Cell # 671-1508 When Ready Call Saunders

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 FAX (207) 287-4172

PROPERTY LOCATION

City, Town, or Plantation	Cliff Island
Street or Road	Island Avenue
Subdivision, Lot #	Home 766-5532

OWNER/APPLICANT INFORMATION

Name (last, first, MI)	Kramer, Robert (Owner / Applicant)
Mailing Address of ☒ Owner ☐ Applicant	P.O. Box 41
	Cliff Island 04019
Daytime Tel. #	207-662-3862

>> Caution: Permit Required – Attach In Space Below <<

DEPT OF BUILDING INSPECTION

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.

MAY 15 2006

RECEIVED

Municipal Tax Map # 10903 Block/Lot # A-LOT1

Owner or Applicant Statement

I state 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: Inspections 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: OVERB. DISCHARGE
   Year Installed: 1950's +/-
3. ☐ Expanded System
   a. ☐ One-time exempted
   b. ☐ Non-exempted
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 Approval

DISPOSAL SYSTEM COMPONENT(S)

1. ☒ Complete Non-engineered System
2. ☐ Primitive System (graywater & alt toilet)
3. ☐ Alternative Toilet, specify:
4. ☐ Non-Engineered Treatment Tank (only)
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. ☐ Pre-treatment, specify:
12. ☐ Miscellaneous components

SIZE OF PROPERTY

39,240 ☐ sq. ft.
1 +/- ☒ acres

DISPOSAL SYSTEM TO SERVE

1. ☒ Single Family Dwelling Unit, No. of Bedrooms: 3
2. ☐ Multiple Family Dwelling, No. of Units:
3. ☐ Other: (SPECIFY)

SHORELAND ZONING

☒ Yes ☐ No

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 1,000 gallons

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 891 ☒ sq. ft. ☐ lin. ft.

GARBAGE DISPOSAL UNIT

1. ☐ No 3. ☒ Maybe
2. ☐ Yes >> Specify one below:
   a. ☐ Multi-compartment Tank
   b. ☐ Tanks in Series
   c. ☐ Increase in Tank Capacity
   d. ☒ Filter on Tank Outlet

DESIGN FLOW

270 gallons per day

BASED ON:

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

SHOW CALCULATIONS -- for other facilities --

3 Bedrooms @ 90gpd = 270gpd

3. ☐ Section 503.0 (meter readings) ATTACH WATER-METER DATA

SOIL DATA & DESIGN CLASS

PROFILE	CONDITION	DESIGN
2	I AD	I 4

at Observation Hole # TP4

Depth 12"-24" Elevation ____" 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

PUMPING

1. ☐ Not Required
2. ☒ May Be Required
3. ☐ Required >> Specify only for engineered or experimental systems: DOSE: gallons

SITE EVALUATOR STATEMENT

I Certify that on 8-26-03 (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).

John M. Toothaker
John M. Toothaker
Site Evaluator Signature

#347
839-8746

9-5-03
Date

✓ #5405

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

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

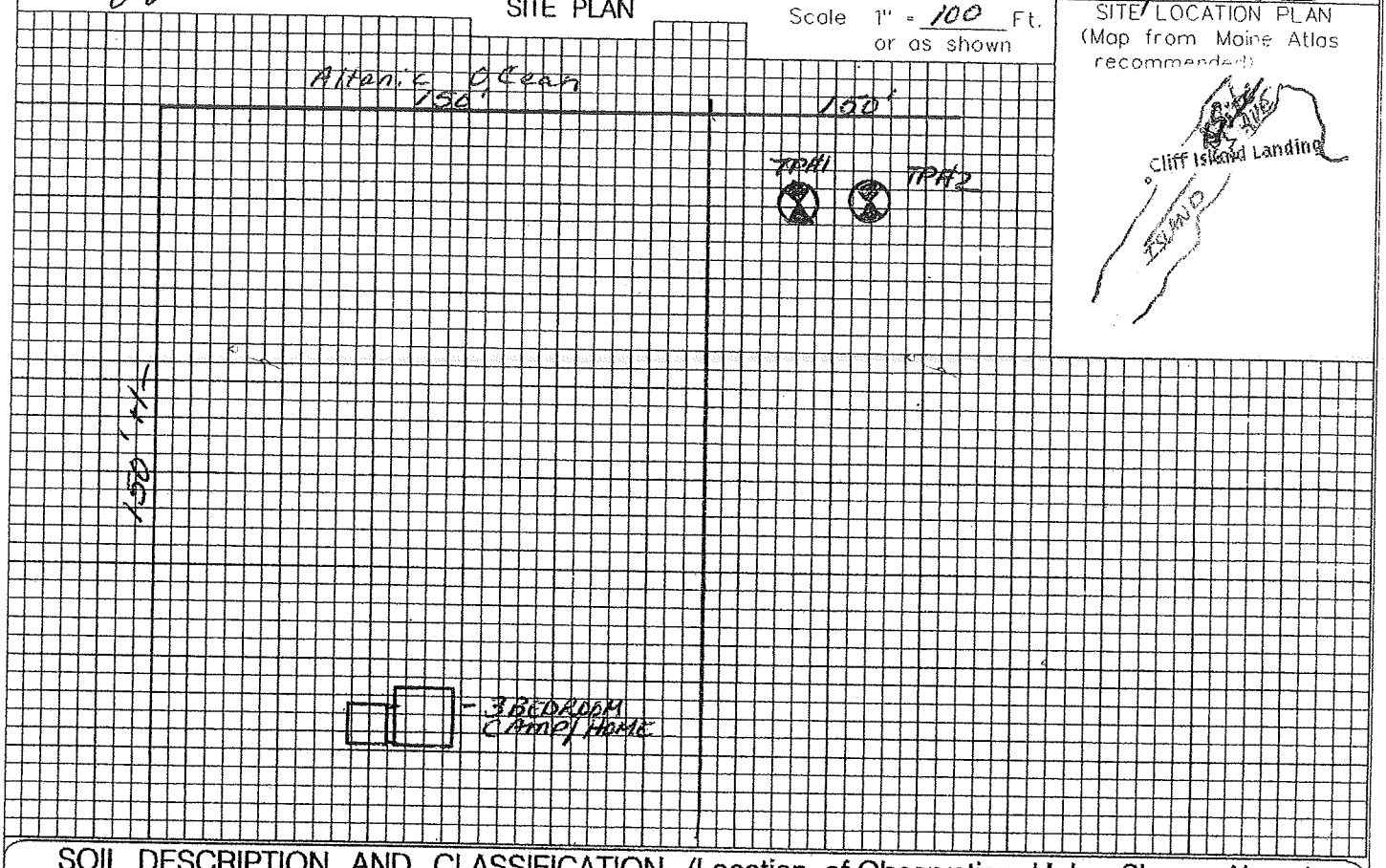
Town, City, Plantation: Cliff Island

Street, Road Subdivision:

Owner's Name: Robert Kramer

SITE PLAN

Scale 1" = 100 Ft. or as shown



SITE LOCATION PLAN
(Map from Maine Atlas recommended)

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

Observation Hole TP#1 ■ Test Pit ☐ Boring

0"-1" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine Sandy Loam with Cobble	Friable	Brown	None Recorded
10				
20				
30	Ledge Varies 12"-24"			
40				
50				

Soil Classification	Slope	Limiting Factor	
2 Profile / AII Condition	0-2%	12"	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Observation Hole TP#2 ■ Test Pit ☐ Boring

0"-1" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	Fine sandy loam w/Cobbles	Friable	Brown	None Recorded
10				
20				
30	ledge Varies 12"-24"			
40				
50				

Soil Classification	Slope	Limiting Factor	
2 Profile / AIII Condition	0-2%	12"	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

John M. Soothaker
Site Evaluator Signature

#347
SE #

9-5-03
Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

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

Town, City, Plantation: Cliff Island | Street, Road, Subdivision | Owner's Name: Robert Kramer

SUBSURFACE WASTEWATER DISPOSAL PLAN

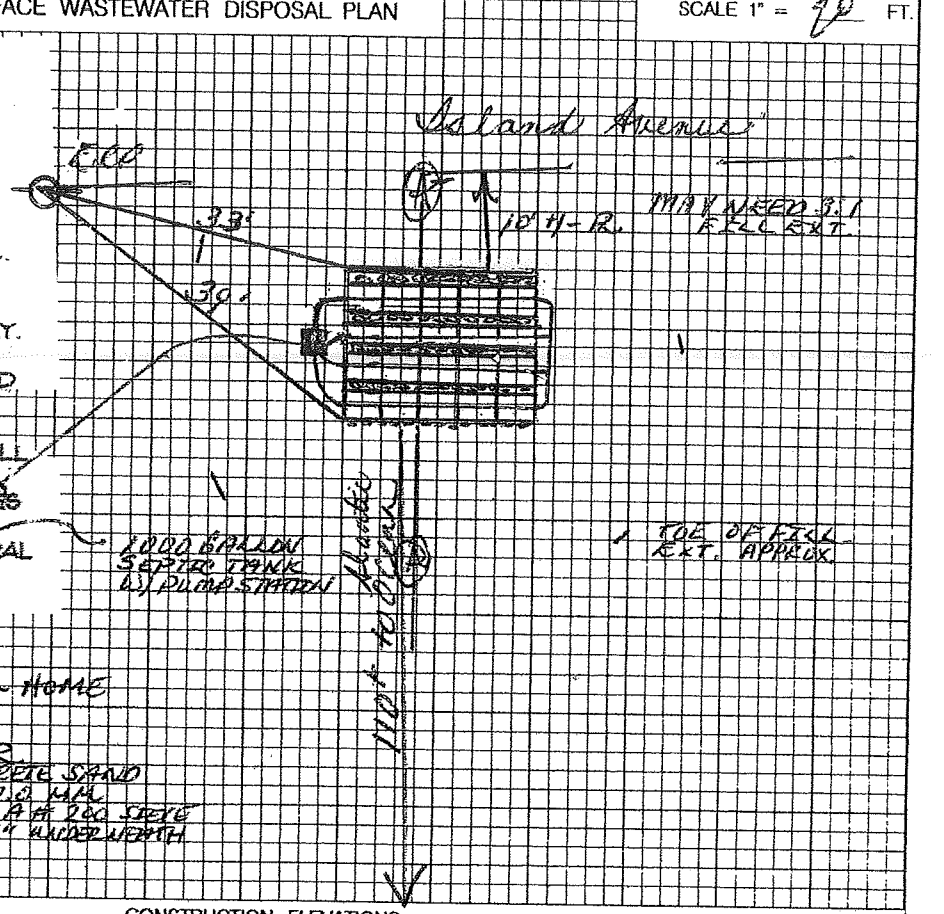
SCALE 1" = 20 FT.

LEGEND:

MON = GRANITE MONUMENT
IRF = IRON ROD FOUND
IPF = IRON PIPE FOUND
TP = TEST PIT

NOTES:

1. IF A GARBAGE DISPOSAL IS USED, THEN CHANGES TO THIS DESIGN ARE NECESSARY.
2. ALLOW FOR POSITIVE DRAINAGE AROUND THE LEACHFIELD.
3. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE MAINE SUBSURFACE WASTEWATER DISPOSAL RULES DATED 6/02, AS AMENDED, AND SUPPLEMENTED BY THE ATTACHED GENERAL NOTES WHICH BECOME A PART OF THIS DESIGN.



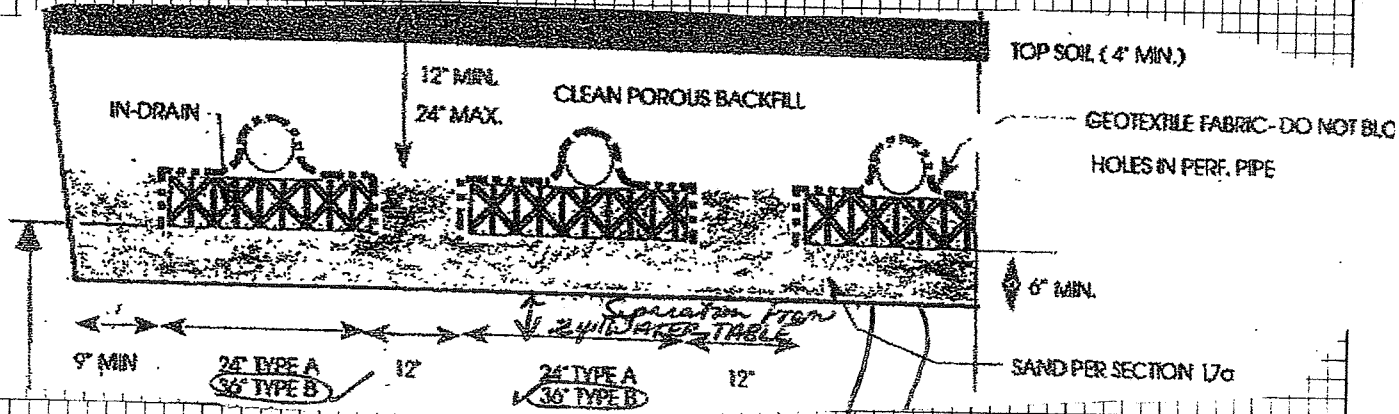
19 TYPE B ELJEN - CLUSTER
42 1/2" OF D.O.T. WASHED CONCRETE SAND
EFFECTIVE SIZE OF 1.5 TO 2.0 MM
AND NO MORE THAN 5% PASSING #4 & 200 SIEVE
BETWEEN ROWS 9" ONE ENDS 6" UNDER LENGTH

