

PRELIMINARY BASIS OF DESIGN FOR MOUND SYSTEM

USE OF PROPOSED SYSTEM:
 OVERNIGHT OCCUPANT "RESORT CAMP (NIGHT & DAY) WITH LIMITED PLUMBING" PER TABLE 3

OVERNIGHT OCCUPANTS: 112 AT 50 GPD	5,600 GPD
DAY EMPLOYEES: 4 AT 15 GPD	60 GPD
TOTAL	5,660 GPD
10% REDUCTION FOR LOW FLOW FIXTURES	-566 GPD
INFILTRATION	200 GPD
TOTAL	5,294 GPD

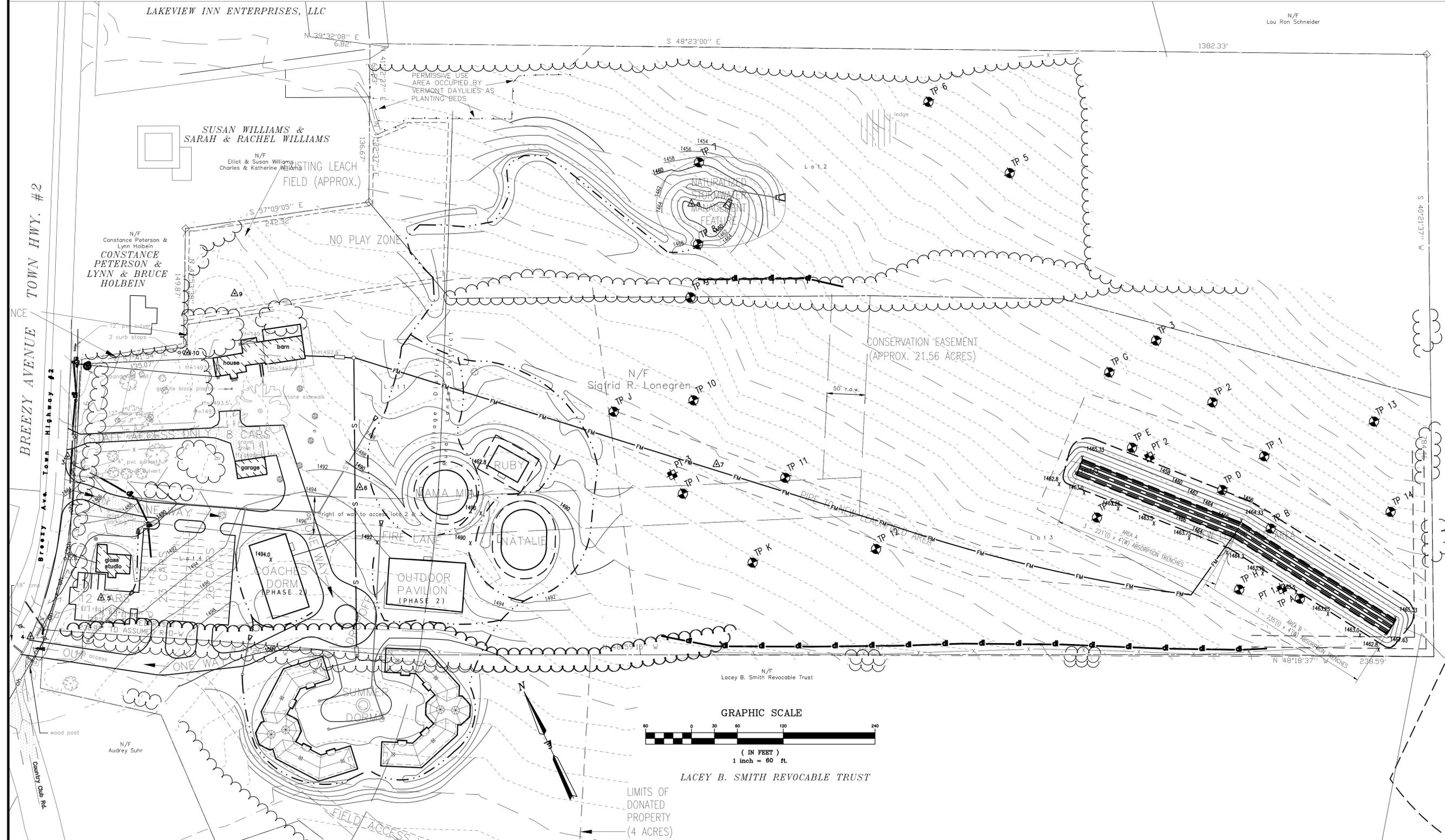
UTILIZE LEACHFIELD WITH SPLIT DESIGN PERIMETERS.
 DESIGN EACH AREA FOR HALF OF THE DESIGN FLOW:
 2,647 GPD TO EACH AREA.

- AREA A:
- UTILIZE PERFORMANCE BASED APPROACH
 - MUST HAVE A MINIMUM OF 18" OF NATURALLY OCCURRING SOIL ABOVE BEDROCK
 - THE GROUND SLOPE SHALL NOT EXCEED 20% FOR THE WASTEWATER SYSTEM
 - SIMPLIFIED PROCEDURE FOR PRESCRIPTIVE DESKTOP MOUNDING ANALYSIS
 - DESIGN FLOW = 2,647 GPD
 - SOIL TEXTURE = FINE SANDY LOAM
 - DEPTH TO SHWT = 17" (WORST CASE AREA A)
 - GROUNDWATER INDUCED TO 6" OF NATURALLY OCCURRING GROUND SURFACE
 - GROUND SLOPE = 10.0% CONSERVATIVELY USE (8.1-10%)
 - $H = 17" - 6" = 11" = 0.916 \text{ FT}$
 - $F = 13.5 \text{ (TABLE 1)}$
 - $LLR = 0.916' \times 13.5 = 12.37 \text{ GPD/LF}$
 - MINIMUM SYSTEM LENGTH = 2,647 GPD / 12.37 GPD/LF = 214 FT MIN. SYSTEM LENGTH.

- MOUND DESIGN (FOR SEPTIC TANK EFFLUENT):
- PROVIDE 48" OF SEPARATION BETWEEN BOTTOM OF DISPOSAL TRENCH AND BEDROCK.
 - PROVIDE 36" OF SEPARATION BETWEEN BOTTOM OF DISPOSAL TRENCH AND INDUCED SHWT.
 INDUCED SHWT 6" BELOW SURFACE. THEREFORE PROVIDE MIN 30" OF FILL SAND UNDER TRENCH.
 - MAXIMUM APPLICATION RATE = 1.0 GPD/SF
 WITH 4 FT WIDE TRENCH, 2,647 GPD / [(1.0 GPD/SF)(12 SF/LF)] = 221 LF REQUIRED, PROVIDE 221 FT.
 - SYSTEM LENGTH TO WIDTH RATIO IS: 221 FT / 20 FT = 11 > 2 --> OK

- AREA B:
- UTILIZE PERFORMANCE BASED APPROACH
 - MUST HAVE A MINIMUM OF 18" OF NATURALLY OCCURRING SOIL ABOVE BEDROCK
 - THE GROUND SLOPE SHALL NOT EXCEED 20% FOR THE WASTEWATER SYSTEM
 - SIMPLIFIED PROCEDURE FOR PRESCRIPTIVE DESKTOP MOUNDING ANALYSIS
 - DESIGN FLOW = 2,647 GPD
 - SOIL TEXTURE = FINE SANDY LOAM
 - DEPTH TO SHWT = 16" (WORST CASE AREA B)
 - GROUNDWATER INDUCED TO 6" OF NATURALLY OCCURRING GROUND SURFACE
 - GROUND SLOPE = 8.1-10%
 - $H = 16" - 6" = 10" = 0.833 \text{ FT}$
 - $F = 13.5 \text{ (TABLE 1)}$
 - $LLR = 0.833' \times 13.5 = 11.25 \text{ GPD/LF}$
 - MINIMUM SYSTEM LENGTH = 2,647 GPD / 11.25 GPD/LF = 235 FT MIN. SYSTEM LENGTH.

- MOUND DESIGN (FOR SEPTIC TANK EFFLUENT):
- PROVIDE 48" OF SEPARATION BETWEEN BOTTOM OF DISPOSAL TRENCH AND BEDROCK.
 - PROVIDE 36" OF SEPARATION BETWEEN BOTTOM OF DISPOSAL TRENCH AND INDUCED SHWT.
 INDUCED SHWT 6" BELOW SURFACE. THEREFORE PROVIDE MIN 30" OF FILL SAND UNDER TRENCH.
 - MAXIMUM APPLICATION RATE = 1.0 GPD/SF
 WITH 4 FT WIDE TRENCH, 2,647 GPD / [(1.0 GPD/SF)(4 SF/LF)] = 220 LF REQUIRED, 235 LF PROVIDED
 - SYSTEM LENGTH TO WIDTH RATIO IS: 235 FT / 20 FT = 11.75 > 2 --> OK



Stamp

Rev. No.	Description

ENGINEERING VENTURES PC
 208 Flynn Avenue, Suite 2A Burlington, VT 05401
 Tel: 802.863.6225 • Fax: 802.863.6306
 85 Mechanic Street, Suite 300A, Lebanon, NH 03766
 Tel: 603.442.5533 • Fax: 603.442.5531
 www.engineeringventures.com

Client:
 Circus Smirkus
 1 Circus Road
 Greensboro, VT 05841
 Ph: (802)533-7443

Sheet Title: **OVERALL SITE UTILITY AND GRADING PLAN**
 Project Title: **CIRCUS SMIRKUS SUMMER CAMP GREENSBORO, VT**

Designed By: JZ
 Checked By: JZ
 Drawn By: DZ
 Scale: AS NOTED
 Date: 5/16/2013

C1.1
 EV#11722