

**NOTICE OF PUBLIC MEETING
SUDBURY CONSERVATION COMMISSION
Monday, July 24, 2023 at 7:00 PM
Virtual Meeting**

The Sudbury Conservation Commission will hold a public meeting to review the Request for Determination of Applicability filing under the Wetlands Protection Act and the Sudbury Wetlands Administration Bylaw to upgrade a septic system and install an infiltration recharge system for a new accessory dwelling unit, within the 100-foot Buffer Zone and 200-foot Riverfront Area at 247 Dutton Road, in Sudbury, MA. KVC Builders, Applicant. The meeting will be held on Monday, July 24, 2023 at 7:00 pm, via Zoom.

Copies of the application may be reviewed on the Conservation Department web page at:

<https://sudbury.ma.us/conservationcommission/meeting/conservation-commission-meeting-monday-july-24-2023/>

Please contact the Conservation Office with any questions at 978-440-5470.

SUDBURY CONSERVATION COMMISSION
7/10/2023

**Request for Determination of Applicability
For
247 Dutton Road, Sudbury, MA 01776**

Prepared for: **KVC Builders
11 Fox Road
Waltham, MA 02451**

Prepared by: **MetroWest Engineering, Inc.
75 Franklin Street
Framingham, MA 01702
(508)-626-0063**

July 6, 2023

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Project Narrative

Project Narrative
Request for Determination of Applicability
247 Dutton Road in Sudbury, MA

Introduction

The purpose of this Request for Determination of Applicability is to notify the Massachusetts Department of Environmental Protection and the Sudbury Conservation Commission of the proposed work at 247 Dutton Road in Sudbury, Massachusetts.

Executive Summary

The project described herein proposes a one-bedroom in-law apartment, which will be located outside of all resource areas (riverfront) and buffer zones. Stormwater from the small building will be managed by a groundwater infiltration recharge system located in a lawn area that is within the 100-foot buffer zone, but outside of the riverfront area.

The project will require a septic system upgrade to increase the capacity from three bedrooms to four bedrooms. The installation of the soil absorption system will require approximately 1,907-Square Feet (SF) of temporary disturbance within the 100-foot buffer zone and approximately 1,846-SF of temporary disturbance within the outer riparian zone of the Riverfront Resource Area. All proposed temporary disturbances will occur with areas presently maintained with turf, either bluegrass lawn or meadow grass. The closest proximity of the work to the Bordering Vegetated Wetland is 70-feet. One (1) existing tree, located outside the 100-foot buffer zone and Riverfront Resource Area is scheduled to be removed.

Erosion control measures will be maintained at the limit of work throughout the duration of the project.

Under MA Wetland Protection Regulations, 310 CMR 10.00, a Notice of Intent is not required, since all work is beyond 50-feet from the wetland edge, and the work in the outer riparian zone of the Riverfront Area is within lawn, is temporary in nature, and will not result in a permanent alteration of the resource area.

Existing Conditions

The project site is located on the north side of Dutton Road, approximately 1,000-feet west of the intersection of Dutton Road and Old Garrison Road. The subject property contains 319,354 square feet (7.3-acres) of land and is presently improved with a two-story house, wooden barn, inground pool, modular carports, paved driveway, subsurface sewage disposal system, retaining walls, supporting utilities, hardscape and landscape areas. The property has frontage along Dutton Road to the Southeast and is bounded by Memorial Forest Conservation Land to the northeast and residential lots to the east and south.

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Site topography is modest with approximately 15-feet of vertical relief across the site. The site slopes from the existing house, located on top of a hill at the center of the property, towards a Bordering Vegetated Wetland (B.V.W.) located at the foot of the hill.

Resource Areas

Hop Brook, a perennial stream, flows in a south to north direction along the northwest property line, located 220-feet northwest of the existing pool and is a hydrologic connection between Carding Millpond and Stearns Millpond. A 100-foot Inner Riparian Zone and 200-foot Riverfront Area (Outer Riparian Zone) extend out horizontally from the edge of the bank towards the existing house and inground pool. A portion of the existing subsurface sewage disposal system is located within the Outer Riparian Zone.

A Bordering Vegetated Wetland (B.V.W.) is also located on the property. The B.V.W. borders Hop Brook and extends eastward towards Dutton Road and a driveway easement surrounding the existing house and lawn area on three sides. A 100-foot Wetland Buffer Zone extends out horizontally from the edge wetland towards the existing house and driveway. A portion of the existing house, driveway and subsurface sewage disposal system is located within the 100-foot Wetland Buffer Zone.

Hop Brook and the B.V.W. were delineated by Corey Van Wyhe, Wetlands Scientist, on June 4th, 2019, and reconfirmed again on March 21st, 2023. An area table showing the area coverages for each Resource Area and Buffer Zones is provided below in Table One:

Table One: Area Coverages of Resource Areas and Buffer Zones on the Property

Resource Areas and Buffer Zones	Area Coverage (s.f.)
Hop Brook	4,014 s.f.
100-foot Riverfront Area (Inner Riparian Zone)	51,282 s.f.
200-foot Riverfront Area (Outer Riparian Zone) (Includes Inner Riparian Zone)	104,794 s.f.
Bordering Vegetated Wetland (B.V.W.)	105,700 s.f.
50-foot Wetland Buffer Zone	73,788 s.f.
100-foot Wetland Buffer Zone (Includes 50-foot Buffer Zone)	140,962 s.f.

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Proposed Scope of Work

The scope of work includes the pumping, removal and backfilling of the existing subsurface disposal system followed by the construction of an 811 square foot guest house attached to the existing house, new subsurface sewage disposal system, private water supply well and a stormwater management system. The proposed guest house and private water supply well are located outside the 200-foot Riverfront Area and 100-foot Wetland Buffer Zone.

A portion of the proposed work is located within the 200-foot Riverfront Area and/or 100-foot Wetland Buffer Zone including the new soil absorption system and stormwater management system. The increase in the number of bedrooms of the existing house as a result of constructing the proposed guest house will require a new subsurface sewage disposal system to be installed per 310 CMR 15.000: Title 5 Regulations. The new subsurface sewage disposal system is located 20-feet north of the existing pool and consists of a septic tank, distribution box and two subsurface soil absorption trenches. Due to minimum dimensional Title 5 setbacks, a portion of the subsurface soil absorption system is located within the 100-foot Wetland Buffer Zone and 200-foot Riverfront Area.

A new stormwater management system is being proposed to reduce and mitigate stormwater peak runoff rates and volumes leaving the project site as a result of new impervious surfaces. The proposed stormwater management system consists of roof gutters, downspouts and a subsurface infiltration system. Roof gutters and downspouts will be added to the guest house to collect, route and discharge roof runoff into the subsurface infiltrations system. The proposed subsurface infiltration system consists of two StormTech SC-310 chambers surrounded by one-foot of washed stone. The infiltration system is located approximately 15-feet south of the proposed guest house and is located within the 100-foot Wetland Buffer Zone, but more than 50-feet from the resource area, within an existing turf lawn.

Prior to construction, an erosion control barrier consisting of a filter sock, filled with a compost/woodchip blend, will be installed between the proposed work and the 50-foot Wetland Buffer Zone. All proposed work will be completed within the existing lawn/meadow area and be no closer than 50-feet from the edge of the wetland and will be outside the 100-foot Inner Riparian Zone.

Stormwater Impacts and Compliance

A General Stormwater Management Permit (GSMP) is not required for this project as land disturbance will be below the 5,000 square foot threshold and construction of the subsurface sewage disposal system will not alter the existing grade by two or more feet over an area of 500 square feet or more. Proposed land disturbance is limited to the removal of the existing subsurface sewage disposal system, construction of a guest house, new stormwater management system, private water system well and new subsurface sewage disposal system. Total impervious surfaces across the project site will increase by 811 square feet. No new impervious surfaces are proposed within the jurisdictional Wetland Buffer Zones or Riverfront Areas. Stormwater runoff generated by the increase in impervious surfaces is mitigated by the proposed infiltration system. As demonstrated under Stormwater Calculations for Infiltration on the Proposed Sewage

