

PARCEL DATA:

ASSESSOR'S MAP 26, LOT 5074
 CURRENT OWNER: ROBERT AND SUSAN THOMAS
 182 PLYMPTON STREET
 DEED REFERENCE: BOOK 14525, PAGE 220
 TOTAL AREA: 809,939 SF or 18.59 Acres

ZONING REFERENCE: RURAL R
 MIN. LOT SIZE: 80,000 S.F.
 MIN. FRONTAGE: 200 FEET
 MIN. FRONT YARD: 50 FEET
 MIN. SIDE YARD: 10 FEET
 MIN. REAR YARD: 10 FEET

THE FLOOD INSURANCE RATE MAP IDENTIFIES THE SUBJECT PROPERTY AS BEING IN ZONE X; AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN; AND AREAS OF 0.2% ANNUAL CHANCE OF FLOOD. MAP NUMBER 25023C03374; DATED JULY 17, 2012.

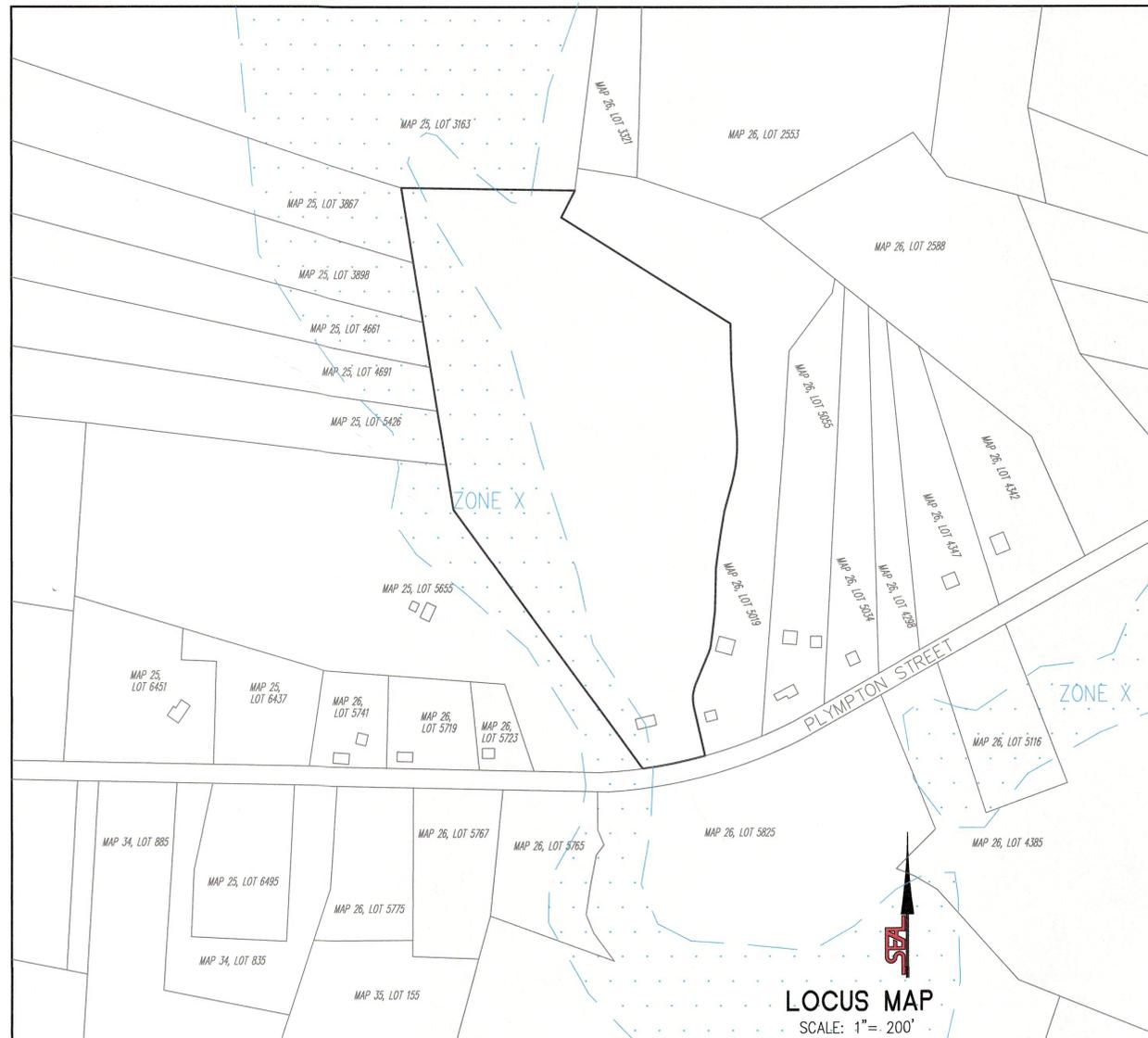
PLAN REFERENCES:

1. MAP AND LOT NUMBERS REFER TO THE TOWN OF MIDDLEBORO ASSESSOR'S MAP AND LOT NUMBERS
2. PROPERTY LINE INFORMATION OBTAINED FROM:
 - PLAN BOOK 46, PAGE 1033
 - PLAN BOOK 19, PAGE 1066
3. FIELD SURVEY PERFORMED BY SILVA ENGINEERING AND COMPLETED ON APRIL 21, 2011
4. WETLAND DELINEATION PERFORMED WALTER HEWITSON AND COMPLETED ON APRIL 12, 2011.

APPLICANT / PREPARED FOR:
 ROBERT THOMAS
 182 PLYMPTON STREET
 MIDDLEBOROUGH MASSACHUSETTS

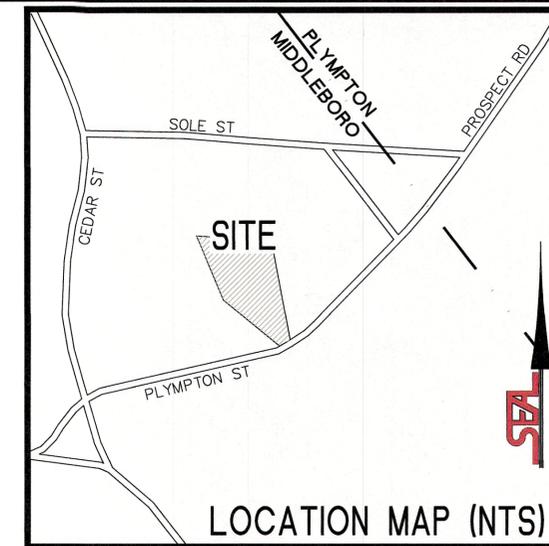
EARTH REMOVAL PLAN FOR CRANBERRY BOGS LOCATED AT 182 PLYMPTON STREET

ASSESSOR'S MAP 26, LOT 5074



ENTIRE LOCUS WITHIN RURAL R ZONING DISTRICT

ENTIRE LOCUS WITHIN WATER REASOURCE PROTECTION DISTRICT Z4



PREPARED BY:
 SILVA ENGINEERING ASSOCIATES, P.C.
 1615 BEDFORD STREET
 BRIDGEWATER, MASSACHUSETTS 02324



LAWRENCE P. SILVA, P.E.

SHEET #	CONTENTS	LATEST DATE
1 OF 6	COVER SHEET	8/20/2012
2 OF 6	SITE LAYOUT	8/20/2012
3 OF 6	EROSION CONTROL	8/20/2012
4 OF 6	CONSTRUCTION SEQUENCE	8/20/2012
5 OF 6	PRE-DEVELOPMENT	8/20/2012
6 OF 6	POST-DEVELOPMENT	8/20/2012



Lawrence P. Silva
 LAWRENCE P. SILVA, P.E. REG No. 33381-C
 8/28/2012
 DATE

REVISIONS			
DATE	DRAWN	ACAD FILE	SHEET

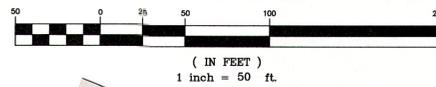
DRAWN	DATE	ACAD FILE	SHEET
RAB	8/20/12	M11014WS4-ER	1

MAP 26, LOT 2553
N/F
PEPE, DAVID E & JOANNA M
SOULE STREET

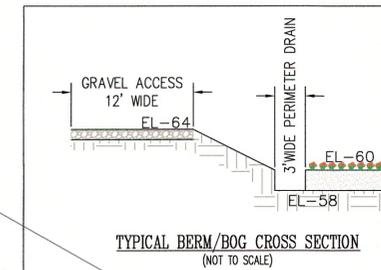
MAP 26, LOT 5019
N/F
PROULX, ROBERT G & SHARON L
187 PLYMPTON STREET

MAP 26, LOT 3321
N/F
MIZARAS, ROBERT ETAL
OFF PLYMPTON STREET

GRAPHIC SCALE



THE INTENT OF THIS PLAN IS TO ILLUSTRATE
OVERALL LAYOUT OF BOG AREA, POND, ACCESS
ROADS, PUMP HOUSE, OUTLET CONTROL STRUCTURES,
GRADING AND SILTATION BARRIER. INTERIOR BED
DRAINAGE SYSTEM IS NOT SHOWN AT THIS TIME.



SITE LAYOUT

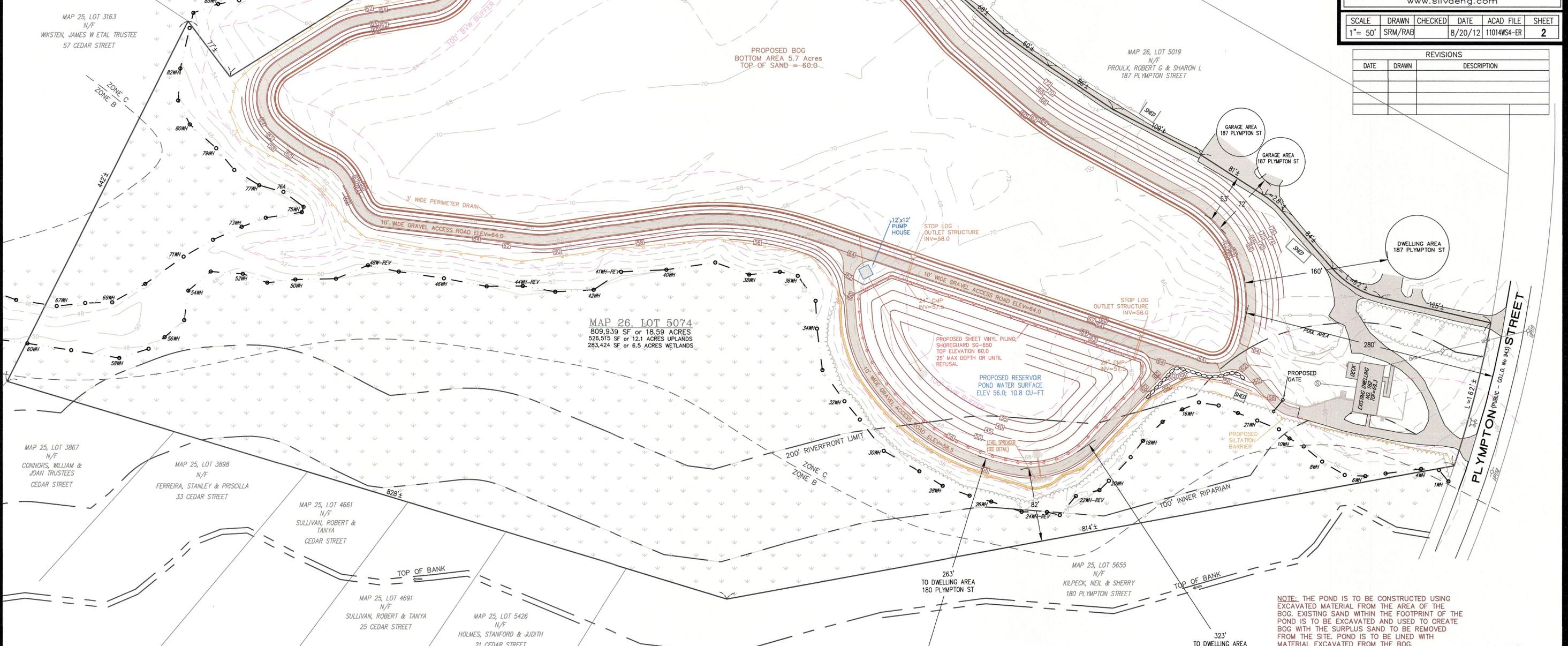
SITE:
ASSESSOR'S MAP 26, LOT 5074
182 PLYMPTON STREET
MIDDLEBOROUGH, MASSACHUSETTS

PREPARED FOR:
ROBERT THOMAS

SEA SILVA
ENGINEERING
ASSOCIATES, P.C.
CIVIL ENGINEERS, LAND SURVEYORS
& ENVIRONMENTAL CONSULTANTS
1615 BEDFORD STREET
BRIDGEWATER, MA. 02324
PHONE (508) 697-3100 FAX (508) 697-3136
www.silvaeng.com

