

APPENDIX B

Story Area Septic System Supplemental Regulations To The Rules and Regulations Governing Wastewater Facilities For Sheridan County, Wyoming

The following Supplemental Regulations are for the Story Area as defined on Attachment I. These Supplemental Regulations shall be used in conjunction with the Sheridan County Rules and Regulations Governing Wastewater Facilities Application. In addition to the following, Story Area septic system design sheets have also been developed and are included as Attachment II to this document.

Section I - Pre-Application Submittal

Prior to performing percolation tests and digging a backhoe pit for Public Works Department inspection the following needs to be completed and submitted to the Public Works Department:

1. Obtain a copy of the subdivision plat, if applicable, to determine any special septic system requirements.
2. Complete a map that has the following:
 - a. Scale and relative elevations (Include elevation of pipe leaving structure, ground elevations at the septic tank and leachfield/absorption system area, and other spot survey points to show slope in the ground across the area)
 - b. Location of existing septic system and specifics for tank size, leachfield/absorption system size
 - c. For new septic systems, show potential area of tank and leachfield/absorption system
 - d. Location of on-site well(s)
 - e. Property setbacks and easements
 - f. Location of surface water features
 - g. Building structures, driveways, etc.
 - h. Neighboring wells if within 100 feet of property line. At a minimum, a visual inspection from the property line shall be made and estimated distance(s) to the well(s)
3. Information on the existing on-site well(s). Well records can be obtained from State Engineer Records:

(http://seo.state.wy.us/wrdb/PS_TnsRngSec.aspx).

Several of the older wells may have not been permitted so there will not be any information. If the on-site well(s) are not registered attempt to obtain neighboring well information. If records are not available, make a note of it.

If possible, measure the water level within the well after a minimum of one hour of the well not being used.

4. Once the above information is reviewed and approved by the Public Works Department, the backhoe test pit(s) and percolation tests can be scheduled, performed and inspected by the Public Works Department. Preliminary backhoe test pits can be installed and information submitted with the pre-application information.
5. If, after the pre-application submittal is made, the site is considered non-suitable for a typical septic system that is described within these Supplemental Regulations or the Sheridan County Rules and Regulations Governing Wastewater Facilities, the septic system shall be designed and construction certified by a registered professional engineer within the State of Wyoming. Sites that will likely fit this category are proposed septic sites that cannot meet minimum separation distances.

Section II - Special Design and Regulation Requirements

Given the unique subsurface conditions and population density in the Story area, special design and regulation requirements have been developed and are as follows:

NOTE: Within the DEQ-WQD and County rules and regulations leachfield and absorption system are both used to describe the piping/leach rock and the graveless chamber units of a septic system. The remainder of this document will use leachfield since this has been most commonly used in the recent past.

1. Loading rates shall not be greater 0.62 gallons/sq.ft./day which corresponds with a 10 minutes per inch percolation rate.
2. The bedding specifications outlined in Section II 3. are required for mounded systems and systems constructed on coarse gravels when one of the following conditions are encountered;
 - A. If the subsurface within 4 feet beneath the proposed leachfield/absorption system is gravel material and 10% of the material contains rock exceeding 2-inches in diameter but no rock greater than 6-inches in diameter, then a minimum of 2 feet of bedding shall be placed between the leach rock or chamber unit and underlying in-situ gravel material.

- B. If the subsurface within 4 feet beneath the proposed leachfield/absorption system is gravel material and 10% of the material contains cobbles, boulders, and/or rocks exceeding 6-inches diameter and seasonal high groundwater is 4 feet below the bottom of the proposed leach rock/chamber, then a minimum of 4 feet of bedding shall be placed between the leach rock or chamber unit and underlying in-situ gravel material.
- C. If the subsurface within 4 feet beneath the proposed leachfield/absorption system is gravel material and 10% of the material contains cobbles, boulders, and/or rocks exceeding 6-inches diameter and seasonal high groundwater is greater than 4 feet below the bottom of the proposed leach rock/chamber, then a minimum of 2 feet of bedding shall be placed between the leach rock or chamber unit and underlying in-situ gravel material.
- D. The in-situ material has a percolation rate faster than 10 minutes per inch, a minimum 2 feet of bedding shall be placed between the leach rock or chamber unit and underlying in-situ gravel material.

Bedding depth shall be identified at the time the backhoe investigation pit is excavated and inspected by the Public Works Department. Since backhoe pits will be used to define rock content, visual judgment shall be used in determining the amount of rock. If visual inspection of the size and percentage of the in-situ material cannot be agreed upon between the parties, sieve analysis must be performed. A representative soil sample shall be collected and tested by a qualified testing firm to determine the percentage. Percolation test may also be required on the in-situ material.

- 3. The bedding requirement for the situations discussed above is sand with 100% passing the #4 sieve and less than 10% passing the #200 sieve. The sand must have percolation rates between 10 to 25 min/inch. Percolation tests at the source shall be done to verify the percolation rate of the material. Verification tests shall also be performed when the material is placed at the site. The septic loading rate shall be based on the bedding material, not the underlying gravel.

For mounded systems that require fill material around and above the leach rock (or chambered systems), the fill material shall be the same percolation rate as the bedding material or slower percolation rate. However, the fill material shall not have a percolation rate slower than twice the bedding percolation rate. For example, if the bedding material beneath the leach rock

or chamber unit has a percolation rate of 20 minutes per inch, the fill material shall have a percolation rate between 20-40 minutes per inch.

Compaction of the bedding material beneath the leach rock or chamber unit shall be between 90-95% of the materials maximum dry density. Prior to placing the leach rock or chamber system on the bedding material, the top 12 inches should be scarified. Fill material around the bedding material, leach rock or chamber units should be compacted to a minimum of 95% of the materials maximum dry density.

4. Within mounded systems, clay material (>25% passing the #200 sieve) shall not be used next to or below the leach rock, or above native sand and gravel. Clay materials have an absorption capacity much greater than sand and gravel which will hinder the movement of wastewater into the sand and gravel.
5. Chamber units are allowed in the Story area in accordance with the rules and regulations. However, 1 foot of the bedding as specified in Section II 3. above shall be placed beneath the chamber unit even if no rock greater than 2 inches are encountered. Chamber systems must also have distribution piping within the chambers for both gravity and pressurized systems.
6. For the design and detail sheets, reference Attachment II to this document.