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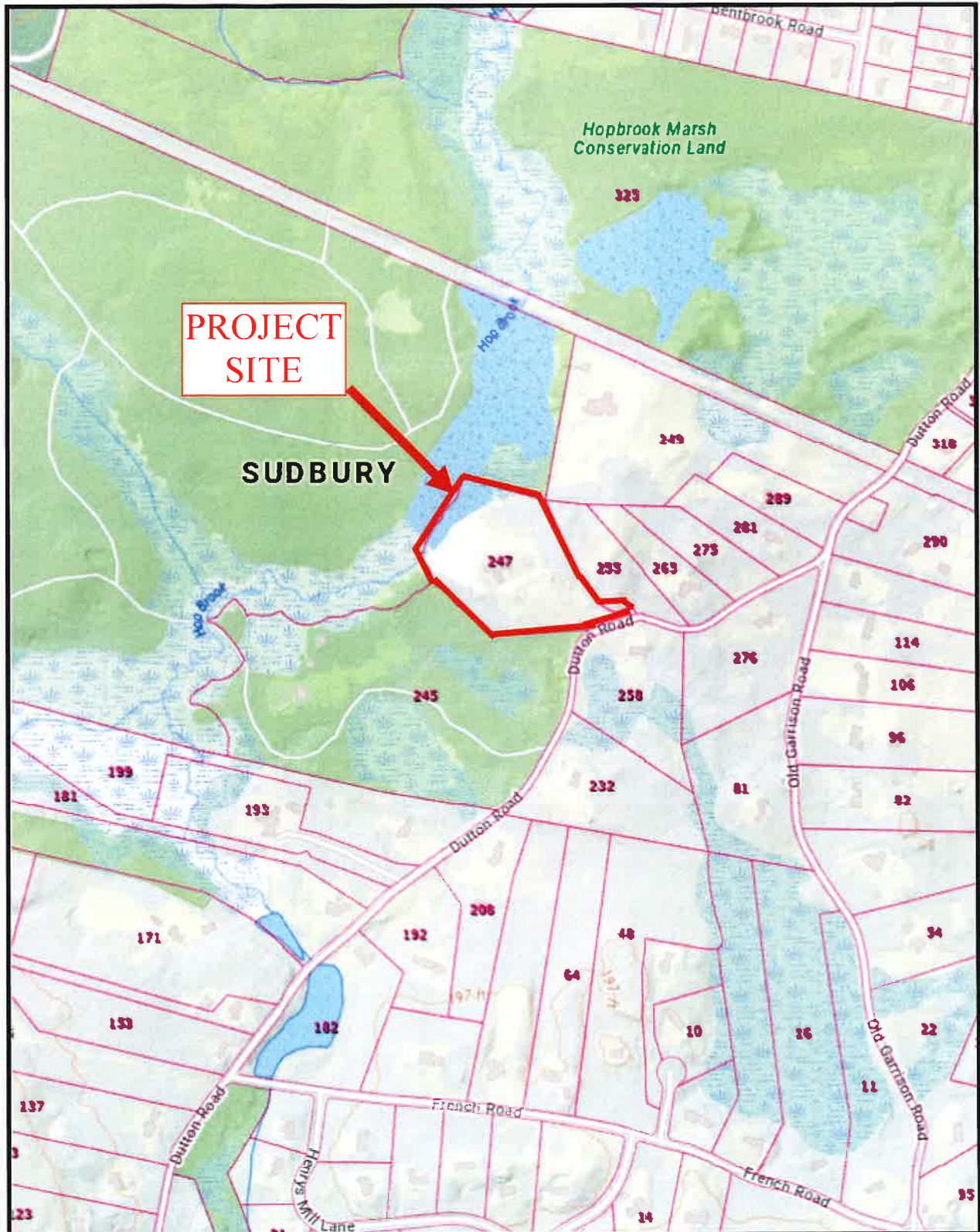
Disposal System Plan, stormwater runoff from the roof of the proposed guest house will be fully stored and recharged for the 100-year, 24-hour design storm event. The proposed stormwater management system, as designed, is consistent with MADEP Stormwater Management Policy and accepted design practices.

Conclusion

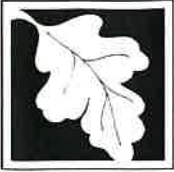
No existing trees will be removed within the Wetland Buffer Zone or Riverfront Area, and all proposed work will occur at a distance greater than 50-feet from the edge of the wetland. Appropriate erosion and sediment controls will be in place for the duration of the project. The project will impact neither abutting properties nor protected Resource Areas. For these reasons, a Request of Determination of Applicability is an appropriate means to notify the Sudbury Conservation Commission of the proposed activity, and to allow the commission to review and condition the work.

Locus Map

Locus Map, 247 Dutton Road, Sudbury, MA



WPA Form 1



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



- Applicant:

KVC Builders	kensbn4@gmail.comm
Name	E-Mail Address
11 Fox Road	
Mailing Address	
Waltham	MA
City/Town	State
(508)-630-5198	02451
Phone Number	Zip Code
	Fax Number (if applicable)

- Representative (if any):

MetroWest Engineering, Inc.	
Firm	
Robert A. Gemma	rgemma@mwengineering.com
Contact Name	E-Mail Address
75 Franklin Street	
Mailing Address	
Framingham	MA
City/Town	State
(508)-626-0063	01702
Phone Number	Zip Code
	Fax Number (if applicable)

B. Determinations

- I request the Sudbury Conservation Commission make the following determination(s). Check any that apply:
 - a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
 - b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
 - c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
 - d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

Name of Municipality
 - e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

247 Dutton Road	Sudbury
Street Address	City/Town
Map J04	Lot 106
Assessors Map/Plat Number	Parcel/Lot Number

- b. Area Description (use additional paper, if necessary):

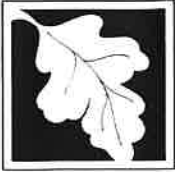
Please see attached narrative and locus map.

- c. Plan and/or Map Reference(s):

"Proposed Sewage Disposal System in Sudbury, Massachusetts", prepared by MetroWest Engineering, Inc., signed and stamped by Robert A. Gemma, PLS #37046, PE #31967 (Civil)	7/05/23
Title	Date
_____	_____
Title	Date
_____	_____
Title	Date
_____	_____

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):

Please see attached narrative.



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Project Description (cont.)

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

Please see attached narrative.

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- Single family house on a lot recorded on or before 8/1/96
- Single family house on a lot recorded after 8/1/96
- Expansion of an existing structure on a lot recorded after 8/1/96
- Project, other than a single-family house or public project, where the applicant owned the lot before 8/7/96
- New agriculture or aquaculture project
- Public project where funds were appropriated prior to 8/7/96
- Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- Residential subdivision; institutional, industrial, or commercial project
- Municipal project
- District, county, state, or federal government project
- Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

Joseph Rossi, Trustee of The Buddy Trust

Name

247 Dutton Road

Mailing Address

Sudbury

City/Town

MA

State

01776

Zip Code

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Joseph Rossi

Signature of Applicant

7/7/23

Date

Robert A. Gemma

Signature of Representative (if any)

7/7/23

Date

*Robert A. GEMMA
METROWEST ENGINEERING, INC.*

Plans

MAP J03, LOT 001
0 DUTTON ROAD
N/F
SUDBURY VALLEY TRUSTEES, INC
DEED BOOK 30259, PAGE 117

BENCHMARKS
ELEVATION SHOWN IS BASED ON NGVD29 DATUM

T.B.M.	DESCRIPTION	ELEVATION
C	TOP N.W. CORNER WALL	178.45'
D	DHN SET 1' UP IN 16" WHITE PINE	169.59'
E	DHN SET 1' UP ON UTILITY POLE	169.65'

LEGEND

A.C.	AIR CONDITIONER
B.W.	BOTTOM OF WALL
E.M.	ELECTRIC METER
EXIST.	EXISTING
G.F.E.	GARAGE FLOOR ELEVATION
G.M.	GAS METER
L.S.	LANDSCAPE AREA
N/F	NOW OR FORMERLY
P.S.	PEASTONE AREA
TOB	TOP OF BANK
TW	TOP OF WALL
U.P.	UTILITY POLE
WF	WETLAND FLAG
+100	SPOT GRADE
-100	EXISTING GRADING

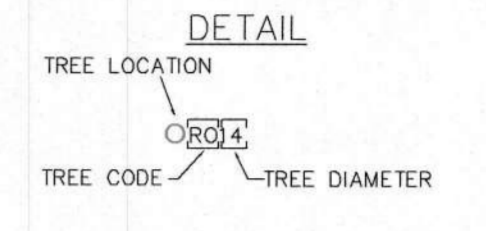
TREE DESCRIPTION LEGEND

CODE	DESCRIPTION
BC	BLACK CHERRY
CA	CRABAPPLE
CH	CHERRY
HAW	HAWTHORNE
PO	PIN OAK
RM	RED MAPLE
RO	RED OAK
SM	SUGAR MAPLE
WO	WHITE OAK
WP	WHITE PINE
YW	YELLOW WOOD
ZE	ZELKOVA
DBL	DOUBLE
TRI	TRIPLE

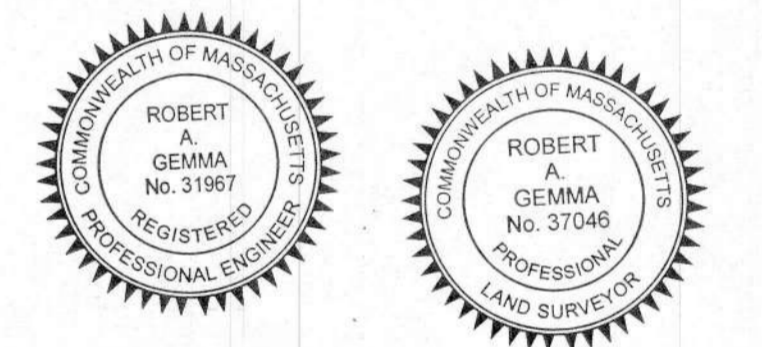
- NOTES:**
- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP J04, LOT 0106. RECORD TITLE FROM DEED BOOK 51925, PAGE 521.
 - UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLAN LOCATIONS, OR DIGSAFE PAINT-INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
 - THE PROPERTY DESCRIBED ON THIS SURVEY DOES PARTIALLY LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE "X" & "AE" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25017C0502F, BEARING AN EFFECTIVE DATE OF JULY 7, 2014.

MAP H04, LOT 0107
249 DUTTON ROAD
N/F
McMAHON, JOHN
DEED BOOK 40255, PAGE 452

ZONING:
C1-RESIDENCE
MINIMUM AREA= 60,000 SQUARE FEET
MINIMUM FRONTAGE= 210 FEET
SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD= 20 FEET
REAR YARD= 30 FEET
MAXIMUM LOT COVERAGE= 40%

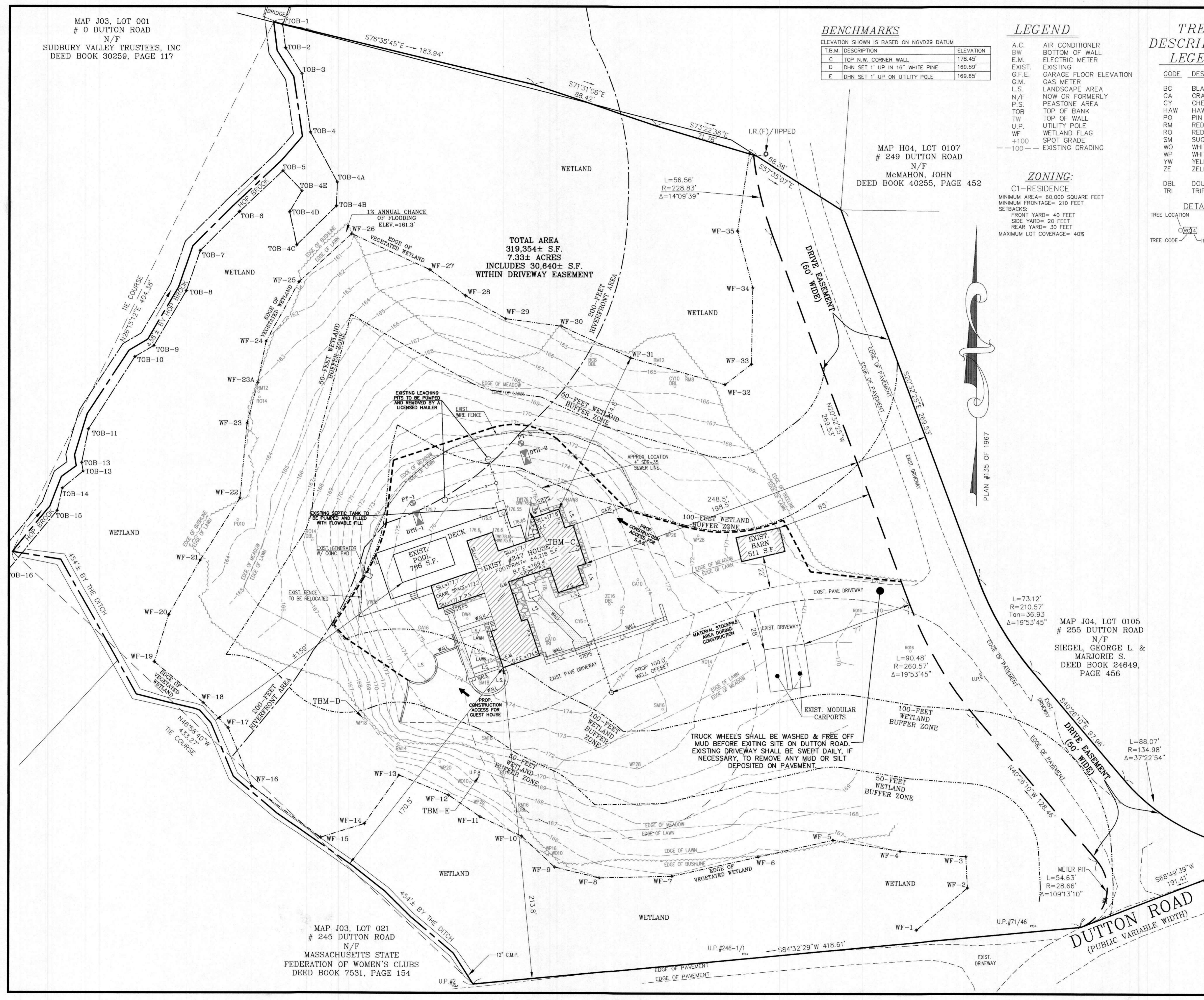
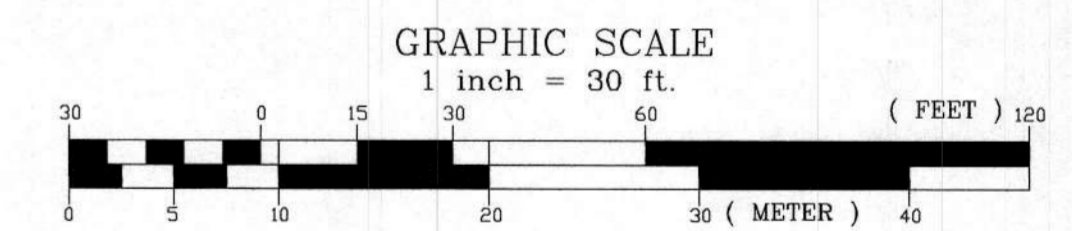


CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG-SAFE BEFORE YOU DIG 811.



Robert A. Gemma 7/7/23

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.L.S. # 37046
P.E. # 31967 (CIVIL)



MAP J04, LOT 0105
255 DUTTON ROAD
N/F
SIEGEL, GEORGE L. &
MARJORIE S.
DEED BOOK 24649,
PAGE 456

TRUCK WHEELS SHALL BE WASHED & FREE OFF MUD BEFORE EXITING SITE ON DUTTON ROAD. EXISTING DRIVEWAY SHALL BE SWEEP DAILY, IF NECESSARY, TO REMOVE ANY MUD OR SILT DEPOSITED ON PAVEMENT.

MAP J03, LOT 021
245 DUTTON ROAD
N/F
MASSACHUSETTS STATE
FEDERATION OF WOMEN'S CLUBS
DEED BOOK 7531, PAGE 154

EXISTING CONDITIONS SITE PLAN
#247 DUTTON ROAD
IN
SUDBURY, MASS
(MIDDLESEX COUNTY)

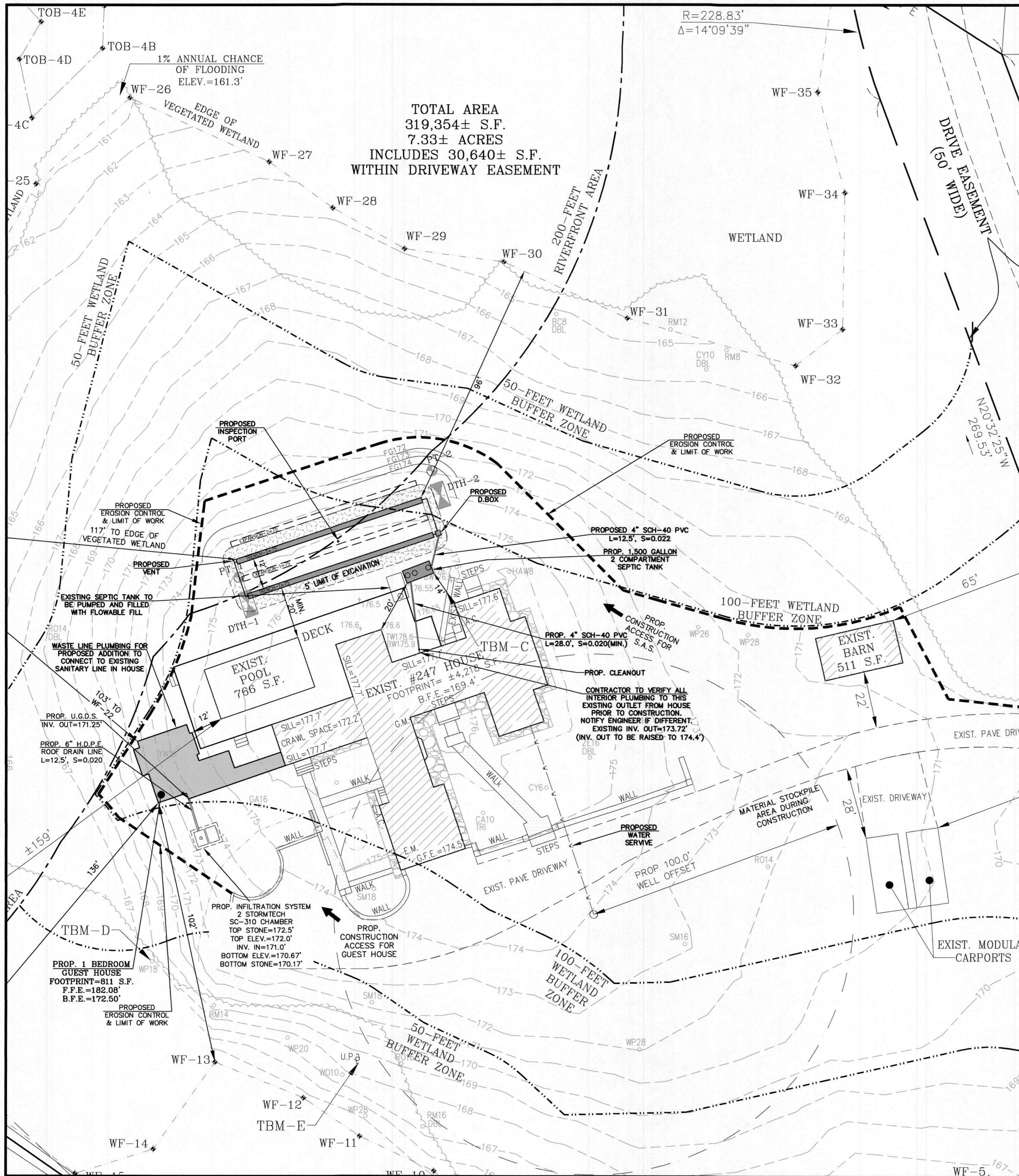
PREPARED FOR:
KVC BUILDERS
11 FOX ROAD
WALTHAM, MA 02451

PROPERTY OF:
JOSEPH ROSSI AS TRUSTEE OF THE BUDDY TRUST
247 DUTTON ROAD
SUDBURY, MA 01776

ENGINEERS & SURVEYORS:
MWE METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
FRAMINGHAM, MA 01702
TELE: (508)626-0663
EMAIL: INFO@MWEENGINEERING.COM

SHEET 1 OF 3
DATE: JULY 05, 2023

CALC'D BY: RAG FIELD BK: 750 CAD FILE: KVC_P SEPTIC GRAVITY.dwg
DRAFTER: JTS PROJECT: SUD_DUT2 DWG FILE: SC070523.dwg



TOTAL AREA
319,354± S.F.
7.33± ACRES
INCLUDES 30,640± S.F.
WITHIN DRIVEWAY EASEMENT

GENERAL NOTES

- ALL CONSTRUCTION TO CONFORM TO THE REQUIREMENTS OF THE MASSACHUSETTS D.E.P. HEALTH SANITARY CODE, TITLE FIVE, AND THE TOWN OF SUDBURY BOARD OF HEALTH.
- PERCOLATION TESTS PERFORMED IN ACCORDANCE WITH THE INSTRUCTIONS OF THE MASSACHUSETTS D.E.P. SANITARY CODE TITLE FIVE, 310 CMR 15.00.
- ESTIMATED FLOW = 4 BEDROOMS @ 110 G.P.D. = 440 G.P.D.
- DESIGN PERCOLATION RATE = <2 M.P.I.
LEACHING AREA REQUIRED = 440 G.P.D./0.74 G.P.D. x 1.5 = 892 SQ. FT. (WITH PROVISION FOR GARBAGE GRINDER)
- LEACHING AREA PROVIDED = 2 TRENCHES x 75 FT./TRENCH x 6 SQ. FT./FT. = 900 SQ. FT.
- LEACHING LINES SHALL CONSIST OF: PERFORATED SCH-40 PVC PIPE, 4 INCH DIAMETER, LAID WITH PERFORATIONS DOWN.
- FINISH GRADING TO BE DONE IN ACCORDANCE WITH PLOT PLAN.
- EXCAVATION FOR CONSTRUCTION OF A SOIL ABSORPTION SYSTEM MAY BE BY MECHANICAL MEANS, PROVIDED CARE IS TAKEN TO ASSURE THAT THE SOIL AT THE BOTTOM OF THE EXCAVATION IS NOT COMPACTED OR SMEARED. THE BOTTOM AND SIDES OF THE EXCAVATION SHALL BE LEVEL AND SCARIFIED. VEHICULAR TRAFFIC AND PARKING OF VEHICLES OR EQUIPMENT IN OR ON THE AREA OF THE SOIL ABSORPTION SYSTEM SHOULD BE AVOIDED AT ALL TIMES PRIOR, DURING AND AFTER CONSTRUCTION OF THE SYSTEM.
- FROM THE DATE OF THE INSTALLATION OF THE SOIL ABSORPTION SYSTEM UNTIL RECEIPT OF A CERTIFICATE OF COMPLIANCE FROM THE APPROVING AUTHORITY IN ACCORDANCE WITH 310 CMR 15.021, THE PERIMETER OF THE SOIL ABSORPTION SYSTEM SHALL BE STAKED AND FLAGGED TO PREVENT THE USE OF SUCH AREA FOR ALL ACTIVITIES WHICH MIGHT DAMAGE THE SOIL ABSORPTION SYSTEM. SUCH FLAGGING IS NOT INTENDED TO PRECLUDE THE FINAL GRADING AND LANDSCAPING OF THE AREA OF THE SOIL ABSORPTION SYSTEM. STOCKPILING OF MATERIALS OR EQUIPMENT WITHIN THE AREA IS PROHIBITED.
- NO DRIVEWAY, PARKING OR TURNING AREA OR OTHER IMPERVIOUS AREA SHALL BE LOCATED ABOVE A SOIL ABSORPTION SYSTEM, EXCEPT WHERE RESTRICTIONS ON USE OF LAND MAKE IT UNAVOIDABLE. IN SUCH CASES, THE SOIL ABSORPTION SYSTEM SHALL BE VENTED TO THE ATMOSPHERE IN ACCORDANCE WITH 310 CMR 15.241.
- THE BOTTOM OF EACH SOIL ABSORPTION SYSTEM SHALL BE EXCAVATED TO A LEVEL GRADE. IF THE REMOVAL OF STONES OR BOULDERS IS REQUIRED, CREATING LOCALIZED DEPRESSIONS, FILLING TO GRADE WITH THE EXCAVATED SOIL IS ACCEPTABLE.
- THE SOIL PLACED AS BACKFILL OVER THE SYSTEM SHALL BE A MINIMUM OF NINE INCHES, EXCLUDING TOPSOIL, PLACED IN LIFTS AND SUFFICIENTLY COMPACTED TO PREVENT DEPRESSIONS DUE TO SETTLING WHICH MAY INTERCEPT OR COLLECT SURFACE WATER RUNOFF ABOVE THE SYSTEM. BACKFILL MUST BE CLEAN AND FREE OF STONES OR BOULDERS GREATER THAN SIX INCHES IN SIZE. TAILINGS, CLAY OR SIMILAR MATERIALS ARE PROHIBITED.
- FINAL COVER ABOVE THE SYSTEM SHALL BE GRADED TO REDUCE INFILTRATION OF SURFACE WATER AND MINIMIZE EROSION. FINISH GRADE SHALL HAVE A MINIMUM SLOPE OF 0.02 FEET PER FOOT.
- SURFACE AND SUBSURFACE DRAINAGE SHALL BE DIRECTED AWAY FROM THE SOIL ABSORPTION SYSTEM.
- DISTRIBUTION LINES FOR LEACHING TRENCHES SHALL BE CONSTRUCTED OF EITHER POLYVINYL CHLORIDE (PVC) PLASTIC, ACRYLONITRILE-BUTADIENE-STYRENE (ABS), OR HIGH DENSITY POLYETHYLENE (HDPE). ALL PVC LINES SHALL BE EITHER SCHEDULE 40 (ASTM D 1785) OR SDR 35 (ASTM D 3034). ALL ABS PIPES SHALL BE SCHEDULE 40 (ASTM F 628), AND ALL HDPE PIPE SHALL MEET OR EXCEED ASTM F 810.
- ALL CONNECTIONS AND JOINTS SHALL BE MECHANICALLY SOUND AND TIGHT.
- EFFLUENT DISTRIBUTION LINE ORIFICES SHALL BE EVENLY SPACED ALONG TWO ROWS RUNNING THE LENGTH OF THE LINE, ON EACH SIDE, MIDWAY BETWEEN THE INVERT AND CENTER-LINE WHICH SEPARATES THE UPPER AND LOWER HALVES OF THE PIPE. FOR GRAVITY DISTRIBUTION, ORIFICES SHALL BE NO SMALLER THAN 3/8 INCH AND NO LARGER THAN 5/8 INCH IN DIAMETER.
- EFFLUENT DISTRIBUTION LINES SHALL HAVE A SLOPE OF 0.005 FEET PER FOOT AND SHALL HAVE ENDS CAPPED OR CONNECTED TOGETHER BY UNPERFORATED PIPE OF THE SAME MATERIALS SPECIFICATIONS.
- DISTRIBUTION LINES CONNECTING THE DISTRIBUTION BOX OR PUMP CHAMBER TO THE SOIL ABSORPTION SYSTEM DISTRIBUTION LINES SHALL BE UNPERFORATED WITH WATER TIGHT CONNECTIONS AND JOINTS.
- DISTRIBUTION LINES EXCEEDING 50 FEET IN LENGTH SHALL BE CONNECTED AND VENTING PROVIDED IN ACCORDANCE WITH 310 CMR 15.241.
- FILL MATERIAL FOR SYSTEMS CONSTRUCTED IN FILL SHALL CONSIST OF SELECT ON-SITE OR IMPORTED SOIL MATERIAL, CONSISTING OF CLEAN GRANULAR SAND, FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES. MIXTURES AND LAYERS OF DIFFERENT CLASSES OF SOIL SHALL NOT BE USED. THE FILL SHALL NOT CONTAIN MATERIAL LARGER THAN 2 INCHES. A SIEVE ANALYSIS, USING A #4 SIEVE, SHALL BE PERFORMED ON A REPRESENTATIVE SAMPLE OF FILL UP TO 45% BY WEIGHT OF THE FILL SAMPLE MAY BE RETAINED ON THE #4 SIEVE. SIEVE ANALYSES ALSO SHALL BE PERFORMED ON THE FRACTION OF THE FILL SAMPLE PASSING THE #4 SIEVE. SUCH ANALYSES MUST DEMONSTRATE THAT MATERIAL MEETS EACH OF THE FOLLOWING SPECIFICATIONS:

SIEVE SIZE	EFFECTIVE PARTICLE SIZE	% THAT MUST PASS SIEVE
# 4	4.75 MM	100%
# 50	0.30 MM	100%
#100	0.15 MM	0% - 20%
#200	0.075 MM	0% - 5%

