

**SOLID WASTE MANAGEMENT FACILITY  
FULL CERTIFICATION  
10 V.S.A. §6605**

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**PERMITTEE:** Andrew Tibbitts

**OPERATOR:** Barre Septic Service – Graniteville, VT

**AUTHORIZED REPRESENTATIVE:** Andrew Tibbitts, Owner

**SOLID WASTE I.D. NUMBER:** SW-305

**CERTIFICATION NUMBER:** F16XX

**PROJECT ID NUMBER:** BR95-0064

**FIELD DESIGNATION:** Brown Site FB30101 Brookfield, VT

**MONITORING WELL DESIGNATIONS:** MW-1 WB30101 (formerly MB30101A)  
MW-2 WB30102 (added this permit)

**CERTIFICATION PERIOD:** Date of Signature through March 31, 2026

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**PURPOSE OF THE CERTIFICATION:** The purpose of this Certification is to ensure that the solid waste management facility (facility), owned by Galen Brown and operated by Barre Septic Service, for the management of stabilized septage via land application, operates in accordance with the conditions set forth herein to protect public health and safety and the environment.

**FACILITY DESCRIPTION & LOCATION:** The Facility includes one (1), 7.9-acre agricultural site located in Brookfield, Vermont, and the vessels (application equipment and tanker trucks) utilized during operations, which are identified in this Certification and described in the untitled management plan (Plan) dated March 2016, which was received by the Department of Environmental Conservation (Department) on March 30, 2016.

**FACILITY OPERATION:** Stabilized domestic septage is permitted for use by land application during times of the year when the ground is not frozen or snow covered, and when saturated soil is at a depth of greater than thirty-six (36) inches below the bottom of the zone of incorporation. During periods when land application is not permitted or feasible, any septage handled by the Permittee will be managed at other suitable, certified solid waste facilities.

Septage is required to be stabilized for pathogen and vector attraction reduction prior to land application, according to 40 CFR Part 503 and the Vermont Solid Waste Management Rules, effective March 15, 2012 (Rules). Stabilization will be achieved by the addition of hydrated lime [Ca(OH)<sub>2</sub>], or its equivalent, as provided in this certification.

Land application rates of septage shall be based upon crop nutrient requirements, contribution of nutrients from other sources, and on average nutrient content for septage.

**APPLICATION REVIEW:** The application for Certification was reviewed in accordance with the Vermont State Solid Waste Management Act, 10 V.S.A. §§6601 et. seq. and the Rules. The application is on file in the office of the Wastewater Management Program, Department of Environmental Conservation, Agency of Natural Resources in Montpelier, Vermont.

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**FINDINGS**

1. Certification for the Applicant's Facility is required by 10 V.S.A. §6605 and Section 6-303 of the Rules.
2. On March 30, 2016, Andrew Tibbitts, owner, Barre Septic Service, submitted an application, consisting of an untitled document (Plan) containing information supplementing the application dated March 2016, to the Department for recertification of an existing Facility.
3. The proposed Facility is comprised of one agricultural field totaling 7.9 usable acres, located on a farm owned by Gaylen Brown on Town Highway #65 in Brookfield, VT.
4. The application was prepared and certified to conform to the Rules by the Applicant, Andrew Tibbitts. Upon request by the Applicant, the Secretary waived the requirement that the application be completed under the direction of a professional engineer licensed in the State of Vermont.
5. In accordance with 10 V.S.A. § 6605(f), the Applicant provided notice of the application and submitted a Personal History and Business Disclosure Statement. No issues providing cause to deny the permit application under this statute were found.
6. The application was found to be administratively complete on April 18, 2016.
7. The applicant provided notice of an administratively complete application and a solicitation of public comment on the application materials. The public notice was advertised in *The World* (Barre, VT) and in the *Times Argus* (Barre-Montpelier, VT) on April 27 and 28, 2016, respectively, and via direct mail to all parties stipulated by § 6-304(h), of the Rules on April 20, 2016.
8. The application was found to be technically complete on May 10, 2016 and a draft certification and fact sheet were prepared by the Department in May 2016 in accordance with Subchapter 3 of the Rules.
9. Per § 6-305 of the Rules, the Secretary actively solicited comment on the draft certification and fact sheet via public comment period, which ran from May 25 to June 15, 2016. Notice was provided by direct mail to the parties established in the Rules and by publication of the notice in the *Times Argus* (Barre-Montpelier) and the *The World* (Barre, VT).

**CONDITIONS AND REQUIREMENTS FOR OPERATION**

- A. The Permittee shall perform all actions necessary for the proper management of septage in accordance with the Application and the provisions of this certification.
- B. The Permittee shall comply with the provisions, requirements and standards set forth in 10 V.S.A. §§6601 et. seq. and the Rules, except as expressly provided herein.
- C. The site identified in the application on the Gaylen Brown farm in Brookfield, Vermont, and suitable and certified solid waste facilities, are the only authorized management facilities. Use of other sites for septage management via land application without prior written approval from the Secretary is expressly prohibited and shall constitute grounds for revocation of this Certification.
- D. Domestic septage managed by the Permittee is the only waste authorized for management via land application. Management via land application of other regulated solid wastes without prior written approval from the Secretary shall constitute grounds for revocation of this Certification. Land application of commercial or industrial septage, portable toilet waste, and holding tank waste is expressly prohibited.
- E. The Permittee is authorized to use the contingency option of disposing domestic septage at suitable and certified in-state solid waste management facilities.

**COMPLIANCE SCHEDULE**

- F. On or before September 30, 2025, the Permittee shall either apply for a full certification or submit a plan documenting the strategy for closure of the Facility.

**MATERIALS AND SITE MANAGEMENT AND MONITORING REQUIREMENTS**

- G. The Permittee shall comply with all the siting conditions specified for diffuse disposal facilities in Subchapter 5 and with all the facility operation standards, requirements, and conditions specified in Subchapter 7 of the Rules.
- H. The following actions are specifically prohibited:
  - (1) the application of solid wastes on frozen or snow covered ground is prohibited;
  - (2) the application of solid wastes is prohibited at times when saturated soil is within three feet of the ground surface on the site.
- I. The Permittee shall restrict public access to the site certified herein for the duration of any domestic septage land application event and for a minimum period of twelve (12) months following the last septage application event. The Permittee shall ensure the site is properly posted for this purpose during these periods.

- J. The Permittee shall ensure that the following site and crop use restrictions are observed:
- (1) domestic food source animals shall be prohibited from grazing on the waste amended land application site for the duration of disposal and for a period of six (6) months beyond the last septage application event;
  - (2) the site shall not be used for the production of crops for direct human consumption during any domestic septage application event and for the duration of the disposal and a period of thirty-eight (38) months beyond last septage application event;
  - (3) fiber and feed crops (including silage) grown on the waste amended land application site shall not be harvested for a period of five (5) weeks beyond the last septage application event;
  - (4) prohibit the feeding of silage grown on the site to domestic food source animals for a period of four (4) months beyond the last septage application event;
  - (5) turf grown on the waste amended land application site shall not be harvested for twelve (12) months beyond the last septage application event.
- K. The Permittee shall inform all persons involved with cropping on the site of the crop restrictions and limitations established in Condition J of this certification.
- L. The Permittee shall ensure that each load of septage that is applied to the land is treated with lime to reduce pathogen content and vector attraction prior to land application. Treatment will be achieved by adding sufficient hydrated lime,  $[\text{Ca}(\text{OH})_2]$ , or its equivalent, to raise the pH to greater than or equal to 12.0 Standard Units (S.U.) and maintain the pH at greater than or equal to 12.0 S.U. for a period of two (2) hours without the addition of additional lime. Direct monitoring of each load of septage's pH, to demonstrate that the pH and hold time requirements are being met, shall be conducted and documented. Documentation of compliance with this requirement shall be submitted with the appropriate quarterly report.
- M. Application of septage by "straight piping" from the Permittee's collection vehicles is prohibited. The use of a diffuser bar, splash plate, or other appropriate device or equipment is required so as to provide for even dispersal of the waste.
- N. The Permittee shall continue the liming program to raise and/or maintain the soil pH of the land application site to within the required range of 6.5 to 8.0 S.U. (aqueous). Use of the site is specifically prohibited at times when the soil's pH is not within the specified range.
- O. The maximum allowable application rate shall be 57,692 gallons per acre per year (site capacity of 455,767 gallons per year) when based upon a crop nutrient requirement of 150 lbs nitrogen per acre per year. Wastes shall not be applied at a rate in excess of the calculated application rate.

- P. Any change in site management, such as the addition of other sources of nutrients, management of wastes other than domestic septage, any changes in crop rotation, or any evidence of environmental impacts shall be cause for recalculating the application rate for the site. The calculated application rate shall be based upon the crop's nutrient requirement and all other sources of nutrients applied to the site, and shall be calculated using the equation:

$$\text{Application rate} = \frac{(\text{crop N requirement} - \text{N supplied from other sources})}{0.0026}$$

- Q. The Permittee or the landowner may apply additional amounts of nitrogen to the site from non-septage sources upon receiving written authorization from the Secretary. The authorization shall be provided only after the Permittee has submitted documentation that, having already applied wastes at the maximum allowable application rate as calculated using the formula in Condition P of this Certification, a plant available nitrogen deficit exists in the site's soils for the crop being raised thereon and the Department has reviewed and approved the documentation. The additional nitrogen shall not be applied at a rate greater than is necessary to supply the documented plant available nitrogen deficiency.
- R. The Permittee shall conduct sampling and analysis of the domestic septage, groundwater, site soil, and plant tissue of the crop grown on the site in accordance with the parameters and frequencies set forth in Table 2 of this Certification, as follows:
- (1) Testing of domestic septage shall be conducted on a sample collected prior to the addition of lime,
  - (2) Testing of metals in septage and in site soils and site plant tissue at End of Certification (EOC) shall be for the total form, reported in units of milligrams per kilogram (mg/kg), dry weight basis.
  - (3) Testing for nutrients in the site soils and plant tissue shall be for the available form (Modified Morgan's extraction), reported in units of milligrams per kilogram (mg/kg).
  - (4) Testing for metals in the groundwater shall be for total dissolved metals and shall be reported in units of milligrams per liter (mg/l) or micrograms per liter (µg/l).
  - (5) All testing shall be in accordance with Department's "Procedure Designating Methods for Chemical and Biological Analyses for Residual Wastes", attached as Appendix I of this Certification.
- S. The Permittee shall sample the groundwater monitoring wells at the sites, submit the samples for an analysis of the applicable parameters established in Table 2 of this Certification, and have received the analytical results, prior to the onset of each year's land application events conducted during the term of this Certification. Samples shall not be taken more than sixty (60) days prior to the onset of annual application events.

