plan Phase -1, Commonwealth Engineers & Consultants, Inc." as provided to the Surveyor of Record.
   D. "Final Minor Subdivision Prepared For Richard I. & Patricia A. Millar, Assessor's Plat 5D, Lot 9, Hillsalde Road, Richmond, Rhode Island, Scale: 1"=80', May 2006, Revised: Sept. 20, 2006, Richard A. Greene & Associates, Ltd." as is recorded in the Land Evidence records of the Town of Richmond, Rhode Island at F5, D3, #51 (Env. 354A).
9. Regulated Wetland Features. Unless expressly represented hereon, there are be regulated freshwater and/or coastal wetland features on, or in proximity, to the subject site. The end user of this mapping product shall be responsible for the identification and protection of said features, together with any and all permits which may be required. Wetland features delineated by Ecotones, Inc. during November 2015 and located by conventional survey techniques by Alfred W. DiOrio, RLS, Inc. during December 2015.
10. Professional Service Agreement. Reference is hereby made to the Professional Services Agreement for this project, together with all specifications, limitations, and conditions contained therein, and dated 10-26-2015.
11. Basis for bearings and elevations (where depicted) are Rhode Island State Plane Coordinate System (NAD 83 and NAVD 88 respectively) as determined by data transmitted from MTS Reference Stations using the MTS RTK Reference Network via Leica GS15 Receiver and observations made onsite on the date(s) cited hereon.
12. Flood Zone Data. Based solely upon graphic analysis, the parcel's structures appear to fall in a Zone X as per FEMA Flood Insurance Rate Map (FIRM), Washington County, Rhode Island (All Jurisdictions), Panel 70 of 368, Map Number 44009C0070H, Map Revised: 10-19-2010, as obtained from online sources 12-06-2015. Note that there are areas of Zone A located on the site adjacent to Beaver River.
13. Topographic Data. Topographic information from RIGIS Spring 2011 Northeast LiDar Project (2 foot contour interval). Not verified by Surveyor of Record. Use of this information by any party subject to verification by Surveyor of Record.

Grid North

Basis Of GPS Observations Made Onsite: December 2015

SUBDIVISION NOTES:

1. The parcel is predominately open fields with some areas of specimen vegetation with moderate understory.
2. Estimated FEMA Flood Zone line for local permitting checklist only. Any activity near this feature requires site specific delineation in advance.
3. The parcel is located within a Natural Heritage Area (RIDEM).
4. As a condition of approval, granite bounds are to be placed at the parcel's northwesterly corner and in a suitable location near the parcel's northeasterly corner.

ANTHONY A. NENNA
No. 7240
11-8-16
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Anthony N. Nenna, PE RI #7240
On-Site Engineering, Inc.
For Grading and Drainage ONLY

DECLARATION

This plan was prepared for the exclusive use of the person, persons, or entity named in the Declaration hereon. Said Declaration does not extend to any unnamed person, persons, or entity without an express Re-Declaration by the Surveyor of Record naming said person, persons, or entity.

To William E. McIntosh, it is hereby declared that the information depicted hereon was obtained (a) from field observations made on the site suring December 2015, (b) that these field observations were subsequently reduced and computations performed that resulted in the (typically) indirect geometric information depicted hereon, (c) that the topographic data depicted hereon has been derived from RIGIS LiDar online information and does not conform to any existing survey precision Standard, (d) said information is for the sole purpose of reconstructing the parcel boundaries and supporting a Comprehensive Permit application for the subdivision of the parcel, and (e) that this information is correct to the best of my knowledge and belief and is subject to all limitation, notations, and qualification stated hereon.

Alfred W. DiOrio, PLS, CPESC
Principal Surveyor and President, Alfred W. DiOrio, RLS, Inc.

PROPERTY OWNERS:

William E. McIntosh and Delano Joseph Brooks
c/o 7 MorningRoad
West Kingston, Rhode Island 02892

"Procedural and Technical Standards For The Practice of Land Surveying..." Effective April 1, 1994 were utilized for this project.

Alfred W. DiOrio
No. 1752
PROFESSIONAL LAND SURVEYOR

This survey and plan substantially conform to a CLASS I Standard for horizontal surveys and a CLASS IV Standard for vertical surveys as adopted by the Rhode Island Board of Registration for Professional Land Surveyors.

By: _____
Alfred W. DiOrio, PLS RI #1752

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Cellular 401/742-1850
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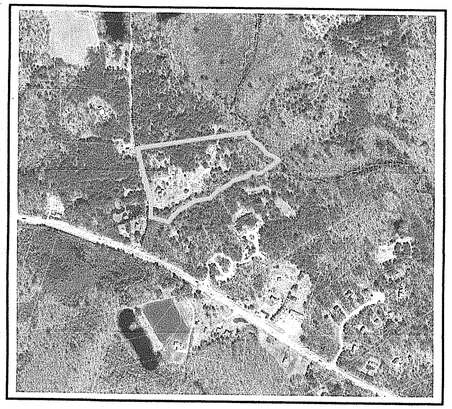

Location Map

May Not Be To Scale

- L E G E N D -

P	Referenced Plan Measurement	Set	Survey Monumentation Placed by Alfred W. DiOrio, RLS, Inc.
C	Calculated Measurement		
M	Measured Direct	Exist.	Survey Monumentation Recovered and Utilized by Alfred W. DiOrio, RLS, Inc.
S	Scaled Measurement		
D	Referenced Deed Measurement		Stone Wall
AG	Above Grade	AWD	Alfred W. DiOrio, RLS, Inc.
BG	Below Grade	PC	Point of Curvature
IP	Iron Pipe	PT	Point of Tangency
IR	Iron Rod	AP Parcel	Assessor's Plat & Parcel Reference
DH	Drill Hole	LE Vol	Land Evidence Volume
	Soil Evaluation/Ground Water Test Pipe	Pg	Page
WL 15A	Wetland Flag Identification		Wetland Feature
acs.	Acres		
sf	Square Feet		
911 / 35	Emergency 911 Numbering		

In the Context of Curves:

A=	Central Angle
R=	Radius
T=	Tangent
L=	Arc Length
C=	Long Chord

M/L	More or Less
N/F	Now or Formerly
100	Existing Contour
100	Proposed Contour
97+50 100.00	Existing Spot Location
Pole 53	Existing Utility Pole Location
	Existing Overhead Utility Lines
	Delineated Wetland Edge (By Others)
	Perimeter Wetland Edge
	100 Foot Riverbank Wetland
	200 Foot Riverbank Wetland
	Proposed Location Erosion Control Measures
	Estimated FEMA Flood Zone Line
	Proposed Limits of Disturbance

RECEIVED FOR RECORD
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PAGE ____ OF THE LAND EVIDENCE RECORDS

WITNESS TOWN CLERK

OVERVIEW SHEET-Existing Conditions

Plan of Boundary Survey and Select Existing Conditions

Prepared For William E. McIntosh et al

Assessor's Plat 5D Parcel 10

11A Hillsdale Road

Richmond, Rhode Island

Scale: 1"=80'

June 14, 2016 Sheet 1 of 7

Environmental Management
NOV 15 2016
Office of Water Resources

RECEIVED
NOV 15 2016
Department of Environmental Management
Permit Application Center

Alfred W. DiOrio, RLS, Inc.
Professional Land Surveyors ● Land Use Consultants
Certified Professional Erosion Control Specialists
Licensed OWTS Designers● Installers● Inspectors● Soil Evaluators
Hopkinton, Rhode Island

RECEIVED
NOV 22 2016
RICHMOND PLANNING BOARD
APPROVED

Plan No. 5795
File: Richmond_1.dwg

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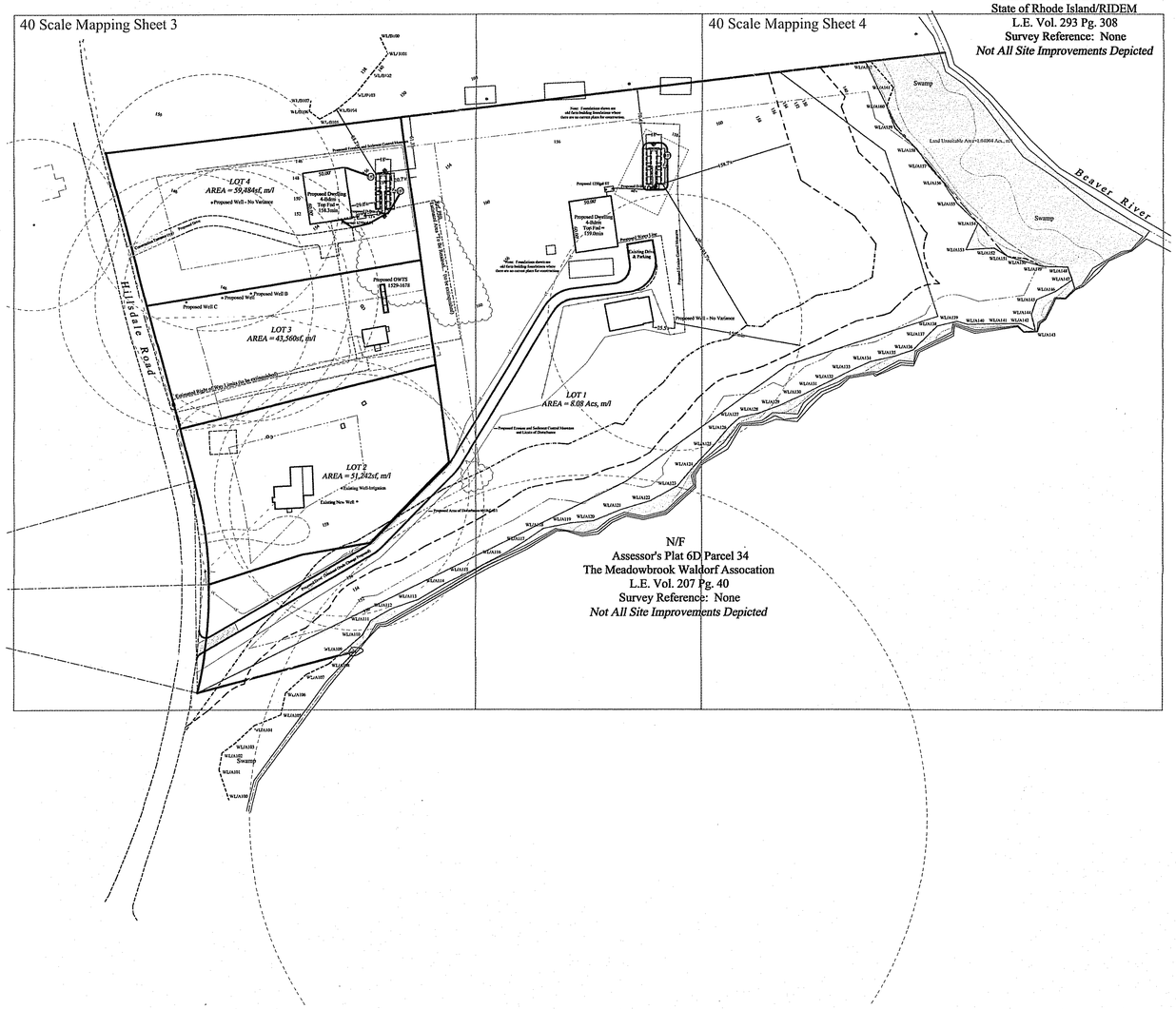
N/F
Assessor's Plat 5D Parcel 9
Lorna Jean Persson
L.E. Vol. 233 Pg. 495
Survey Reference: None
Not All Site Improvements Depicted

N/F
Assessor's Plat 5E Parcel 2
State of Rhode Island/RIDEM
L.E. Vol. 293 Pg. 308
Survey Reference: None
Not All Site Improvements Depicted



N/F
Assessor's Plat 6D Parcel 34
The Meadowbrook Waldorf Assocation
L.E. Vol. 207 Pg. 40
Survey Reference: None
Not All Site Improvements Depicted

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0 40 80

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	New Drive and LOD

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Minimum Rear Yard	100 feet
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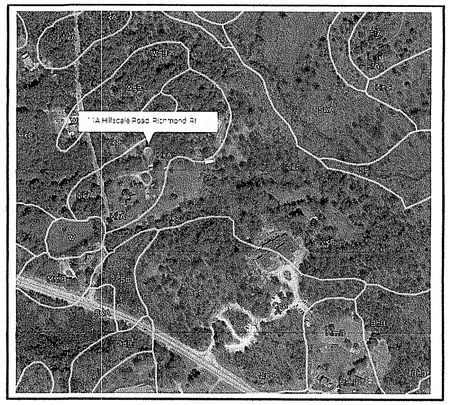
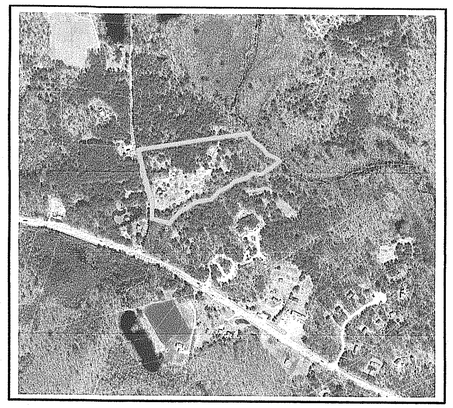
Richmond Planning Board
Approved
Planning Board Chair: _____
Date: _____

Grid North

Basis: RI GPS Observations
Made Onsite: December 2015





Soils Map

May Not Be To Scale

Soil Legend

Soil Type	*Suitability/Const.*	*Suitability/Septic*
HkA - Hinkley	*Slight*	*Moderate*
HkC - HinkleyEnfield	*Moderate*	*Moderate*
SwA - Swansea	*Severe*	*Severe*

1. Suitability is defined in terms of 'limitations'.
2. Swansea soil type were formerly mapped as Adrian muck.

- L E G E N D -

P	Referenced Plan Measurement	Set	Survey Monumentation Placed by Alfred W. DiOrio, RLS, Inc.
C	Calculated Measurement	Exist.	Survey Monumentation Recovered and Utilized by Alfred W. DiOrio, RLS, Inc.
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	Soil Evaluation/Ground Water Test Pipe		Wetland Feature
WL 15A	Wetland Flag Identification		
acs.	Acres	In the Context of Curves:	
sf	Square Feet	A=	Central Angle
911 35	Emergency 911 Numbering	R=	Radius
		T=	Tangent
		L=	Arc Length
		C=	Long Chord

M/L	More or Less
N/F	Now or Formerly
100	Existing Contour
100	Proposed Contour
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	100 Foot Riverbank Wetland
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	Proposed Location Erosion Control Measures
	Proposed Limits of Disturbance

RECEIVED FOR RECORD
RICHMOND, RI _____ 20____
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PAGE ____ OF THE LAND EVIDENCE RECORDS

WITNESS TOWN CLERK

ANTHONY A. NENNA
No. 7240
REGISTERED PROFESSIONAL ENGINEER
CIVIC
11-9-16

Anthony N. Nenna, PE RI #7240
On-Site Engineering, Inc.
For Grading and Drainage ONLY

RIGL 34-13-1 INDEX
ABUTTING STREETS
Hillsdale Road

PROPERTY OWNERS:

William E. McIntosh and Delano Joseph Brooks
c/o 7 MorningRoad
West Kingston, Rhode Island 02892

DECLARATION

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Alfred W. DiOrio, PLS, CPESC
Principal Surveyor and President, Alfred W. DiOrio, RLS, Inc.

"Procedural and Technical Standards For The Practice of Land Surveying..." Effective April 1, 1994 were utilized for this project.

