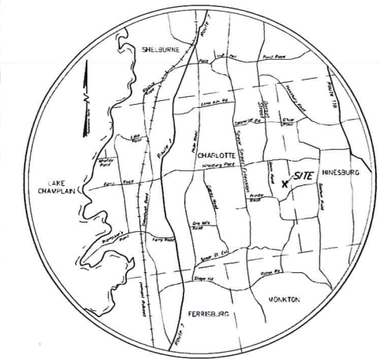

Location Map

N.T.S.

Legend

- Survey Control Point
- Existing Sign
- Existing Light Pole
- Existing Deciduous Tree
- Existing Evergreen Tree
- Existing Spot Grade Elevation
- Existing Contour
- Existing Gas Line/Valve
- Existing Sewer Line/Manhole
- Existing Sewer Forcemain
- Existing Storm Line/Manhole/Basin
- Existing Overhead Electric Line/Power Pole
- Existing Overhead Utility
- Existing Communications Line
- Existing Underground Power
- Existing Underground Electric & Telephone Line
- Existing Tree Line
- Existing Chain Link Fence
- Existing Barbed Wire Fence
- Existing Stockade Fence
- Existing Water Line/Hydrant/Valve/Shutoff
- Approximate Property Line
- Existing Setback
- Existing Easement

Notes:

1. This plan is not a boundary survey. Refer to "Plan Showing a Boundary Line Adjustment of Lands of W. Terrence Breen & Kelly Patricia Shea, Trustees of the W. Terrence Breen Family Trust and Breen & Shea Ventures, LLC" prepared by LaRose Surveys, P.C.
2. The underground utilities shown on this plan are based on visible utilities located during a topographic survey performed by Krebs & Lansing in October 2014. Underground utilities are approximate and not warranted to be exact or complete. Dig Safe shall be contacted prior to any excavation.
3. Elevations are based on the NAVD 88 (Geoid 12A) vertical datum.
4. Project Horizontal Coordinates derived from GPS observation using reference frame NAD83 (2011) 2010.00 epoch.

0' 100' 200' 400' 800'

Bar Scale 1" = 100'

Date revised	Description	Checked	Date

Design: SWH
Drawn: JC/SWH
Checked:
Scale: 1" = 100'
Date: Sept. 17, 2015
Project: 14234

Overall Site Plan

W Terence Breen Family Trust & Breen & Shea Ventures LLC

450 & 451 Red Truck Lane — Charlotte, Vermont

KREBS & LANSING Consulting Engineers, Inc.
164 Main Street, Colchester, Vermont 05446

Notes:

1. This plan is not a boundary survey. Refer to "Plan Showing a Boundary Line Adjustment of Lands of W. Terrence Breen & Kelly Patricia Shea, Trustees of the W. Terrence Breen Family Trust and Breen & Shea Ventures, LLC" prepared by LaRose Surveys, P.C.
2. The underground utilities shown on this plan are based on visible utilities located during a topographic survey performed by Krebs & Lansing in October 2014. Underground utilities are approximate and not warranted to be exact or complete. Dig Safe shall be contacted prior to any excavation.
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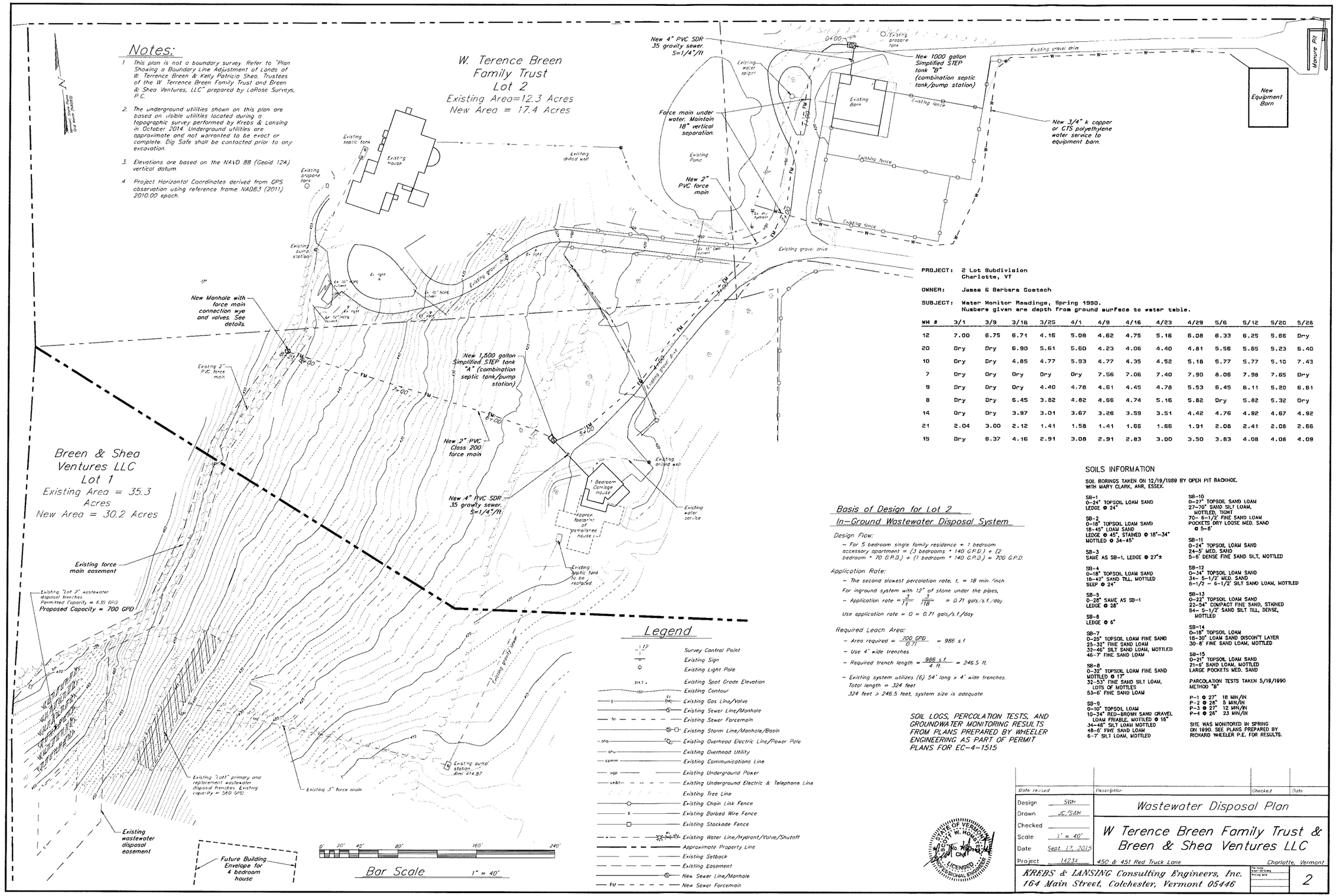
4. Project Horizontal Coordinates derived from GPS observation using reference frame NAD83 (2011) 2010.00 epoch.



PROJECT: 2 Lot Subdivision
Charlotte, VT

OWNER: James & Barbara Goetsch

SUBJECT: Water Monitor Readings, Spring 1990.
Numbers given are depth from ground surface to water table.

WM #	3/1	3/9	3/16	3/25	4/1	4/9	4/16	4/23	4/29	5/6	5/12	5/20	5/26
12	7.00	6.75	6.71	4.16	5.08	4.62	4.75	5.16	6.08	6.33	6.25	5.66	Dry
20	Dry	Dry	6.90	5.61	5.60	4.23	4.06	4.40	4.81	5.56	5.65	5.23	6.40
10	Dry	Dry	4.85	4.77	5.93	4.77	4.35	4.52	5.16	5.77	5.77	5.10	7.43
7	Dry	Dry	Dry	Dry	Dry	7.56	7.06	7.40	7.90	8.06	7.98	7.65	Dry
9	Dry	Dry	Dry	4.40	4.78	4.61	4.45	4.78	5.53	6.45	6.11	5.20	6.81
8	Dry	Dry	6.45	3.82	4.82	4.66	4.74	5.16	5.82	Dry	5.82	5.32	Dry
14	Dry	Dry	3.97	3.01	3.67	3.26	3.59	3.51	4.42	4.76	4.92	4.67	4.92
21	2.04	3.00	2.12	1.41	1.58	1.41	1.66	1.66	1.91	2.08	2.41	2.08	2.66
15	Dry	6.37	4.16	2.91	3.08	2.91	2.83	3.00	3.50	3.83	4.08	4.08	4.09

SOILS INFORMATION

SOIL BORINGS TAKEN ON 12/19/1989 BY OPEN PIT BACKHOE.
WITH MARY CLARK, ANR, ESSEX.

SB-1
0-24" TOPSOIL LOAM SAND
LEDGE @ 24"

SB-2
0-18" TOPSOIL LOAM SAND
18-45" LOAM SAND
LEDGE @ 45", STAINED @ 18"-34"
MOTTLED @ 34-45"

SB-3
SAME AS SB-1, LEDGE @ 27"±

SB-4
0-18" TOPSOIL LOAM SAND
18-42" SAND TILL, MOTTLED
SEEP @ 24"

SB-5
0-28" SAME AS SB-1
LEDGE @ 28"

SB-6
LEDGE @ 6"

SB-7
0-25" TOPSOIL LOAM FINE SAND
25-32" FINE SAND LOAM
32-46" SILT SAND LOAM, MOTTLED
46-7' FINE SAND LOAM

SB-8
0-32" TOPSOIL LOAM FINE SAND
MOTTLED @ 17"
32-53" FINE SAND SILT LOAM,
LOTS OF MOTTLES
53-6' FINE SAND LOAM

SB-9
0-10" TOPSOIL LOAM
10-34" RED-BROWN SAND GRAVEL
LOAM FRIABLE, MOTTLED @ 10"
34-48" SILT LOAM MOTTLED
48-6' FINE SAND LOAM
6-7' SILT LOAM, MOTTLED

SB-10
0-27" TOPSOIL SAND LOAM
27-70" SAND SILT LOAM,
MOTTLED, HIGH!
70- 6-1/2' FINE SAND LOAM
POCKETS DRY LOOSE MED. SAND
@ 5-6'

SB-11
0-24" TOPSOIL LOAM SAND
24-5' MED. SAND
5-6' DENSE FINE SAND SILT, MOTTLED

SB-12
0-34" TOPSOIL LOAM SAND
34- 5-1/2' MED. SAND
6-1/2 - 6-1/2' SILT SAND LOAM, MOTTLED

SB-13
0-22" TOPSOIL LOAM SAND
22-54" COMPACT FINE SAND, STAINED
54- 5-1/2' SAND SILT TILL, DENSE,
MOTTLED

SB-14
0-18" TOPSOIL LOAM
18-30" LOAM SAND DISCON'T LAYER
30-8' FINE SAND LOAM, MOTTLED

SB-15
0-21" TOPSOIL LOAM SAND
21-6' SAND LOAM, MOTTLED
LARGE POCKETS MED. SAND

PARCOLATION TESTS TAKEN 5/19/1990
METHOD "B"

P-1 @ 27" 18 MIN/IN
P-2 @ 28" 5 MIN/IN
P-3 @ 27" 12 MIN/IN
P-4 @ 26" 23 MIN/IN

SITE WAS MONITORED IN SPRING ON 1990. SEE PLANS PREPARED BY RICHARD WHEELER P.E. FOR RESULTS.

Basis of Design for Lot 2
In-Ground Wastewater Disposal System

Design Flow:

- For 5 bedroom single family residence + 1 bedroom accessory apartment = (3 bedrooms * 140 G.P.D.) + (2 bedroom * 70 G.P.D.) + (1 bedroom * 140 G.P.D.) = 700 G.P.D.

Application Rate:

- The second slowest percolation rate, t, = 18 min./inch
- For inground system with 12" of stone under the pipes,
- Application rate $= \frac{3}{\sqrt{t}} = \frac{3}{\sqrt{18}} = 0.71$ gals/s.f./day
- Use application rate = Q = 0.71 gals/s.f./day

Required Leach Area:

- Area required $= \frac{700\ GPD}{0.71} = 986$ s.f.
- Use 4' wide trenches
- Required trench length $= \frac{986\ s.f.}{4\ ft.} = 246.5$ ft.
- Existing system utilizes (6) 54' long x 4' wide trenches.
  Total length = 324 feet
  324 feet > 246.5 feet, system size is adequate