Attachment I
Story area Map

**Alluvial Boundary
Story Septic Assessment Plan
WWG Engineering**



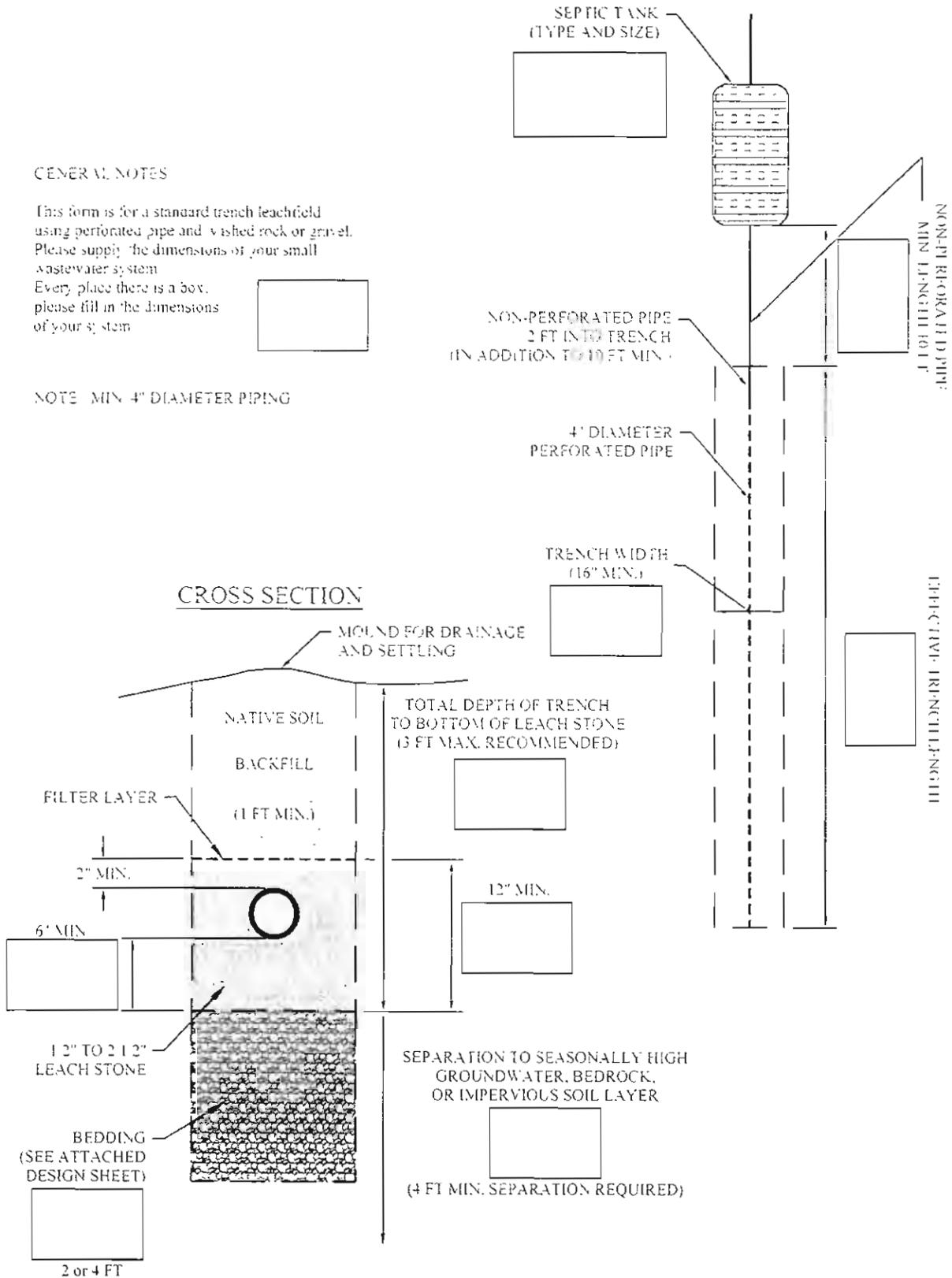
Attachment II
Design & Detail Sheets

SINGLE TRENCH PIPE LEACH FIELD

GENERAL NOTES

This form is for a standard trench leachfield using perforated pipe and washed rock or gravel. Please supply the dimensions of your small wastewater system. Every place there is a box, please fill in the dimensions of your system.

NOTE: MIN. 4" DIAMETER PIPING



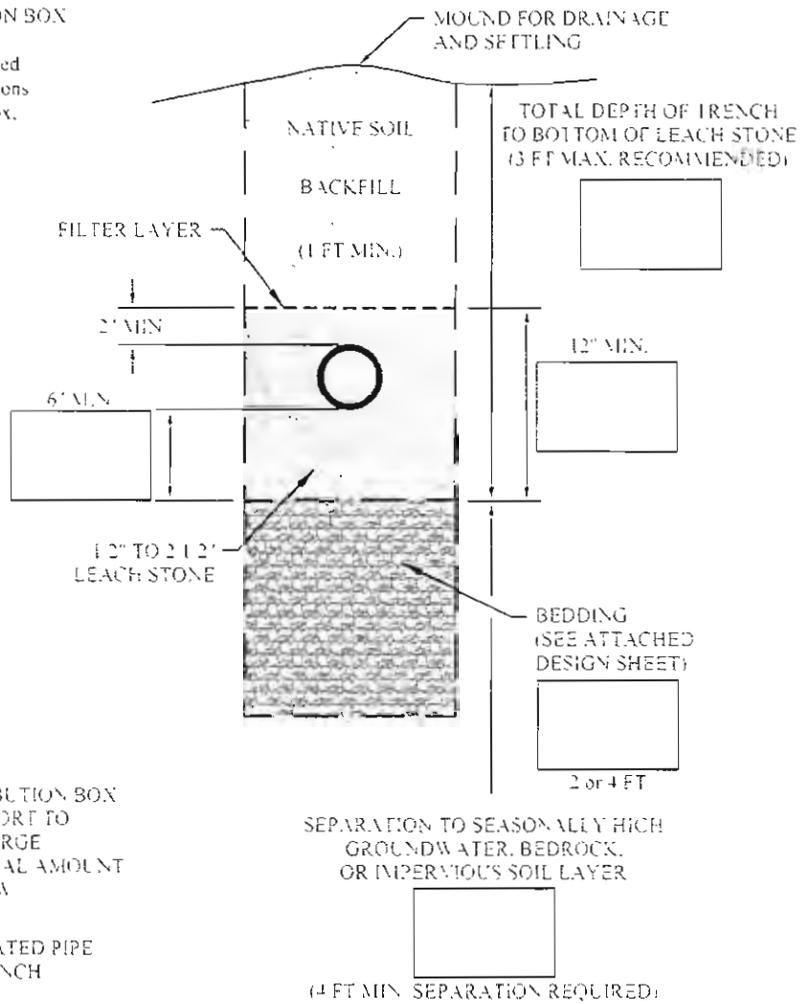
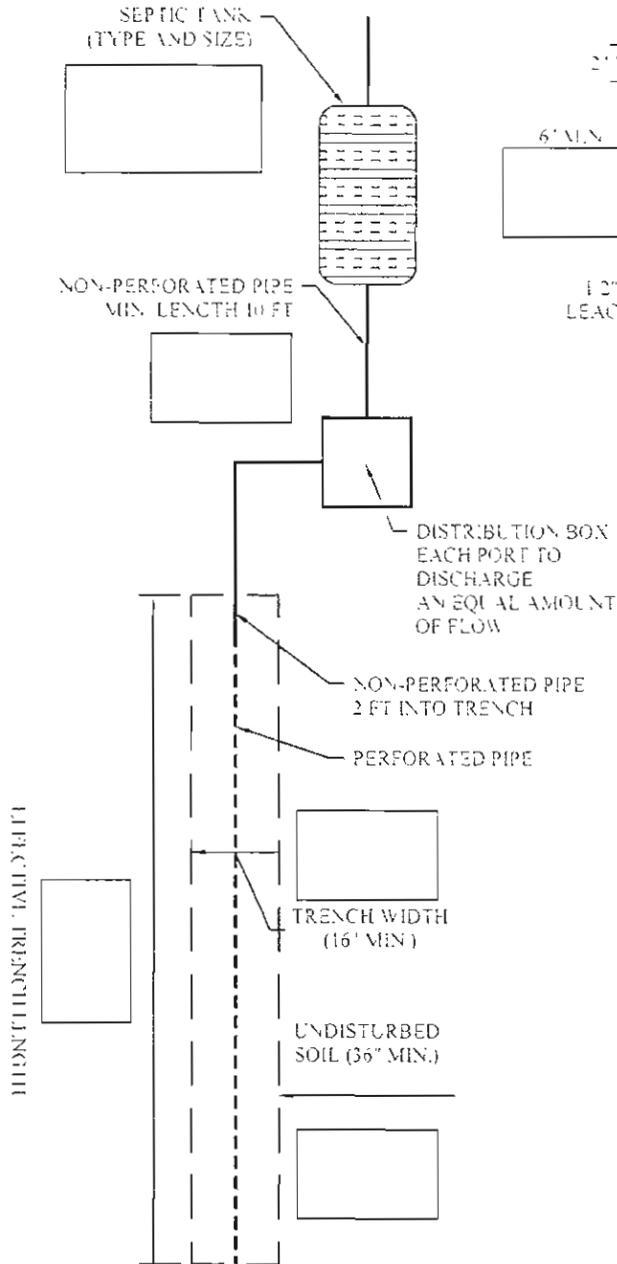
MULTIPLE TRENCH PIPE LEACH FIELD