- A MINIMUM OF ONE REPRESENTATIVE SAMPLE WILL BE TAKEN FROM THE IN-PLACE FILL FOR A SYSTEM SERVING A SINGLE FAMILY RESIDENCE AND TESTED FOR COMPLIANCE WITH THE GRAIN SIZE DISTRIBUTION SPECIFICATION. ONE TEST PER PIT PER REMOVAL DAY SHALL BE REQUIRED FOR SYSTEMS WITH DESIGN FLOWS OF 2000 GPD OR MORE.
- WHERE FILL IS REQUIRED TO REPLACE UNSUITABLE OR IMPERMEABLE SOILS, THE EXCAVATION OF THE UNSUITABLE MATERIAL SHALL EXTEND A MINIMUM OF FIVE FEET LATERALLY IN ALL DIRECTIONS BEYOND THE OUTER PERIMETER OF THE SOIL ABSORPTION SYSTEM TO THE DEPTH OF NATURALLY OCCURRING PERVIOUS MATERIAL AS REQUIRED BY 310 CMR 15.240 (SOIL ABSORPTION SYSTEMS) AND REPLACED WITH FILL MATERIAL MEETING THE SPECIFICATIONS OF 310 CMR 15.255(3)
- PRIOR TO PLACEMENT OF THE FILL, WHICH SHALL BE STOCKPILED AT THE EDGE OF THE EXCAVATION AND FILLED IN GRADUALLY, THE BOTTOM SURFACE OF THE EXCAVATION SHALL BE SCARIFIED AND RELATIVELY DRY. FILL SHALL NOT BE PLACED DURING RAIN OR SNOW STORMS. IF THE WATER TABLE ELEVATION IS ABOVE THE ELEVATION OF THE BOTTOM OF THE EXCAVATION, THE EXCAVATION SHALL BE DEWATERED AS NECESSARY.
- ALL ELEVATIONS REFER TO TBM-C, TOP N.W. CORNER WALL, ELEV= 178.45' BASED ON NGVD29 DATUM
- FOR PROPER PERFORMANCE, SEPTIC TANK SHOULD BE PUMPED ANNUALLY
- MORTAR ALL UN-USED KNOCKOUTS ON SEPTIC TANK, PUMP CHAMBER AND D-BOX.
- SEE ARCHITECTURAL PLANS FOR DIMENSIONS.
- DESIGN ENGINEER TO BE CONTACTED 48 HOURS PRIOR TO BACKFILLING SYSTEM TO CONDUCT AN AS-BUILT SURVEY.
- PROPOSED LEACH AREA IS NOT WITHIN 100' OF A WETLAND BOUNDARY.
- SUDBURY BOARD OF HEALTH SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF REQUIRED INSPECTIONS AS A MINIMUM, FOUR INSPECTIONS SHALL BE REQUIRED:
 - UPON EXCAVATION OF LEACHING AREA.
 - AFTER FILL IS PLACED AND PRIOR TO PLACEMENT OF AGGREGATE.
 - UPON COMPLETION OF LEACHING TRENCHES BUT PRIOR TO BACKFILLING.
 - UPON COMPLETION OF FINISH GRADING.
- DISTRIBUTION BOX MANHOLE SHALL BE SET NO MORE THAN 12" (TWELVE INCHES) NOR LESS THAN 6" BELOW GRADE.
- EXCAVATION SHALL ONLY BE DONE ON DRY SURFACES FREE OF MUD. DEWATERING IF NECESSARY, SHALL BE REQUIRED BEFORE PLACEMENT OF FILL.
- DESIGN ENGINEER SHALL CERTIFY FINISH GRADES.
- THERE ARE NO PUBLIC WELLS WITHIN 500 FEET; PRIVATE WELLS WITHIN 200 FEET; BORDERING VEGETATED WETLANDS WITHIN 150 FEET; INLAND BANKS WITHIN 150 FEET; SURFACE WATERS WITHIN 150 FEET; SURFACE DRAINS WITHIN 50 FEET; OPEN, SURFACE, SUBSURFACE OR FOUNDATION DRAINS WHICH INTERCEPT HIGH GROUND WATER WITHIN 50 FEET; VERNAL POOLS WITHIN 100 FEET; STORM DRAINAGE LEACHING CATCH BASINS OR DRY WELLS WITHIN 50 FEET; PERENNIAL STREAM WITHIN 200 FEET; AND ANY BOUNDARY OF A REGULATORY FLOODWAY OR 100 YEAR FLOOD WITHIN 150 FEET; UNLESS AS SHOWN ON THE PLAN.

STORMWATER CALCULATIONS FOR INFILTRATION

- PROPOSED ADDITION = 811 S.F. OF IMPERVIOUS AREA.
 - RUNOFF IMPACT:
FOR 100-YEAR, 24-HOUR STORM WILL BE:
 $(8.6-IN) \times (1-FT/12-IN) \times (811 S.F.) = 581 C.F. OF STORMWATER.$
 - STORMTECH INFILTRATION SYSTEM HAS THE FOLLOWING STORMWATER CAPACITY:
A) STORAGE: 62 C.F.
B) 24-HOUR INFILTRATION: $(9-FT) \times (8-FT) \times (8.27-IN) \times (1-FT/12-IN) \times (24-HOURS) = 1,190 C.F.$
- TOTAL 24-HOUR STORM CAPACITY = 1,190 C.F. + 62 C.F. = 1,252 C.F. > 581 C.F.

SOIL LOGS		SOIL TEST RESULTS	
No.			
DTH-1 (ELEV=175.5')		DTH-2 (ELEV=174.0')	
0"-11" A SANDY LOAM 10YR 4/4		0"-35" HTM MIXED FILL	
11"-22" Bw LOAMY SAND 10YR 6/8		35"-42" Bw LOAMY SAND 10YR 6/8	
22"-120" C SAND 2.5Y 7/3		42"-102" C1 SAND 2.5Y 7/3	
		102"-122" C2 SANDY LOAM 10YR 5/2	
NO REFUSAL		NO REFUSAL	
NO STANDING OR WEeping WATER		NO STANDING OR WEeping WATER	
NO MOTTLING		MOTTLING @ 102" 7.5YR 6/6 (20% DAMP)	
ESTIMATED HIGH WATER = ±165.5'		ESTIMATED HIGH WATER = ±165.5'	
DATE: JUNE 01, 2023	F.B.#727A/65		
BY: PATRICK H. ARNOW			
INSPECTOR: ROB LAZO, SUDBURY BOARD OF HEALTH			

PERCOLATION					
NO.	DEPTH	RATE	DATE	BY	INSP.
PT-1	41"	<2 MPI	06/01/23	P.A.	R.L.
PT-2	48"	2 MPI	06/01/23	P.A.	R.L.

SCHEDULE OF ELEVATIONS

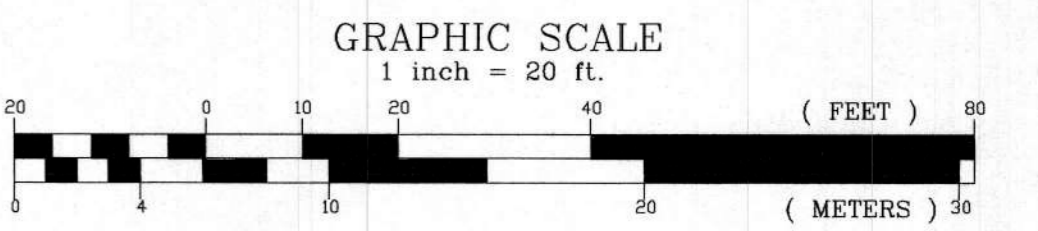
- EXISTING FIRST FLOOR ELEVATION = 177.7'
- EXISTING INVERT AT FOUNDATION OUTLET = ±173.72'
- PROPOSED RAISED INV. AT FOUNDATION OUTLET = 174.4'
- CONTRACTOR TO VERIFY ALL INTERIOR PLUMBING TO THIS EXISTING OUTLET FROM HOUSE PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF DIFFERENT.
- INVERT AT SEPTIC TANK INLET = 173.9'
- INVERT AT SEPTIC TANK OUTLET = 173.65'
- INVERT AT DISTRIBUTION BOX INLET = 173.37'
- INVERT AT DISTRIBUTION BOX OUTLET = 173.2'
- INVERT AT BEGINNING LEACHING TRENCH = 172.88'
- INVERT AT END LEACHING TRENCH = 172.5'
- ELEVATION OF BOTTOM TRENCH = 170.5'
- ESTIMATED HIGH GROUND WATER = 165.5' BASED ON DTH-2
- FINISH GRADE OVER LEACHING AREA (FG) = ±175' BREAKOUT
 - 174.0' @ 13.0'
 - 173.0' @ 16.0'
 - 172.0' @ 19.0'

SUDBURY DESIGN REQUIREMENTS

PERCOLATION RATE 1-10 M.P.I.
MINIMUM AREA REQUIRED= 150 SQUARE FEET/BEDROOM X 4 BEDROOMS = 600 SQUARE FEET MINIMUM.