Alfred W. DiOrio
No. 1752
PROFESSIONAL LAND SURVEYOR

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By: _____
Alfred W. DiOrio, PLS RI #1752

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PO Box 999, Ashaway, Rhode Island 02804
401/377-8124 800/997-8124
Cellular 401/742-1850
www.awdrls.com

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PDF VERSIONS NOT EMBOSSED

Environmental Management
NOV 18 2016
Office of Water Resources

OVERVIEW SHEET-Proposed Conditions

Plan of Boundary Survey and Select Existing Conditions

Prepared For William E. McIntosh et al

Assessor's Plat 5D Parcel 10

11A Hillsdale Road

Richmond, Rhode Island

Scale: 1"=80'

June 14, 2016 Sheet 2 of 7

Alfred W. DiOrio, RLS, Inc.
Professional Land Surveyors ● Land Use Consultants
Certified Professional Erosion Control Specialists
Licensed OWTS Designers● Installers● Inspectors● Soil Evaluators
Hopkinton, Rhode Island

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
NOV 22 2016 16-0175
FILE NO.
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Plan No. 5795
File: Richmond_1.dwg

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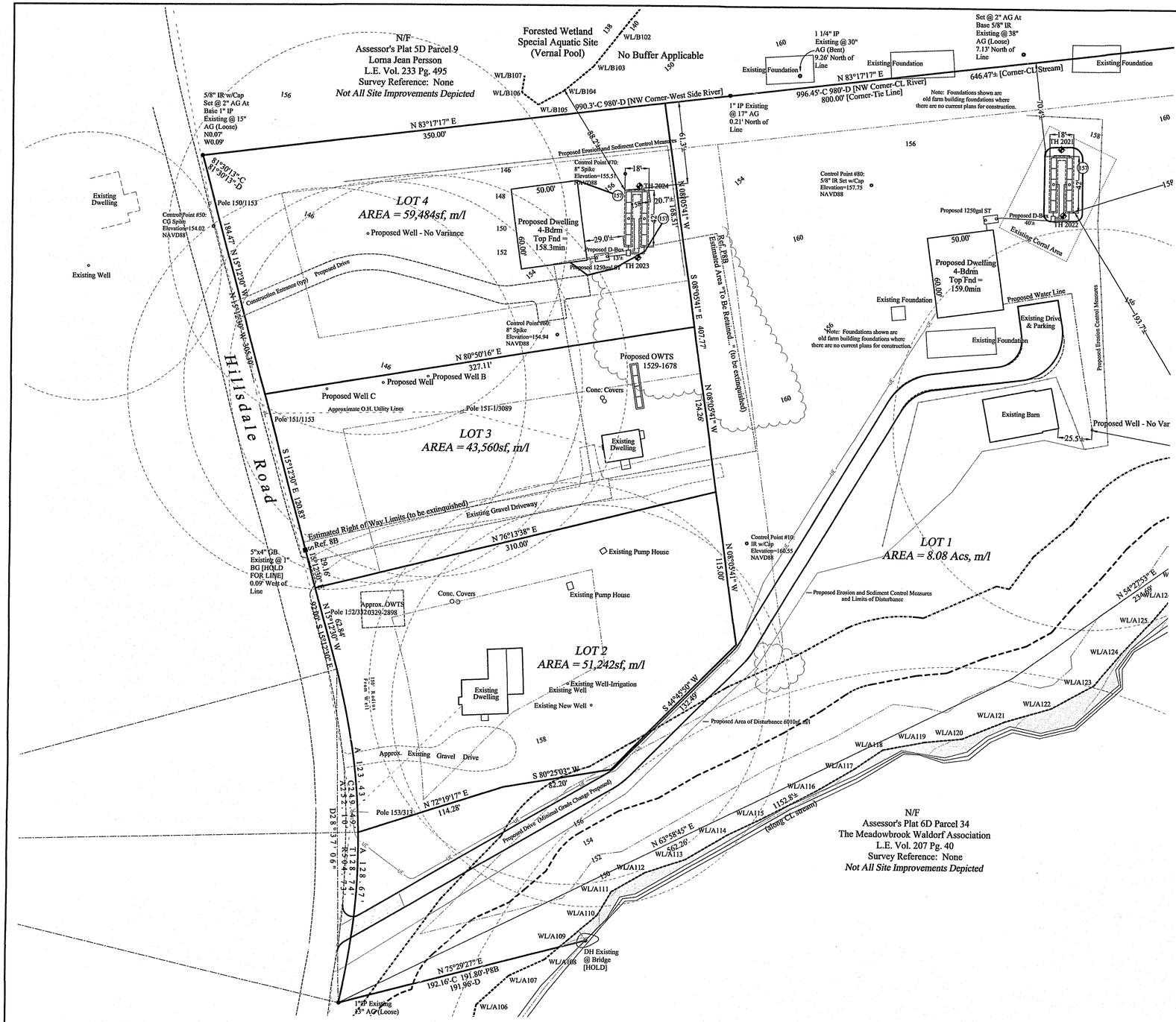

Plan Scale:

1 inch = 40 feet

0 20 40

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Revision Schedule	
Revision Date	Revision Description
10-17-2016	Revised boundary lines
	New Drive and LOD

RIGL 34-13-1 INDEX

ABUTTING STREETS

Hillsdale Road

Richmond Planning Board
Approved
Planning Board Chair: _____
Date: _____

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WITNESS TOWN CLERK

ANTHONY A. NENNA
No. 7240
REGISTERED PROFESSIONAL ENGINEER
CIVIL
11-8-16

Anthony N. Nenna, PE RI #7240
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Plan of Boundary Survey and Select Existing Conditions

Prepared For William E. McIntosh et al

Assessor's Plat 5D Parcel 10

11A Hillsdale Road

Richmond, Rhode Island

Scale: 1"=40'

June 14, 2016 Sheet 3 of 7

Environmental Management
NOV 15 2016
Office of Water Resources

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Hopkinton, Rhode Island

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
RECEIVED NOV 22 2016 FILE # 16-0125
THIS PROCESS IS NOT APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Plan No. 5795

File: Richmond_1.dwg

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N/F
Assessor's Plat 5D Parcel 9
Lorna Jean Persson
L.E. Vol. 233 Pg. 495
Survey Reference: None
Not All Site Improvements Depicted

N/F
Assessor's Plat 5E Parcel 2
State of Rhode Island/RIDEM
L.E. Vol. 293 Pg. 308
Survey Reference: None
Not All Site Improvements Depicted

Grid North

Basis: Pp. GPS Observations
Made: Dates: December 2015

1 1/4" IP Existing @ 30" AG (Bent) 9.26' North of Line

5/8" IR w/Cap Set @ 2" AG At Base 5/8" IR Existing @ 38" AG (Loose) 7.13' North of Line

5/8" IR w/Cap Set @ 2" AG At Base 1" IP Existing @ 40" AG (Loose) 25.67' North of Line

Control Point #100: 8" Spike Elevation=150.03 NAVD88

Existing Foundation

N 83°17'17" E
646.47'± [Corner-CL Stream]
996.45'-C 980'-D [NW Corner-CL River]
800.00' [Corner-Tie Line]

1" IP Existing @ 17" AG 0.21' North of Line

Note: Foundations shown are old farm building foundations where there are no current plans for construction.

Survey Tie-Line
S 53°28'05" E
155.46'

Swamp

Land Unsuitable Area=1.04004 Acs., m/l

324.9'± (along CL Stream)

Beaver River

Control Point #80: 5/8" IR Set w/Cap Elevation=157.75 NAVD88

Control Point #110: 8" Spike Elevation=151.14 NAVD88

18" TH 2021

Proposed 1250gal ST

Proposed D-Box 40'±

TH 2022

Existing Cnstl Area

158.7'±

Proposed Dwelling 4-Bdrm Top Fnd = 159.0min

50.00'

60.00'

Proposed Water Line

Existing Drive & Parking

Proposed Erosion Control Measures

N/F
Assessor's Plat 5D Parcel 10
Area = 11,229sf, m/l

Existing Barn

Proposed Well - No Variance

150' min

25.5'±

N 18°09'30" W
202.76'

Control Point #130: 8" Spike Elevation=137.94 NAVD88

N 71°56'58" E
187.05'

Control Point #140: 8" Spike Elevation=144.61 NAVD88

"To Remain" (to be extinguished)

Control Point #10: IR w/Cap Elevation=160.55 NAVD88

N 08°09'41" W
100.00'

LOT 1
AREA = 8.08 Acs, m/l

Proposed Erosion and Sediment Control Measures and Limits of Disturbance

N 54°27'53" E
234.69'

1152.8'±
(along CL stream)

Proposed Area of Disturbance 6010± s/f

N/F
Assessor's Plat 6D Parcel 34
The Meadowbrook Waldorf Association
L.E. Vol. 207 Pg. 40
Survey Reference: None
Not All Site Improvements Depicted

WL/A162 WL/A161 WL/A160 WL/A159 WL/A158 WL/A157 WL/A156 WL/A155 WL/A154 WL/A153 WL/A152 WL/A151 WL/A150 WL/A149 WL/A148 WL/A147 WL/A146 WL/A145 WL/A144 WL/A143 WL/A142 WL/A141 WL/A140 WL/A139 WL/A138 WL/A137 WL/A136 WL/A135 WL/A134 WL/A133 WL/A132 WL/A131 WL/A130 WL/A129 WL/A128 WL/A127 WL/A126 WL/A125 WL/A124 WL/A123 WL/A122 WL/A121 WL/A120 WL/A119 WL/A118 WL/A117 WL/A116 WL/A115

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10-17-2016	Revised boundary lines
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RIGL 34-13-1 INDEX
ABUTTING STREETS
Hillsdale Road

Richmond Planning Board Approved
Planning Board Chair: _____
Date: _____

RECEIVED FOR RECORD
RICHMOND, RI _____ 20____
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PAGE _____ OF THE LAND EVIDENCE RECORDS

_____
WITNESS TOWN CLERK

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CIVIL
11-8-16

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OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SHOWN ON THIS LETTER OF APPROVAL
DATED NOV 2 2 2016 FILE # 16-0115
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

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PROFESSIONAL LAND SURVEYOR

If the surveyor's seal is not embossed and the surveyor's signature in blue ink, the plan and its limitations are copies and should be assumed to have been altered, incomplete, or fraudulent.

A valid reproduction of this plan contains BOTH an inked stamp impression and a live embossed seal impression of RI Professional Land Surveyor #1752

This survey and plan substantially conform to a CLASS I Standard for horizontal surveys and a CLASS IV Standard for vertical surveys as adopted by the Rhode Island Board of Registration for Professional Land Surveyors.

By: _____
Alfred W. DiOrio, PLS RI #1752

PDF VERSIONS NOT EMBOSSED

Alfred W. DiOrio, RLS, Inc.
PO Box 599, Ashaway, Rhode Island 02804
401/377-8704 800/597-8124
Cellular 401/742-1850
www.awdrls.com

Plan of Boundary Survey and Select Existing Conditions

Prepared For William E. McIntosh et al

Assessor's Plat 5D Parcel 10

11A Hillsdale Road

Richmond, Rhode Island

Scale: 1"=40'

June 14, 2016 Sheet 4 of 7

Environmental Management
NOV 15 2016
Office of Water Resources

Alfred W. DiOrio, RLS, Inc.
Professional Land Surveyors • Land Use Consultants
Certified Professional Erosion Control Specialists
Licensed OWTS Designers• Installers• Inspectors• Soil Evaluators
Hopkinton, Rhode Island

Plan No. 5795
File: Richmond_1.dwg

M:\Files_2016\Carlson Projects\AWD Projects\McIntosh_Richmond Project November 2015\DWG\Richmond_1.dwg, 11/8/2016 9:27:51 AM, 1:1

GENERAL CONSTRUCTION NOTES

■ 1. It shall be the CONTRACTOR'S sole responsibility to obtain and review any and all permits required by the State and the Municipality prior to the commencement of any phase of work.

■ 2. It shall be the CONTRACTOR'S sole responsibility to determine the location of and maintain the integrity of all existing utilities, structures and/or abutting properties.

■ 3. The CONTRACTOR shall coordinate all work with the municipal engineering departments and/or highway departments and shall coordinate all utility installations and inspections with the appropriate municipalities and/or utility companies.

■ 4. The CONTRACTOR shall be solely responsible for any and all quantity estimates required by these plans.

■ 5. All disturbed areas not explicitly identified for parking or other purposes are to receive four (4) inches of topsoil and seeding as identified hereon.

■ 6. The CONTRACTOR shall be responsible for all construction indicated hereon. This shall include any construction to bring utilities to the site, any repairs and trenching required, and all construction to ensure acceptance of roads and easements.

■ 7. The CONTRACTOR shall be responsible for establishing and maintaining all temporary and/or permanent erosion and sedimentation control measures and devices represented hereon and as may be directed by the DESIGNER.

■ 8. The location of existing utilities as shown hereon may be approximate and these locations shall be verified by the CONTRACTOR prior to the initiation of any phase of the construction. CONTRACTOR shall advise the DESIGNER upon discovery of any and all discrepencies.

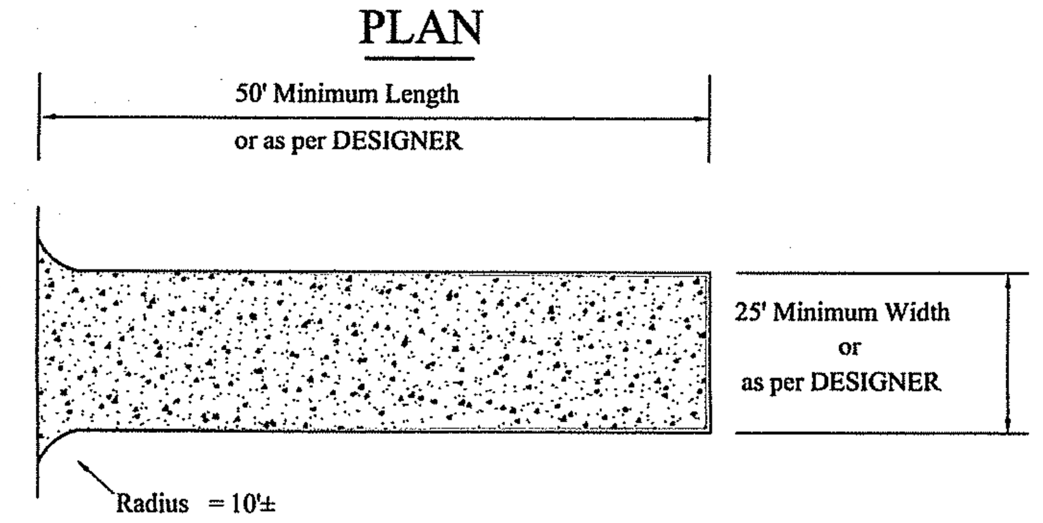
■ 9. CONTRACTOR to secure the outlets of all pipes to prevent entry into drainage structures. Method to be approved by municipality and DESIGNER.

■ 10. Catch basin openings to be protected in accordance with local codes and/or ordinances.

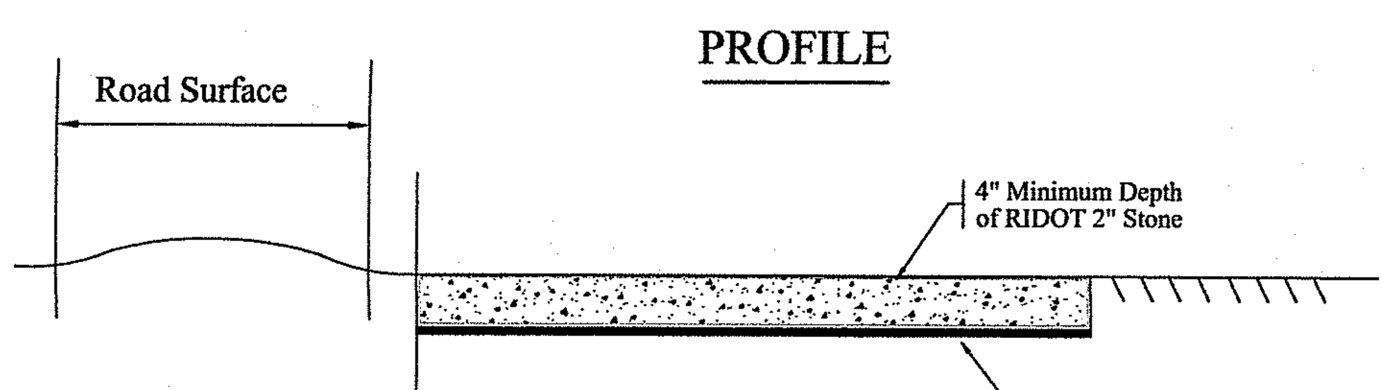
Tracking Pad For Construction Entrance Detail

Not To Scale

PLAN



PROFILE

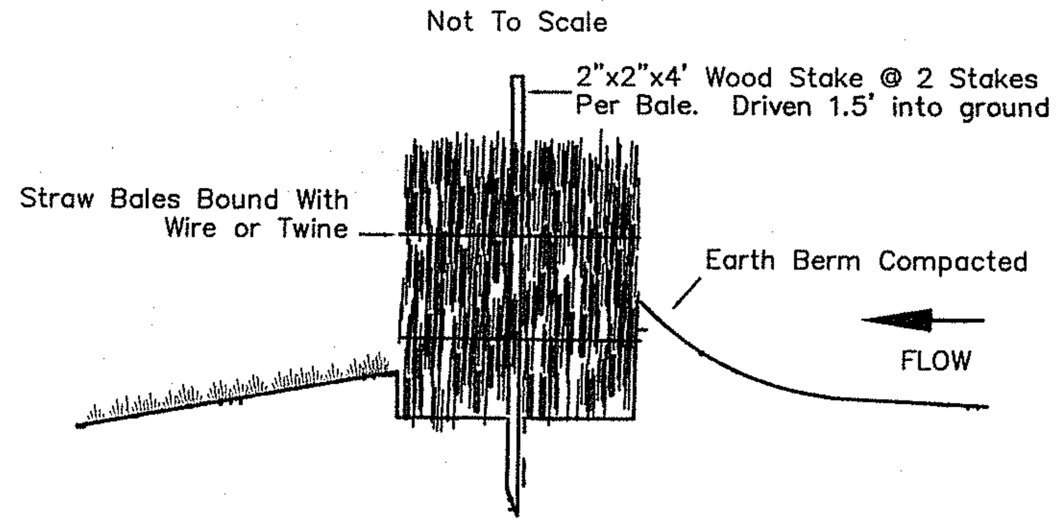


Tracking Pad Notes:

1. Permits where applicable, to be obtained by CONTRACTOR working on or near any public or private ROW.
2. Tracking pad to be installed immediately subsequent to clearing of vegetation.
3. Inspect and maintain tracking pad installation regularly.
4. Where project roadway/driveway slopes DOWN to public or private roadway, CONTRACTOR to ensure surface runoff remains on the subject site.