CROSS SECTION

MULTIPLE EQUAL TRENCHES WITH DISTRIBUTION BOX

This form is for a standard trench leachfield using perforated pipe and washed rock or gravel. Please supply the dimensions of your small wastewater system. Every place there is a box, please fill in the dimensions of your system.

NOTE: MIN. 4 in DIAMETER PIPING



SHOW ADDITIONAL TRENCHES HERE

SINGLE TRENCH CHAMBERED LEACH FIELD

This form is for a trench leachfield using chamber units. Where boxes appear please supply the dimensions of your leachfield.

Type of Chamber:

Brand _____

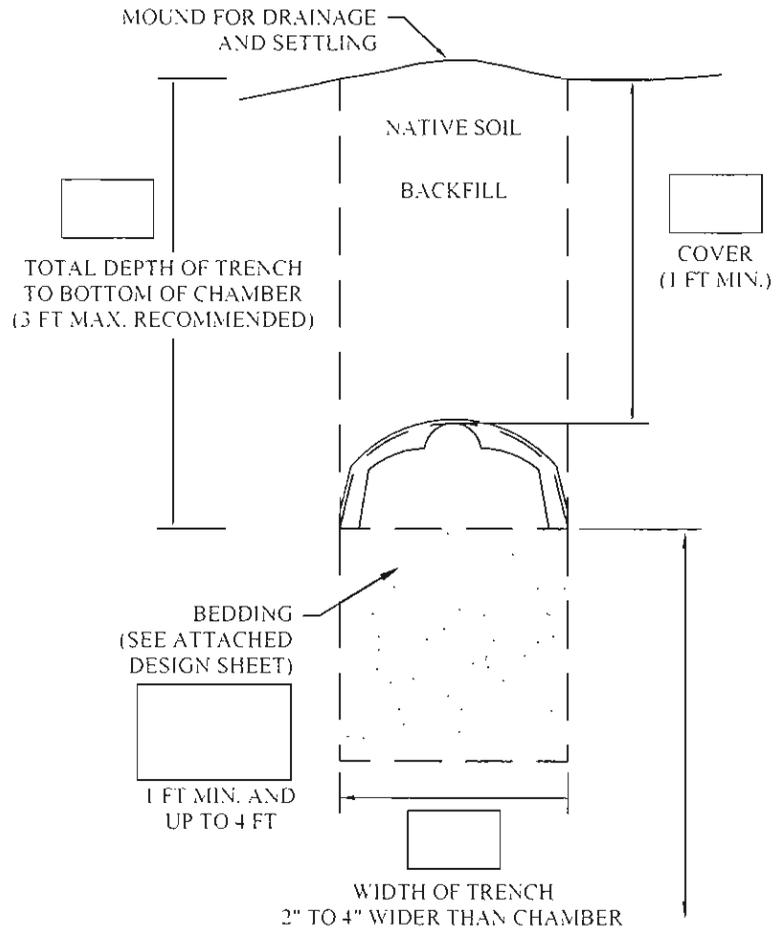
Model _____

Dimensions: Length _____

Width _____ Height _____

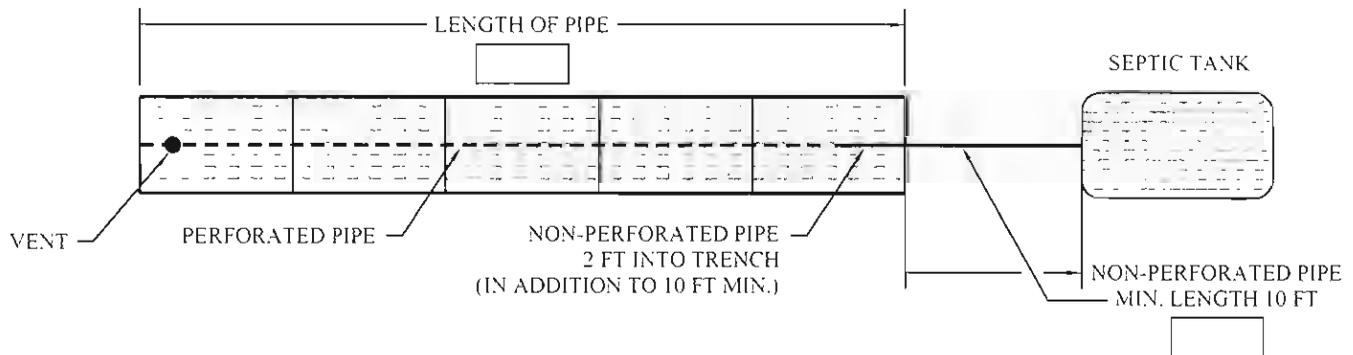
Number of Sections Req'd _____

NOTE: MIN. 4" DIAMETER PIPING



SEPARATION TO SEASONALLY HIGH GROUNDWATER, BEDROCK, OR IMPERVIOUS SOIL LAYER

(4 FT MIN. SEPARATION REQUIRED)



MULTIPLE TRENCH CHAMBERED LEACH FIELD

This form is for a trench leachfield using chamber units. Where boxes appear please supply the dimensions of your leachfield.

Type of Chamber:
 Brand _____
 Model _____
 Dimensions: Length _____
 Width _____ Height _____
 Number of Sections Req'd _____

NOTE: MIN. 4" DIAMETER PIPING

MOUND FOR DRAINAGE AND SETTLING

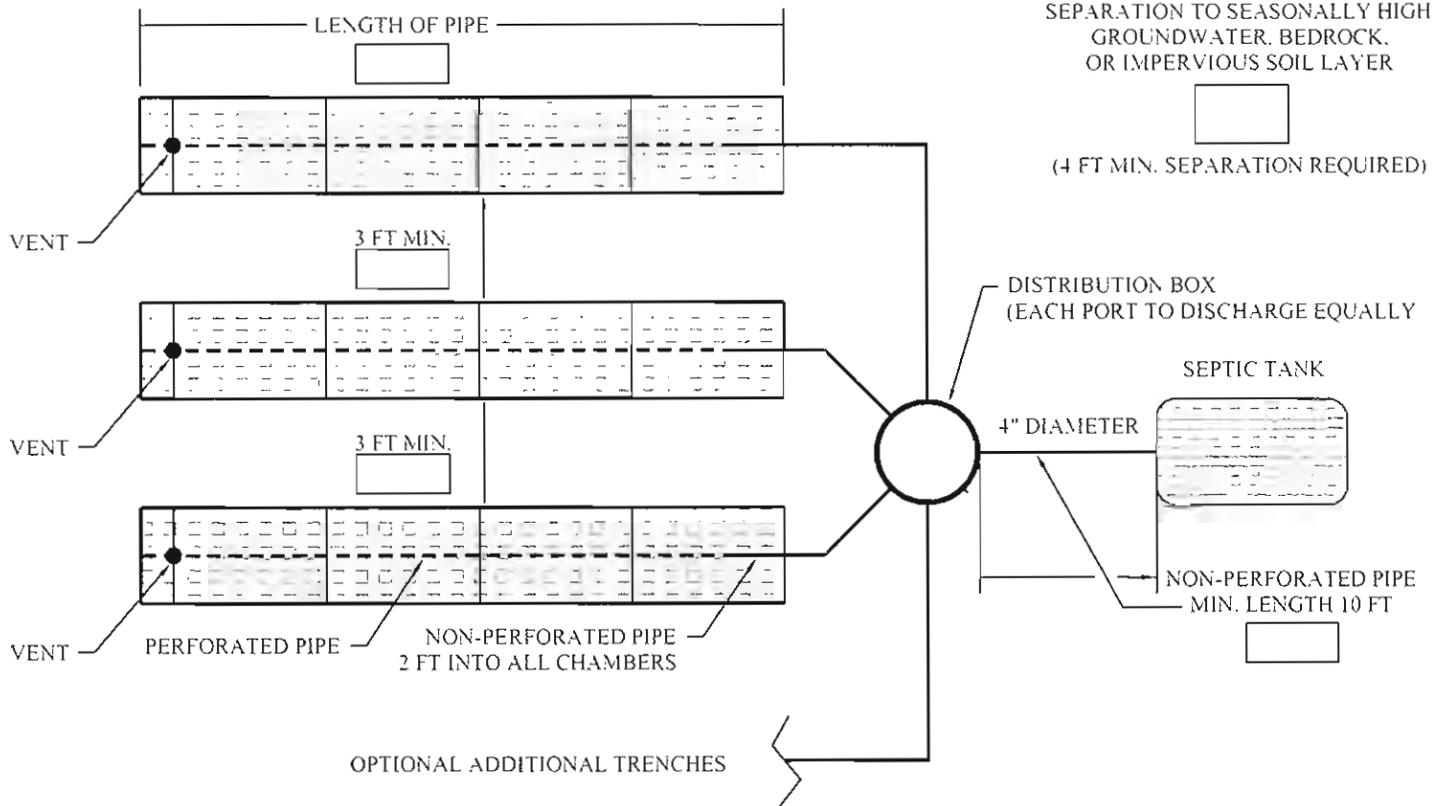
TOTAL DEPTH OF TRENCH TO BOTTOM OF CHAMBER (3 FT MAX. RECOMMENDED)

COVER (1 FT MIN.)

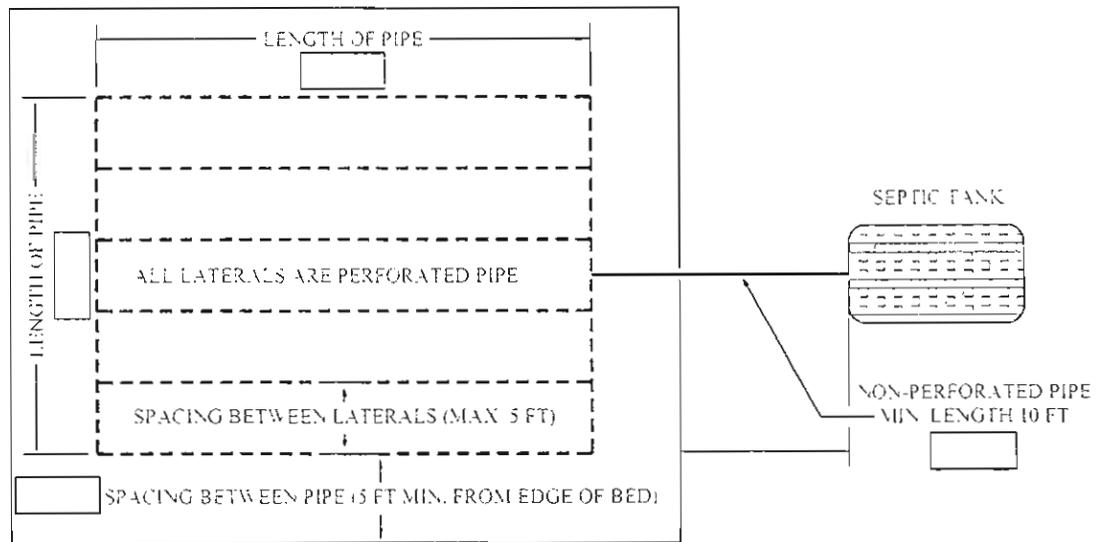
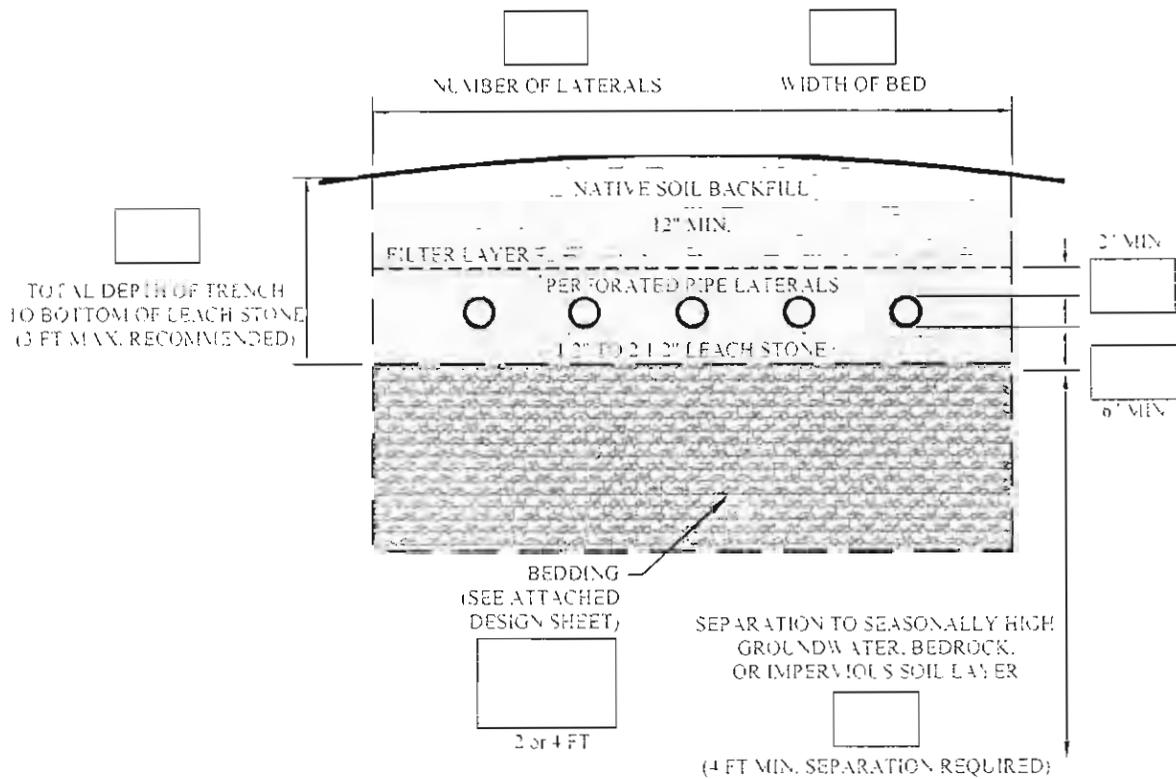
BEDDING (SEE ATTACHED DESIGN SHEET)

1 FT MIN. AND UP TO 4 FT

WIDTH OF TRENCH 2" TO 4" WIDER THAN CHAMBER

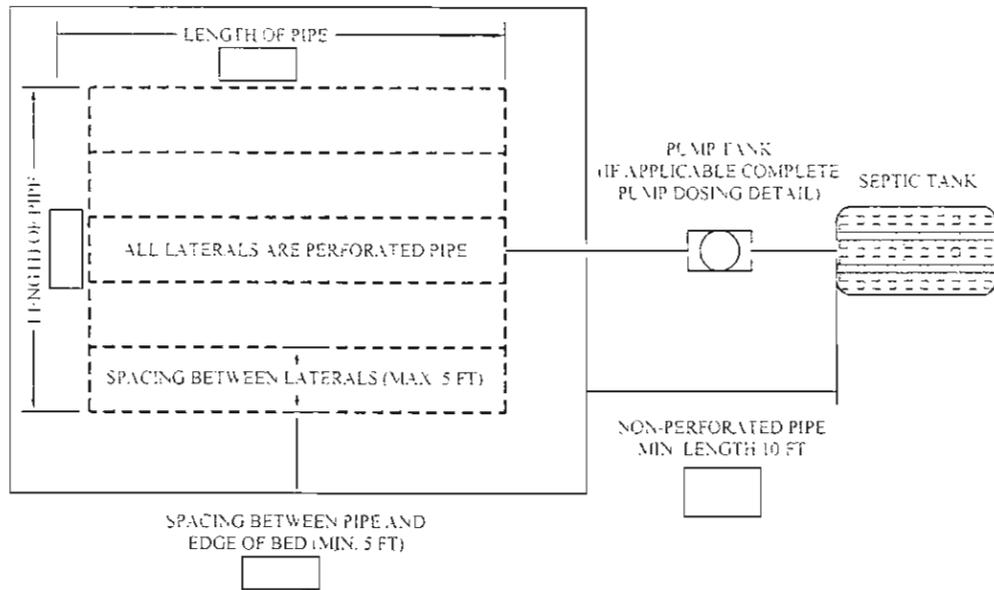
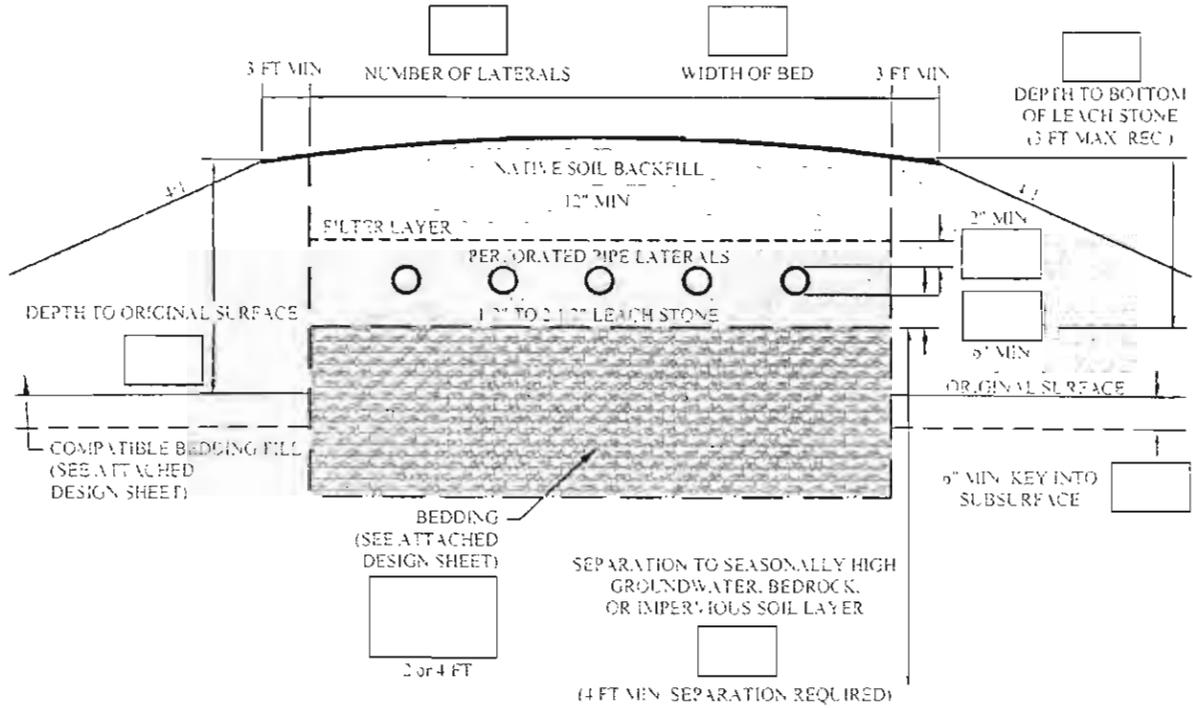


BED TYPE PIPE LEACH FIELD



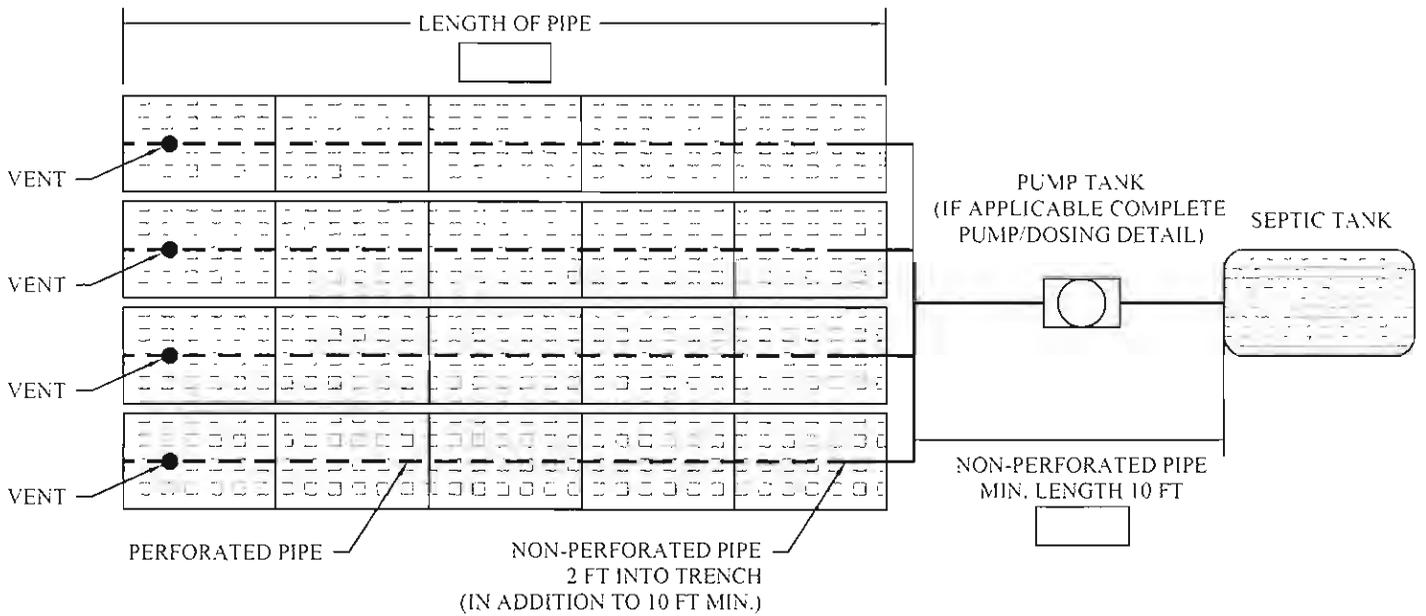
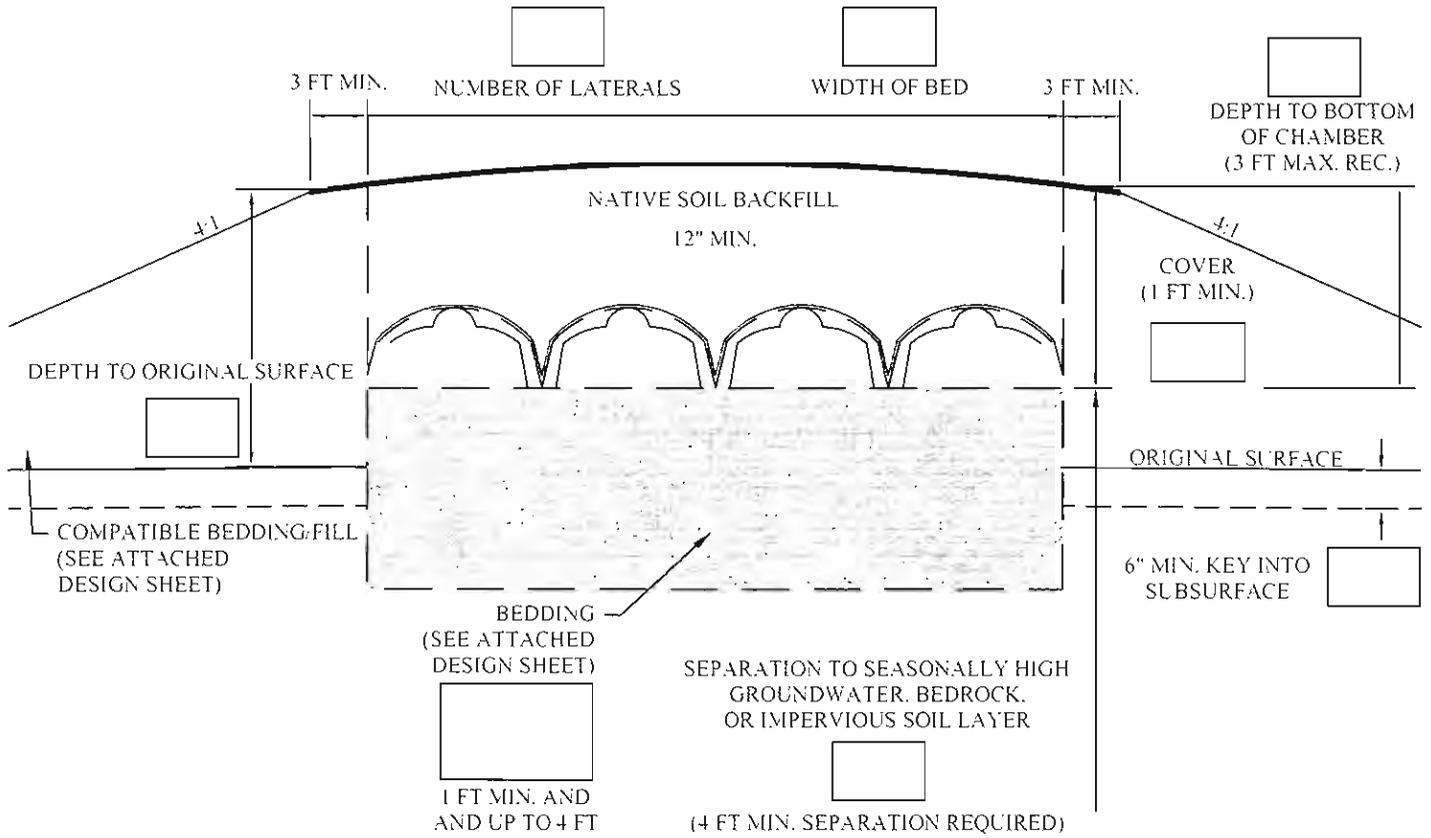
NOTE: MIN. 4" DIAMETER PIPING