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.L.S. # 37046
P.E. # 31987 (CIVIL)



PROPOSED SEWAGE DISPOSAL SYSTEM
#247 DUTTON ROAD
IN
SUDBURY, MASS
(MIDDLESEX COUNTY)

PREPARED FOR:
KVC BUILDERS
11 FOX ROAD
WALTHAM, MA 02451

PROPERTY OF:
JOSEPH ROSSI AS TRUSTEE OF THE BUDDY TRUST
247 DUTTON ROAD
SUDBURY, MA 01776

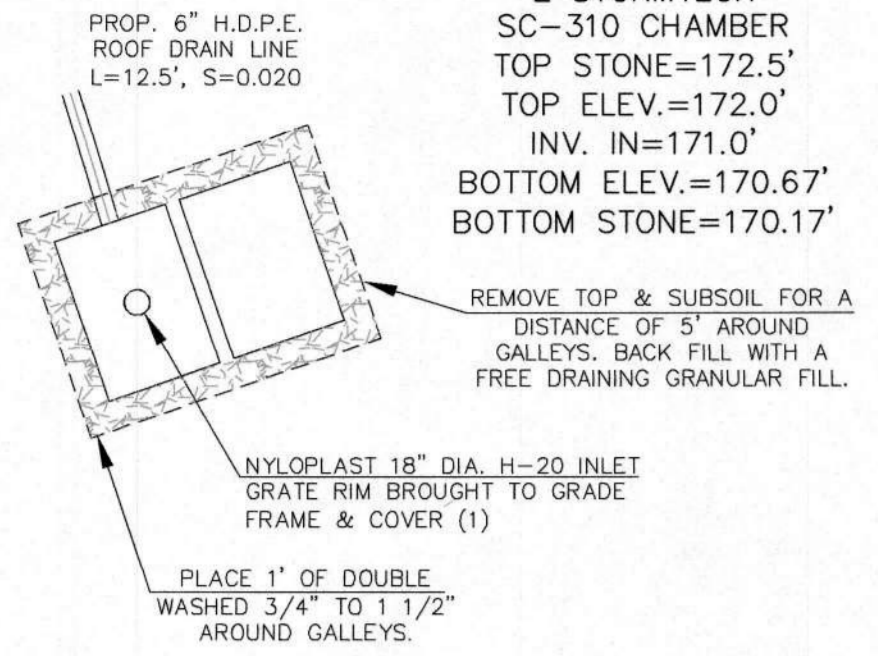
ENGINEERS & SURVEYORS:
MWE METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
FRAMINGHAM, MA 01702
TELE: (508)626-0063
EMAIL: INFO@MWEENGINEERING.COM

SHEET 2 OF 3		DATE: JULY 05, 2023
CALC'D BY: RAG	FIELD BK: 750	CAD FILE: KVC_P SEPTIC GRAVITY.dwg
DRAFTER: JTS	PROJECT: SUD_DUT2	DWG FILE: SC070523.dwg

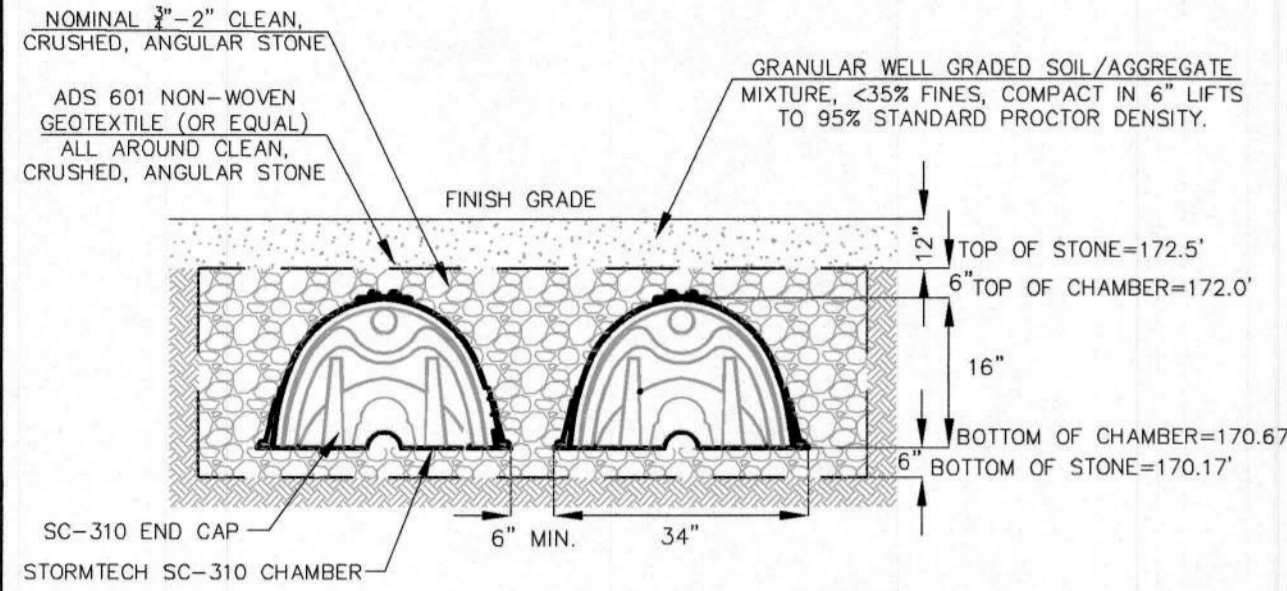
PROPOSED INFILTRATION SYSTEM

NOT TO SCALE

PLAN VIEW:



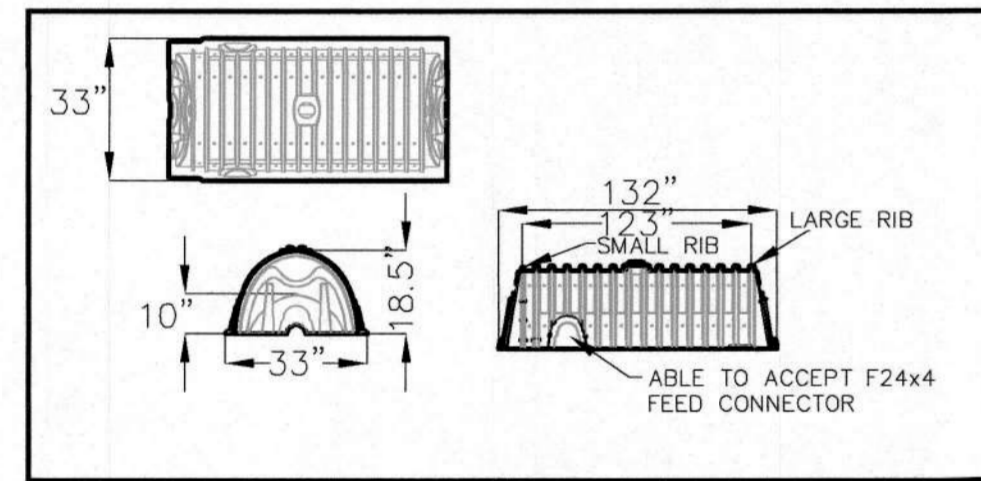
PROFILE VIEW:



DESIGN ENGINEER TO INSPECT BOTTOM OF EXCAVATION PRIOR TO PLACEMENT OF STONE FOR INDICATIONS OF GROUNDWATER. INFILTRATION SYSTEM DESIGN MAY BE MODIFIED IF GROUNDWATER IS DETERMINED TO BE ABOVE ELEVATION 168.2.
2-FEET SEPARATION FROM THE BOTTOM OF THE SYSTEM TO THE EXISTING HIGH GROUNDWATER AND TO LEDGE IS REQUIRED. IF LEDGE IS ENCOUNTERED, IT SHALL BE REMOVED TO A DEPTH OF 24-INCHES BELOW THE BOTTOM OF STONE ELEVATION, AND REPLACE WITH A TITLE 5 SAND.