Straw Bale Detail

Not To Scale



1. Wedge loose straw between bales. Backfill and compact the excavated soil.
2. Inspect and maintain all straw bale installations regularly. Minimum inspection once per month.

Regarding Selection of Straw Bales and/or Silt Fence:

1. Designer allows either straw bales or silt fencing to be placed in those areas identified as requiring erosion and sedimentation control measures.
2. In those specific areas which may be subject to extreme distrubance, the Designer recommends that straw bales be placed nearest to disturbance and that silt fencing be placed behind the straw bales (i.e. further away from disturbance).

SEDIMENTATION CONTROL PROGRAM

■ 1. The CONTRACTOR shall exercise extreme care so as to prevent any unsuitable materials from entering the wetlands, perimeter wetlands, riverbank wetlands, floodplain areas and/or areas subject to storm flowage where some may be represented hereon.

■ 2. All disturbed areas subject to erosive action, whether newly filled or excavated, shall receive stabilization protection.

■ 3. Disturbed banks and slopes not receiving rip-rap shall be seeded and protected with fiber mulch or equivalent.

■ 4. During construction, the CONTRACTOR and/or OWNER shall be responsible for maintaining drainage and runnoff flow areas during storm events and periods of rainfall.

■ 5. Erosion and sedimentation control measures and devices shall be inspected and maintained promptly after each rainfall.

■ 6. CONTRACTOR shall respect all designated stockpile and/or burial sites as may be delineated hereon. In the event that these areas are not identified on said mapping and/or in the event that the identified areas are unsuitable for these purposes, new areas shall be agreed upon prior to use by CONTRACTOR and DESIGNER.

■ 7. All limits of clearing and/or vegetative disturbance as represented hereon shall be protected with straw bales, silt fences, and/or equivalent protection in accordance with specifications herein.

□ 8. Unless directed to the contrary, the CONTRACTOR shall remove sediment loading from detention/retention/temporary settling basins at intervals not to exceed sixty (60) days. Removal to be in accordance with specifications herein.

■ 9. Care shall be exercised not to place removed sediment within the path of existing, newly created (temporary or permanent), or proposed watercourses or those areas subject to storm water flow.

■ 10. Additional straw bales or silt fabric shall be located as conditions warrant or as directed by DESIGNER.

■ 11. Reference is hereby made to the "Rhode Island Soil Erosion and Sedimentation Control Handbook" as prepared by the Rhode Island Department of Environmental Management et al, and is recommended for additional information to the specifications herein.

□ 12. All sediment and/or debris shall be removed from all specified detention/retention/temporary settling basins as may be directed by DESIGNER and/or the municipal engineering and/or highway departments.

ORDER OF PROCEDURE

■ 1. Immediately upon completion of the clearing and grubbing operations and prior to any rough grading, temporary straw bales and/or silt fencing shall be placed at the limits of clearing and vegetative disturbance as represented hereon.

■ 2. All erosion and sedimentation controls shall be periodically maintained as per the respective programs during construction.

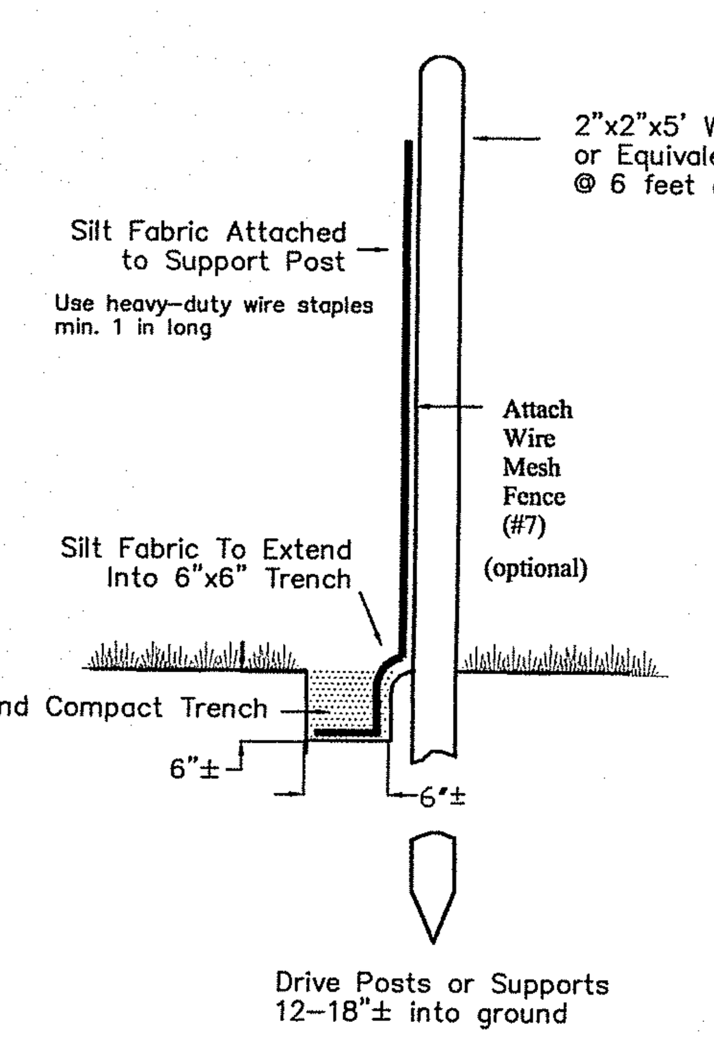
■ 3. If work progress is to be interrupted at any time, see other stabilization measures herein for temporary control.

■ 4. Temporary straw bales and/or silt fencing along any proposed roadway may be removed subsequent to approved stabilization.

■ 5. Straw bales and/or silt fencing at all drainage outlets must remain in place until such time as a desirable stand of grass or ground cover has been established and the project receives approval from the designer and/or the municipality.

Silt Fence Detail

Not To Scale



1. Silt Fabric available from EJ Prescott, Inc. 203-875-9711.
2. Recommended Equivalent Opening Size (EOS) for silt fabric is 70 (US Standard Sieve No.) unless indicated otherwise.
3. Avoid use of joints in fabric. When joints are necessary, splice fabric at a support post with a minimum six (6) inch overlap and securely fasten both ends to support.
4. Where silt fabric is installed with minimum three (3) foot height but no reinforcement at six (6) foot intervals, fabric tensile strength to be minimum 200 pounds (per ASTM D-1682G).
5. Inspect and maintain all silt fence installations regularly. Minimum inspection once per month.
6. Equivalent suports are 1.33lb/ft steel posts with a minimum length of 5 feet. Steel posts must have projections for fastening wire to them.
7. Silt fencing to be supported through-out, where by wire mesh fencing attached to the upslope side of the support posts. Mesh to be min 42 inch wide, min. 14 gauge and have maximum mesh opening of 6 inches.
8. Wrap silt fence around end stakes a minimum of 1 1/4 turns.

EROSION CONTROL AND SOIL STABILIZATION PROGRAM

■ 1. Denuded slopes shall not be unattended or exposed for excessive periods of time, such as the inactive winter season.

■ 2. All disturbed slopes, whether newly created or exposed prior to October 15 shall be seeded or protected by that date for any work completed during each construction year.

■ 3. The topsoil for seeding shall have a sandy loam texture, relatively free of subsoil materials, stones, roots, and/or debris.

■ 4. All legume seed, where specified, shall be inoculated in accordance with manufacturer's specifications.

■ 5. The design seed mixture shall be as follows:

A. Mowed Areas – All flats or slopes less than 3:1

Mixture	Seeding Rate % by weight	Seeding Dates
Red Fescue	75	April 01 to June 15
Kentucky Bluegrass	15	Aug 15 to Oct 15
Colonial Bentgrass	5	
Perennial Ryegrass	5	

B. Unmowed/Infrequently Mowed Areas – Slopes greater than 3:1

Red Fescue	75	April 01 to June 15
Colonial Bentgrass-Exeter	5	Aug 15 to Oct 15
Perennial Ryegrass	5	
Birdsfoot Trefoil-Empire	15	

Total: 100 pounds per acre

■ 6. Temporary treatments shall consist of straw or fiber mulch or protective covers such as a mat or fiber lining and shall be incorporated into the work as warranted or as directed by DESIGNER.

■ 7. Straw applications should be in the amount of 1.5 to 2 tons per acre. These applications should be kept moist. On slopes or where subject to distubance, straw applications should be secured by "peg and twine" or "brush anchor" methods.

■ 8. All straw bales or temporary protection shall remain in place until an acceptable stand of grass or approved ground cover has been established. If needed, temporary seeding may be utilized to minimize erosion. A temporary seeding guide together with recommended species is as follows:

Species	Pounds/1000 sf	Pounds/Acres	Seeding Dates
Annual Ryegrass	1.5	60	03-15 to 06-15
Per. Ryegrass	1.5	60	03-15 to 06-15
Sudangrass	1.0	40	05-15 to 08-15
Millet	1.0	40	05-15 to 08-15
Winter Rye	3.0	120	08-15 to 10-15
Oat	3.0	120	03-15 to 06-15
Weep Lovegrass	0.5	20	05-01 to 06-01

A. Apply evenly at 2 tons of ground limestone per acre or according to soil tests.
B. Apply evenly 10-10-10 analysis fertilizer or according to soil tests.
C. Apply mulch immediately after seeding.

■ 9. The CONTRACTOR must repair, reseed and/or replant any areas that do not develop within one (1) growing season from the time of installation.

■ 10. The normal acceptable seasonal seeding dates are per these notes.

■ 11. All fill shall be thoroughly compacted upon placement in conformance with local/state codes or ordinances.

■ 12. Stabilization as indicated herein shall be achieved within fifteen (15) days of final grading.

■ 13. Stockpiles of topsoil, subsoil or soils containing silts shall not be located near waterways, where waterways may be represented. Placement of these materials shall be in areas indicated on plans or as directed by OWNER provided these areas are not in conflict with specifications herein. CONTRACTOR shall arrange for these areas to be identified on site by the DESIGNER prior to any site disturbance.

□ 14. Burial of excavated topsoil, stumps and rocks shall be in areas indicated on plans. These proposed burial sites shall be subject to subsurface exploration prior to any site disturbance. All stockpiled materials shall be either transported from the site or buried in accordance with these specifications prior to final road surfacing, where surfacing is applicable.

■ 15. Where stockpiles of these materials are to remain for extended periods of time or when said stockpiles are to remain through the inactive winter season, such stockpiles shall have sideslopes no greater than 3:1 and said stockpiles shall be seeded and stabilized. CONTRACTOR shall protect these stockpile areas with a perimeter of straw bales and/or silt fence.

EROSION CONTROL AND SOIL STABILIZATION PROGRAM(continued)

□ 16. The detention/retention basins as may be specified on the attached mapping and the drainage system specified on the attached mapping shall receive one (1) final clearing/cleaning prior to acceptance of the project by OWNER and the municipality. Sediments and/or debris shall be disposed of in a proper manner as approved by the DESIGNER.

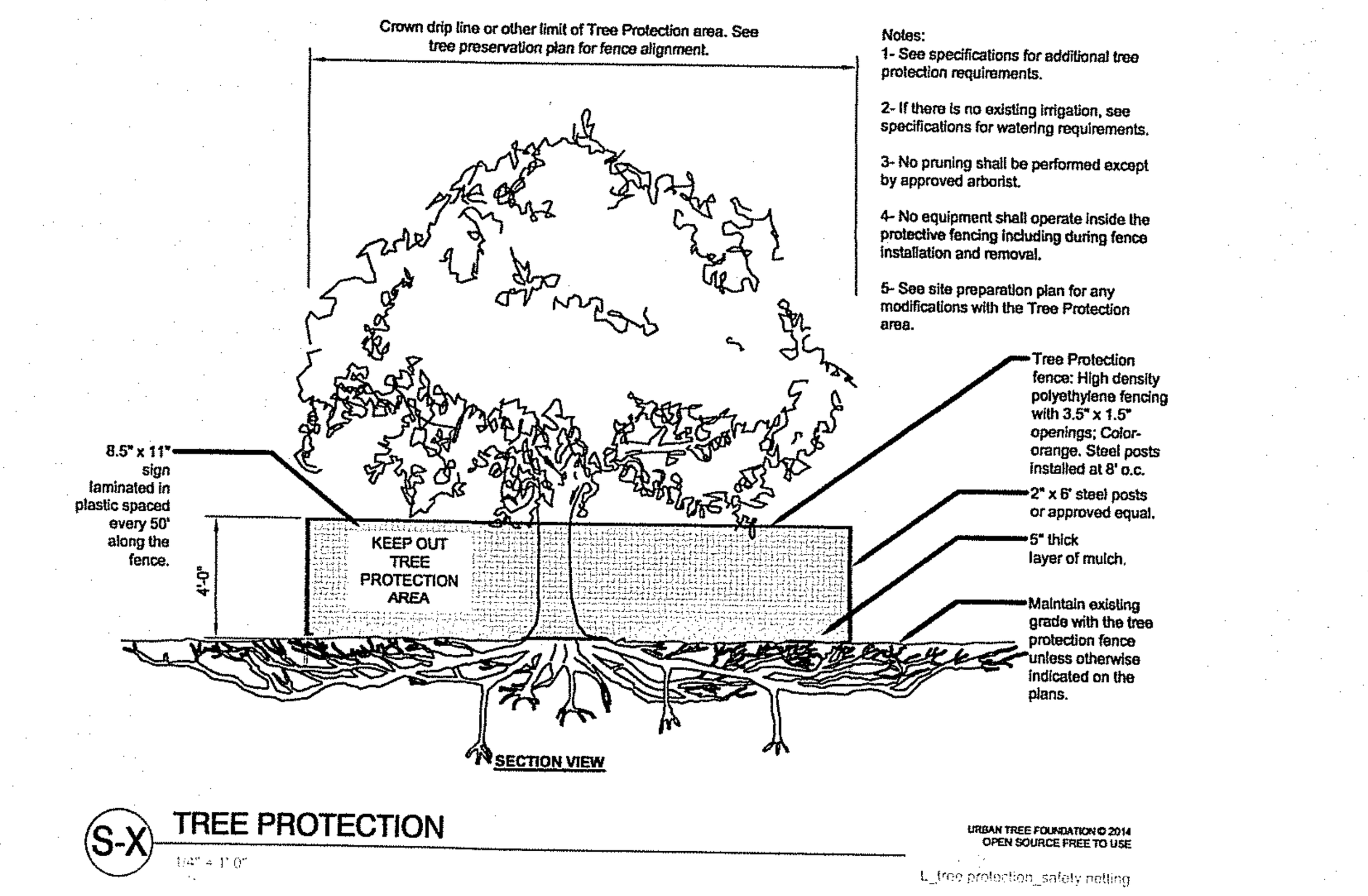
■ 17. State law requires that anyone who excavates within the proximity of a public utility must notify utility companies at least 48 hours before digging. The "Call Before You Dig" telephone number is 800-922-4455. The CONTRACTOR shall be required to initiate this notification.