SCALE	DRAWN	CHECKED	DATE	ACAD FILE	SHEET
1" = 50'	SRM/RAB		8/20/12	11014WS4-ER	2

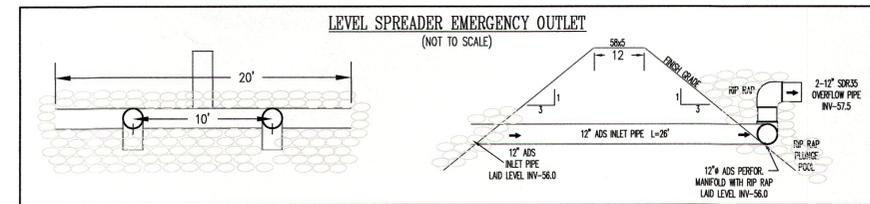
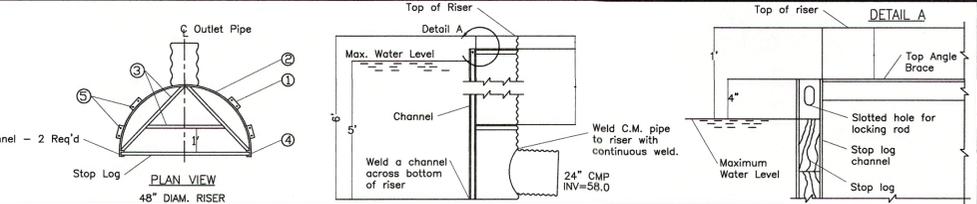
REVISIONS		
DATE	DRAWN	DESCRIPTION



MAP 26, LOT 5074
809,939 SF or 18.59 ACRES
528,515 SF or 12.1 ACRES UPLANDS
283,424 SF or 6.5 ACRES WETLANDS

NOTE: THE POND IS TO BE CONSTRUCTED USING
EXCAVATED MATERIAL FROM THE AREA OF THE
BOG. EXISTING SAND WITHIN THE FOOTPRINT OF THE
POND IS TO BE EXCAVATED AND USED TO CREATE
BOG WITH THE SURPLUS SAND TO BE REMOVED
FROM THE SITE. POND IS TO BE LINED WITH
MATERIAL EXCAVATED FROM THE BOG.

Notes for mark numbers shown in riser detail:
① 4 each, 2-1/2" x 2-1/2" x 3/16" angle 7" long welded or bolted with 1/2" bolts to riser for 2" x 10" planking. (Angles are optional if a platform or cover is desired.)
② Half of 48" diameter C.M. Riser 6' long
③ Angle brace welded together with 2" x 2" x 1/4" angles and installed with leg turned down. Brace to be welded to C.M. Riser and channels.
④ Weld channel to C.M. Riser by continuous weld. Length of channel = C + 4".
⑤ Drill holes 7/16" diam. to receive 3/8" diam. bolts for securing planks.



Lawrence Silva
8/28/2012

EROSION CONTROL

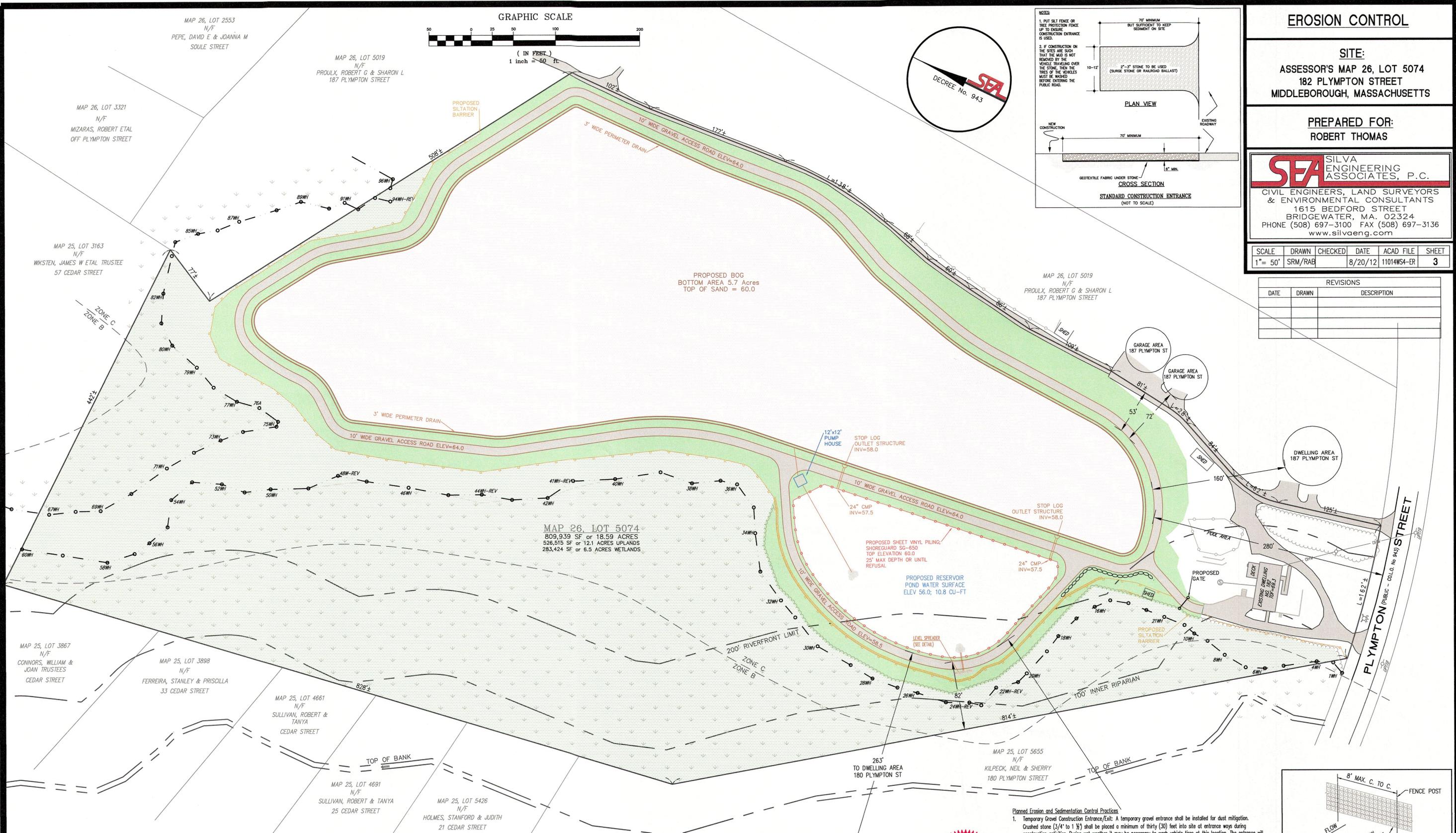
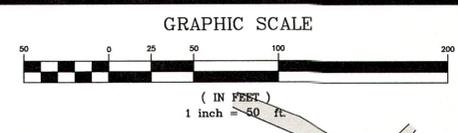
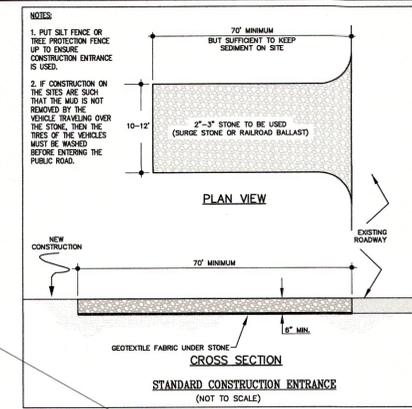
SITE:
 ASSESSOR'S MAP 26, LOT 5074
 182 PLYMPTON STREET
 MIDDLEBOROUGH, MASSACHUSETTS

PREPARED FOR:
 ROBERT THOMAS

SEA SILVA
 ENGINEERING
 ASSOCIATES, P.C.
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1" = 50'	SRM/RAB		8/20/12	11014WS4-ER	3

REVISIONS		
DATE	DRAWN	DESCRIPTION



Dust Control: The Contractor shall take steps to minimize the amount of dust generated on the site including those procedures contained below.

Surface Wetting: The Contractor shall ensure that all surfaces to be excavated are wet prior to, and if necessary, during excavation. Other potential wetting and/or dust control agents may be proposed for use by the Contractor and must be approved by the Town prior to use on site. If water is applied to the site, it shall not be applied in sufficient quantity or pressure to cause channeling or erosion of the surface to which it is applied.

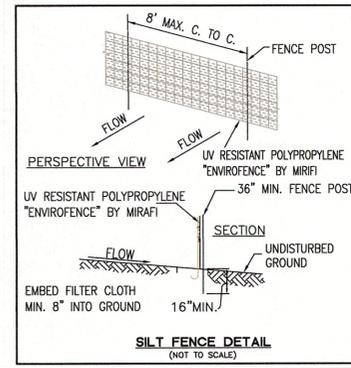
Pavement Cleaning: During periods when trucks are transporting soil and/or landscaping materials to or from the site, dirt that may have been tracked off the site shall be removed daily from the pavement and sidewalks. The area to be cleaned is to extend to the limit of noticeable dirt tracked from the site or for a distance of 100 feet on each side of a vehicle entrance or exit, whichever is greater. If water is used to clean the sidewalk or street then the quantity of water used shall not result in sediment being washed into the storm sewer catch basins or for excess water to freeze on the street. If in the opinion of the Town, manual street sweeping is insufficient to control the dirt tracked from the site, the Town may require the Contractor to use a mechanical street sweeper for pavement cleaning operations. Street sweepings shall not be disposed in any catch basin or any sewer. Street sweepings shall be disposed of as a waste along with waste soil in accordance with applicable regulations.

Entry/Exit Points: All equipment, including but not limited to vehicles, trucks, excavating equipment and hand tools leaving the site must be free of dirt prior to removal (either temporarily or permanently) from the site.

Designated Routes: All vehicles transporting soil or other materials to or from the site shall follow designated routes within the site. These routes are to be established by the contractor and marked by the contractor. The primary purpose of these routes is to reduce the contact between vehicles and impacted areas of the site. The location of the designated routes on the site shall be subject to environmental and geotechnical requirements.

Traped Loads: All trucks leaving the site which have been loaded with soil or debris shall be tarped in accordance with applicable regulations.

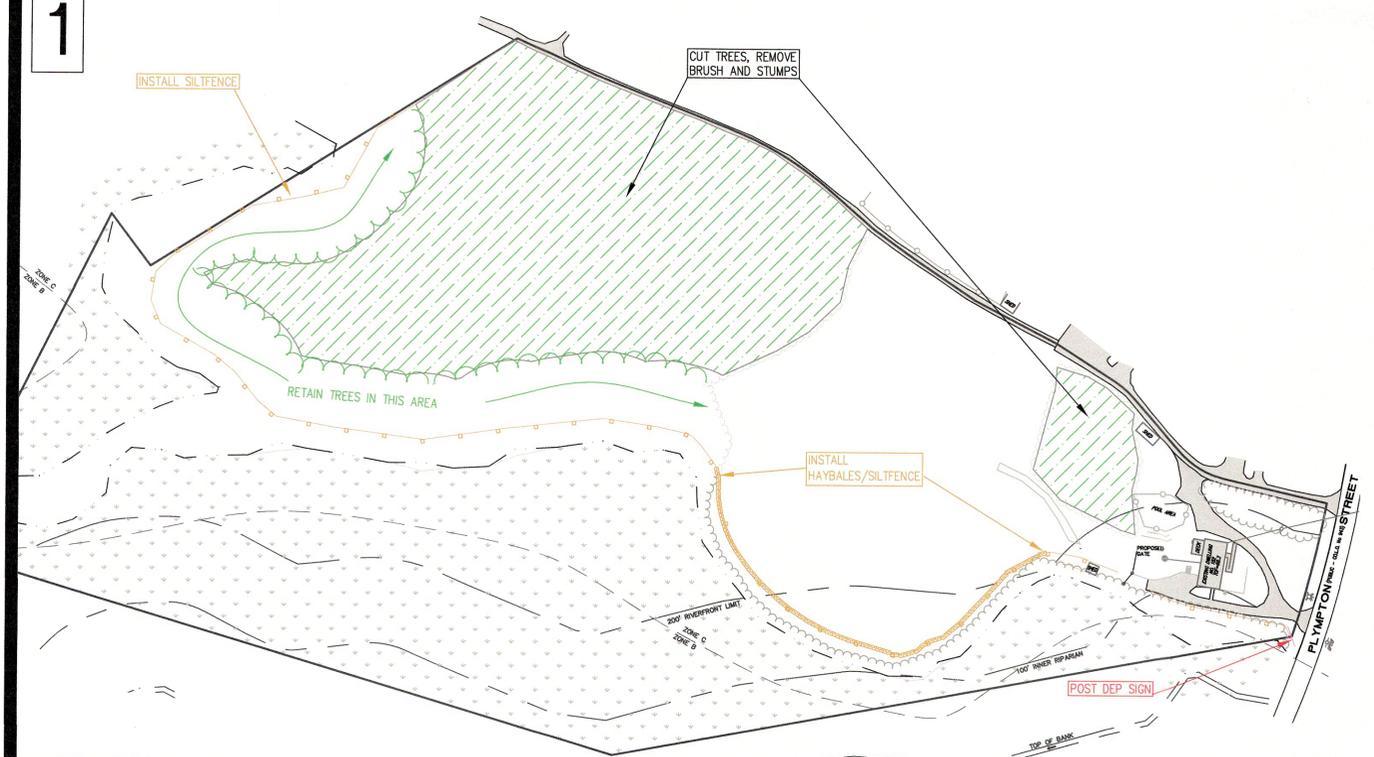
- Planned Erosion and Sedimentation Control Practices**
1. Temporary Gravel Construction Entrance/Exit: A temporary gravel entrance shall be installed for dust mitigation. Crushed stone (3/4" to 1 1/2") shall be placed a minimum of thirty (30) feet into site at entrance ways during construction activities. During wet weather it may be necessary to wash vehicle tires at this location. The entrance will be graded so that runoff water will not be directed to critical resources areas.
 2. Catch Basin/Water Quality Inlet Protection: A temporary silt sock will be installed on all inlets and be protected by haybales until such time as deemed appropriate after stabilization of the proposed drainage system.
 3. Tree Preservation and Protection: A minimum 2.0 ft. high protective fence will be erected around any trees that are to remain on site during and after construction activities. Sediment fence materials may be used for this purpose.
 4. Sediment Fence: A sediment fence will be constructed around the topsoil stockpile and adjacent to the deep cut areas as necessary to prevent erosion and sediment from entering critical areas.
 5. Outlet Stabilization Structure: A riprap apron will be located at any drainage outlets as indicated on the plans to prevent scour.
 6. Surface Roughening: The 3:1 cut slopes will be lightly roughened by disking just prior to vegetating, and the surface 4 to 6 inches of the 2:1 fill slopes will be left in a loose condition and grooved on the contour.
 7. Surface Stabilization: Stabilization of the surface will be accomplished with vegetation and mulch. Roadway and parking lot base courses will be installed as soon as finished grade is reached.



John Silva
 8/28/2012

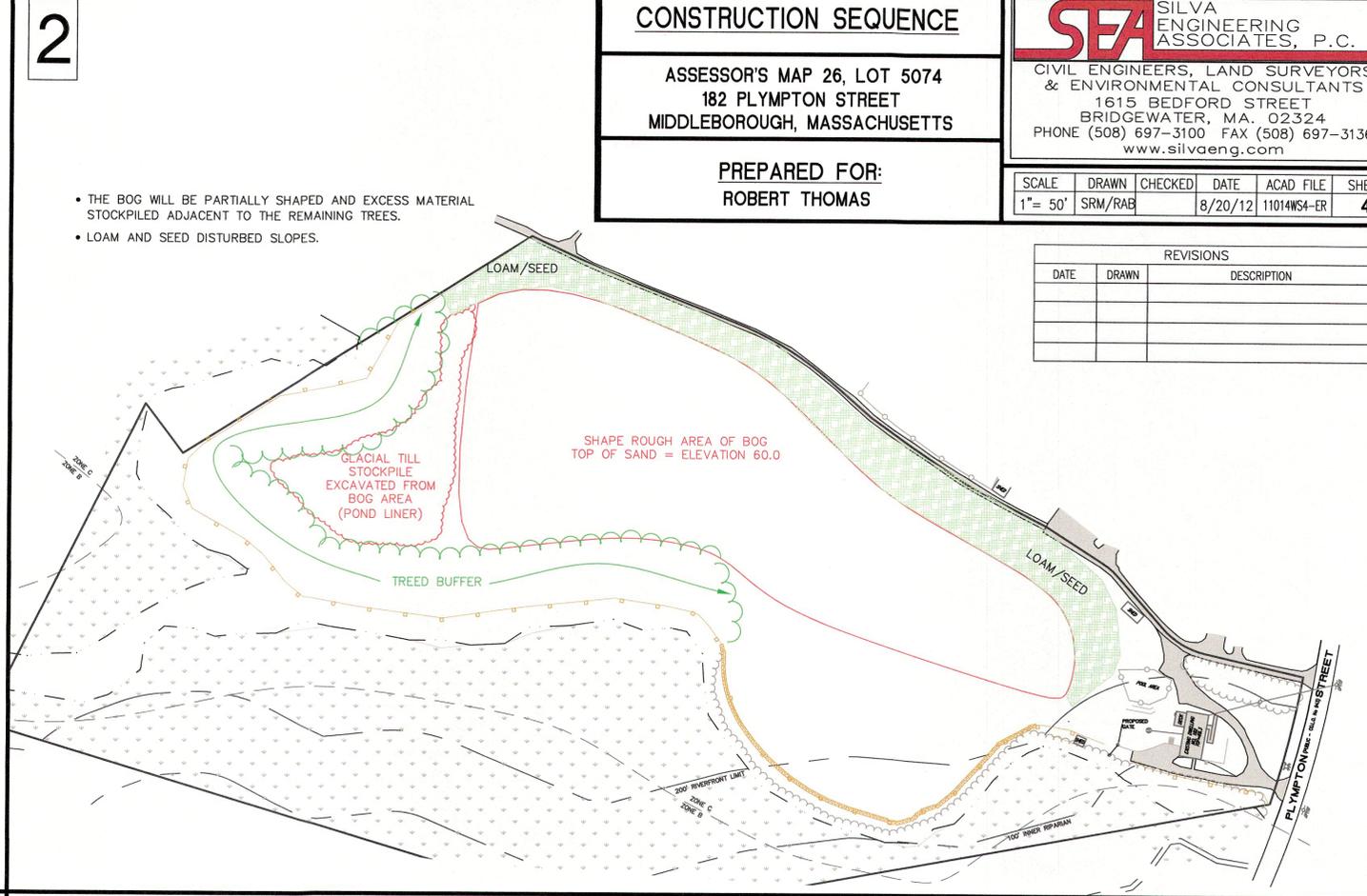


1



- POST DEP SIGN AND FOLLOW ORDER OF CONDITIONS: PLYMOUTH COUNTY REGISTRY OF DEEDS BOOK 41466, PAGE 32.
- INSTALL HAYBALES AND SILTFENCE BETWEEN WETLANDS AND PROPOSED POND AND SILTFENCE ALONG REMAINING LENGTH OF WETLAND.
- THE FORESTED AREA WILL NEXT NEED TO BE CUT AND STUMPED. THE BRUSH, WOOD AND STUMPS WILL BE HAULED OFF SITE FOR REUSE AND/OR DISPOSAL. TO PROVIDE MAXIMUM PROTECTION TO THE RESOURCE AREA, THE WESTERN PORTION OF THIS AREA SHOULD BE LEFT IN PLACE UNTIL THE BOG AREA IS COMPLETED.
- STUMPS TO BE HAULED AWAY FOR DISPOSAL. BRUSH TO BE REMOVED/BURNT IF POSSIBLE. WOOD TO BE SOLD AS LOGS OR CUT AND SPLIT FOR FIREWOOD/LUMBER.

2



- THE BOG WILL BE PARTIALLY SHAPED AND EXCESS MATERIAL STOCKPILED ADJACENT TO THE REMAINING TREES.
- LOAM AND SEED DISTURBED SLOPES.

CONSTRUCTION SEQUENCE

ASSESSOR'S MAP 26, LOT 5074
182 PLYMPTON STREET
MIDDLEBOROUGH, MASSACHUSETTS

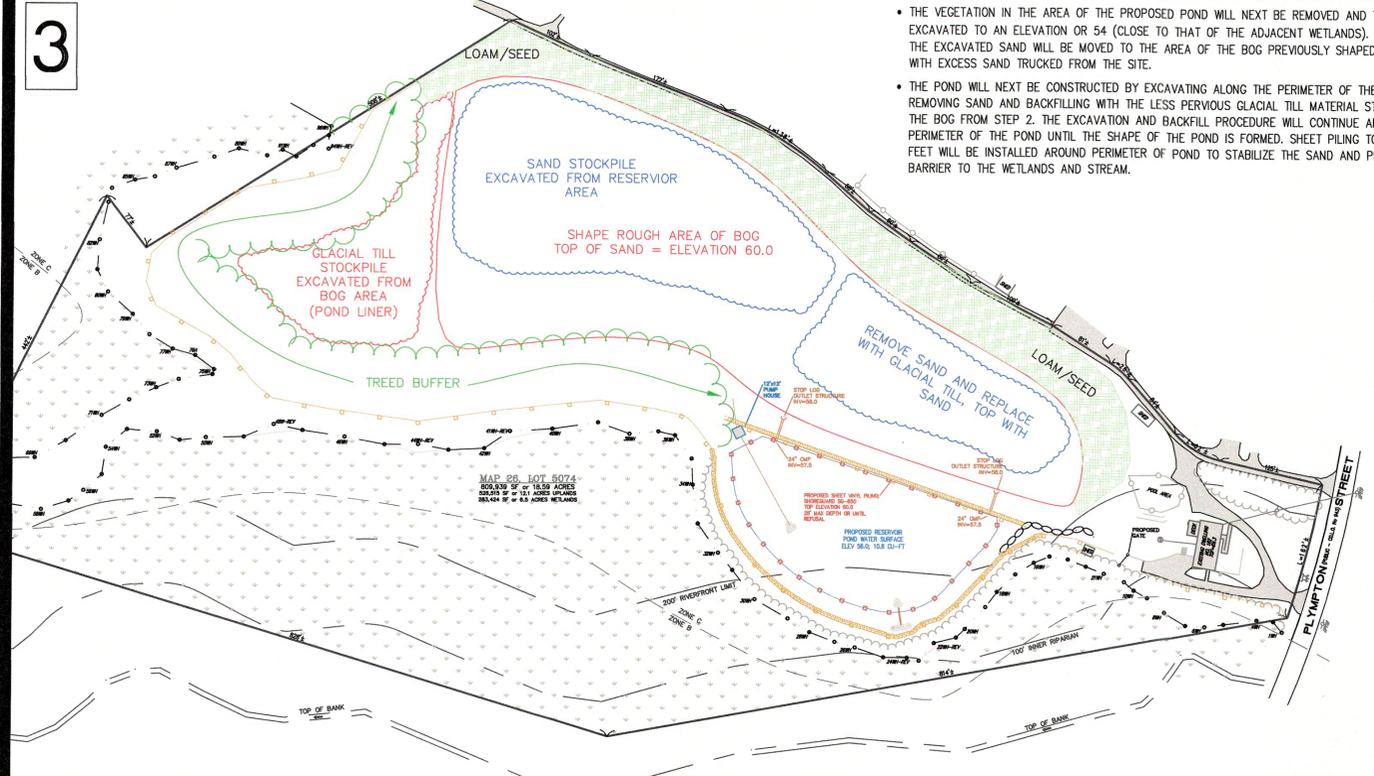
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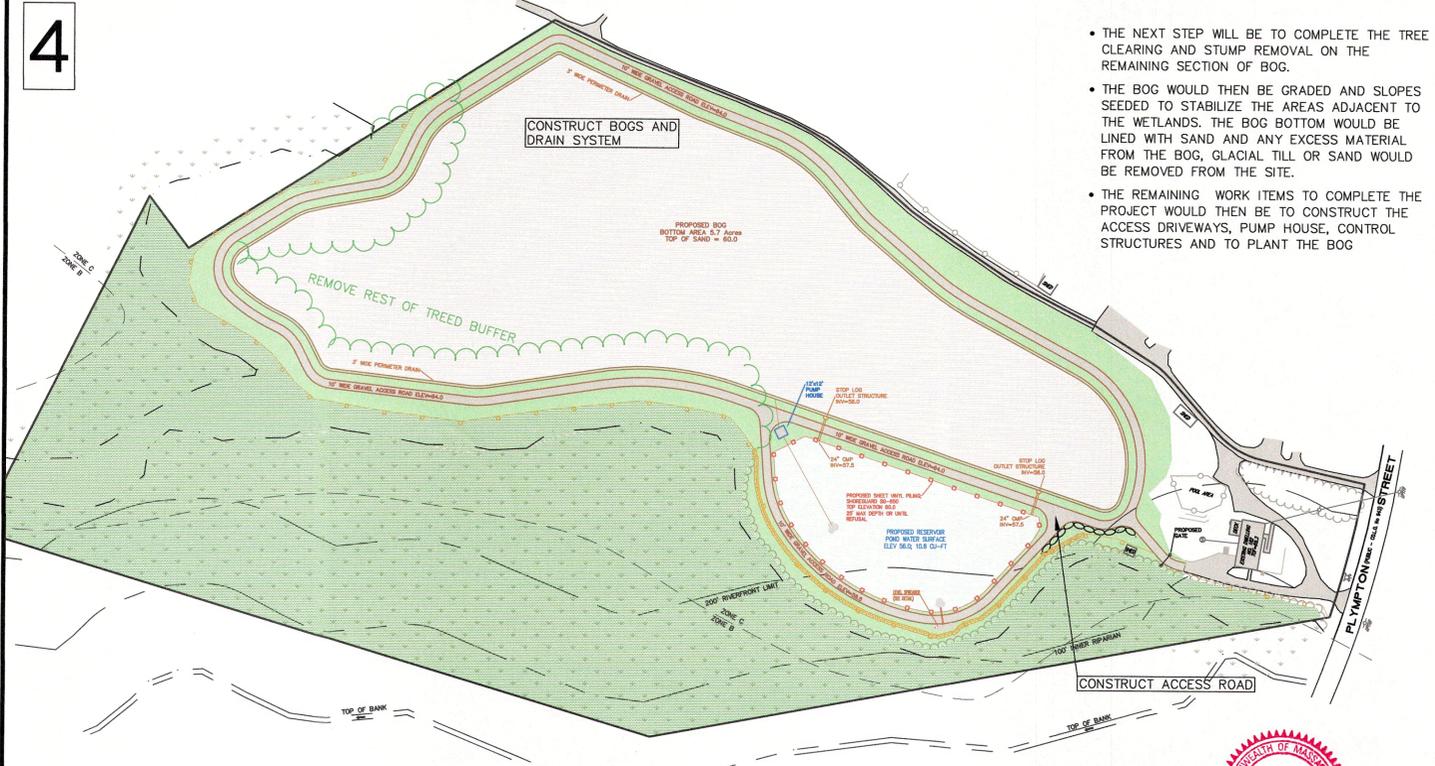
REVISIONS		
DATE	DRAWN	DESCRIPTION

3



- THE VEGETATION IN THE AREA OF THE PROPOSED POND WILL NEXT BE REMOVED AND THE SAND EXCAVATED TO AN ELEVATION OR 54 (CLOSE TO THAT OF THE ADJACENT WETLANDS). A PORTION OF THE EXCAVATED SAND WILL BE MOVED TO THE AREA OF THE BOG PREVIOUSLY SHAPED IN STEP 2, WITH EXCESS SAND TRUCKED FROM THE SITE.
- THE POND WILL NEXT BE CONSTRUCTED BY EXCAVATING ALONG THE PERIMETER OF THE POND, REMOVING SAND AND BACKFILLING WITH THE LESS PERVIOUS GLACIAL TILL MATERIAL STOCKPILED IN THE BOG FROM STEP 2. THE EXCAVATION AND BACKFILL PROCEDURE WILL CONTINUE AROUND THE PERIMETER OF THE POND UNTIL THE SHAPE OF THE POND IS FORMED. SHEET PILING TO DEPTHS OF 25 FEET WILL BE INSTALLED AROUND PERIMETER OF POND TO STABILIZE THE SAND AND PROVIDE A BARRIER TO THE WETLANDS AND STREAM.

4



- THE NEXT STEP WILL BE TO COMPLETE THE TREE CLEARING AND STUMP REMOVAL ON THE REMAINING SECTION OF BOG.
- THE BOG WOULD THEN BE GRADED AND SLOPES SEED TO STABILIZE THE AREAS ADJACENT TO THE WETLANDS. THE BOG BOTTOM WOULD BE LINED WITH SAND AND ANY EXCESS MATERIAL FROM THE BOG, GLACIAL TILL OR SAND WOULD BE REMOVED FROM THE SITE.
- THE REMAINING WORK ITEMS TO COMPLETE THE PROJECT WOULD THEN BE TO CONSTRUCT THE ACCESS DRIVEWAYS, PUMP HOUSE, CONTROL STRUCTURES AND TO PLANT THE BOG

- THE CENTER SECTION OF THE POND WILL NEXT BE EXCAVATED REMOVING DRY AND SATURATED SANDS TO A DEPTH APPROXIMATELY TEN FEET BELOW THE ELEVATION OF THE WETLANDS BUT NOT BELOW THE DEPTH OF THE PERIMETER LINING OF SHEET PILING/GLACIAL TILL. THIS SAND WILL BE STOCKPILED ON THE PARTIALLY FORMED BOG.
- THE POND SLOPES WILL BE FORMED AND SEED AND INTAKE PIPES FOR PUMPING THE POND INSTALLED AT THIS TIME. A LINE OF SILT FENCE SHALL BE INSTALLED BETWEEN THE POND AND BOG TO PROTECT THE POND DURING BOG CONSTRUCTION

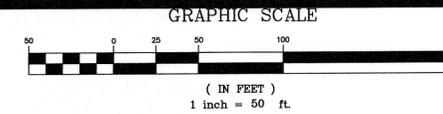


Lawrence P. Silva
8/28/2012

EX-A
10.9 ACRES

PREDEVELOPMENT WATERSHED DELINEATION
AREA LIMITED TO AREAS TO BE CHANGED
BY WORK PROPOSED; I.E. PROPOSED
SILTATION BARRIER LOCATION.

MAP 26, LOT 5019
N/F
PROULX, ROBERT G & SHARON L
187 PLYMPTON STREET



'DRAINAGE EVALUATION'
PRE DEVELOPMENT

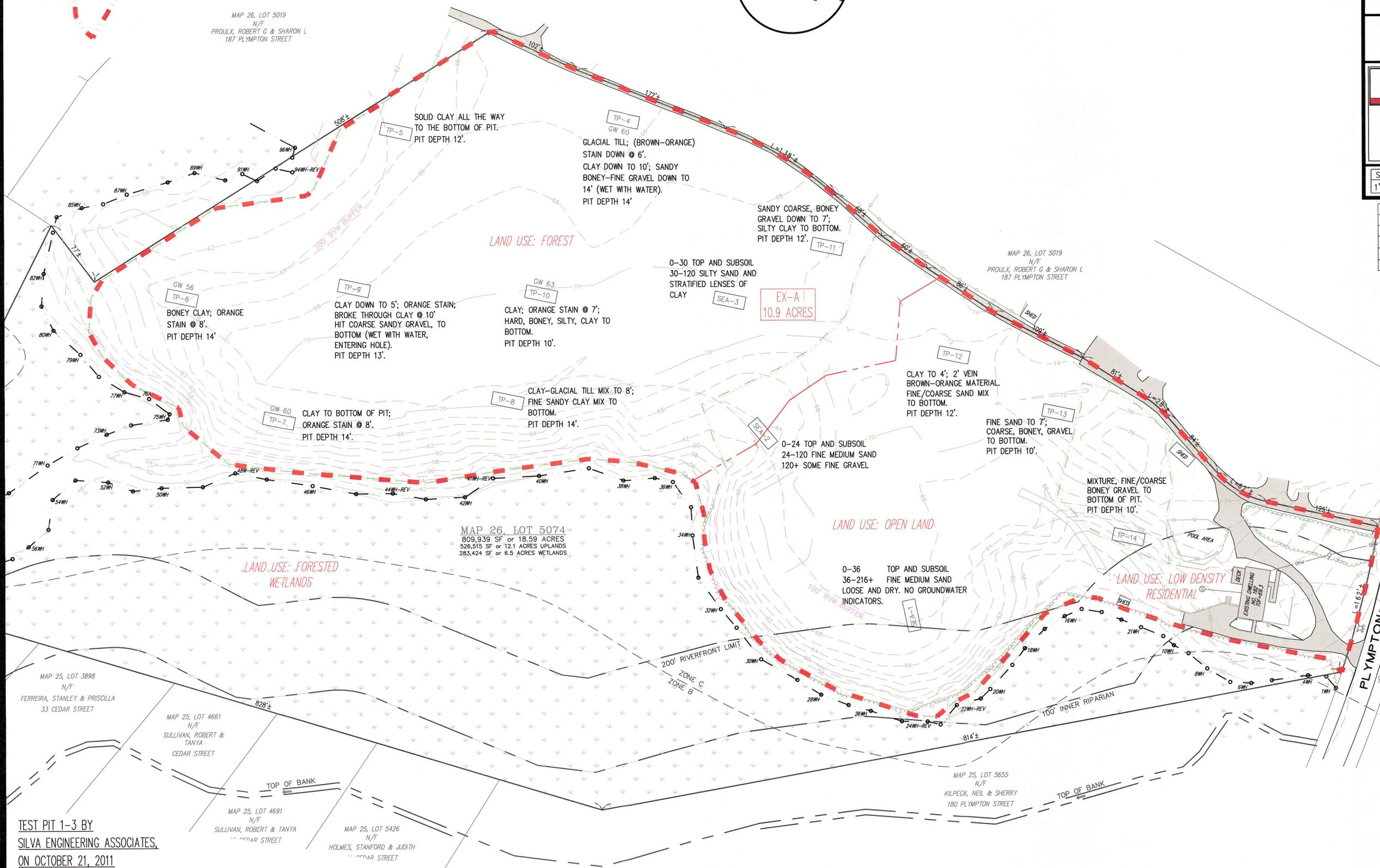
SITE:
ASSESSOR'S MAP 26, LOT 5074
182 PLYMPTON STREET
MIDDLEBOROUGH, MASSACHUSETTS