- T. The Permittee shall notify the Department a minimum of two (2) weeks prior to the first land application event in the Spring.
- U. The Permittee shall verify that there is at least thirty-six (36) inches of separation between the bottom of the zone of incorporation and saturated soil by conducting soil borings or using hand augers at three locations at the interior of each field, or by use of monitoring wells installed on the site. This verification shall be conducted once during each week that septage is applied to the site, prior to its application.
- V. The Permittee shall delineate by the placing of stakes or other suitable markers, those areas of the fields where land application is restricted or prohibited.

### **RECORD KEEPING AND REPORTING**

- W. The Permittee shall submit quarterly reports to the Department by the 15<sup>th</sup> day of the month following the end of each quarter (April 15, July 15, October 15, and January 15) on forms provided by the Secretary.
- X. All sampling and monitoring results, dates and volumes of lime additions, and calculations for determining application rate shall be included with the appropriate quarterly submittal to the Department.
- Y. If the results of any of the required domestic septage monitoring shows an exceedence of a regulatory standard established in the Rules, the Permittee shall notify the Secretary in writing of this fact and reasons for the non-compliance within five (5) days of when the exceedence is detected, together with a proposed strategy for remediation of conditions resulting in the exceedence. If such an exceedence occurs, the Secretary reserves the right to require the Permittee to:
  - (1) conduct studies necessary to determine the source(s) and/or cause(s) of contamination;
  - (2) take actions necessary to control or repair the cause of any impacts; and
  - (3) take actions necessary to remediate any impacts.
- Z. If the results of any of the required groundwater monitoring shows an exceedence of a trigger value specified in Table 1 of this Certification, the Permittee shall notify the Secretary in writing of this fact and reasons for the non-compliance within ten (10) days of when the exceedence is detected, together with a proposed strategy for remediation of conditions resulting in the exceedence. If such an exceedence occurs, the Secretary reserves the right to require the Permittee to:
  - (1) install additional sampling locations and/or require expanded water quality analyses;
  - (2) conduct studies necessary to determine the source of contamination;

- (3) take actions necessary to control or repair the cause of any impacts;
  - (4) take actions necessary to remediate any impacts; and
  - (5) determine and specify the response(s) to be implemented, as authorized in Subchapter 7 of the Groundwater Rules.
- AA. The Permittee shall give prior notice to the Secretary of any changes planned in the Permittee's septage management practices.
- BB. Complaints regarding odors or other emissions or discharges from the Facility received by the Permittee shall be reported to the Department within twenty-four (24) hours, or on the next business day, with a report of the measures taken to resolve the situation. The Secretary reserves the right to require the Permittee to utilize reasonable measures including, but not limited to, those measures set forth in this Certification and the management plan, to remediate problems associated with odors or other nuisance conditions resulting from the operation of any of the facilities certified herein.
- CC. The Permittee shall maintain all records regarding activities, management practices, complaints, and observations in a secure, dry place for a minimum period of five (5) years following expiration of this Certification.
- DD. Any discharge or emission from the Facility not expressly authorized under the terms and conditions of this Certification shall be reported by the Permittee within twenty-four (24) hours of its occurrence or on the next business day, whichever is later, to the Department and to the local health officer and the select person(s) of the Town of Brookfield.
- EE. The Permittee shall submit an application for an amendment to this Certification to the Department if the Permittee wishes to pursue the use of alternative land application sites for domestic septage management during the term of this Certification.
- FF. The Permittee shall make any other reports that may be reasonably required by the Secretary during the term of this Certification.

**CLOSURE AND POST-CLOSURE REQUIREMENTS**

- GG. Upon determination by the Secretary that no further land application will be conducted at the Facility, or upon Permittee's notice that site use is no longer occurring, the Permittee shall comply with the following post-closure requirements:
- (1) provide for control of public access to the site for a period of twelve (12) months following the last application of domestic septage;
  - (2) prohibit grazing of domestic food source animals on the site for a period of six (6) months following the last application of domestic septage;

- (3) prohibit production of crops for direct human consumption on the site for a period of thirty-eight (38) months following the last application of domestic septage;
- (4) prohibit the harvest of fiber and feed crops (including silage) on the site for a period of five (5) weeks beyond the last disposal episode;
- (5) prohibit the harvest of turf grown on the site for 12 months after the last disposal episode;
- (6) test the groundwater annually, in the spring after the thaw, for minimum of two years if the site has received seventy-five percent (75%) of the maximum allowable cumulative level based on soil type for any of the metals monitored, or if the Secretary determines a need. The required parameters are listed in this Certification in Table 2. The results shall be submitted to the Department; and,
- (7) test the soils biannually for a minimum of two years if the site has received seventy-five percent (75%) of the maximum allowable cumulative level based on soil type for any of the metals monitored, or if the Secretary determines a need. The required parameters are listed in this Certification in Table 2. The results shall be submitted to the Department.

### **GENERAL CONDITIONS**

- HH. The Permittee shall comply with all existing federal and state laws, rules and regulations that apply to septage use and management, and with all applicable technical standards set forth in Section 405(d) of the federal Clean Water Act, and 40 C.F.R. Part 503. If an applicable management practice or numerical limitation for pollutants in septage more stringent than existing federal and state regulations is promulgated pursuant to Section 405(d) of the federal Clean Water Act, this Certification shall be modified or revoked and reissued to conform to the promulgated regulations. The Permittee shall comply with the limitations no later than the compliance date specified in the applicable regulations as required by Section 405(d) of the federal Clean Water Act and 40 C.F.R. Part 503.
- II. This Certification does not convey property rights of any sort or any exclusive privilege, nor does it authorize any injury to private property or any invasion of personal rights.
- JJ. This Certification is not alienable, transferable, or assignable without prior written approval from the Secretary. Requests for such approval shall include an application for reissuance under the new name and a written agreement which specifies the date of transfer and includes the signatures of the authorized representatives.
- KK. If the Permittee anticipates that any compliance date or operating condition will not be met, the Permittee shall notify the Secretary in writing of this fact and reasons for the anticipated non-compliance at least five (5) days prior to the compliance date or conditions in question.



- LL. This Certification may be modified or amended for cause during its term with the written approval of the Secretary. If the Secretary determines modification is appropriate, only the conditions subject to modifications are reopened. Until a modification or amendment is granted, all conditions set forth in the Certification remain in full force and effect, pursuant to Section 6-307(a) of the Rules.
  - MM. This Certification may be revoked, in whole or in part, at any time during its effective term in accordance with the Rules.
  - NN. The Permittee agrees to allow Agency personnel access to the Facility during normal business hours to perform such inspections or other activities pursuant to 10 V.S.A. §8005 as may be required to ensure compliance with this Certification, with all applicable statutes, and with the Rules.
  - OO. The Secretary retains the right to require the Permittee to perform any other action deemed necessary in accordance with 10 V.S.A. §6610a.
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**TABLE 1**

**RESPONSE TRIGGER VALUES FOR CONCENTRATIONS  
OF COMPOUNDS IN GROUNDWATER**

<b><u>Parameter</u></b>	<b><u>Concentration (µg/L)</u></b>
Arsenic	5.0
Barium	1000.
Cadmium	2.5
Chloride	125,000.
Chromium	50.0
Copper	650.
Lead	1.5
Manganese	150.
Mercury	0.5
Molybdenum	20.0
Nitrate Nitrogen	5000.
Nickel	50.0
Selenium	25.0
Sulfate	125,000.

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**NOTES:** Concentration units are microgram per liter (µg/L). To convert to milligram per liter (mg/L), divide the microgram concentration by 1000. [ mg/L = ug/L ÷ 1000 ]

Concentration levels of other parameters are of concern for monitoring impacts upon the site used for biosolids and/or septage management. Levels of the other parameters will be evaluated on a case-by-case basis as determined by the Secretary.

Standards updated - May 2016.

**TABLE 2 - SEPTAGE**

**REQUIRED SAMPLING AND TESTING FREQUENCIES**

<u>PARAMETER</u>	<u>SEPTAGE</u>	<u>SOIL</u>	<u>GROUNDWATER</u>	<u>PLANT TISSUE</u> <sup>1</sup>
Arsenic	Annual	EOC	Annual	EOC
Barium	None	EOC	Annual	None
Cadmium	Annual	EOC	Annual	EOC
Chromium	Annual	EOC	Annual	EOC
Copper	Annual	EOC	Annual	EOC
Lead	Annual	EOC	Annual	EOC
Manganese	None	EOC	Annual	None
Mercury	Annual	EOC	Annual	EOC
Molybdenum	Annual	EOC	Annual	EOC
Nickel	Annual	EOC	Annual	EOC
Selenium	Annual	EOC	Annual	EOC
Sulfate	None	EOC	Annual	None
Zinc	Annual	EOC	None	EOC
Total Kjeldahl Nitrogen	Annual	Biannual	None	None
Ammonia-N	Annual	Biannual	Biannual	None
Nitrate-N	Annual	Biannual	Biannual	None
Total Phosphorus	Annual	None	None	EOC
Total Potassium	Annual	None	None	EOC
Total Nitrogen	None	None	None	EOC
Chloride	None	None	Annual	None
Polychlorinated Biphenyls (PCBs) <sup>2</sup>	EOC	EOC	None	None
Percent Solids	Annual	None	None	None
pH	Annual <sup>3</sup>	Biannual	Biannual	None
Liming Requirement	None	Biannual	None	None
Available Potassium	None	Biannual	None	None
Available Magnesium	None	Biannual	None	None
Available Phosphorus <sup>4</sup>	None	Biannual	None	None
Reactive Aluminum	None	Biannual	None	None

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**NOTES:**

- 1: Plant Tissue sampling is required prior to the end of the certification (EOC). The results must be submitted with an application for recertification, as required in the Compliance Schedule of the certification.
- 2: An analysis for Total Organic Halides (TOX) may be conducted in lieu of analyzing for PCB's. However, if TOX is detected in concentrations equal to or greater than the applicable regulatory standard, then an analysis specific for PCB's shall be conducted.
- 3: Each load of septage shall be monitored for pH as stipulated by *Condition L* of this certification.
- 4: Available Phosphorus, or Soil Test P, using Modified Morgan extraction.
- 5: Water Extractable Phosphorus via "*Universal Water Extractable P Test for Manure and Biosolids (adapted from Kleinman et al., 2007)*"

**DEFINITIONS:**

- Annual (Septage):** Once in the first quarter of each year, on non-lime stabilized septage only.
- Annual (Groundwater):** Once in the spring after the thaw.
- Biannual (Soil):** Once in the spring and once in the fall.
- Biannual (Groundwater):** Once in the spring after the thaw and once in the fall.
- EOC:** Sampling prior to the end of the certification, the results to submitted in the application for recertification required in *Condition F* of this certification.
- None:** No sampling or testing is required for that parameter in the specific media.

Concentration levels of other parameters are of concern for determining application rates and monitoring impacts upon the site used for septage management. Concentrations of the other parameters will be evaluated on a case-by-case basis as determined by the Secretary.

The Department issuance of this Solid Waste Management Facility Certification relies upon the data, judgment, and other information supplied by the Permittee, the hired professional consultants and other experts who have participated in the preparation of the Application.

The Department makes no assurances that the system certified herein will meet performance objectives of the operator and no warranties or guarantees are given or implied.

The Department staff has reviewed the above project and application and finds it to conform with current technical standards. It is recommended that the foregoing findings be made and the Solid Waste Management Facility Certification be issued.

I do affirmatively make the findings as recommended by the staff and approve this Certification.

Dated this \_\_\_\_\_ day of June, 2016, at Montpelier, Vermont.

AGENCY OF NATURAL RESOURCES  
Alyssa B. Schuren, Commissioner  
Department of Environmental Conservation

BY: \_\_\_\_\_

Ernest F. Kelley  
Wastewater Management Program  
Department of Environmental Conservation

**APPENDIX I**

*“Procedure Designating Methods for Chemical and Biological Analyses for  
Residual Waste Management”*

Updates to this Procedure will be posted to the Residuals Management Section web page at:

<http://www.watershedmanagement.vt.gov/www/html/residuals.htm>

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**Vermont Agency of Natural Resources**  
**Department of Environmental Conservation**

**Procedure Designating Methods for Chemical and Biological Analyses**  
**for Residual Waste Management**

This procedure establishes the acceptable test methods for the chemical and biological analysis of residual solid wastes, groundwater, soil, and plant tissue as may be required under Subchapter 14 of the Vermont Solid Waste Management Rules. Alternative test methods may be used for any analysis required by Subchapter 14 only with prior written approval by the Secretary of the Vermont Agency of Natural Resources or his/her designee.

For the purposes of Table 1 of this Procedure, "sludges" is defined to include wastewater treatment sludge and/or biosolids, septage, composted and heat dried biosolids products, and any other biosolids derived products.

  
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David K. Mears, Commissioner – VTDEC

  
\_\_\_\_\_  
date

**TABLE A-1**

**Methods for the Analysis of Sludges, Septage, Short Paper Fiber, Wood Ash, and Water Treatment Residuals**

<u>Analyte</u>	<u>CAS #</u>	<u>Required Analytical Method(s)</u>	<u>Sample Container</u>	<u>Preservation</u>	<u>Reporting Units</u>
<b>Total Metals</b>					
Arsenic	7440-38-2	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Barium	7440-39-3	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Cadmium	7440-43-9	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Calcium	7440-70-2	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Chromium	7440-47-3	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Copper	7440-50-8	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Lead	7439-92-1	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Mercury	7439-97-6	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Molybdenum	7439-98-7	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Nickel	7440-02-0	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Selenium	7782-49-2	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
Zinc	7440-66-6	SW-846, 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt.
<b>TCLP</b>	multiple	SW-846, Method 1311	amber glass	cool to 4°C	mg/l
<b>Volatile Organics</b>	multiple	SW-846, Method 8260	amber glass	cool to 4°C	mg/kg dry wt.
<b>Semi-volatile Organics</b>	multiple	SW-846, Method 8270	amber glass	cool to 4°C	mg/kg dry wt.
<b>Polychlorinated aromatics</b>					
PCB-1242	53469-21-9	SW-846, Method 8081/8082	amber glass	cool to 4°C	mg/kg dry wt.
PCB-1254	11097-69-1	SW-846, Method 8081/8082	amber glass	cool to 4°C	mg/kg dry wt.
PCB-1221	11104-28-2	SW-846, Method 8081/8082	amber glass	cool to 4°C	mg/kg dry wt.
PCB-1232	11141-16-5	SW-846, Method 8081/8082	amber glass	cool to 4°C	mg/kg dry wt.
PCB-1248	12672-29-6	SW-846, Method 8081/8082	amber glass	cool to 4°C	mg/kg dry wt.
PCB-1260	11096-82-5	SW-846, Method 8081/8082	amber glass	cool to 4°C	mg/kg dry wt.
PCB-1016	12674-11-2	SW-846, Method 8081/8082	amber glass	cool to 4°C	mg/kg dry wt.
Chlorinated dibenzodioxins and dibenzofurans	multiple	SW-846, Method 1613B	amber glass w/ Teflon lined cap	cool to 4°C	pg/kg and parts per trillion TEQ
PCBs in short paper fiber	multiple	SW-846, Method 1668A	amber glass w/ Teflon lined cap	cool to 4°C	pg/kg and parts per trillion TEQ