■ 18. Contact person(s) for this project is:

William McIntosh
750 Boston Neck Road
Narragansett, Rhode Island 02882
617-513-0278

■ Indicates that this condition applies to the project.

□ Indicates that this condition DOES NOT APPLY to the project.



(S-X) TREE PROTECTION

RECEIVED FOR RECORD
RICHMOND, RI _____ 20____
AT _____ O'CLOCK ___ M, AND
RECORDED IN BOOK NO _____
PAGE _____ OF THE LAND EVIDENCE RECORDS

WITNESS TOWN CLERK

Richmond Planning Board Approved
Planning Board Chair: __________
Date: __________

Erosion and Sediment Control Plan to Accompany Project

Prepared For William E. McIntosh et al
Assessor's Plat 5D Parcel 10
11A Hillsdale Road
Richmond, Rhode Island
Scale: As Noted
June 14, 2016 Sheet 5 of 7

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES FRESHWATER WETLANDS PROGRAM ... FILE # 16-0125 ... NOV 22 2016 ... NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL. APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management NOV 15 2016 Office of Water Resources

ANTHONY A. NENNA No. 7240 REGISTERED PROFESSIONAL ENGINEER CIVIL 11-8-16

Anthony N. Nenna, PE RI #7240
On-Site Engineering, Inc.
For Grading and Drainage ONLY

CERTIFIED PROFESSIONAL ALFRED W. DIORIO CPESC SOIL EROSION & SEDIMENT CONTROL SPECIALIST No. 721

Alfred W. DiOrio, CPESC

Certified Professional Soil Erosion & Sediment Control Specialist No. 721

Alfred W. DiOrio, RLS, Inc.

Professional Land Surveyors • Land Use Consultants
Certified Professional Erosion Control Specialists
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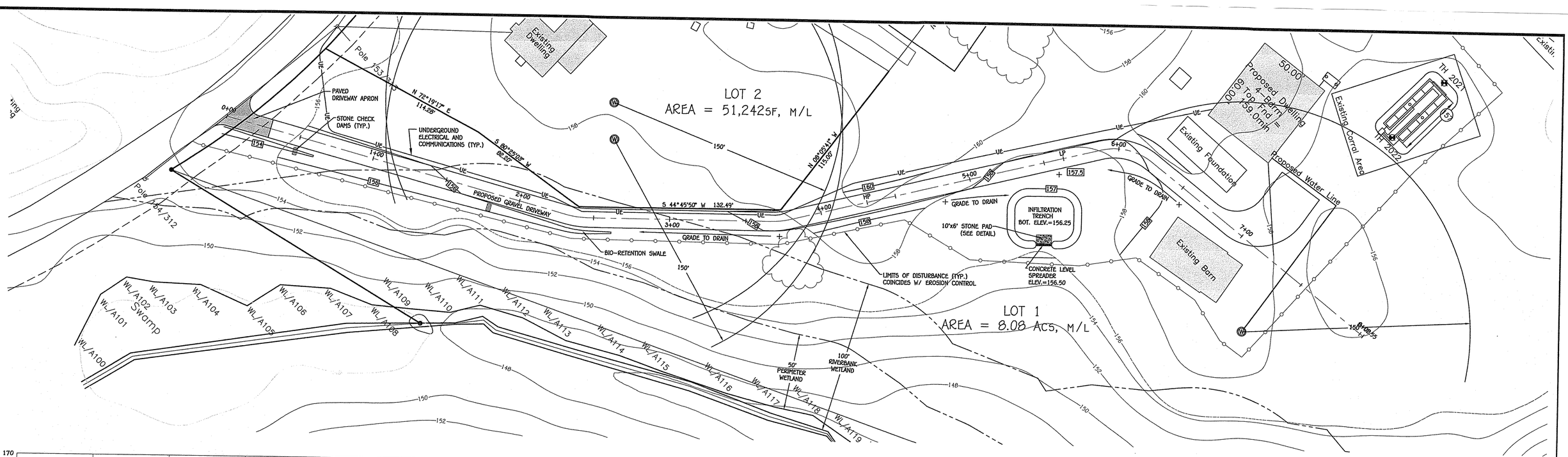
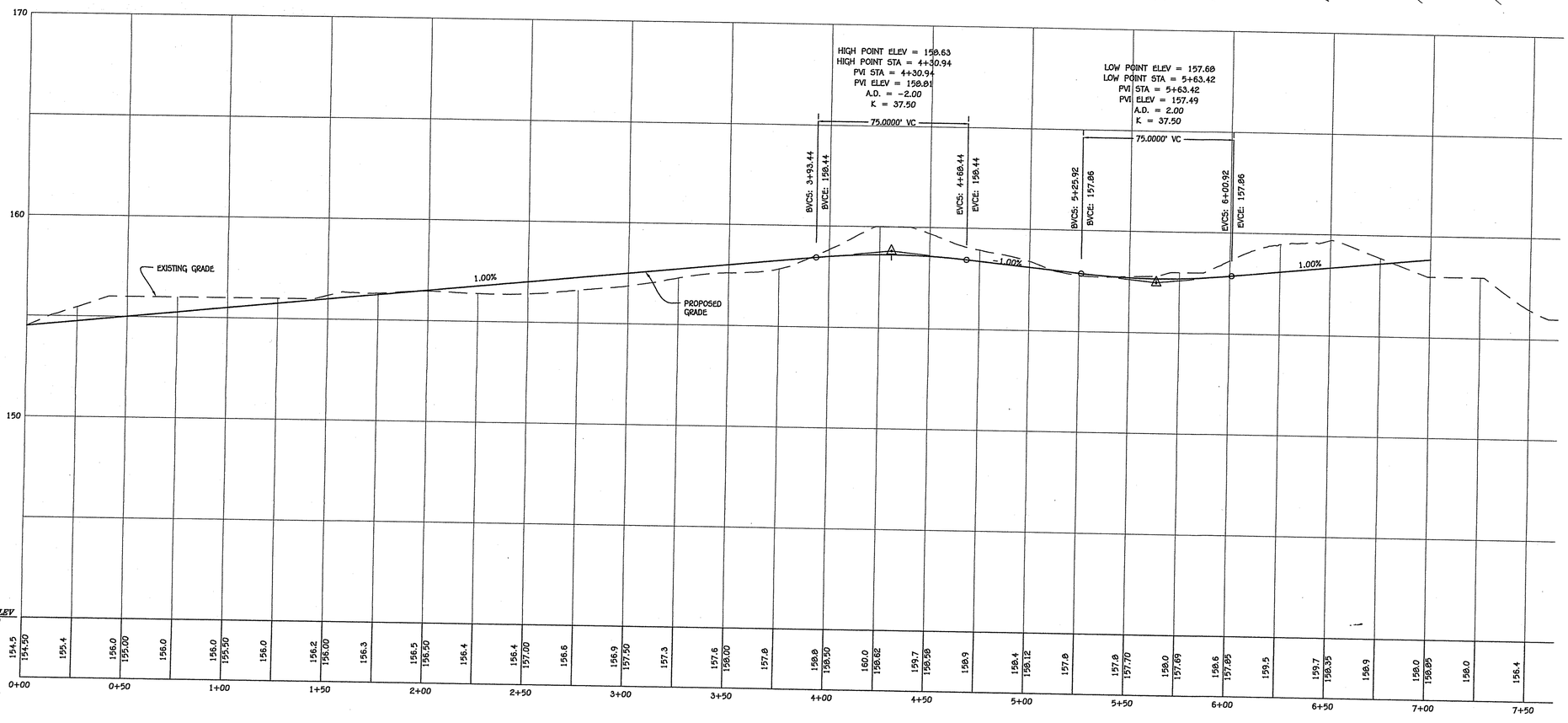
Hopkinton, Rhode Island

Plan No. 5795
File: Richmond_1.dwg



PLAN VIEW

SCALE: 1"=30'



PROFILE

SCALE: H: 1"=30'
V: 1"=3'

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPEC. IN THE LETTER OF APPROVAL
DATED NOV 22 2016
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
FILE # 16-0175

ANTHONY A. NENNA
No. 7240
11-7-16
REGISTERED PROFESSIONAL ENGINEER
CIVIL

PLAN AND PROFILE FOR DRIVEWAY TO LOT NO. 1

PREPARED FOR

WILLIAM E. McINTOSH, ET. AL.

11A HILLSDALE ROAD – PLAT 5D, LOT 10
RICHMOND, RHODE ISLAND

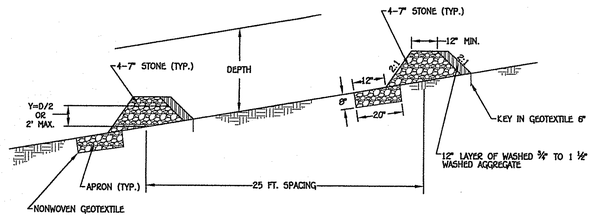
SCALE: AS SHOWN

JUNE 14, 2016 SHEET 6 OF 7

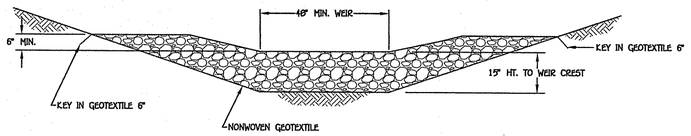
REVISED NOVEMBER 7, 2016

Environmental Management
NOV 15 2016
Office of Water Resources

PREPARED BY
ON-SITE ENGINEERING, INC.
85 BEACH STREET, BUILDING B
WESTERLY, RHODE ISLAND 02891
TELE.: 401-348-6831



CHANNEL PROFILE



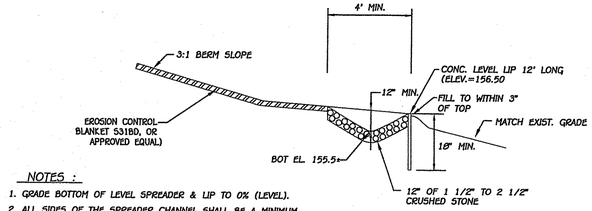
CROSS SECTION

NOTES:

1. THE CHECK DAM SHALL BE CONSTRUCTED OF 4" TO 7" STONE. THE STONE SHALL BE PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL AND IS KEYED INTO THE CHANNEL BANKS.
2. THE TOP OF THE CHECK DAM SHALL BE CONSTRUCTED SO THAT THE CENTER IS APPROXIMATELY 6" LOWER THAN THE OUTER EDGES FORMING A WEIR THAT WATER CAN FLOW ACROSS.
3. PLACE A NONWOVEN GEOTEXTILE UNDER THE BOTTOM AND SIDES OF THE DAM PRIOR TO PLACEMENT OF STONE.
4. SET THE HEIGHT FOR THE WEIR CREST EQUAL TO ONE-HALF THE DEPTH OF THE CHANNEL OR DITCH. THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER SHALL NOT EXCEED 2 FEET.
5. THE UPSTREAM SIDE OF THE CHECK DAM SHALL BE LINED WITH APPROXIMATELY 12" OF ¾" TO 1 ½" AGGREGATE.
6. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS BUILT UP TO ½ OF THE ORIGINAL HEIGHT OF THE WEIR CREST.

STONE CHECK DAM

SCALE: NONE

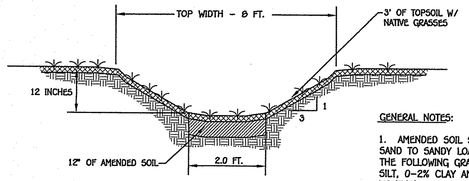


NOTES :

1. GRADE BOTTOM OF LEVEL SPREADER & LIP TO 0% (LEVEL).
2. ALL SIDES OF THE SPREADER CHANNEL SHALL BE A MINIMUM OF 6" HIGHER THAN THE ELEVATION OF THE LEVEL LIP.
3. CONSTRUCT IN UNDISTURBED SOIL.
4. CONTRACTOR IS RESPONSIBLE FOR REPAIR & MAINTENANCE OF LEVEL SPREADER THROUGHOUT THE DUEATION OF THE CONSTRUCTION.

LEVEL SPREADER DETAIL

NOT TO SCALE



BIO-RETENTION SWALE

SCALE: NONE

GENERAL NOTES:

1. AMENDED SOIL SHALL CONSIST OF USDA LOAMY SAND TO SANDY LOAM CLASSIFICATION AND SHALL MEET THE FOLLOWING GRADUATION: 85-88% SAND, 8-12% SILT, 0-2% CLAY AND WELL AGED (6-12 MONTHS)/WELL AERATED LEAF COMPOST 20% BY VOLUME.
2. PROTECT BIO-RETENTION AREAS DURING CONSTRUCTION BY UTILIZING ORANGE "CONSTRUCTION FENCING"

MATERIAL SPECIFICATIONS FOR BIO-RETENTION SWALES

PLANTING SOIL

THE SOIL SHOULD BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER OBJECTS LARGER THAN 2 INCHES. NO OTHER MATERIALS OR SUBSTANCES SHOULD BE MIXED OR DUMPED WITH THE RAIN GARDEN AREAS THAT MAY BE HARMFUL TO PLANT GROWTH. THE PLANTING SOIL SHALL BE FREE OF NOXIOUS WEEDS.

THE PLANTING SOIL SHALL HAVE THE FOLLOWING COMPOSITION:
SAND: 80%
SILT: 15-20%
CLAY: <5%

THE PLANTING SOIL SHALL BE TESTED PRIOR TO PLACING AND SHALL MEET THE FOLLOWING CRITERIA:

pH RANGE: 5.2-7.0
ORGANIC MATTER: 1.5-4%
MAGNESIUM: 35 LBS./ACRE
PHOSPHORUS: 75 LBS./ACRE
POTASSIUM: 85 LBS./ACRE
SOLUBLE SALTS: NOT TO EXCEED 500 PPM

A MINIMUM OF ONE TEST SHALL BE CONDUCTED ON THE PLANTING SOIL. A SIEVE ANALYSIS SHALL BE CONDUCTED ON THE PLANTING AND TOPSOIL. IF TOPSOIL IS IMPORTED OFF-SITE, THEN A SIEVE ANALYSIS SHALL BE CONDUCTED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

IF pH NEEDS ADJUSTING, IT MAY BE MODIFIED WITH LIME TO RAISE THE pH AND IRON PHOSPHATE PLUS SULFER TO REDUCE THE pH.

MULCH

MULCH AROUND INDIVIDUAL PLANTS ONLY. SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS THAT MAY FLOAT ARE NOT ACCEPTED.

SHREDDED MULCH MUST BE AGED FOR 6-12 MONTHS

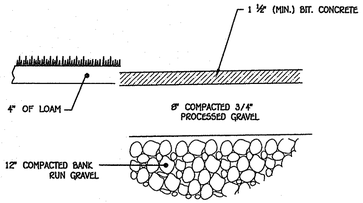
MIX APPROXIMATLEY ½ OF THE SPECIFIED MULCH LAYER INTO THE PLANTING SOIL TO A DEPTH OF APPROXIMATELY 4 INCHES.

COMPACTION

THE CONTRACTOR SHALL MINIMIZE COMPACTION WITHIN THE BIO-RETENTION AREAS AND DURING BACKFILLING. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION.

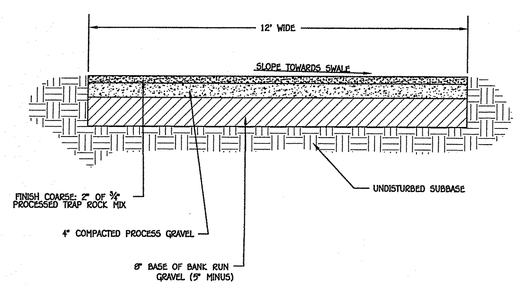
ONCE THE ELEVATION OF THE BOTTOM OF THE PLANTING SOIL LAYER HAS BEEN ESTABLISHED, UTILIZE A CHISEL PLOW, RIPPER OR SUBSOILER TO TILL AND REFRACTURE THE SOIL PROFILE. THE BOTTOM 12 INCHES SHALL BE TILLED IN THIS MANNER.