SOIL LOGS, PERCOLATION TESTS, AND GROUNDWATER MONITORING RESULTS FROM PLANS PREPARED BY WHEELER ENGINEERING AS PART OF PERMIT PLANS FOR EC-4-1515

STATE OF VERMONT — SCOTT W. HOWE — No. 9161 — LICENSED PROFESSIONAL ENGINEER

Date revised	Description	Checked	Date

Design: SWH
Drawn: JC/SWH
Checked:
Scale: 1" = 40'
Date: Sept. 17, 2015
Project: 1423J

Wastewater Disposal Plan

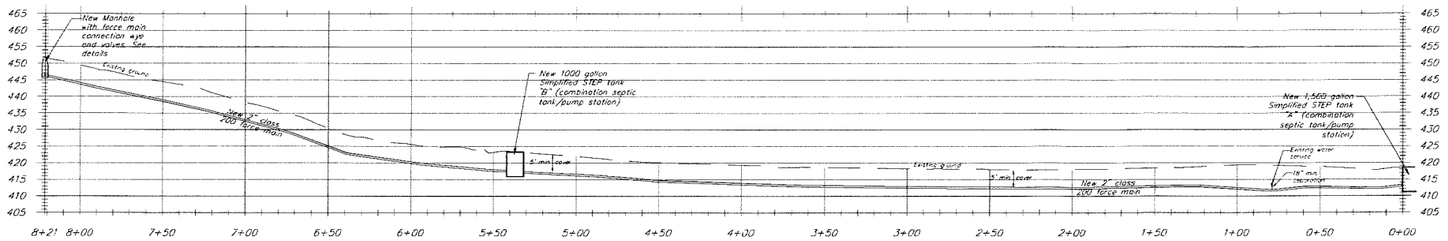
W Terence Breen Family Trust & Breen & Shea Ventures LLC

450 & 451 Red Truck Lane — Charlotte, Vermont

KREBS & LANSING Consulting Engineers, Inc.
164 Main Street, Colchester, Vermont 05446

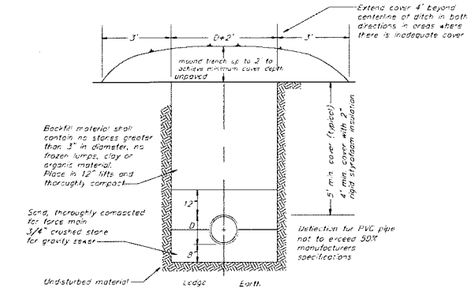
File name: 1423-2015.dwg
Plotting date:

2



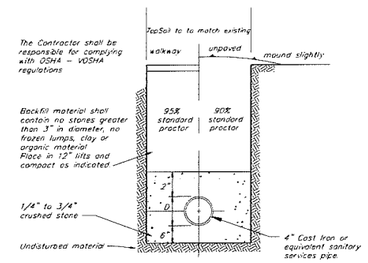
Force Main Profile

Horz 1" = 40'
Vert 1" = 20'



Force Main Trench Detail

N.T.S.



Typical Sanitary Trench Detail

N.T.S

Force Main Pressure/Leakage Test

Upon completion of construction of a force main, the line shall be pressure and leakage tested in accordance with the following procedure

Pressure Test

After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of at least 1.5 x the highest working pressure in the section

Test Pressure Restrictions Test pressures shall:

1. Not to be less than 50 psi at the highest point along the test section
2. Not exceed pipe or thrust restraint design pressures
3. Be of at least 2 hour duration.
4. Not vary by more than 5 psi
5. Not exceed twice the rated pressure of the valves when the pressure boundary of the test section includes closed gate valves.

Pressurization Each valved section of pipe shall be filled with water slowly and the specified test pressure, based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge, shall be applied by means of a pump connected to the pipe

Air Removal Before applying the specified test pressure, air shall be expelled completely from the pipe and valves.

