

31.2 Construction- The distribution box shall be constructed of concrete or other durable material. It shall be watertight, including the riser connections where applicable, and it shall have a top load carrying capacity of three hundred (300) pounds per square foot and minimal sidewall deflection. Minimum bottom area shall be three (3) square feet.

31.3 Inlet- The distribution box shall be provided with an inlet tee or a suitable baffle. The invert elevation of the inlet pipe shall be not less than two (2) inches above the invert elevation of the outlet pipe.

#### 31.4 Outlets

31.4.1 Outlet Elevations- The invert elevation of all the outlet pipes shall be a minimum of four (4) inches above the floor of the distribution box. All outlet inverts shall be at the same elevation.

31.4.2 Number of Outlets- If there is no pump tank, there shall be a separate outlet for each distribution line. When a pump tank is installed, there should be either a separate outlet for each distribution line, or a separate outlet of at least six (6) inches in diameter for every two (2) distribution lines. In all cases following a pump tank, the outlet shall be of sufficient size to accept the wastewater flow at the rate wastewater is delivered to the distribution box.

#### 31.5 Distribution Pipes Into the Distribution Box

31.5.1 The distribution pipes shall extend into the distribution box one (1) inch.

31.5.2 Jointing of the distribution piping with a distribution box shall be made with non-shrinking gasket materials which shall maintain a watertight seal.

31.5.3 All inverts shall be set level after the leachfield is installed. Leveling devices may be installed on the distribution pipes.

31.6 Cover- The distribution box shall be provided with a readily removable cover of durable material that fits on the distribution box in the manner shown in Figure 6a for lids on septic tank risers. When a tipping distribution box is used, the distribution boxes shall have a minimum ten (10) inch diameter access opening brought to finished grade. When manholes to grade are not provided, it is recommended that a marker over the cover be provided to grade. OWTSs with a design flow over two thousand (2,000) gallons per day shall have a minimum eighteen (18) inch manhole over each distribution box with extra heavy duty metal frames and covers to finished grade.

31.7 Foundation- The distribution box shall be installed on a level stable base that will not settle.

### **RULE 32. LEACHFIELDS**

32.1 Applicability- This rule applies to leachfields with dispersal trenches (Rule 33), leachfields with concrete chambers in a trench configuration (Rule 34), and to alternative and experimental leachfield systems approved pursuant to Rule 37 except for specifically approved design elements that are not consistent with this Rule 32.

32.2 Minimum Leaching Area- The minimum leachfield area necessary for dispersal trench and concrete chamber leachfields shall be determined by dividing the maximum daily wastewater flow (design flow) for the facility, as determined from Rule 21, by the loading rate established in Rule 32.2.1 for applications without a soil evaluation or by the loading rate established in Rule 32.2.2 for applications with a soil

evaluation. Applications without soil evaluations are those applications that have valid field data that pre-dates the soil evaluation requirements of these Rules.

32.2.1 The maximum leachfield loading rate for applications without a soil evaluation shall be determined from Table 32.2.1 below:

Table 32.2.1: Loading Rates Determined by Percolation Rate

Percolation Rate (minutes per inch)	Loading Rate (gals/sq ft/day)
Notes (1) and (2)	
<5	.93
10	.70
15	.61
20	.52
25	.48
30	.46
40	.40

Notes:

- (1) Rates not listed may be interpolated from this table to reflect actual readings.
- (2) Soil with a percolation rate of over forty (40) minutes per inch is unsuitable for disposal of wastewater by any means of subsurface leaching.
- (3) The fastest percolation rate allowed for applications for OWTSs for New Building Construction pursuant to Rule 17.5 shall be ten (10) minutes per inch.

32.2.2 The maximum leachfield loading rate for applications with a soil evaluation, shall be determined from Table 32.2.2. Use the lowest loading rate obtained in the manner described below:

- (A) If the bottom of the stone is above the original grade, use the soil horizon with the lowest loading rate within five (5) feet of the original ground surface, excluding any A horizons;
- (B) If the bottom of the stone is below the original grade, use the soil horizon with the lowest loading rate within five (5) feet below the elevation of the distribution pipe invert, including the soil horizons receiving side wall effluent;
- (C) If no natural soil will remain within the five (5) feet referenced in Rule 32.2.2 (A) and (B) above because of gravel fill, use the loading rate of the first naturally occurring soil horizon below that depth.

Table 32.2.2. Loading Rates Determined by Soil Category

<b>Soil Category</b>	<b>Loading Rate (gals/sq ft/day)</b>
1	.70
1m	.61
2	.61
3	.70
4	.61
4m	.70
5	.52
6	.61
6m	.70
7	.52
7m	.61
8	.46
8m	.48
9	.40
9m	.43
10	Not Allowed (Impervious)

Note: “m” means soil has gravelly or channery coarse fragment modifiers.

32.3 Effective Leaching Area- The effective leaching area of OWTSs shall be determined in accordance with Rule 33 for dispersal trench OWTSs and Rule 34 for concrete chamber OWTSs.

32.4 Depth to Groundwater From Original Ground Surface- The leachfield shall be located in an area where the seasonal high groundwater table is a minimum of two (2) feet below the original ground surface. All test holes within twenty five (25) feet of the leachfield shall meet the minimum depth to groundwater from original ground surface. On lots twenty thousand (20,000) square feet or larger, the leachfield may be located in an area where the seasonal high groundwater table is less than twenty-four (24) inches but greater than or equal to eighteen (18) inches from the original ground surface if the OWTS utilizes a bottomless sand filter in accordance with DEM guidelines and the applicant has no variance requests pursuant to Rule 47.

32.5 Depth to Restrictive Layer or Bedrock From Original Ground Surface- The leachfield shall be located in an area where a restrictive layer or bedrock is a minimum of four (4) feet below the original ground surface. The minimum depth to a restrictive layer or bedrock shall be met within twenty-five (25) feet of all sides of the leachfield.

32.6 Leachfield Design Point- Where the seasonal high groundwater table is greater than or equal to four (4) feet below the original ground surface, the leachfield shall be designed using the original ground surface elevation at the center of the leachfield. Where the seasonal high groundwater table is less than four (4) feet below the original ground surface, the leachfield shall be designed using the highest original ground surface elevation within the leachfield.

32.7 OWTS Separation Distance to Groundwater- The bottom of the stone underlying the leachfield shall be at least three (3) feet above the seasonal high groundwater table.

32.8 OWTS Separation Distance to a Restrictive Layer or Bedrock- The bottom of the stone underlying the leachfield shall be at least five (5) feet above a restrictive layer or bedrock. This five (5) foot vertical separation shall be maintained to a distance of twenty-five (25) feet from the side wall of the leachfield. In the upgradient direction, the five (5) foot vertical separation requirement may be waived as long as a restrictive layer or bedrock is no higher than the bottom of the stone within twenty-five (25) feet of the leachfield (Figure 1). Excavating into a restrictive layer or bedrock is not permitted unless otherwise approved by the Director.

32.9 Excavation- All trees, brush and stumps within the area of the leachfield and within ten (10) feet of the leachfield shall be removed. Care must be taken to assure that the soil at the bottom and sides of the excavation for the leachfield is not compacted or smeared. The bottom of the excavation shall be level and the bottom and sides of the excavation shall be scarified. In no case shall exposed boulders in the walls or bottom of the excavation be left in place. Voids created by the removal of boulders shall be filled with gravel meeting the requirements in Rule 32.12. Exposed roots within the excavation shall be cut back to the walls of the excavation. No part of the excavation for the leachfield shall be into groundwater. All storm deposited sand in the backdune environment and human transported material existing in the proposed leachfield and five (5) feet around and below shall be removed prior to OWTS installation unless the material is deemed to be acceptable to the Director.

32.10 Stone- The stone used in the leachfield shall consist of double washed stone ranging from not less than three quarter ( $\frac{3}{4}$ ) inch to not more than two (2) inches in size and free of fines, soils, stone dust or debris. The stone shall be covered with a layer of synthetic filter fabric that meets the requirements of Rule 32.11.

32.11 Filter Fabric- A layer of non-woven synthetic filter fabric shall be placed over all stone used in the OWTS construction before backfilling. The filter fabric 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.

#### 32.12 Gravel

32.12.1 The gravel base material and, where applicable, the gravel between the trenches shall consist of clean sand and gravel free of organic matter and foreign substances. The gravel shall not contain any material larger than three (3) inches and up to ten percent (10%) may be sized between three-quarters ( $\frac{3}{4}$ ) and three (3) inches. Gravel shall meet the following criteria: