

**MICHAEL & KAREN FROST**

**PLANTING SCHEDULE**

SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE /CALIPER	NUMBER
	EASTERN WHITE PINE	PINUS STROBUS	6" HIGH	4

SITE ENGINEER:



**CIVIL ENGINEERING ASSOCIATES, INC.**  
 10 MANSELD NEWLANE, SO. BURLINGTON, VT 05403  
 802-864-4222 FAX: 802-864-4271 WWW.CIVIL-CA.COM  
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DRAWN: **ACL**  
 CHECKED: **DSM**  
 APPROVED: **DSM**

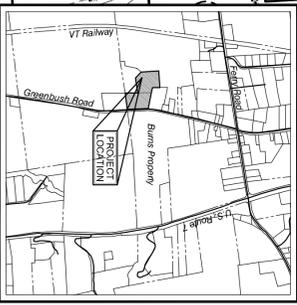
**R. & L. GAUJAC**

**GREENBUSH ROAD CHARLOTTE VERMONT**

PROJECT/APPLICANT:

**GAUJAC BED & BREAKFAST**

**GREENBUSH ROAD CHARLOTTE VERMONT**



**LOCATION MAP**  
 1" = 200'

DATE	CHECKED	REVISION
4-7-10	DSM/AJL	ISSUE PERMITS
5-10-10	DSM/AJL	ISSUE PERMITS
2-7-11	DSM/AJL	ISSUE PERMITS

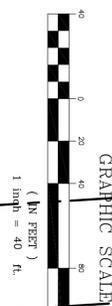
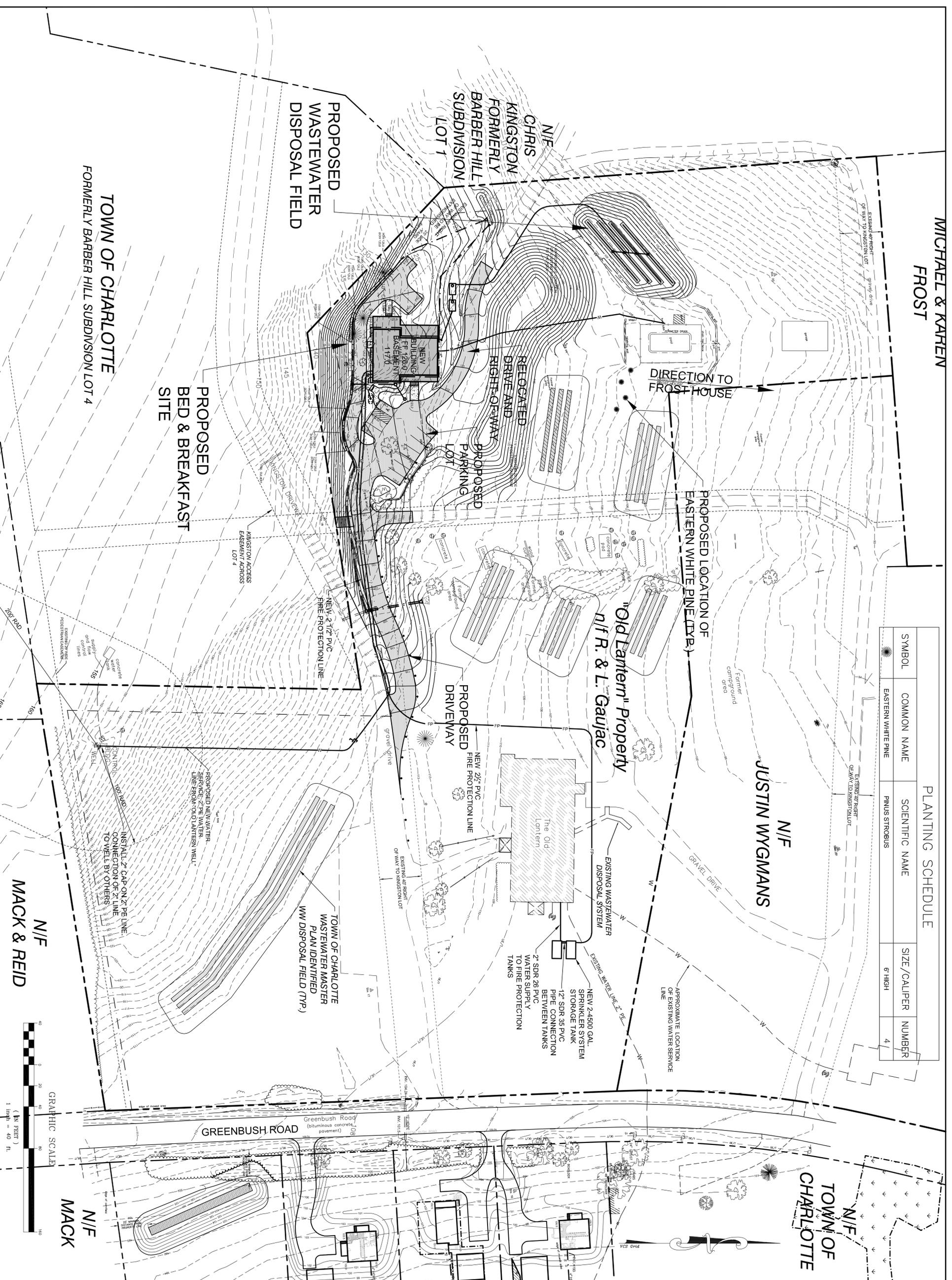
**OVERALL SITE PLAN**

DATE: **JUNE, 2010**

SCALE: **1" = 40'**

PROJ. NO. **09223**

DRAWING NUMBER **C1**



**MACK & REID**

**MACK**

**TOWN OF CHARLOTTE FORMERLY BARBER HILL SUBDIVISION LOT 4**

**PROPOSED BED & BREAKFAST SITE**

**PROPOSED WASTEWATER DISPOSAL FIELD**

**N/I/F CHRIS KINGSTON FORMERLY BARBER HILL SUBDIVISION LOT 1**

**DIRECTION TO FROST HOUSE**

**PROPOSED LOCATION OF EASTERN WHITE PINE (TYP.)**

**"Old Lantern" Property n/f R. & L. Gaujac**

**N/I/F JUSTIN WYGMANS**

**TOWN OF CHARLOTTE WASTEWATER MASTER PLAN IDENTIFIED WW DISPOSAL FIELD (TWP)**

**PROPOSED NEW WATER SERVICE - 2" PE WATER LINE FROM OLD LANTERN WELL**

**INSTALL 2" CAP ON 2" PE LINE CONNECTION OF 2" LINE TO WELL BY OTHERS**

**NEW 2,4500 GAL. SPRINKLER SYSTEM STORAGE TANK 12" SPR 35 PVC PIPE CONNECTION BETWEEN TANKS 2" SPR 28 PVC WATER SUPPLY TO FIRE PROTECTION TANKS**

**PROPOSED DRIVEWAY**

**PROPOSED PARKING**

**REORGANIZED DRIVE AND RIGHT-OF-WAY**

**NEW 2 1/2" PVC FIRE PROTECTION LINE**

**MINISTON ACCESS EASEMENT ACROSS LOT 4**

**GREENBUSH ROAD (bituminous concrete pavement)**

**KINGSTON DRIVEWAY**

**PROPOSED WASTEWATER DISPOSAL FIELD**

**TOWN OF CHARLOTTE FORMERLY BARBER HILL SUBDIVISION LOT 4**



SITE ENGINEER:



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DESIGNER  
JDL  
CHECKED  
DSM  
APPROVED  
DSM

OWNER:

R. & L.  
GAUJAC  
GREENBUSH ROAD  
CHARLOTTE  
VERMONT

PROJECT:

GAUJAC  
BED &  
BREAKFAST  
GREENBUSH ROAD  
CHARLOTTE  
VERMONT

DATE	CHECKED	REVISION
2-7-11	DSM/JDL	WASTEWATER REVISIONS

### SPECIFICATIONS

DATE: JUNE, 2010 DRAWING NUMBER: C-6.0

SCALE: AS SHOWN  
PROJ. NO.: 09223

### FORCE MAIN PRESSURE PIPE AND LEAKAGE TESTS

A. General: All force mains shall pass the hydrostatic pressure test and leakage test described herein. Prior to testing, all anchors and braces shall be installed. All concrete blocks and curbs shall be installed. All concrete level shall be set. All bedding shall be back-filled. Suitable test plugs shall be installed and air release valves shall be installed at the high points.

B. Hydrostatic Test: The following procedure shall be used:  
1. All air release valves shall be opened and the pipe shall be filled with water at a rate not to exceed the venting capacity of the air release valves.

2. The water pressure shall be raised to 150 percent of the designed operating pressure or 60 psi minimum at the highest point.

3. Failure to hold the designated pressure within 5 psi of the specified test pressure for the two hour period constitutes a failure of the section tested.

C. Leakage Test: The following procedure shall be used:  
1. Leakage shall be defined as the quantity of water that must be supplied into the pipe being tested to maintain pressure.  
2. No pipe installation shall be accepted if the leakage is greater than that determined by the following formula:  
$$L = ND\sqrt{P}$$
  
7,400  
Which ever  
is less  
$$L = SD\sqrt{P}$$
  
133,100

S = Length of Pipe Testing  
L = Allowable Leakage in Gall/Hr  
D = Nominal Diameter of Pipe (")  
P = Average Test Pressure (psi)  
N = Number of Joints in the Pipeline Tested

### WATER SERVICE PRESSURE AND LEAKAGE TESTS

A. The Contractor shall furnish all gauges, testing plugs, perform leakage and pressure tests in sections of an approved length. Each watered section or a maximum length of 1,000 feet of pipe shall be tested. The Contractor shall provide at his own expense any additional laps to the water line necessary to perform the pressure and leakage test between water. All distribution testing shall be approved by the Engineer or otherwise approved by the Engineer or local municipality.

B. All water required for testing shall be potable. All testing shall be conducted in the presence of the Engineer.

C. The Contractor shall make the necessary provisions to tap the pipe at the high point to release all air and shall plug same after completing the test. Hydrants or blowoffs located at high points may be used for air release in lieu of taps if approved by the Engineer.