FILL REQUIREMENTS		CONSTRUCTION ELEVATIONS		ELEVATION REFERENCE POINT
Depth of Fill (Upslope)	42"-43"	Finished Grade Elevation	111"	Location & Description: Nail marked ERP in Pole 505/603.5
Depth of Fill (Downslope)	42"-43"	Top of Distribution Pipe or Proprietary Device	-7"	
		Bottom of Disposal Area: 6" SPEC SAND Below	-20	Reference Elevation: 0"

FOLLOW ALL DETAILS AND RULES FOR ELJEN IN-DRAINS

DISPOSAL AREA CROSS-SECTION
Cross Section of 24" Separation Used in Design

SCALE:
VERTICAL: 1" = 3'4-
HORIZONTAL: 1" = 3'4-



John M. Southakes — Site Evaluator Signature
#347 — SE #
9-5-03 — Date

REPLACEMENT SYSTEM VARIANCE REQUEST

THE LIMITATIONS OF THE REPLACEMENT SYSTEM VARIANCE REQUEST

This form shall be attached to an application (HHE-200) for the proposed replacement system which requires a variance to the Rules. The LPI shall review the Replacement System Variance Request an HHE-200 and may approve the Request if all of the following requirements can be met, and the variance(s) requested fall within the limits of LPI's authority.

1. The proposed design meets the definition of a Replacement System as defined in the Rules (Sec. 2006)
2. There will be no change in use of the structure except as authorized for minor expansions outside the shoreland zone of major waterbodies/courses.
3. The replacement system is determined by the Site Evaluator and LPI to be the most practical method to treat and dispose of the wastewater.
4. The BOD5 plus S.S. content of the wastewater is no greater than that of normal domestic effluent.

GENERAL INFORMATION Town of Cliff Island, Maine

Permit No. _____ Date Permit Issued _____

Property Owner's Name: Robert Kramer Tel. No.: _____

System's Location: Island Avenue Tax Map 109B - Block A-Lot 1

Property Owner's Address: P.O. Box 41

(if different from above) Cliff Island, Maine 04019

SPECIFIC INSTRUCTIONS TO THE:

LOCAL PLUMBING INSPECTOR (LPI):

If any of the variances exceed your approval authority and/or do not meet all of the requirements listed under the Limitations Section above, then you are to send this Replacement System Variance Request, along with the Application, to the Department for review and approval consideration before issuing a Permit. (See reverse side for Comments Section and your signature.)

SITE EVALUATOR:

If after completing the Application, you find that a variance for the proposed replacement system is needed, complete the Replacement Variance Request with your signature on reverse side of form.

PROPERTY OWNER:

If has been determined by the Site Evaluator that a variance to the Rules is required for the proposed replacement system. This variance request is due to physical limitations of the site and/or soil conditions. Both the Site Evaluator and the LPI have considered the site/soil restrictions and have concluded that a replacement system in total compliance with the Rules is not possible.

PROPERTY OWNER

I understand that the proposed system requires a variance to the Rules. Should the proposed system malfunction, I release all concerned provided they have performed their duties in a reasonable and proper manner, and I will promptly notify the Local Plumbing Inspector and make any corrections required by the Rules. By signing the variance request form, I acknowledge permission for representatives of the Department to enter onto the property to perform such duties as may be necessary to evaluate the variance request.

_____ _____

SIGNATURE OF OWNER DATE

LOCAL PLUMBING INSPECTOR

I, _____, the undersigned, have visited the above property and have determined to the best of my knowledge that it cannot be installed in compliance with the Rules. As a result of my review of the Replacement Variance Request, the Application, and my on-site investigation, I **(check and complete either a or b)**:

☐ a. (☐ approve, ☐ disapprove) the variance request based on my authority to grant this variance. Note: If the LPI does not give his approval, he shall list his reasons for denial in **Comments** Section below and return to the applicant.

--OR--

☐ b. find that one or more of the requested Variances exceeds my approval authority as LPI. I (☐ recommend, ☐ do not recommend) the Department's approval of the variances. Note: If the LPI does not recommend the Department's approval, she shall state his reasons in Comments Section below as to why the proposed replacement system is not being recommended.

Comments:

_____

_____

_____ _____

LPI SIGNATURE DATE

Replacement System Variance Request

VARIANCE CATEGORY	LIMIT OF LPI'S APPROVAL AUTHORITY						VARIANCE REQUESTED TO:	
SOILS								
Soil Profile.	Ground Water Table			to 7"				inches
Soil Condition	Restrictive Layer			to 7"				inches
from HHE-200	Bedrock			to 12"				inches
SETBACK DISTANCES (in feet)	Disposal Fields (total design flow)			Septic Tanks (total design flow)			Disposal Fields	Septic Tanks
From	Less than 1000 gpd	1000 to 2000 gpd	Over 2000 gpd	Less than 1000 gpd	1000 to 2000 gpd	Over 2000 gpd	To	To
Wells with water usage of 2000 or more gpd or public water supply wells	300 ft	300 ft	300 ft	100 ft	100 ft	100 ft		
Owner's wells	100 down to 60 ft [a]	200 down to 100 ft	300 down to 150 ft	100 down to 50 ft [b]	100 down to 50 ft	100 down to 50 ft		
Neighbor's wells	100 down to 60 ft [f]	200 down to 120 ft [f]	300 down to 180 ft [f]	100 down to 50 ft [f]	100 down to 75 ft [f]	100 down to 75 ft [f]		
Water supply line	10 ft	20 ft	25 ft [h]	10 ft	10 ft	10 ft [h]		
Water course, major - for replacements only, see Table 400.4 for major expansions	100 down to 60 ft [d]	200 down to 120 ft [d]	300 down to 180 ft [d]	100 down to 50 ft [b]	100 down to 50 ft	100 down to 50 ft		
Water course, minor	50 down to 25 ft [e]	100 down to 50 ft [e]	150 down to 75 ft [e]	50 down to 25 ft [e]	50 down to 25 ft [e]	50 down to 25 ft [e]		
Drainage ditches	25 down to 12 ft	50 down to 25 ft	75 down to 35 ft	25 down to 12 ft	25 down to 12 ft	25 down to 12 ft		
Edge of fill extension – Coastal wetlands, special freshwater wetlands, great ponds, rivers, streams	25 ft [e]	25 ft [e]	25 ft [e]	25 ft [e]	25 ft [e]	25 ft [e]		
Slopes greater than 3:1	10 ft [g]	18 ft [g]	25 ft [g]	N/A	N/A	N/A		
No full basement [e.g. slab, frost wall, columns]	15 down to 7 ft	30 down to 15 ft	40 down to 20 ft	8 down to 5 ft	14 down to 7 ft	20 down to 10 ft		
Full basement [below grade foundation]	20 down to 10 ft	30 down to 15 ft	40 down to 20 ft	8 down to 5 ft	14 down to 7 ft	20 down to 10 ft		
Property lines	10 down to 5 ft [c]	18 down to 9 ft [c]	20 down to 10 ft [c]	10 down to 4 ft [c]	15 down to 7 ft [c]	20 down to 10 ft [c]	8-10	
Burial sites or graveyards, measured from the down toe of the fill extension	25 ft	25 ft	25 ft	25 ft	25 ft	25 ft		

OTHER

1. Fill extension Grade - to 3:1 May need 3:1 fill Extension
2.
3.

Footnotes: [a.] Single-family well setbacks may be reduced as prescribed in Section 701.2.
[b.] This distance may be reduced to 25 feet, if the septic or holding tank is tested in the plumbing inspector's presence and shown to be watertight or of monolithic construction .
[c.] Additional setbacks may be needed to prevent fill material extensions from encroaching onto abutting property.
[d.] Additional setbacks may be required by local Shoreland zoning.
[e.] Natural Resource Protection Act requires a 25 feet setback, on slopes of less than 20%, from the edge of soil disturbance and 100 feet on slopes greater than 20%. See Chapter 15.
[f.] May not be any closer to neighbors well than the existing disposal field or septic tank unless written permission is granted by the neighbor. This setback may be reduced for single family houses with Department approval. See Section 702.3.
[g.] The fill extension shall reach the existing ground before the 3:1 slope or within 100 feet of the disposal field.
[h.] See Section 1402.10 for special procedures when these minimum setbacks cannot be achieved.

John M. Lothaker — SITE EVALUATOR'S SIGNATURE

9-5-03 — DATE

FOR USE BY THE DEPARTMENT ONLY

The Department has reviewed the variance(s) and (☐ does ☐ does not) give its approval. Any additional requirements, recommendations, or reasons for the Variance denial, are given in the attached letter.