Examination All exposed pipe, fittings, valves, and joints shall be examined carefully during the test Any damaged or defective pipe, fittings, or valves, that are discovered following the pressure test shall be repaired or replaced with sound material and the test shall be repeated

Leakage Test

A leakage test shall be conducted concurrently with the pressure test

Leakage Defined Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water

Allowable Leakage No pipe installation will be accepted if leakage is greater than that determined by the following formula:

$$L = \frac{ND\sqrt{P}}{7400}$$

L is the allowable leakage, in gallons per hour, N is the number of joints in the length of pipeline tested, D is the nominal diameter of the pipe, in inches, and P is the average test pressure during the leakage test, in pounds per square inch gage

Sections which fail the pressure/leakage test shall be repaired and retested by the contractor at no additional expense to the owner

Dosing System Curve

Breen 1,500 Gallon "STEP" TANK "A"

Flow	Static head	Friction loss	Discharge head	TDH	Force main velocity	Dose
20 gpm	53'	4.6'	2.3'	59.3'	1.7 ft/sec	50 gal
25 gpm	53'	6.9'	2.3'	62.2'	2.2 ft/sec	50 gal
30 gpm	53'	9.7'	2.3'	65.0'	2.6 ft/sec	50 gal
35 gpm	53'	12.9'	2.3'	68.2'	3.0 ft/sec	50 gal

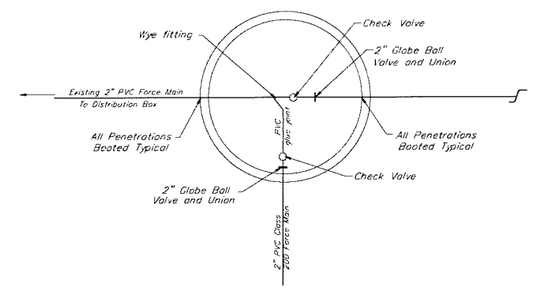
Provide minimum 25 gpm @ 63.2' TDH

Dosing System Curve

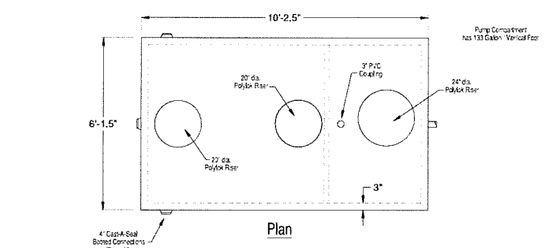
Breen 1,000 Gallon "STEP" TANK "B"

Flow	Static head	Friction loss	Discharge head	TDH	Force main velocity	Dose
20 gpm	5'	3.4'	2.3'	10.7'	1.7 ft/sec	50 gal
25 gpm	5'	5.2'	2.3'	12.5'	2.2 ft/sec	50 gal
30 gpm	5'	7.3'	2.3'	14.6'	2.6 ft/sec	50 gal
35 gpm	5'	9.7'	2.3'	17.0'	3.0 ft/sec	50 gal

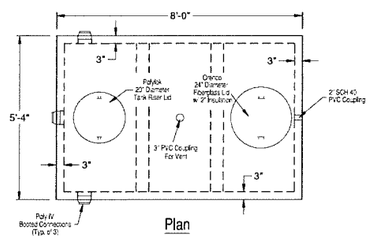
Provide minimum 25 gpm @ 12.5' TDH



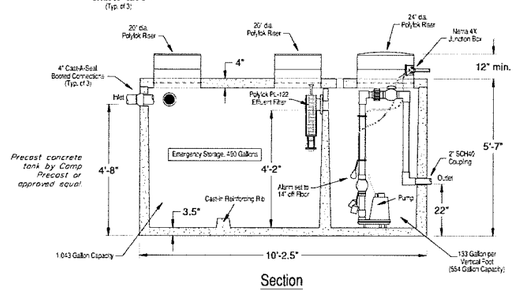
Plan view



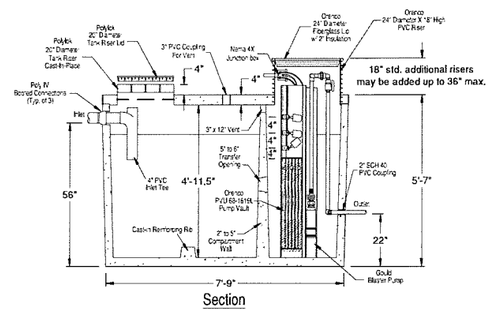
Plan



Plan



Section



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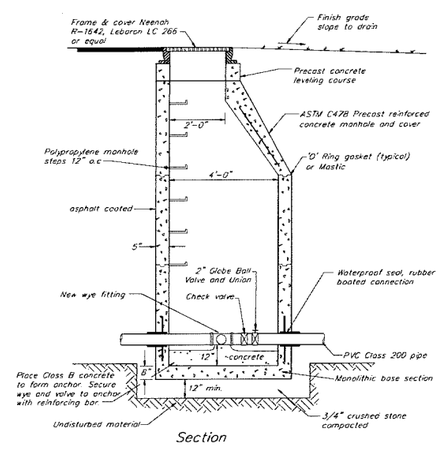

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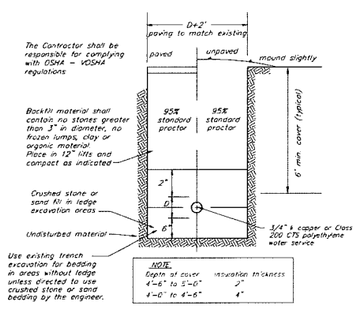


Typical Water Trench Details

N.T.S

SPECIFICATIONS:

- Concrete Minimum Strength 5000psi @ 28 days
- Steel Reinforcement Grade 60
- 4" Cast-A-Seal Booted Connections
- Top Seam Construction
- Weights Subject to Variation

1,500 Gallon "STEP" Pump Station

not to scale

SPECIFICATIONS:

- Concrete Minimum Strength 5000psi @ 28 days
- Steel Reinforcement Grade 60
- Poly IV Booted Connections
- Top Seam Construction
- Weights Subject to Variation

1,000 Gallon "STEP" Pump Station

not to scale

Force Main Connection Manhole

N.T.S

STATE OF VERMONT — SCOTT W. HOWE — No. 14,231 — LICENSED PROFESSIONAL ENGINEER

Date revised	Description	Checked	Date

Design	SWH
Drawn	SWH
Checked	
Scale	as noted
Date	Sept. 17, 2015
Project	14231

Details

W Terence Breen Family Trust & Breen & Shea Ventures LLC

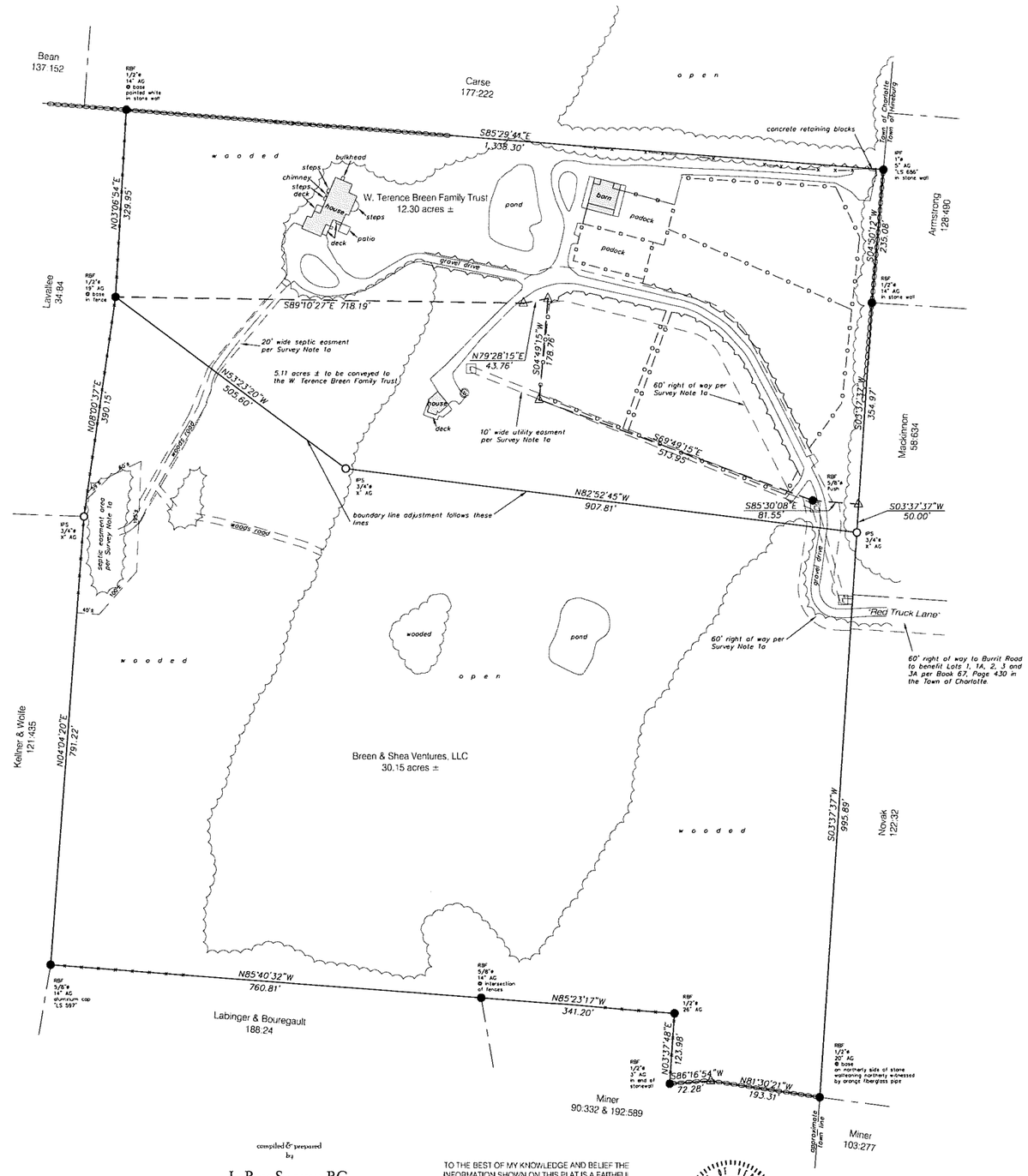
450 & 451 Red Truck Lane — Charlotte, Vermont

