



**PROJECT LOCATION**

Revisions

No.	Description	Date	By
1	CONSTRUCTION NOTES	2017-10-27	PM
2	ELEVATIONS AND SPOT GRADES	2017-12-07	PM

**SITE NOTES:**

1. ALL OF THE EXISTING ASPHALT PAVEMENT AT THE SITE IS TO BE REMOVED.
2. EXIST TREES SHALL REMAIN WHERE POSSIBLE.
3. DRAINAGE TO BE DIVERTED AWAY FROM STATE HIGHWAY.

**ELEVATIONS:**

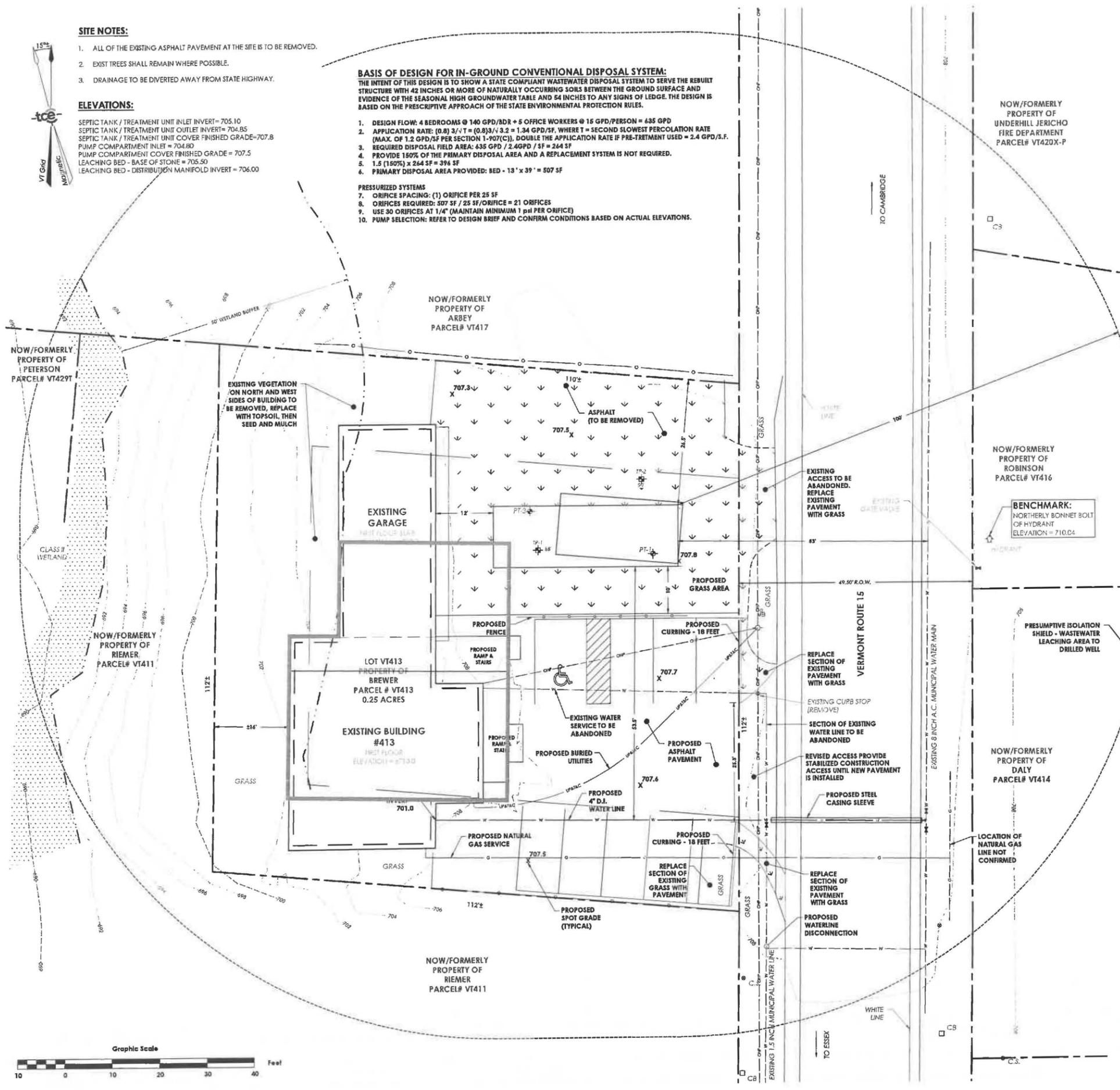
SEPTIC TANK / TREATMENT UNIT INLET INVERT = 705.10  
 SEPTIC TANK / TREATMENT UNIT OUTLET INVERT = 704.85  
 SEPTIC TANK / TREATMENT UNIT COVER FINISHED GRADE = 707.8  
 PUMP COMPARTMENT INLET = 704.80  
 PUMP COMPARTMENT COVER FINISHED GRADE = 707.5  
 LEACHING BED - BASE OF STONE = 705.50  
 LEACHING BED - DISTRIBUTION MANIFOLD INVERT = 706.00

**BASIS OF DESIGN FOR IN-GROUND CONVENTIONAL DISPOSAL SYSTEM:**

THE INTENT OF THIS DESIGN IS TO SHOW A STATE COMPLIANT WASTEWATER DISPOSAL SYSTEM TO SERVE THE REBUILT STRUCTURE WITH 42 INCHES OR MORE OF NATURALLY OCCURRING SOILS BETWEEN THE GROUND SURFACE AND EVIDENCE OF THE SEASONAL HIGH GROUNDWATER TABLE AND 64 INCHES TO ANY SIGNS OF LEDGE. THE DESIGN IS BASED ON THE PRESCRIPTIVE APPROACH OF THE STATE ENVIRONMENTAL PROTECTION RULES.

1. DESIGN FLOW: 4 BEDROOMS @ 140 GPD/BDR + 5 OFFICE WORKERS @ 15 GPD/PERSON = 435 GPD
2. APPLICATION RATE: (0.8) 3/4 T = (0.8) 3/4 / 3.2 = 1.34 GPD/SF, WHERE T = SECOND SLOWEST PERCOLATION RATE (MAX. OF 1.2 GPD/SF PER SECTION 1-907(C)). DOUBLE THE APPLICATION RATE IF PRE-TREATMENT USED = 2.4 GPD/S.F.
3. REQUIRED DISPOSAL FIELD AREA: 435 GPD / 2.4 GPD / SF = 264 SF
4. PROVIDE 150% OF THE PRIMARY DISPOSAL AREA AND A REPLACEMENT SYSTEM IS NOT REQUIRED.
5. 1.5 (150%) x 264 SF = 396 SF
6. PRIMARY DISPOSAL AREA PROVIDED: BED - 13' x 39' = 507 SF

- PRESSURIZED SYSTEMS**
7. ORIFICE SPACING: (1) ORIFICE PER 25 SF
  8. ORIFICES REQUIRED: 507 SF / 25 SF/ORIFICE = 21 ORIFICES
  9. USE 30 ORIFICES AT 1/4" (MAINTAIN MINIMUM 1 psi PER ORIFICE)
  10. PUMP SELECTION: REFER TO DESIGN BRIEF AND CONFIRM CONDITIONS BASED ON ACTUAL ELEVATIONS.



**PROJECT INFORMATION:**

1. OWNER OF RECORD: ROSS BREWER  
271 POKER HILL ROAD  
UNDERHILL, VERMONT 05489
2. TAX PARCEL ID: VT413
3. PHYSICAL ADDRESS OF PROPERTY: 413 VT ROUTE 15  
UNDERHILL, VERMONT 05489
4. PARCEL SIZE: ±0.25 ACRES
5. ZONING DISTRICT: UNDERHILL FLATS VILLAGE CENTER

**SETBACKS:**

PRINCIPAL: FRONT/SIDE/REAR 0/20/20 FT  
 ACCESSORY: FRONT/SIDE/REAR 0/15/15 FT  
 DRIVEWAY: 12 FT.

