

1.10.(1)(a) ALL SYSTEMS MUST CONFORM TO THE MINIMUM SETBACK DISTANCE FOR SEPTIC TANK AND SOIL ABSORPTION SYSTEMS, INCLUDING RESERVE AREA, MEASURED IN FEET AND AS SET FORTH BELOW. WHERE MORE THAN ONE SETBACK APPLIES, ALL SETBACK

(a) BORDERING VEGETATED WETLANDS[...] = 150'

THE APPLICANT PROPOSES A VARIANCE FOR THIS REGULATION DUE TO THE LOT LOCATION WITHIN THE

ZONING DATA

DISTRICT: RC (RESIDENTIAL COMPATABILITY)

MINIMUM REQUIREMENTS: 40,000 LOT FRONTAGE 200 FRONT YARD SIDE YARD CORNER CLEARANCE MAX BUILDING COVERAGE 15% MAX BUILDING HEIGHT 30

TOWN OF DUXBURY CHECKLIST NOTES

- THE PROPOSED SYSTEM IS NOT LOCATED WITHIN AN AQUIFER ZONE I OR ZONE II.
- 2. NO KNOWN POTABLE WELLS ARE LOCATED WITHIN 150' OF THE PROPOSED SYSTEM.

- NO KNOWN IRRIGATION WELLS ARE LOCATED WITHIN 100' OF THE PROPOSED SYSTEM.
- A VARIANCE IS REQUIRED DUE TO THE SEPTIC SYSTEM'S LOCATION BEING LESS THAN 150 FT FROM THE BORDERING VEGETATED WETLAND. NO OTHER STREAMS, SURFACE & SUBSURFACE DRAINS, NOR WETLANDS EXIST WITHIN 150 FEET OF THE PROPOSED SYSTEM.
- THE PROPOSED SYSTEM IS NOT LOCATED WITHIN A FEMA DESIGNATED FLOOD HAZARD 70NF. 8. IN THE EVENT OF A REPLACEMENT, THE EXISTING SYSTEM WILL BE REMOVED AND REPLACED IN
- 6. A VARIANCE IS REQUIRED DUE TO THE SEPTIC SYSTEM'S LOCATION BEING LESS THAN 150 FT
- FROM THE BORDERING VEGETATED WETLAND. NO OTHER VARIANCES FROM TITLE 5 OR DUXBURY RULES AND REGULATIONS ARE REQUIRED FOR THE PROPOSED SYSTEM

- 1. PROPERTY LINE DATA COMPILED FROM "LAND OF IRENE MACGIBBON ET AL" BY ROBERT C. BAILEY DATED OCTOBER 26, 1962, AND FROM "SUBDIVISION OF LAND IN DUXBURY, MASS." BY C.W. GARVEY CO., INC. SURVEYORS AND ENGINEERS, DATED FEBRUARY 12, 1999, DULY RECORDED WITH THE PLYMOUTH COUNTY REGISTRY OF DEEDS IN PLAN BOOK 12 PAGE 799 AND PLAN BOOK 42 PAGE 757 RESPECTIVELY.
- 2. TOPOGRAPHIC SURVEY PERFORMED BY GRADY CONSULTING, L.L.C. ON JUNE 18 AND 19, 2019, AND ON MARCH 3, 2021.
- 3. SOILS TESTING BY RICHARD GRADY, SE#926, GRADY CONSULTING, L.L.C., ON SEPTEMBER 8, 2020, AND WITNESSED BY PAT BRENNAN.
- 4. CALL DIG SAFE (1-888-344-7233) AT LEAST 4 DAYS PRIOR TO COMMENCEMENT OF
- 5. ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED. (310 CMR 15.221(12))
- DISTURBED AREA -- 6. A VARIANCE IS REQUIRED DUE TO THE SEPTIC SYSTEM'S LOCATION BEING LESS THAN 150 FT FROM THE BORDERING VEGETATED WETLAND. NO OTHER STREAMS, SURFACE & SUBSURFACE
 - DRAINS. NOR WETLANDS EXIST WITHIN 150 FEET OF THE PROPOSED SYSTEM. THE SITE IS NOT LOCATED IN AN AQUIFER PROTECTION ZONE II.
 - THE SITE IS NOT LOCATED IN A FLOOD PLAIN DISTRICT.
 - THERE ARE NO KNOWN EASEMENTS IN THE AREA OF THE PROPOSED SYSTEM.
 - EXISTING UTILITIES, WHERE SHOWN, HAVE BEEN COMPILED BASED ON OBSERVED ABOVE GROUND EVIDENCE, AND RECORD INFORMATION, AND ARE TO BE CONSIDERED APPROXIMATE. GRADY CONSULTING, L.L.C. DOES NOT GUARANTEE THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN OR THAT ALL EXISTING UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN.
 - 11. EXCAVATE ALL MATERIAL (A,B,C1 LAYERS) TO C2 LAYER (78"±), DIRECTLY BELOW SYSTEM (5' AROUND SYSTEM NOT REQUIRED PER I/A APPROVAL LETTER). REPLACE WITH CLEAN COARSE SAND IN ACCORDANCE WITH 310 CMR 15.255(3). EXCAVATION TO BE INSPECTED BY GRADY CONSULTING, L.L.C. AND THE TOWN OF DUXBURY PRIOR TO SOIL REPLACEMENT.

