TOWN OF OLD SAYBROOK

Inland Wetlands & Watercourses Commission

302 Main Street • Old Saybrook, Connecticut 06475-1741
Telephone (860) 395-3131 • FAX (860) 395-1216

APPLICATION
TO CONDUCT A REGULATED ACTIVITY

APPLICATION # 20-004 *(to be completed by staff)*

Date received in Land Use Department: 2-25-20 *(to be completed by staff)*

Date received by Commission: 3-19-20 *(to be completed by staff)*

✓ Check Applicable Activity & Attach Check for Total Fee Amount			
☐ *Residential – single lot*	*$100.00*	✓ ***State Fee for ALL Applications***	***$60.00***
☐ *Residential – subdivision, PRD, IHZ*	*$200.00*	☐ ***Administrative Permit***	***$50.00***
☒ *Commercial/ Industrial*	*$200.00*		
TOTAL APPLICATION FEE AMOUNT $ 260		**RECEIVED BY:** SHJ	

1. **Name of Applicant** Lycurgus, LLC

   Home Address _____ **Home Telephone** _____

   Business Address 7 West Shore Dr. Old Saybrook **Bus. Telephone** 347-514-4742

2. **Name of Property Owner** Same

   Home Address _____ **Home Telephone** _____

   Business Address _____ **Bus. Telephone** _____

3. **If applicant other than owner, please state interest in the land** _____

4. **Location of Property by Street Address** 97 Old Middlesex Turnpike

   Assessor's Map No. 41 **Lot No.** 09

5. **Provide the names and addresses of all property owners adjacent to the subject property (on an additional sheet).** See Attached

6. State the purpose, proposed use and a summary description of the proposed activity. (Please be specific, use additional sheets if necessary.)

See Statement of Use attached

Proposed activity includes construction of a bioretention/recharge basin for stormwater management within the 100 ft review area. A portion of the proposed building, parking, fencing, landscaping, an existing house and garage are within the review area. (refer to site plan)

7. Activity Location (Submit map with sufficient detail as a part of the application.)

Number of acres of wetlands (or portion thereof) on the property **12,280.2 sf or 0.28 Ac**

Total area of inland wetlands to be altered **0**

Are vernal pools or tidal wetlands located on the property? If so, where and how many acres (or portion thereof) on the property?

No

Are inland wetlands or watercourses located on adjacent properties? If so, state the name of the property owner and if it is a wetland or watercourse.

State of Connecticut - Wetland

Has a licensed soil scientist flagged the wetlands or watercourses on this property? If so, who and when?

Yes by R. Richard Snarski 4/30/19

Nearest Thoroughfare **Mill Rock Rd East** Distance (in feet) **at site**

Nearest Town Boundary **Old Lyme** Distance (in feet) **8,000 +/-**

Zoning District **I1**

8. Check applicable activities occurring within 0-100 feet of wetlands or watercourses.

- [X] Removing material
- [X] Depositing material
- [X] Surface Water Diversion
- [X] Construction
- [X] Grading
- [ ] Paving
- [ ] Vegetation Removal
- [X] Vegetation Restoration

9. Explain in detail the extent of any activity checked above, type of material and equipment to be used to complete project. (Use additional sheets if necessary.)

Approximately 7,700 sf of the 100 ft review area will be disturbed by stripping the topsoil and excavating for the foundation, driveway and bio-retention basin. Conventional equipment will be used including trucks, excavators, dozers, backhoes and other site work equipment. The steel building will have a concrete foundation with a concrete slab at grade. The drive will be processed stone. Once the bio-retention basin is excavated, the topsoil will be replaced, graded and seeded. The silt fence will remain in place until the site is stabilized with a permanent grass growth.

10. Estimated cost and time for completion: **Site work within 100 ft of the wetlands will cost approximately $15,000.00 and take 3-4 months.**

11. Explain what alternatives have been considered in connection with this application to avoid altering inland wetlands or watercourses?

No inland wetlands or watercourses will be altered.

12. Identify any other local, State or Federal permits previously issued or pending that will be required for work on this property?

Local permits required are health, architectural review board, zoning and building.

Affidavit of Accuracy and Agency

The undersigned applicant warrants the truth of all statements contained herein, and in all supporting documents attached hereto or which may be presented to the Commission in the future, pursuant to this application.

I further understand that the Commission may request further information in connection with this application and that if the proposed activity involves a significant activity, an additional filing fee may be required.

Signed: _____ **Date:** 2/25/20

Agent for Applicant: Robert L. Doane, Jr., P.E., L.S.

The undersigned, as owner of the property, hereby consents to necessary and proper inspections of the above-mentioned property by agents of the Town of Old Saybrook, the Connecticut Department of Energy and Environmental Protection and the U.S. Department of Agriculture, Natural Resources Conservation Service, at reasonable times, both before and after a final decision has been issued by the Old Saybrook Inland Wetlands and Watercourses Commission.

I understand the Old Saybrook Inland Wetlands & Watercourses Regulations, have had an opportunity to review these regulations and understand that these regulations regulate activities conducted on my property. In the event this application is approved and the property subsequently is transferred to another owner, I understand that it is my responsibility to advise the new owner in writing that an Application for Permit Transfer must be submitted to the Inland Wetlands & Watercourses Commission in order for the permit issued to remain valid.

Signed: _____ **Date:** 2/25/20

Agent for Owner: Robert L. Doane, Jr., P.E., L.S.

STATEMENT OF USE

Prepared for

Lycurgus, LLC
97 Old Middlesex Turnpike
11/4/19

The subject property is in the Industrial District (I1 District). The property currently has 3 existing houses and a garage, which the owners intend to keep and lease as residential housing. They propose to construct 13,350 sf of storage units, ranging in size from 750 sf to 1,000 sf and they propose 14 units. The primary use of the units is for storage and warehousing and it is intended to have the use contained within the units. The potential exists that the units will be used by businesses in accordance with Section 41.1 identifying permitted uses for the I1 District. It is intended that the use of the storage units will be flexible.

19 parking spaces are provided. 18 spaces are required with 2 spaces for each house and 1 space for each unit. Each unit will have a garage door entrance and a pass door entrance. Plumbing will be made available for each unit for the construction of bathroom utilities. If the housing units are converted to other uses allowed in the Industrial District, there is space for additional parking.

It is anticipated that the hours of operation for the units will be 7:00 am to 6:00 pm, Monday through Saturday.

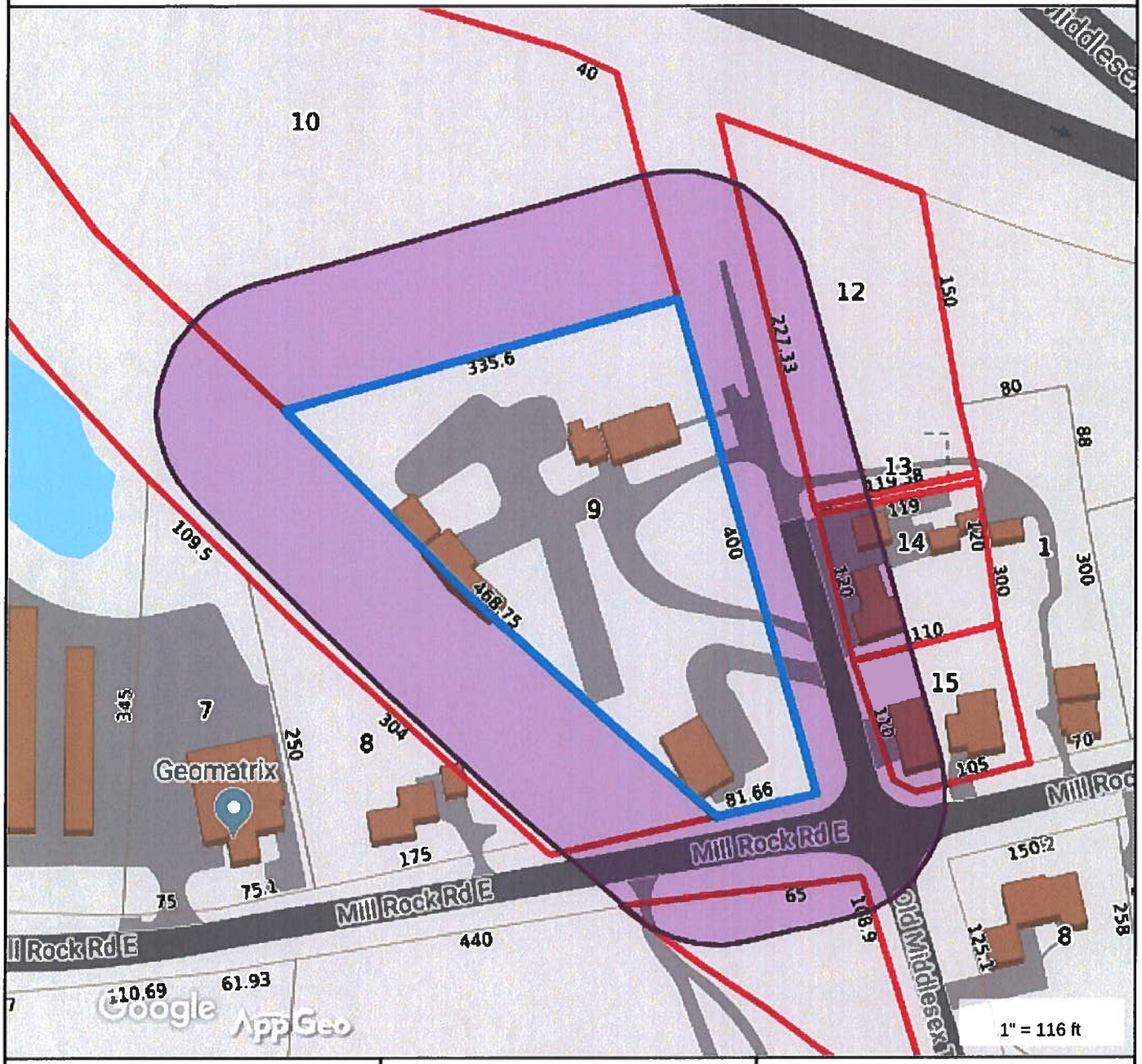
A single sign will be provided at the entrance drive identifying the use of each unit. Unit numbers will be displayed on the unit itself.

The site is served by public water and on-site subsurface sewage disposal systems.

A bio-retention basin is proposed to accommodate the first inch of stormwater runoff.

ADJOINERS
97 OLD MIDDLESEX TURNPIKE

ID	Site Address	Owner Name	`	Owner City	ST	Zip
041-016	MILL ROCK RD EAST	CONNECTICUT STATE OF	PO BOX 341441	HARTFORD	CT	06134
041-015	88 MILL ROCK RD EAST	MRR LLC	20 MAPLEWOOD ST	OLD SAYBROOK	CT	06475
041-012	OLD MIDDLESEX TPKE	C & D DISTRIBUTORS INC	P O BOX 766	OLD SAYBROOK	CT	06475
041-010	OLD MIDDLESEX TPKE	CONNECTICUT STATE OF	PO BOX 341441	HARTFORD	CT	06134
041-013	OLD MIDDLESEX TPKE	C & D DISTRIBUTORS INC	P O BOX 766	OLD SAYBROOK	CT	06475
039-017-0(	MILL ROCK RD EAST	JAVCO HOLDINGS LLC	1 WILLIAMS LANE	OLD SAYBROOK	CT	06475
041-014	76 OLD MIDDLESEX TPKE	BUDNEY LEONARD R	PO BOX 54	IVORYTON	CT	06442



Property Information

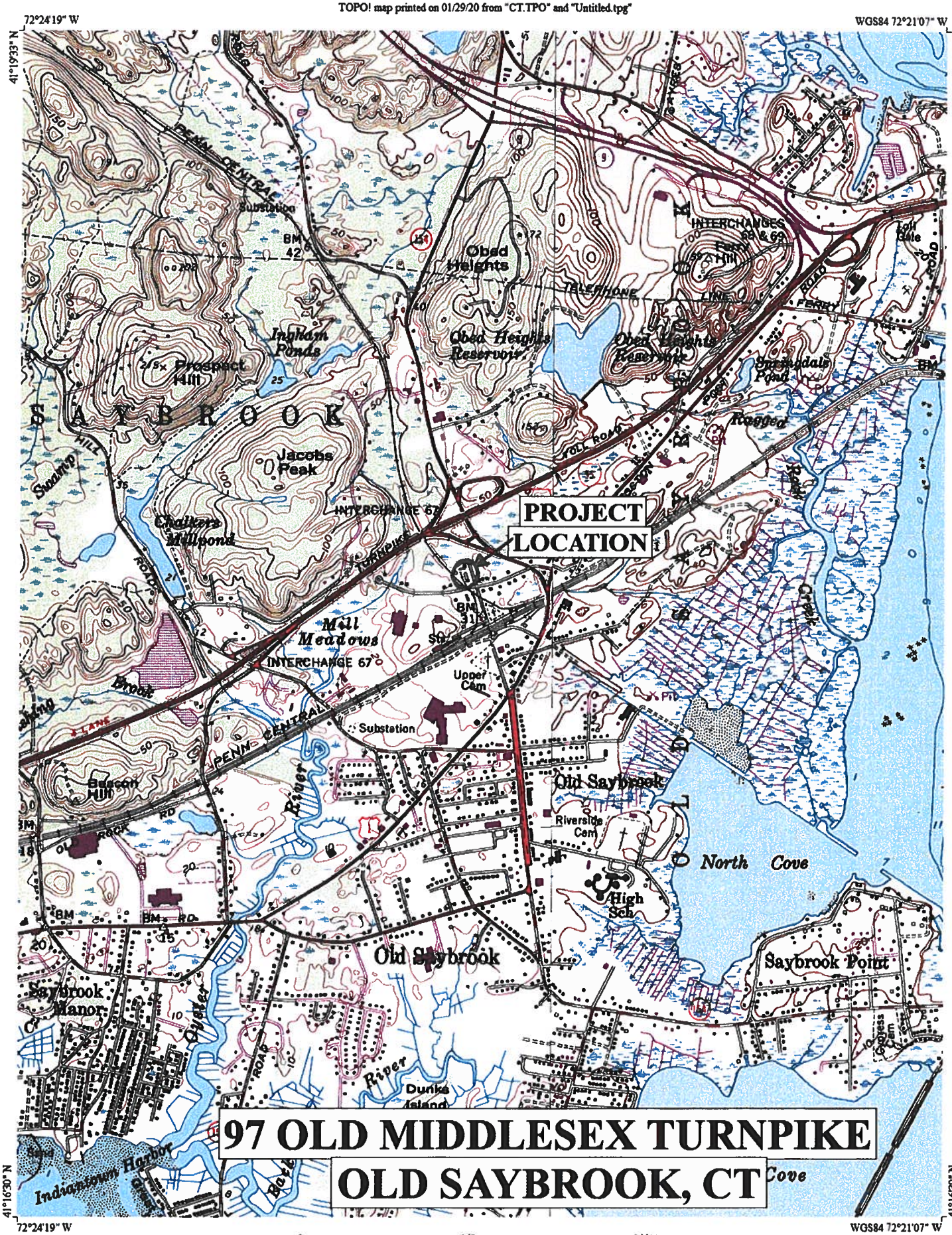
Property ID	041/009-0000
Location	97 OLD MIDDLESEX TPKE
Owner	LYCURGUS LLC

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Town of Old Saybrook, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated July 2018
Data updated 11/19/2018

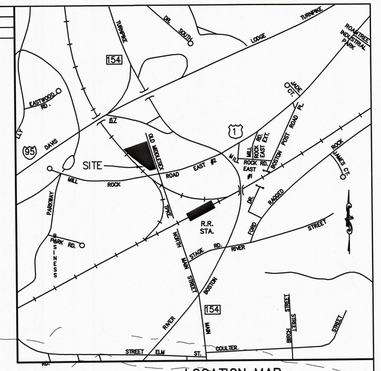
TOPO! map printed on 01/29/20 from "CT.TPO" and "Untitled.tpg"



DATE	REVISION	CK.
06-12-19	PROPOSED BUILDING AND DRIVE ADDED	
02-20-20	PROPOSED LEACHING SYSTEMS AND BIORETENTION SYSTEM ADDED	

TOWN OF OLD SAYBROOK
ZONING COMPLIANCE CHART – I1 DISTRICT

ZONING REGULATION	SECTION	REQUIRED BY REGULATION	EXISTING	PROPOSED
MIN. LOT AREA (PUBLIC)	24.3.1 A	40,000 SF	85,429 SF	85,429 SF
MINIMUM DIMENSION OF A SQUARE	24.3.2 A	150 FT	150'X150'	150'X150'
MINIMUM FRONTAGE	24.3.3	50 FT	481.86'	481.86'
MINIMUM LOT WIDTH @ BUILDING LINE	24.3.4	NONE	–	–
MAXIMUM NUMBER OF STORIES	24.4.1	2 1/2	2 1/2	2 1/2
MAXIMUM HEIGHT	24.4.2	50 FT	27 FT	<50 FT
BUILDING SETBACKS:	24.5			
STREET LINE	24.5.1	50'	18.6'	18.6'
REAR LINE	24.5.2	20'	90.7'	90.7'
OTHER LINE	24.5.3	20'	(E)29.8" (W)4.1'	(E)29.8" (W)4.1'
PROJECTION INTO SETBACK AREA	24.6.1	5'	N/A	N/A
MAXIMUM GROSS FLOOR AREA	24.5.4	80%	5,144 SF (6.0%)	18,494 SF (21.6%)
MAXIMUM BUILDING/STRUCTURE COVERAGE	24.5.4	40%	4,689 SF (5.5%)	18,039 SF (21.1%)



LOCATION MAP
SCALE: 1"=1000'±

B100a SYSTEM
1,000 GALLON SEPTIC TANK
INV=27.05
INV OUT=26.80
DISTRIBUTION BOX
INV IN=26.70
INV OUT=26.60
30 LF ROW OF GST 6224
BOTTOM ELEVATION=24.5