STANDARD MOUND BED TYPE PIPE LEACH FIELD



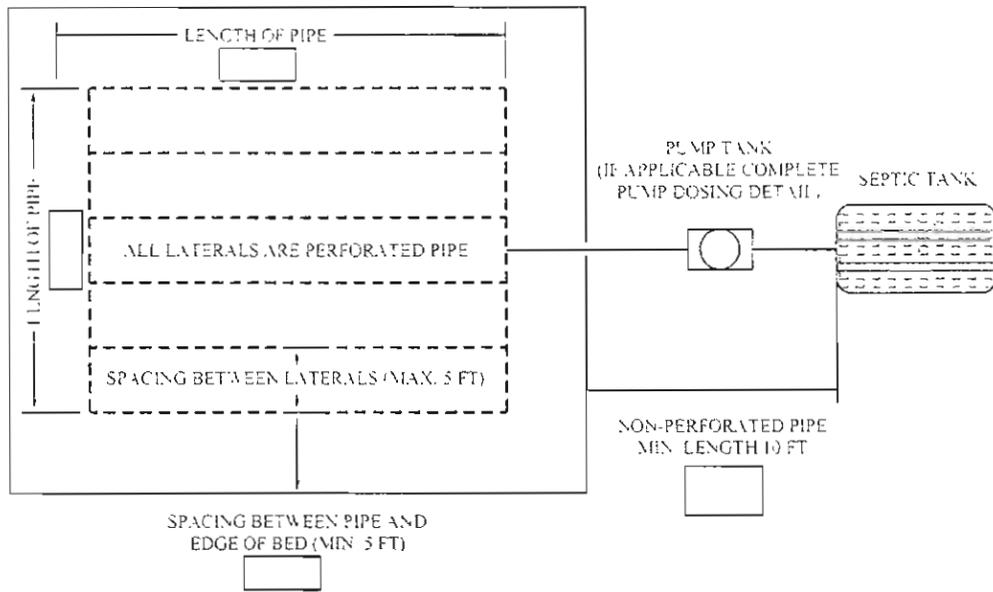
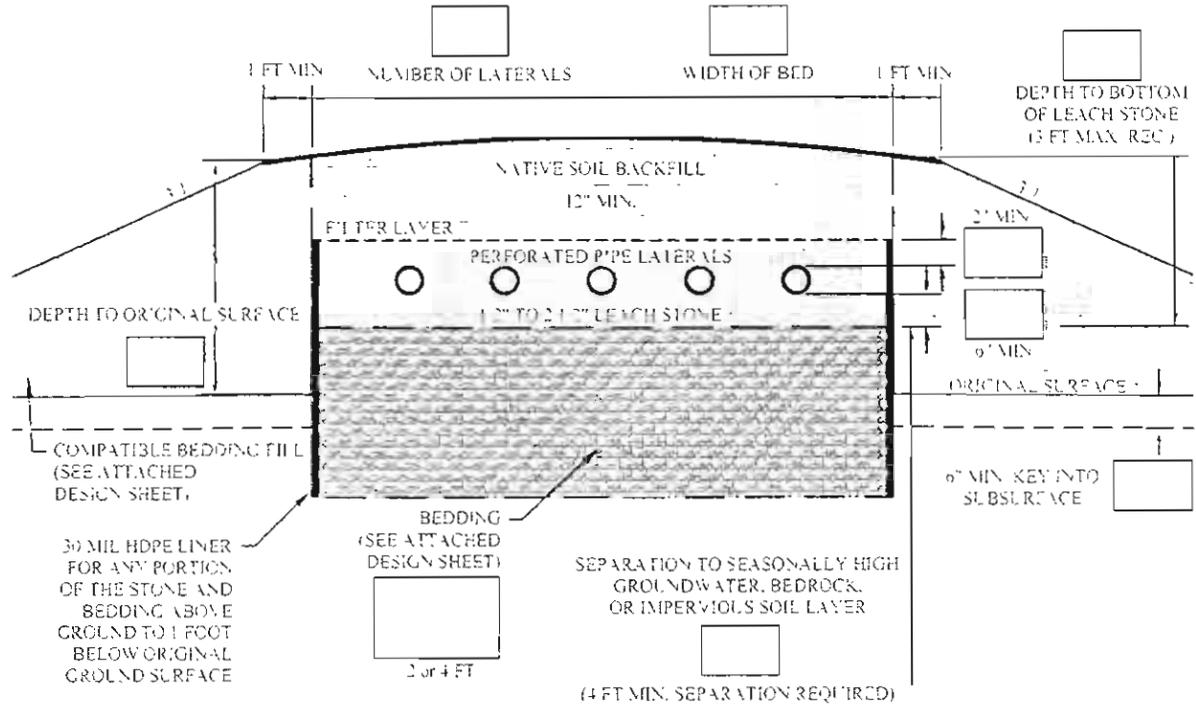
NOTE. MIN. 4" DIAMETER PIPING