APPROXIMATE PERC SAND VOLUME = $12.4 \times 35 \times (101.3 - 92.07) / 27 + 20\% = 179 \pm C.Y.$

RECORD OWNER: ASSESSOR MAP 014 BLOCK 011 LOT 006

PLAN REFERENCES . LAYOUT No. 2778 PLAN BOOK 12 PAGE 799 (No. 908 OF 1962)
 PLAN BOOK 42 PAGE 757

BRUCE L. MACGIBBON C/O DOUGLAS B. MACGIBBON 141 SANTA MONICA AVENUE ROYAL PALM BEACH, FLORIDA 33441 DEED BOOK 7469 PAGE 109 LOT 6 - PLAN BOOK 12 PAGE 799 DEED BOOK 17795 PAGE 300 LOT 7-B - PLAN BOOK 42 PAGE 757

REVISIONS		
OCTOBER 14, 2021	RESPONSE TO BOH REVIEW COMMENTS	
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SITE PLAN#0 KEENE STREET DUXBURY, MASSACHUSETTS

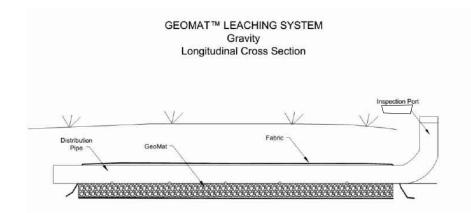
PREPARED FOR: JOHN BALDWIN P.O. BOX 1071 DUXBURY, MA 02331

AUGUST 26, 2021 SCALE: 1"=20' JOB No. 19-143



71 Evergreen Street, Suite 1, Kingston, MA 02364 Phone (781) 585-2300 Fax (781) 585-2378

SHEET 1 OF 2



GEOMAT LEACHING SYSTEM NOTES

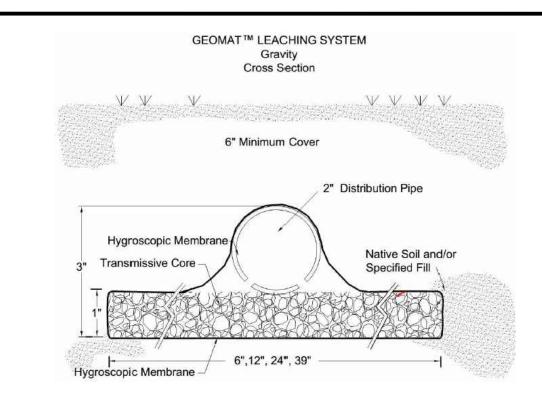
- 1. THIS SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION MODIFIED CERTIFICATION FOR GENERAL USE PURSUANT TO TITLE 5 310CMR 15.000, REVISED JULY 14, 2017 AND STANDARD CONDITIONS FOR ALTERNATIVE SOIL ABSORPTION SYSTEMS WITH GENERAL USE CERTIFICATION AND/OR APPROVED FOR REMEDIAL USE REVISED JUNE 26, 2019. A DISCLOSURE NOTICE IN THE DEED OF THE PROPERTY IS REQUIRED FOR SYSTEMS INSTALLED UNDER THE REMEDIAL USE APPROVAL.

