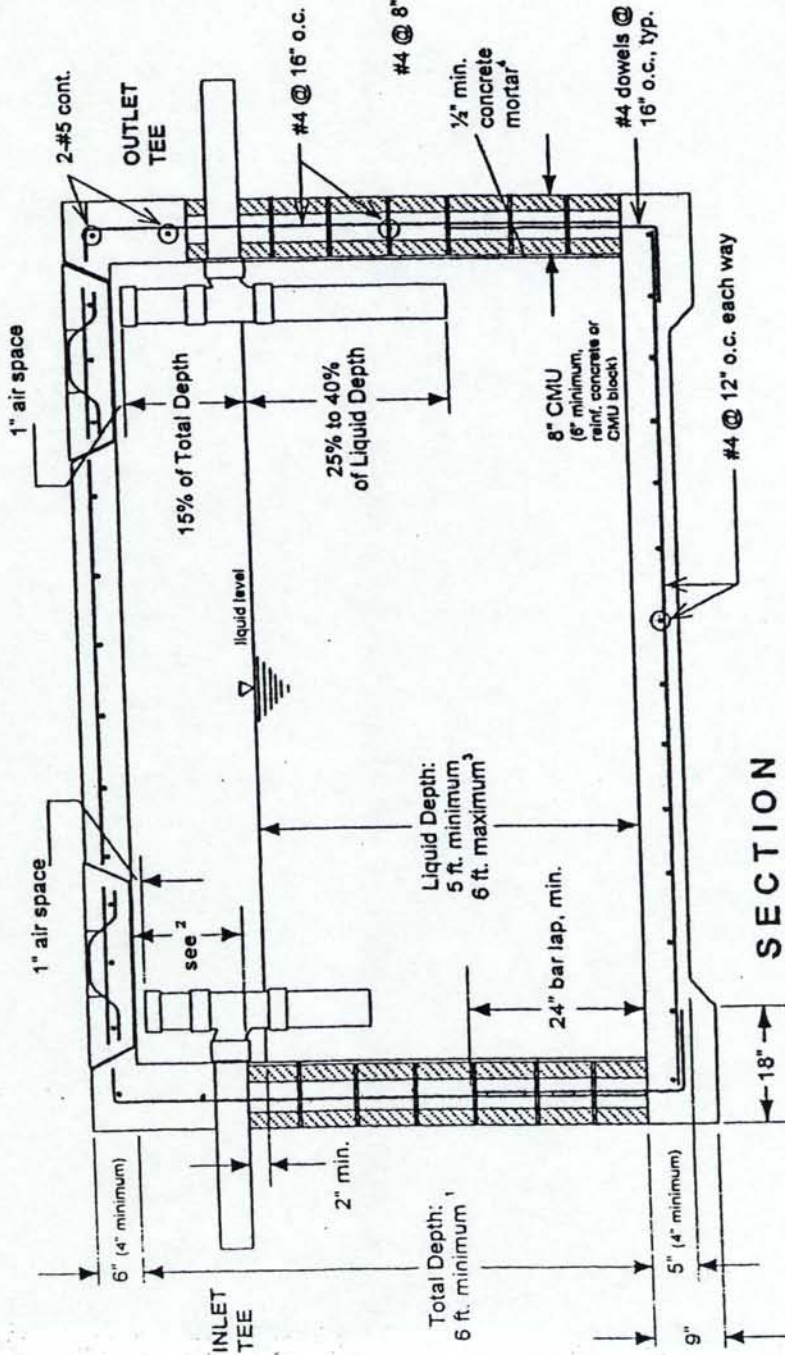


SEPTIC TANK DESIGN REQUIREMENTS

FIGURE 9.1



SECTION

Total Depth (TD) can be calculated as follows, based on Liquid Depth (LD):

$$TD(\text{inches}) = \frac{LD(\text{inches}) + 1 \text{ inch}}{0.85}$$

Based on this: a 5 ft. LD tank will have a total depth of 72" (6 ft.)
a 6 ft. LD tank will have a total depth of 86" (7 ft., 2 in.)

The minimum distance from the bottom of the inlet pipe to the inside surface of the top of the tank can be calculated as follows:
.15TD - 1 inch
this will measure 10 inches for a 5 ft. LD tank;
12 inches for a 6 ft. LD tank

Tanks can have a liquid depth greater than 6 ft.; however, the excess depth will not be considered for calculating tank capacity. A maximum depth of 6 ft. must be used in the volume calculations.

Septic Tanks must be entirely water-tight to function properly. In addition to the required 1/2" plaster/mortar, concerned homeowners or engineers should also consider a bituminous sealant.

NOTE:
Structural details provided by Department of Public Works, Technical Services Division for single-family septic tank only. Larger tanks and tanks subject to vehicle traffic will require specific structural design.

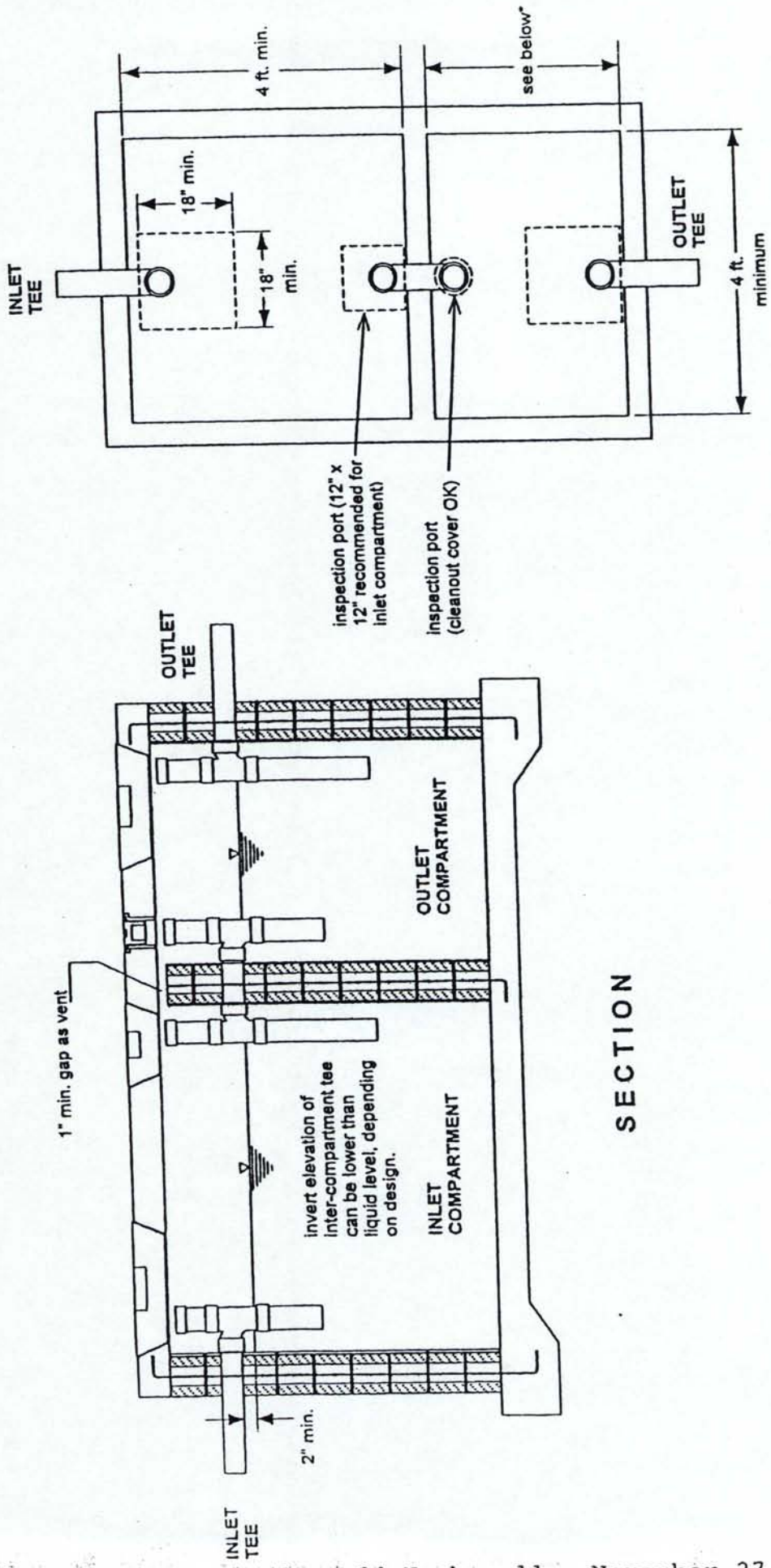
PLAN

STRUCTURAL REQUIREMENTS

- Septic tank cover must be designed to support an earth load of not less than 300 pounds per square foot.
- All septic tank reinforcement must be inspected twice by the Department of Public Works, Technical Services Department: Once before pouring the floor slab; and again before pouring the top slab.
- If septic tank is to be located within a driveway or parking area, the entire structure must be designed to withstand H-20 loading (AASHTO Standard). The applicant must submit design calculations to DEQ for approval by the Department of Public Works, Building Safety Code Division.

DOUBLE COMPARTMENT SEPTIC TANK

FIGURE 9.2

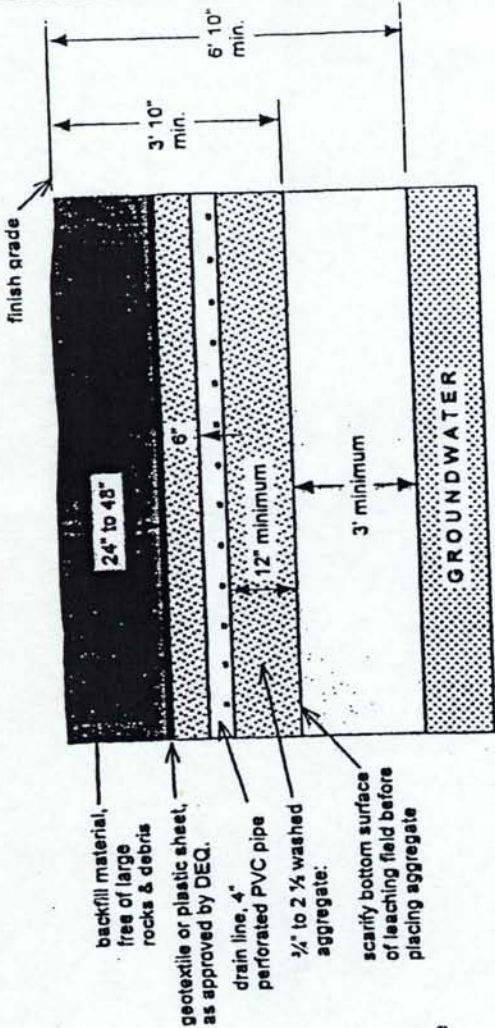


* Inlet compartment must be equal or greater in volume than the outlet compartment. The outlet compartment may be shorter in length than 4 ft., but no shorter than 2 ft.

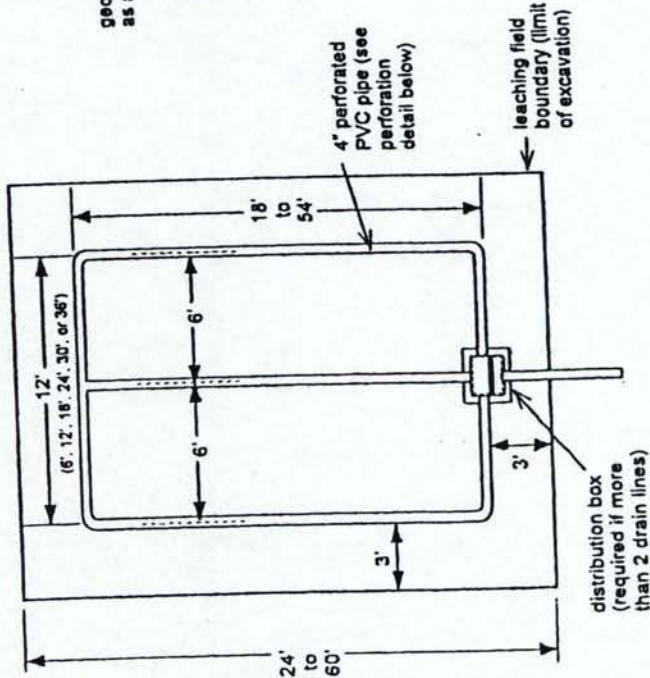
LEACHING FIELD DESIGN REQUIREMENTS

FIGURE 11.1

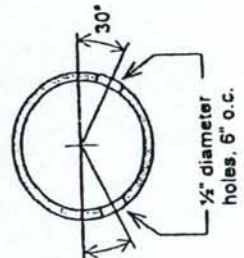
SECTION



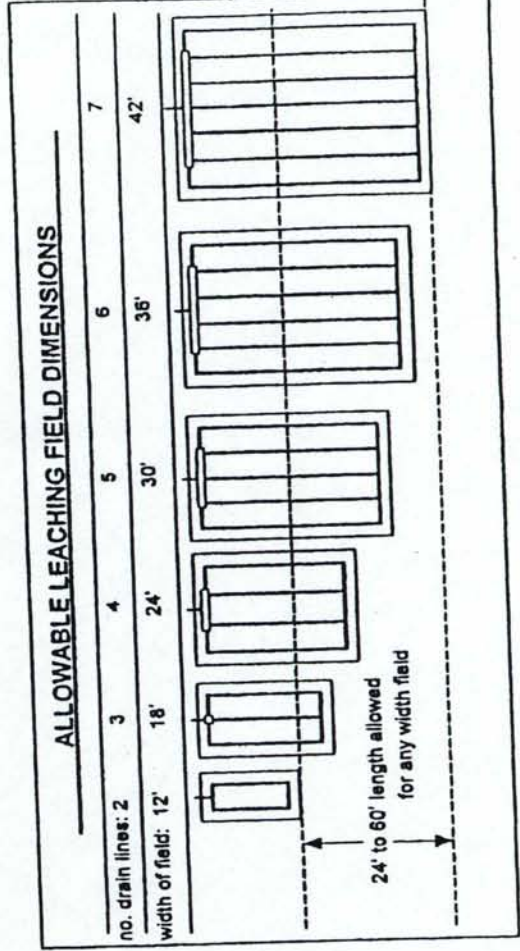
PLAN
3-drain line field



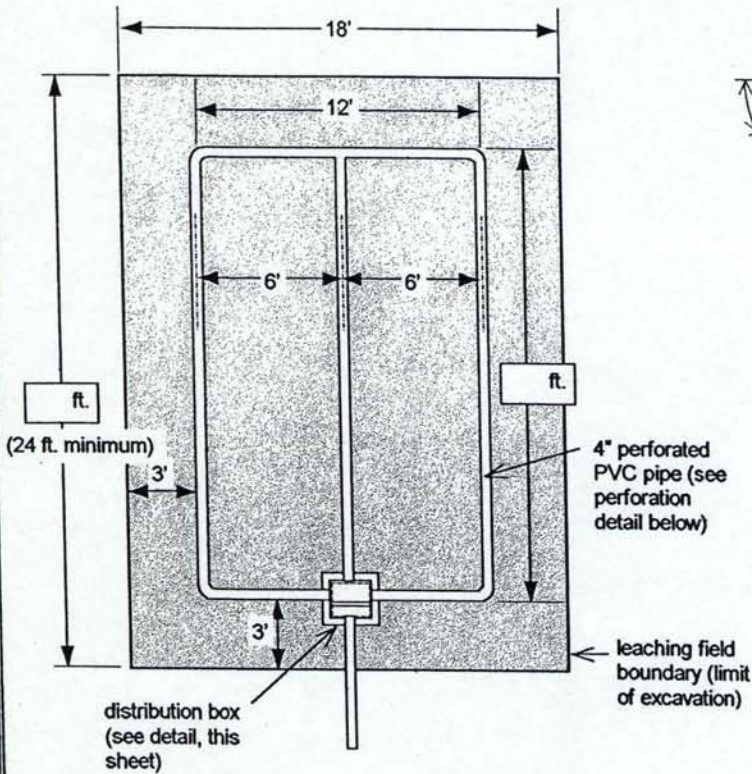
PERFORATION
cross section



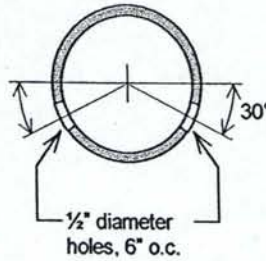
Drain pipe shall be 4" PVC, Schedule 40. Schedule 80 pipe shall be used if any portion of the leaching field is to be installed beneath driveways or other areas subject to vehicle traffic.



PLAN
3-drain line field



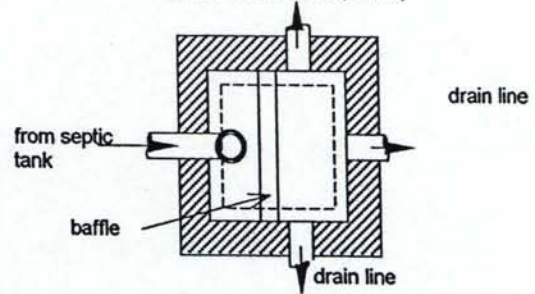
PIPE PERFORATION DETAIL
cross section



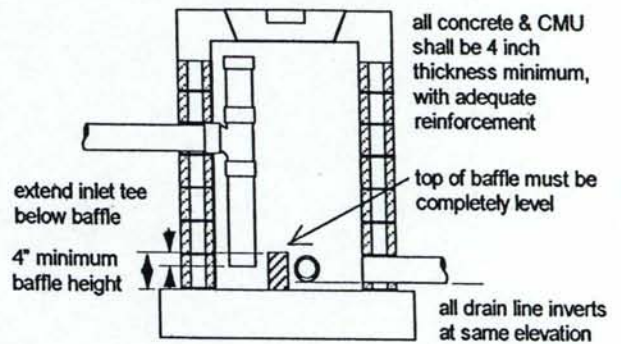
Drain pipe shall be 4" PVC, Schedule 40.