APPROXIMATE WATERLINE LOCATION

EXISTING RAILROAD TRACKS

MILL ROCK ROAD EAST

EXISTING EDGE OF BITUMINOUS PAVEMENT

EXISTING SHED

PROPOSED FENCE

DIST. BOX
Inv. IN =25.30
Inv. OUT =25.20

PRIMARY AREA (H-20 LOADING)
25 LF ROW OF GST 6224
BOTTOM ELEVATION=23.0

SEPTIC TANK (H-20 LOADING)
1,000 GALLON SEPTIC TANK
INV. IN=25.70
INV. OUT=25.45

N/F
STATE OF CONNECTICUT
"NO DESIGN CONFLICTS"

IP FND

EXISTING 3 BEDROOM BUILDING FF=31.69

EXISTING RAMP

PROPOSED LANDSCAPED AREA

L=469.29'
R=2815.43

EXISTING 2 BEDROOM HOUSE FF=28.0

S78°06'00"W 81.66'

S16°13'08"E 72.71'

EXISTING RETAINING WALL/PLANTER

RR SPK NOT FND

10 LF OF 4" SCH 40 PVC ASTM D1785
1/4" PER FOOT MIN.

CL&P# 1572

DIST. BOX
Inv. IN =26.70
Inv. OUT =26.60

PROPOSED GRAVEL DRIVE "C"

PROPOSED BATHROOM(S)

EXISTING CONCRETE PAD

EXISTING PROPANE TANK

13 750 SF
14 750 SF
12 1,000 SF
11 1,000 SF
10 1,000 SF
9 1,000 SF
B 962.5 SF
7 962.5 SF
1 1,000 SF
2 1,000 SF
3 1,000 SF
4 1,000 SF
5 962.5 SF
6 962.5 SF

10' MIN. BUILDING LINE (TYP.)

"B"

EXISTING CONCRETE DRIVE

APPROX. SEPTIC SYSTEM LOCATION PER REF MAP

PROPOSED GRAVEL DRIVE

PROPOSED FENCE

APPROX. SEPTIC SYSTEM LOCATION PER REF MAP

N73°46'52"E 165.3'

WLF #12

WLF #10

IP FND

SEPTIC TANK (H-20 LOADING)
1,500 GALLON SEPTIC TANK
INV. IN=27.05
INV. OUT=27.80

PRIMARY AREA (H-20 LOADING)
10 LF ROW OF GST 6224
BOTTOM ELEVATION=24.5

RESERVE AREA (H-20 LOADING)
10 LF ROW OF GST 6224
BOTTOM ELEVATION=24.5

BENCHMARK
CONC NAIL
ELEV=28.27'
(NAVD 1988 DATUM)

OLD MIDDLESEX TURNPIKE

EXISTING EDGE OF BITUMINOUS PAVEMENT

TH #1 W/MP

TH #2 W/MP

TH #3

P#1

P#2

CL&P# 1573

CL&P# 1574

TEMPORARY STOCKPILE AREA

PROPOSED PAVED APRON

PROPOSED LANDSCAPED AREA

PROPOSED GRAVEL DRIVE

DIST. BOX
Inv. IN =26.40
Inv. OUT =26.30

CONNECT RAIN LEADERS TO BIORETENTION BASIN

PROPOSED LANDSCAPED AREA

100' WETLAND REGULATED AREA

10 LF OF 4" SCH 40 PVC ASTM D1785
1/4" PER FOOT MIN.

EXISTING GARAGE

EXISTING 3 BEDROOM HOUSE FF=27.0

EXISTING GRAVEL DRIVE

PROPOSED BIORETENTION BASIN
BOTTOM ELEV=25.0
BOTTOM DIM.=(20'X50')
TOP DIM.=(26'X56')

N/F
STATE OF CONNECTICUT
"NO DESIGN CONFLICTS"

WLF #5

APPROX. SEPTIC SYSTEM LOCATION PER REF MAP

EXISTING WOOD STOCKADE FENCE

RESERVE AREA (H-20 LOADING)
45 LF ROW OF GST 6224
BOTTOM ELEVATION=24.2

PRIMARY AREA (H-20 LOADING)
45 LF ROW OF GST 6224
BOTTOM ELEVATION=24.2

SEPTIC TANK (H-20 LOADING)
1,500 GALLON SEPTIC TANK
INV. IN=26.75
INV. OUT=26.50

B100a SYSTEM
1,000 GALLON SEPTIC TANK
INV=27.05
INV OUT=26.80
DISTRIBUTION BOX
INV IN=26.70
INV OUT=26.60
30 LF ROW OF GST 6224
BOTTOM ELEVATION=24.5

S35°09'00"E 400.00'

EXISTING STONE WALK

DH FND

WLF #1

LEGEND

- IRON PIPE/ROD TO BE SET
- MON MONUMENT
- IP IRON PIPE/ROD
- DH DRILL HOLE
- CONC. CONCRETE
- FND FOUND
- FF FINISHED FLOOR
- EXIST. EXISTING
- (P2) PROPOSED PARKING
- CL&P# 1575 EXISTING UTILITY POLE
- 7.0 PROPOSED SPOT ELEVATION
- 100 EXISTING CONTOURS
- SF SILT FENCE
- PW PROPOSED WATERLINE

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

ROBERT L. DOANE, JR.
CONN. P.E. & L.S. LIC. NO. 11463

STATE OF CONNECTICUT · ROBERT L. DOANE JR. · REGISTERED PROFESSIONAL ENGINEER · NO. 11463

STATE OF CONNECTICUT · ROBERT L. DOANE JR. · LICENSED LAND SURVEYOR · NO. 11463

GRAPHIC SCALE
20 0 10 40 80 160
(IN FEET)
1 inch = 20 ft.

THIS SURVEY HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 TO 20-300b-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. IT IS A IMPROVEMENT LOCATION SURVEY AND IS INTENDED TO DEPICT THE EXISTING CONDITIONS IN RELATION TO EXISTING PROPERTY LINES AND BUILDING SETBACK LINES

PROPERTY BOUNDARY HAS BEEN ESTABLISHED BY A DEPENDENT RESURVEY WITH REFERENCE TO THE MAP(S) NOTED HEREON. THIS SURVEY IS SUBJECT TO SUCH FACTS AS AN INDEPENDENT RESURVEY MAY DISCLOSE.
A.)
MONUMENTED PROPERTY SURVEY ON LAND OF ELIZABETH A. DAVEY #97 OLD MIDDLESEX TURNPIKE OLD SAYBROOK, CONNECTICUT DATED APRIL 10, 2004 REVISED TO JUNE 21, 2008 SCALE 1"=40' BY ROBERT C. SIMONI

THE SUBJECT PROPERTY CONTAINS 85,429 SF 1.96 AC

HORIZONTAL ACCURACY CONFORMS TO CLASS A-2.