WHEN BACKFILLING THE BIO-RETENTION AREAS, PLACE THE SOIL IN LIFTS OF 12 INCHES OR GREATER. DO NOT USE HEAVY EQUIPMENT IN THE RAIN GARDEN AREAS. GRADE THE MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER, OR A DOZER/LOADER WITH MARSH TRACKS.



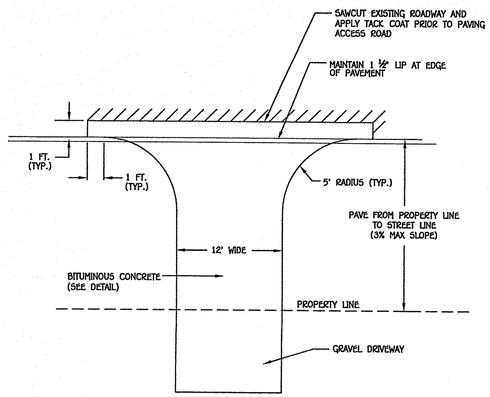
TYPICAL PAVED AREA SECTION-DRIVEWAY APRON

SCALE: NONE



TYPICAL GRAVEL DRIVEWAY CROSS SECTION

SCALE: NONE



PAVEMENT CUT & MATCH DETAIL

NOT TO SCALE

DETAILS

PREPARED FOR

WILLIAM E. McINTOSH, ET. AL.

11A HILLSDALE ROAD - PLAT 5D, LOT 10
RICHMOND, RHODE ISLAND

SCALE: AS SHOWN

JUNE 14, 2016 SHEET 7 OF 7

REVISED NOVEMBER 7, 2016

PREPARED BY
ON-SITE ENGINEERING, INC.
85 BEACH STREET, BUILDING B
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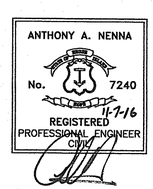
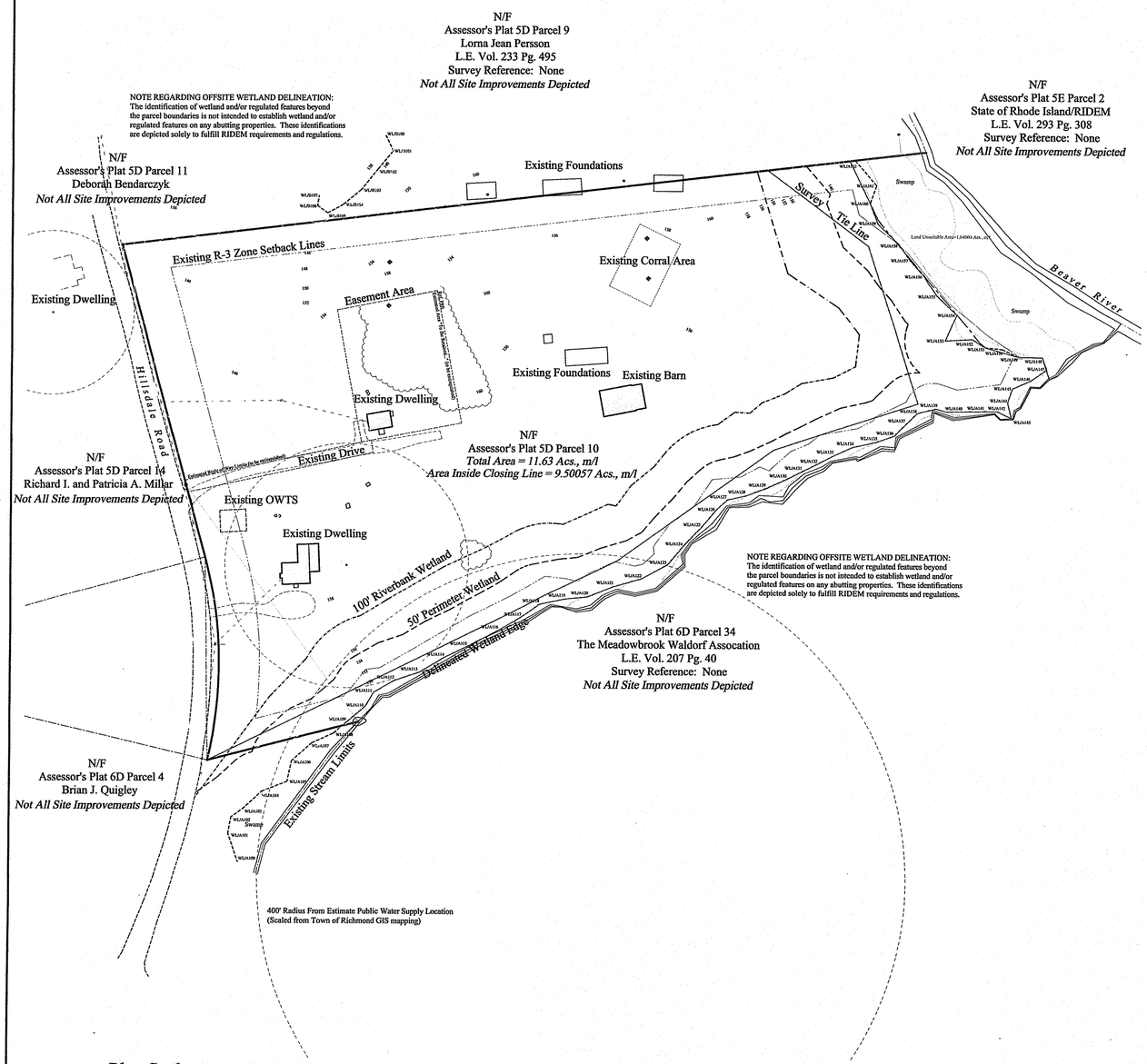
TELE.: 401-348-6831





Plan Scale:

1 inch = 80 feet

0 40 80

This mapping was developed and intended to be viewed at a scale of 1"=80' on a 24"X36" sheet. Reduced versions may not be legible.

Revision Schedule	
Revision Date	Revision Description

RIGL 34-13-1 INDEX
ABUTTING STREETS
Hillsdale Road

R-3 Zone Criteria	
Minimum Lot Size	3 acres
Minimum Lot Frontage	300 feet
Max. Building Coverage	10.0%
Max. Height Princ. Bldg.	___ feet
Max Height Acc. Bldg.	___ feet
Minimum Front Yard	50 feet
Minimum Side Yard	35 feet
Minimum Rear Yard	100 feet
Minimum Side Yard (Acc.)	___ feet
Minimum Rear Yard (Acc.)	___ feet

Richmond Planning Board
Approved
Planning Board Chair: _____
Date: _____

PLAN NOTES:

1. The parcel is substantially depicted on Richmond, Rhode Island Tax Assessor's Plat Map 5D as Parcel 11.
2. The parcel is zoned Residential (R-3) per Parcel Summary Sheet, dated 06-16-2015. Use of and/or reliance upon this zoning designation shall be subject to verification of current zoning status by the Town of Richmond, Rhode Island.
3. Stone Walls. The line of any stone wall(s) depicted hereon may vary slightly from the geometric centerline represented on the mapping. While reasonable efforts have been made to monument and/or delineate the centerline of the wall(s), these minor variations are typical of wall construction in the locale.
4. Associated Locations. The geometric points and/or monumentation associated with the boundary(s) of the parcel(s) represented hereon are consistent with the Class of Survey specified in the surveyor's certification. The location of all other associated site features as may be depicted hereon are consistent with either a Class III or a Class IV Standard of Survey, unless expressly stated to the contrary.
5. Water Boundaries. Where applicable, the property may contain natural water boundaries which are subject to change due to natural and artificial causes and may or may not represent the actual location of the limits of title.
6. Buildings. Buildings as depicted hereon have been located at the foundation or structure face, unless expressly stated to the contrary. Overhangs and protrusions at elevations above the foundation are NOT necessarily represented.
7. Utilities. Utility lines and locations that are apparent at the time of the survey are depicted hereon. The existence of any underground utilities, and the location of same where represented, have been ascertained from associated surface features and/or recollections of knowledgeable parties, unless expressly stated hereon. Use of and/or reliance upon these locations shall be subject to verification of the actual location by the appropriate regulatory authority at the direction and expense of the end user of that data.
8. Reference Documentation - Plans:
   A. "Survey of Land, Portion of Plat 5D Lot 9, Richmond, Rhode Island, Engr: James P. Lawless, PE, Scale: 1in=50ft, Date: June 1986" as provided to the Surveyor of Record.
   B. "Richard Millar et ux, West Kingston, R.I., Survey of Land in the Town of Richmond, Washington County, State of Rhode Island, Raymond W. Schwab, Surveyed Nov. 10, 1967" as provided to the Surveyor of Record.
   C. "Master/Preliminary Plan for Meadowbrook Waldorf School Campus, 300 Kingstown Road (Route 138) in Richmond, Rhode Island, Layout Key Plan Phase -1, Commonwealth Engineers & Consultants, Inc." as provided to the Surveyor of Record.
   D. "Final Minor Subdivision Prepared For Richard I. & Patricia A. Millar, Assessor's Plat 5D, Lot 9, Hillsalde Road, Richmond, Rhode Island, Scale: 1"=80', May 2006, Revised: Sept. 20, 2006, Richard A. Greene & Associates, Ltd." as is recorded in the Land Evidence records of the Town of Richmond, Rhode Island at F5, D3, #51 (Env. 354A).
9. Regulated Wetland Features. Unless expressly represented hereon, there are be regulated freshwater and/or coastal wetland features on, or in proximity, to the subject site. The end user of this mapping product shall be responsible for the identification and protection of said features, together with any and all permits which may be required. Wetland features delineated by Ecotones, Inc. during November 2015 and located by conventional survey techniques by Alfred W. DiOrio, RLS, Inc. during December 2015.
10. Professional Service Agreement. Reference is hereby made to the Professional Services Agreement for this project, together with all specifications, limitations, and conditions contained therein, and dated 10-26-2015.
11. Basis for bearings and elevations (where depicted) are Rhode Island State Plane Coordinate System (NAD 83 and NAVD 88 respectively) as determined by data transmitted from MTS Reference Stations using the MTS RTK Reference Network via Leica GS15 Receiver and observations made onsite on the date(s) cited hereon.
12. Flood Zone Data. Based solely upon graphic analysis, the parcel's structures appear to fall in a Zone X as per FEMA Flood Insurance Rate Map (FIRM), Washington County, Rhode Island (All Jurisdictions), Panel 70 of 368, Map Number 44009C0070H, Map Revised: 10-19-2010, as obtained from online sources 12-06-2015. Note that there are areas of Zone A located on the site adjacent to Beaver River.
13. Topographic Data. Topographic information from RIGIS Spring 2011 Northeast LiDar Project (2 foot contour interval). Not verified by Surveyor of Record. Use of this information by any party subject to verification by Surveyor of Record.

Grid North

Basis: Pr. GPS Observations
Made: Onsite: December 2015

SUBDIVISION NOTES:

1. The parcel is predominately open fields with some areas of specimen vegetation with moderate understory.
2. Estimated FEMA Flood Zone line for local permitting checklist only. Any activity near this feature requires site specific delineation in advance.
3. The parcel is located within a Natural Heritage Area (RIDEM).
4. As a condition of approval, granite bounds are to be placed at the parcel's northwesterly corner and in a suitable location near the parcel's northeasterly corner.

ANTHONY A. NENNA
No. 7240
REGISTERED PROFESSIONAL ENGINEER
CIVIL

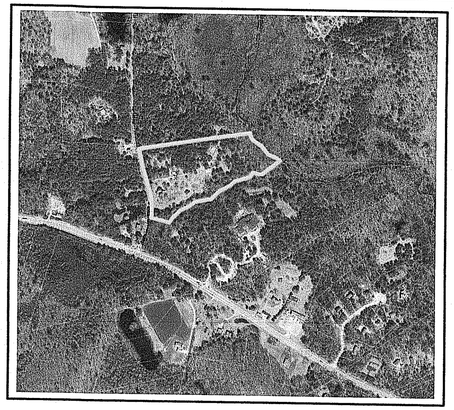
Anthony N. Nenna, PE RI #7240
On-Site Engineering, Inc.
For Grading and Drainage ONLY

DECLARATION

This plan was prepared for the exclusive use of the person, persons, or entity named in the Declaration hereon. Said Declaration does not extend to any unnamed person, persons, or entity without an express Re-Declaration by the Surveyor of Record naming said person, persons, or entity.

To William E. McIntosh, it is hereby declared that the information depicted hereon was obtained (a) from field observations made on the site suring December 2015, (b) that these field observations were subsequently reduced and computations performed that resulted in the (typically) indirect geometric information depicted hereon, (c) that the topographic data depicted hereon has been derived from RIGIS LiDar online information and does not conform to any existing survey precision Standard, (d) said information is for the sole purpose of reconstructing the parcel boundaries and supporting a Comprehensive Permit application for the subdivision of the parcel, and (e) that this information is correct to the best of my knowledge and belief and is subject to all limitation, notations, and qualification stated hereon.

Alfred W. DiOrio, PLS, CPESC
Principal Surveyor and President, Alfred W. DiOrio, RLS, Inc.



Location Map

May Not Be To Scale

- L E G E N D -

Referenced Plan Measurement	P	Set	Survey Monumentation Placed by Alfred W. DiOrio, RLS, Inc.	M/L	More or Less
Calculated Measurement	C			N/F	Now or Formerly
Measured Direct	M	Exist.	Survey Monumentation Recovered and Utilized by Alfred W. DiOrio, RLS, Inc.	100	Existing Contour
Scaled Measurement	S			100	Proposed Contour
Referenced Deed Measurement	D		Stone Wall	grid 100.00	Existing Spot Location
Above Grade	AG	AWD	Alfred W. DiOrio, RLS, Inc.	Pole 53	Existing Utility Pole Location
Below Grade	BG	PC	Point of Curvature		Existing Overhead Utility Lines
Iron Pipe	IP	PT	Point of Tangency		Delineated Wetland Edge (By Others)
Iron Rod	IR	AP Parcel	Assessor's Plat & Parcel Reference		Perimeter Wetland Edge
Drill Hole	DH	LE Vol	Land Evidence Volume		100 Foot Riverbank Wetland
Soil Evaluation/Ground Water Test Pipe		Pg	Page		200 Foot Riverbank Wetland
Wetland Flag Identification	WL 15A		Wetland Feature		Proposed Location Erosion Control Measures
Acres	acs.	In the Context of Curves:			Estimated FEMA Flood Zone Line
Squere Feet	sf	A= Central Angle R= Radius T= Tangent L= Arc Length C= Long Chord			
Emergency 911 Numbering	911 35				

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RICHMOND, RI _____ 20____
AT _____O'CLOCK ___M, AND
RECORDED IN BOOK NO _____
PAGE _____ OF THE LAND EVIDENCE RECORDS

WITNESS TOWN CLERK

PROPERTY OWNERS:

William E. McIntosh and Delano Joseph Brooks
c/o 7 MorningRoad
West Kingston, Rhode Island 02892

"Procedural and Technical Standards For The Practice of Land Surveying..." Effective April 1, 1994 were utilized for this project.

Alfred W. DiOrio
No. 1752
PROFESSIONAL LAND SURVEYOR

This survey and plan substantially conform to a CLASS I Standard for horizontal surveys and a CLASS IV Standard for vertical surveys as adopted by the Rhode Island Board of Registration for Professional Land Surveyors.