**TABLE A-1 (con't.)**

**Methods for the Analysis of Sludges, Septage, Short Paper Fiber, Wood Ash, and Water Treatment Residuals**

<u>Analyte</u>	<u>CAS #</u>	<u>Required Analytical Method(s)</u>	<u>Sample Container</u>	<u>Preservation</u>	<u>Reporting Units</u>
<b>Pathogen Indicators</b>					
Fecal Coliform	n/a	SW-846, Method 1681	sterile glass or sterile plastic	cool to 4°C	MPN / g
Salmonella	n/a	SW-846, Method 1682	sterile glass or sterile plastic	cool to 4°C	MPN / 4 g
Helminth Ova	n/a	EPA 600/1-87-014	sterile glass or sterile plastic	cool to 4°C	viable ova/ 4 g
Enteric Viruses	n/a	ASTM D 4994-89	sterile glass or sterile plastic	cool to 4°C	PFU / 4 g
<b>Nutrients</b>					
Nitrate/Nitrite	NO <sub>3</sub> 1479-76-50 NO <sub>2</sub> 7697-37-2	SW-4500-NO <sub>3</sub> or SW-846 Method 9210 or EPA 353, 3000 series	glass or plastic	cool to 4°C	mg/kg dry wt. ( or %)
TKN	n/a	SM-4500-N <sub>org</sub> or EPA 351.3	glass or plastic	cool to 4°C	mg/kg dry wt. ( or %)
Ammonia	n/a	SM-4500-NH <sub>3</sub> or EPA 350	glass or plastic	cool to 4°C	mg/kg dry wt. ( or %)
Total Organic Nitrogen	n/a	calculation	glass or plastic	cool to 4°C	mg/kg dry wt. ( or %)
Total Phosphorus	7723-14-0	SM-4500-P or EPA 365	glass or plastic	cool to 4°C	mg/kg dry wt. ( or %)
Water Extractable phosphorus	7723-14-0	Universal Water Extractable P Test for Manure and Biosolids (see note below)	glass or plastic	cool to 4°C	mg/kg dry wt. ( or %)
Total Potassium	7440-97	SM-3500K or SW-846 6000/7000 series	glass or plastic	cool to 4°C	mg/kg dry wt. ( or %)
<b>Compost Stability</b>					
	n/a	TBD	TBD	TBD	TBD
<b>Other</b>					
pH	n/a	SM-4500H	glass or plastic	cool to 4°C	Standard Units (S.U.)
Total Solids	n/a	SM-2540G	glass or plastic	cool to 4°C	%

**Note:** *Universal Water Extractable P Test for Manure and Biosolids* (adapted from Kleinman et al., 2007), as published in *Determining Water Extractable P in Animal Manure and Biosolids*

Ann Wolf, Pennsylvania State University  
 Philip Moore, Jr., USDA-ARS, Fayetteville, AR  
 Peter Kleinman, USDA-ARS, University Park, PA  
 Dan Sullivan, University of Oregon

<http://agsci.psu.edu/aasl/manure-testing/standard-manure-test/selection-of-a-water-extractable-phosphorus-test-for-manures-and-biosolids-as-an-indicator-of-runoff-loss-potential>