STANDARD MOUND BED TYPE CHAMBERED LEACH FIELD



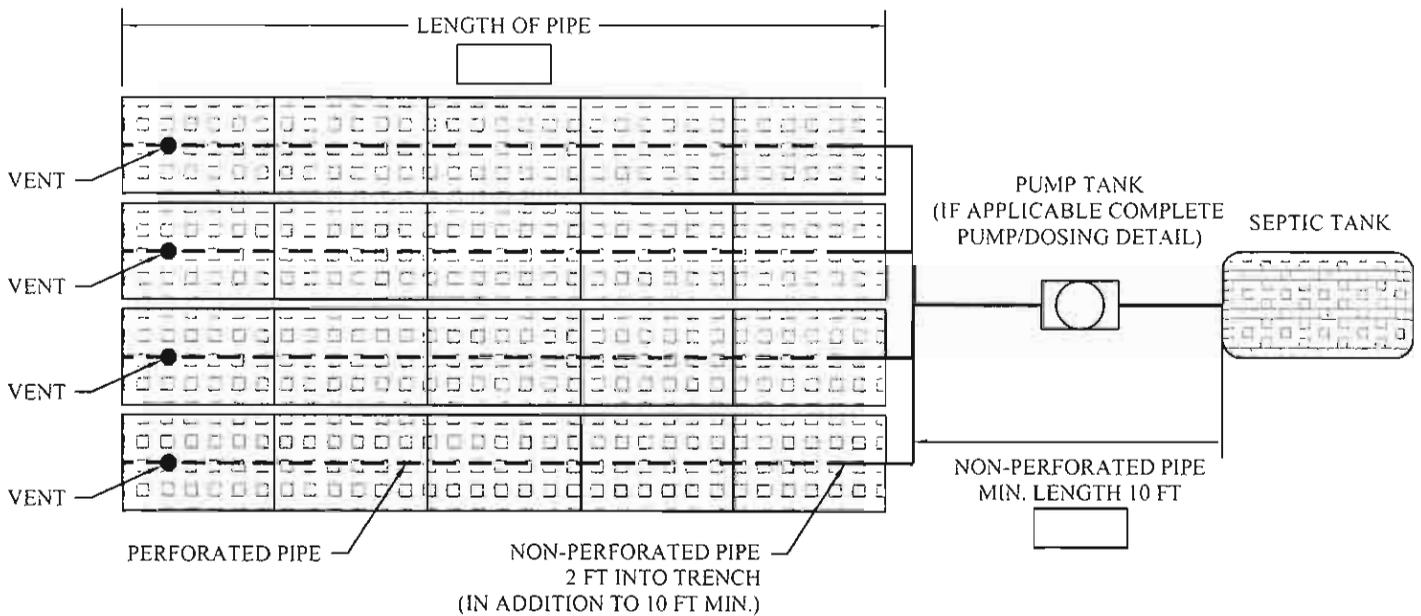
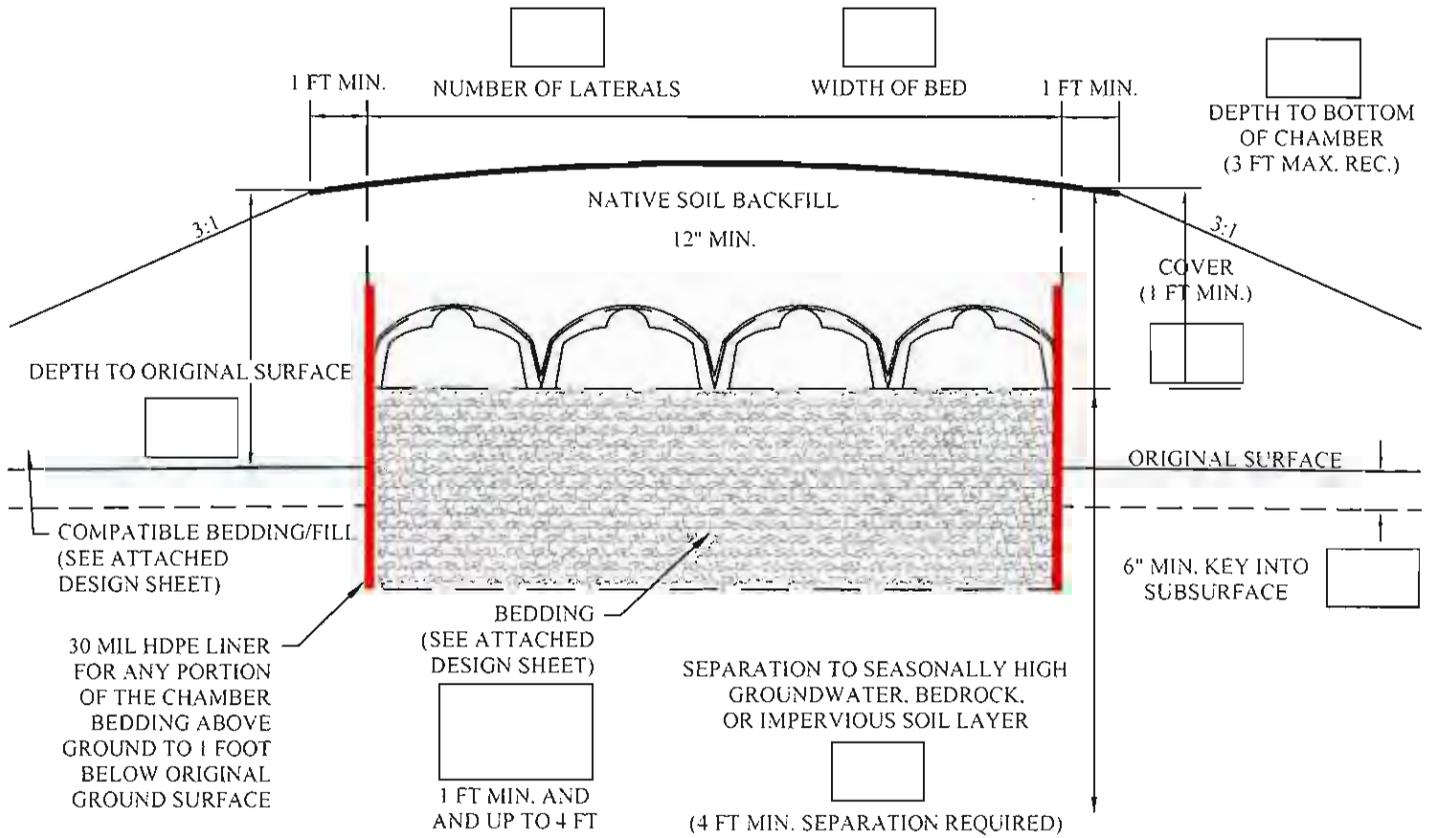
NOTE: MIN. 4" DIAMETER PIPING

ALTERNATE MOUND BED TYPE PIPE LEACH FIELD



NOTE: MIN 4" DIAMETER PIPING

ALTERNATE MOUND BED TYPE CHAMBERED LEACH FIELD



NOTE: MIN. 4" DIAMETER PIPING