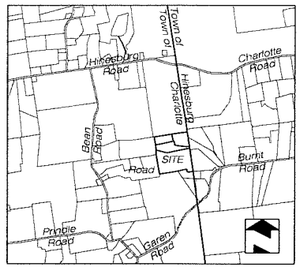
KREBS & LANSING Consulting Engineers, Inc.
164 Main Street, Colchester, Vermont 05446

3

NOTE: The septic areas shown hereon are based solely on information provided by the property owner. No liability is assumed by the undersigned as to the location of said septic areas and/or their design/use

NOTE: Town Line shown hereon is based on pervious surveys of record and no liability is assumed by the undersigned as to the accuracy of said Town Line.





Location Plan n.t.s.

Legend

- Project Boundary Line
- Adjoiner Boundary Line
- Iron Pipe/Rebar Found
- Iron Pipe Set
- Calculated Point
- Diameter (inside)
- More or Less
- Above Ground
- Well
- Electrical Vault
- Stonewall
- Wood Rail Fence
- Wire Fence
- Electric Fence
- Split Rail Fence
- Treeline

Town of Charlotte
Received for Record

_____ A.D _____

at _____o'clock _____minutes___M

and recorded in _____

attest: _____
Town Clerk

Approved by Resolution of the Charlotte Planning Commission on _____ 20___ Subject to all requirements and conditions of said Resolution
Signed this ___ day of _____ 20___.

BY: _____

_____

_____

Deed Reference:
212.511 = W. Terence Breen Family Trust
212.600 = Breen & Shea Ventures, LLC

Total Area = 47.56 acres ±
Trust = 17.41 acres after BLA
LLC = 30.15 acres after BLA

Zoning District: Rural

Parcel ID# OH18A-0450 & OOH18-0820

Survey Notes:

1. This survey has been compiled from field surveys and record evidence including the following plats:
a. "Plat of Survey Prepared for Charles Dooley Original Plat Prepared for Barbara & James Goetsch in the Town of Charlotte, VT", prepared by John A. Marsh, LS 256, dated July 18, 1990 and revised November 5, 1991, and recorded in the Town of Charlotte Land Records Map Slide 143, Page 3.
b. "Plat of Survey Prepared for Robert & Barbara McDonald Subdivision Modification of Lots 1 & 3 of the James Barbara Goetsch Subdivision in the Town of Charlotte, Vermont", prepared by Harold H. Marsh, LS 30, dated October 31, 2005, and recorded in the Town of Charlotte Land Records Map Slide 145, Page 6.
c. "Plat of Survey for Frank Colifano in the Town of Hinesburg, VT", prepared by John A. Marsh, LS 256, dated April 22, 1986 and revised February 13, 1988, and recorded in the Town of Hinesburg Land Records Map Slide 109, Page 57.
d. "Plat of Survey for James B Goetsch & Barbara B. Goetsch R R L Box 957 Hinesburg, VT. 05461 in the Town of Charlotte, VT", prepared by John A Marsh, LS 256, dated July 18, 1990 and revised November 5 1991, and recorded in the Town of Charlotte Land Records Map Slide 82, Page 39.
e. "Plat of Survey for Dr Edwin M. & Elsa W Kistler in the Towns of Charlotte & Hinesburg, VT", prepared by John A. Marsh, LS 256, and recorded in the Town of Hinesburg Land Records Map Slide 82, Page 87.
f. "Plat of Showing Survey and Subdivision of the Tom & Nancy Miner Property Town Road #24, Hinesburg & Charlotte, Vermont", prepared by George E. Bedard, LS 211, dated September 26, 1995, and recorded in the Town of Hinesburg Land Records Map Slide 14.
g. "Survey Plat of lands belonging to Henry H. Carse Hart Farm, Part 1 of 3, Charlotte Road, Hinesburg and Hinesburg Road, Charlotte Chittenden County, Vermont", prepared by Donald A. Johnston, LS 686, dated March 23, 2006, and recorded in the Town of Charlotte Land Records Map Slide 163, Page 4.
h. "Plat of Lot to be conveyed by Eric J. Sihman to Richard & Dianne Lavallee in the Town of Charlotte, VT", prepared by John A. Marsh, LS 256, and recorded in the Town of Charlotte Land Records Map Slide 10, Page 1.
i. "Plat of Survey for Robert Bergman R R L Box 1685A Hinesburg, VT. 05461 in the Town of Charlotte, VT", prepared by Henry J. Swinder, LS 176, dated January 18, 1993, and recorded in the Town of Charlotte Land Records Map Slide 82, Page 32.
j. "Plat of Boundary Survey Kiley Family East Farm Partnership Garden Road & Prindle Road Charlotte & Hinesburg, Vermont", prepared by Timothy R. Cowan, LS 397, dated May 2, 2008, and recorded in the Town of Charlotte Land Records Map Slide 165, Page 4.
2. Bearings are based on a single observation of magnetic north taken on July 28, 2015.
3. This property may be subject to legal rights of others including aerial, subsurface, or ancient roads, if any, additional easements, restrictions, and/or reservations whether or not shown hereon that may or may not be found in the Towns of Charlotte & Hinesburg Land Records.
4. There may be wells, drilled, shallow or otherwise, that could affect this property.
5. This survey depicts the boundary lines of Breen and abutting owners based on records as of July 2015.
7. Reproductions of this sketch are not valid unless signed with a blue inked surveyor's signature.

0 100 200 300 400 500
GRAPHIC SCALE 1 inch = 100 feet

compiled & prepared by

LaRose Surveys, P.C.
Land Surveyors – Boundary Consultants
Water & Septic System Designers
P.O. Box 388 - 25A West Street
Bristol, Vermont 05443
802.453.3818
www.larosesurveys.com
info@larosesurveys.com

TO THE BEST OF MY KNOWLEDGE AND BELIEF THE INFORMATION SHOWN ON THIS PLAT IS A FAITHFUL PORTRAYAL OF CIRCUMSTANCES PERTINENT TO SUBJECT PROPERTY. A COLLABORATION OF FIELD, PAROL AND PERTINENT RECORD EVIDENCE WAS USED IN THE ANALYSIS OF BOUNDARY CONCLUSIONS SHOWN HEREON. THIS PLAT WAS PREPARED IN ACCORDANCE WITH 27 VSA 1403.

Ronald L. LaRose, L.S.

STATE OF VERMONT
RONALD L. LAROSE
No. 272
REGISTERED LAND SURVEYOR

plat showing a
Boundary Line Adjustment of lands of

W. TERENCE BREEN & KELLY PATRICIA SHEA, TRUSTEES OF THE W. TERENCE BREEN FAMILY TRUST AND BREEN & SHEA VENTURES, LLC

Red Truck Lane
Charlotte, Chittenden County, Vermont

July 30, 2015

PROJECT #15042