

# SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. Health & Human Services  
 Division of Health Engineering, 10 SHS  
 (207) 287-5672 Fax: (207) 287-3165

<b>PROPERTY LOCATION</b>		>> CAUTION: PERMIT REQUIRED - ATTACH IN SPACE BELOW <<	
City, Town, or Plantation	Portland	PORTLAND Date Permit Issued: 11/17/08 PERMIT # 10812 TOWN COPY \$ 11/09 <input type="checkbox"/> If Double Fee Charged Local Plumbing Inspector Signature: <i>Chp 1 M</i> L.P.I. # 1065	
Street or Road	Caribou Road		
Subdivision, Lot #			
<b>OWNER/APPLICANT INFORMATION</b>		197-L-9 Municipal Tax Map # _____ Lot # 197-L-9	
Name (last, first, MI)	Thompson, Rick + Linda <input checked="" type="checkbox"/> Owner <input checked="" type="checkbox"/> Applicant		
Mailing Address of Owner/Applicant	303 Turner St Auburn ME 04210		
Daytime Tel. #			

<b>OWNER OR APPLICANT STATEMENT</b>		<b>CAUTION: INSPECTION REQUIRED</b>	
I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.		I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.	
Signature of Owner or Applicant: <i>Richard L. Thompson</i> Date: 11/5/08		Local Plumbing Inspector Signature: _____ (1st) date approved: _____ (2nd) date approved: _____	

PERMIT INFORMATION			
<b>TYPE OF APPLICATION</b>	<b>THIS APPLICATION REQUIRES</b>	<b>DISPOSAL SYSTEM COMPONENTS</b>	<b>TYPE OF WATER SUPPLY</b>
<input type="checkbox"/> 1. First Time System <input checked="" type="checkbox"/> 2. Replacement System Type replaced: <u>Unknown</u> Year installed: _____ <input type="checkbox"/> 3. Expanded System <input type="checkbox"/> a. Minor Expansion <input type="checkbox"/> b. Major Expansion <input type="checkbox"/> 4. Experimental System <input type="checkbox"/> 5. Seasonal Conversion	<input checked="" type="checkbox"/> 1. No Rule Variance <input type="checkbox"/> 2. First Time System Variance <input type="checkbox"/> a. Local Plumbing Inspector Approval <input type="checkbox"/> b. State & Local Plumbing Inspector Approval <input type="checkbox"/> 3. Replacement System Variance <input type="checkbox"/> a. Local Plumbing Inspector Approval <input type="checkbox"/> b. State & Local Plumbing Inspector Approval <input type="checkbox"/> 4. Minimum Lot Size Variance <input type="checkbox"/> 5. Seasonal Conversion Permit	<input checked="" type="checkbox"/> 1. Complete Non-engineered System <input type="checkbox"/> 2. Primitive System (graywater & alt. toilet) <input type="checkbox"/> 3. Alternative Toilet, specify: _____ <input type="checkbox"/> 4. Non-engineered Treatment Tank (only) <input type="checkbox"/> 5. Holding Tank, _____ gallons <input type="checkbox"/> 6. Non-engineered Disposal Field (only) <input type="checkbox"/> 7. Separated Laundry System <input type="checkbox"/> 8. Complete Engineered System (2000 gpd or more) <input type="checkbox"/> 9. Engineered Treatment Tank (only) <input type="checkbox"/> 10. Engineered Disposal Field (only) <input type="checkbox"/> 11. Pre-treatment, specify: _____ <input type="checkbox"/> 12. Miscellaneous Components	<input type="checkbox"/> 1. Drilled Well <input type="checkbox"/> 2. Dug Well <input type="checkbox"/> 3. Private <input checked="" type="checkbox"/> 4. Public <input type="checkbox"/> 5. Other
<b>SIZE OF PROPERTY</b>	<b>DISPOSAL SYSTEM TO SERVE</b>		
14000 <input checked="" type="checkbox"/> SQ. FT. <input type="checkbox"/> ACRES	<input checked="" type="checkbox"/> 1. Single Family Dwelling Unit, No. of Bedrooms: <u>3</u> <input type="checkbox"/> 2. Multiple Family Dwelling, No. of Units: _____ <input type="checkbox"/> 3. Other: _____		
<b>SHORELAND ZONING</b>	(specify)		
<input type="checkbox"/> Yes <input type="checkbox"/> No	Current Use <input type="checkbox"/> Seasonal <input checked="" type="checkbox"/> Year Round <input type="checkbox"/> Undeveloped		

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)			
<b>TREATMENT TANK</b>	<b>DISPOSAL FIELD TYPE &amp; SIZE</b>	<b>GARBAGE DISPOSAL UNIT</b>	<b>DESIGN FLOW</b>
<input checked="" type="checkbox"/> 1. Concrete <input checked="" type="checkbox"/> a. Regular <input type="checkbox"/> b. Low Profile <input type="checkbox"/> 2. Plastic <input type="checkbox"/> 3. Other: _____ CAPACITY: <u>1000</u> GAL.	<input type="checkbox"/> 1. Stone Bed <input type="checkbox"/> 2. Stone Trench <input checked="" type="checkbox"/> 3. Proprietary Device <input type="checkbox"/> a. cluster array <input checked="" type="checkbox"/> c. Linear <input checked="" type="checkbox"/> b. regular load <input type="checkbox"/> d. H-20 load <input type="checkbox"/> 4. Other: _____ SIZE: <u>720</u> sq. ft. <input type="checkbox"/> lin. ft.	<input checked="" type="checkbox"/> 1. No <input type="checkbox"/> 2. Yes <input type="checkbox"/> 3. Maybe If Yes or Maybe, specify one below: <input type="checkbox"/> a. multi-compartment tank <input type="checkbox"/> b. _____ tanks in series <input type="checkbox"/> c. increase in tank capacity <input type="checkbox"/> d. Filter on Tank Outlet	<u>270</u> gallons per day BASED ON: <input checked="" type="checkbox"/> 1. Table 501.1 (dwelling unit(s)) <input type="checkbox"/> 2. Table 501.2 (other facilities) SHOW CALCULATIONS for other facilities
<b>SOIL DATA &amp; DESIGN CLASS</b>	<b>DISPOSAL FIELD SIZING</b>	<b>EFFLUENT/EJECTOR PUMP</b>	<b>ATTACH WATER METER DATA</b>
PROFILE CONDITION DESIGN <u>5, B, 12</u> at Observation Hole # _____ Depth _____" of Most Limiting Soil Factor	<input type="checkbox"/> 1. Small—2.0 sq. ft. / gpd <input checked="" type="checkbox"/> 2. Medium—2.6 sq. ft. / gpd <input type="checkbox"/> 3. Medium—Large 3.3 sq. ft. / gpd <input type="checkbox"/> 4. Large—4.1 sq. ft. / gpd <input type="checkbox"/> 5. Extra Large—5.0 sq. ft. / gpd	<input checked="" type="checkbox"/> 1. Not Required <i>See Note Page 3</i> <input type="checkbox"/> 2. May Be Required <input type="checkbox"/> 3. Required Specify only for engineered systems: DOSE: _____ gallons	<input type="checkbox"/> 3. Section 503.0 (meter readings) LATITUDE AND LONGITUDE at center of disposal area Lat. <u>44</u> d <u>24.768</u> m _____ s Lon. <u>70</u> d <u>08.807</u> m _____ s if g.p.s., state margin of error. <u>26'</u>

SITE EVALUATOR STATEMENT		
I certify that on <u>8-25-08</u> (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).		
Site Evaluator Signature: <i>Darryl N. Brown</i>	SE #: <u>45</u>	Date: <u>9-4-08</u>
Site Evaluator Name Printed: <u>Darryl N. Brown</u>	Telephone Number: <u>897-6752</u>	E-mail Address: <u>darryl@Main-landdevelopment.com</u>
Note: Changes to or deviations from the design should be confirmed with the Site Evaluator.		

# SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services  
Division of Health Engineering  
(207) 287-5672 FAX (207) 287-4172

Town, City, Plantation  
**Portland**

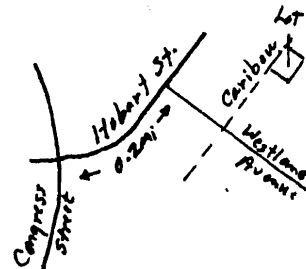
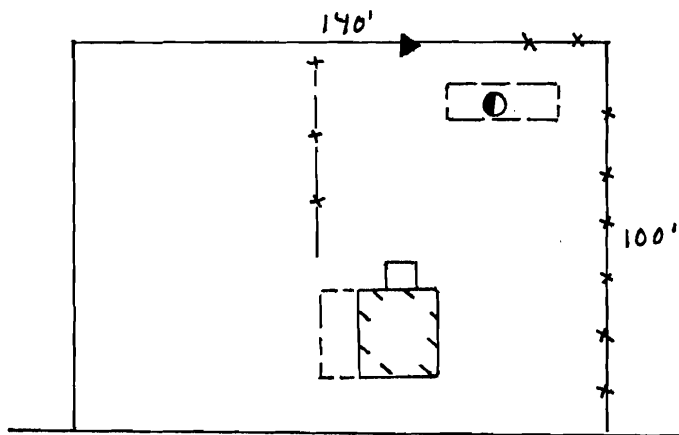
Street, Road Subdivision  
**Caribou Road**

Owner's Name  
**Rick + Linda Thompson**

SITE PLAN

Scale 1" = 50 Ft.  
or as shown

SITE LOCATION PLAN  
(Map from Maine Atlas recommended)



- Test Pit
- ▼ Elev. Ref. Point

Caribou Road

## SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole 1  Test Pit  Boring  
0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	Sandy loam	friable	brown	
10	Very fine sandy loam	friable	olive brown	
20	loamy fine sand	Very friable	olive brown	
40	Sand	loose	light brown	

Soil Classification: **S B**  
Profile: **S** Condition: **B**  
Slope: **1-3** %  
Limiting Factor: **-** "  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

Observation Hole \_\_\_\_\_  Test Pit  Boring  
\_\_\_\_\_ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification: \_\_\_\_\_  
Profile: \_\_\_\_\_ Condition: \_\_\_\_\_  
Slope: \_\_\_\_\_ %  
Limiting Factor: \_\_\_\_\_ "  
 Ground Water  
 Restrictive Layer  
 Bedrock  
 Pit Depth

*[Signature]*  
Site Evaluator Signature

45  
SE

9-4-08  
Date

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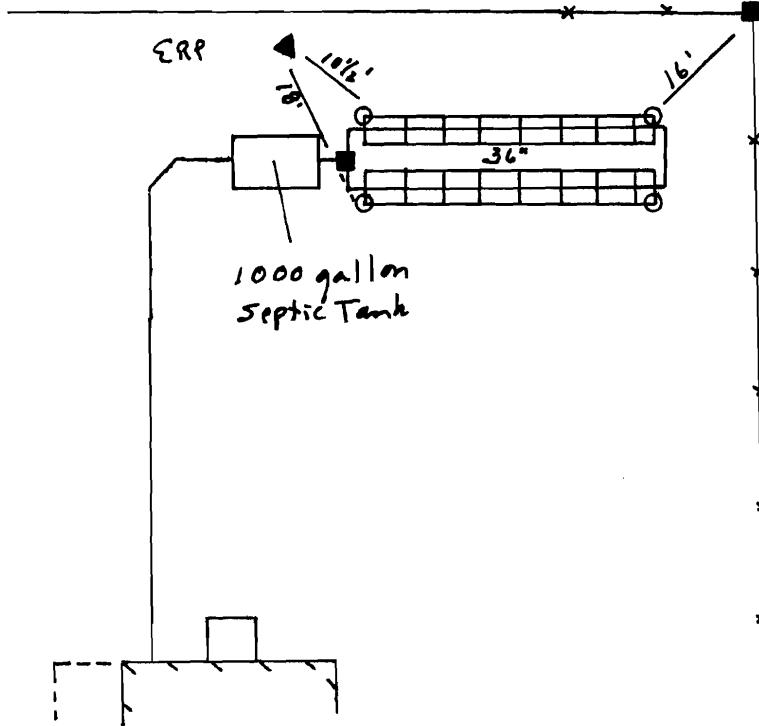
Town/City/Plantation  
**Portland**

Street/Road/Subdivision  
**Caribou Road**

Owner's Name  
**Rick + Linda Thompson**

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE 1" = 20 FT.



- Notes:
1. Disposal area shall consist of 15 Type "B" Eljon In-Drains with the following configuration:  
2 Rows of 7 1/2 In-Drains per row with 36" separation between rows;
  2. To avoid pumping, the building sewer shall be raised to accommodate the following minimum grades:  
Building Sewer: 1/4" per foot  
Effluent line: 1/8" per foot
  3. Refer to the following attachments:  
a) Copy of manufacturer's spec sheet;  
b) Copy of Chapter B of Wastewater Rules.

FILL REQUIREMENTS

Depth of Fill (Upslope)	0"
Depth of Fill (Downslope)	0"

CONSTRUCTION ELEVATIONS

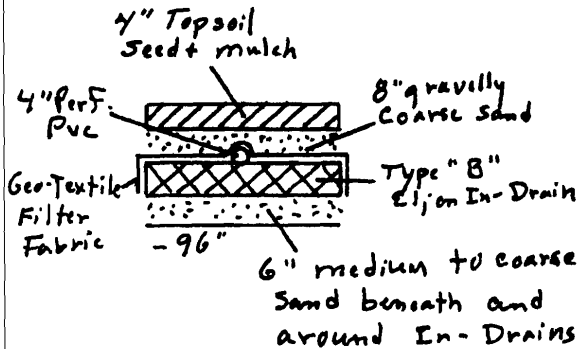
Finished Grade Elevation	-60"
Top of Distribution Pipe or Proprietary Device	-80"
Bottom of Disposal Area (Bottom of Sand)	-96"

ELEVATION REFERENCE POINT

Location & Description	Nail/wed flag in pine tree
Reference Elevation	0"

DISPOSAL AREA CROSS SECTION

SCALE:  
VERTICAL: 1" = 5'  
HORIZONTAL: 1" = 10'



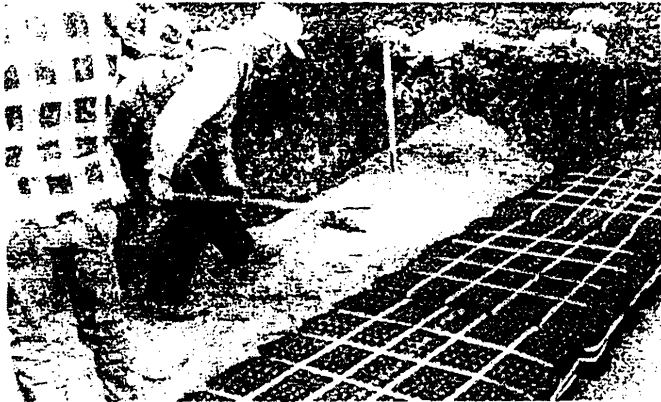
*[Signature]*  
Site Evaluator Signature

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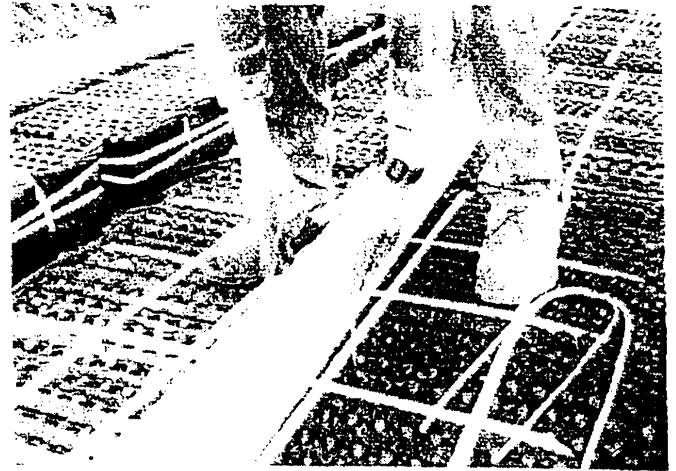
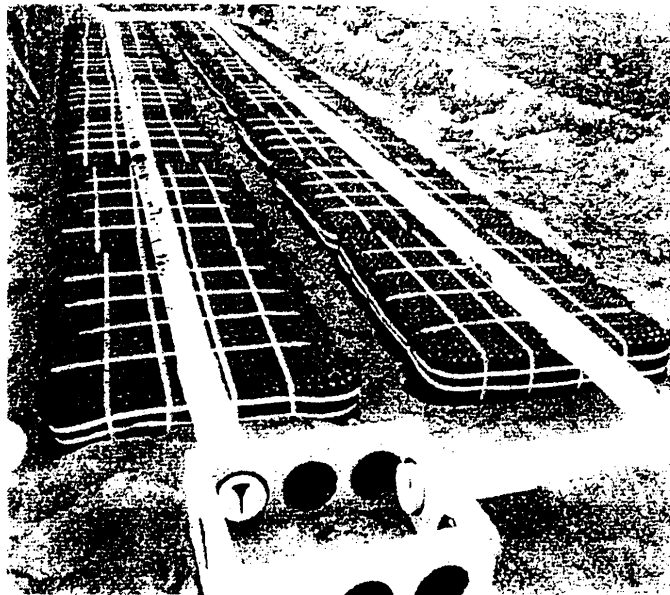
9-3-08  
Date

## Trench and In-Ground Cluster Installation

- 1 Prepare site according to local and state regulations. **Do not install system on frozen or saturated ground.**
- 2 Remove all organic soil and roots at disposal and fill extension areas.
- 3 Scarify receiving layer to eliminate smearing.
- 4 Place 6" of D.O.T. or state highway specification **washed concrete sand** or sand known to be "medium to coarse with an effective size of .25 to 2.0 mm and no more than 5% passing a #200 sieve."
- 5 Avoiding footprints, place In-Drains with **painted stripe facing up**, end to end on sand in trench or bed. **Caution: Spacer cores can have sharp edges.**



- 6 Center 4" **perforated** distribution pipe over In-Drains. Use **solid pipe** over compacted sand from D-Box to In-Drains and to connect distribution lines at far end. Connect mid-points on rows over 40' long.



- 8 Secure pipe with one Eljen clamp per In-Drain. Slide clamp into upfacing core. Force through fabric into sand.
- 9 Install Eljen cover fabric over rows of In-Drains. **Drape fabric straight down over pipe.** Secure with hand shoveled sand. **Don't block holes in perforated pipe.**



- 10 Place 12" medium to coarse sand (see step #4) between rows and 9" min. at the sides in trench or bed.
- 11 Complete backfill and loam to 12" min. over In-Drains. Fill should be clean, porous and devoid of large rocks. Use well graded sandy fill with a maximum 10% passing a #200 sieve. **Do not use wheeled equipment over system.** A light track machine may be used with caution, **avoiding crushing or shifting of pipe assembly.** Backfill in direction of perforated pipe.
- 12 Divert surface runoff. Finish grade to prevent surface ponding. Seed loam and protect from erosion.

## CHAPTER 8

### DISPOSAL FIELD CONSTRUCTION TECHNIQUES

#### SECTION 800.0 GENERAL

**800.1 Intent:** This Chapter governs the installation of disposal fields.

**800.2 General:** On sites with fine soil textures, excavations that expose the bottom and sidewall area of the disposal field shall not be carried out when the soil moisture content is above the plastic limit except when correcting a nuisance, there is no practical alternative, the plumbing inspector agrees and special construction techniques are used. The absolute plastic limit can be estimated by rolling the soil with the fingers. If the soil forms a wire or rod 1/8th of an inch in diameter and does not crumble when handled, the soil moisture content is too high to proceed with the excavation.

**800.3 Dig Safe Law:** The "Dig Safe Law" 23 MRSA §3360-A places certain notification requirements on any person doing excavations. Excavation is broadly defined to mean any operation in which earth, rock or other material on or below the ground is moved or otherwise displaced by means of power tools, power equipment or explosives and including grading, trenching, digging, ditching, drilling, auguring, tunneling, scraping and cable or pipe driving, except tilling of the soil and gardening or agricultural purposes. For a free Dig Safe in Maine information kit, contact the Maine Public Utilities Commission: 1-800-452-4699 [www.state.me.us/mpuc](http://www.state.me.us/mpuc) - email: [maine.puc@maine.gov](mailto:maine.puc@maine.gov).

#### SECTION 801.0 SITE PREPARATION

**801.1 Site preparation requirements:** Prior to the placement of any backfill material, the ground surface shall be prepared as follows:

**801.2 Soil erosion and sediment control:** In areas adjacent to a water body or wetlands, preventative erosion and sediment control measures should be employed consistent with Section 1504.0.

**801.3 Clearing:** Vegetation shall be cut and removed from the area where backfill material is to be placed.

**801.4 Scarify the site:** Where possible, the area under the disposal field and backfill extensions shall be plowed or disked to produce a thoroughly roughened surface. Plowing shall be done parallel to the topographic contour in such a direction that each plow furrow will be thrown up-slope. The soil should be broken up to a depth of 6 to 8 inches. Alternatively, a roto-tiller or the teeth of a backhoe may be used.

**801.5 Transitional horizon:** On sites where the backfill material is coarser than the original soil, a minimum of 4 inches of backfill materials must be mixed (by plowing, disking or roto-tilling) into the original soil to form a transitional horizon beneath the disposal area footprint and all side and down slope fill extensions.

**801.6 Fill large holes:** If large holes are left as a result of stump and/or stone removal, these holes shall be filled with suitable backfill material that meets the requirements of Subsection 803.2.

**801.7 Surface water diversion:** Surface water shall be diverted away from the disposal field site.

#### SECTION 802.0 EXCAVATION

**802.1 Excavation requirements:** Any excavation required for the installation of a disposal field shall comply with all the requirements in this Section.

**802.2 Bottom of disposal field:** The bottom of each disposal field shall be installed at the elevation specified on the permit. It shall be maintained to a level grade no greater than 2 inches within 100 feet. Note: The bottom of a disposal field serves as the final stage of the distribution network.

**802.3 Avoid unnecessary compaction:** Excavation shall be carried out in a manner that will avoid unnecessary compaction of both sidewalls and bottom area. Heavy equipment, especially rubber tired vehicles such as front-end loaders, should not be driven over the exposed bottom of the disposal field. Excavation should be carried out, when possible, by a back-hoe operating from outside the perimeter of the previously excavated portions of the disposal fields.

**802.4 Reopen smeared or compacted bottom or sidewall surfaces:** If any portion of the bottom or sidewalls becomes smeared or compacted, that portion must be scarified to reopen soil pores. Rototilling may be necessary to reach the limit of compacted soil depth.

**802.5 Weather conditions:** Work should be scheduled so that excavated areas are not exposed to rainfall or wind-blown silt. Any loose soil or debris that is washed or otherwise deposited within the excavation shall be carefully removed prior to backfilling. Additionally, disposal fields should not be installed in frozen ground or when the ambient air temperature is below freezing, especially if construction will take place over several days.

#### SECTION 803.0 INSTALLATION

**803.1 Construction:** The installer of the system shall make certain that the system and all its component parts are installed in conformance with the requirements of this code, the plan prepared by the site evaluator, and with any special engineering design requirements approved or required by the Department under Chapter 19.

**803.2 Soil and backfill material:** The installer of the system shall make certain that the construction and installation are performed without adversely affecting the capacity of the soil or backfill material to adequately absorb or treat the septic tank effluent.

pipes shall be installed per the manufacturer's instructions.

**805.2 Disposal field stone:** The stone used in disposal fields shall meet the following requirements:

**805.2.1 General:** Where used, the stone shall cover the distribution pipes and extend the full width and length of the disposal field.

**805.2.2 Minimum thickness:** The disposal field stone depth shall extend at least 7 inches beneath the bottom of the distribution pipes and shall extend at least 1 inch above the top of the distribution pipes.

**805.2.3 Stone requirements:** The disposal field stone shall be clean, uniform in size and free of fines, dust, ashes, or clay. It shall conform to one of the nominal stone sizes listed in Table 800.1.

**TABLE 800.1  
Maximum Percent passing by weight**

		Nominal Stone Size				
		2 ½"	2"	1 ½"	1"	¾"
Sieve Size	4"	100	100	100	100	100
	3"	90	95	100	100	100
	2"	10	10	90	95	100
	1"	5	5	10	10	90
	¾"	4	4	5	5	10
	½"	3	3	4	4	5
	¼"	2	2	3	3	4
	#200	2	2	2	2	2

**805.2.3.1 Stone specifications:** A site evaluator may define a more stringent standard for stone size for any particular system.

**805.2.4 Placing stone:** The disposal field stone may be loaded onto the disposal field site using a backhoe, front-end loader, or dump truck. This operation shall be carried out from the sides of the disposal field rather than by driving onto the prepared area of the disposal field. In the case of large disposal fields, tracked equipment may be operated within the disposal field. This equipment shall not exert a ground pressure in excess of eight pounds per square inch. The disposal field stone shall be pushed in front of the vehicle such that a minimum of one foot of stone is maintained beneath the vehicle track and the original soil surface.

**805.3 Covering the disposal field stone:** The disposal field stone shall be covered with a layer of filter fabric or two (2) inches of compressed hay as the laying of the distribution pipes progresses. Filter fabric may be used, provided the following requirements are met:

**805.3.1 Overlapping filter fabric sheets:** Edges of adjacent sheets of fabric shall be overlapped by a minimum of 6 inches; and

**805.3.2 Fabric requirements:** The filter fabric specified in the system design shall have: adequate tensile strength to prevent ripping during installation and backfilling, adequate air permeability to allow free passage of gases; and adequate particle retention to prevent downward migration of soil particles into the disposal field. The minimum physical properties for the fabric shall be 4.0 ounces/square yard (per ASTM D-3776).

**805.3.3 Prohibited:** The use of waterproof paper is prohibited.

## SECTION 806.0 FINAL GRADING

**806.1 General:** Final grading for vegetative stabilized disposal areas shall be carried out in compliance with the requirements of this Section.

**806.2 Cover material:** At least 4 inches of soil or soil/soil amendment mix, suitable for establishment of a good vegetative cover shall be placed over the entire filled area including the fill material extensions.

**806.3 Final grading:** Final grading shall be completed in such a manner that surface water will not collect over the disposal field.

**806.4 Erosion control:** Immediately after completion of final grading, the fill material surface shall be stabilized by mulching and seeding, or sodding, to establish a good vegetative cover to prevent erosion.

**806.4.1 Vegetative covers:** Grass, clover, trefoil, vetch, perennial wild flowers, or other herbaceous perennials may be utilized for disposal field surfaces.

**806.4.2 Other covers:** Bark chips, woodchips, pine needles, and other organic materials may be used as cover material when specified by the designer.

**806.4.3 Woody shrubs and trees:** Woody shrubs or trees are unacceptable on disposal field surfaces. Woody shrubs may be used in conjunction with a hardy perennial ground cover on backfill material extensions only.

## SECTION 807.0 CURTAIN DRAINS

**807.1 Requirements:** Curtain drains, when required, shall be up-slope of the disposal field, approximately perpendicular to the flow of ground water, intercepting and diverting groundwater away from the disposal field.

**807.2 Setbacks:** The minimum distance between the disposal field and a curtain drain shall be as follows;

**807.3 Setback up-slope:** A minimum setback distance of 10 feet shall be maintained between a curtain drain and the up-slope edge of a disposal field. The curtain drain shall be located beyond the toe of the uphill fill extension if the uphill extension is greater than 10 feet and constructed so that the curtain drain is located to prevent any under drain of the disposal field.