VERTICAL ACCURACY CONFORMS TO CLASS T-2 (NAVD 1988 DATUM)

SUBJECT PROPERTY IS RECORDED IN TOWN OF OLD SAYBROOK LAND RECORDS VOL. 586, PG 384

THIS SITE IS NOT LOCATED WITHIN A FLOOD ZONE PER FIRM COMMUNITY PANEL NUMBER 09007 C0342 J MAP EFFECTIVE DATE 02-06-2013

MAP #41 LOT #09

DOANE ENGINEERING
CIVIL ENGINEERING AND LAND SURVEYING
P.O. BOX 113 CENTERBROOK, CONNECTICUT 06409
TEL: (860)767-0138, FAX: (860)767-9104

IMPROVEMENT LOCATION SURVEY

PREPARED FOR

LYCURGUS LLC

#97 OLD MIDDLESEX TURNPIKE, OLD SAYBROOK , CONNECTICUT

SCALE:	DATE:	SHEET NO.:	IDENT. NO.:
1"=20'	04/15/19	1 OF 2	

ALL DRAWINGS AND THE IDEAS AND DESIGNS INCORPORATED THEREIN, AS AN INSTRUMENT OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF DOANE ENGINEERING. THEY ARE NOT TO BE USED IN WHOLE OR PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF DOANE ENGINEERING.

DATE	REVISION	CK.
06-12-19	PROPOSED BUILDING AND DRIVE ADDED	
02-20-20	PROPOSED LEACHING SYSTEMS AND BIORETENTION SYSTEM ADDED	

CONSTRUCTION SEQUENCE
(SANITARY SYSTEM)

1. NOTIFY TOWN HEALTH DEPARTMENT AND THE ENGINEER 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION. NO PORTION OF THE SYSTEM WILL BE COVERED WITHOUT INSPECTION AND APPROVAL BY THE ENGINEER OR THE SANITARIAN.
2. PLACE SYNTHETIC BARRIER AS SHOWN ON THE DRAWING AND IN THE DETAIL.
3. REMOVE ALL TREES, STUMPS AND DELETERIOUS MATERIAL FROM SYSTEM AREA.
4. STOCKPILE TOPSOIL FOR REUSE.
   A. DO NOT STOCKPILE TOPSOIL IN SANITARY SYSTEM AREA.
   B. DO NOT REMOVE SUBSOIL.
5. ENGINEER/LAND SURVEYOR SHALL FIELD STAKE THE PROPOSED SYSTEM PRIOR TO INSTALLATION.
6. INSTALL SEPTIC SYSTEM AS SHOWN.
   A. IF SOIL CONDITIONS OTHER THAN THOSE SHOWN IN THE SOIL LOGS ARE ENCOUNTERED DURING THE INSTALLATION OF THE SANITARY SYSTEM, THE DESIGN ENGINEER OR THE SANITARIAN SHALL BE NOTIFIED AND THE WORK WILL BE HALTED PENDING REVIEW OF THOSE CONDITIONS. IF NECESSARY THE SANITARY SYSTEM SHALL BE REVISED.
   B. A MINIMUM OF 4 FEET MUST BE MAINTAINED BETWEEN THE BOTTOM OF THE SYSTEM AND LEDGE. A MINIMUM OF 1.5 FEET MUST BE MAINTAINED BETWEEN THE BOTTOM OF THE SYSTEM AND SEASONAL HIGH GROUNDWATER.
7. DO NOT BACKFILL ANY PORTION OF THE SANITARY SYSTEM UNTIL INSPECTED BY THE SANITARIAN AND UNTIL A "RECORD" SURVEY HAS BEEN COMPLETED.
8. REPLACE TOPSOIL, GRADE, SEED AND MULCH ALL DISTURBED AREAS.
9. MAINTAIN SYNTHETIC FILTER BARRIER UNTIL ALL DISTURBED AREAS ARE STABILIZED.

SANITARY SYSTEM NOTES:

1. NO LARGE CAPACITY TUBS (> 100 GALLON CAPACITY) ARE PLANNED AND WILL NOT BE PERMITTED IN THE PROPOSED RESIDENCE.
2. NO GARBAGE GRINDER INSTALLATION IS PLANNED FOR THE PROPOSED RESIDENCE. SHOULD A GARBAGE GRINDER BE INSTALLED THE PROPOSED SEPTIC TANK SHALL BE INCREASED TO THE NEXT LARGER SIZE.
3. WATER SUPPLY SHALL BE BY PUBLIC WATER
4. ALL SOLID PIPING AFTER THE SEPTIC TANK TO BE 4" PVC ASTM D 3034, SDR 35.
5. FILTER FABRIC SHALL BE SELECTED FROM APPENDIX C OF THE CONNECTICUT PUBLIC HEALTH CODE REVISED TO JAN. 15, 2015:
6. NO DEVIATION FROM THIS PLAN WILL BE ALLOWED WITHOUT THE APPROVAL OF THE ENGINEER AND SANITARIAN.
7. SEPTIC TANK CONSTRUCTION JOINTS SHALL BE SEALED WITH ASPHALT CEMENT. ALL PIPE CONNECTIONS TO THE SEPTIC TANK AND DISTRIBUTION BOXES SHALL BE SEALED WITH A POLYETHYLENE GASKET ("POLY-LOK" OR APPROVED EQUAL)
8. SEPTIC TANK BAFFLES SHALL CONFORM TO SECTION VA-1 TECHNICAL STANDARDS OF THE STATE HEALTH CODE.
9. SEPTIC TANK SHALL BE TWO COMPARTMENT TANK WITH HEAVY DUTY STEEL HANDLES FOR MANHOLE ACCESS COVERS AND GAS BAFFLES INSTALLED ON OUTLET PIPING. SEPTIC TANK TO BE EQUIPPED WITH AN APPROVED NON-BY-PASS EFFLUENT FILTER AT THE OUTLET SELECTED FROM APPENDIX B OF THE CONNECTICUT PUBLIC HEALTH CODE REVISED TO JAN. 15, 2015
10. STONE AGGREGATE MEANS BROKEN STONE, CRUSHED STONE, OR SCREENED GRAVEL MEETING DEPARTMENT OF TRANSPORTATION FORM 814A SPECIFICATION M.01.01 FOR NO. 4 STONE (AS SHOWN BELOW OR LATEST SPECIFICATION). STONE AGGREGATE (PREVIOUSLY "ONE-INCH BROKEN STONE") SHALL BE FREE OF SILT, DIRT OR DEBRIS AND SHALL SHOW A LOSS OF ABRASION OF NOT MORE THAN 50 PERCENT USING AASHTO METHOD T-96.