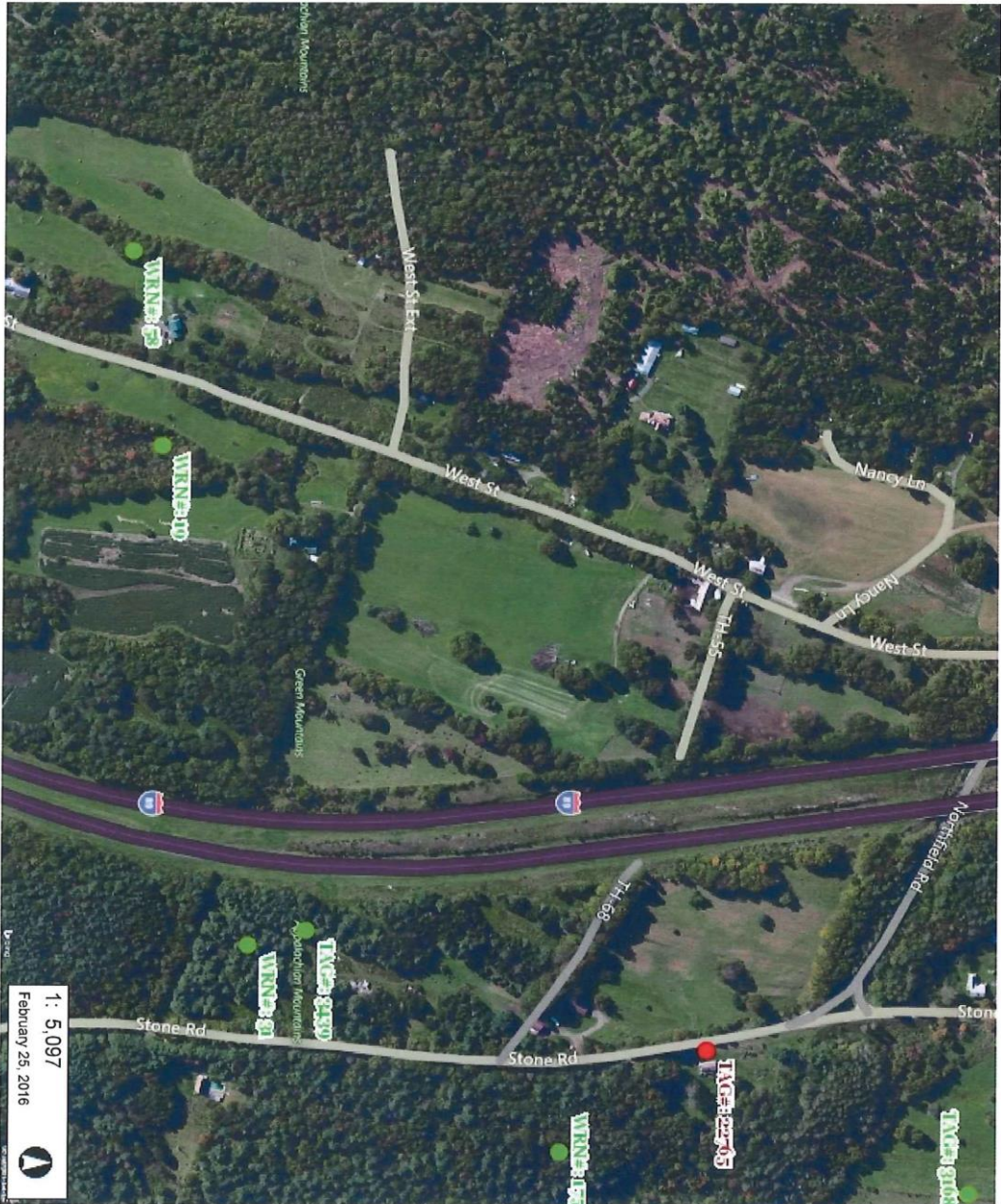


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Natural Resources Atlas  
 Vermont Agency of Natural Resources

vermont.gov



1:0 0 130.00 259.0 Meters  
 S:\1984\_Web\_Mercator\_Auxiliary\_Sphere  
 Vermont Agency of Natural Resources  
 1" = 425 Ft. 1cm = 51 Meters  
 THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

1: 5,097  
 February 25, 2016



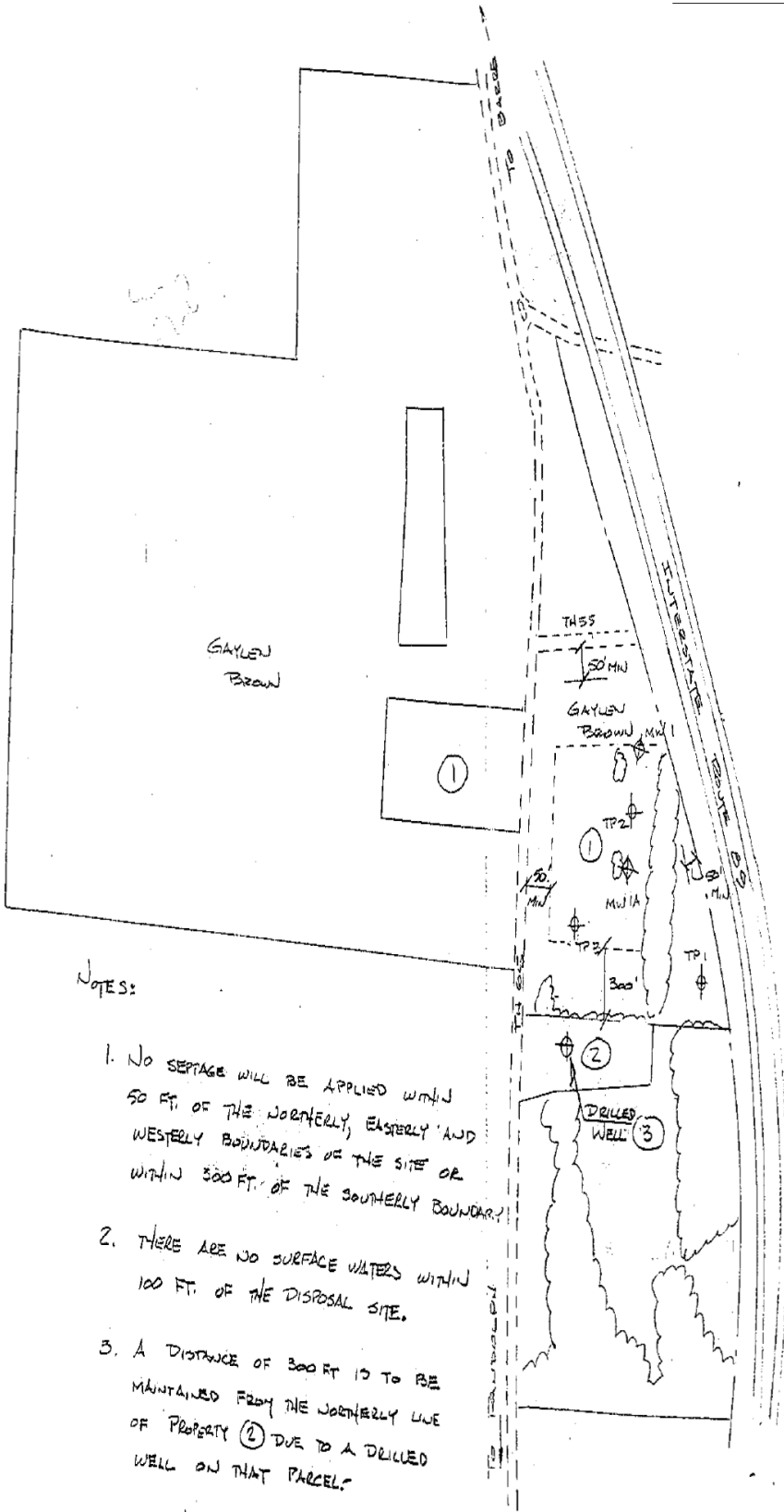
- LEGEND**
- Private Wells
  - GPS Location
  - screen digitized
  - E911 Address
  - Well/Well/Clarion
  - Unknown
  - Town Boundary