SIGNATURE OF THE DEPARTMENT

DATE

ELJEN™ IN-DRAIN™ LEACHING SYSTEM

Trench and In-Ground Cluster Installation

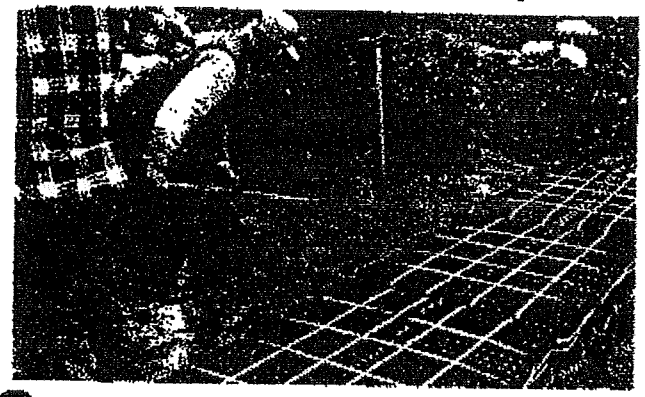
1. Prepare site according to local and state regulations. **Do not install system on frozen or saturated ground.**

2. Remove all organic soil and roots at disposal and fill extension areas.

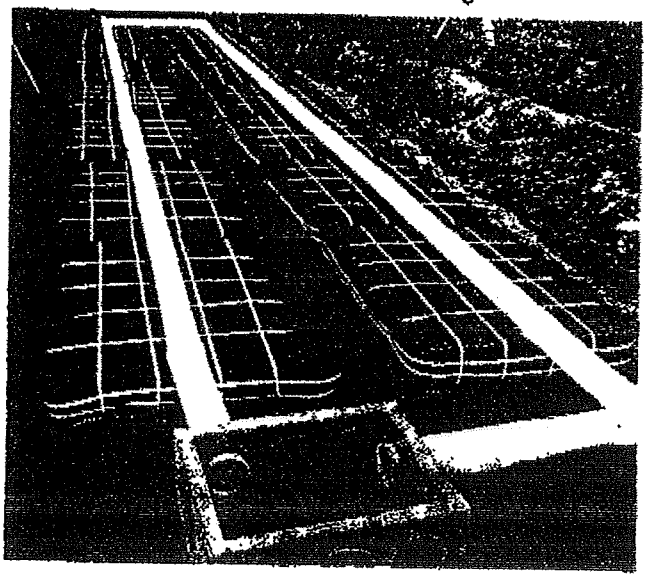
3. Scarify receiving layer to eliminate smearing.

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.**



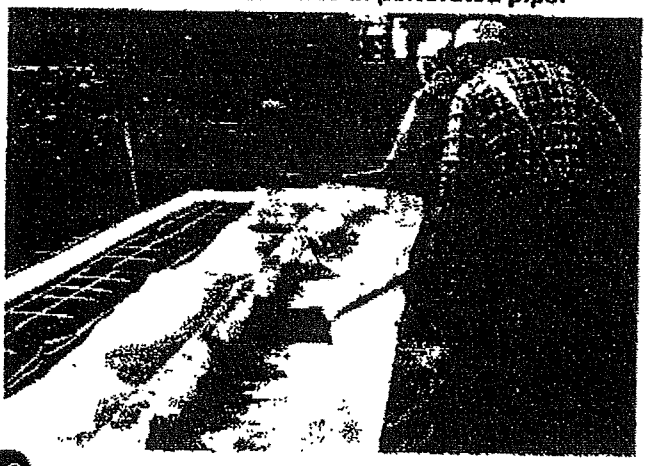
6. Center 4" **perforated distribution pipe** over In-Drains. Use **solid pipe** over compacted sand from D-Box to In-Drains and to connect distribution lines at far end. Connect mid-points on rows over 40' long.



7. Install SSI Inc. flow equalizers or equal in D-Box. Use Type 1 in gravity systems, and Type P in pump systems.

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 6" 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 seive. **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.

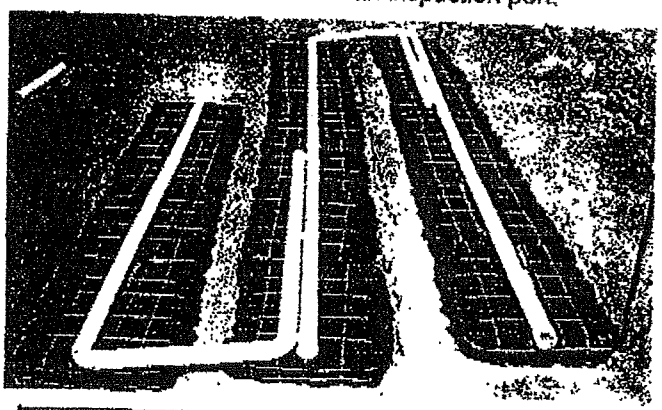
12. Divert surface runoff. Finish grade to prevent surface ponding. Seed loam and protect from erosion.