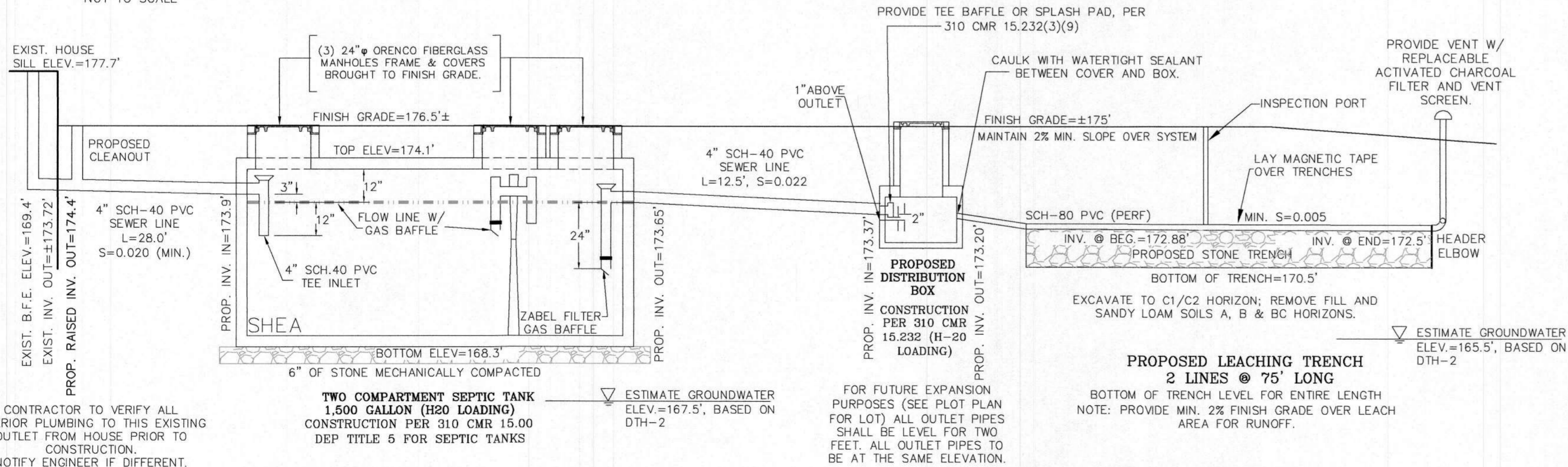
STORMTECH SC-310 CHAMBER

NOT TO SCALE



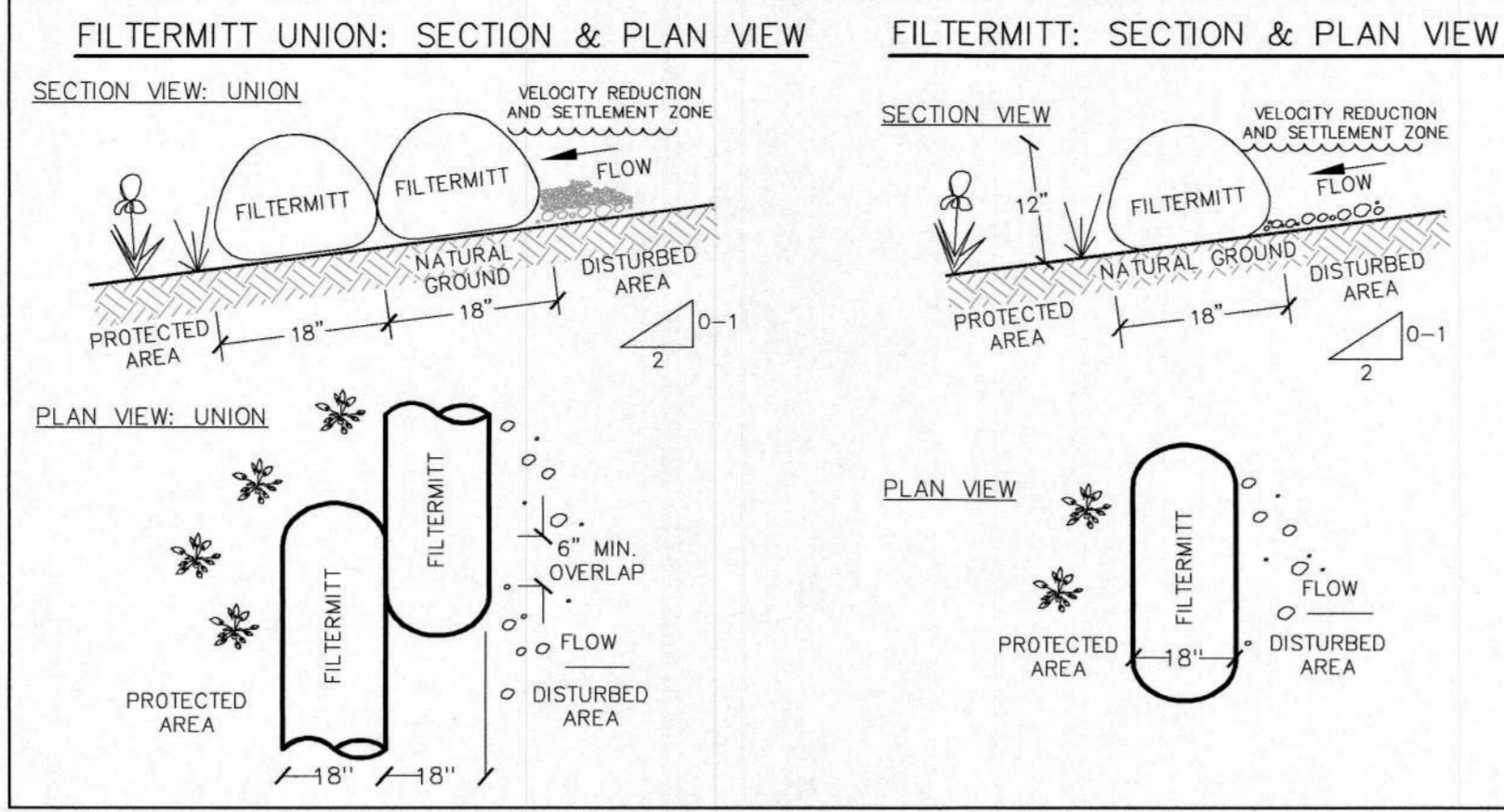
PROFILE DETAIL

NOT TO SCALE



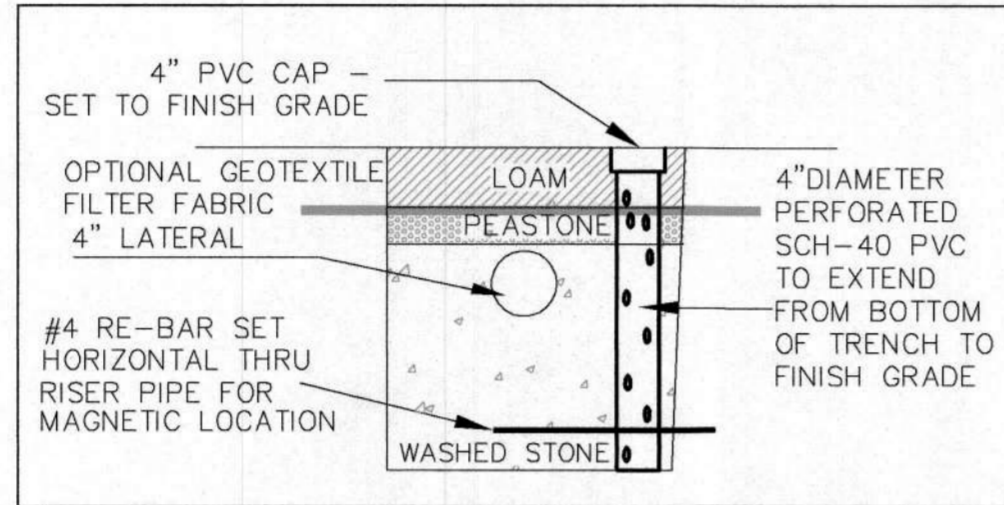
FILTER MITT EROSION CONTROL BARRIER

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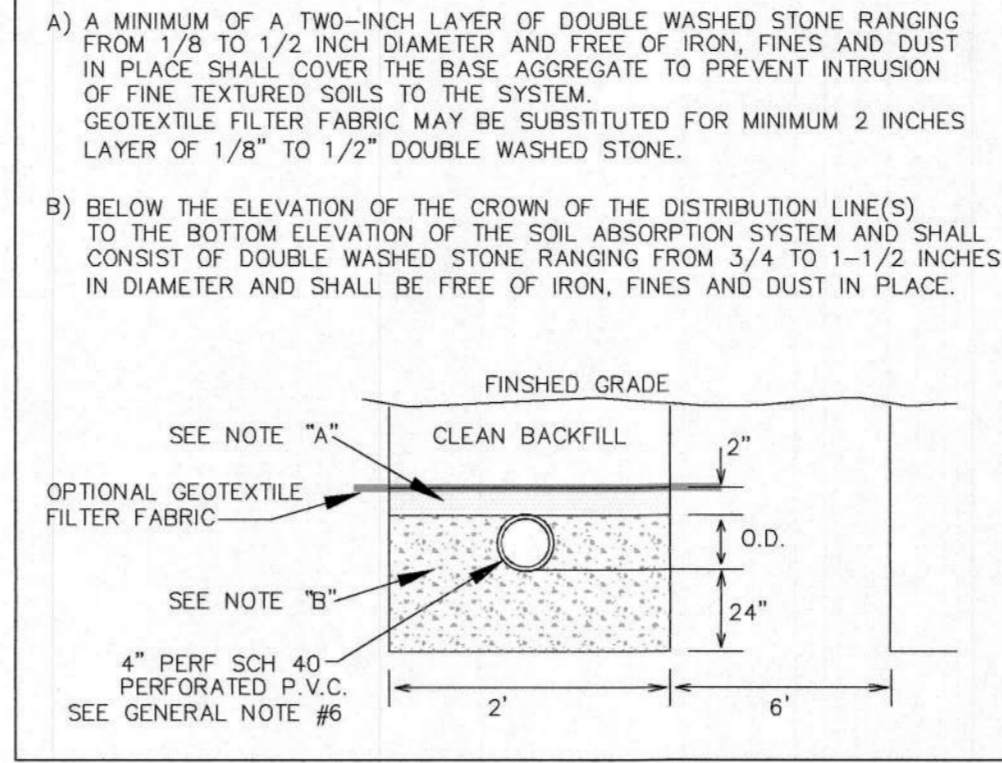
INSPECTION PORT DETAIL

