



CIVIL ENGINEERING ASSOCIATES, INC.
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DESIGN	JDL
CHECKED	SAV
APPROVED	JSO
OWNER:	

**KILEY FAMILY
 EAST FARM
 PARTNERSHIP**

PROJECT:
**PROPOSED
 WASTEWATER
 SYSTEM**

553 GAREN ROAD
 CHARLOTTE,
 VERMONT



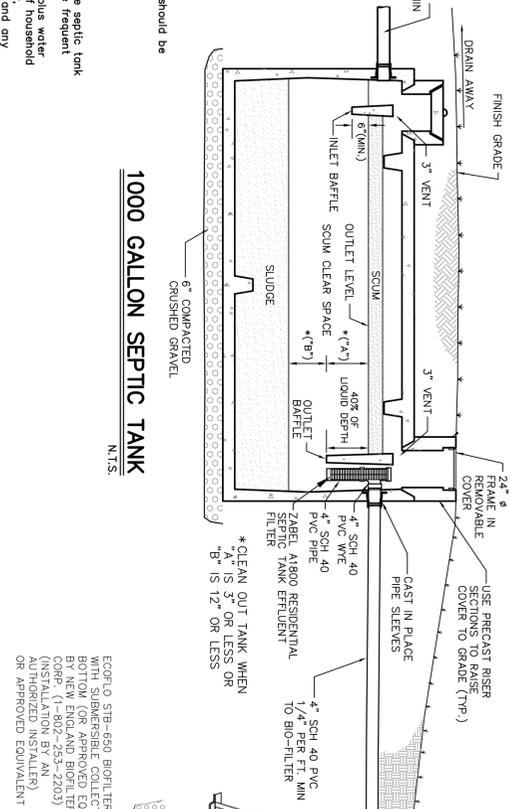
DATE	REVISION

**WASTEWATER
 DETAILS**

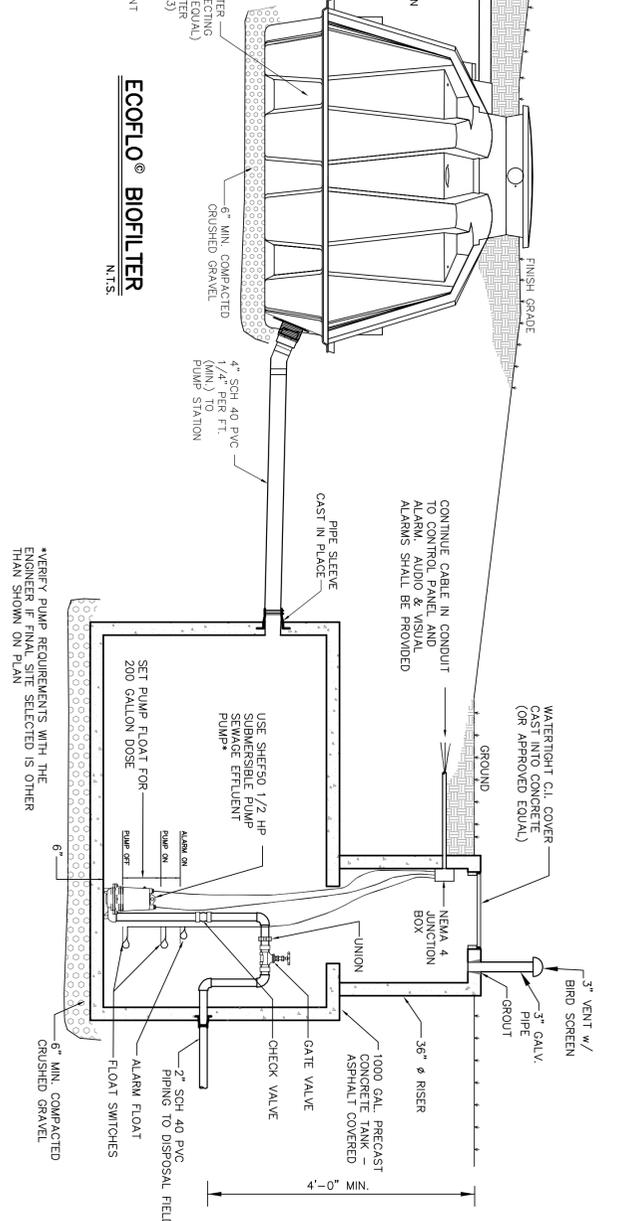
DATE	JULY, 2010	DRAWING NUMBER	
SCALE	AS SHOWN		
PROJ. NO.	06132.04		
			C2.1

- SEPTIC TANK NOTES**
- Septic tank shall be a precast concrete tank, unless otherwise approved.
 - Maintenance
 - At least once a year, the depth of sludge and scum in the septic tank should be measured. The tank should be pumped if:
 - The sludge is closer than twelve inches to the outlet baffle or
 - The scum is closer than twelve inches to the inlet baffle.
 Under no circumstances should anyone enter a septic tank.
 - Recommendations regarding griters is discouraged as sludge accumulation in the septic tank can be increased by up to 40%. If used, the septic tank will require more frequent pumping.
 - The septic system is designed to handle human waste and toilet paper, plus water from showers, bathtubs, and kitchen sinks. The system is not a household detergent and bleach should not be used. The system is not a household indiscriminate use may cause problems. Non-degradable paper products and any other non-biodegradable substances should not be put in your wastewater system.
 - Minimize the amount of water used in the house. Excessive water could saturate the soil and cause the septic system to become overloaded.
 - Do not use grease traps or grease interceptors which collect grease and sludge in the piping. When dishwashers and washers are used, make sure loads are full and stagger their use to reduce peak flows, i.e. stagger loads of laundry over several days instead of one day.
 - Walkways, patios and decks or other permanent structures should not be constructed over the septic tank.
 - There should be no need to use commercial "shorter", "bacterial feeds", or "cleansers", etc. Bacteria in a septic tank system occurs naturally.

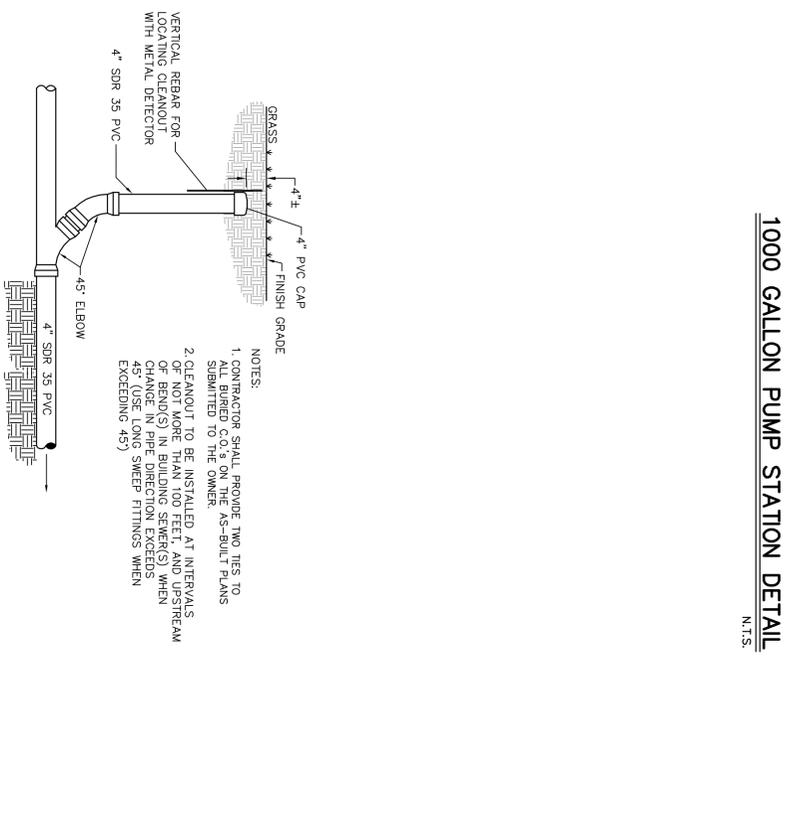
1000 GALLON SEPTIC TANK
 N.T.S.



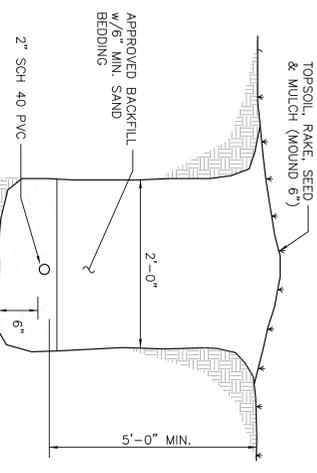
ECOFLO® BIOFILTER
 N.T.S.



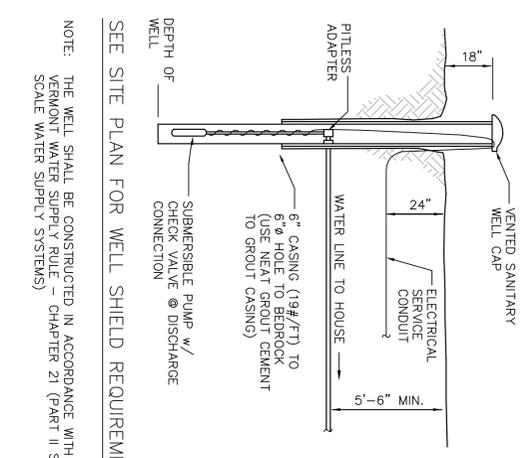
1000 GALLON PUMP STATION DETAIL
 N.T.S.



TYPICAL CLEANOUT DETAIL
 N.T.S.



FM TRENCH SECTION
 N.T.S.



DRILLED WELL DETAIL
 N.T.S.

SEE SITE PLAN FOR WELL SHIELD REQUIREMENTS

NOTE: THE WELL SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE VERMONT WATER SUPPLY RULE - CHAPTER 21 (PART II SMALL SCALE WATER SUPPLY SYSTEMS)

GENERAL NOTES

1. Utilities shown do not purport to constitute or represent all utilities located upon or adjacent to the surveyed premises. Existing utility locations are approximate only. The Contractor shall verify all utility conflicts. All discrepancies shall be reported to the Engineer. The Contractor shall contact Dig Safe (888-344-7233) prior to any construction.
2. The Contractor shall maintain as-built plans (with ties) for all underground utilities. Those plans shall be submitted to the Owner at the completion of the project.
3. The Contractor shall repair/restore all disturbed areas (on or off the site) as a direct or indirect result of the construction.
4. All grossed areas shall be maintained until full vegetation is established.
5. Maintain all trees outside of construction limits.
6. The Contractor shall be responsible for all work necessary for complete and operable facilities and utilities.
7. The Contractor shall submit shop drawings for all items and materials incorporated into the site work. Work shall not begin on any item until shop drawing approval is granted.
8. In addition to the requirements set in these plans and specifications, the Contractor shall complete the work in accordance with all permit conditions.
9. Any dewatering necessary for the completion of the sitework shall be considered as part of the contract and shall be the Contractor's responsibility.
10. If there are any conflicts or inconsistencies with the plans or specifications, the Contractor shall contact the Engineer for verification before work continues on the item in question.
11. Property line information is approximate and based on the Town of Charlotte tax maps.
12. This plan is not a boundary survey and is not intended to be used as one.
13. The project benchmarks, of 445.1' and 450.8', are both spikes. Vertical datum based on NAVD83. Horizontal datum based on a magnetic reading taken at the time of the survey.
14. The purpose of this plan is to depict the waste water system location for a proposed 5 bedroom house and as a replacement system for the existing 3 bedroom house

TEST PIT RESULTS

DATE: 7/19/2010
 PERFORMED BY: JSD/SJV
 DATE: 7/19/2010
 PERFORMED BY: JSD/SJV

TP # 101 - 10' from top of 25' from edge of Property Line - Downgradient for
 Disposal Field
 Horizontal Distance (ft.)
 100'(Min)
 200'(Min)

TP # 102 - 10' from top of 25' from edge of Property Line - Downgradient for
 Disposal Field
 Horizontal Distance (ft.)
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TP # 103 - 10' from top of 25' from edge of Property Line - Downgradient for
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TP # 120 - 10' from top of 25' from edge of Property Line - Downgradient for
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 Horizontal Distance (ft.)
 100'(Min)
 200'(Min)

PERC TEST RESULTS

DATE: 7/19/2010
 PERFORMED BY: JSD/SJV
 PENC TEST #1 - 414 MM/IN
 PENC TEST #2 - 44 MM/IN

TP # 101 - 10' from top of 25' from edge of Property Line - Downgradient for
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MINIMUM ISOLATION DISTANCES

(Contact Engineer for any Clarifications or Conflicts)

Disposal Field
 Horizontal Distance (ft.)
 100'(Min)
 200'(Min)

Service Water Lines
 25

Roadways, Driveways
 10

Drainage Swales
 5

Drainage Swales
 25

Foundation, Footing Deans
 25

Replacement Area - Sides
 10

Replacement Area - Uphill or Downhill
 10

Property Line - 10' from top or 25' from edge of
 Property Line - Downgradient for
 25

*Isolation distances to well locations may vary due to site conditions - contact Engineer for verification with the Vermont Water Supply Rule.

DESIGN DATA FOR NEW PRIMARY SYSTEM

Design Data Flow:
 - 5 bedrooms
 3 @ 140 gpd = 420 gpd
 - replacement 3 bedrooms
 3 @ 140 gpd = 420 gpd
 Total Design Flow = 860 gpd

Loading Rate:
 Mound System = 1.0 gal/sf
 Pretreat Effluent = 2.0 gal/sf
 Use 2.0 gal/sf

System Size:
 960 gpd @ 2.0 gal/sf = 480 sq ft req.
 490 sf @ 2 trenches @ 4' wide trenches = 61.25' req.
 Use two 64' long trenches = 512 sf provided

Septic Tank Size:
 - Design Flow < 675 gpd
 - Use 1000 gal septic tank, each

Pump Requirements:
 - Twenty-Two 1/4" dia. orifices @ 6' o.c.
 - TDH @ 26.1 gpm/ft. = 26.1 gpm
 Elevation 14 ft
 Friction 10 ft
 Residual 27 ft
 USE SHEF50 1/2 HP SUBMERSIBLE PUMP OR APPROVED EQUAL

Design: Mounding Analysis:
 - Ave. Slope = 12.5%
 - Soil Condition = Fine Sandy Loam
 - replacement 3 bedrooms
 SHW @ 18" Ledger @ 28"
 - h = 18'-6" = 12' (1")
 - LR = 1' * 18.7' = 18.7 gpd/ft
 - Length = 960 gpd / 18.7 gpd/ft
 - Design Length = 64' > 52.4', OK

Replacement System:
 - Not required due to mound
 - Primary system design

NEW PRIMARY MOUND DISPOSAL FIELD FOR NEW 5 BEDROOM HOUSE AND 3 BEDROOM ACCESSORY HOME SEE SHEET C2.0 FOR DETAILS AND SPECIFICATIONS.