**NOTES**

Map created using ANR's Natural Resources Atlas

C-8





LEGEND

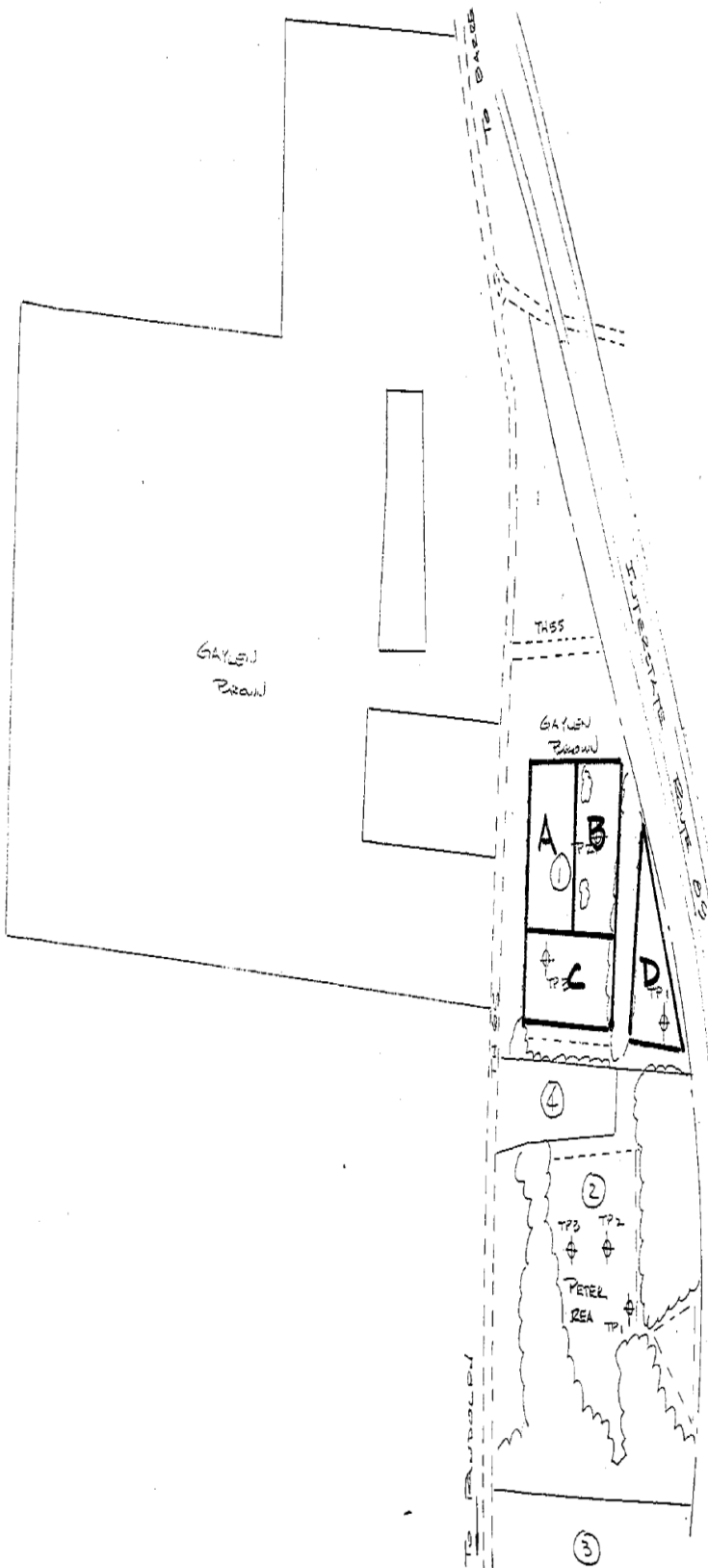
- ⊕ TEST PIT LOCATIONS
- ① PROPERTY OWNER IDENTIFICATION No. (SEE LIST)
- ⊕ MONITOR WELLS

BROOKFIELD SITE  
 LAND OF GAYLEN BROWN  
 TOWN HIGHWAY No. 65  
 1"=40' ±

NOTES:

1. NO SEPTAGE WILL BE APPLIED WITHIN 50 FT. OF THE NORTHERLY, EASTERLY AND WESTERLY BOUNDARIES OF THE SITE OR WITHIN 300 FT. OF THE SOUTHERLY BOUNDARY.
2. THERE ARE NO SURFACE WATERS WITHIN 100 FT. OF THE DISPOSAL SITE.
3. A DISTANCE OF 300 FT IS TO BE MAINTAINED FROM THE NORTHERLY USE OF PROPERTY ② DUE TO A DRILLED WELL ON THAT PARCEL.

WDL 12/18/89 -REV. 12/14/94 WDL



LEGEND

- ⊕ TEST PIT LOCATIONS
- ⓪ PROPERTY OWNER IDENTIFICATION No. (SEE LIST)

C APPLICATION QUADRANT

BROADFIELD SITE  
 UNITS OF GAYLEN BEAN  
 AND PETER ZEA  
 TOWN HIGHWAY No. 65



REVISED 11/19/93 - APPLICATION QUADRANTS ADDED

REC'D DEC 11 1993 JUN 30 10 01 AM '00