WATER SYSTEM (DRILLED WELL) BASIS OF DESIGN FOR LOTS 2 & 3:

420 GPD / 720 = 0.58 GPM
USE 5 GPM FOR PEAK INSTANTANEOUS

BASIS OF DESIGN FOR LOTS 2 & 3:

1. **3 BEDROOM HOUSE 420 GPD = 420 GPD**
2. **1 TRENCH 4' WIDE x 300' LONG = 1,200 SQ.FT.**
3. **BASAL AREA: 25 FT x 300 FT = 2,500 SQ. FT.**
4. **MANAGEMENT ZONE = 119 FT. x 460 FT = 54,740 SQ. FT.**
5. **REQUIRED ORIFICE SPACING FOR 1 - 300 FT. LONG BY 4 FT. WIDE TRENCH:**
   - **1 HOLE / 25 SF OF SEEPAGE AREA IS REQUIRED**
   - **1,200 SF / 25 SF = 88 ORIFICES REQUIRED**
   - **USE 48 HOLES 1/4" DIAMETER PER TRENCH**
   - **MINIMUM FLOW RATE: 48 ORIFICES x 1.10 GPM / ORIFICE = 52.8 GPM**

THIS DISPOSAL SYSTEM DESIGN IS BASED ON SECTION 1-920 OF THE EPR'S (TWO YEAR TIME OF TRAVEL MANAGEMENT ZONE), WHERE A DETAILED AND SITE SPECIFIC ANALYSIS DEMONSTATES THAT THE SYSTEM WILL FUNCTION DURING ALL PORTIONS OF THE YEAR WHILE MAINTAINING AT LEAST 6 INCHES OF NATURALLY OCCURING UNSATURATED SOILS ABOVE THE CALCULATED LEVEL OF THE EFFLUENT PLUME.

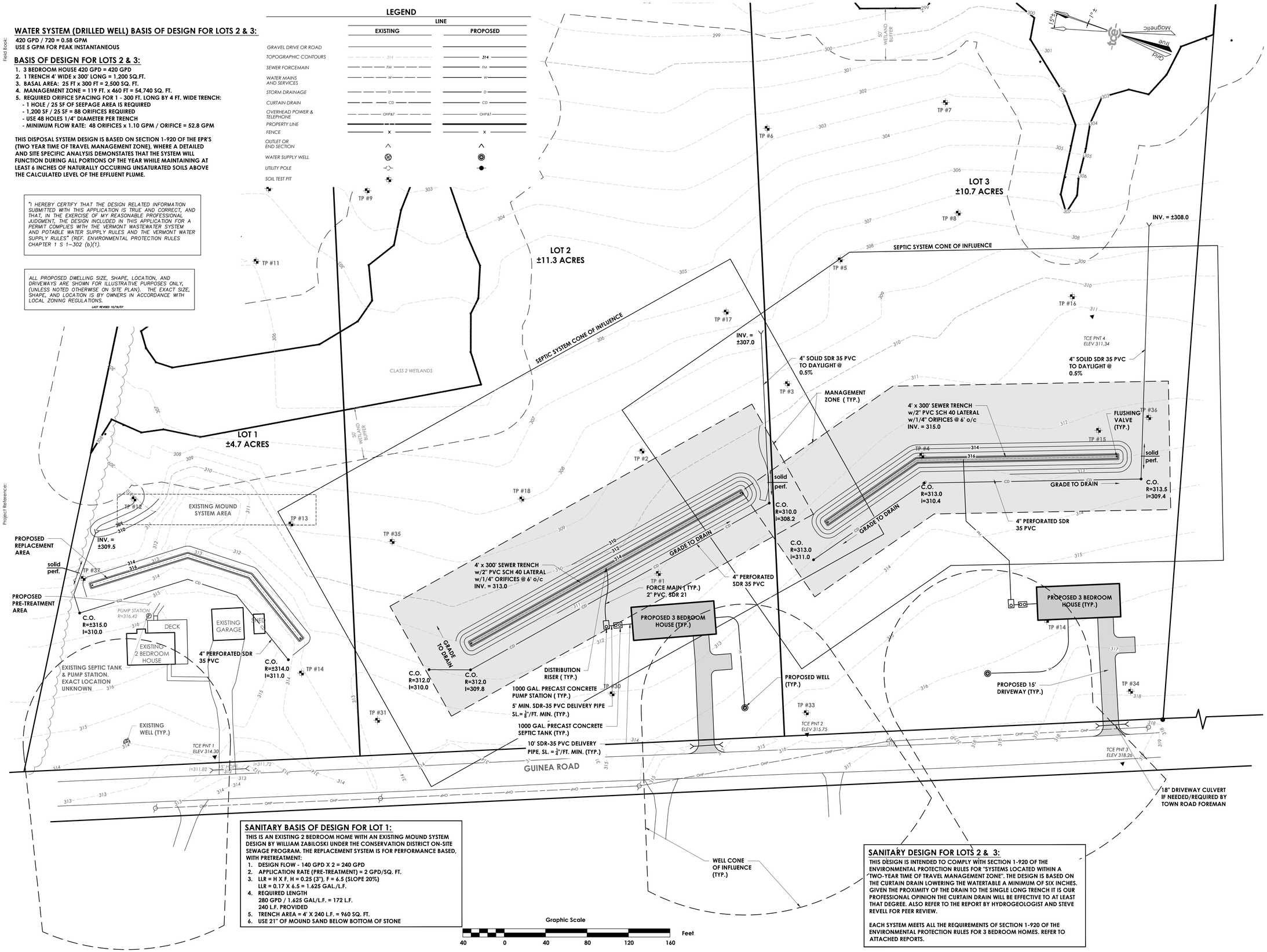
"I HEREBY CERTIFY THAT THE DESIGN RELATED INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT, AND THAT, IN THE EXERCISE OF MY REASONABLE PROFESSIONAL JUDGMENT, THE DESIGN INCLUDED IN THIS APPLICATION FOR A PERMIT COMPLIES WITH THE VERMONT WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES AND THE VERMONT WATER SUPPLY RULES" (REF. ENVIRONMENTAL PROTECTION RULES CHAPTER 1 S 1–302 (b)(1).

ALL PROPOSED DWELLING SIZE, SHAPE, LOCATION, AND DRIVEWAYS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY, (UNLESS NOTED OTHERWISE ON SITE PLAN). THE EXACT SIZE, SHAPE, AND LOCATION IS BY OWNERS IN ACCORDANCE WITH LOCAL ZONING REGULATIONS.

LAST REVISED 10/16/07

LEGEND

	LINE	
	EXISTING	PROPOSED
GRAVEL DRIVE OR ROAD		
TOPOGRAPHIC CONTOURS	314	314
SEWER FORCEMAIN	FM	FM
WATER MAINS AND SERVICES	W	W
STORM DRAINAGE	D	D
CURTAIN DRAIN	CD	CD
OVERHEAD POWER & TELEPHONE	OHP&T	OHP&T
PROPERTY LINE		
FENCE	X	X
OUTLET OR END SECTION		
WATER SUPPLY WELL	WW	
UTILITY POLE		
SOIL TEST PIT		



SANITARY BASIS OF DESIGN FOR LOT 1:

THIS IS AN EXISTING 2 BEDROOM HOME WITH AN EXISTING MOUND SYSTEM DESIGN BY WILLIAM ZABILOSKI UNDER THE CONSERVATION DISTRICT ON-SITE SEWAGE PROGRAM. THE REPLACEMENT SYSTEM IS FOR PERFORMANCE BASED, WITH PRETREATMENT:

1. **DESIGN FLOW - 140 GPD X 2 = 240 GPD**
2. **APPLICATION RATE (PRE-TREATMENT) = 2 GPD/SQ. FT.**
3. **LLR = H X F, H = 0.25 (3"), F = 6.5 (SLOPE 20%)**
   LLR = 0.17 X 6.5 = 1.625 GAL./L.F.
4. **REQUIRED LENGTH**
   280 GPD / 1.625 GAL/L.F. = 172 L.F.
   240 L.F. PROVIDED
5. **TRENCH AREA = 4' X 240 L.F. = 960 SQ. FT.**
6. **USE 21" OF MOUND SAND BELOW BOTTOM OF STONE**

SANITARY DESIGN FOR LOTS 2 & 3:

THIS DESIGN IS INTENDED TO COMPLY WITH SECTION 1-920 OF THE ENVIRONMENTAL PROTECTION RULES FOR "SYSTEMS LOCATED WITHIN A TWO-YEAR TIME OF TRAVEL MANAGEMENT ZONE". THE DESIGN IS BASED ON THE CURTAIN DRAIN LOWERING THE WATERTABLE A MINIMUM OF SIX INCHES. GIVEN THE PROXIMITY OF THE DRAIN TO THE SINGLE LONG TRENCH IT IS OUR PROFESSIONAL OPINION THE CURTAIN DRAIN WILL BE EFFECTIVE TO AT LEAST THAT DEGREE. ALSO REFER TO THE REPORT BY HYDROGEOLOGIST AND STEVE REVELL FOR PEER REVIEW.

EACH SYSTEM MEETS ALL THE REQUIREMENTS OF SECTION 1-920 OF THE ENVIRONMENTAL PROTECTION RULES FOR 3 BEDROOM HOMES. REFER TO ATTACHED REPORTS.

Field Book:
Project Reference:

TRUDELL CONSULTING ENGINEERS
478 BLAIR PARK ROAD | WILLISTON, VERMONT 05495
802 879 6331 | WWW.TCEVT.COM

Revisions

No.	Description	Date	By

Use of These Drawings

1. Unless otherwise noted, these Drawings are intended for preliminary planning, coordination with other disciplines or utilities, and/or approval from the regulatory authorities. They are not intended as construction drawings unless noted as such.

2. Only drawings specifically marked "For Construction" are intended to be used in conjunction with contract documents, specifications, owner/contractor agreements and to be fully coordinated with other disciplines, including but not limited to, the Architect, if applicable. These Drawings shall not be used for construction layout. Contact TCE for any construction surveying services or to obtain electronic data suitable for construction layout.

3. These Drawings are specific to the Project and are not transferable. As instruments of service, these drawings, and copies thereof, furnished by TCE are its exclusive property. Changes to the drawings may only be made by TCE. If errors or omissions are discovered, they shall be brought to the attention of TCE immediately.

4. By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings and have met with all applicable parties/disciplines to insure these plans are properly coordinated with other aspects of the Project. The Owner and Architect, are responsible for any buildings shown, including an area measured a minimum five (5) feet around any building.

5. It is the User's responsibility to ensure this copy contains the most current revisions.

STATE OF VERMONT
JOHN P. PITKOWICH
No. 8104
CIVIL
LICENSED PROFESSIONAL ENGINEER

Project Title

Hergenrother Construction, Inc. Guinea Road Subdivision

Guinea Road, Charlotte, VT

Sheet Title

Sanitary Plan

Date:	04/24/2013
Scale:	1" = 40'
Project Number:	2013032
Drawn By:	PJM
Project Engineer:	NTH
Approved By:	

C2-01