SUBCHAPTER B : LOCATION STANDARDS
§§309.10-309.14
Effective June 5, 1998

§309.10. Purpose, Scope and Applicability.

(a) This chapter establishes minimum standards for the location of domestic wastewater treatment facilities. These standards are to be applied in the evaluation of an application for a permit to treat and dispose of domestic wastewater and for obtaining approval of construction plans and specifications. This chapter applies to domestic wastewater permit applications and construction plans and specifications filed on or after October 8, 1990, for new facilities and existing units which undergo substantial change for the continued purpose of domestic wastewater treatment.

(b) The purpose of this chapter is to condition issuance of a permit and/or approval of construction plans and specifications for new domestic wastewater treatment facilities or the substantial change of an existing unit on selection of a site that minimizes possible contamination of ground and surface waters; to define the characteristics that make an area unsuitable or inappropriate for a wastewater treatment facility; to minimize the possibility of exposing the public to nuisance conditions; and to prohibit issuance of a permit for a facility to be located in an area determined to be unsuitable or inappropriate, unless the design, construction, and operational features of the facility will mitigate the unsuitable site characteristics.

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§309.11. Definitions.

The following words and terms when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise:

(1) **Active geologic processes -** Any natural process which alters the surface and/or subsurface of the earth, including, but not limited to, erosion (including shoreline erosion along the coast), submergence, subsidence, faulting, karst formation, flooding in alluvial flood wash zones, meandering river bank cutting, and earthquakes.

(2) **Aquifer -** A geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs. Portions of formations, such as clay beds, which are not capable of yielding a significant amount of groundwater to wells or springs are not aquifers.

(3) **Erosion -** The group of natural processes, including weathering, deterioration, detachment, dissolution, abrasion, corrosion, wearing away, and transportation, by which earthen or rock material is removed from any part of the earth's surface.

(4) **Existing facility -** Any facility used for the storage, processing, or disposal of domestic wastewater and which has obtained approval of construction plans and specifications as of March 1, 1990.

(5) **New facility** - Any domestic wastewater treatment facility which is not an existing facility.

(6) **Nuisance odor prevention** - The reduction, treatment, and dispersal of potential odor conditions that interfere with another's use and enjoyment of property that are caused by or generated from a wastewater treatment plant unit, which conditions cannot be prevented by normal operation and maintenance procedures of the wastewater treatment unit.

(7) **One hundred-year flood plain** -- Any land area which is subject to a 1.0% or greater chance of flooding in any given year from any source.

(8) **Substantial change in the function or use** - an increase in the pollutant load or modification in the existing purpose of the unit.

(9) **Wastewater treatment plant unit** - Any apparatus necessary for the purpose of providing treatment of wastewater (i.e., aeration basins, splitter boxes, bar screens, sludge drying beds, clarifiers, overland flow sites, treatment ponds or basins that contain wastewater, etc.). For purposes of compliance with the requirements of §309.13(e) of this title (relating to Unsuitable Site Characteristics), this definition does not include off-site bar screens, off-site lift stations, flow metering equipment, or post-aeration structures needed to meet permitted effluent minimum dissolved oxygen limitations.

(10) **Wetlands** - Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, playa lakes, and similar areas.

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§309.12. Site Selection to Protect Groundwater or Surface Water.

The commission may not issue a permit for a new facility or for the substantial change of an existing facility unless it finds that the proposed site, when evaluated in light of the proposed design, construction or operational features, minimizes possible contamination of surface water and groundwater. In making this determination, the commission may consider the following factors:

(1) active geologic processes;

(2) groundwater conditions such as groundwater flow rate, groundwater quality, length of flow path to points of discharge and aquifer recharge or discharge conditions;

(3) soil conditions such as stratigraphic profile and complexity, hydraulic conductivity of strata, and separation distance from the facility to the aquifer and points of discharge to surface water; and

(4) climatological conditions.

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§309.13. Unsuitable Site Characteristics.

(a) A wastewater treatment plant unit may not be located in the 100-year flood plain unless the plant unit is protected from inundation and damage that may occur during that flood event.

(b) A wastewater treatment plant unit may not be located in wetlands. (This prohibition is not applicable to constructed wetlands.)

(c) A wastewater treatment plant unit may not be located closer than 500 feet from a public water well as provided by §290.41(c)(1)(B) of this title (relating to Ground Water Sources and Development) nor 250 feet from a private water well. The following separation distances apply to any facility used for the storage, processing, or disposal of domestic wastewater. Exceptions to these requirements will be considered at the request of a permit applicant on a case-by-case basis, and alternative provisions will be established in a permit if the alternative condition provides adequate protection to potable water sources and supplies:

(1) A wastewater treatment plant unit, land where surface irrigation using wastewater effluent occurs, or soil absorption systems (including low pressure dosing systems, drip irrigation systems, and evapotranspiration beds) must be located a minimum horizontal distance of 150 feet from a private water well;

(2) A wastewater treatment plant unit, or land where surface irrigation using wastewater effluent occurs, must be located a minimum horizontal distance of 500 feet from an elevated or ground potable-water storage tank as provided by §290.43 (b)(1) of this title (relating to Location of Clear Wells, Standpipes, and Ground Storage and Elevated Tanks.);

(3) A wastewater treatment plant unit, or land where surface irrigation using wastewater effluent occurs, must be located a minimum horizontal distance of 500 feet from a public water well site as provided by §290.41(c)(1)(C) of this title, spring, or other similar sources of public drinking water;

(4) A wet well or pump station at a wastewater treatment facility must be located a minimum horizontal distance of 300 feet from a public water well site, spring, or other similar sources of public drinking water as provided by §290.41(c)(1)(B) of this title; and

(5) A wastewater treatment plant unit, or land where surface irrigation using wastewater effluent occurs must be located a minimum horizontal distance of 500 feet from a surface water treatment plant as provided by §290.41(e)(3)(A) of this title.

(d) A wastewater treatment facility surface impoundment may not be located in areas overlying the recharge zones of major or minor aquifers, as defined by the Texas Water Development Board, unless the aquifer is separated from the base of the containment structure by a minimum of three feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation of pollutant migration. A synthetic membrane liner

may be substituted with a minimum of 30 mils thickness and an underground leak detection system with appropriate sampling points.

(e) One of the following alternatives must be met as a compliance requirement to abate and control a nuisance of odor prior to construction of a new wastewater treatment plant unit, or substantial change in the function or use of an existing wastewater treatment unit:

(1) Lagoons with zones of anaerobic activity (e.g., facultative lagoons, un-aerated equalization basins, etc.) may not be located closer than 500 feet to the nearest property line. All other wastewater treatment plant units may not be located closer than 150 feet to the nearest property line. Land used to treat primary effluent is considered a plant unit. Buffer zones for land used to dispose of treated effluent by irrigation shall be evaluated on a case-by-case basis. The permittee must hold legal title or have other sufficient property interest to a contiguous tract of land necessary to meet the distance requirements specified in this paragraph during the time effluent is disposed by irrigation;

(2) The applicant must submit a nuisance odor prevention request for approval by the executive director. A request for nuisance odor prevention must be in the form of an engineering report, prepared and sealed by a licensed professional engineer in support of the request. At a minimum, the engineering report shall address existing climatological conditions such as wind velocity and atmospheric stability, surrounding land use which exists or which is anticipated in the future, wastewater characteristics in affected units pertaining to the area of the buffer zone, potential odor generating units, and proposed solutions to prevent nuisance conditions at the edge of the buffer zone and beyond. Proposed solutions shall be supported by actual test data or appropriate calculations. The request shall be submitted, prior to construction, either with a permit application and subject to review during the permitting process or submitted for executive director approval after the permitting process is completed; or,

(3) The permittee must submit sufficient evidence of legal restrictions prohibiting residential structures within the part of the buffer zone not owned by the applicant. Sufficient evidence of legal restriction may, among others, take the form of a suitable restrictive easement, right-of-way, covenant, deed restriction, deed recorded, or a private agreement provided as a certified copy of the original document. The request shall be submitted, prior to construction, either with a permit application and subject to review during the permitting process or submitted for executive director approval after the permitting process is completed.

(f) For a facility for which a permit application, other than a renewal application, is made after October 8, 1990, if the facility will not meet the buffer zone requirement by one of the alternatives described in subsection (e) of this section, the applicant shall include in the application for the discharge permit a request for a variance. A variance will be considered on a case-by-case basis and, if granted by the commission, shall be included as a condition in the permit. This variance may be granted by the commission, consistent with the policies set out in Texas Water Code, §26.003.

(g) Any approved alternative for achieving the requirements of this subsection must remain in effect as long as the wastewater treatment plant is permitted by the commission. To comply with this requirement, the permittee must carry out the nuisance odor prevention plan at all times, shall ensure sufficient property ownership or interest and shall maintain easements prohibiting residential structures, as appropriate.

(h) For a permitted facility undergoing renewal of an existing permit with plans and specifications approved prior to March 1, 1990, for which no design change is requested, the facility will not be required to comply with the requirements of this subsection.

(i) Facilities for which plans and specifications have been approved prior to March 1, 1990, are not required to resubmit revised plans and specifications to meet changed requirements in this section in obtaining renewal of an existing permit.

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§309.14. Prohibition of Permit Issuance.

(a) The commission may not issue, amend, or renew a permit for a wastewater treatment plant if the facility does not meet the requirements of §309.13 of this title (relating to Unsuitable Site Characteristics).

(b) Nothing in this chapter shall be construed to require the commission to issue a permit, notwithstanding a finding that the proposed facility would satisfy the requirements of §309.12 of this title (relating to Site Selection to Protect Groundwater or Surface Water) and notwithstanding the absence of site characteristics which would disqualify the site from permitting pursuant to §309.13 of this title (relating to Unsuitable Site Characteristics).

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