D. For the pressure test, the Contractor shall develop and maintain for two hours 150% of the working pressure or 200 psi, whichever is greater. Failure to hold within 5 psi of the designated pressure for the two-hour period constitutes a failure of the section tested.

E. No pipe installation shall be accepted if the leakage is greater than that determined by the following formula:  
$$L = \frac{ND(P)}{7400} \text{ or } L = \frac{SD(P)}{148000}$$
  
Which ever is less

S = Length of Pipe Testing  
L = Allowable Leakage in Gall/Hr  
D = Nominal Diameter of Pipe (")  
P = Average Test Pressure (psi)  
N = Number of Joints in the Pipeline Tested

All testing shall be conducted in accordance with AWWA C500 (latest revision).  
F. Should any section of pipe fail either the pressure or leakage test, the Contractor shall do everything necessary to locate and repair or replace the defective pipe, fittings or joints at no cost to the Owner.

### DISPOSAL FIELDS & FORCE MAINS

#### PART 1 - GENERAL

##### 1.01 Summary

- A. Section Includes:
  1. Wastewater Disposal Field
  2. Force Main Materials

##### 1.02 References

- A. All work shall be done in accordance with the State of Vermont Environmental Protection Rules effective August 16, 2002.

#### PART 2 - PRODUCTS

##### 2.01 General

A. Disposal Fields: Schedule 40 PVC pipe meeting the requirements of the latest revision of SPM shall be used. Fittings used in the disposal fields shall be compatible with distribution lines material.

B. Force Mains: PE 3408 pipe shall conform in all respects to the latest revisions of ASTM Specifications F714 - 08. All pipe fittings shall be PE 3408 and clearly marked as follows:

- Manufacturer's Name and Trademark
- Nominal Pipe Size (as shown on plans)
- Material Designation

C. Crushed stone shall be clean, durable and no smaller than 3/4" or larger than 1 1/2 inches in diameter.

#### PART 3 - EXECUTION

##### DISPOSAL FIELD CONSTRUCTION

A. Aboveground vegetation shall be closely cut and removed from the ground surface throughout the area to be utilized for the placement of the fill material. Prior to placing, the design pump discharge line from the pump chamber or dosing chamber to the point of connection with the distribution piping header shall be installed. The area shall then be plowed to a depth of seven to eight inches, parallel to the land contour with the plow throwing the soil upward to provide a rough surface. The area shall then be graded to the surface of the ground and rocks should not be pulled. Once planning of the mound area is completed, the area shall be fenced to prevent vehicles and equipment from entering the plowed area.

B. To prevent compaction, construction equipment shall not be moved across the plowed surface or the effluent disposal area. However, after placement of a minimum of six inches of sand fill over the plowed area, construction equipment may be driven on the prepared surface to compact the sand fill. Construction equipment shall be kept off the disposal field. Construction and/or plowing shall not be initiated when the soil moisture content is high.

C. Construction should be initiated immediately after preparation of the soil interface by placing all of the sand fill needed for the mound to a minimum depth of 27 inches. This depth will permit excavation of trenches to accommodate the crushed stone (12 inches) necessary for the distribution piping.

D. The pressure distribution pipe should be laid level on top of the stone and flushing valves installed at the ends of the pipe. Upon completion of the distribution piping, the qualified consultant shall test the system with clean water. The test shall show that a minimum pressure of three feet of head is present at the ends of the pipe and that the difference in discharge rate between the two orifices with the greatest difference in discharge rates is not greater than 15 percent. After connecting the distribution pipe to the force main, the distribution pipe shall be covered with a minimum of two inches of clean stone aggregate. The stone aggregate shall be covered completely with filter fabric.

E. After installation of the distribution system, crown the entire mound with cover of soil less permeable than the mound fill, covering with 12 inches on the side slopes and a minimum of 18 inches over the center of the mound. Native soil from the site is normally suitable for cover material, though the top two to four inches of this cover should be topsoil. The entire mound shall be seeded, sodded or otherwise provided with vegetative cover to assure stability of the installation.

F. The area surrounding the disposal field shall be graded to provide diversion of surface runoff waters if required.

##### 3.02 Testing Notes

A. The wastewater system shall be inspected during critical stages of construction by a qualified consultant. This shall include at a minimum the staking of the disposal field, the trenches after the initial 9 inches of stone and distribution piping is placed, the installation and pressure test of distribution piping, and a final inspection of the entire system. The Contractor will be responsible for contacting the Engineer to set up the inspection schedule.

B. Testing of pressure distribution shall be done in the Engineer's presence. Pressure shall be measured to insure a minimum of 1 psi. (See section D above).

C. The distribution line shall then be carefully placed on the bedding with no slope, orifices shields snapped into place, and covered with at least 2" of crushed stone.

D. All work shall be done in accordance with the State of Vermont Environmental Protection Rules.

E. Prior to use of the system, the qualified consultant shall submit a written report to the State of Vermont stating that the system has been installed according to the approved plans and permit. The report shall specifically address the inspection of the site preparations and include numerical results of the orifice discharge rate comparison.