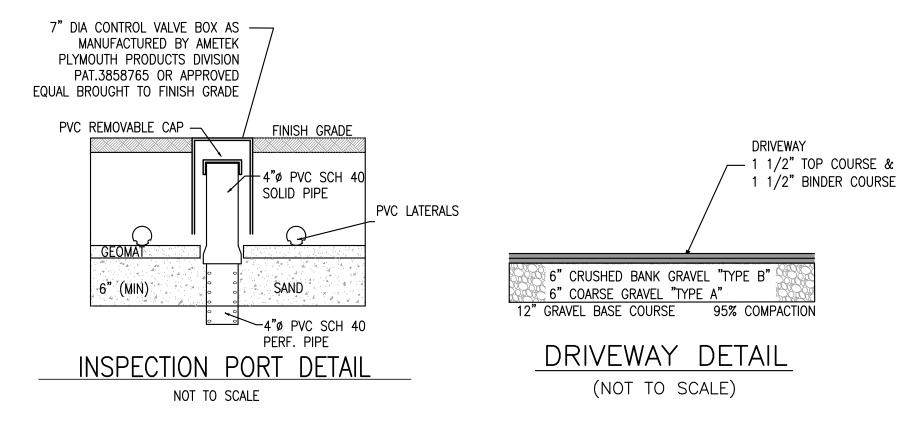
 2. SYSTEMS SHALL BE INSTALLED WITH INSPECTION ACCESS AT END
- OF EACH RUN OF PIPE

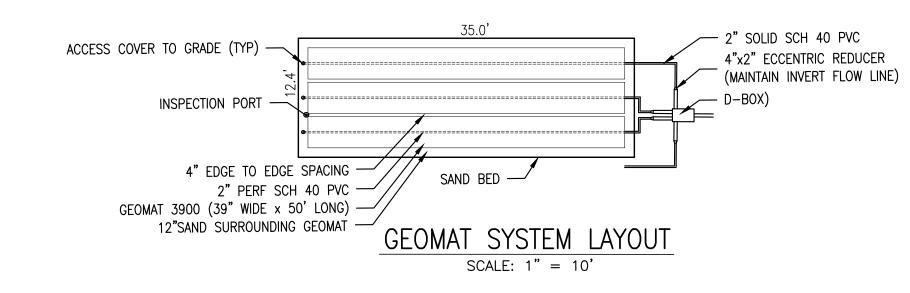
 3. THIS SYSTEM DOES NOT REQUIRE A FIVE FOOT OVER DIG AS
- INDICATED AT 310 CMR 15.255 (5)

 4. THE DISPERSAL AREA SHALL NOT BE INSTALLED UNDER A PAVED SURFACE OR IN AN AREA OF ROUTINE TRAFFIC PARKING OR STORAGE OF HEAVY EQUIPMENT. IN ADDITION NO PLANTING OR SOIL EXCAVATION SHALL BE DONE IN OR WITHIN 5 FEET OF THE ALTERNATIVE SUBSURFACE SOIL ABSORPTION SYSTEM AREA AFTER
- ITS INSTALLATION
 5. ONLY AUTHORIZED SERVICE PROVIDER SHALL INSTALL GEOMAT WASTEWATER TREATMENT SYSTEM

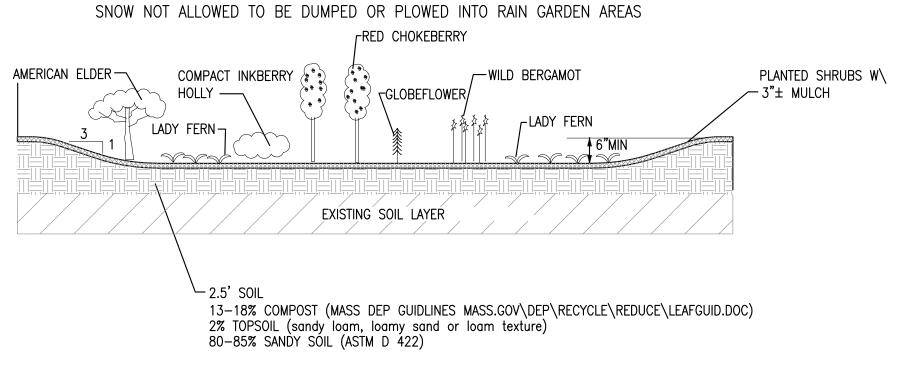
GEOMAT DISTRIBUTORS IN MASSACHUSETTS: SEPTIC & SEWER SUPPLIES: 508-276-3313 SEPTIC SUPPLY HOUSE: 508-358-5763







GRADY

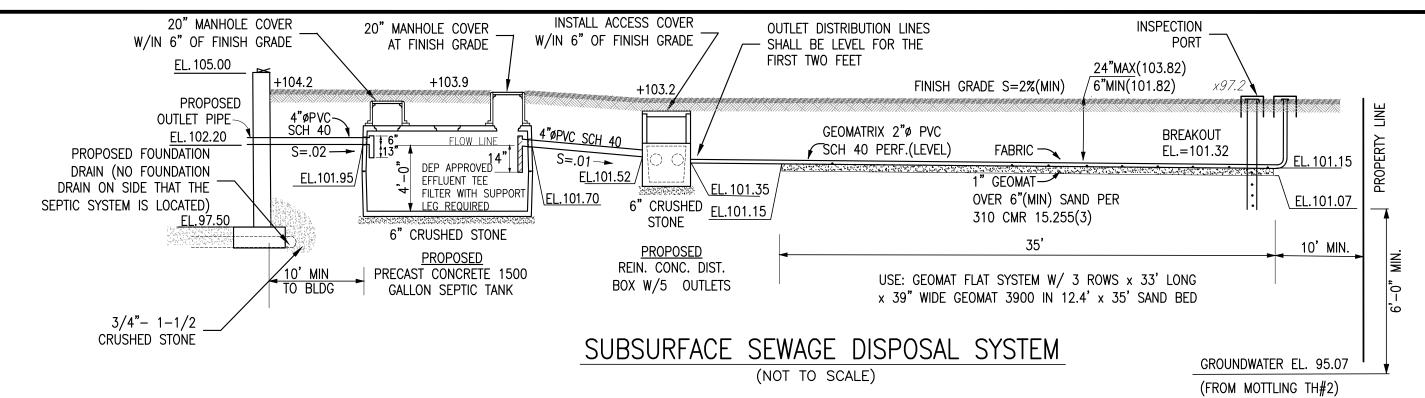


The soil mix must be uniform, free of stones, stumps, roots or similar objects larger than 2 inches. Clay content should not exceed 5%. Soil pH should generally be between 5.5–6.5, a range that is optimal for microbial activity and adsorption of nitrogen, phosphorus, and other pollutants.

Use soils with 1.5% to 3% organic content and maximum 500-ppm soluble salts.

The sand component should be gravelly sand that meets ASTM D 422.

RAIN GARDEN DETAIL
(NOT TO SCALE)



SEPTIC DESIGN (NOT DESIGNED FOR GARBAGE GRINDER)

1. DESIGN DAILY FLOW: 3 BR. x 110 GPD = 330 GPD

2. SEPTIC TANK: 330 GPD x 2 = 880 GAL. USE: 1500 GAL (MIN)

3. LEACHING CHAMBERS: CLASS I LOAMY SAND-USE E.L.R.=0.74 GPD/SF

CONVENTIONAL SYSTEM DESIGN - LEACHING TRENCHES: 330 GPD / 0.74 GPD/SF = 446 SF(MIN) : 2 - 40' LONG × 2' WIDE × 2' DEEP TRENCHES