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1" = 50'	SRM/RAB		8/20/12	11014WS4-ER	5

REVISIONS		
DATE	DRAWN	DESCRIPTION



MAP 26, LOT 5074
809,939 SF or 18.59 ACRES
526,515 SF or 12.1 ACRES UPLANDS
283,424 SF or 6.5 ACRES WETLANDS

MAP 25, LOT 3898
N/F
FERREIRA, STANLEY & PRISCILLA
33 CEDAR STREET

MAP 25, LOT 4661
N/F
SULLIVAN, ROBERT & TANYA
CEDAR STREET

MAP 25, LOT 4691
N/F
SULLIVAN, ROBERT & TANYA
CEDAR STREET

MAP 25, LOT 5426
N/F
HOLMES, STANFORD & JUDITH
CEDAR STREET

MAP 25, LOT 5655
N/F
KILPECK, NEIL & SHERRY
180 PLYMPTON STREET

TEST PIT 1-3 BY
SILVA ENGINEERING ASSOCIATES,
ON OCTOBER 21, 2011

TEST PIT 4-14 BY OTHERS

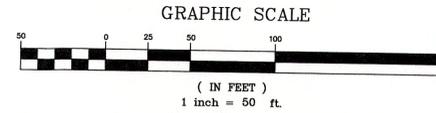


Lawrence P. Silva
8/28/2012

DV-A
10.9 ACRES

POST DEVELOPMENT WATERSHED
DELINEATION AREA LIMITED TO AREAS TO
BE CHANGED BY WORK PROPOSED; I.E.
PROPOSED SILTATION BARRIER LOCATION.

MAP 26, LOT 5019
N/F
PROULX, ROBERT G. & SHARON L.
187 PLYMPTON STREET



**'DRAINAGE EVALUATION'
POST DEVELOPMENT**

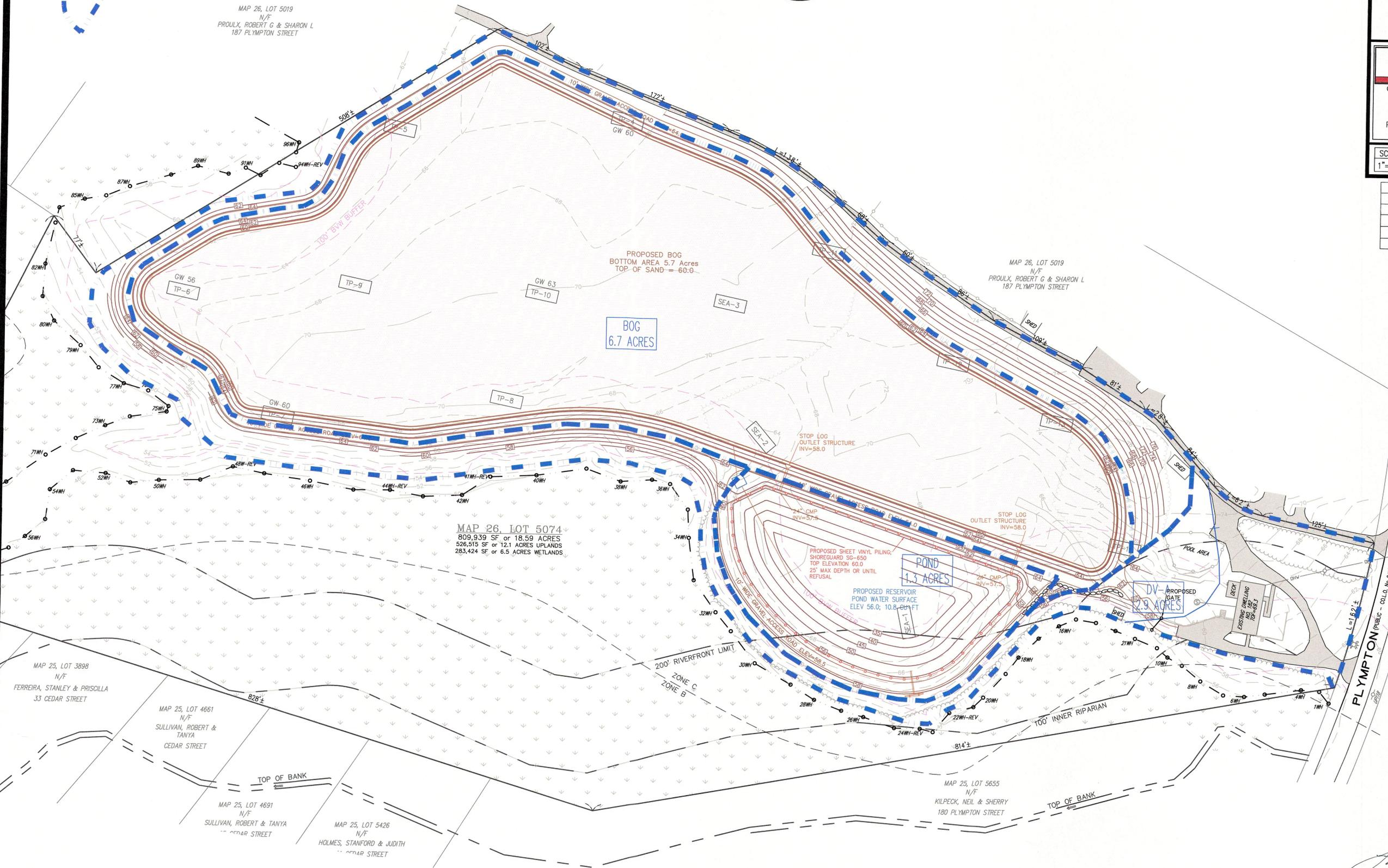
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182 PLYMPTON STREET
MIDDLEBOROUGH, MASSACHUSETTS

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MAP 26, LOT 5074
809,939 SF or 18.59 ACRES
526,515 SF or 12.1 ACRES UPLANDS
283,424 SF or 6.5 ACRES WETLANDS

BOG
6.7 ACRES

POND
1.3 ACRES

DV-A
10.9 ACRES

PLYMPTON STREET
(PUBLIC - COLL. No. 943)

MAP 25, LOT 3898
N/F
FERREIRA, STANLEY & PRISCILLA
33 CEDAR STREET

MAP 25, LOT 4661
N/F
SULLIVAN, ROBERT & TANYA
CEDAR STREET

MAP 25, LOT 4691
N/F
SULLIVAN, ROBERT & TANYA
CEDAR STREET

MAP 25, LOT 5426
N/F
HOLMES, STANFORD & JUDITH
CEDAR STREET

MAP 25, LOT 5655
N/F
KILPECK, NEIL & SHERRY
180 PLYMPTON STREET



Lawrence P. Silva
8/28/2012