Bk 4850 Ps112 #9192
08-09-2010 @ 04:20p

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

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

PROPERTY LOCATION

City, Town, or Plantation	CARIBOU
Street or Road	WEST GATE ROAD
Subdivision, Lot #	

>> CAUTION: PERMIT REQUIRED - ATTACH IN SPACE BELOW <<

The Subsurface Wastewater Disposal System ***shall not*** be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.

OWNER / APPLICANT INFORMATION

Name (last, first, MI): LaPOINTE, MARIE — ■ Owner ■ Applicant

Mailing Address of Owner / Applicant	19 RIVER ROAD CARIBOU, MAINE, 04736
Daytime Tel. #	207-496-0680

Municipal Tax Map # _____ Lot # _____

OWNER OR APPLICANT STATEMENT
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.

_____ Signature of Owner or Applicant _____ Date

CAUTION: INSPECTION REQUIRED
I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.

_____ Local Plumbing Inspector Signature _____ (1st) date approved _____ (2nd) date approved

PERMIT INFORMATION

TYPE OF APPLICATION

- ☐ 1. First Time System
- ■ 2. Replacement System
  - Type replaced: BED
  - Year installed: 1980
- ■ 3. Expanded System
  - ~~☐ a. Minor Expansion~~
  - ~~☐ b. Major Expansion~~
- ☐ 4. Experimental System
- ☐ 5. Seasonal Conversion

THIS APPLICATION REQUIRES

- ■ 1. No Rule Variance
- ☐ 2. First Time System Variance
  - ☐ a. Local Plumbing Inspector Approval
  - ☐ b. State & Local Plumbing Inspector Approval
- ☐ 3. Replacement System Variance
  - ☐ a. Local Plumbing Inspector Approval
  - ☐ b. State & Local Plumbing Inspector Approval
- ☐ 4. Minimum Lot Size Variance
- ☐ 5. Seasonal Conversion Permit

DISPOSAL SYSTEM COMPONENTS

- ■ 1. Complete Non-engineered System
- ☐ 2. Primitive System (graywater & alt. toilet)
- ☐ 3. Alternative Toilet, specify: _____
- ☐ 4. Non-engineered Disposal Area
- ☐ 5. Holding Tank, _____ gallons
- ☐ 6. Non-engineered Disposal Field (only)
- ☐ 7. Separated Laundry System
- ☐ 8. Complete Engineered System (2000 gpd or more)
- ☐ 9. Engineered Treatment Tank (only)
- ☐ 10. Engineered Disposal Field (only)
- ☐ 11. Pretreatment, specify: _____
- ☐ 12. Miscellaneous Components

SIZE OF PROPERTY

1.14± ☐ SQ. FT. ■ ACRES

SHORE LAND ZONING

☐ Yes ■ No

DISPOSAL SYSTEM TO SERVE

- ☐ 1. Single Family Dwelling Unit, No. of Bedrooms: ____
- ■ 2. Multiple Family Dwelling, No. of Units: 3
- ☐ 3. Other: _____ (specify)

Current Use ☐ Seasonal ■ Year Round ☐ Undeveloped

TYPE OF WATER SUPPLY

■ 1. Drilled Well ☐ 2. Dug Well ☐ 3. Private
☐ 4. Public ☐ 5. Other

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK

- ■ 1. Concrete
  - ■ a. Regular
  - ☐ b. Low Profile
- ☐ 2. Plastic
- ☐ 3. Other: ___ _____

CAPACITY: 1000 GAL.

DISPOSAL FIELD TYPE & SIZE

- ☐ 1. Stone Bed ☐ 2. Stone Trench
- ■ 3. Proprietary Device
  - ■ a. Cluster array ☐ c. Linear
  - ■ b. Regular load ☐ d. H-20 load
- ☐ 4. Other: _____

SIZE: 2048 ■ sq. ft. ☐ lin. ft.

GARBAGE DISPOSAL UNIT

☐ 1. No ■ 2. Yes ☐ 3. Maybe

If Yes or Maybe, specify one below:

- ☐ a. multi-compartment tank
- ☐ b. ___ tanks in series
- ☐ c. increase in tank capacity
- ■ d. Filter on Tank Outlet

DESIGN FLOW

480 gallons per day

BASED ON:

- ■ 1. Table 501.1 (dwelling unit(s))
- ☐ 2. Table 501.2 (other facilities)

SHOW CALCULATIONS — for other facilities —

2-2 BEDROOMS & 1-1 BEDROOM = 360 & 120 GALLONS = 480 GALLONS PER DAY

- ☐ 3. Section 503.0 (meter readings)

ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE CONDITION DESIGN
1 / C / 1

at Observation Hole # TP-1
Depth 10" RESTRICTIVE LAYER of Most Limiting Soil Factor

DISPOSAL FIELD SIZING

- ☐ 1. Small — 2.0 sq. ft. / gpd
- ☐ 2. Medium — 2.6 sq. ft. / gpd
- ☐ 3. Medium — Large 3.3 sq. ft. / gpd
- ■ 4. Large — 4.1 sq. ft. / gpd
- ☐ 5. Extra Large — 5.0 sq. ft. / gpd

EFFLUENT / EJECTOR PUMP

- ☐ 1. Not Required
- ☐ 2. May Be Required
- ■ 3. Required

Specify only for engineered systems:
DOSE: _____ gallons

LATITUDE AND LONGITUDE
at center of disposal area
Lat. 46 d 55 m 13.2 s
Lon. 67 d 55 m 43.4 s
if g.p.s. state margin error: 10'±

SITE EVALUATOR STATEMENT

I certify that on 6-22-2010 (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).

William K. Hersey — Site Evaluator Signature
60 — SE #
6-27-10 — Date

WILLIAM K. HERSEY — Site Evaluator Name Printed
(207) 498-2108 — Telephone Number
SoilDogger@Juno.com — E-mail Address

Note: Changes to or deviations from the design should be confirmed with the Site Evaluator.

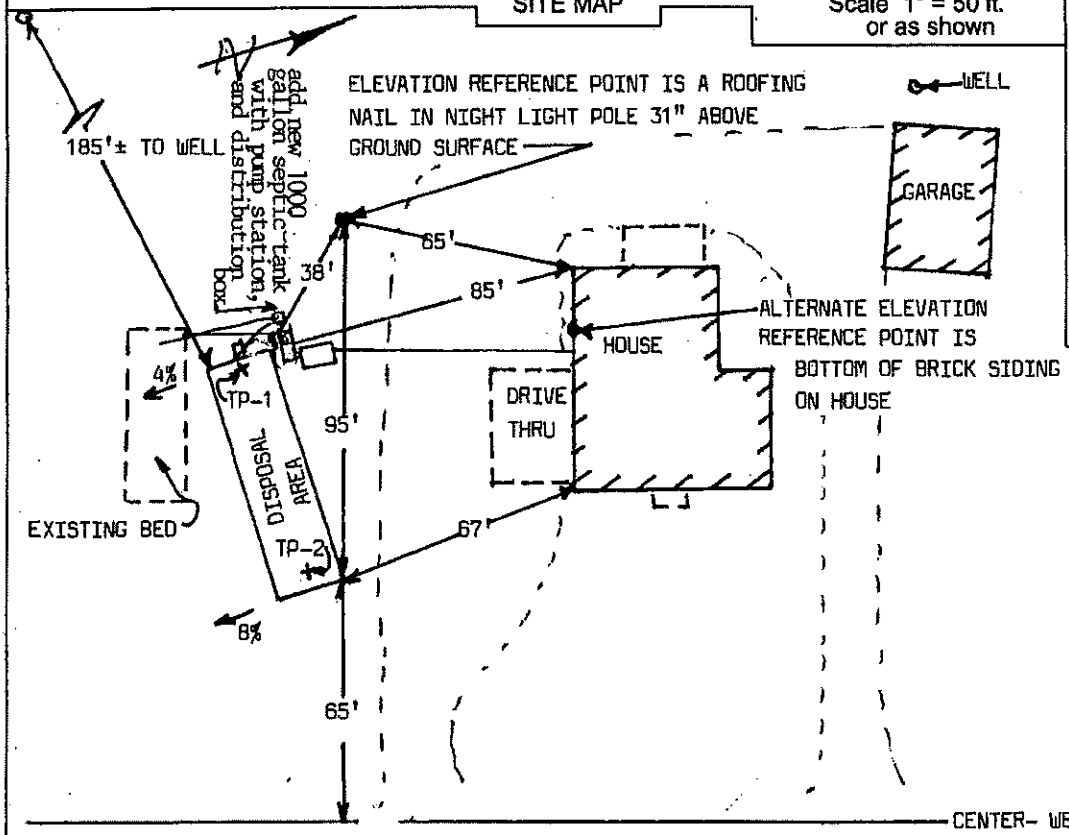
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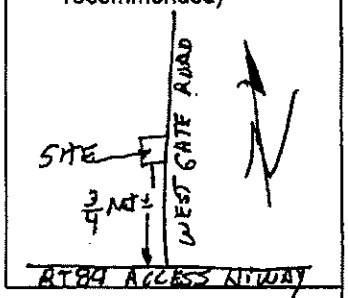
SITE MAP

Scale 1" = 50 ft. or as shown



SITE LOCATION PLAN

(Map from Maine Atlas recommended)



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

Observation Hole 1 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0–10	GRAVELLY SILT LOAM FILL	FRIABLE	BROWN	
10–20	GRAVELLY LOAM	PACKED	LIGHT OLIVE BROWN	
20–30	GRAVELLY SILT LOAM	SLIGHTLY FIRM	BROWN	
30–40		FRIABLE	YELLOWISH BROWN	
40–50			LIGHT YELLOWISH BROWN	COMMON DISTINCT
	LIMIT OF EXCAVATION			

Soil Classification	Slope	Limiting Factor	
12 Profile · C Condition	4 %	10 *	☐ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole 2 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0–10	GRAVELLY SILT LOAM		DARK GRAYISH BROWN	
10–20	GRAVELLY LOAM	FRIABLE	YELLOWISH BROWN	
			BROWN	
20–30	GRAVELLY SILT LOAM	FRIABLE	LIGHT OLIVE BROWN	FEW FAINT
30–40				COMMON DISTINCT
	LIMIT OF EXCAVATION			

Soil Classification	Slope	Limiting Factor	
1 Profile · C Condition	8 %	22 *	☐ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

William H. Hess
Site Evaluator Signature

60
SE #

6-27-10
Date

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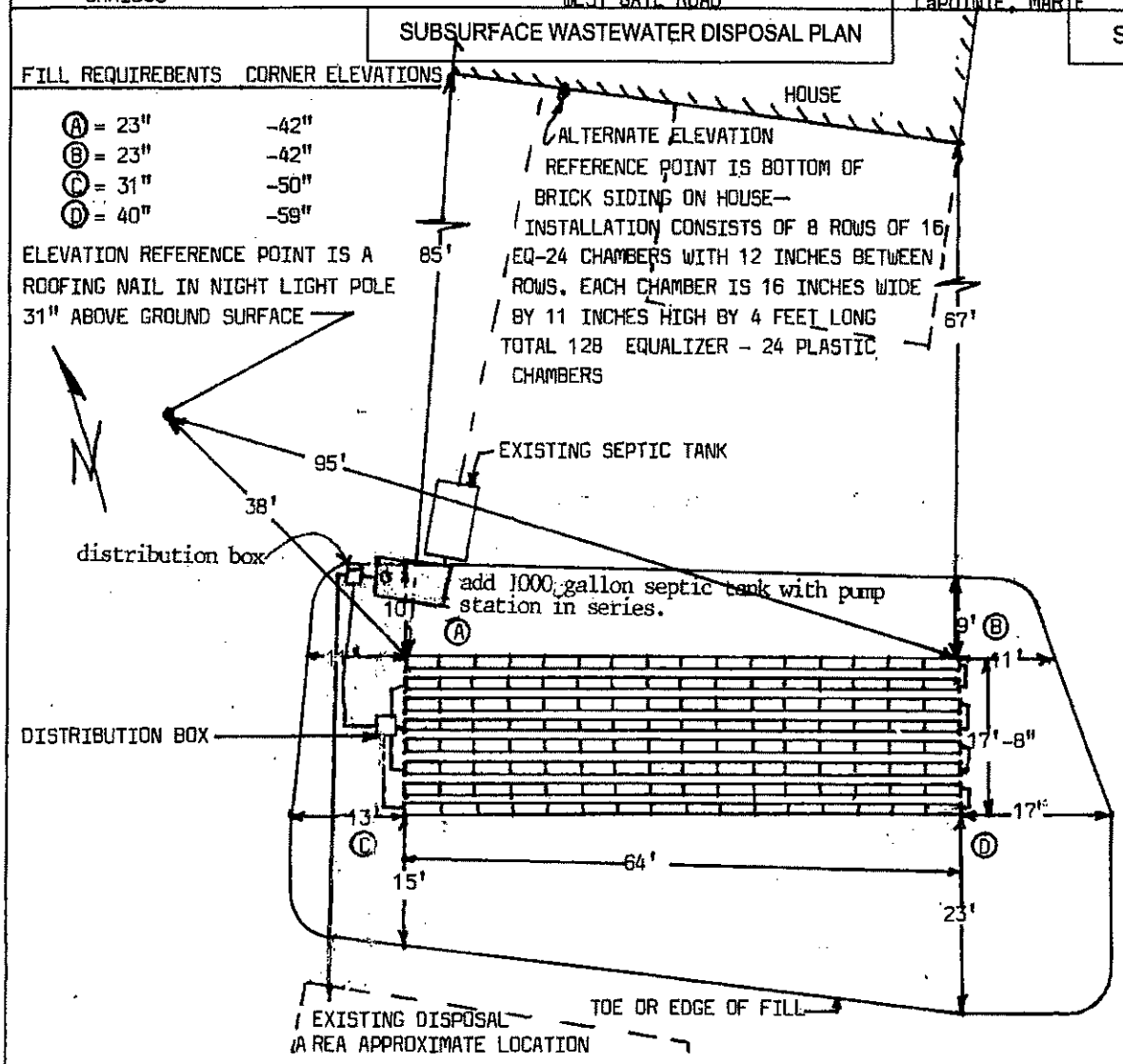
SUBSURFACE WASTEWATER DISPOSAL PLAN

Scale 1" = 20 ft.

FILL REQUIREBENTS CORNER ELEVATIONS

Ⓐ = 23"	-42"
Ⓑ = 23"	-42"
Ⓒ = 31"	-50"
Ⓓ = 40"	-59"

ELEVATION REFERENCE POINT IS A ROOFING NAIL IN NIGHT LIGHT POLE 31" ABOVE GROUND SURFACE



DISTRIBUTION BOX CONNECTIONS: Add three outlet distribution box at pump station in new septict tank. Connect D-box inlet to pump station. Connect 1st D-box outlet to new 4" line to new D-box servicing new chamber area. Connect 2nd outlet to existing 4" line to existing ("old") bed and install cap to prevent flow to existing bed allowing it to "rest". When (if) new chamber area malfunctions remove cap from outlet to "old" bed and place on outlet to "new" chamber area allowing it to "rest".

NOTES

1: INSTALLATION TO COMPLY WITH CHAPTER EIGHT ATTACHED
2: DO NOT USE WHEELED VEHICLES ON DISPOSAL AREA DURING INSTALLATION
3: CONTRACTOR TO FIELD VARIFY THAT CONSTRUCTION ELEVATION AND CUT AND/OR FILL REQUIREMENTS SHOWN ON PAGES THREE AND FOUR ARE CONSISTENT

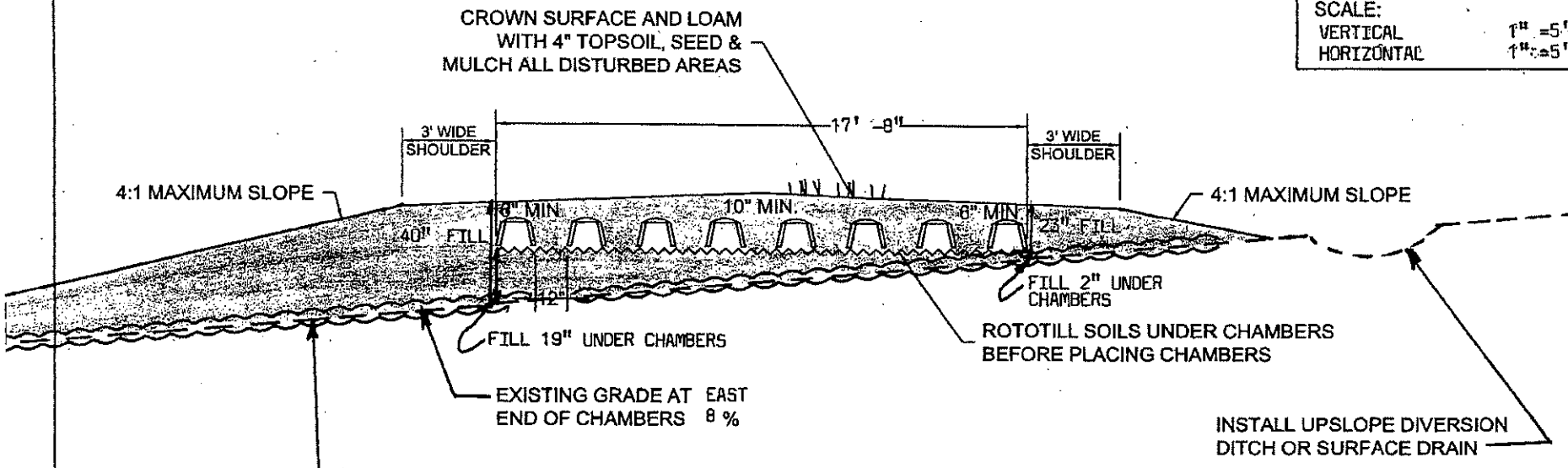
FILL REQUIREMENTS		CONSTRUCTION ELEVATIONS		ELEVATION REFERENCE POINT	
Depth of fill (Upslope)	23"	Finish Grade Elevation	-19"	Location & Description	SEE ABOVE
Depth of fill (Downslope)	#1" 40"	Top of Chambers	-29"		
		Bottom of Chambers	-40"	Reference Elevation	00"

SEE ATTACHED SHEET

William K. Harvey	60	6-27-10	Page 3 of 4
Site Evaluator Signature	SE #	Date	HHE-200

Town, City, Plantation	Street, Road, Subdivision	Owner's Name	SUBSURFACE WASTEWATER DISPOSAL SYSTEM CROSS SECTION
CARIBOU	WEST GATE ROAD	LaPOINTE, MARIE	

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



SCARIFY & MIX 4" OF BACKFILL WITH 4" OF ORIGINAL SOILS TO CREATE A TRANSITION LAYER

ALL FILL UNDER, OVER & AROUND DISPOSAL AREA EXCEPT FINAL TOPSOIL TO BE GRAVELLY COURSE SAND WITH UP TO 30% GRAVEL FRAGMENTS - 3" DIAMETER AND LESS

NOTES:
1. REMOVE SOD BENEATH CHAMBERS & BACKFILL EXTENSIONS AND ROTOTILL TO LOOSEN PACKED SOILS.
2. PLACE FOUR INCHES OF BACKFILL AND MIX WITH FOUR INCHES OF NATIVE SOILS USING A ROTOTILLER OR EXCAVATOR TEETH. THIS PROCEDURE ENHANCES THE INFILTRATION OF EFFLUENT INTO THE NATIVE SOILS.
3. PLACE 6" THICK GRAVELLY COARSE SAND PAD, WHEN SHOWN, UNDER CHAMBER AREA , AND ROTOTILL OR MIX WITH 4" EXISTING SOILS TO CREATE TRANSITIONAL HORIZON.
4. SET CHAMBERS AND PLACE REMAINING BACKFILL COMPACTING ONLY SUFFICIENTLY TO PREVENT FURTHER SETTLING.
5. LIME, FERTILIZE & SEED WITH APPROPRIATE SEED TO ESTABLISH SOD AND PREVENT EROSION. ONCE SEEDED, MULCH ALL DISTURBED AREAS.
6. CONTRACTOR TO FIELD VERIFY THAT BOTTOM OF DISPOSAL AREA CONSTRUCTION ELEVATIONS AND CUT AND/OR FILL REQUIREMENTS SHOWN ABOVE ARE CONSISTENT.
7. RECOMMENDATION: INSULATE TOP OF SEPTIC TANK WITH 2" POLYSTYRENE TO RAISE DIGESTION TEMPERATURES RESULTING IN MORE COMPLETE WASTEWATER TREATMENT.

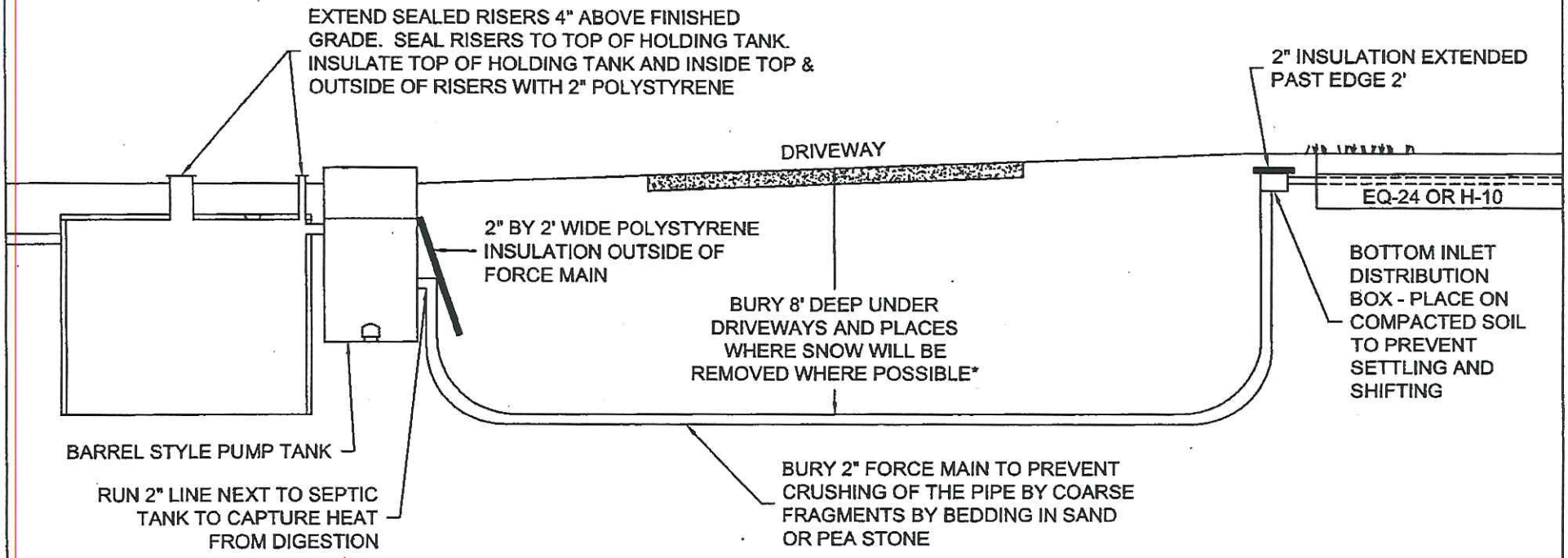
CONSTRUCTION ELEVATIONS	
Finish Grade Elevation	-19"
Top of Chambers	-29"
Bottom of Chambers	-40"
ELEVATION REFERENCE POINT (E.R.P.)	00"

William K. Hess — Site Evaluator Signature
60 — SE #
6-27-10 — Date

Bk 4850 Pg 115 #9192

Town, City, Plantation	Street, Road, Subdivision	Owner's Name	SUBSURFACE WASTEWATER PUMPING SYSTEM CROSS SECTION
CARIBOU	WEST GATE ROAD	LaPOINTE, MARIE	

PROCEDURES TO USE TO PREVENT FREEZING OF SYSTEM COMPONENTS AND INFILTRATION OF SURFACE AND GROUND WATERS WHEN PUMPING IS REQUIRED.



NOTE: (THESE ARE REQUIRED PROCEDURES)

1. WHEN INSULATING ALWAYS USE POLYSTYRENE INSULATION.
2. PUMP AND ALARM DEVICE SHALL BE CONNECTED TO SEPARATE ELECTRICAL CIRCUITS.
3. SEPTIC TANKS AND RISERS SHALL BE SEALED TO PREVENT NEARBY WELL CONTAMINATION AND/OR GROUNDWATER INFILTRATION.

*IF NOT POSSIBLE (LEDGE, WATER) TO ACHIEVE 8' EFFECTIVE BURIAL DEPTH, SLEEVE AND/OR INSULATE WITH POLYSTYRENE AS NECESSARY TO PREVENT FREEZING.

William H. Hovey	60	6-27-10
Site Evaluator Signature	SE #	Date

Bk 4850 Pg 116 #9192

Bk 4850 Pg 117 #9192

INFILTRATOR SYSTEMS INC

Installing the Chambers.

1. Check the header pipe to be sure that it is level.
2. Set the inlet pipe invert at 9" from the bottom of the trench to the bottom of the inlet when installing the Equalizer 24 chambers.
3. Place the first chamber with the open end plate at the beginning of the trench.
4. Insert the inlet pipe into the end of the end plate. The pipe will only go into the end plate one inch before it reaches a stop.
5. Check this first chamber to be sure it is level.
6. Secure the inlet pipe to the chamber with a screw.
7. Place the next chamber onto the previous chamber at a 45° angle. Line up the hook on the center end of the chamber and lower the chamber to the ground, engaging the patented interlocks.
8. Continue interlocking the chambers until you have installed the correct number of chambers. As you install the chambers, check to be sure that they are level.
9. Fill the sidewall area to the top of the louvers from trench sides with a shovel. Be sure the fill covers the louvers.

NOTE: In bed systems, carefully place fill between chamber rows making sure not to dislodge the units. This may be accomplished by either ladling with the backhoe bucket or by hand with a shovel. Stakes may be used to stabilize the chamber feet.

10. Fill the sidewall area to the top of the louvers from trench sides with a shovel. Be sure the fill covers the louvers.
11. Pack down the fill by walking along the edges of the trench. This is an important step that assures correct structural support.
12. Proceed to the next trench and begin with step 1 again.

NOTE: For side-by-side configurations, chamber rows will be installed next to each other in the same trench. Take care to backfill the trench evenly to assure that the system is level.

13. ALWAYS USE THE TOP ACCESS HOLE WHEN ENTERING & EXITING THE CHAMBERS

Installing Inspection Ports or Vents.

Equalizer 24 chambers use a 2" pipe for inspection ports.

1. Using a hole saw, cut a 2 1/2" diameter opening in the pre-marked area located in the center of the chamber. Be sure to use a saw that matches the type of pipe being installed.
2. Glue a 6" long PVC pipe into a coupling.
3. Insert the pipe into the opening at the top of the chamber. Notice the coupling sits on top of the chamber.
4. Insert another piece of pipe into the coupling, cutting pipe at or above grade.
5. Attach a threaded cleanout assembly onto the protruding pipe for inspection port access.
6. A small valve-cover box may be used if the inspection port is below the desired grade.

Bk 4850 Pg 118 #9192

INFILTRATOR SYSTEMS INC

Inlet Methods.

In Maine, septic leachfields may be designed differently for level versus sloped systems. There are three common system designs: outside-in overflow, center inlet, and distribution box method. These designs are pictured in Figures 1 through 3.

NOTE: The number of rows in a system and the length of each trench will vary depending on size requirements and site conditions. See Table 1 on page 4 for guidance.

FIGURE 1: OUTSIDE-IN OVERFLOW

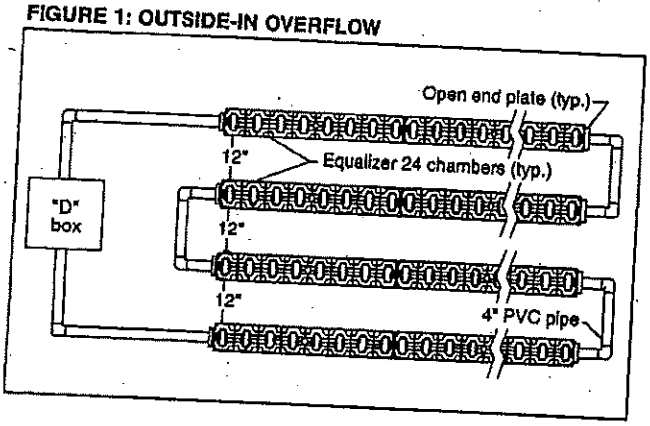


FIGURE 2: CENTER INLET

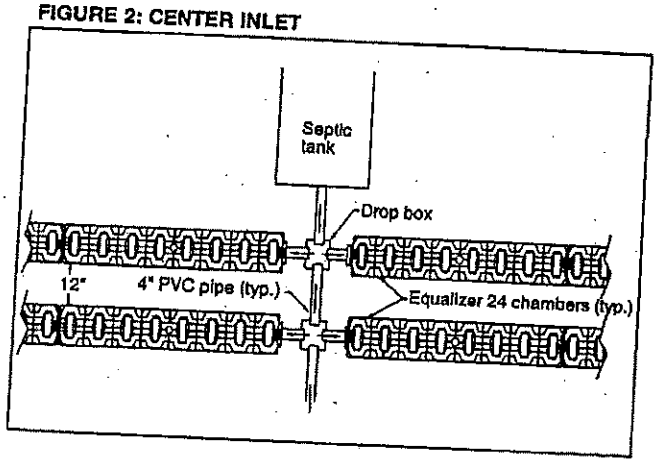
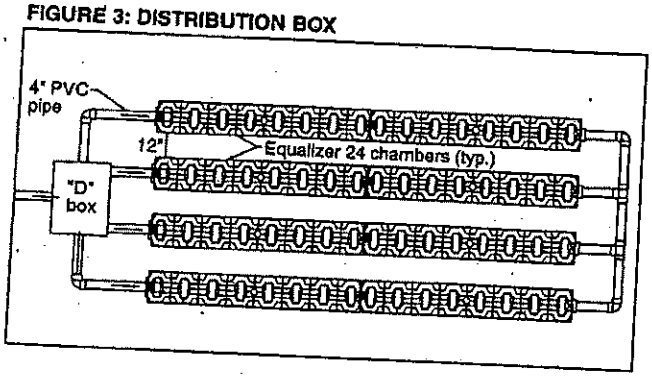


FIGURE 3: DISTRIBUTION BOX



Cluster Bed System on a Level Site.

A leachfield built on a level site in Maine may be constructed in a bed. The bed may be loaded either equally or as an overflow system, although distribution boxes which feed equally are more common. See Figures 4 and 5.

NOTE: A 1 foot minimum separation must be maintained between chamber rows. Bed widths and lengths vary.

FIGURE 4: EVEN CLUSTER BED (PLAN VIEW)

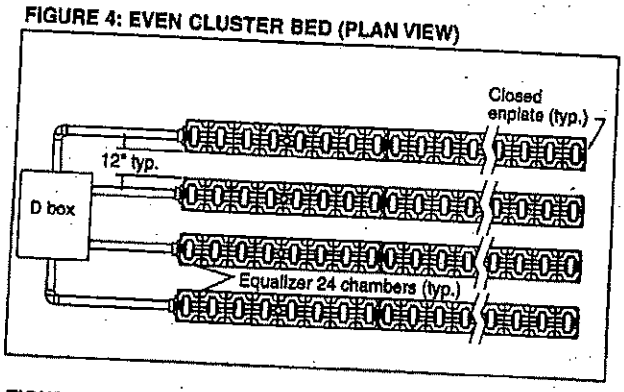
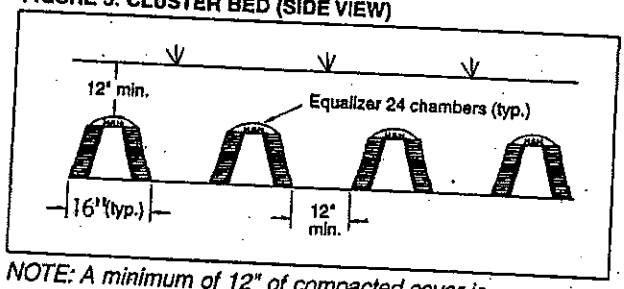


FIGURE 5: CLUSTER BED (SIDE VIEW)



NOTE: A minimum of 12" of compacted cover is necessary to maintain H-10 wheel loading (16,000 lb/axle). For non-traffic areas, a minimum of 6" of cover is required.

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 must 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 - email: 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 must 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 must 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 must be plowed or disked to produce a thoroughly roughened surface. Plowing must 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 must be filled with suitable backfill material that meets the requirements of Subsection 803.2.

801.7 Surface water diversion: Surface water must 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 must comply with all the requirements in this Section.

802.2 Bottom of disposal field: The bottom of each disposal field must be installed at the elevation specified on the permit. It must 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 must 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 must 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.

SECTION 804.0 BACKFILL PLACEMENT FOR DISPOSAL AREAS INCLUDING FILL EXTENSIONS

804.1 General: Selection and placement of backfill must comply with the requirements of this section.

804.2 Backfill standards: The backfill material must be gravelly coarse sand which meets the following requirements:

Table 800.1 – Backfill Textural Gradation

Sieve Size	Percent Passing by Weight
3"	100
1.5"	95-100
0.75"	90-100
#4	75-100
#10	55-85
#20	30-65
#40	15-45
#60	10-25
#100	5-15
#200	2-8
Clay Fraction	0-2

(1) Field Determination of backfill: Due to the difficulty of obtaining sieve analyses and the variability of backfill material, the following procedures can be used in the field to determine the suitability of backfill material. The backfill is suitable if the soil texture is loose single grains, the individual sand grains can be readily seen (similar to salt or sugar grains) and felt, and the following conditions are observed: If squeezed in the hand when dry, it will fall apart when the pressure is released but has enough fines to stain the lines in the palm of the hand; or, if squeezed when moist, it will form a cast that will crumble when touched and bears very careful handling; and it does not form a ribbon between the thumb and forefinger but has enough fines to stain the lines in the palm of the hand.

(2) Coarser material beneath or beside disposal system: Stone meeting the requirements of Section 805.2 may be placed immediately adjacent to the disposal field provided that the rest of the backfill material meets the requirements of Subsection 804.2. If used beneath the disposal field, it must be considered part of the disposal field for determining the separation between the limiting factor and the bottom of the disposal system.

(3) Fill material placement above disposal system: Immediately above the filter fabric, hay or proprietary devices, fill is required as specified on the plans. It must be a minimum of 8 inches in thickness (including cover material).

(4) Cover material: Immediately above the backfill or fill material, at least 4" of soil or soil and soil amendment mix, suitable for establishment of a good vegetative cover, must be placed over the entire disturbed soil area, including fill extensions.

804.3 Disposal fields installed completely in the original ground: If the disposal field is completely installed in original ground, the backfill material must completely cover the disposal fields. Fill material extensions must be graded smoothly into the surrounding topography on all sides. The disposal field must be adequately crowned on level disposal fields (3% minimum grade) to allow for settling so that surface water will be allowed to drain from the site without ponding.

804.4 Disposal fields installed partially in the original ground: Disposal fields partially installed in the original ground must meet the following requirements:

(1) Extent of backfill material: The fill layer must include any backfill beneath the disposal field, the shoulders, and the backfill material extensions surrounding the disposal field on all sides.

(2) Shoulder width and slope: The minimum required shoulder width is 3 feet. The finished grade of the shoulder must be sloped at 3% away from the disposal field or conform to the slope of the finish grade of the disposal field.

(3) Sloping sites: On sloping sites, the width of the shoulder may be reduced on the up-slope side of the disposal field. In this case, the top surface of the backfill material must be kept level with or higher than the invert of the distribution pipes up to the point where the top surface of the fill material intersects with existing slope.

(4) Backfill material extension: At the outside edge of the shoulder, the backfill material must be terminated by sloping the top of the backfill layer downward at a slope specified in Tables 600.2 through 600.4 to the original ground if possible, or a man-made retaining wall, provided the retaining wall is no more than 24 inches in height and the horizontal distance from the outer edge of the fill shoulder to the retaining wall is at least ten feet.

SECTION 805.0 DISPOSAL FIELDS

805.1 Installation requirements: Disposal fields, which include in a trench configuration, must be installed in compliance with all the requirements in this Section and Section 1403.0.

(1) Pitch of distribution pipes or proprietary disposal devices: Maximum tolerance of distribution pipes or proprietary disposal devices must be no more than 2 inches in 100 feet.

(2) Spacing between distribution pipes: The space between distribution pipes for low pressure distribution must be from 75 to 80% of the hole spacing. Spacing must be equal and uniform.

(3) Holes in low pressure distribution pipes: The holes in low pressure distribution pipes must be equal and uniform. The holes must be aligned so that holes in adjacent distribution pipes are offset by 50% of the hole spacing.

(4) Proprietary devices: Proprietary disposal devices approved by the Department as substitutes for disposal field stone and perforated distribution pipes must be installed per the manufacturer's instructions.

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

(1) General: Where used, the stone must cover the distribution pipes and extend the full width and length of the disposal field.

(2) Minimum thickness: The disposal field stone depth for beds must extend at least 7 inches beneath the bottom of the distribution pipes and must extend at least 1 inch above the top of the distribution pipes. For disposal trenches, disposal field stone depth must extend at least 12 inches beneath the bottom of the distribution pipes and must extend at least 1 inch above the top of the distribution pipes.

(3) Stone requirements: The disposal field stone must be clean, uniform in size and free of fines, dust, ashes, or clay. It must conform to one of the nominal stone sizes listed in Table 800.2.

TABLE 800.2
Maximum Percent passing by weight

		Nominal Stone Size	
		1 ½"	¾"
Sieve Size	2"	100	100
	1 ½"	95 - 100	100
	3/4"	0 - 40	90 - 100
	1/2"	0 - 20	0 - 55
	3/8"	0 - 8	0 - 25
	#4	0 - 5	0 - 10
	#200	0 - 2	0 - 2

(3)(1) Stone specifications: A site evaluator may define a more stringent standard for stone size for any particular system.

(4) Placing stone: The disposal field stone may be loaded onto the disposal field site using a back-hoe, front-end loader, or dump truck. This operation must 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 must not exert a ground pressure in excess of eight pounds per square inch. The disposal field stone must 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 must be covered with a layer of filter fabric or two (2) inches of hay as the laying of the distribution pipes progresses.

805.4 Covering the stone with filter fabric:

(1) Overlapping filter fabric sheets: Edges of adjacent sheets of fabric must be overlapped by a minimum of 6 inches; and

(2) Fabric requirements: The filter fabric specified in the system design must 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 must be 4.0 ounces/square yard (per ASTM D-3776).

805.5 Covering the stone with hay: In order to prevent the movement of fine particles into the stone, hay must be evenly placed in 2" layers over the entire surface above the stone.

805.6 Waterproof paper prohibited: The use of waterproof paper is prohibited.

SECTION 806.0 FINAL GRADING

806.1 General: Final grading for vegetative stabilized disposal areas must 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 must be placed over the entire filled area including the fill material extensions.

806.3 Final grading: Final grading must 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 must be stabilized by mulching and seeding, or sodding, to establish a good vegetative cover to prevent erosion.

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

(2) Other covers: Bark chips, woodchips, and other organic materials may be used as cover material when specified by the designer.

(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.

Received
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