2" SCH 40 FORCE MAIN

SEE SHEET C2.0 FOR CROSS SECTION DETAIL

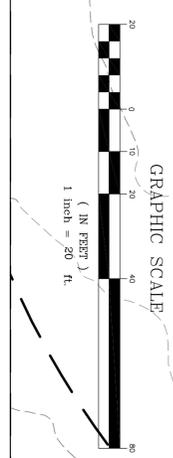
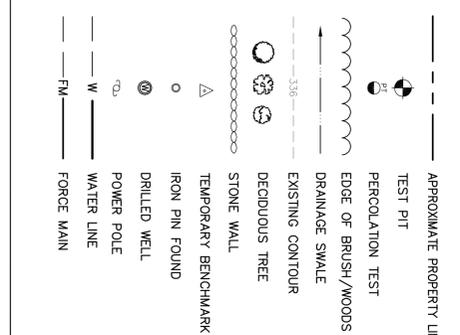
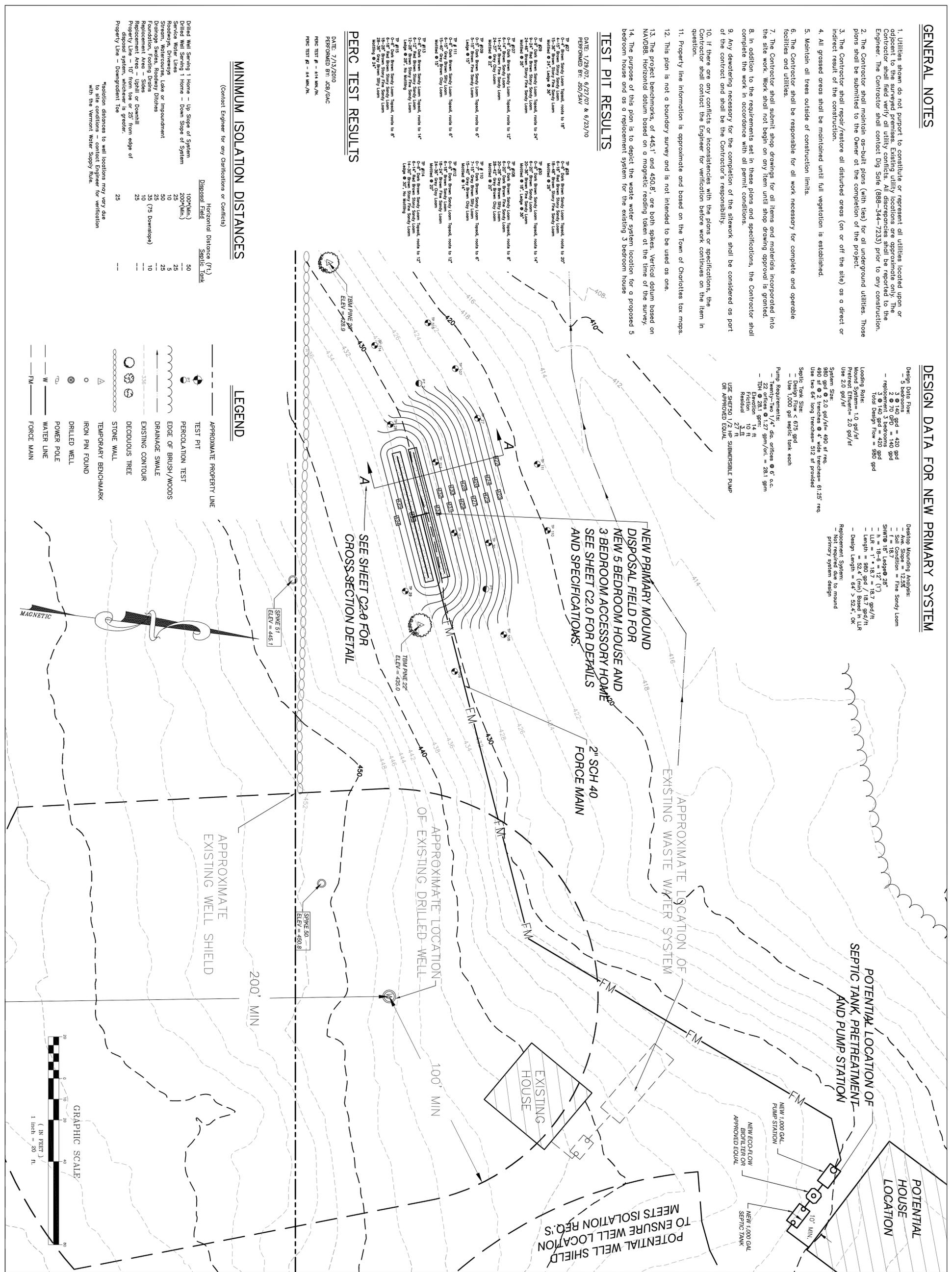
APPROXIMATE LOCATION OF EXISTING DRILLED WELL

APPROXIMATE LOCATION OF EXISTING WELLS SHIELD

POTENTIAL LOCATION OF SEPTIC TANK, PRETREATMENT AND PUMP STATION

POTENTIAL HOUSE LOCATION

POTENTIAL WELLS SHIELD TO ENSURE WELL LOCATION MEETS ISOLATION REQ'S



<p>CIVIL ENGINEERING ASSOCIATES, INC. 10 Mansfield View Lane South Burlington, VT 05403 802-684-2323 FAX: 802-684-2271 WWW: WWW.CEAM.COM</p> <p>CONTRACT # 2010 - ALL RIGHTS RESERVED</p>	<p>SITE ENGINEER: JDL</p>
	<p>OWNER: KILEY FAMILY EAST FARM PARTNERSHIP</p>
<p>PROJECT: PROPOSED WASTEWATER SYSTEM</p> <p>553 GALEN ROAD CHARLOTTE, VERMONT</p>	<p>DATE: JULY 2010</p> <p>SCALE: 1" = 20'</p> <p>DRAWING NUMBER: C1.1</p>
<p>LOCATION MAP 1" = 4000'</p>	<p>DATE: CHECKED REVISION</p>
<p>SITE PLAN</p>	