(Schedule 80 pipe shall be used if any portion of the leaching field is to be installed beneath driveways or other areas subject to vehicle traffic.)

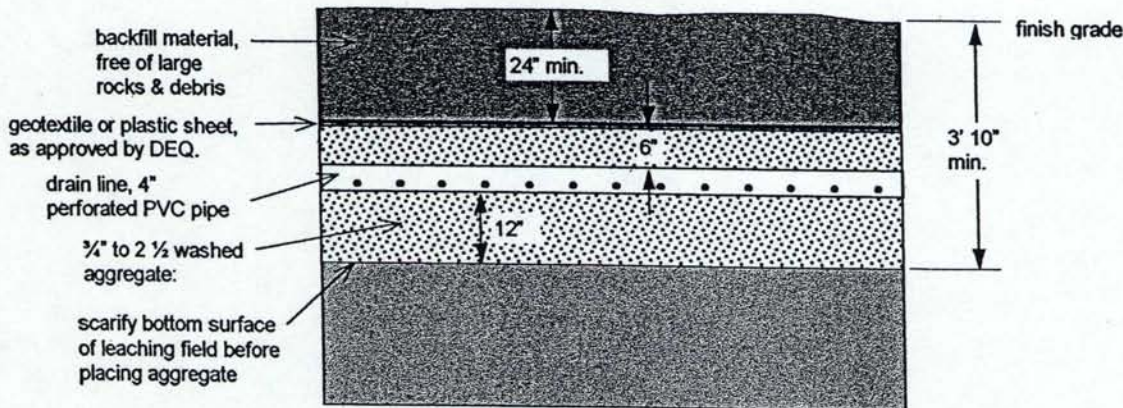
DISTRIBUTION BOX (PLAN)



DISTRIBUTION BOX (SECTION)



SECTION



LEACHING FIELD DETAILS
(3-LINE)

SINGLE-FAMILY RESIDENCE
(non-commercial applications only)