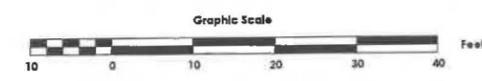
**6. PARKING ANALYSIS:**

OFFICE: 1 SPACE PER 300 SQ. FT. GROSS FLOOR AREA  
 DWELLING - MULTI-FAMILY: 3 SPACES PER EVERY 2 DWELLING UNITS

PROPOSED OFFICE AREA = 1200 SQ. FT. 1200 / 300 = 4 SPACES  
 3 DWELLING UNITS PROPOSED = 3 / 2 \* 3 UNITS = 4.5 SPACES  
 TOTAL REQUIRED = 8.5 SPACES  
 TOTAL PROPOSED = 9 SPACES

**EXISTING CONDITIONS NOTES:**

1. THE PURPOSE OF THE EXISTING CONDITIONS PLAN IS TO DEPICT PERTINENT EXISTING CONDITIONS AS OF THE DATE OF SURVEY.
  2. BEARINGS SHOWN ARE BASED UPON VERMONT GRID NORTH.
  3. VERTICAL DATUM IS BASED ON POINTS PROVIDED BY CROSS CONSULTING ENGINEERS.
  4. COORDINATE SYSTEM IS BASED ON VERMONT STATE PLANE (U.S. SURVEY FEET).
  5. THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS SHOWN ARE BASED ON RESEARCH, UTILITY PLANS PROVIDED BY OTHERS, AND/OR SURFACE EVIDENCE ENCOUNTERED AND WERE OBTAINED IN A MANNER CONSISTENT WITH THE ORDINARY STANDARD OF PROFESSIONAL CARE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE DESIGN ENGINEER. ADDITIONAL UTILITIES NOT SHOWN MAY EXIST. ENGINEER SHALL BE NOTIFIED IF ANY DISCREPANCIES ARE ENCOUNTERED. ACTUAL LOCATION OF UNDERGROUND UTILITIES MAY VARY. DIGSAFE MUST BE CONTACTED PRIOR TO ANY EXCAVATION. CALL 1-888-DIG SAFE (344-7233).
  6. PERIMETER BOUNDARIES SHOWN HEREON ARE BASED ON PLAN BY CROSS CONSULTING ENGINEERS TITLED "ROSS BREWER - UNDERHILL SCHOOL HOUSE - SITE PLAN" AND DATED "JULY 18, 2016".
  7. THE WETLAND DELINEATION SHOWN ON THIS PLAN WAS PERFORMED ON MAY 3, 2017 ACCORDING TO STANDARDS OF THE 1987 US ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE NORTHEAST REGIONAL SUPPLEMENT. THIS DELINEATION WAS PERFORMED BY KARINA DAILEY OF TRUDELL CONSULTING ENGINEERS AND CONFIRMED BY VT ANR WETLANDS DISTRICT ECOLOGIST TINA HEATH.
  8. NO EXISTING WASTEWATER SYSTEM WAS FOUND AT THE SITE. IF THE SYSTEM IS ENCOUNTERED DURING CONSTRUCTION, IT SHOULD BE ABANDONED IN PLACE. ANY TANKAGE SHOULD BE PUMPED OUT AND THEN FILLED WITH CLEAN SAND.
- "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)).



**LEGEND**

	EXISTING	PROPOSED
PAVED DRIVE OR ROAD	—	—
GRAVEL DRIVE OR ROAD	—	—
TOPOGRAPHIC CONTOURS	124	124
SEWER MAINS AND SERVICES	S	S
SEWER FORCE MAIN	FM	FM
WATER MAINS AND SERVICES	W	W
UNDERGROUND NATURAL GAS LINE	G	G
UNDERGROUND ELECTRIC TELEPHONE & CABLE	UPAT/C	UPAT/C
PROPERTY LINE	—	—
FENCE	X	X
SETBACKS	—	—
WETLAND	—	—
WELL CONE / WASTEWATER CONE OF INFLUENCE	—	—
CURB STOP (CS)	⊙	⊙
GATE VALVE	⊕	⊕
FIRE HYDRANT (HYD)	⊕	⊕
WATER SUPPLY WELL	⊕	⊕
UTILITY POLE	⊕	⊕
BENCHMARK	⊕	⊕
SOILS TEST PIT	⊕	⊕
PERCOLATION TEST	⊕	⊕



Project Title  
**Ross Brewer**  
 413 VT Route 15  
 Underhill, Vermont

**Wastewater Plan**

Date: 05/23/2017  
 Scale: 1" = 10'  
 Project Number: 17-025  
 Drawn By: NPC  
 Project Engineer: PM  
 Approved By:  
 Field Book: