

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 7 WASTE WATER AND WATER SUPPLY FACILITIES
PART 3 LIQUID WASTE DISPOSAL

20.7.3.1 ISSUING AGENCY: New Mexico Environmental Improvement Board.
 [10/15/97; 20.7.3.1 NMAC - Rn, 20 NMAC 7.3.I.101, 3/1/04]

20.7.3.2 SCOPE:

A. This Part, 20.7.3 NMAC, applies to on-site liquid waste systems that are designed to receive and do receive two thousand (2,000) gallons or less of liquid waste per day, and that do not generate discharges that require a discharge plan pursuant to 20.6.2 NMAC or a national pollutant discharge elimination system (NPDES) permit.

B. Sections 305 and 307 [now 20.7.3.305 - 307 NMAC] apply to the disposal of on-site septage and holding tank wastes.

[10/15/97; 20.7.3.2 NMAC - Rn, 20 NMAC 7.3.I.102, 3/1/04]

20.7.3.3 STATUTORY AUTHORITY: NMSA 1978, Sections 74-1-6, 74-1-7(A)(3), 74-1-8(A)(3), and 74-1-9 (Repl. Pamph 1993 and Cum. Supp. 1997).

[10/15/97; 20.7.3.3 NMAC - Rn, 20 NMAC 7.3.I.103, 3/1/04]

20.7.3.4 DURATION: Permanent.

[10/15/97; 20.7.3.4 NMAC - Rn, 20 NMAC 7.3.I.104, 3/1/04]

20.7.3.5 EFFECTIVE DATE: October 15, 1997, except where a later effective date is indicated in the history note at the end of a section.

[10/15/97; 20.7.3.5 NMAC - Rn, 20 NMAC 7.3.I.105, 3/1/04 & A, 3/1/04]

20.7.3.6 OBJECTIVE: To protect the health and welfare of present and future citizens of New Mexico by providing for the prevention and abatement of public health hazards and surface and ground water contamination from on-site liquid waste disposal practices.

[10/15/97; 20.7.3.6 NMAC - Rn, 20 NMAC 7.3.I.106, 3/1/04]

20.7.3.7 DEFINITIONS: As used in 20.7.3 NMAC.

A. "Aerobic treatment system" means any treatment system which stabilizes liquid waste through the addition of supplemental air or dissolved oxygen by means of mechanical or diffused aeration. Dissolved oxygen content must be maintained at a minimum of 2.0 mg/L for a system to be considered an aerobic system.

B. "Advanced treatment" or "tertiary treatment" means any process of water renovation that upgrades liquid waste to meet specific reuse requirements. Advanced treatment may include general cleanup of wastewater or removal of specific types of wastes, such as nitrates or other nitrogen compounds, insufficiently removed by primary or secondary treatment processes. Advanced treatment may include physical or chemical treatments.

C. "Alternative system" means any on-site liquid waste system utilizing a method of liquid waste treatment and disposal that is not recognized and allowed by 20.7.3 NMAC or by the New Mexico design standards.

D. "Anaerobic treatment" means a biological process through which organic material is decomposed in an environment containing no dissolved oxygen.

E. "Approved" means materials, products, or procedures that meet the requirements of the New Mexico design standards.

F. "Arroyo" means a dry wash or draw which flows only occasionally, a watercourse (as a creek or stream) in an arid region, or a water carved gully or channel.

G. "Bedrock" means the more or less solid, undisturbed rock in place either at the surface or beneath surficial deposits of gravel, sand or soil, or a consolidated rock formation of impervious material which may exhibit jointed, fractured, or deteriorated characteristics.

H. "Bedroom" means any room or unfinished area within a dwelling that reasonably might be used pursuant to the New Mexico building code as a sleeping room.

I. "Biochemical oxygen demand" or "BOD" means the rate at which organisms use the oxygen in water or wastewater while stabilizing decomposable organic matter under aerobic conditions.

J. "Blackwater" means waste from a liquid flushing toilet, urinal, kitchen sinks, dishwashers or laundry water from the washing of material soiled with human excreta, such as diapers.

K. "Body of water" means all constrained water including water situated wholly or partly within or bordering upon New Mexico, whether surface or subsurface, public or private.

L. "Building drain" means that part of the lowest piping of a drainage system which receives the collective liquid waste discharge from soil, waste and other drainage piping inside a building and conveys it to the building sewer which begins two (2.0) feet outside the building wall.

M. "Building sewer" means that part of the horizontal piping of a drainage system which extends from the end of the building drain located two (2.0) feet outside the building wall and which receives the liquid waste discharge from the building drain and conveys it to a liquid waste treatment unit or approved point of disposal.

N. "Canal" means a man-made ditch or channel that carries water for purposes other than domestic consumption.

O. "Cesspool" means an excavation or non-water tight unit which receives untreated water-carried liquid waste allowing direct discharge to the soil.

P. "Clearance" means the vertical thickness of suitable soil between the lowest point of a liquid waste disposal system and the seasonal high ground water table, bedrock, or other limiting layer.

Q. "Commercial unit" means a structure without bedrooms but with sinks, baths, showers, toilets, urinals, floor drains for receiving liquid waste.

R. "Degrade a body of water" means to reduce the physical, chemical or biological qualities of a body of water and includes, but is not limited to, the release of material which could result in the exceeding of standards established by 20.6.4 NMAC, Standards for Interstate and Intrastate Surface Waters, by 20.6.2 NMAC, Ground and Surface Water Protection, and by 20.7.10 NMAC, Drinking Water.

S. "Department" means the New Mexico environment department.

T. "Design flow" means the flow rate for which an on-site liquid waste system must be designed in order to assure acceptable system performance, assuming the use of conventional plumbing fixtures.

(1) For residential sources, the design flow shall be calculated assuming two (2) persons per bedroom for the first two (2) bedrooms and one (1) person per additional bedroom in a single family dwelling unit, and seventy-five (75) gallons per person per day. Multiple family dwelling unit source design flows shall be calculated as the sum of design flows for each single family unit included.

(2) Design flows for nonresidential sources shall be based on table 402.2 and generally accepted references (such as the uniform plumbing code or the USEPA design manual: *on-site wastewater treatment and disposal systems*). Design flows for nonresidential sources also may be based on professional engineering or professional design calculations, if more restrictive, or measured flows. Design flows for nonresidential sources shall include a safety factor of 1.5 to account for peak flows.

U. "Disinfected" or "disinfection" means the use of any process designed to effectively kill most micro-organisms contained in liquid waste effluent including essentially all pathogenic (disease causing) bacteria. These processes include but are not limited to, suitable oxidizing agents such as chlorine, ozone and ultraviolet light.

V. "Disposal system" means a generally recognized system for disposing of the discharge from a liquid waste treatment unit and includes, but is not limited to, seepage pits, drainfields, evapotranspiration systems, sand mounds, sand filters, and approved surface applications.

W. "Dwelling" or "dwelling unit" means a structure which contains bedrooms.

X. "Edge of a watercourse, canal or arroyo" means that point of maximum curvature at the upper edge of a definite bank or, if no definite bank exists, the highest point where signs of seasonal high water flow exist.

Y. "Effluent" means treated liquid waste.

Z. "Effluent disposal well" means a drilled, driven, or bored shaft or dug hole with depth greater than any surface dimension, used for subsurface emplacement of liquid waste, including, but not limited to, abandoned water supply wells, irrigation wells, and test holes, but excluding seepage pits used as disposal systems, which conform to the standards in 20.7.3 NMAC.

AA. "Enclosed system" means a watertight on-site liquid waste system which does not discharge to the soil, including, but not limited to, holding tanks and lined evapotranspiration systems.

AB. "Established on-site liquid waste system" means an on-site liquid waste system which has been in active and trouble free use at any time during the ten (10) years prior to submission of a permit application, but does not include cesspools.

AC. "Evapotranspiration system" means a disposal system designed to dispose of all the design flow from a liquid waste treatment unit through evaporation and plant uptake and transpiration.

AD. "Failed system" means, without limitation, an on-site liquid waste system that does not operate as permitted, that does not provide a level of treatment at least as effective as that provided by on-site liquid waste systems that meet the requirements of 20.7.3 NMAC and the New Mexico design standards, or that poses a hazard to public health or degrades a body of water.

AE. "Fixture units" means a quantity of flow as defined in the UPC upon which plumbing systems are sized.

AF. "Graywater" means untreated household wastewater that has not come in contact with toilet waste and includes wastewater from bathtubs, showers, washbasins, clothes washing machines and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers or laundry water from the washing of material soiled with human excreta, such as diapers.

AG. "Ground water" means interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply.

AH. "Hazard to public health" means the indicated presence in water or soil of biological, chemical or other contaminants under such conditions that could adversely impact human health, including without limitation surfacing liquid waste, damage to a domestic water supply source, presence of an open cesspool or tank, or exposure of liquid waste or septage in a manner that allows transmission of disease.

AI. "Holding tank" means a watertight tank designed to receive and retain liquid waste for periodic pumping and disposal off-site.

AJ. "Imminent hazard to public health or safety" means any situation with the potential to immediately and adversely impact or threaten public health or safety.

AK. "Impervious formation" means any soil or rock formation with a percolation rate slower than 120 minutes per inch.

AL. "Interstitial water" means water in spaces between solid earth particles.

AM. "Limiting layer" means an impervious formation or soils with a percolation rate faster than 5 minutes per inch.

AN. "Liner" means a manufactured or naturally occurring substance which restricts seepage to no more than 0.5 acre-foot per year per acre (0.01 gallons per day per square foot or 4.8×10^{-7} cm/sec.) over the design service life of the lined unit. Manufactured liners must have a minimum thickness of 20 mils.

AO. "Liquid waste" means graywater or blackwater which may contain without limitation human excreta and water carried waste from typical residential plumbing fixtures and activities, including, but not limited to, wastes from toilets, sinks, showers, baths, clothes, and dish-washing machines, and floor drains. Specifically excluded from the definition of liquid waste are commercial process wastewaters, roof drainage, mine or mill tailings or wastes, and wastes containing high concentrations of stabilizing or deodorizing agents.

AP. "Liquid waste treatment unit" means a watertight unit designed, constructed and installed to separate and retain solids and to stabilize liquid waste and includes, but is not limited to, aerobic liquid waste treatment units and septic tanks.

AQ. "Load" or "loading" means:

(1) in the context of the biological or chemical load received by an on-site liquid waste system, the amount of material applied to an on-site system liquid waste component per unit area or unit volume;

(2) in the context of the structural load applied to an on-site liquid waste structural component, the structural force applied to a liquid waste system component per surface area.

AR. "Lot" means a unified parcel where liquid waste will be generated or disposed, excluding roadways and roadway easements, legally recorded or validated by other means. "Lot" includes any contiguous parcel subject to a legally recorded perpetual easement which dedicates the servient parcel for the disposal of liquid waste generated on the dominant parcel.

AS. "Modify" means:

(1) to change the method of on-site liquid waste treatment or disposal;

(2) to expand the on-site liquid waste system;

(3) to alter the horizontal or vertical location of the on-site liquid waste system;

(4) to increase the amount of design flow or load received by the on-site liquid waste system above the original design flow or load;

(5) to remove or replace component materials in a disposal system; or

(6) to change the size or boundaries of a lot with an existing on-site liquid waste system so that the total design flow for the lot exceeds the total design flow limitation provided by the formula in Subsection C of 20.7.3.302 NMAC.

AT. "New and innovative technology" means without limitation liquid waste treatment technology, processes, equipment or components which are not fully proven in the circumstances of their intended use, but, based upon documented research and demonstration, appear to offer benefits which outweigh the potential risks of failure. New and innovative technology must be significantly different from technology recognized and allowed by the New Mexico design standards and must offer potential benefits in terms of public health, the environment, or energy or resources conservation.

AU. "New Mexico design standards" means 20.7.3.401 - 410 NMAC, the uniform plumbing code, and those specifications and construction standards for on-site liquid waste systems promulgated by the environmental improvement board for general use. In the event of conflict between the requirements of the uniform plumbing code and other requirements contained in the New Mexico design standards, the more stringent requirements shall apply.

AV. "Nitrate nitrogen" or "NO₃" means the most highly oxidized form of nitrogen found in wastewater or effluent.

AW. "Off-site water" means that the domestic water supply for the lot is from:

(1) a private water supply source which is neither within the lot nor outside the lot within one hundred (100) feet of the property line of the lot; or

(2) a public water supply source which is not within the lot.

AX. "On-site" means located on or within a lot.

AY. "On-site liquid waste system" means a liquid waste system, or part thereof, serving a dwelling, establishment or group, and using a liquid waste treatment unit designed to receive liquid waste followed by either a soil treatment or other type of disposal system. On-site liquid waste systems include enclosed systems and privies but do not include systems or facilities designed to receive or treat mine or mill tailings or wastes.

AZ. "On-site water" means that the domestic water supply for the lot is from:

(1) a private water supply source which is within the lot or within one hundred (100) feet of the property line of the lot; or

(2) a public water supply source which is within the boundaries of the lot.

BA. "Owner" means any person who owns an on-site liquid waste system or any component thereof, or any lot upon which any on-site liquid waste system or any component thereof is located.

BB. "Percolation rate" means the rate of entry of water into soil as determined by a standard soil test at the depth and location of the proposed soil disposal system.

BC. "Permittee" means any owner of a permitted on-site liquid waste system.

BD. "Person" means any individual, partnership, firm, public or private corporation, association, trust, estate, the state or any political subdivision or agency, or any other legal entity or their legal representative, agents or assigns.

BE. "Primary treatment" means a liquid waste treatment process that takes place in a treatment unit and allows those substances in wastewater that readily settle or float to be separated from the water being treated.

BF. "Private water supply source" means a water supply source such as a well, spring, infiltration gallery, or surface water withdrawal point used to provide water to a water supply system, if such system does not have a least fifteen (15) service connections and does not serve an average of twenty-five (25) individuals at least sixty (60) days out of the year.

BG. "Privy" or "outhouse" means a receptacle for non-liquid-carried human excreta allowing direct discharge to the soil.

BH. "Public water supply source" means a water supply source such as a well, spring, infiltration gallery, or surface water intake structure used to provide water to a public water supply system for human consumption if the system served has at least fifteen (15) service connections or regularly services an average of twenty-five (25) individuals at least sixty (60) days out of the year.

BI. "Residential unit" means a dwelling.

BJ. "Replacement area" means an area within a lot designated to allow future construction of a replacement disposal area as required by Subsection C of 20.7.3.401 NMAC.

BK. "Roadway" means the surface area of land dedicated by easement or use to provide vehicular passage serving more than one lot or more than five residential or commercial units on a single property.

BL. "Seasonal high ground water table" means the highest level to which the upper surface of ground water may be expected to rise within twenty-four (24) consecutive months.

BM. "Seasonal high water flow" means the highest level which perennial or intermittent surface waters may be expected to rise within twenty-four (24) consecutive months.

BN. "Secondary treatment" means a wastewater treatment process used to convert dissolved or suspended materials into a form more readily separated from the water being treated. The process is commonly a

biological treatment process followed by settling and clarification. The minimum secondary treatment standards required by 20.7.3 NMAC for the 5-day biochemical oxygen demand (BOD5) and total suspended solids (TSS) shall be:

- (1) the 30-day average shall not exceed 30.0 mg/L;
 - (2) the 30-day average percent removal shall not be less than 85 percent.
- BO. "Secretary" means the secretary of environment or a designated representative.
- BP. "Septage" means the residual wastes and water periodically pumped from a liquid waste treatment unit or from a holding tank.
- BQ. "Septic tank" means liquid waste treatment units designed to provide primary treatment and anaerobic treatment prior to disposal.
- BR. "Setback distance" means the distance measured by a straight horizontal line between the on-site liquid waste system, its designated replacement area, or portion thereof and the object being considered.
- BS. "Suitable soil" means a soil, whether naturally occurring or introduced, which will treat the effluent effectively and act as an effective filter and remove organisms and suspended solids prior to the effluent reaching ground water, bedrock or a limiting layer, and which will provide adequate transmission to prevent a failed system. Suitable soils are minimally characterized by percolation rates between five (5) and one hundred twenty (120) minutes per inch.
- BT. "Surface application" means the application of disinfected effluent to the ground surface.
- BU. "Test hole" means a hole dug in the proposed disposal field area a minimum of seven (7) feet deep and a minimum of two (2) feet wide. The test hole shall be sufficient to examine the soil visually for type, structure, mottling, impervious layers, and other soil characteristics, and to determine the seasonal high water table level. A soil boring may be used to determine the soil characteristics.
- BV. "Total design flow" means the sum of design flows for all on-site liquid waste systems and other wastewater discharges on a lot.
- BW. "Total nitrogen" or "NT" means the combined organic nitrogen, ammonia, nitrite and nitrate contained in the wastewater or effluent.
- BX. "Uniform plumbing code" or "UPC" means the 1991 uniform plumbing code, 14 NMAC 11.3, the 1991 state of New Mexico plumbing code and mechanical code - uniform plumbing code, 14 NMAC 11.2, and the 1991 state of New Mexico plumbing code and mechanical code - uniform mechanical code, 14 NMAC 9.2, or the successor versions of each as adopted by the construction industries division of the New Mexico regulation and licensing department and promulgated in the New Mexico administrative code.
- BY. "Wastewater" means blackwater and graywater.
- BZ. "Watercourse" means any surface river, creek, arroyo, draw, canal or wash, or any other channel having definite banks and beds with visible evidence of the flow of water.
- [10/15/97; 20.7.3.7 NMAC - Rn, 20 NMAC 7.3.L107, 3/1/04, & A, 3/1/04]

20.7.3.8 GENERAL PROVISIONS:

- A. Interpretation: The definitions in 20.7.3.7 NMAC shall be construed so as to achieve the objective of 20.7.3 NMAC.
- B. Alternative Resources: When guidance is sought in areas not covered by 20.7.3 NMAC, the most recent version of the following resources may provide guidance. In cases where reference to these alternative resources is proposed the department shall make the final determination of applicability.
- (1) The American national standards institute (ANSI) book of codes.
 - (2) The American society for testing and materials (ASTM) testing manual.
 - (3) The international association of plumbing and mechanical officials (IAPMO) codes.
 - (4) The National sanitation foundation (NSF) standard 40 and standard C9.
 - (5) EPA design manual for onsite wastewater treatment and disposal systems.
- C. Authority to disconnect source of water supply: The department may disconnect the source of water supply to a commercial or dwelling unit that is served by any on-site liquid waste system that has become a failed system and that presents an imminent hazard to public health. This authority includes authority to disconnect power utilities if necessary to disconnect the source of water supply. The department shall give notice of its actions to the lot owner and the tenants affected.
- D. Technical Advisory Committee.
- (1) The secretary may appoint a technical advisory committee to assist the department in an advisory capacity on materials, systems, processes, equipment approvals and technical specification review and approvals.

(2) The technical advisory committee will meet at the discretion of the department. Recommendations of the committee regarding matters within the scope of Paragraph (1) of Subsection D of 20.7.3.8 NMAC will be presented to the department for review and evaluation. The department will make the final decision on any recommendation of the committee.
[10/15/97; 20.7.3.8 NMAC - Rn, 20 NMAC 7.3.1.100, 1.108 -1.111, 3/1/04]

20.7.3.9 through 20.7.3.200 [RESERVED]

20.7.3.201 PROCEDURES; LIQUID WASTE SYSTEM PERMITS:

A. No person shall install or have installed a new on-site liquid waste system or modify or have modified an existing on-site liquid waste system, unless that person obtains a permit issued by the department prior to construction of such installation or modification.

(1) No person shall construct or modify a dwelling on, or transport a dwelling onto, a lot for which an on-site liquid waste system is required unless the department has issued an on-site liquid waste system permit prior to such construction, modification, or transportation.

(2) No person shall construct, install, repair or modify an on-site liquid waste system unless that person holds a valid contractors license issued by the New Mexico construction industries division, except that a single family residential property owner may construct, install, repair or modify permitted septic tanks and conventional trench or bed disposal fields on his or her own property after obtaining a permit without such a license.

(3) A permit is not required for graywater discharges or for systems designed for the discharge of graywater that meet the requirements of 20.7.3.310 NMAC.

B. Obtaining a permit from the department for installation or modification of an on-site liquid waste system does not relieve any person from the responsibility of obtaining any other approval, license or permit required by state, city or county regulations or ordinances or other requirements of state or federal laws.

C. Any person seeking a permit shall do so by submitting an application to the field office of the department having jurisdiction for the area where the system is to be installed or modified. The application shall be:

(1) made on a form provided by the department;

(2) accompanied by such other relevant information as the department may reasonably require or that the applicant may consider appropriate; and

(3) signed by the applicant or their authorized representative.

D. The department may require any or all of the following information before a permit is issued for an on-site liquid waste system, or at any time during the construction thereof.

(1) A site plan, completely dimensioned, showing direction and approximate slope of surface, location of all present or proposed retaining walls, arroyos, canals, irrigation or drainage channels, water supply lines, wells or other water sources, other on-site liquid waste systems, paved areas, roadways, structures, plumbing fixtures in each structure, and location of the proposed liquid waste system and replacement area with relation to lot lines and structures, and to all sources of public water supply located within two-hundred (200) feet.

(2) Sufficient details of construction, materials, and components necessary to assure compliance with the requirements of 20.7.3 NMAC, including a full description of the complete installation, quality, kind and grade of all materials, equipment, construction, and methods of assembly and installation.

(3) A log of soil formations and ground water level as determined by soil borings or a test hole(s) dug in close proximity to any proposed seepage pit or disposal field, together with a statement of water absorption characteristics of the soil at the proposed site as determined by approved percolation tests.

E. Department responses.

(1) Except as otherwise provided in Paragraph (2) of Subsection E of 20.7.3.201 NMAC the department shall, within ten (10) working days after receipt of the completed application, grant the permit, grant the permit subject to conditions, or deny the permit and shall notify the applicant of the action taken.

(2) If the department's initial review of the application indicates that the imposition of more stringent requirements may be necessary pursuant to Subsection F of 20.7.3.201 NMAC or Subsection C of 20.7.3.301 NMAC, the department may extend the time for the review of the application until twenty (20) working days after receipt of the completed application provided that the department shall notify the applicant of such extension within ten (10) working days after receipt of the completed application.

(3) When the permit is granted subject to conditions or denied, the reason for the action shall refer to the appropriate regulation(s) and be given in writing.

F. If the department finds that specific requirements in addition to or more stringent than those provided in 20.7.3.301 - 309 NMAC and 20.7.3.401 - 410 NMAC of 20.7.3 NMAC are necessary to prevent a

hazard to public health or the degradation of a body of water, the department may issue permit conditions with more stringent requirements or additional specific requirements. Such additional or more stringent requirements may apply to system design, siting, construction, inspection, operation and monitoring.

G. The department shall deny the permit if the proposed system will not meet the requirements of 20.7.3 NMAC or the New Mexico design standards.

H. The department shall maintain a file of all permits issued and denied. The file shall be open for public inspection.

I. The installation or modification of an on-site liquid waste system shall be in accordance with the permit. Any change from the permitted installation or modification, including a change of contractor, must receive written department approval prior to implementation.

J. No person shall operate or use an on-site liquid waste system until the department has granted final approval of the system after installation or modification of the system is completed. No person shall occupy a newly constructed or transported dwelling for which an on-site liquid waste system is required until the department has granted such final approval, and, if applicable, until the governmental body with authority to regulate construction has granted an occupancy permit. The department shall not grant final approval if the system as installed or modified does not meet the requirements of 20.7.3 NMAC and the New Mexico design standards.

K. The department may cancel a permit if the installation or modification of the on-site liquid waste system has not been completed within one (1) year after issuance, or if the department determines that material information in the application is false, incomplete, or inaccurate and that the correct information would have resulted in the department denying the original application. If a permit is canceled, the department shall notify the permittee of the decision in writing and the reason for cancellation and appropriate regulations cited.
[10/15/97; 20.7.3.201 NMAC - Rn, 20 NMAC 7.3.II.200, 201, 3/1/04 & A, 3/1/04]

20.7.3.202 PROCEDURES; VARIANCES:

A. Any person seeking a variance from the requirements contained in 20.7.3 NMAC shall do so by filing a written petition with the field office of the department having jurisdiction for the area where the system is to be installed.

B. The petition shall be:
(1) made on a form provided by the department;
(2) accompanied by relevant documents or materials which the petitioner believes would support the petition;

(3) accompanied by documentation, including addresses, demonstrating that all owners of adjacent property sharing a common border with the lot for which the variance is sought have been notified of the nature of the variance petition, the date of submission of the petition to the department, the address of the department field office to which the petition is being submitted, and the time frame for department action as provided in Subsection C of 20.7.3.202 NMAC, unless all adjacent properties are more than one thousand (1,000) feet from the on-site liquid waste system for which the variance is sought;

(4) accompanied by such other relevant information as the department may reasonably require; and
(5) signed by the petitioner or an authorized representative.

C. The department shall, after a minimum of ten (10) but not more than twenty (20) working days following receipt of the completed petition, grant the variance, grant the variance subject to conditions, or deny the variance and shall so notify the applicant and any other person making a written submission concerning the petition. The reason for the department's action shall be provided in writing and the appropriate regulations cited.

D. The department shall deny the variance petition unless the petitioner establishes by clear and convincing evidence that:

(1) the proposed on-site liquid waste system will, by itself or in combination with other on-site liquid waste systems, or other discharges subject to 20.6.2.3000 through 20.6.2.3114 NMAC, neither cause a hazard to public health or degrade any body of water; and

(2) granting the variance will result in public health and environmental protection equal to or greater than the minimum protection provided by the variances requirement.

E. The department shall maintain a file of all variances granted and denied. The file shall be open for public inspection.

F. The factors listed below as applicable, shall be considered in evaluating petitions for variances from the principal requirements of 20.6.2.3000 through 20.6.2.3114 NMAC. This list is illustrative, not exhaustive. Similarly, some of the factors listed within a category may not be important in specific cases.

(1) Lot size requirements (see also 20.7.3.302 NMAC).

- (a) Proposed system discharge.
 - (i) Design flow -- projected average flows, basis for projection.
 - (ii) Discharge quality -- degree of treatment, separation of black water, and so forth.
 - (iii) Type of system -- trenches, bed, pit, pressure distribution, and so forth.
 - (iv) Location and arrangement of discharge in relation to property boundaries.
- (b) Geological factors.
 - (i) Depth to seasonal high ground water table.
 - (ii) Distance to seasonal high water flow.
 - (iii) Intervening stratigraphy: geological layer composition (sand, clay, rock) and thickness, type and degree of fracture of bedrock, information from well logs.
 - (iv) Presence of any barriers to pollutant movement.
- (c) Hydrological factors.
 - (i) Ground water flow direction and gradient.
 - (ii) Transmissivity of the aquifer.
 - (iii) Background quality of the ground water.
 - (iv) Thickness of the saturated aquifer.
 - (v) Projected mixing depth of effluent with groundwater.
 - (vi) Human influences in ground water flow direction and gradient, such as pumping wells, irrigation, and agricultural drains.
- (d) Miscellaneous additional factors.
 - (i) Current and future housing density in the area -- notably legal limitation.
 - (ii) Potential for future community sewer.
 - (iii) Current and future use of the ground water.

(2) Setback requirements (see also 20.7.3.303 NMAC).

- (a) Proposed system discharge.
 - (i) Design flow -- projected average and peak flows, and the basis for projection.
 - (ii) Discharge quality -- degree of treatment, separation of black water, and so forth.
 - (iii) Type of system -- trenches, bed, pit, pressure distribution, and so forth.
 - (iv) Location and arrangement of discharge in relation to all objects in listed in table 303.1.
- (b) Geological factors.
 - (i) Depth to seasonal high ground water table.
 - (ii) Distance to seasonal high water flow.
 - (iii) Intervening stratigraphy -- geological layer composition (sand, clay, rock) and thickness, type and degree of fracture of bedrock, information from well logs.
 - (iv) Presence of any barriers to pollutant movement.
- (c) Hydrological factors.
 - (i) Ground water flow direction and gradient.
 - (ii) Transmissivity of the aquifer.
 - (iii) Background quality of the ground water.
 - (iv) Thickness of the saturated aquifer.
 - (v) Projected mixing depth of effluent with groundwater.
 - (vi) Human influences in ground water flow direction and gradient, such as pumping wells, irrigation, and agricultural drains.
- (d) Factors relating to the setback objects.
 - (i) Water supply well construction and protection -- sanitary surface seal, casing sealed past first aquifer, depth of solid casing, depth of screen.
 - (ii) Well pumping rates and projected drawdown.
 - (iii) Whether the watercourse is losing or gaining with respect to local ground water.
 - (iv) Potential for future construction of well, canals, and so forth in area.
 - (v) Potential for future change in watercourse or lake shore.
 - (vi) Potential flooding effects.
- (e) Miscellaneous additional factors.
 - (i) Current and future housing density in the area -- notably legal limitation.
 - (ii) Current and future use of the groundwater that could be affected by the proposed system.

(3) Clearance requirements (see also 20.7.3.304 NMAC).

(a) Proposed system discharge.

- (i) Design flow -- projected average and peak flows, and the basis for projection.
- (ii) Discharge quality -- degree of treatment, separation of black water, sand filtration,

and so forth.

- (iii) Type of system -- trenches, bed, pit, pressure distribution, and so forth.

- (iv) Location and arrangement of discharge in relation to all objects in listed in table

303.1.

(b) Geological factors.

- (i) Depth to seasonal high ground water table.
- (ii) Distance from seasonal high water flow.
- (iii) Type of limiting layer and depth to limiting layer.
- (iv) Intervening stratigraphy -- geological layer composition (sand, clay, rock) and

thickness, type and degree of fracture of bedrock, information from well logs.

- (v) Percolation rates of soils involved.

- (vi) Soil chemistry parameters -- pH, cation exchange, capacity, and so forth.

- (vii) Presence of any barriers to pollutant movement.

- (viii) Possibility of discharge to the surface at terrain breaks, embankments, road cuts,

etc.

(c) Hydrological factors:

- (i) Ground water flow direction and gradient.

- (ii) Transmissivities of the various soils and geological layers involved.

- (iii) Projected ground water mounding effects -- basis for projection.

- (iv) Background quality of the ground water.

- (v) Thickness of the saturated aquifer.

- (vi) Projected mixing depth of effluent with groundwater.

(vii) Human influences in ground water flow direction and gradient, such as pumping wells, irrigation, and agricultural drains.

(d) Miscellaneous additional factors.

- (i) Current and future housing density in the area -- notably legal limitation.

- (ii) Current and future use of the water that could be affected by the proposed system.

[10/15/97; 20.7.3.202 NMAC - Rn, 20 NMAC 7.3.II.202, 3/1/04]

20.7.3.203 PROCEDURES; APPEALS:

A. Any affected person who is dissatisfied with action taken by the department on a permit application or variance petition may appeal to the secretary. The request must be made in writing to the secretary within fifteen (15) working days after notice of the department's action has been issued. Unless an appeal is received by the secretary within fifteen (15) working days after notice to the applicant or petitioner of the department's action the decision of the department shall be final.

B. If an appeal is received within the fifteen (15) working day time limit, the secretary shall hold a hearing within fifteen (15) working days after receipt of the request. The secretary shall notify the person who requested the hearing of the date, time, and place of the hearing by certified mail. If the appeal is on a variance petition, the secretary shall also notify all persons involved under Paragraph (3) of Subsection B of 20.7.3.202 NMAC of the hearing date, time and place of the hearing by certified mail.

C. In the appeal hearing, the burden of proof is on the person who requested the hearing. Where the department requires standards more stringent than those provided in 20.7.3 NMAC, the burden of proof of the necessity for the more stringent standards shall be upon the department.

D. Appeal hearings shall be held at a place designated by the secretary in the area where the proposed on-site liquid waste system is to be located, unless other mutually agreed upon arrangements are made. The secretary may designate a person to conduct the hearing and make a final decision or make recommendations for a final decision. The secretary's hearing notice shall indicate who will conduct the hearing and make the final decision.

E. Upon request, the hearing shall be recorded. Recording costs shall be paid by the person who requests the recording.

F. In appeal hearings, the rules governing civil procedure and evidence in district court do not apply. Hearings shall be conducted so that all relevant views, arguments and testimony are amply and fairly presented

without undue repetition. The secretary shall allow department staff and the hearing requestor to call and examine witnesses, to submit written and oral evidence and arguments, to introduce exhibits, and to cross-examine persons who testify. All testimony shall be taken under oath. At the end of the hearing, the secretary shall decide and announce if the hearing record will remain open and for how long and for what reason it will be left open.

G. Based upon the evidence presented at the hearing, the secretary shall sustain, modify or reverse the action of the department. The secretary's decision shall be by written order within fifteen (15) working days following the close of the hearing record. The decision shall state the reasons therefor and shall be sent by certified mail to the hearing requestor and any other affected person who requests notice. Appeals from the secretary's final decision are by Rule 1-075 NMRA 1997.

[10/15/97; 20.7.3.203 NMAC - Rn, 20 NMAC 7.3.II.203, 3/1/04]

20.7.3.204 PROCEDURES; INSPECTIONS AND SAMPLING: The department may perform site inspections prior to making a decision on a permit application or variance petition, during construction or modification of the system, and after completion of the system. The department may require inspection holes to be excavated and documentation to be provided for purposes of determining soil types, percolation rates and soil and water table depths. The department may collect samples of soil, liquid waste, and water, including water from wells, to determine compliance with 20.7.3 NMAC.

[10/15/97; 20.7.3.204 NMAC - Rn, 20 NMAC 7.3.II.204, 3/1/04]

20.7.3.205 through 20.7.3.300 [RESERVED]

20.7.3.301 STANDARDS; GENERAL REQUIREMENTS:

A. No person shall discharge untreated liquid waste except into a permitted enclosed system, a permitted liquid waste treatment unit, or a public sewer system, except for discharges of graywater pursuant to 20.7.3.310 NMAC. No person shall discharge liquid waste or effluent into a cesspool or effluent disposal well. A privy may be used for the disposal of human excreta and toilet paper, but not for the disposal of other liquid wastes.

B. No person shall discharge effluent from a liquid waste treatment unit except through a permitted liquid waste disposal system or to a public sewer system. No person shall discharge effluent from a liquid waste treatment unit to an effluent disposal well.

C. No person shall install, have installed, modify or have modified, own, operate, or use an on-site liquid waste system which, by itself or in combination with other on-site liquid waste systems, may cause a hazard to public health or degrade any body of water.

D. On-site liquid waste systems installed or most recently modified prior to October 15, 1997 shall meet the less stringent of either:

- (1) the requirements of 20.7.3 NMAC, or
- (2) the corresponding requirements of the regulations in effect at the time of the initial installation or most recent modification of the system, whichever is later in time.

E. On-site liquid waste systems modified after October 15, 1997, shall meet the requirements of 20.7.3 NMAC or its successor provisions. Replacement components for on-site liquid waste systems shall be of materials prescribed by the New Mexico design standards as of the time of replacement.

F. On-site liquid waste systems installed after October 15, 1997 shall meet the requirements of 20.7.3 NMAC.

[10/15/97; 20.7.3.301 NMAC - Rn, 20 NMAC 7.3.III.301, 3/1/04 & A, 3/1/04]

20.7.3.302 STANDARDS; LOT SIZE REQUIREMENTS: The requirements of this section apply to all on-site liquid waste systems which ultimately discharge to the soil, and to evapotranspiration systems. Compliance with the requirements of this section shall be based on the total design flow for the lot. Water conservation devices or demonstrated actual flows shall not be used to reduce the requirements of this section. For the purposes of 20.7.3.301 - 309 NMAC, lot sizes shall be calculated to the nearest hundredth (0.01) acre.

A. The date of record for a lot shall be considered to be either:

(1) the date of legal recording in the county clerk's office or validation by other means associated with the most recent change in lot size or boundaries; or

(2) January 31, 1990, for lots in subdivisions if the governmental body or bodies with jurisdiction therein granted final approval after July 31, 1987 and prior to February 1, 1990, and if a subdivision plat was recorded prior to July 1, 1992 in the county clerk's office for the county or counties in which the subdivision is located.

B. An on-site liquid waste system, including its replacement area, shall be located wholly on the same lot which is the site of the dwelling or commercial unit served by the on-site liquid waste system. A copy of the recorded deed or easement for the lot shall be submitted with the application for the on-site liquid waste system installation or modification petition.

C. On-site liquid waste systems on lots with record dates after February 1, 1990, shall not exceed the total design flow limitation given by the following formula: total design flow (gallons per day) = lot size (acres) x 500 gpd.

D. The minimum lot size required for an on-site liquid waste system on a lot with record date after February 1, 1990 is 0.75 acres.

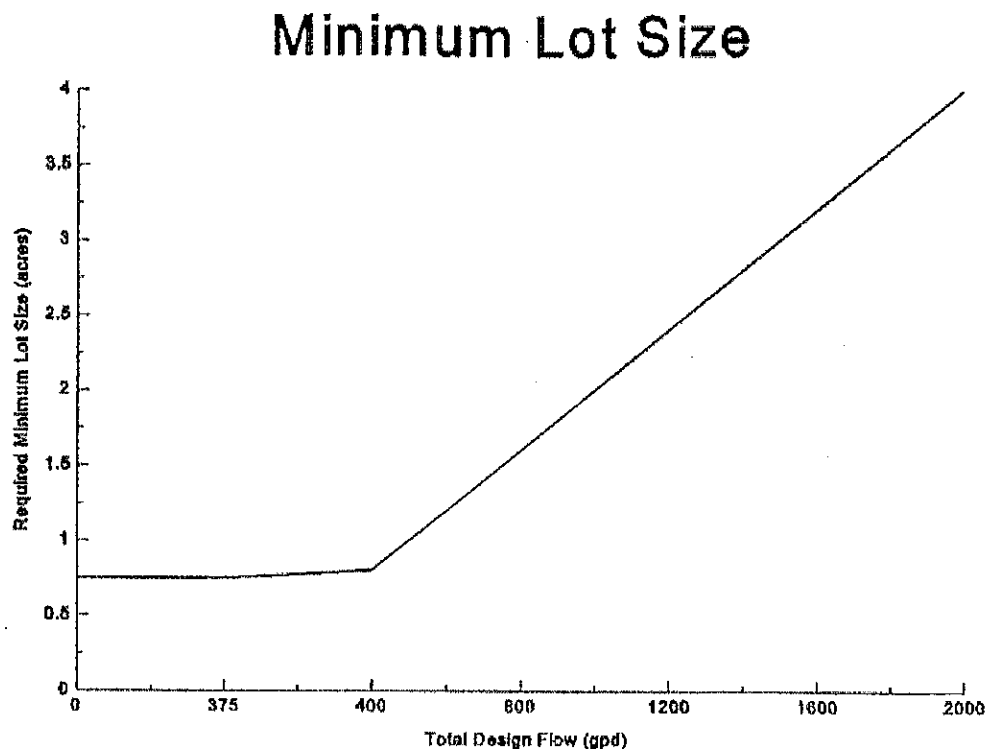
E. The following table 302.1 lists the minimum lot sizes required for typical flow rates for lots with a date of record after February 1, 1990:

Table 302.1

TOTAL DESIGN FLOW (gallons per day)	MINIMUM LOT SIZE (acres)
375 or less	0.75
450	0.90
600	1.20
750	1.50
1125	2.25
1500	3.00
1875	3.75
2000	4.00

F. The following graph (figure 302.2) illustrates the minimum lot sizes required for any flow rate from zero (0) to two thousand (2,000) gallons per day for lots with a date of record after February 1, 1990:

Figure 302.2



G. The total design flow of on-site liquid waste systems initially installed after February 1, 1990, on lots with record dates prior to February 1, 1990, without established on-site liquid waste systems shall not exceed:

(1) three hundred seventy-five (375) gallons per day if the lot is smaller than 0.50 acres; or

(2) four hundred fifty (450) gallons per day, or the total design flow allowed by the formula in Subsection C of 20.7.3.302 NMAC above, whichever is greater, if the lot is equal to or larger than 0.50 acres.

H. On-site liquid waste systems on lots with record dates prior to February 1, 1990, having any established on-site liquid waste system shall not be modified to increase the total design flow to a flow that exceeds:

(1) three hundred seventy-five (375) gallons per day if the lot is smaller than 0.50 acres; or

(2) four hundred fifty (450) gallons per day or the total design flow allowed by the formula in Subsection C of 20.7.3.302 NMAC above, whichever is greater, if the lot is equal to or greater than 0.50 acres.

I. The following table 302.3 summarizes the minimum lot sizes, in acres, in effect prior to February 1, 1990:

Table 302.3 RECORD DATE								
	01/01/60 to 11/01/73	11/01/73 to 09/07/79		09/07/79 to 03/01/80		03/01/80 to 11/09/85		11/09/85 to 02/01/90
		Soil Group **	Min. Lot Size	Total Design Flow (gpd)	Min. Lot Size	Total Design Flow (gpd)	Min. Lot Size	Total Design Flow (gpd)
OFF - SITE W A T E R **	0.25***	A	0.50	0-1000	0.50	0-375	0.33	0-375
		B	0.75	1000- 1500	1.00	376- 1000	0.50	376- 750
		C	1.00	1500- 2000	1.25	1000- 1500	1.00	750- 1125
		D	****			1501- 2000	1.25	1126- 1500
								1501- 2000
ON - SITE W A T E R **	0.50***	A	0.75	0-1000	0.75	0-1000	0.75	0-375
		B	1.00	1000- 1500	1.25	1000- 1500	1.25	376- 750
		C	1.25	1500- 2000	1.70	1501- 2000	1.70	750- 1125
		D	****					1126- 1500
								1501- 2000

(1) * The maximum total design flow was 1,000 gpd for the lot sizes shown.

(2) ** See Subsection J of 20.7.3.302 NMAC.

(3) *** These requirements applied to lots in subdivisions which were required at the time of subdivision to obtain state health department review and approval.

(4) **** No on-site liquid waste disposal to soil allowed.

(5) NOTE: Roadways were first excluded from figuring lot sizes as of 11/09/85.

J. The following table 302.4 lists the soil types for lot size determinations for the period November 1, 1973 to September 7, 1979: The minimum lot size required for the location of an individual liquid waste disposal system is determined by the most limiting soil group under which any soil characteristic falls.

Table 302.4

SOIL CHARACTERISTICS	A Slight	B Slight	C Moderate	D Severe
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	Limitations	Limitations	Limitations	Limitations
1. SOIL DEPTH (depth to bedrock, in feet)	More than 6 And	More than 6 And	4 - 6 or	Less than 4 or
2. PERCOLATION RATE (rate of percolation of water into soil in minutes per inch)	0 - 15 and	16 - 30 and	31 - 60 or	More than 60 or
3. SEASONAL WATER TABLE (depth to shallowest water table during the year, in feet)	More than 12 And	More than 12 And	4 - 12 or	Less than 4 or
4. SLOPE (incline of the land surface, in percent)	0 - 8 and	0 - 8 and	8 - 25 or	More than 25 or
5. FLOODING POTENTIAL (overflow frequency, in years)	None	None	No more than 1 in 25	More than 1 in 25

K. The distinction between "off-site" and "on-site" water, as used in the table in Subsection I of 20.7.3.302 NMAC, has changed with different versions of the regulations.

(1) Prior to September 7, 1979, the distinction was between a public community water supply (off-site) and a private, on-site well.

(2) From September 7, 1979 to November 9, 1985, a "public water supply" (i.e., "off-site") was defined as "a water supply for the provision to the public of piped water for human consumption if such system has at least fifteen (15) service connections or regularly services an average of twenty-five (25) individuals at least sixty (60) days out of the year." A "private water supply" (i.e., "on-site") was defined as "a non-public water supply."

(3) Between November 9, 1985 and February 1, 1990, the following definitions were in place:

(a) "off-site water" means that the domestic water supply for the lot is from:

(i) a private water supply source which is neither within the lot nor within one hundred (100) feet of the property line of the lot; or

(ii) a public water supply source which is not within the lot;

(b) "on-site water" means that the domestic water supply for the lot is from:

(i) a private water supply source which is within the lot or within one hundred (100) feet of the property line of the lot; or

(ii) a public water supply source which is within the boundaries of the lot.

L. When there is insufficient lot area or improper soil conditions for adequate on-site liquid waste disposal for the buildings or land use proposed, and the department so finds, no on-site liquid waste system permit shall be issued until geological data, engineering data, test reports satisfactory to the department, and a variance petition have been submitted and approved.

[10/15/97; 20.7.3.302 NMAC - Rn, 20 NMAC 7.3.III.302, 3/1/04]

20.7.3.303 STANDARDS; SETBACK REQUIREMENTS:

A. On-site liquid waste systems shall be located to meet setback distances, in feet, specified in the following table 303.1. Setback distances apply to any part of the on-site liquid waste system and its designated replacement area.

Table 303.1 Minimum setback and clearance requirements

From:	To:	Building Sewer	Treatment Unit*	Disposal Field	Seepage Pit
Property lines		clear	5 ft.	5 ft.	8 ft.
Building or structure		2 ft.	5 ft.	8 ft.	8 ft.
Trees		--	10 ft.	10 ft.	10 ft.
Distribution box		--	--	5 ft.	5 ft.
Disposal field		--	10 ft.	4 ft****	10 ft.
Seepage pit		--	5 ft.	5 ft.	12 ft.
Drinking water line:					
- private		1 ft.	10 ft.0	10 ft.	10 ft.

- public	10 ft.	10 ft.	10 ft.	10 ft.
Drinking Water Source/Well:				
- Private	50 ft.	50 ft.	100 ft.	100 ft.
- Public	50 ft.	100 ft.	200 ft.	200 ft.
Irrigation well	50 ft.	50 ft.	100 ft.	100 ft.
Lined canals	--	10 ft.**	10 ft.**	10 ft.**
Unlined canals	--	15 ft.**	25 ft.**	25 ft.**
Arroyos	--	15 ft.**	25 ft.**	25 ft.**
Other watercourses	--	50 ft.	100 ft.	100 ft.
Lakes	--	50 ft.	100 ft.	100 ft.
Seasonal high water table, bedrock and other impervious layers***	--	--	4 ft. to bottom of system	4 ft. to bottom of system

(1) * Applies to privy pits, enclosed systems, other liquid waste treatment units.

(2) ** Plus depth of channel.

(3) *** Unlined privy pits shall provide clearance of at least 4 feet.

(4) **** Plus 2 feet for each additional foot of depth in excess of 1 foot below perforated pipe.

B. Setback distances to watercourses, canals and arroyos shall be measured from the edge of the seasonal high water flow to the on-site liquid waste system component. Setback distances to artificially controlled lakes or reservoirs shall be measured from the closest projected shoreline at the maximum controlled water level. [10/15/97; 20.7.3.303 NMAC - Rn, 20 NMAC 7.3.III.303, 3/1/04]

20.7.3.304 STANDARDS; CLEARANCE REQUIREMENTS: Seasonal high ground water levels and seasonal high water flows shall be determined by the department either by direct observation or by reliance upon the findings of a geohydrologist, the U. S. soil conservation service, the U. S. bureau of reclamation, or other source acceptable to the department. The department may adjust the measured water table to compensate for factors such as season, drought, irrigation or flooding. Compliance with seasonal high ground water table and seasonal high water flow clearances in this section shall be based on the best documented evidence available to the department at the time of installation or modification.

A. No on-site liquid waste system shall discharge liquid waste into the soil where the vertical clearance to seasonal high ground water table, impervious or other limiting layer is less than four (4) feet.

B. Unlined privy pits shall provide a clearance of no less than four (4) feet to the seasonal high ground water table, the seasonal high water flow, impervious formation or other limiting layer. [10/15/97; 20.7.3.304 NMAC - Rn, 20 NMAC 7.3.III.304, 3/1/04]

20.7.3.305 STANDARDS; HOLDING TANK REQUIREMENTS:

A. Non-discharging holding tanks shall not be installed after February 1, 1990, to serve any design flow greater than three hundred-seventy-five (375) gallons per day, except to replace an existing holding tank. Total design flow on any property served by a holding tank installed after February 1, 1990, shall not exceed 375 gallons per day.

B. Holding tanks shall be constructed of the same materials and by the same procedures to the same standards as described in 20.7.3.402 NMAC, except that they shall have no discharge outlet.

C. All holding tank installations shall be tested on site for water tightness. Holding tanks shall be filled with water to the point of overflow at least twenty-four (24) hours prior to inspection. There shall be no signs of external leakage or tank deformation at the time of inspection.

D. The minimum size of a holding tank shall be 1000 gallons or four (4) times the design flow, whichever is greater. For commercial units, the minimum tank size shall be five (5) times the design flow.

E. Holding tanks shall be located in an area readily accessible to a pump vehicle under all weather conditions and where accidental spillage during pumpage will not create a nuisance or a hazard to public health. Any

spillage that may occur during tank pumpout shall be cleaned up immediately and the spill area disinfected with a sodium or calcium hypochlorite solution.

F. Holding tanks shall be protected against flotation under high ground water conditions by weight of tank (ballasting), earth anchors, or by surface or shallow installation.

G. Holding tanks shall be equipped with a visible and audible high water alarm system. The alarm shall be set to activate at 80% of the tank capacity.

H. The owner of a holding tank periodically shall have the tank pumped and the liquid waste (septage) properly disposed of in compliance with all applicable laws and regulations as needed to prevent discharge from the tank. Owners of holding tanks shall maintain records demonstrating sufficient pumping and proper disposal of septage from the units to prevent discharge. Copies of pumping and disposal records shall be retained by the owner for at least one year, and shall be made available to the department for inspection on request. The records shall be:

- (1) kept on a form provided by the department if requested;
- (2) accompanied by such other documentation as the department may reasonably require;
- (3) signed by the lot owner or an authorized representative; and
- (4) mailed on a semi-annual basis, or a schedule otherwise determined by the department, to the department field office having jurisdiction.

I. No person shall install, operate, modify or maintain a holding tank which allows discharge to the soil.

J. The department may perform site inspections periodically to ensure that a holding tank does not discharge.

K. All dwellings or commercial units served by a holding tank shall be connected to a public or private wastewater treatment plant and the holding tank properly abandoned within 180 days after the installation within two-hundred (200) feet of the lot of a collection line for the wastewater treatment plant.

[10/15/97; 20.7.3.305 NMAC - Rn, 20 NMAC 7.3.III.305, 3/1/04]

20.7.3.306 STANDARDS; ALTERNATIVE SYSTEMS: The department may issue a permit, on an individual basis, for the installation of an alternative on-site liquid waste system, including a system employing new and innovative technology, if the permit applicant demonstrates that the proposed system, by itself or in combination with other on-site liquid waste systems, will neither cause a hazard to public health nor degrade a body of water, and that the proposed system will provide a level of treatment at least as effective as that provided by on-site liquid waste systems, except privies and holding tanks, that meet the requirements of this part and the New Mexico design standards.

A. In making this determination, the department may require the submission of plans bearing the seal of a registered professional engineer, or field and test data from the lot for which the alternative system is proposed or from conditions similar to those at the proposed lot, or such additional data as may be necessary to provide a reasonable basis for determining that the system will produce continuous and long-range, trouble-free results at the proposed lot.

B. If the department requires a field demonstration of a proposed alternative system utilizing new and innovative technology, the field demonstration shall meet the following requirements.

(1) Conditions for installation, operation, maintenance and monitoring at the proposed demonstration site shall first be determined by the department.

(2) On-site testing and evaluation, as required by the department and paid for by the permit applicant or variance petitioner, shall be performed over a period of one (1) year from start-up of the system.

(3) A contingency plan shall be included to provide liquid waste treatment that meets the requirements of this part if the demonstration results in a failed system.

[10/15/97; 20.7.3.306 NMAC - Rn, 20 NMAC 7.3.III.306, 3/1/04]

20.7.3.307 STANDARDS; SEPTAGE: Septage shall be disposed of so that it will not cause a hazard to public health and so that it will not degrade a body of water. Disposal of septage may also be subject to the New Mexico water quality control commission regulations and other federal, state and local requirements.

[10/15/97; 20.7.3.307 NMAC - Rn, 20 NMAC 7.3.III.307, 3/1/04]

20.7.3.308 STANDARDS; OPERATION REQUIREMENTS:

A. No person shall introduce motor oil, gasoline, paint, varnish, solvents, pesticides, fertilizer or other materials of a composition or concentration not generally considered liquid waste to an on-site liquid waste system.

B. No person shall introduce any chemical defined by the New Mexico water quality control commission as a toxic pollutant into an on-site liquid waste system.

[10/15/97; 20.7.3.308 NMAC - Rn, 20 NMAC 7.3.III.308, 3/1/04]

20.7.3.309 STANDARDS; MAINTENANCE OF ON-SITE LIQUID WASTE SYSTEMS:

A. The owner of an on-site liquid waste system shall operate and maintain the system according to the recommendations of the manufacturer or installer of the system.

B. Liquid waste treatment additives shall not be used as a means to reduce the frequency of proper maintenance and removal of septage from a treatment unit.

[10/15/97; 20.7.3.309 NMAC - Rn, 20 NMAC 7.3.III.309, 3/1/04]

20.7.3.310 STANDARDS; GRAYWATER DISCHARGES: graywater discharge of less than 250 gallons per day of private residential graywater originating from a residence for the resident's household flower gardening, composting or landscaping irrigation shall be allowed if;

A. a constructed graywater distribution system provides for overflow into the sewer system or on-site wastewater treatment and disposal system;

B. a graywater storage tank is covered to restrict access and to eliminate habitat for mosquitos or other vectors;

C. a graywater system is sited outside of a floodway;

D. graywater is vertically separated at least five feet above the ground water table;

E. graywater pressure piping is clearly identified as a nonpotable water conduit;

F. graywater is used on the site where it is generated and does not run off the property lines;

G. graywater is discharged in a manner that minimizes the potential for contact with people or domestic pets;

H. ponding is prohibited, discharge of graywater is managed to minimize standing water on the surface and to ensure that the hydraulic capacity of the soil is not exceeded;

I. graywater is not sprayed;

J. graywater is not discharged to a watercourse;

K. graywater use within municipalities or counties complies with all applicable municipal or county ordinances enacted pursuant to Chapter 3, Article 53 NMSA 1978;

L. graywater is not stored longer than 24 hours before being discharged;

M. graywater use for purposes other than irrigation or composting is prohibited, unless a permit for such use is issued by the department;

N. graywater is not used to irrigate food plants except for fruit and nut trees;

O. graywater is discharged to a mulched surface area or to an underground irrigation system;

P. graywater is not discharged closer than 100 feet to a watercourse or private domestic well, or closer than 200 feet to a public water supply well;

Q. graywater does not create a public nuisance;

R. for residential units using an on-site liquid waste system for blackwater treatment and disposal, the use of a graywater system does not change the design, capacity, or absorption area requirements for the on-site liquid waste system at the residential unit, and the on-site liquid waste system is designed and sized to handle the combined blackwater and graywater flow if the graywater system fails or is not fully used; and,

S. graywater does not contain hazardous chemicals derived from activities such as cleaning car parts, washing greasy or oily rags, or disposing of waste solutions from home photo labs or similar hobbyist or home occupational activities.

[20.7.3.310 NMAC - N, 3/1/04]

20.7.3.311 through 20.7.3.400 [RESERVED]

20.7.3.401 DESIGN; GENERAL:

A. The type of on-site liquid waste system shall be determined on the basis of location, lot size, soil and site characteristics, seasonal high water table or other impervious formations or limiting layers and shall be designed to receive all design flows from the property. The system, except as otherwise approved, shall consist of a liquid waste treatment unit and associated disposal system.

B. Where the design flow or the quality of the liquid waste or effluent is such that the above system cannot be expected to function satisfactorily, the method of liquid waste treatment and disposal shall be first

approved by the department. On-site liquid waste systems for minor, limited or temporary uses shall be first approved by the department.

C. All disposal systems that utilize subsurface discharge and soil absorption shall be designed so that additional seepage pits, drain fields or other subsurface absorption areas equivalent to at least 100% of the required original disposal system, may be installed if the original system cannot absorb all the liquid waste. No division of a lot or construction or remodeling of a permanent structure on the lot shall be made if such division, construction or remodeling impairs the usefulness of the 100% replacement area.

D. Nothing contained in 20.7.3.401 - 410 NMAC shall be construed to prevent the department from requiring compliance with more stringent requirements than those contained herein, where the department finds that such more stringent requirements are necessary to prevent a hazard to public health or the degradation of a body of water.

[10/15/97; 20.7.3.401 NMAC - Rn, 20 NMAC 7.3.IV.401, 3/1/04]

20.7.3.402 DESIGN; LIQUID WASTE TANK DESIGN AND CONSTRUCTION:

A. General. All treatment units and tanks, regardless of material or method of construction, shall:

- (1) be watertight;
- (2) be installed level on undisturbed or compacted soil;
- (3) be designed and constructed to withstand all potential lateral earth pressures under saturated soil conditions with the tank empty;
- (4) have a minimum live load at the surface of 300 pounds per square foot with twelve (12) inches of cover unless heavier loads are expected;
- (5) not be subject to corrosion or decay;
- (6) have the manufacturer's name, New Mexico registration number, year of construction, model number and tank capacity in gallons permanently displayed on the tank above the outlet pipe;
- (7) not be constructed or manufactured on site in the ground when saturated soil conditions during construction are closer than three (3) inches to the bottom of the excavation;
- (8) be protected against flotation under high ground water conditions;
- (9) be installed so that they are easily locatable; and
- (10) be approved by the international association of plumbing and mechanical officials (IAPMO) or meet IAPMO minimum standards as demonstrated to the department by approved laboratory testing and certification by a registered professional engineer.

B. The minimum liquid capacity of a septic tank shall be determined using the following table 402.1 based on the number of bedrooms, or the number of plumbing fixture units, whichever yields a larger minimum tank capacity, or using the formulae in Paragraphs (1) and (2) of Subsection B of 20.7.3.402 NMAC below based on the estimated liquid waste design flow rate. * Extra fixture units over 100, 25 gallons per fixture unit; fixture units less than 100, approximately equal to 31.1 gallons per fixture unit.

Table 402.1
Capacity of Septic Tanks

Single family dwellings, number of bedrooms	Other uses maximum fixture units*	Minimum septic tank capacity in gallons served
1	110	750
2 - 3	10	1000
4	15	1200
5 - 6	20	1500
7 - 9	27	2000
	29	2250
	32	2500
	35	2750
	39	3000
	42	3250
	45	3500

(1) Flows 1500 gpd or less -- $2.5 \times \text{design flow} = \text{tank capacity}$.

(2) Flows greater than 1500 gpd -- $0.75 \times \text{design flow} + 1125 = \text{tank capacity}$.

(3) The design flow rates for the commercial unit usage set forth in the following Table 402.2 shall be used for determining liquid capacities for on-site liquid waste systems.

Table 402.2
Established liquid waste design flow rates:

TYPE OF OCCUPANCY	(GPD)
1. Airport	20 per employee 5 per passenger
2. Bowling alleys (snack bar only)	75 per lane
3. Bed and Breakfast	150 first bedroom 100 each additional bedroom
4. Camps:	
campground with central comfort station	35 per person
with flush toilets, no showers	25 per person
day camps (no meals served)	15 per person
summer and seasonal	50 per person
5. Churches (sanctuary) with kitchen waste	5 per seat 7 per seat
6. Dance hall	5 per person
7. Factories:	
no showers	25 per employee
with showers	35 per employee
cafeteria, add	5 per employee
8. Hotels, motels, lodges lounges and restaurants calculated separately	60 per bed
9. Institutions (resident) nursing homes	75 per person 125 per person
rest homes	125 per person
10. Laundries, self-service (minimum 10 hours/day) commercial	50 per wash cycle per manufacturer's specifications
11. Offices	20 per employee
12. Parks:	
picnic park - toilets only	20 per parking space
recreation vehicles without water hookup	75 per space

with water and sewer hookup	100 per space
13. Restaurants - cafeterias	20 per employee
toilet	7 per customer
kitchen waste	6 per meal
for garbage disposal add	1 per meal
for cocktail lounge add	2 per customer
kitchen waste -	
disposable service	2 per meal
14. Schools - staff and office	20 per person
Elementary and Day care	15 per student
intermediate and high	20 per student
boarding, total waste	100 per person
gym and showers, add	5 per student
with cafeteria, add	3 per student
15. Service stations and	400 per toilet
convenience store	
uni-sex restrooms	800 per Toilet
16. Stores	20 per employee
public restrooms	1 per 10 sq ft. floor
17. Swimming pools, public	10 per person
18. Theaters, auditoriums	5 per seat
drive-ins	10 per space
<i>Liquid waste flows determined by meters or other measuring devices shall be multiplied by 1.5 safety factor for peak design flow.</i>	

C. Plans for all septic tank design shall be submitted to the department for approval, registration and certification. Such plans shall show all dimensions, reinforcement, structural calculations and such other pertinent data as may be required by the department. All tanks must be IAPMO approved or meet minimum IAPMO standards as demonstrated to the department by approved laboratory testing and certification by a registered professional engineer. Minimum standards for non-IAPMO approved tanks include but are not limited to.

(1) Septic tanks shall be designed to produce a clarified effluent and shall provide adequate space for sludge and scum accumulations.

(2) Septic tanks shall be constructed of solid durable materials not subject to excessive corrosion or decay and shall be watertight.

(a) Septic tanks may be constructed of the following materials:

- (i) precast reinforced concrete;
- (ii) poured-in-place concrete;
- (iii) fiberglass;
- (iv) polyethylene; or
- (v) other materials as approved in writing by the department.

(b) Metal or wooden tanks are prohibited.

(3) Septic tanks shall have a minimum of two (2) compartments. The inlet compartment of a septic tank shall be two-thirds (2/3) of the total capacity of the tank, but not less than five-hundred (500) gallons liquid capacity, and shall be at least three (3) feet in width and five (5) feet in length. Liquid depth shall be not less than two (2) feet and six (6) inches nor more than six (6) feet. The second compartment of a septic tank shall have a capacity of one-third (1/3) of the total capacity of such tank. In septic tanks having over fifteen hundred (1500) gallons capacity, the second compartment may not be less than five (5) feet in length.

(4) Access to each septic tank shall be provided by at least two (2) manholes, each of which shall be at least twenty (20) inches in minimum dimension, or by an equivalent manhole slab. One (1) manhole shall be placed over the inlet and one (1) manhole shall be placed over the outlet. Whenever a first compartment exceeds

twelve (12) feet in length, an additional manhole shall be provided over the baffle wall. Each manhole shall be extended to within one foot of the surface of the ground. These extensions shall be twenty-four (24) inches in diameter with an approved lid that conforms to Paragraph (10) of Subsection C of 20.7.3.402 NMAC. If the extensions are made of concrete they shall be coated with a "foundation grade" bituminous coating approved by the department. "Wet-or-dry" coatings and mastics, or other water-based materials are not acceptable.

(5) The inlet and outlet pipe openings shall be not less in size than the connecting sewer pipe. The vertical leg of round inlet and outlet fittings shall not be less in size than the connecting sewer pipe nor less than four (4) inches. A baffle type fitting shall have the equivalent cross-sectional area of the connecting sewer pipe and not less than a four (4) inch horizontal dimension when measured at the inlet and outlet pipe inverts.

(6) The inlet and outlet pipe or baffle shall extend at least four (4) inches above and at least twelve (12) inches below the water surface. The invert of the inlet pipe shall be at a level not less than two (2) inches above the invert of the outlet pipe. Inlet and outlet pipe or baffles shall be of cast iron, schedule 40 PVC, ABS or cast-in-place concrete.

(7) Inlet and outlet pipe fittings or baffles, and compartment partitions, shall have a free vent area equal to the required cross-sectional area of the building sewer or private sewer discharging into the septic tank provide free ventilation above the water surface from the disposal field or seepage pit through the septic tank, building sewer and stack to the outer air.

(8) The sidewalls shall extend at least nine (9) inches above the liquid depth. The cover of the septic tank shall be at least two (2) inches above the back vent openings.

(9) Partitions or baffles between compartments shall be of solid, non-corrosive, durable material and shall extend at least four (4) inches above the water level. An inverted fitting equivalent in size to the tank inlet, but in no case less than four (4) inches in size, shall be installed in the inlet compartment side of the baffle with the bottom of the fitting placed midway in the depth of the liquid. Metal or wooden baffles are prohibited.

(10) Each tank shall be structurally designed to withstand all anticipated earth or other loads. All septic tank covers shall be capable of supporting an earth load of not less than three hundred (300) pounds per square foot when the maximum fill coverage does not exceed three (3) feet.

(a) Concrete septic tanks, monolithic precast.

(i) Minimum concrete thickness and reinforcement. Walls: two and one-half (2 1/2) inches in thickness with 6 x 6 by 10 x 10, remesh, three thousand (3000) pounds per square inch (psi), air entrained. Floors: three (3) inches in thickness with 6 x 6 by 10 x 10 remesh, three thousand (3000) psi, air entrained. Covers: three (3) inches in thickness with 6 x 6 by 10 x 10 remesh, three thousand (3000) psi air entrained and no 4. rebar spaced at one (1) foot intervals across the width of tank. Unreinforced concrete shall be at least five (5) inches thick and have a compressive strength equal to that required by this Item (i) of Subparagraph (a) of Paragraph (10) of Subsection C of 20.7.3.403 NMAC.

(ii) Floors must be an integral part of the tank.

(iii) Where sections are used, tongue and groove joints or keyways shall be used and shall be sealed with an approved sealer.

(iv) Poured in place tanks must be designed and certified by a New Mexico registered architect or professional engineer.

(b) Concrete block, minimum thickness and reinforcement.

(i) Walls: eight (8) inch block filled with concrete and sealed internally with an approved sealer. Wall shall be tied to the floor at each wall joint with no. 4 rebar.

(ii) Floors: minimum four (4) inches thickness with 6 x 6 by 10 x 10 remesh and twelve (12) no. 4 rebar, with one (1) bar eight (8) inches from each side of each corner, with at least ten (10) inches embedded in the floor with a ninety (90) degree bend and extending at least ten (10) inches into the wall.

(iii) Covers: minimum five (5) inches thickness with 6 x 6 by 10 x 10 remesh, three thousand (3000) psi, air entrained.

(c) Fiberglass, reinforced plastic.

(i) The septic tank shell, including the ends, shall have a minimum thickness of three-sixteenths inch (0.188").

(ii) Each access and inspection hole cover shall have approved fasteners not subject to deterioration by liquid or gases normally present in septic tank systems to assure that the covers will remain in place. All covers shall overlap the hole by a minimum of two (2) inches in all directions.

(iii) Each tank shall be free from visual defects such as foreign inclusions, dry spots, air bubbles, pimples and delamination. The inner and outer surfaces shall have a smooth, continuous finish with no exposed fibers. Both the inner and outer surfaces shall have a continuous resin rich surface and no fibers shall be

exposed either directly from cracks, porosity or holes, or indirectly through bubbles that may break and expose fibers.

(iv) Each tank shall be constructed of reinforced polyester or other approved resin. Reinforcement may be fiberglass woven fabric, chopped strand mat, loose filament, roving or rope. Fiberglass reinforcement shall be treated with a coupling agent that will provide a compatible bond between the resin and the fiberglass. There shall be no less than thirty (30) percent (%) fiberglass reinforcement material and no less than seventy (70) percent (%) resin by weight used in the construction of each tank. The use of filler material shall not exceed thirty (30) percent (%) by weight. Manufacturer's data sheets covering all characteristics and properties of the resin, catalyst and fiberglass reinforcement material used in tank construction shall be provided to the department. Complete information on the type of filler material used in tank construction shall be provided to the department. The percentages, by weight, of resin, reinforcement and filler incorporated into the septic tanks shall be provided to the department.

(v) The completed tank shall be watertight below the high water level and shall remain watertight under the maximum conditions of stress produced under the loads described in Subparagraph (d) of Paragraph (10) of Subsection C of 20.7.3.402 NMAC below.

(d) Each tank shall be so constructed that the following requirements will be met. All tests are to be conducted with the tank at a temperature between sixty-five (65) and eighty (80) degrees fahrenheit.

(i) The barcol hardness of tanks shall be no less than thirty-five (35) units and no more than fifty-five (55) units determined by use of a "barcol impressor" (Barber Colman model GYZJ 934-I or equivalent) following the procedures set forth in ASTM - 2583 including any revisions.

(ii) There shall be no permanent distortion or failure when tanks are sealed and evacuated to a vacuum of V inches of mercury, where V is equal to the maximum depth of earth cover in feet recommended by the manufacturer but not less than three (3) feet.

(iii) There shall be no permanent distortion or failure when tanks are statically loaded in accordance with the following procedure: Bed the top of an empty tank in dry sand to a depth not exceeding four (4) inches below ground level. The tank shall be oriented as for service. Determine the maximum cross-section area and load the top segment of the tank with sand bags to a total weight in pounds equal to: $420 \times A$, where A is the plan cross-section in square feet. The bags should be distributed as uniformly as possible over the tank surface above the plane of maximum area, with the exception of the manhole, which shall be left unloaded.

(e) A representative number, as determined by the department, of tanks delivered shall be tested as specified above. A statement certifying the gross weight of each tank tested shall be included with the results of each tank tested. Testing shall be accomplished by an approved materials testing laboratory, and all test results shall be certified by a registered professional engineer. No tank delivered shall differ in gross weight by more than plus ten (+10) or minus five (-5) percent (%) from the weight of tanks which have been subjected to the testing required above.

(f) Fiberglass or plastic tanks shall be installed according to the manufacturer's instructions. A copy of the manufacturer's installation instructions shall be available for inspection by the department at the installation site. Fiberglass or plastic tanks shall be installed level on a minimum of four (4) inches of 3/4 inch gravel bed. The sides of the tank shall be bedded with at least six (6) inches of sand.

(11) Septic tanks installed under concrete or blacktop paving shall have the required manholes accessible by extending the manhole openings as described in Paragraph (4) of Subsection C of 20.7.3.402 NMAC above to grade in a manner acceptable to the department.

D. Materials. All tanks must be IAPMO approved or meet minimum IAPMO standards as demonstrated to the department by approved laboratory testing and certification by a registered professional engineer. Minimum standards include but are not limited to the following minimum specifications:

(1) Concrete septic tanks. All concrete septic tanks shall be protected from corrosion by coating internally with an approved bituminous coating or by other acceptable means. The coating shall extend to at least six (6) inches below the waterline and shall cover all of the internal area, including inlets, outlets, and baffles above that point. Tank construction materials shall meet the following minimum specifications:

- (a) concrete strength -- 3,000 psi at 28 days; density 140 PCF;
- (b) cement, portland type I or III per ASTM C150-81;
- (c) admixtures per ASTM C233-82;
- (d) reinforcing per ASTM A615 for wire fabric, grade 40/60 R'd or equivalent.

(2) Plastic or fiberglass tanks:

(a) ultimate tensile strength -- minimum 9,000 psi when tested in accordance with ASTM D 638-89, standard method of test for tensile properties of plastics;

(b) flexural strength -- minimum 16,000 psi when tested in accordance with ASTM D 790-86, standard method of test for flexural properties of unreinforced and reinforced plastics and electrical insulating materials; and

(c) flexural modulus of elasticity -- minimum 700,000 psi when tested in accordance with ASTM 790-86, standard method of test for flexural properties of unreinforced and reinforced plastics and electrical insulating materials.

(3) Alternate materials, manufactured, pre-fabricated and owner built tanks may be approved by the department. Independent laboratory tests and engineering calculations certifying the tank capacity and structural stability shall be provided as required by the department.

E. Pump Stations and Equipment.

(1) Pump stations or pump chambers shall be watertight and shall be constructed of concrete, plastic, fiberglass or other approved material. Tanks and chambers shall be designed and constructed so as to serve their intended purpose and appropriately coated to resist corrosion.

(2) All valves, motors, pumps, aerators and other mechanical or electrical devices shall be located where they will be accessible for inspection and repair at all times and protected with a locking removable cover.

(3) Pump stations or pump chambers shall be equipped with both audible and visual alarms for high water and pump failure. All alarm and control circuits will be contained in weather proof control boxes or located inside a building or other weather proof structure. Alarms shall be located where they are readily seen and heard by the owner.

F. Building Sewer.

(1) The building sewer connects the building drain to the septic tank or liquid waste treatment unit. Horizontal building sewer piping shall be run in practical alignment and a uniform slope of not less than one-fourth (1/4) of an inch per foot or two (2) percent toward the point of disposal provided that where it is impractical due to the structural features or arrangement of any building or structure to obtain a slope of one-fourth (1/4) of an inch or two (2) percent, any such pipe or piping four (4) inches in diameter or larger may have a slope of not less than one-eighth (1/8) of an inch per foot or one (1) percent, when first approved by the department.

(2) Each horizontal sewer pipe shall be provided with a cleanout at its upper terminal and each run of pipe which is more than one-hundred (100) feet in length shall be provided with a cleanout for each one-hundred (100) feet or fraction thereof. Cleanouts shall be installed per section 406 (cleanouts) and section 1107 (cleanouts) of the most recently adopted version of the uniform plumbing code (UPC) and the New Mexico plumbing code.

(3) Sewer piping shall be cast iron, lead, copper, brass, schedule 40 ABS DWV (drain, waste and vent), schedule 40 PVC DWV, extra strength vitrified clay pipe or other approved materials having a smooth uniform bore. Vitrified clay pipe or fittings shall not be used above ground or where pressurized by a pump or ejector. Vitrified clay pipe or fittings shall be a minimum of twelve (12) inches below ground.

[10/15/97; 20.7.3.402 NMAC - Rn, 20 NMAC 7.3.IV.402, 3/1/04]

20.7.3.403 DESIGN; AREA OF DISPOSAL FIELD AND SEEPAGE PITS: The minimum required absorption area in a disposal field in square feet, and in seepage pits in square feet of side wall, shall be predicated on the liquid waste design flow rate and shall be determined by either utilizing the following table 403.1 based on the soil classification of the soil found in the proposed location of the disposal field, or by utilizing the formula specified in Subsection E of 20.7.3.404 NMAC based on the results of a standard percolation test as described in 20.7.3.404 NMAC.

Table 403.1
Soil Absorption Areas

Soil Texture	Square Feet Per Gallon Per Design Flow
Coarse Sand	0.83
Fine Sand*	1.67
Sandy Loam	1.27
Loam	1.67
Silty Loam	2.00
Clay Loam	2.20
Clay	4.20

*Soils having 50% or more fine sand plus very fine sand.

A. When trench disposal fields are installed, a minimum of one hundred and fifty (150) square feet of bottom area shall be provided for each system exclusive of any hard pan, caliche, rock, clay, or other impervious formations. Side wall area in excess of the required minimum of twelve (12) inches and not to exceed thirty-six (36) inches below the leach line may be added to the trench bottom area when computing total absorption areas. The minimum twelve (12) inches of sidewall is part of the total absorption area of the conventional trench and shall not be included in any sidewall calculations.

B. Where leaching (absorption) beds are permitted in lieu of trenches, the bottom area and absorption area of each such bed shall be at least fifty (50) percent greater than the minimum required absorption area. A minimum of two hundred and twenty-five (225) square feet of bottom area shall be provided for each bed system. Perimeter side wall area in excess of the required minimum of twelve (12) inches and not to exceed thirty-six (36) inches below the leach line may be added to the bed bottom area when computing total absorption areas. The minimum 12 inches of perimeter sidewall area is part of the total absorption area of the bed and is not to be included in any sidewall calculations.

C. No excavation for an absorption trench, absorption bed or seepage pit shall extend within four (4) vertical feet of the seasonal high groundwater table nor to a depth where effluent may degrade a body of water or the environment.

D. The minimum effective absorption area in any seepage pit shall be calculated as the excavated side wall area below the inlet pipe exclusive of any hardpan, caliche, rock, clay or other impervious formations and may be provided in one or more seepage pits.

[10/15/97; 20.7.3.403 NMAC - Rn, 20 NMAC 7.3.IV.403, 3/1/04]

20.7.3.404 DESIGN; PERCOLATION TESTS:

A. The department may require that percolation tests be performed and submitted with the permit application.

B. To determine the absorption qualities of questionable soils other than those listed in table 403.1, or at the option of the applicant, the proposed site shall be subjected to percolation tests acceptable to the department.

C. When a percolation test is performed, no on-site liquid waste system utilizing only primary treatment shall be permitted if that test shows the percolation rate equal to or faster than five (5) minutes per inch or slower than one hundred and twenty (120) minutes per inch.

D. Percolation test results shall be based upon the average percolation rate from a minimum of two test holes placed fifty feet apart where possible. Whenever the percolation rates determined by the individual tests performed in each of the two test holes vary by more than twenty (20) minutes per inch, a third test performed on a test hole equidistant from the original two test holes shall be performed and the minimum area of the absorption field shall be sized based upon the average of the three test results. Each percolation test shall be performed in the specific area and at the depth in which the absorption field is to be installed.

(1) Percolation test holes shall be dug vertically and shall be four (4) to twelve (12) inches in diameter and as deep as the proposed drainfield bottom. The sides of the test holes shall be scratched to remove any smeared or loose surfaces. Two (2) inches of gravel or sand shall be placed in the bottom of each test hole.

(2) Each test hole shall be saturated with a minimum of twelve (12) inches of water for at least four (4) hours prior to performance of the test. Clay soils shall be saturated for at least twelve (12) hours prior to test. In sandy soils the test may be performed immediately.

(3) The water rate drop shall be determined in the following manner. The hole shall be filled with not less than six (6) inches of water above the gravel and the height measured. The water level shall be measured every ten (10) minutes for a minimum of a one (1) hour period. If the water level drops less than one (1) inch in the first ten (10) minutes, the water level readings shall be measured every thirty (30) minutes over a four (4) hour period. The water shall be replenished as often as necessary but shall not be allowed to drop to less than two (2) inches above the gravel or sand. The times and water level measurements shall be recorded on the percolation test record which may be obtained from the department upon request.

(4) The percolation rate shall be calculated by dividing the time interval by the inches of water level drop recorded for the last ten (10) or thirty (30) minute test interval. This calculation shall be recorded on the percolation test record.

E. When a percolation test is utilized, the minimum required absorption area shall be computed using the formula:

(1) absorption area (square feet) = square root of percolation test results in minutes per inch times 0.32 times design flow (Q) in gallons per day. $AA = \sqrt{t \times 0.32 \times Q}$, where t = percolation rate;

(2) credit may be allowed for decreasing the absorption area requirements based upon secondary or advanced treatment efficiencies.

[10/15/97; 20.7.3.404 NMAC - Rn, 20 NMAC 7.3.IV.404, 3/1/04]

20.7.3.405 DESIGN; DISPOSAL FIELD DESIGN AND CONSTRUCTION:

A. Distribution lines shall be constructed of perforated PVC pipe or other approved materials, provided that sufficient openings are available for distribution of the effluent into the trench area.

B. Before placing aggregate material or drain lines in a prepared excavation, all smeared or compacted surfaces shall be removed from trenches by raking to a depth of one (1) inch and the loose material removed. Clean stone, gravel, slag or similar aggregate material acceptable to the department, varying in size from three fourths (3/4) inch to two and one half (2 1/2) inches shall be placed in the trench to the depth and grade required. Glass, limestone, pumice and cinder are not acceptable as aggregate material. Drain lines shall be placed on the aggregate material in an approved manner. The drain lines shall then be covered with aggregate material to a minimum depth of two (2) inches and then covered with untreated building paper, straw or similar porous material to prevent closure of voids with earth backfill. No earth backfill shall be placed over the aggregate material cover until authorized or approved by the department.

C. A grade board staked in the trench to the depth of aggregate material shall be utilized when distribution line is constructed with drain tile or a flexible pipe material which will not maintain alignment without continuous support.

D. Approved gravelless drainfields materials may be utilized as an alternative to approved drainfields aggregates when installed according to the manufacturer's recommendations. Sizing shall be determined by the department.

E. When seepage pits are used in combination with disposal fields, the aggregate material in the trenches shall terminate at least five (5) feet from the pit excavation and the line extending from such points to the seepage pit shall be constructed of approved pipe with watertight joints.

F. Where two (2) or more drain lines are installed, an approved distribution box of sufficient size to receive lateral lines shall be installed at the head of each disposal field. The inverts of all outlets shall be level and the invert of the inlet shall be at least one (1) inch above the outlets. Distribution boxes shall be designed to insure equal flow and shall be installed on a level base in natural undisturbed or compacted soil or on a concrete footing.

(1) Concrete distribution boxes shall be coated on the inside with bituminous coating or other approved method acceptable to the department.

(2) All laterals from a distribution box to the disposal field shall be approved pipe with watertight joints. Multiple disposal field laterals, wherever practicable, shall be of uniform length.

(3) Connections between a septic tank and distribution box shall be laid with approved pipe with watertight joints on natural ground or compacted fill.

(4) When two (2) drain lines are installed, the installer, after approval by the department, may install in lieu of a distribution box a tee fitting and a distribution header to multiple trenches provided that the tee and header pipe is level.

G. When more than five-hundred (500) lineal feet of leach line is required, a dosing tank shall be used. Dosing tanks shall be equipped with an automatic pump which discharges the tank a minimum of once every four (4) hours. The tank shall have a capacity equal to at least seventy-five (75) percent of the interior capacity of the pipe to be dosed at one time. Where the total length of leachline exceeds one thousand (1000) lineal feet, the dosing tank shall be provided with two (2) pumps dosing alternately and each serving one half (1/2) of the leach field.

(1) Disposal fields shall be constructed as follows:

	MINIMUM	MAXIMUM
Number of drain lines	1 per field	
Length of each line	--	100 ft.
Bottom width of trench	18 in.	36 in.
Spacing of lines, center to center	4 ft.	6 ft.

Depth of earth cover of lines	12 in.	--
Grade of lines	level	3 in./100 ft.
Aggregate material under drain lines	12 in.	--
Aggregate material over drain lines	2 in.	--

(2) Minimum spacing between trenches or leaching beds shall be four (4) feet plus (2) feet for each additional foot of depth in excess of one (1) foot below the bottom of the drain line. Distribution drain lines in leaching beds shall not be more than six (6) feet apart on centers and no part of the perimeter of the leaching bed shall be more than three (3) feet from a distribution drain line.

I. When necessary, to prevent line slope in excess of 3 inches per 100 feet, absorption trenches or beds shall be stopped. The lines between each horizontal section shall be made with watertight joints and shall be designed so each horizontal trench or bed shall be utilized to the maximum capacity before the effluent shall pass to the next lower trench or bed. The lines between each horizontal absorption section shall be made with approved watertight joints and installed on natural or unfilled ground.

[10/15/97; 20.7.3.405 NMAC - Rn, 20 NMAC 7.3.IV.405, 3/1/04]

2.7.3.406 DESIGN; SEEPAGE PIT DESIGN AND CONSTRUCTION:

A. The minimum capacity of seepage pits and absorption area shall conform to the requirements of 20.7.3.403 NMAC and of 20.7.3.404 NMAC.

B. Multiple seepage pit installations shall be served through an approved distribution box or be connected in series by means of a water tight connection laid on undisturbed or compacted soil. The outlet from each seepage pit shall have an approved vented leg fitting extending at least twelve (12) inches below the inlet fitting.

C. Each seepage pit shall have an excavated horizontal dimension of not less than four (4) feet. Each such pit shall be lined with approved type whole new hard burned clay brick, concrete brick, concrete circular type cesspool blocks, or other approved materials.

D. The lining in each seepage pit shall be circular and laid on a firm foundation. Lining materials shall be placed tight together and laid with joints staggered. Except in the case of approved type pre-cast concrete circular sections, no brick or block shall be greater in height than its width and shall be laid flat to form at least a four (4) inch wall. Brick or block greater than twelve (12) inches in length shall have chamfered matching ends and be scored to provide for seepage. Excavation voids behind the brick, block or concrete liner shall have a minimum of six (6) inches of clean three fourths (3/4) inch gravel or rock.

E. All brick or block used in seepage pit construction shall have a minimum compressive strength of twenty-five hundred (2500) pounds per square inch.

F. Each seepage pit shall have a minimum sidewall (not including the arch) of ten (10) feet below the inlet pipe.

G. The arch, cover or dome of any seepage pit shall be constructed in one of the following three ways:

- (1) approved type hard burned clay brick, or solid concrete brick or block laid in cement mortar;
- (2) approved brick or block laid dry. In both of the above methods, an approved cement mortar covering of at least two (2) inches in thickness shall be applied, said covering to extend at least six (6) inches beyond the sidewalls of the pit;
- (3) approved type one or two piece reinforced concrete slab or three thousand (3000) pounds per square inch minimum compressive strength, not less than five (5) inches thick and designed to support an earth load of not less than four hundred (400) pounds per square foot.

H. Each such arch, dome or cover shall be provided with a nine (9) inch minimum inspection hole with plug or cover and shall be coated on the underside with an approved bituminous or other nonpermeable protective compound.

I. The top of the arch, dome or cover must be a minimum of twelve (12) inches but not more than four (4) feet below the surface of the ground. Risers must be provided to extend the arch, dome or cover to within twelve (12) inches of the surface.

J. An approved vented inlet fitting shall be provided in every seepage pit so arranged as to prevent the inflow from damaging the sidewall. When using a one or two piece concrete slab cover inlet, the inlet fitting may be an approved one fourth (1/4) bend fitting discharging through an opening in the top of the slab cover. On

multiple seepage pit installations, the outlet fittings shall meet the requirements of Subsection B of 20.7.3.406 NMAC.

[10/15/97; 20.7.3.406 NMAC - Rn, 20 NMAC 7.3.IV.406, 3/1/04]

2.7.3.407 DESIGN; SPECIAL LIQUID WASTE DISPOSAL:

A. When liquid wastes are discharged containing excessive amounts of grease, garbage, flammable wastes, sand or other ingredients which may affect the operation of an on-site liquid waste system, an interceptor for such wastes must be installed.

B. Installation of such interceptors shall comply with chapter 7 of the uniform plumbing code as administered by the construction industries division. Interceptors shall be installed in locations that meet the minimum setback and clearance requirements of table 303.1.

[10/15/97; 20.7.3.407 NMAC - Rn, 20 NMAC 7.3.IV.407, 3/1/04]

2.7.3.408 DESIGN; INSPECTION AND TESTING:

A. Inspection.

(1) The person doing the work authorized by the permit shall notify the department, orally or in writing, when the said work is ready to be inspected. Such notification shall be given not less than forty-eight (48) hours before the work is to be inspected.

(2) System components shall be properly identified as to manufacturer and shall meet all specifications specified in 20.7.3 401 - 410 NMAC. Septic tanks, holding tanks (vaults) or other primary treatment systems shall have the rated capacity, the registration number and the year of manufacture permanently marked on the unit.

B. Testing.

(1) The department may require septic tanks or other primary components to be filled with water to flow line prior to inspection by the department. If required by the department, all seams or joints shall be left exposed (except the bottom) and the tank shall remain watertight for a period not less than twenty-four hours.

(2) The department may require a flow test be performed through the system to the point of effluent disposal. All lines and components shall be watertight. Capacities, required air space, and fittings shall meet the requirements of 20.7.3.401 - 410 NMAC.

[10/15/97; 20.7.3.408 NMAC - Rn, 20 NMAC 7.3.IV.408, 3/1/04]

2.7.3.409 DESIGN; AEROBIC TREATMENT SYSTEMS: Alternative on-site liquid waste systems employing aerobic treatment may be substituted for conventional septic tanks provided the permit applicant demonstrates that the proposed system will meet the requirements of 20.7.3.306 NMAC, whether its aeration system is operating or not.

[10/15/97; 20.7.3.409 NMAC - Rn, 20 NMAC 7.3.IV.409, 3/1/04]

2.7.3.410 DESIGN; ABANDONED SEWERS AND ON SITE LIQUID WASTE SYSTEMS:

A. Every abandoned building sewer, or part thereof, shall be plugged or capped utilizing a cap or plug prescribed by the uniform plumbing code within five (5) feet of the property line.

B. Every cesspool, holding tank, septic tank, seepage pit or other liquid waste treatment unit which has been abandoned or has otherwise been discontinued from further use or to which no waste or building sewer from a plumbing fixture is connected, shall have the liquid waste pumped therefrom and properly disposed. The empty liquid waste treatment unit shall be completely filled with earth, sand, gravel, concrete or other approved material.

C. The top cover or arch over the cesspool, holding tank, septic tank, seepage pit or other liquid waste treatment unit shall be removed before filling and the filling shall not extend above the top of the vertical portions of the sidewalls or above the level of any outlet pipe until inspection or authorization by the department. After such inspection or authorization, the cesspool, holding tank, septic tank, seepage pit or other liquid waste treatment unit shall be filled to the level of the top of the ground.

D. Where disposal facilities are abandoned consequent to connecting any premises with a public sewer, the permittee making the connection shall fill all abandoned facilities as required by the department within 30 days from the time of connection.

[10/15/97; 20.7.3.410 NMAC - Rn, 20 NMAC 7.3.IV.410, 3/1/04]

20.7.3.411 - 20.7.3.500 [RESERVED]

20.7.3.501 CONSTRUCTION: 20.7.3 NMAC shall be liberally construed to carry out its purpose.
[10/15/97; 20.7.3.501 NMAC - Rn, 20 NMAC.7.3.V.501, 3/1/04]

20.7.3.502 TEMPORARY PROVISIONS: All registration certificates, permits, orders, rulings and variances issued pursuant to the regulations in effect at the time such registration certificates, permits, orders, rulings, or variances were issued shall remain in full force and effect until repealed, replaced, superseded, or amended pursuant to 20.7.3 NMAC.
[10/15/97; 20.7.3.502 NMAC - Rn, 20 NMAC.7.3.V.502, 3/1/04]

20.7.3.503 SEVERABILITY: If any provision or application of 20.7.3 NMAC is held invalid, the reminder, or its application to other situations or persons, shall not be affected.
[10/15/97; 20.7.3.503 NMAC - Rn, 20 NMAC.7.3.V.503, 3/1/04]

20.7.3.504 REFERENCES IN OTHER REGULATIONS: Any reference to the liquid waste disposal regulations in any other rule shall be construed as a reference to 20.7.3 NMAC.
[10/15/97; 20.7.3.504 NMAC - Rn, 20 NMAC.7.3.V.504, 3/1/04]

20.7.3.505 SAVINGS CLAUSE: Repeal or supersession of prior versions of the liquid waste disposal regulations shall not affect any administrative or judicial action for the enforcement thereof.
[10/15/97; 20.7.3.505 NMAC - Rn, 20 NMAC.7.3.V.505, 3/1/04]

20.7.3.506 COLLATERAL REQUIREMENTS: Compliance with 20.7.3 NMAC does not relieve any person from the responsibility of meeting more stringent city or county regulations or ordinances or other requirements of state or federal laws governing the treatment or disposal of liquid waste.
[10/15/97; 20.7.3.506 NMAC - Rn, 20 NMAC.7.3.V.506, 3/1/04]

20.7.3.507 LIMITATIONS OF DEFENSE: The existence of a valid permit for installation or modification of an on-site liquid waste system shall not constitute a defense to a violation of any section of 20.7.3 NMAC except the requirement for obtaining a permit 20.7.3.201 NMAC.
[10/15/97; 20.7.3.507 NMAC - Rn, 20 NMAC.7.3.V.507, 3/1/04]

20.7.3.508 to 20.7.3.599 [RESERVED]

HISTORY OF 20.7.3 NMAC:

Pre-NMAC History: The material in this part was derived from that previously filed with the commission of public records - state records center and archives.

EIB 73-4, Liquid Waste Disposal Regulations, filed 9/19/73.

EIB 79-7-2, Liquid Waste Disposal Regulations, filed 8/7/79.

EIB/LWDR 1, Liquid Waste Disposal Regulations, filed 10/10/85.

EIB/LWDR 2, Liquid Waste Disposal Regulations, filed 12/19/89.

History of Repealed Material: 20 NMAC 7.3, Liquid Waste Disposal (filed 10-27-95) repealed 11/30/95.

Other History:

EIB/LWDR 2, Liquid Waste Disposal Regulations (filed 12/19/89) renumbered, reformatted and replaced by 20 NMAC 7.3, Liquid Waste Disposal, effective 11/30/95.

20 NMAC 7.3, Liquid Waste Disposal (filed 10/27/95) replaced by 20 NMAC 7.3, Liquid Waste Disposal, effective 10/15/97.

20 NMAC 7.3, Liquid Waste Disposal (filed 09/08/97) renumbered, reformatted, amended and replaced by 20.7.3 NMAC, Liquid Waste Disposal, effective 4/01/04.