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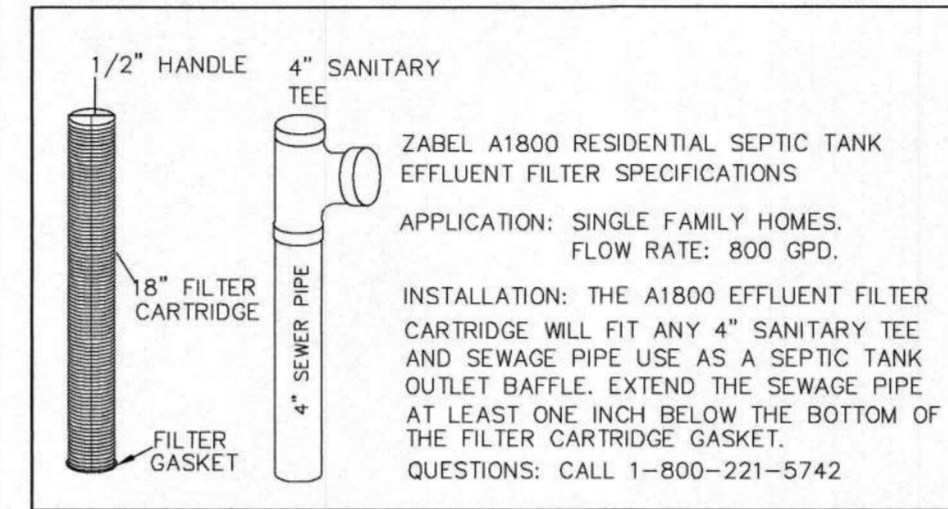
TRENCH DETAIL

NOT TO SCALE



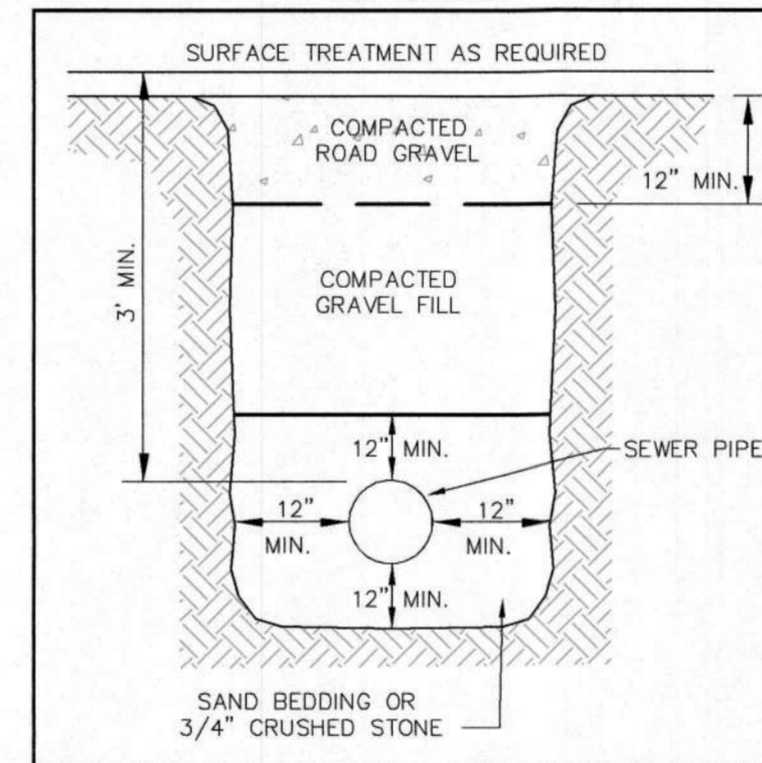
ZABEL FILTERS MODEL A1800

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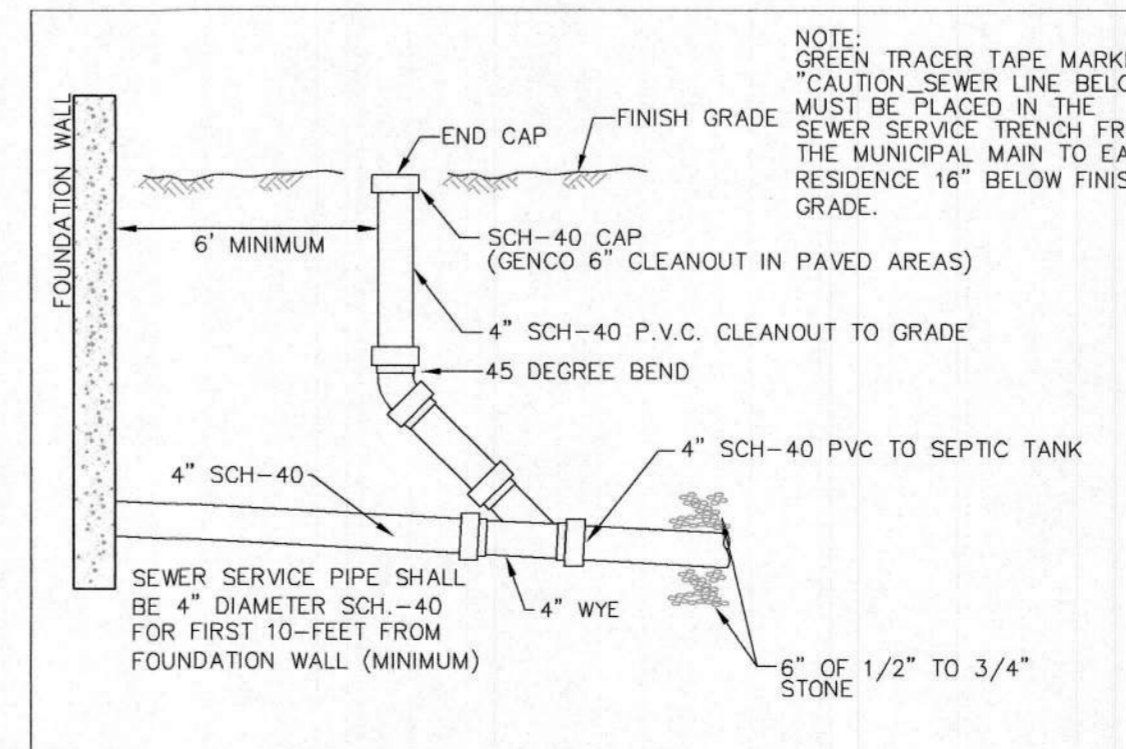
TYPICAL SEWER TRENCH

NOT TO SCALE



TYPICAL SEWER SERVICE CONNECTION

NOT TO SCALE



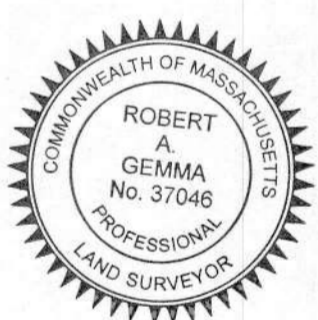
LOCUS MAP

NOT TO SCALE



REQUIRED INSPECTIONS

1. THE SWPA MAY INSPECT THE PROJECT SITE AT THE FOLLOWING STAGES, AT A MINIMUM:
 - a) INITIAL SITE INSPECTION OF EROSION AND SEDIMENTATION CONTROLS PRIOR TO ANY LAND DISTURBANCE TO ASSESS OVERALL EFFECTIVENESS AND FUNCTIONING TO PROTECT RESOURCES.
 - b) STORMWATER MANAGEMENT SYSTEM EXCAVATION INSPECTION: AN INSPECTION WILL BE MADE OF THE COMPLETED STORMWATER MANAGEMENT SYSTEM TO INSURE DEPTH TO GROUND WATER AND PRESENCE OF APPROVED SOIL TYPE.
 - c) STORMWATER MANAGEMENT SYSTEM INSPECTION: AN INSPECTION WILL BE MADE OF THE COMPLETED STORMWATER MANAGEMENT SYSTEM, PRIOR TO BACKFILLING OF ANY UNDERGROUND DRAINAGE OR STORMWATER CONVEYANCE STRUCTURES.
 - d) FINAL INSPECTION
 - 1) AFTER STORMWATER MANAGEMENT SYSTEM HAS BEEN CONSTRUCTED, ALL APPLICANTS ARE REQUIRED TO SUBMIT ACTUAL "AS-BUILT" PLANS FOR ANY STORMWATER MANAGEMENT FACILITIES OR PRACTICES AFTER FINAL CONSTRUCTION IS COMPLETED. AS-BUILT PLANS MUST BE SUBMITTED BOTH IN HARD COPY & ELECTRONICALLY AS EITHER AUTOCAD DRAWINGS OR PDF DOCUMENTS.
 - 2) THE SWPA SHALL INSPECT THE SYSTEM TO CONFIRM ITS "AS-BUILT" FEATURES. IF THE INSPECTOR FINDS THE SYSTEM TO BE ADEQUATE HE/SHE SHALL SO REPORT TO THE SWPA WHICH WILL ISSUE A CERTIFICATE OF COMPLETION.



Robert A. Gemma 7/7/23

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.L.S. # 37046
P.E. # 31967 (CIVIL)

PROPOSED DETAIL PLAN
#247 DUTTON ROAD
IN
SUDBURY, MASS
(MIDDLESEX COUNTY)

PREPARED FOR:
KVC BUILDERS
11 FOX ROAD
WALTHAM, MA 02451

PROPERTY OF:
JOSEPH ROSSI AS TRUSTEE OF THE BUDDY TRUST
247 DUTTON ROAD
SUDBURY, MA 01776

ENGINEERS & SURVEYORS:
MWE METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
FRAMINGHAM, MA 01702
TELE: (508)626-0063
EMAIL: INFO@MWEENGINEERING.COM

SHEET 3 OF 3

DATE: JULY 05, 2023

CALC'D BY: RAG FIELD BK: 750 CAD FILE: KVC_P SEPTIC GRAVITY.dwg
DRAFTER: JTS PROJECT: SUD_DUT2 DWG FILE: SC070523.dwg