SIEVE SIZE	PERCENT PASSING (BY WEIGHT)
2 INCH	100
1.5 INCH	90-100
1 INCH	20-55
3/4 INCH	0-10
3/8 INCH	0-5

SANITARY SYSTEM NOTES:

1. NO LARGE CAPACITY TUBS (> 100 GALLON CAPACITY) ARE PLANNED AND WILL NOT BE PERMITTED IN THE PROPOSED RESIDENCE.
2. NO GARBAGE GRINDER INSTALLATION IS PLANNED FOR THE PROPOSED RESIDENCE. SHOULD A GARBAGE GRINDER BE INSTALLED THE PROPOSED SEPTIC TANK SHALL BE INCREASED TO THE NEXT LARGER SIZE.
3. WATER SUPPLY SHALL BE BY INDIVIDUAL WELL
4. ALL SOLID PIPING AFTER THE SEPTIC TANK TO BE 4" PVC ASTM D 3034, SDR 35.
5. FILTER FABRIC SHALL BE SELECTED FROM THE FOLLOWING TABLE:

APPROVED FILTER FABRICS FOR COVERING STONE AGGREGATE

MANUFACTURER	DESIGNATION NUMBER
AMERICAN ENGINEERING FABRICS	AEF-480
BRADLEY INDUSTRIAL TEXTILE	PHOENIX OR LIJOMA
CARTHAGE MILLS	M35
CULTEC *	410
DUPONT	SF20
ENGINEERED SYNTHETIC PRODUCTS	TNS R020
L&M SUPPLY COMPANY	L&M 231
MIRAFI	65304 (4' WIDE), 65303 (3' WIDE)
SKAPS INDUSTRIES	SKAPS GT 120
TERRA TEX	S01.5, P01.5
TYPAR	3151, 3201
US FABRIC INC.	US 1.5 CT

* ALSO APPROVED TO COVER TWO (2) INCH NOMINAL TIRE CHIP AGGREGATE

6. NO DEVIATION FROM THIS PLAN WILL BE ALLOWED WITHOUT THE APPROVAL OF THE ENGINEER AND SANITARIAN.
7. SEPTIC TANK CONSTRUCTION JOINTS SHALL BE SEALED WITH ASPHALT CEMENT. ALL PIPE CONNECTIONS TO THE SEPTIC TANK AND DISTRIBUTION BOXES SHALL BE SEALED WITH A POLYETHYLENE GASKET ("POLY-LOK" OR APPROVED EQUAL)
8. SEPTIC TANK BAFFLES SHALL CONFORM TO SECTION VA-1 TECHNICAL STANDARDS OF THE STATE HEALTH CODE.
9. SEPTIC TANK SHALL BE TWO COMPARTMENT TANK WITH HEAVY DUTY STEEL HANDLES FOR MANHOLE ACCESS COVERS AND GAS BAFFLES INSTALLED ON OUTLET PIPING. SEPTIC TANK TO BE EQUIPPED WITH AN APPROVED NON-BY-PASS EFFLUENT FILTER AT THE OUTLET. SEE TABLE BELOW:

APPROVED SEPTIC TANK EFFLUENT FILTERS

MANUFACTURER	MODEL
ORENCO SYSTEMS	FT0444-36 FT0854-36 FT1254-36 FT1554-36
PREMIER TECH	EFT-080
POLYLOK	PL-68, PL-122, PL-525, PL-625
RISSY PLASTICS	45 - CLIK N'STICK
THORSBY & BOWNE	SANITEE
TUF-TITE	EF-4, EF-6
ZABEL	A100 A300 A1800 A1801 A100-HIP A300-HIP A1800-HIP A1801-HIP A600-12, A600-8
ZOELLER	170-0017 170-0078 5000-0007
NORWECO	BIO-KINETIC BK2000
BIO-MICROBICS	ST 416, ST 418, ST 818 ST 838, ST 1618, ST 1638
BOWCO INDUSTRIES	EF-235
GAG-SIMTECH	STF-110, STF-110-7R STF-110-6W, STF-110-8B

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SIEVE SIZE	PERCENT PASSING (BY WEIGHT)
2 INCH	100
1.5 INCH	90-100
1 INCH	20-55
3/4 INCH	0-10
3/8 INCH	0-5

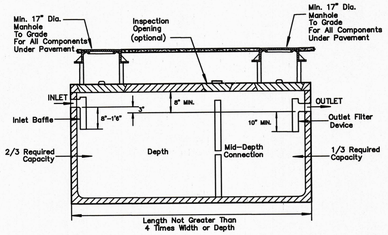
BIORETENTION BASIN FLOOR MIX - LOW MAINTENANCE

ERNMX # ERNMX-126
SEEDING RATE 20-40 LB PER ACRE, OR 1 LB PER 1,000 SQ FT
MIX TYPE STORM WATER MANAGEMENT FACILITY SITES
SPECIES LIST