Raised or Fill Systems

1. Follow steps #1-3 for trench installation.
2. Compact fill, in max. 6" lifts, with a light tracked machine. Use clean soil free of organic material, clay, construction debris, stones larger than 6" and no more than 10% passing a #200 sieve.
3. Provide 6" sand bed, per trench step #4, directly under the In-Drains.
4. Complete system per trench steps #5-12.

Serial Distribution on Slopes

1. Site preparation is the same as for trench and fill systems. Groove receiving layer by raking or contour plowing at right angle to slope before placing fill or sand.
2. Install rows of In-Drains at design elevations.
3. Provide a well anchored D-Box with velocity reduction tee or baffle. D-Box serves as an inspection port.



4. Install a line of 4" perforated pipe on first row of In-Drains. Cap pipe at far end.
5. Place at least 10' of capped perforated overflow pipe at the far end and downhill side of the above pipe.
6. Connect overflow pipe to a line of perforated pipe on the next row of In-Drains with 2 elbows and a short length of solid pipe. Cap perforated pipe on opposite end.
7. Continue this procedure until the last row of In-Drains has an end capped line of perforated pipe.
8. Complete assembly by following steps #8-12 at trench installation.

Pumped Systems

1. Prepare disposal site as described above.
2. Provide a well anchored D-Box with a velocity reduction tee or baffle. Use SSI Inc. Type P flow equalizers or equal in the D-Box, one for each distribution line.
3. System assembly is the same as for gravity designs.
4. Pressure distribution does not result in reduced system size and is therefore not generally used for In-Drain disposal systems.

Design Manual Available

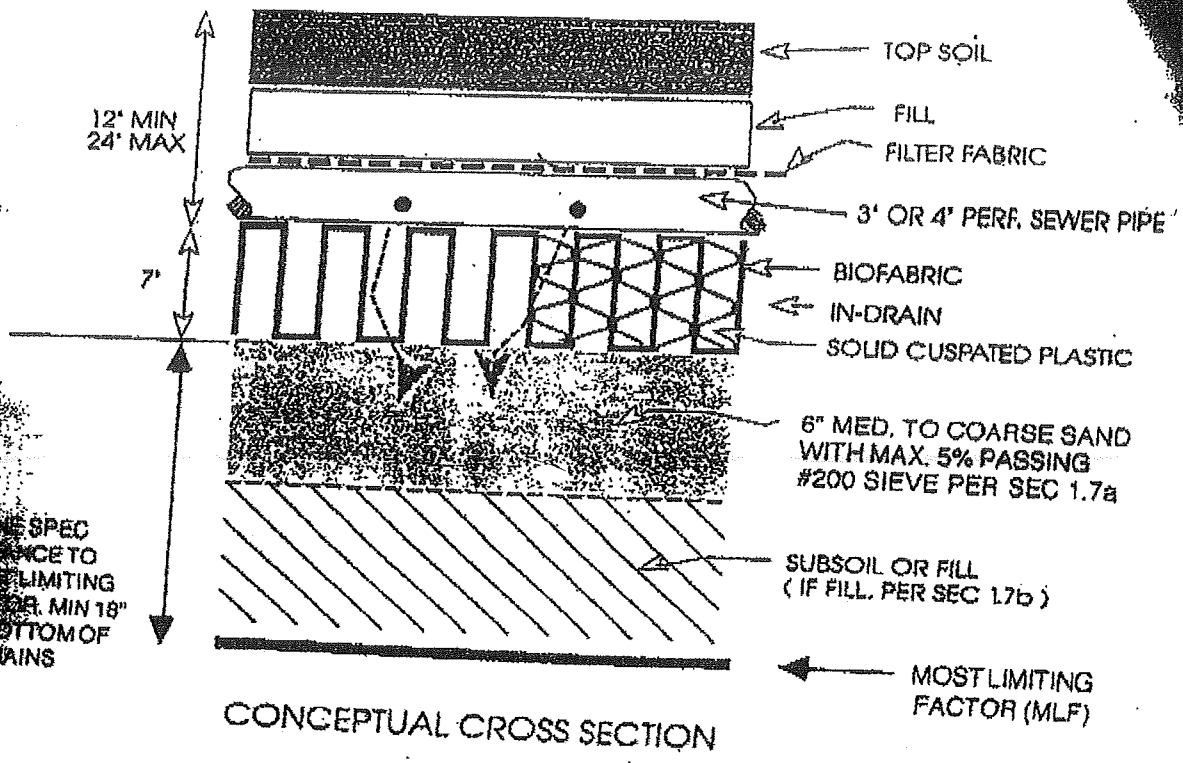
Effluent pretreatment offered by In-Drain technology generally allows **substantial reductions** in leach field size **compared to conventional stone or chamber systems.** Sizing formula conforms with code variations from state to state. Consult your area distributor for a state specific Design and Installation Manual.

Eljen Corporation
15 Westwood Rd., Storrs, CT., 06268
203-429-9486 • 800-444-1359
Fax 203-487-1124
Patent nos. 4,465,594 and 4,880,333
Additional Patents Pending

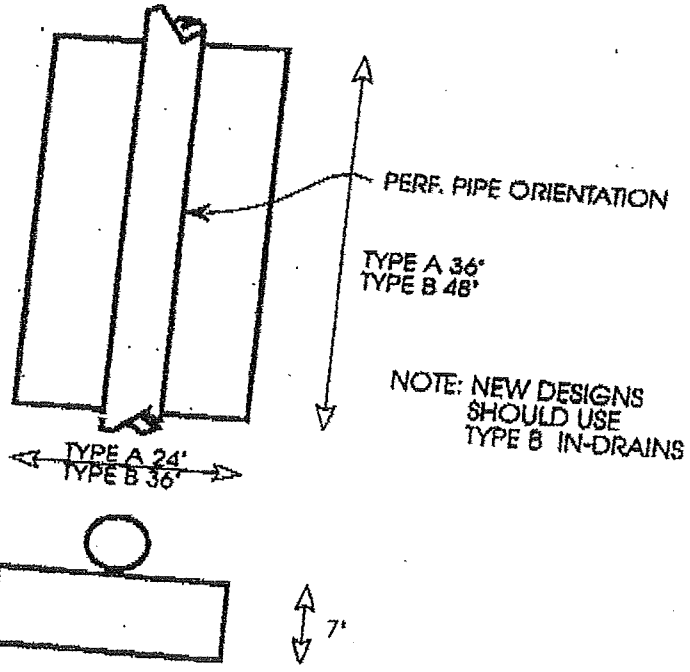
Distributed By:

Construction Consultants, Inc.
328 Federal Road, Route 4
Livermore, ME 04253-3090

Eljen™... Products for a clean, healthy environment



CONCEPTUAL CROSS SECTION



STANDARD IN-DRAIN MODULE

FIGURE 1

General Notes
(attachment to form HHE-200)
< 1,000 gpd Septic System

1. It is your right to get a second opinion if you don't agree with the professional opinion of Tooth & Associates.
2. Property information is from the owner or applicant and shall be correct and verified prior to signing this HHE-200 application.
3. All work shall be done per the Maine Subsurface Wastewater Disposal Rules dated 6/02 as amended.
4. All work shall be done only in dry conditions for disposal area.
5. No vehicular or equipment traffic to be allowed on disposal area. Construct disposal area outside the corner flags located in the field. Protect down slope area as well.
6. Backfill, if required, is to be gravelly coarse sand to coarse sand texture and to be free of foreign debris. If backfill is coarser than original soil, then mix top 4" of backfill and original soil with rototiller.
7. No neighboring wells are apparent (unless so indicated) within 100' of disposal area. Owner or applicant shall verify this prior to signing the HHE-200 application.
8. The disposal field stone shall be clean, uniform in size and free of fines, dusts, ashes, or clay. It shall be no smaller than ¾ inch and no larger than 2½ inches in size (per Section 805.2.3 of the Maine Subsurface Wastewater Rules).
9. Use minimum separation distances required (unless reduced by variance or special circumstance).
   a. Wells with water usage of 2,000 or more gpd or public water supply wells:

Disposal fields:	300'
Septic Tanks and Holding Tanks:	100'

   b. any well to disposal area: 100'
   c. any well to septic tank 100'
   d. septic tank or disposal area to lake, river, stream or brook: 100' for major watercourse
      50' for minor watercourse
   e. house to treatment tank: 8'
   f. house to disposal area: 20'
   g. all other separation distances, for less than 1,000 gpd per Maine Subsurface Wastewater Disposal Rules use Table 700.2.
10. Location of septic near a wetland may require a separate permit. As such, the owner or applicant prior to construction of the septic system shall hire a professional wetland scientist to evaluate adjacent wetlands and prepare needed permits.
11. Garbage disposals are not recommended and, if installed, are done so at the owner's risk. Follow Maine State Plumbing Code if installed.
12. Pump Stations shall be water tight to prevent infiltration of ground and surface water.
13. Pressure lines and force mains shall be flushed of any foreign material and pumps shall be checked for proper on/off cycle before being put into service.
14. Force mains, pump stations, and /or gravity piping subject to freezing shall be adequately insulated or installed below the frost line.

Tooth & Associates 19 Davis Annex, Gorham, Maine 04038 (207)839-5746