By: _____
Alfred W. DiOrio, RLS RI #1752

Alfred W. DiOrio, RLS, Inc.
PO Box 999, Ashaway, Rhode Island 02804
401-377-8124 800-797-8124
Cellular 401-742-1850
www.awdrls.com

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A valid reproduction of this plan contains BOTH an inked stamp impression and a live embossed seal impression of RI Professional Land Surveyor #1752

PDF VERSIONS NOT EMBOSSED

OVERVIEW SHEET-Existing Conditions

Plan of Boundary Survey and Select Existing Conditions
Prepared For William E. McIntosh et al
Assessor's Plat 5D Parcel 10
11A Hillsdale Road
Richmond, Rhode Island
Scale: 1"=80'
June 14, 2016 Sheet 1 of 7

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FREE-WATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2016 FILE # 16-0195
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

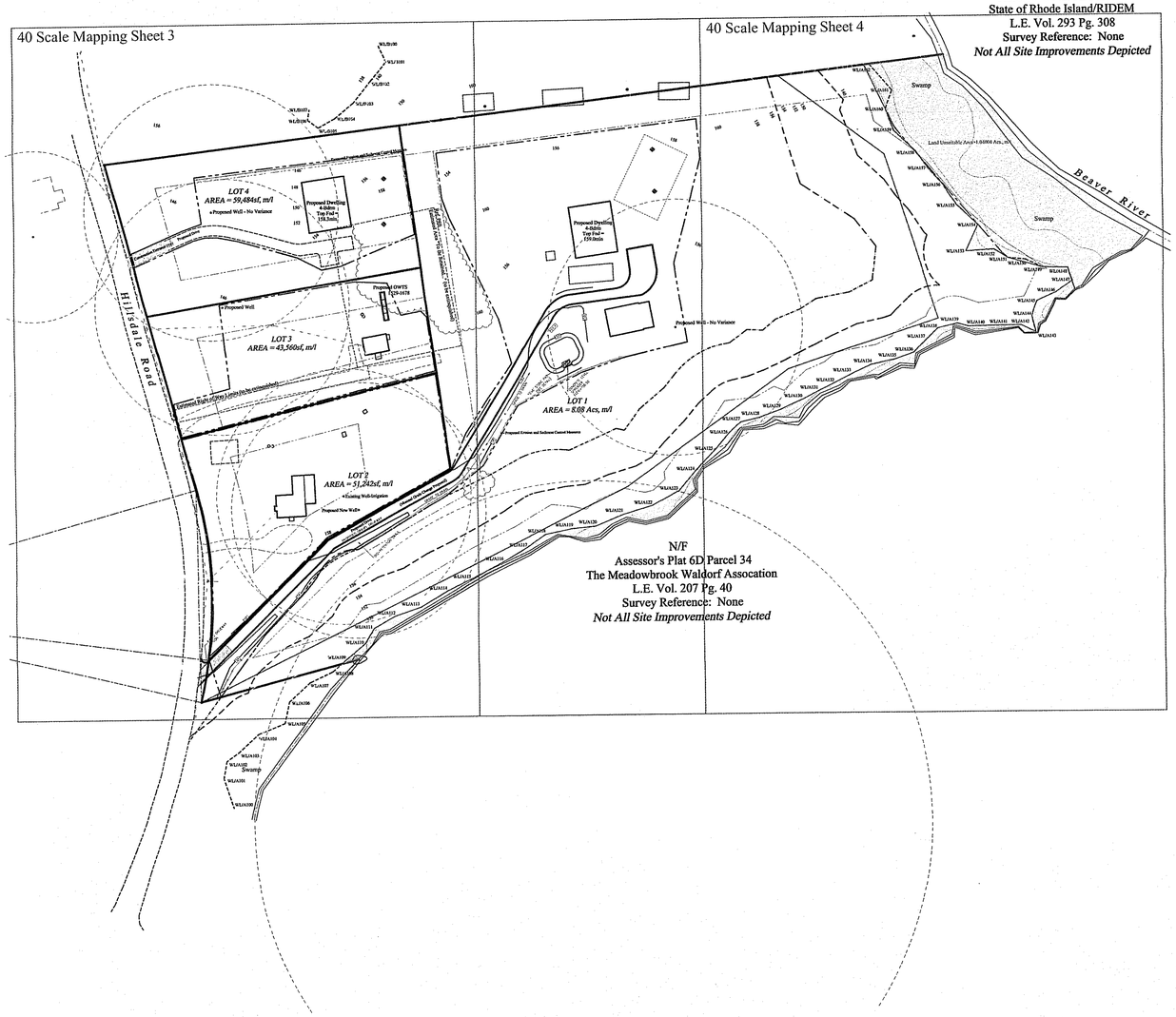
Environmental Management
AUG 5 2016
Office of Water Resources

Alfred W. DiOrio, RLS, Inc.
Professional Land Surveyors ● Land Use Consultants
Certified Professional Erosion Control Specialists
Licensed OWTS Designers● Installers● Inspectors● Soil Evaluators
Hopkinton, Rhode Island

Plan No. 5795
File: Richmond_1.dwg

N/F
Assessor's Plat 5D Parcel 9
Lorna Jean Persson
L.E. Vol. 233 Pg. 495
Survey Reference: None
Not All Site Improvements Depicted

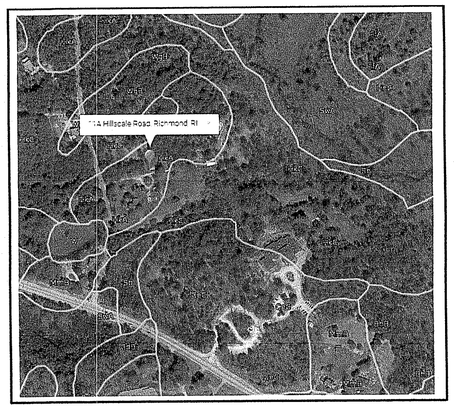
N/F
Assessor's Plat 5E Parcel 2
State of Rhode Island/RIDEM
L.E. Vol. 293 Pg. 308
Survey Reference: None
Not All Site Improvements Depicted

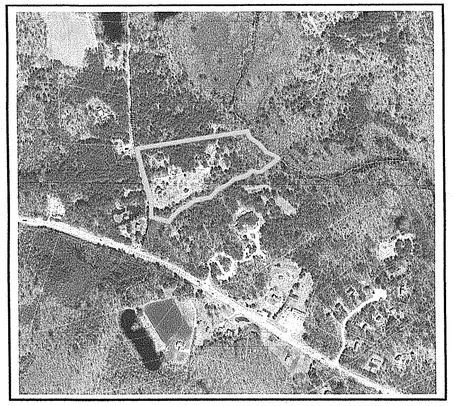


N/F
Assessor's Plat 6D Parcel 34
The Meadowbrook Waldorf Assocation
L.E. Vol. 207 Pg. 40
Survey Reference: None
Not All Site Improvements Depicted

Grid North

Basis: By GPS Observations
Made Onsite: December 2015





Soils Map

May Not Be To Scale

Soil Legend

Soil Type	Suitability/Const.	Suitability/Septic
HkA - Hinkley	Slight	Moderate
HkC - HinkleyEnfield	Moderate	Moderate
SwA - Swansea	Severe	Severe

1. Suitability is defined in terms of 'limitations'.
2. Swansea soil type were formerly mapped as Adrian muck.

- L E G E N D -

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S	Scaled Measurement			100	Proposed Contour
D	Referenced Deed Measurement		Stone Wall	100.00	Existing Spot Location
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BG	Below Grade	PC	Point of Curvature		Existing Overhead Utility Lines
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IR	Iron Rod	AP Parcel	Assessor's Plat & Parcel Reference		Perimeter Wetland Edge
DH	Drill Hole	LE Vol	Land Evidence Volume		100 Foot Riverbank Wetland
	Soil Evaluation/Ground Water Test Pipe	Pg	Page		200 Foot Riverbank Wetland
WL 15A	Wetland Flag Identification		Wetland Feature		Proposed Location Erosion Control Measures
acs.	Acres	In the Context of Curves:			Proposed Limits of Disturbance
sf	Square Feet	A=	Central Angle		
911	Emergency 911 Numbering	R=	Radius		
35		T=	Tangent		
		L=	Arc Length		
		C=	Long Chord		

Plan Scale:

1 inch = 80 feet

0 40 80

This mapping was developed and intended to be viewed at a scale of 1"=80' on a 24"X36" sheet. Reduced versions may not be legible.

Revision Schedule	
Revision Date	Revision Description

R-3 Zone Criteria	
Minimum Lot Size	3 acres
Minimum Lot Frontage	300 feet
Max. Building Coverage	10.0%
Max. Height Princ. Bldg.	___ feet
Max Height Acc. Bldg.	___ feet
Minimum Front Yard	50 feet
Minimum Side Yard	35 feet
Minimum Rear Yard	100 feet
Minimum Side Yard (Acc.)	___ feet
Minimum Rear Yard (Acc.)	___ feet

Richmond Planning Board
Approved
Planning Board Chair: _____
Date: _____

ANTHONY A. NENNA
No. 7240
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Anthony N. Nenna, PE RI #7240
On-Site Engineering, Inc.
For Grading and Drainage ONLY

D E C L A R A T I O N

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Alfred W. DiOrio, PLS, CPESC
Principal Surveyor and President, Alfred W. DiOrio, RLS, Inc.

RIGL 34-13-1 INDEX
ABUTTING STREETS
Hillsdale Road

PROPERTY OWNERS:

William E. McIntosh and Delano Joseph Brooks
c/o 7 MorningRoad
West Kingston, Rhode Island 02892

"Procedural and Technical Standards For The Practice of Land Surveying..." Effective April 1, 1994 were utilized for this project.

Alfred W. DiOrio
No. 1752
PROFESSIONAL LAND SURVEYOR

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By: _____
Alfred W. DiOrio, PLS RI #1752

Alfred W. DiOrio, RLS, Inc.
PO Box 799, Ashaway, Rhode Island 02804
401/377-8424 800/797-8124
Cellular 401/741-1850
www.awdrls.com

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PAGE ____ OF THE LAND EVIDENCE RECORDS

WITNESS TOWN CLERK

OVERVIEW SHEET-Proposed Conditions

Plan of Boundary Survey and Select Existing Conditions
Prepared For William E. McIntosh et al
Assessor's Plat 5D Parcel 10
11A Hillsdale Road
Richmond, Rhode Island
Scale: 1"=80'
June 14, 2016 Sheet 2 of 7

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2016 FILE # 16-0175
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management
AUG 5 2016
Office of Water Resources

Alfred W. DiOrio, RLS, Inc.
Professional Land Surveyors ● Land Use Consultants
Certified Professional Erosion Control Specialists
Licensed OWTS Designers● Installers● Inspectors● Soil Evaluators
Hopkinton, Rhode Island

Plan No. 5795
File: Richmond_1.dwg

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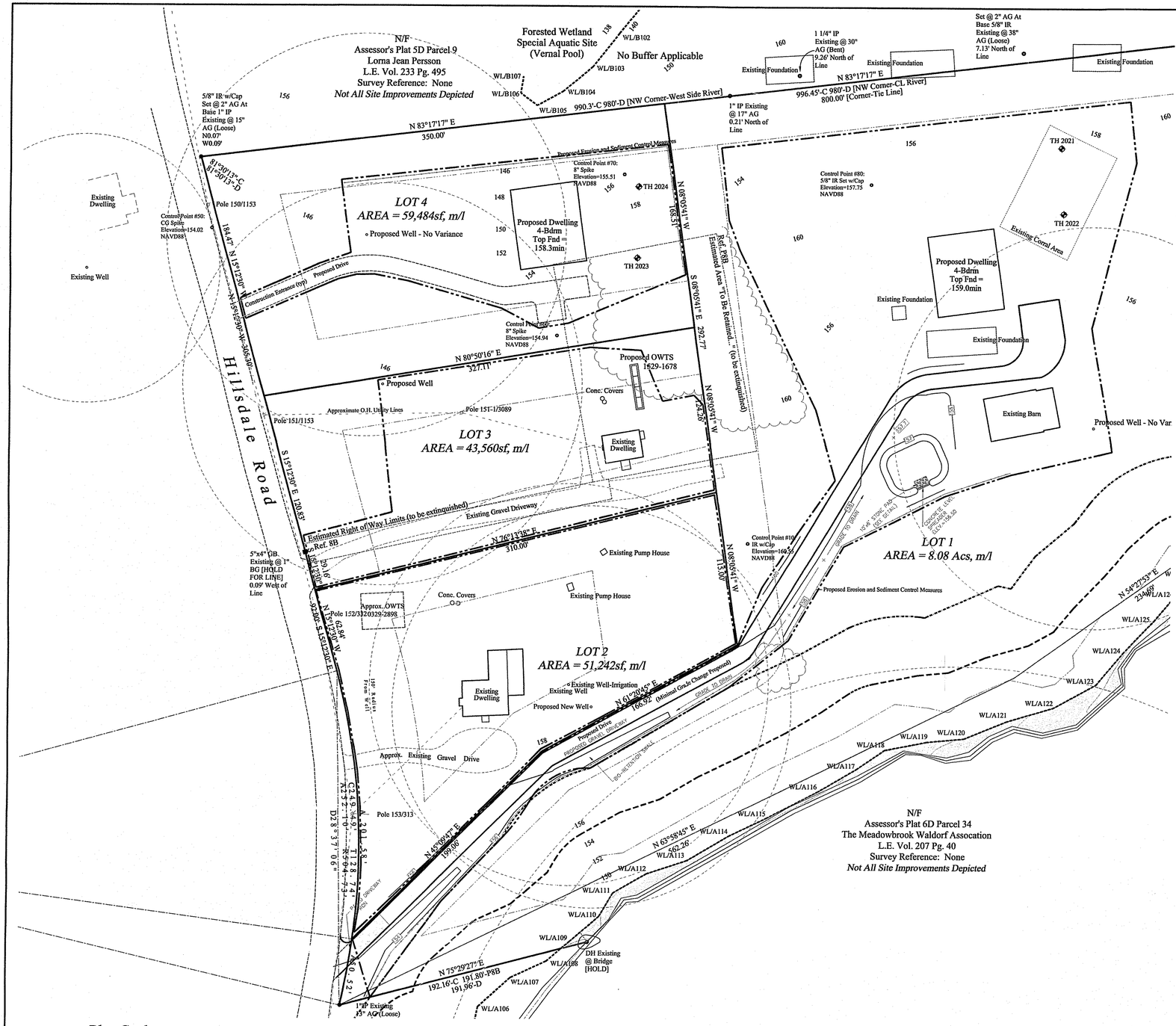

N/F
Assessor's Plat 6D Parcel 34
The Meadowbrook Waldorf Assocation
L.E. Vol. 207 Pg. 40
Survey Reference: None
Not All Site Improvements Depicted

Plan Scale:

1 inch = 40 feet

0 20 40

This mapping was developed and intended to be viewed at a scale of 1"=40' on a 24"X36" sheet. Reduced versions may not be legible.