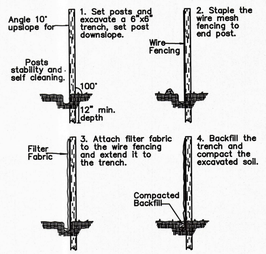
25% REDTOP PANICGRASS, PA ECOTYPE (PANICUM RIGIDULUM (P. STIPITATUM), PA ECOTYPE)
16% VIRGINIA WILDRYE, PA ECOTYPE (ELYMUS VIRGINICUS, PA ECOTYPE)
16% ALKALIGRASS, 'FULTS' (PUCCINELLIA DISTANS, 'FULTS')
15% FOWL BLUEGRASS (POA PALUSTRIS)
10% CREEPING BENTGRASS (AGROSTIS STOLONIFERA)
10% TICKLEGRASS (ROUGH BENTGRASS), PA ECOTYPE (AGROSTIS SCABRA, PA ECOTYPE)
5% SOFT RUSH (JUNCUS EFFUSUS)
2% AUTUMN BENTGRASS, PA ECOTYPE (AGROSTIS PERENNANS, PA ECOTYPE)
1% PATH RUSH, PA ECOTYPE (JUNCUS TENUIS, PA ECOTYPE)

TOTAL: 100%

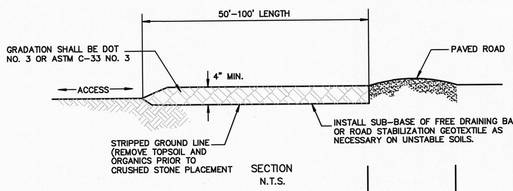
USE ERNST CONSERVATION SEEDS
COMPANY RETENTION BASIN FLOOR MIX OR EQUAL



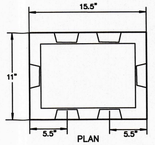
(H-20 LOADING)
TYPICAL SEPTIC TANK



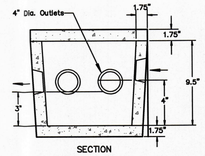
SILT FENCE
NOT TO SCALE
Source: U.S. Department of Agriculture, Soil Conservation Service, Storrs, Connecticut.



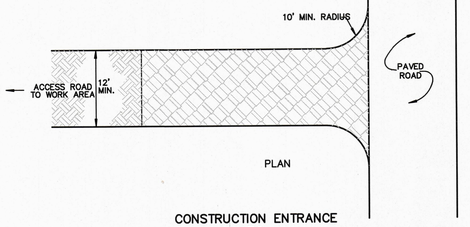
SECTION
N.T.S.



PLAN



SECTION
DISTRIBUTION BOX
N.T.S.



CONSTRUCTION ENTRANCE
N.T.S.

SANITARY SYSTEM DESIGN CRITERIA:

BUILDING 1:

AREA OF BUILDING = 11,850 SF
DESIGN FLOW = 11,850 SF x 0.1 GPD/SF = 1,185 GPD
PERCOLATION RATE = 3.2 MIN/IN
APPLICATION RATE = 1.5 GPD/SF
REQUIRED EFFECTIVE LEACHING AREA = 790 SF
PROVIDED 45 LF OF GST 6224
EFFECTIVE LEACHING AREA PROVIDED =
45 LF x 18.1 SF/LF = 814 SF
PROVIDE 1,500 GALLON SEPTIC TANK
PROVIDE 100 PERCENT RESERVE AREA

AVERAGE DEPTH TO RESTRICTIVE LAYER > 60 INCHES
THEREFORE MLSS NEED NOT BE CONSIDERED

BUILDING 2:

AREA OF BUILDING = 1,500 SF
DESIGN FLOW = 1,500 SF x 0.1 GPD/SF = 150 GPD
PERCOLATION RATE = 3.2 MIN/IN
APPLICATION RATE = 1.5 GPD/SF
REQUIRED EFFECTIVE LEACHING AREA = 100 SF
PROVIDED 10 LF OF GST 6224
EFFECTIVE LEACHING AREA PROVIDED =
10 LF x 18.1 SF/LF = 181 SF
PROVIDE 1,000 GALLON SEPTIC TANK
PROVIDE 100 PERCENT RESERVE AREA

AVERAGE DEPTH TO RESTRICTIVE LAYER > 60 INCHES
THEREFORE MLSS NEED NOT BE CONSIDERED

EXISTING 1 BEDROOM HOUSE
PROPOSED 2 BEDROOM SYSTEM
DESIGN PERCOLATION RATE = 1-10 MIN/INCH
REQUIRED EFFECTIVE LEACHING AREA = SIGN 375 SF
PROVIDE 25 FEET OF GST 6224
EFFECTIVE LEACHING AREA PROVIDED = 25 FEET X 18.1 SF/FT
RESERVE AREA NOT REQUIRED = TO 452 SF
PROVIDE 1000 GALLON SEPTIC TANK
MLSS NOTE
DESIGN IS BASED ON SOIL TEST CONDUCTED APPROXIMATELY 2 FEET FROM THE PROPOSED SYSTEM CONFIRMING SOIL TEST MUST BE CONDUCTED IN AREA PROPOSED SYSTEM.

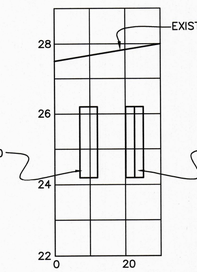
B100A SANITARY SYSTEM DESIGN (SYSTEM NEED NOT BE BUILT)
EXISTING 3 BEDROOM HOUSE DESIGN PERCOLATION RATE = 1-10 MIN./INCH
REQUIRED EFFECTIVE LEACHING AREAPROVIDED = 495 SF
PROVIDE 30 FEET OF GST 6224
EFFECTIVE LEACHINGAREA PROVIDED = 30 FT X 18.1 SF/FT
RESERVE AREA NOT REQUIRED=543 SF
PROVIDE 1000 GALLON SEPTIC TANK

STORMWATER MANAGEMENT

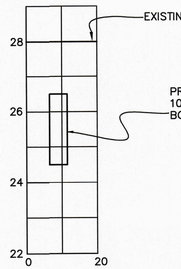
PROVIDE STORAGE/RECHARGE FOR 1ST INCH OF RUNOFF FROM PROPOSED BUILDINGS:

TOTAL BUILDING AREA = 13,350 SF
VOLUME OF 1ST INCH = 13,350 SF x 1 FT/12 INCHES = 1,113 CF
PROVIDE A STORMWATER BIORETENTION BASIN:

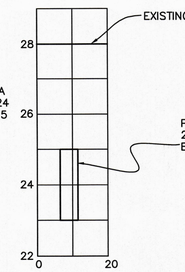
PROPOSED SIZE OF BASIN = 20 FT x 50 FT x 1 FT DEEP
WITH 3:1 SLOPES
BOTTOM DIMENSIONS = 20 FT X 50 FT = 1,000 SF
TOP DIMENSIONS = 26 FT X 56 FT = 1,456 SF
VOLUME = 1,228 CF



SECTION A-A
SANITARY SYSTEM X-SECTION
HORZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 2'



SECTION B-B
SANITARY SYSTEM X-SECTION
HORZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 2'



SECTION C-C
SANITARY SYSTEM X-SECTION
HORZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 2'

TEST HOLE DATA
PERFORMED BY TOM METCALF
& ZACH FAIELLA, CRAHD
5/23/19

TH 1 - MP

0 - 6"-TOPSOIL, GRASS, LAWN
6 - 24"-YELLOW/BROWN, LOAM, YELLOW, FINE SAND
24 - 78"-YELLOW/BROWN, GRAVELLY, MEDIUM SAND
NO LEDGE OBSERVED
GROUNDWATER OBSERVED AT 60"
NO MOTTLING

TH 2 - MP

0 - 6"-TOPSOIL, GRASS, LAWN
6 - 12/20"-YELLOW/BROWN, VERY FINE SANDY LOAM (DISTURBED)
12/20 - 84"-YELLOW/BROWN, GRAVELLY, MEDIUM/COARSE SAND
84 - 102"-DARK YELLOW/BROWN COARSE SAND
NO LEDGE OBSERVED
GROUNDWATER OBSERVED AT 72"
NO MOTTLING OBSERVED

TH 3

SIMILAR TO TH 2
NO LEDGE OBSERVED TO 84"
GROUNDWATER OBSERVED AT 66"
NO MOTTLING OBSERVED

PERCOLATION TEST
PERFORMED BY TOM METCALF
5/23/19

PT 1

BOTTOM @ 30"; PRESOAK/DRY

TIME (min)	DEPTH (IN)	CHANGE DEPTH (IN)
7:30	10	
9:00	10 7/8	7/8
11:00	12 1/8	1 1/4
13:00	13 1/8	1
15:00	14	7/8
17:00	14 3/4	3/4
19:00	15 1/2	3/4
21:00	16 1/8	5/8
23:00	16 3/4	5/8
25:00	17 3/8	5/8
27:00	18	5/8
29:00	DRY	

PERCOLATION RATE = 3.2 MIN/IN

PT 2

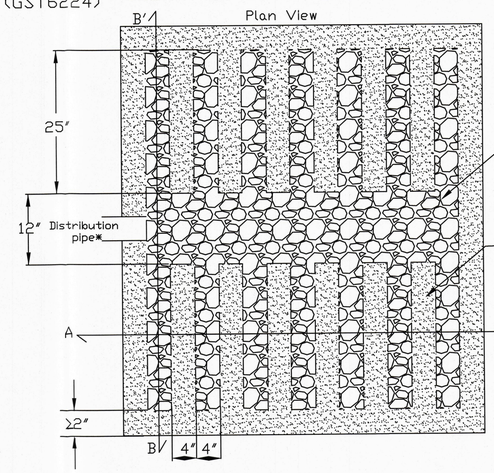
BOTTOM @ 32"; PRESOAK/DRY

TIME (min)	DEPTH (IN)	CHANGE DEPTH (IN)
0:30	10 5/8	
2:00	12 1/4	5/8
4:00	13 3/4	1 1/2
6:00	14 3/4	1
8:00	15 3/4	1
10:00	16 5/8	7/8
12:00	17 1/2	7/8
14:00	18 1/4	3/4
16:00	19	3/4
18:00	19 5/8	5/8
20:00	DRY	

PERCOLATION RATE = 3.2 MIN/IN

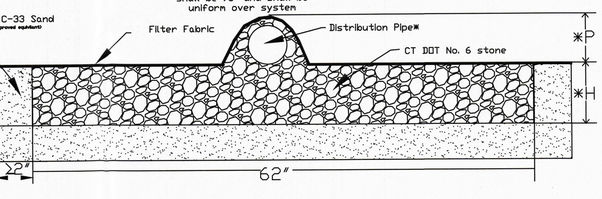
GEOMATRIX GST LEACHING SYSTEM

*H= 24" (GST6224)



*3" min. I.D., ASTM D-3034, SDR 35 pipe for gravity applications
0.75" min. I.D., ASTM D-2665, SCH 40 PVC pipe for pressure applications

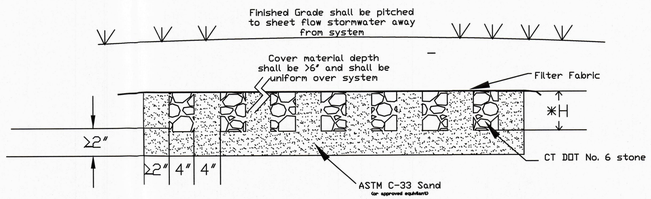
GEOMATRIX GST ™ LEACHING SYSTEM
B-B' CROSS SECTION



*H= 24" (GST6224) *P= 2" - 5.5"

*3" min. I.D., ASTM D-3034, SDR 35 pipe for gravity applications
0.75" min. I.D., ASTM D-2665, SCH 40 PVC pipe for pressure applications

GEOMATRIX GST ™ LEACHING SYSTEM
A-A' CROSS SECTION



TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

ROBERT L. DOANE, JR.
CONN. P.E. & L.S. LIC. NO. 11463

STATE OF CONNECTICUT ROBERT L. DOANE JR. NO. 11463 REGISTERED PROFESSIONAL ENGINEER

STATE OF CONNECTICUT ROBERT L. DOANE JR. NO. 11463 LICENSED LAND SURVEYOR

'DETAIL SHEET'

DOANE ENGINEERING
CIVIL ENGINEERING AND LAND SURVEYING
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IMPROVEMENT LOCATION SURVEY
PREPARED FOR
LYCURGUS LLC
#97 OLD MIDDLESEX TURNPIKE, OLD SAYBROOK , CONNECTICUT

SCALE:	DATE:	SHEET NO.:	IDENT. NO.:
1"=20'	04/15/19	2 OF 2	

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