2 - 40' LONG x 2' WIDE x 2' DEEP TRÉNCHES $2 \times 40' \times 6$ SF/LF = 480 SF

GEOMAT LEACHING SYSTEM:

SOIL LOADING RATE (MIN 6" SAND BENEATH GEOMAT) = 1.50 GPD/SF

GEOMAT REQUIRED = 330 GPD / 1.5 GPD/SF = 220 SF (MIN)

LENGTH OF GEOMAT FLAT 3900 = 220 SF / 3.42 SF/LF = 64.3 LF (MIN)

USE: $3 \times 33' = 99$ LF

MINIMUM SAND BED SIZING = 400 SF USE: $12.4' \times 35' = 434$ SF

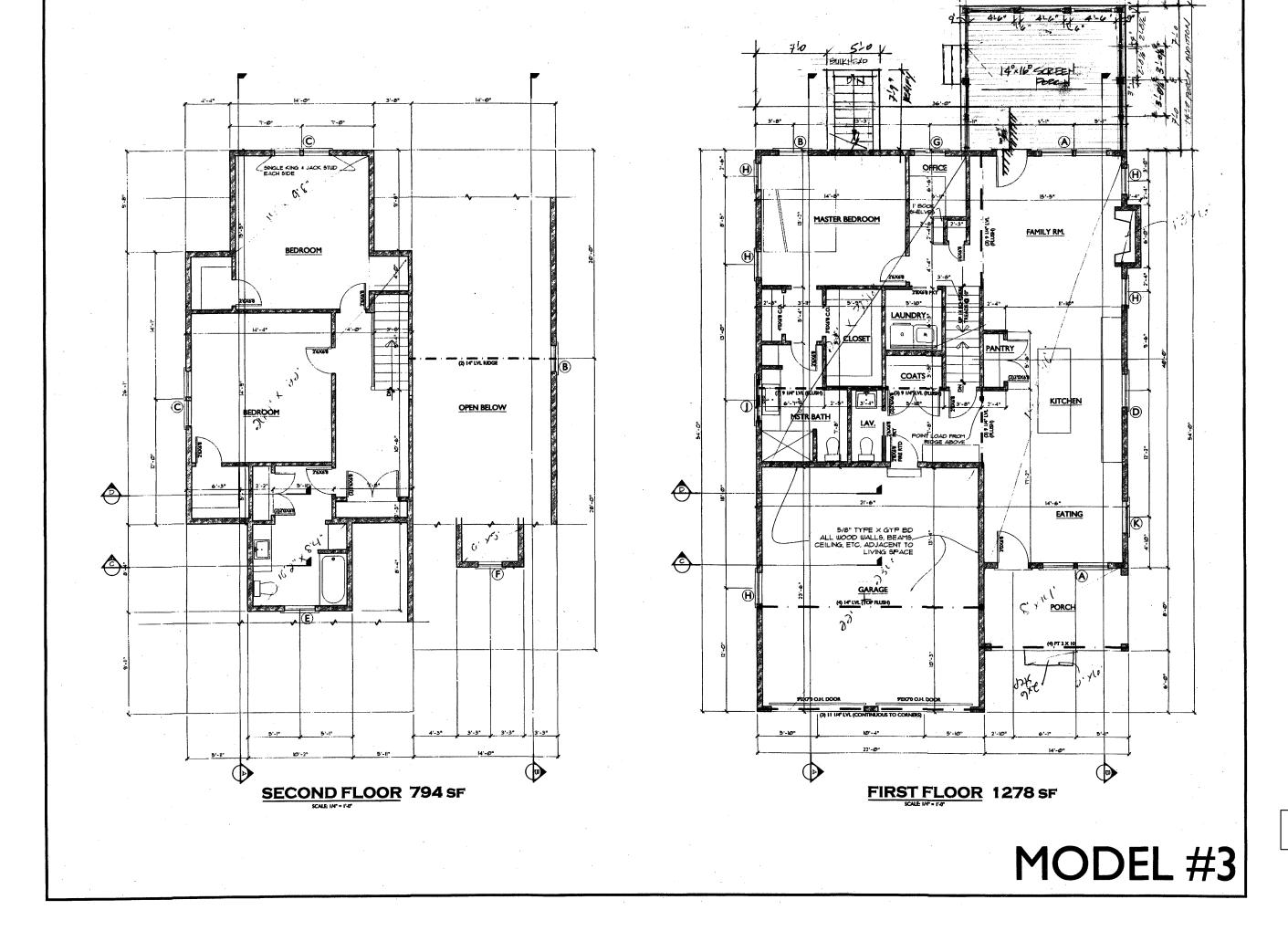
SEPTIC NOTES

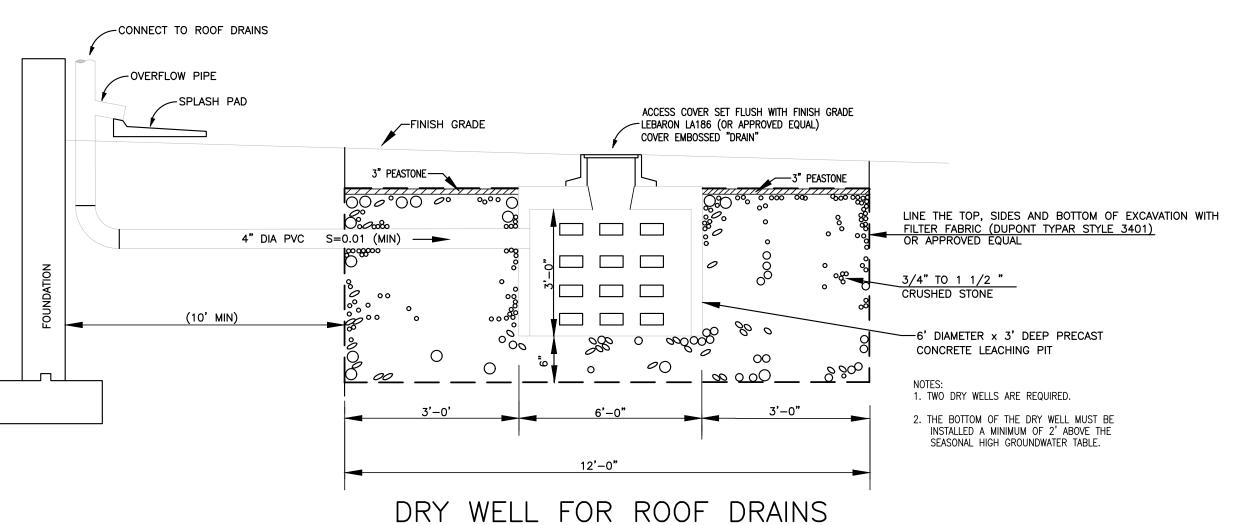
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- 4. CALL DIG SAFE 1-888-344-7233 AT LEAST 4 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 5. NOTIFY TOWN AND GRADY CONSULTING PRIOR TO BACKFILLING OF SYSTEM.
- 6. NO KNOWN WELLS EXIST WITHIN 200' OF THE PROPOSED SYSTEM
- 7. THE SITE IS NOT LOCATED IN AN AQUIFER PROTECTION ZONE II.
- 8. ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A
- COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED (310 CMR 15.221(12))

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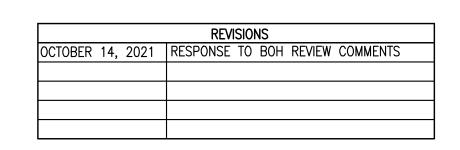
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(NOT TO SCALE)



SITE PLAN

#0 KEENE STREET

DUXBURY, MASSACHUSETTS

PREPARED FOR: JOHN BALDWIN P.O. BOX 1071 DUXBURY, MA 02331

AUGUST 26, 2021 SCALE: AS NOTED JOB No. 19-143



Civil Engineers, Land Surveyors & Landscape Architects 71 Evergreen Street, Suite 1, Kingston, MA 02364 Phone (781) 585-2300 Fax (781) 585-2378