Revision Schedule	
Revision Date	Revision Description

RIGL 34-13-1 INDEX
ABUTTING STREETS
Hillsdale Road

Richmond Planning Board Approved
Planning Board Chair: _____
Date: _____

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WITNESS TOWN CLERK

ANTHONY A. NENNA
No. 7240
REGISTERED PROFESSIONAL ENGINEER CIVIL

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On-Site Engineering, Inc.
For Grading and Drainage ONLY

PROPERTY OWNERS:

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PDF VERSIONS NOT EMBOSSED

Plan of Boundary Survey and Select Existing Conditions

Prepared For William E. McIntosh et al

Assessor's Plat 5D Parcel 10

11A Hillsdale Road

Richmond, Rhode Island

Scale: 1"=40'

June 14, 2016 Sheet 3 of 7

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2016 FILE # 16-0175
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Environmental Management
AUG 5 2016
Office of Water Resources

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Hopkinton, Rhode Island

Plan No. 5795
File: Richmond_1.dwg

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N/F
Assessor's Plat 5D Parcel 9
Lorna Jean Persson
L.E. Vol. 233 Pg. 495
Survey Reference: None
Not All Site Improvements Depicted

N/F
Assessor's Plat 5E Parcel 2
State of Rhode Island/RIDEM
L.E. Vol. 293 Pg. 308
Survey Reference: None
Not All Site Improvements Depicted

Grid North

Basis: By GPS Observations
Made Onsite: December 2015

5/8" IR w/Cap
Set @ 2" AG At
Base 1" IP
Existing @ 40"
AG (Loose)
25.67' North of
Line

Control Point #100:
8" Spike
Elevation=150.03
NAVD88

5/8" IR w/Cap
Set @ 2" AG At
Base 5/8" IR
Existing @ 38"
AG (Loose)
7.13' North of
Line

1 1/4" IP
Existing @ 30"
AG (Bent)
9.26' North of
Line

Existing Foundation

N 83°17'17" E
996.45'-C 980'-D [NW Corner-CL River]
800.00' [Corner-Tie Line]

1" IP Existing
@ 17" AG
0.21' North of
Line

Survey Tie-Line
S 53°28'05" E
155.46'

Control Point #110:
8" Spike
Elevation=151.14
NAVD88

Swamp

Land Unsuitable Area=1.04004 Acs., m/l

Beaver River

Control Point #80:
5/8" IR Set w/Cap
Elevation=157.75
NAVD88

TH 2021
TH 2022
Existing Corral Area

Proposed Dwelling
4-Bdrm
Top Fnd =
159.0min

Existing Foundation

N/F
Assessor's Plat 5D Parcel 10
Area = 11,229sf, m/l

Existing Barn

Proposed Well - No Variance

N 18°02'30" W
202.78'

N 71°56'58" E
187.05'

N 54°27'53" E
234.09'

Control Point #130:
8" Spike
Elevation=137.94
NAVD88

Control Point #140:
8" Spike
Elevation=144.61
NAVD88

WL/A122 WL/A123 WL/A124 WL/A125 WL/A126 WL/A127 WL/A128 WL/A129 WL/A130 WL/A131 WL/A132 WL/A133 WL/A134 WL/A135 WL/A136 WL/A137 WL/A138 WL/A139 WL/A140 WL/A141 WL/A142 WL/A143 WL/A144 WL/A145 WL/A146 WL/A147 WL/A148 WL/A149 WL/A150 WL/A151 WL/A152 WL/A153 WL/A154 WL/A155 WL/A156 WL/A157 WL/A158 WL/A159 WL/A160 WL/A161 WL/A162

Control Point #120:
IR w/Clip
Elevation=160.55
NAVD88

10'-0" STONE PAD
(SEE DETAIL)

CONCRETE WASHOUT
SHIELDS LAND
ELEV.=156.00

Proposed Erosion and Sediment Control Measures

LOT 1
AREA = 8.08 Acs, m/l

"Area to be Retained..." (to be extinguished)

N/F
Assessor's Plat 6D Parcel 34
The Meadowbrook Waldorf Assocation
L.E. Vol. 207 Pg. 40
Survey Reference: None
Not All Site Improvements Depicted

Plan Scale:

1 inch = 40 feet

0 20 40

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Revision Schedule	
Revision Date	Revision Description

RIGL 34-13-1 INDEX

ABUTTING STREETS

Hillsdale Road

Richmond Planning Board
Approved

Planning Board Chair: _____

Date: _____

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Plan of Boundary Survey and Select Existing Conditions

Prepared For William E. McIntosh et al

Assessor's Plat 5D Parcel 10

11A Hillsdale Road

Richmond, Rhode Island

Scale: 1"=40'

June 14, 2016 Sheet 1 of 1

STATE OF RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
WETLANDS PROGRAM
APPROVED IN THE LETTER OF APPROVAL
AS SPECIFIED WITH CONDITIONS
FILE # 16-0175
DATED SEP 14 2016
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Plan No. 5795
File: Richmond_1.dwg

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GENERAL CONSTRUCTION NOTES

■ 1. It shall be the CONTRACTOR'S sole responsibility to obtain and review any and all permits required by the State and the Municipality prior to the commencement of any phase of work.

■ 2. It shall be the CONTRACTOR'S sole responsibility to determine the location of and maintain the integrity of all existing utilities, structures and/or abutting properties.

■ 3. The CONTRACTOR shall coordinate all work with the municipal engineering departments and/or highway departments and shall coordinate all utility installations and inspections with the appropriate municipalities and/or utility companies.

■ 4. The CONTRACTOR shall be solely responsible for any and all quantity estimates required by these plans.

■ 5. All disturbed areas not explicitly identified for parking or other purposes are to receive four (4) inches of topsoil and seeding as identified hereon.

■ 6. The CONTRACTOR shall be responsible for all construction indicated hereon. This shall include any construction to bring utilities to the site, any repairs and trenching required, and all construction to ensure acceptance of roads and easements.

■ 7. The CONTRACTOR shall be responsible for establishing and maintaining all temporary and/or permanent erosion and sedimentation control measures and devices represented hereon and as may be directed by the DESIGNER.

■ 8. The location of existing utilities as shown hereon may be approximate and these locations shall be verified by the CONTRACTOR prior to the initiation of any phase of the construction. CONTRACTOR shall advise the DESIGNER upon discovery of any and all discrepencies.

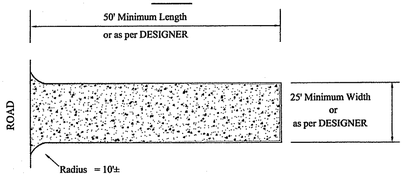
■ 9. CONTRACTOR to secure the outlets of all pipes to prevent entry into drainage structures. Method to be approved by municipality and DESIGNER.

■ 10. Catch basin openings to be protected in accordance with local codes and/or ordinances.

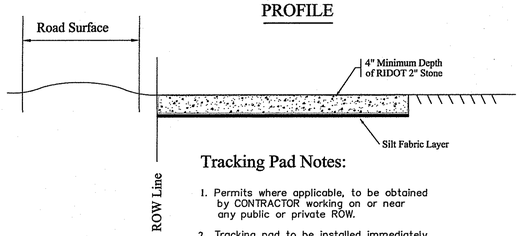
Tracking Pad For Construction Entrance Detail

Not To Scale

PLAN



PROFILE

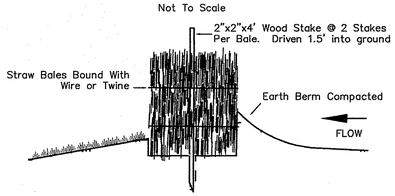


Tracking Pad Notes:

1. Permits where applicable, to be obtained by CONTRACTOR working on or near any public or private ROW.
2. Tracking pad to be installed immediately subsequent to clearing of vegetation.
3. Inspect and maintain tracking pad installation regularly.
4. Where project roadway/driveway slopes DOWN to public or private roadway, CONTRACTOR to ensure surface runoff remains on the subject site.

Straw Bale Detail

Not To Scale



1. Wedge loose straw between bales. Backfill and compact the excavated soil.
2. Inspect and maintain all straw bale installations regularly. Minimum inspection once per month.

Regarding Selection of Straw Bales and/or Silt Fence:

1. Designer allows either straw bales or silt fencing to be placed in those areas identified as requiring erosion and sedimentation control measures.
2. In those specific areas which may be subject to extreme distrubance, the Designer recommends that straw bales be placed nearest to disturbance and that silt fencing be placed behind the straw bales (i.e. further away from disturbance).

SEDIMENTATION CONTROL PROGRAM

■ 1. The CONTRACTOR shall exercise extreme care so as to prevent any unsuitable materials from entering the wetlands, perimeter wetlands, riverbank wetlands, floodplain areas and/or areas subject to storm flowage where some may be represented hereon.

■ 2. All disturbed areas subject to erosive action, whether newly filled or excavated, shall receive stabilization protection.

■ 3. Disturbed banks and slopes not receiving rip-rap shall be seeded and protected with fiber mulch or equivalent.

■ 4. During construction, the CONTRACTOR and/or OWNER shall be responsible for maintaining drainage and runnoff flow areas during storm events and periods of rainfall.

■ 5. Erosion and sedimentation control measures and devices shall be inspected and maintained promptly after each rainfall.

■ 6. CONTRACTOR shall respect all designated stockpile and/or burial sites as may be delineated hereon. In the event that these areas are not identified on said mapping and/or in the event that the identified areas are unsuitable for these purposes, new areas shall be agreed upon prior to use by CONTRACTOR and DESIGNER.

■ 7. All limits of clearing and/or vegetative disturbance as represented hereon shall be protected with straw bales, silt fences, and/or equivalent protection in accordance with specifications herein.

☐ 8. Unless directed to the contrary, the CONTRACTOR shall remove sediment loading from detention/retention/temporary settling basins at intervals not to exceed sixty (60) days. Removal to be in accordance with specifications herein.

■ 9. Care shall be exercised not to place removed sediment within the path of existing, newly created (temporary or permanent), or proposed watercourses or those areas subject to storm water flow.

■ 10. Additional straw bales or silt fabric shall be located as conditions warrant or as directed by DESIGNER.

■ 11. Reference is hereby made to the "Rhode Island Soil Erosion and Sedimentation Control Handbook" as prepared by the Rhode Island Department of Environmental Management et al, and is recommended for additional information to the specifications herein.

☐ 12. All sediment and/or debris shall be removed from all specified detention/retention/temporary settling basins as may be directed by DESIGNER and/or the municipal engineering and/or highway departments.

ORDER OF PROCEDURE

■ 1. Immediately upon completion of the clearing and grubbing operations and prior to any rough grading, temporary straw bales and/or silt fencing shall be placed at the limits of clearing and vegetative disturbance as represented hereon.

■ 2. All erosion and sedimentation controls shall be periodically maintained as per the respective programs during construction.

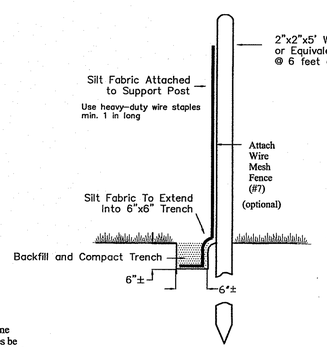
■ 3. If work progress is to be interrupted at any time, see other stabilization measures herein for temporary control.

■ 4. Temporary straw bales and/or silt fencing along any proposed roadway may be removed subsequent to approved stabilization.

■ 5. Straw bales and/or silt fencing at all drainage outlets must remain in place until such time as a desirable stand of grass or ground cover has been established and the project receives approval from the designer and/or the municipality.

Silt Fence Detail

Not To Scale



1. Silt Fabric available from EJ Prescott, Inc. 203-875-9711.
2. Recommended Equivalent Opening Size (EOS) for silt fabric is 70 (US Standard Sieve No.) unless indicated otherwise.
3. Avoid use of joints in fabric. When joints are necessary, splice fabric at a support post with a minimum six (6) inch overlap and securely fasten both ends to support.
4. Where silt fabric is installed with minimum three (3) foot height but no reinforcement at six (6) foot intervals, fabric tensile strength to be minimum 200 pounds (per ASTM D-1682G).
5. Inspect and maintain all silt fence installations regularly. Minimum inspection once per month.
6. Equivalent suports are 1.33lb/ft steel posts with a minimum length of 5 feet. Steel posts must have projections for fastening wire to them.
7. Silt fencing to be supported through-out, where by wire mesh fencing attached to the upslope side of the support posts. Mesh to be min 42 inch wide, min. 14 gauge and have maximum mesh opening of 6 inches.
8. Wrap silt fence around end stakes a minimum of 1 1/4 turns.

EROSION CONTROL AND SOIL STABILIZATION PROGRAM

■ 1. Denuded slopes shall not be unattended or exposed for excessive periods of time, such as the inactive winter season.

■ 2. All disturbed slopes, whether newly created or exposed prior to October 15 shall be seeded or protected by that date for any work completed during each construction year.

■ 3. The topsoil for seeding shall have a sandy loam texture, relatively free of subsoil materials, stones, roots, and/or debris.

■ 4. All legume seed, where specified, shall be inoculated in accordance with manufacturer's specifications.

■ 5. The design seed mixture shall be as follows:

A. Mowed Areas – All flats or slopes less than 3:1

Mixture	Seeding Rate % by weight	Seeding Dates
Red Fescue	75	April 01 to June 15
Kentucky Bluegrass	15	Aug 15 to Oct 15
Colonial Bentgrass	5	
Perennial Ryegrass	5	

B. Unmowed/Infrequently Mowed Areas – Slopes greater than 3:1

Red Fescue	75	April 01 to June 15
Colonial Bentgrass–Exeter	5	Aug 15 to Oct 15
Perennial Ryegrass	5	
Birdsfoot Trefoil–Empire	15	

Total: 100 pounds per acre

■ 6. Temporary treatments shall consist of straw or fiber mulch or protective covers such as a mat or fiber lining and shall be incorporated into the work as warranted or as directed by DESIGNER.

■ 7. Straw applications should be in the amount of 1.5 to 2 tons per acre. These applications should be kept moist. On slopes or where subject to distubance, straw applications should be secured by "peg and twine" or "brush anchor" methods.

■ 8. All straw bales or temporary protection shall remain in place until an acceptable stand of grass or approved ground cover has been established. If needed, temporary seeding may be utilized to minimize erosion. A temporary seeding guide together with recommended species is as follows:

Species	Pounds/1000 sf	Pounds/Acres	Seeding Dates
Annual Ryegrass	1.5	60	03-15 to 06-15
Per. Ryegrass	1.5	60	03-15 to 06-15
Sudangrass	1.0	40	05-15 to 08-15
Millet	1.0	40	05-15 to 08-15
Winter Rye	3.0	120	08-15 to 10-15
Oat	3.0	120	03-15 to 06-15
Weep Lovegrass	0.5	20	05-01 to 06-01

A. Apply evenly at 2 tons of ground limestone per acre or according to soil tests.
B. Apply evenly 10-10-10 analysis fertilizer or according to soil tests.
C. Apply mulch immediately after seeding.

■ 9. The CONTRACTOR must repair, reseed and/or replant any areas that do not develop within one (1) growing season from the time of installation.

■ 10. The normal acceptable seasonal seeding dates are per these notes.

■ 11. All fill shall be thoroughly compacted upon placement in conformance with local/state codes or ordinances.

■ 12. Stabilization as indicated herein shall be achieved within fifteen (15) days of final grading.

■ 13. Stockpiles of topsoil, subsoil or soils containing silts shall not be located near waterways, where waterways may be represented. Placement of these materials shall be in areas indicated on plans or as directed by OWNER provided these areas are not in conflict with specifications herein. CONTRACTOR shall arrange for these areas to be identified on site by the DESIGNER prior to any site disturbance.

☐ 14. Burial of excavated topsoil, stumps and rocks shall be in areas indicated on plans. These proposed burial sites shall be subject to subsurface exploration prior to any site disturbance. All stockpiled materials shall be either transported from the site or buried in accordance with these specifications prior to final road surfacing, where surfacing is applicable.

■ 15. Where stockpiles of these materials are to remain for extended periods of time or when said stockpiles are to remain through the inactive winter season, such stockpiles shall have sideslopes no greater than 3:1 and said stockpiles shall be seeded and stabilized. CONTRACTOR shall protect these stockpile areas with a perimeter of straw bales and/or silt fence.

ANTHONY A. NENNA
No. 7240
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Anthony N. Nenna, PE RI #7240
On-Site Engineering, Inc.
For Grading and Drainage ONLY

CERTIFIED PROFESSIONAL
ALFRED W. DiORIO
CPESC
CP SOIL EROSION & SEDIMENT CONTROL SPECIALIST
No 721 EXP. 11/17

Alfred W. DiOrio, CPESC

Certified Professional
Soil Erosion & Sediment Control
Specialist
No. 721

EROSION CONTROL AND SOIL STABILIZATION PROGRAM (continued)

☐ 16. The detention/retention basins as may be specified on the attached mapping and the drainage system specified on the attached mapping shall receive one (1) final clearing/cleaning prior to acceptance of the project by OWNER and the municipality. Sediments and/or debris shall be disposed of in a proper manner as approved by the DESIGNER.

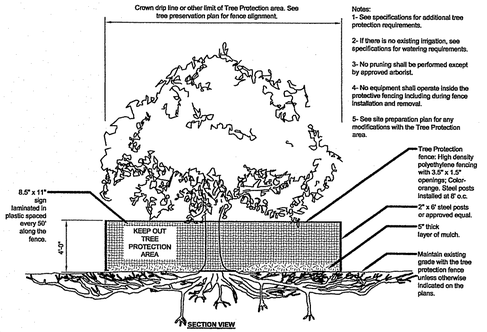
■ 17. State law requires that anyone who excavates within the proximity of a public utility must notify utility companies at least 48 hours before digging. The "Call Before You Dig" telephone number is 800-922-4455. The CONTRACTOR shall be required to initiate this notification.

■ 18. Contact person(s) for this project is:

William McIntosh
750 Boston Neck Road
Narragansett, Rhode Island 02882
617-513-0278

■ Indicates that this condition applies to the project.

☐ Indicates that this condition DOES NOT APPLY to the project.



S-X TREE PROTECTION
1/4" = 1'-0"
URBAN TREE FOUNDATION © 2014 OPEN SOURCE FREE TO USE
tree_protection_safety_netting

RECEIVED FOR RECORD
RICHMOND, RI ____ 20____
AT ____O'CLOCK ___M, AND
RECORDED IN BOOK NO ____
PAGE ____ OF THE LAND EVIDENCE RECORDS

Richmond Planning Board
Approved
Planning Board Chair: _____
Date: _____

WITNESS TOWN CLERK

Erosion and Sediment Control Plan to Accompany Project

Prepared For William E. McIntosh et al

Assessor's Plat 5D Parcel 10

11A Hillsdale Road

Richmond, Rhode Island

Scale: As Noted

June 14, 2016 Sheet 5 of 7

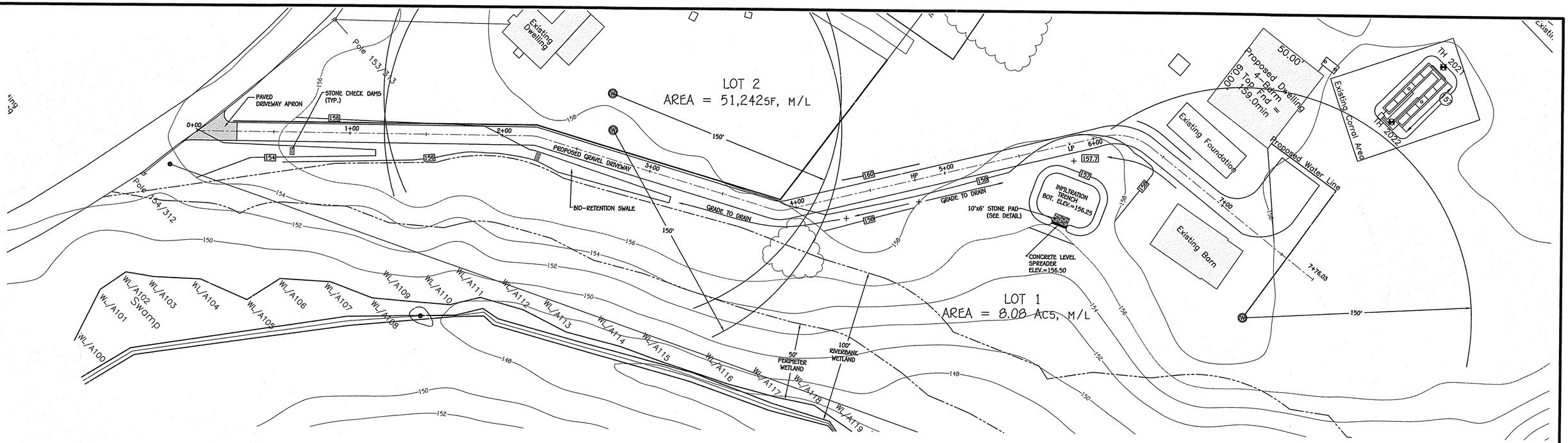
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2016 FILE # 16-0175
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management
AUG 5 2016
Office of Water Resources

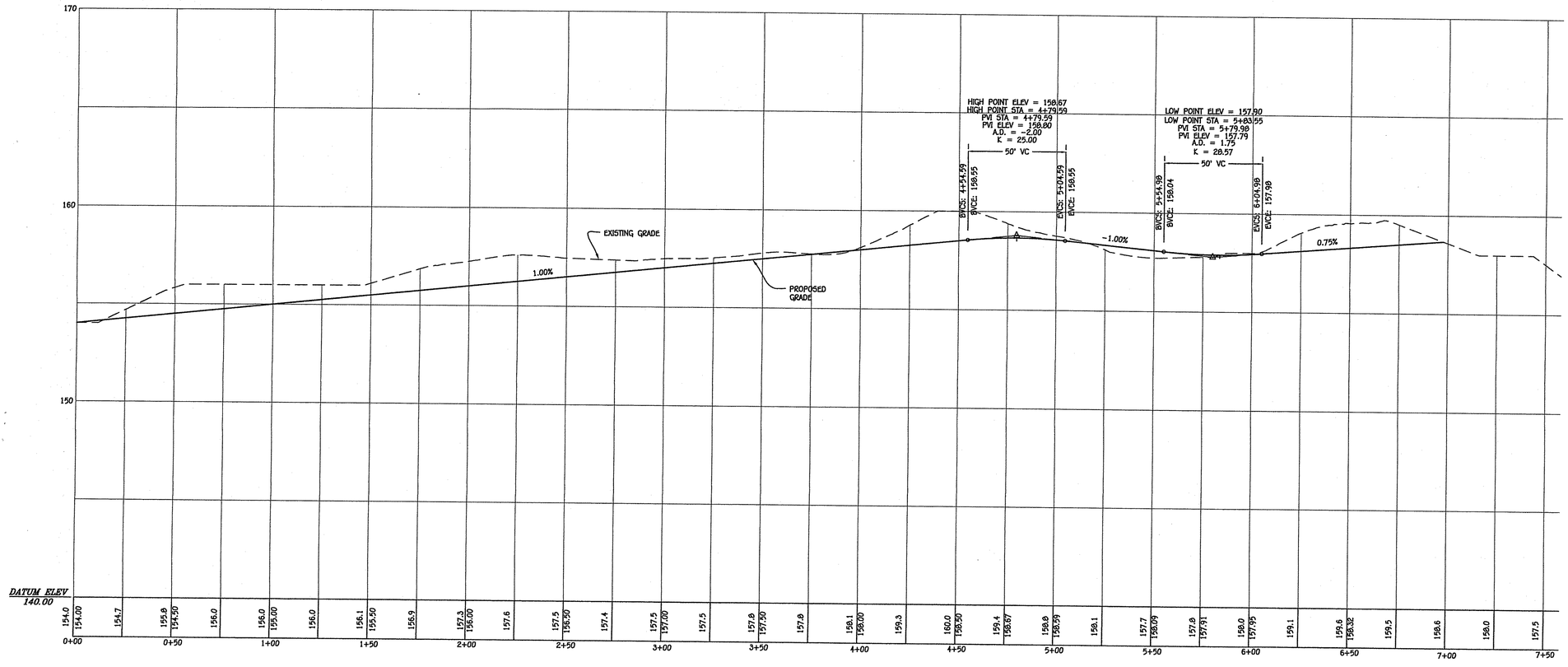
Alfred W. DiOrio, RLS, Inc.
Professional Land Surveyors ● Land Use Consultants
Certified Professional Erosion Control Specialists
Licensed OWTS Designers● Installers● Inspectors● Soil Evaluators
Hopkinton, Rhode Island

Plan No. 5795
File: Richmond_1.dwg

M:\Files_2016\Carlson Projects\AWD Projects\McIntosh_Richmond Project November 2015\DWG\Richmond_1.dwg, 6/14/2016 2:02:29 PM, 1:1



PLAN VIEW
SCALE: 1"=30'



PROFILE
SCALE: H: 1"=30'
V: 1"=3'

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No. 7240
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Environmental Management
AUG 5 2016
Office of Water Resources

PLAN AND PROFILE FOR DRIVEWAY TO LOT NO. 1

PREPARED FOR

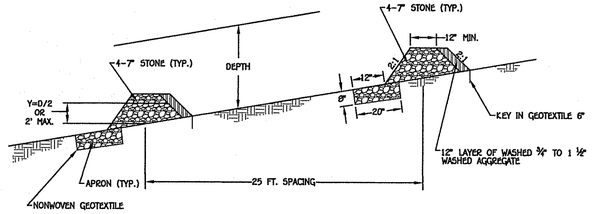
WILLIAM E. McINTOSH, ET. AL.

11A HILLSDALE ROAD – PLAT 5D, LOT 10
RICHMOND, RHODE ISLAND

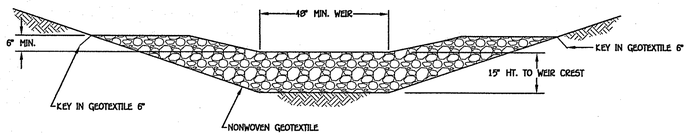
SCALE: AS SHOWN

JUNE 14, 2016 SHEET 6 OF 7

PREPARED BY
ON-SITE ENGINEERING, INC.
85 BEACH STREET, BUILDING B
WESTERLY, RHODE ISLAND 02891
TELE.: 401-348-6831



CHANNEL PROFILE



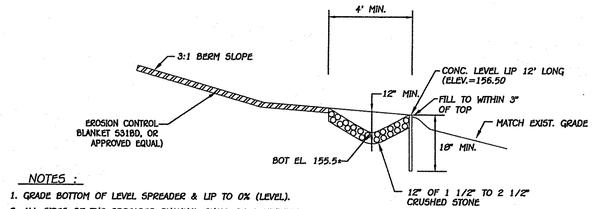
CROSS SECTION

NOTES:

1. THE CHECK DAM SHALL BE CONSTRUCTED OF 4" TO 7" STONE. THE STONE SHALL BE PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL AND IS KEYED INTO THE CHANNEL BANKS.
2. THE TOP OF THE CHECK DAM SHALL BE CONSTRUCTED SO THAT THE CENTER IS APPROXIMATELY 6" LOWER THAN THE OUTER EDGES FORMING A WEIR THAT WATER CAN FLOW ACROSS.
3. PLACE A NONWOVEN GEOTEXTILE UNDER THE BOTTOM AND SIDES OF THE DAM PRIOR TO PLACEMENT OF STONE.
4. SET THE HEIGHT FOR THE WEIR CREST EQUAL TO ONE-HALF THE DEPTH OF THE CHANNEL OR DITCH. THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER SHALL NOT EXCEED 2 FEET.
5. THE UPSTREAM SIDE OF THE CHECK DAM SHALL BE LINED WITH APPROXIMATELY 12" OF ¾" TO 1 ½" AGGREGATE.
6. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS BUILT UP TO ½ OF THE ORIGINAL HEIGHT OF THE WEIR CREST.

STONE CHECK DAM

SCALE: NONE

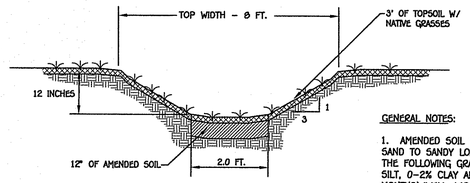


NOTES :

1. GRADE BOTTOM OF LEVEL SPREADER & LIP TO 0% (LEVEL).
2. ALL SIDES OF THE SPREADER CHANNEL SHALL BE A MINIMUM OF 6" HIGHER THAN THE ELEVATION OF THE LEVEL LIP.
3. CONSTRUCT IN UNDISTURBED SOIL.
4. CONTRACTOR IS RESPONSIBLE FOR REPAIR & MAINTENANCE OF LEVEL SPREADER THROUGHOUT THE DURATION OF THE CONSTRUCTION.

LEVEL SPREADER DETAIL

NOT TO SCALE



BIO-RETENTION SWALE

SCALE: NONE

GENERAL NOTES:

1. AMENDED SOIL SHALL CONSIST OF USDA LOAMY SAND TO SANDY LOAM CLASSIFICATION AND SHALL MEET THE FOLLOWING GRADUATION: 85-88% SAND, 8-12% SILT, 0-2% CLAY AND WELL AGED (6-12 MONTHS)/WELL AERATED LEAF COMPOST 20% BY VOLUME.
2. PROTECT BIO-RETENTION AREAS DURING CONSTRUCTION BY UTILIZING ORANGE "CONSTRUCTION FENCING"

MATERIAL SPECIFICATIONS FOR BIO-RETENTION SWALES

PLANTING SOIL

THE SOIL SHOULD BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER OBJECTS LARGER THAN 2 INCHES. NO OTHER MATERIALS OR SUBSTANCES SHOULD BE MIXED OR DUMPED WITH THE RAIN GARDEN AREAS THAT MAY BE HARMFUL TO PLANT GROWTH. THE PLANTING SOIL SHALL BE FREE OF NOXIOUS WEEDS.

THE PLANTING SOIL SHALL HAVE THE FOLLOWING COMPOSITION:
SAND: 80%
SILT: 15-20%
CLAY: <5%

THE PLANTING SOIL SHALL BE TESTED PRIOR TO PLACING AND SHALL MEET THE FOLLOWING CRITERIA:

pH RANGE: 5.2-7.0
ORGANIC MATTER: 1.5-4%
MAGNESIUM: 35 LBS./ACRE
PHOSPHORUS: 75 LBS./ACRE
POTASSIUM: 85 LBS./ACRE
SOLUBLE SALTS: NOT TO EXCEED 500 PPM

A MINIMUM OF ONE TEST SHALL BE CONDUCTED ON THE PLANTING SOIL. A SIEVE ANALYSIS SHALL BE CONDUCTED ON THE PLANTING AND TOPSOIL. IF TOPSOIL IS IMPORTED OFF-SITE, THEN A SIEVE ANALYSIS SHALL BE CONDUCTED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

IF pH NEEDS ADJUSTING, IT MAY BE MODIFIED WITH LIME TO RAISE THE pH AND IRON PHOSPHATE PLUS SULFER TO REDUCE THE pH.

MULCH

MULCH AROUND INDIVIDUAL PLANTS ONLY. SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS THAT MAY FLOAT ARE NOT ACCEPTED.

SHREDDED MULCH MUST BE AGED FOR 6-12 MONTHS

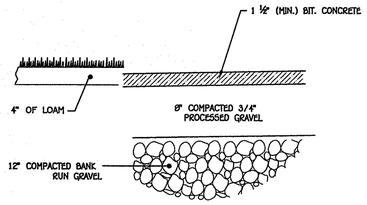
MIX APPROXIMATLEY ½ OF THE SPECIFIED MULCH LAYER INTO THE PLANTING SOIL TO A DEPTH OF APPROXIMATELY 4 INCHES.

COMPACTION

THE CONTRACTOR SHALL MINIMIZE COMPACTION WITHIN THE BIO-RETENTION AREAS AND DURING BACKFILLING. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION.

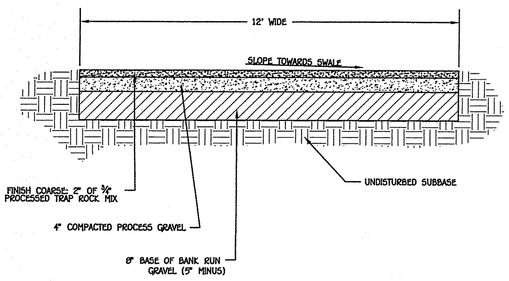
ONCE THE ELEVATION OF THE BOTTOM OF THE PLANTING SOIL LAYER HAS BEEN ESTABLISHED, UTILIZE A CHISEL PLOW, RIPPER OR SUBSOILER TO TILL AND REFRACTURE THE SOIL PROFILE. THE BOTTOM 12 INCHES SHALL BE TILLED IN THIS MANNER.

WHEN BACKFILLING THE BIO-RETENTION AREAS, PLACE THE SOIL IN LIFTS OF 12 INCHES OR GREATER. DO NOT USE HEAVY EQUIPMENT IN THE RAIN GARDEN AREAS. GRADE THE MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER, OR A DOZER/LOADER WITH MARSH TRACKS.



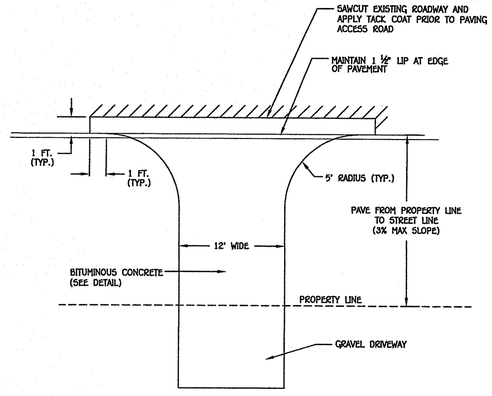
TYPICAL PAVED AREA SECTION-DRIVEWAY APRON

SCALE: NONE



TYPICAL GRAVEL DRIVEWAY CROSS SECTION

SCALE: NONE



PAVEMENT CUT & MATCH DETAIL

NOT TO SCALE

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Environmental Management
AUG 5 2016
Office of Water Resources

DETAILS

PREPARED FOR

WILLIAM E. McINTOSH, ET. AL.

11A HILLSDALE ROAD - PLAT 5D, LOT 10
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SCALE: AS SHOWN

JUNE 14, 2016 SHEET 7 OF 7

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