APPLICANT: _____

PERMIT NO.: _____

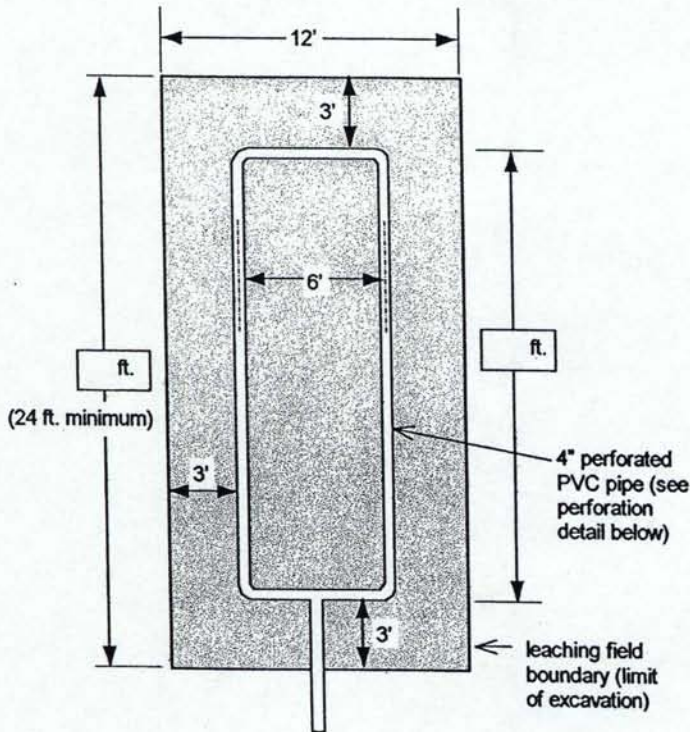
DEQ APPROVAL: _____

March, 2003

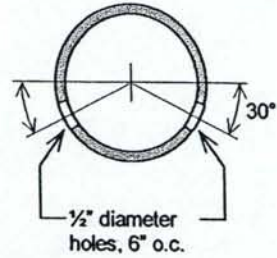
INITIALS

DATE

PLAN
2-drain line field

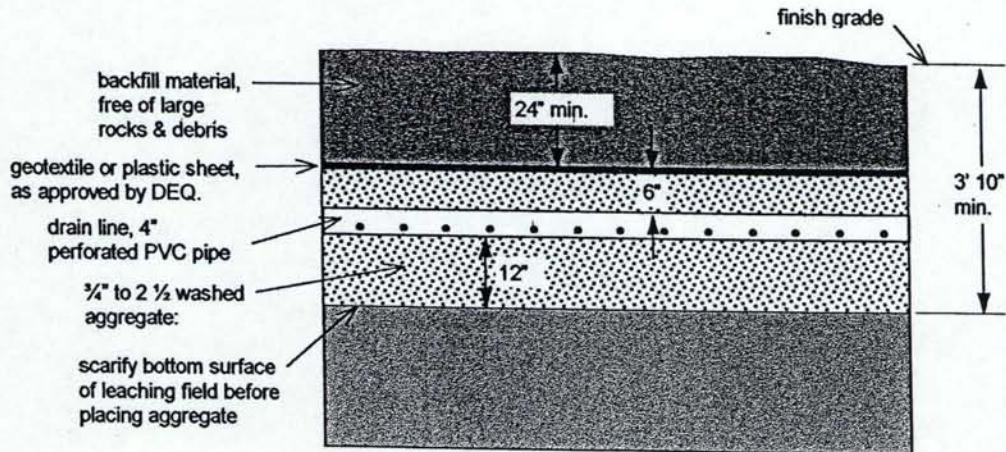


PIPE PERFORATION DETAIL
cross section



Drain pipe shall be 4" PVC, Schedule 40.
(Schedule 80 pipe shall be used if any portion of the leaching field is to be installed beneath driveways or other areas subject to vehicle traffic.)

SECTION



LEACHING FIELD DETAILS
(2-LINE)

SINGLE-FAMILY RESIDENCE
(non-commercial applications only)

APPLICANT: _____

PERMIT NO.: _____

DEQ APPROVAL: _____

March, 2003

INITIALS

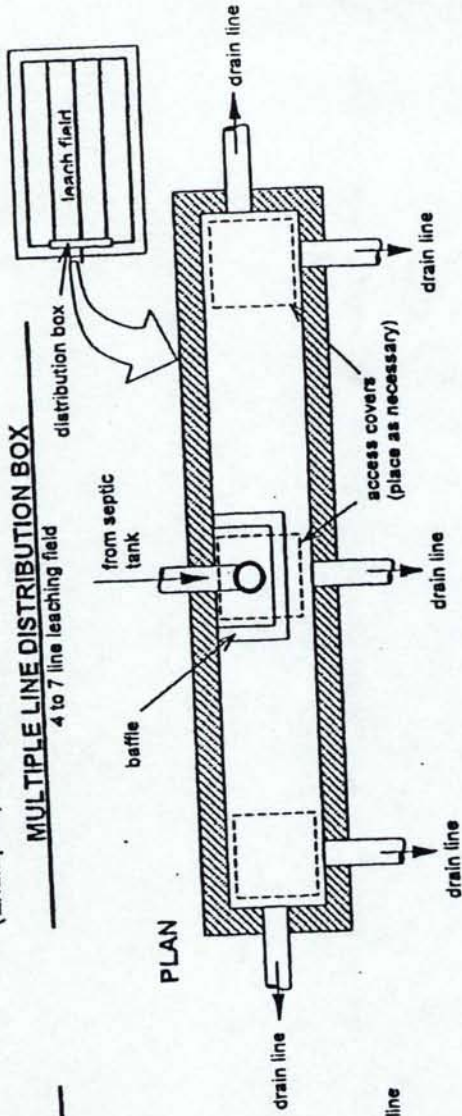
DATE

DISTRIBUTION BOXES

(Examples) FIGURE 11.2

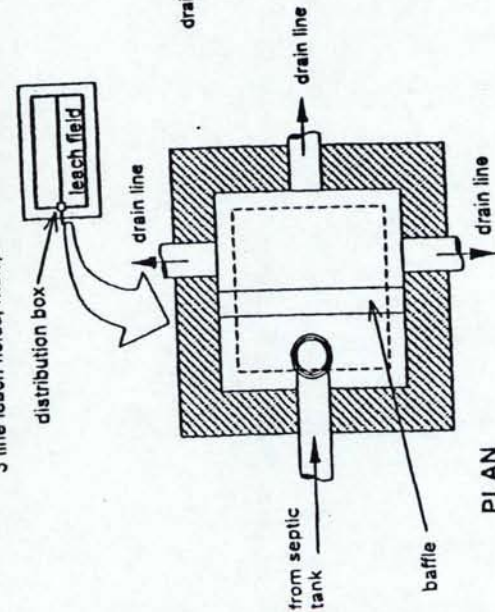
MULTIPLE LINE DISTRIBUTION BOX

4 to 7 line leaching field



3-LINE DISTRIBUTION BOX

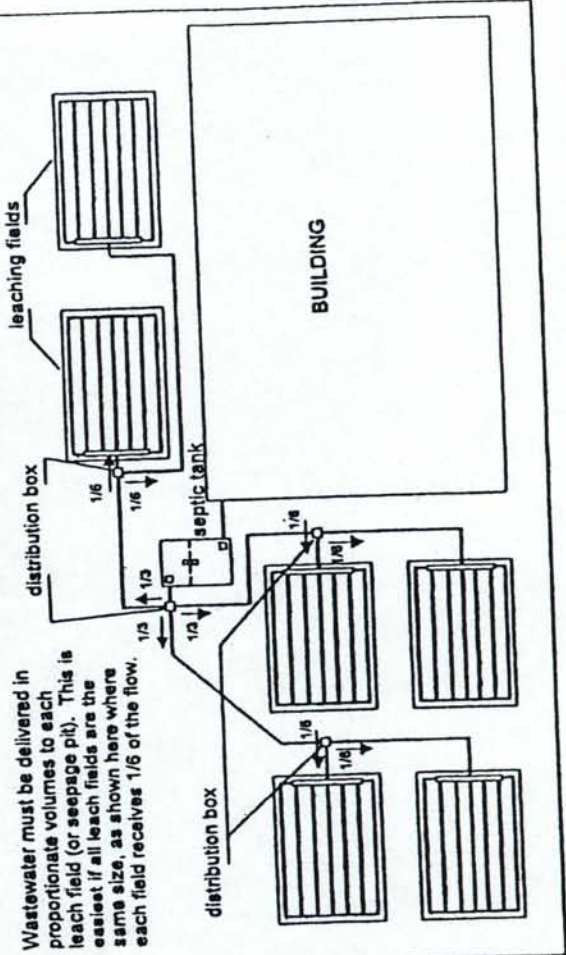
3 line leach fields, multiple leach field systems



DISTRIBUTION OF WASTEWATER

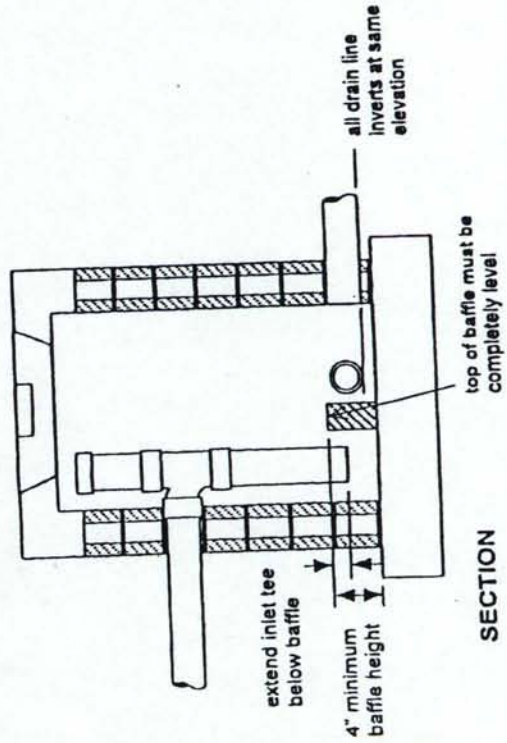
for multiple leach field systems

Wastewater must be delivered in proportionate volumes to each leach field (or seepage pit). This is easiest if all leach fields are the same size, as shown here where each field receives 1/6 of the flow.



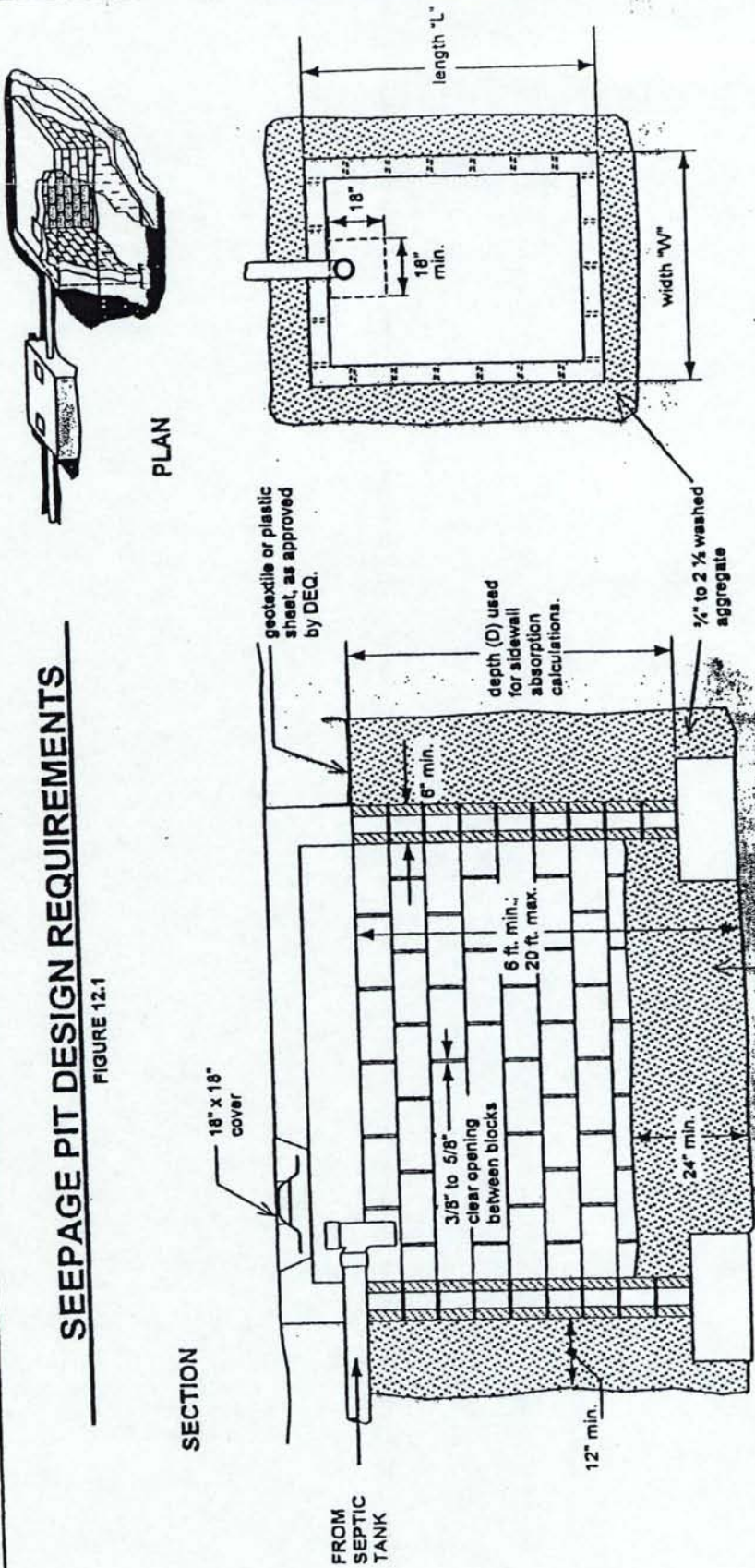
PLAN

SECTION



SEEPAGE PIT DESIGN REQUIREMENTS

FIGURE 12.1



PLAN

SECTION

FROM SEPTIC TANK

18" x 18" cover

geotextile or plastic sheet, as approved by DEQ.

depth (D) used for sidewall absorption calculations.

1/4" to 2 1/2 washed aggregate

12" min.

3/8" to 5/8" clear opening between blocks

6 ft. min.; 20 ft. max.

6" min.

24" min.

1/4" to 2 1/2 washed aggregate

minimum depth from bottom of pit to water table: 5 ft.

STRUCTURAL REQUIREMENTS
 Seepage pit cover must be designed to support an earth load of not less than 300 pounds per square foot.

All seepage pit reinforcement must be inspected twice by the Department of Public Works, Technical Services Department: Once before pouring the floor slab; and again before pouring the top slab.

If seepage pit is to be located within a driveway or parking area, the entire structure must be designed to withstand H-20 loading (AASHTO Standard). The applicant must submit design calculations to DEQ for approval by the Department of Public Works, Building Safety Code Division.

The total absorption area of a seepage pit is the area of the sidewalls only, measured from below the bottom of the inlet pipe. It is calculated as follows:

$$\text{Area} = D(2W + 2L)$$

The length/width ratio of rectangular pits must not exceed 4:1.

Circular seepage pits & walls constructed of reinforced concrete may be used, but the total area of the wall openings must be equal to 2% to 4% of the total sidewall area.