

The Texas Natural Resource Conservation Commission (commission) adopts new §§213.1-213.14, concerning the Edwards Aquifer. Sections 213.1, 213.2, 213.3, 213.4, 213.5, 213.6, 213.7, 213.9, 213.12, and 213.13 are adopted with changes to the proposed text as published in the July 16, 1996 issue of the *Texas Register* (21 TexReg 6562) with corrections published in the August 16, 1996 issue (21 TexReg 7761). New §§213.8, 213.10, 213.11, and 213.14 are adopted without changes and will not be republished.

EXPLANATION OF ADOPTED RULE

This chapter regulates activities having the potential for polluting the Edwards Aquifer and hydrologically connected surface water in order to protect existing and potential uses of groundwater and maintain Texas Surface Water Quality Standards. The activities addressed are those that pose a threat to water quality. The Edwards Aquifer rules apply to all regulated developments within the recharge zone and to certain activities within the transition zone and to discharges ten miles upstream of the recharge zone within the aquifer's contributory watersheds. Regulated development includes all publicly and privately owned sites where new construction is to commence or where a change in land use from current conditions is intended. Residential subdivisions where every lot is larger than five acres and only one residence per lot is constructed are exempted.

Regulated activities within regulated developments are those that modify or disturb the topographic, geologic, or existing recharge characteristics of a site or have the potential to contaminate the aquifer. Such activities may include: construction of buildings, utility stations, roads, highways, or railroads; clearing, excavation, or any other activities which alter or disturb the topographic, geologic, or existing recharge characteristics of a site; or any other activities which may pose a potential for contaminating the Edwards Aquifer. The following are not considered regulated activities for purposes under the rules: the clearing of a ten foot path for the purposes of surveying, agricultural activities (excluding feedlots/concentrated animal feeding operations); activities associated with exploration, development and production of oil, gas, or a geothermal resource within the jurisdiction of the Texas Railroad Commission; and the maintenance of existing structures which will not cause additional site disturbance and have little or no potential for polluting the aquifer.

The Edwards Rules also provide more stringent requirements than statewide rules for the design, installation, monitoring, and maintenance of on-site sewerage systems (e.g., septic tanks) and under and aboveground petroleum storage tanks. The rules also prohibit certain activities on the recharge zone, such as the disposal of hazardous waste, new concentrated animal feeding operations, waste disposal wells, the use of sewage holding tanks as part of an organized sewage collection system, and Type I new municipal solid waste landfills; and prohibits in the transition zone waste disposal wells,

disposal of hazardous waste, and new Type I municipal solid waste landfills. New or increased discharges of wastewater in the recharge zone and upstream of the recharge zone in the contributory watershed are prohibited. The rules also impose stringent effluent criteria for existing discharges within the recharge zone and upstream in the contributory watershed.

Protection of the water quality in the Edwards Aquifer is accomplished primarily through the review and approval of Edwards Aquifer protection plans. Before commencing construction of a regulated development the property owner must submit a water pollution abatement plan to the executive director for approval. A plan is also required for the installation and rehabilitation of sewage collection lines, underground storage tanks, and aboveground storage tanks. The rules include detailed requirements for the contents of a plan. The plan includes a report from a geologist describing the geology of the area and identifying sensitive features found on the site covered by the proposed plan and downgradient of the site. The plan must also include a technical report of the measures that will be taken under the proposed plan to prevent pollution of the Edwards Aquifer. The rules also require that all abandoned water, injection, dewatering, and monitoring wells be plugged since they may be potential pathways for sources of pollution to move to the aquifer.

As part of its approval of an Edwards Aquifer protection plan, the executive director requires an applicant to take measures to prevent pollution from stormwater originating on-site or up-gradient from the site, and prevent pollutants from entering the sensitive features identified in the geologist's report both during and after construction. Upon approval of a plan, the applicant must file a notice in the deed records of the county where the property is located that the property is subject to an approved plan to put all third parties on notice that a plan is in effect.

Chapter 213 requirements also apply to road and highway construction and maintenance. Through a Memorandum of Understanding and a previous contract with the TxDOT, the executive director reviews water pollution abatement plans for road and highway construction. The environmental impacts of such construction are avoided or minimized through the use of required sediment control structures and the placement of hazardous materials traps for roadways and highways over the Barton Springs segment of the Edwards Aquifer. Commission staff review best management practices (BMP) and measures which may be used to achieve the performance goal of water quality protection for all TxDOT construction activities, pursuant to a contract between the two agencies. The commission staff also participates on a working committee established by TxDOT to monitor impacts of road and highway construction over the Barton Springs segment of the Edwards Aquifer.

The holder of an approved Edwards Aquifer protection plan is responsible for compliance with the Edwards Aquifer rules as well as any conditions imposed by the executive director in approving the plan. If a person fails to comply with any provisions of the Edwards Aquifer rules, the commission may issue an enforcement order requiring compliance and remedial measures to be taken. The agency may also impose administrative penalties under §26.136 of the Texas Water code of up to \$10,000 for each act of violation and for each day of violation. Additionally, a violator may be subject to civil and criminal penalties as well as court injunctions as provided by §26.123 and §26.121, Texas Water Code. Pursuant to §26.124 of the Water Code, local governments and the Texas Parks and Wildlife Department may also file suit in state district court for injunctive relief and civil penalties against a person who is committing or is threatening to commit a violation of water quality statutes/and or rules.

New Chapter 213 strengthens existing requirements and adds additional measures to protect water quality. It also streamlines and consolidates the repealed Chapter 313, Edwards Aquifer rule. The numbering change implements a reorganization of commission rules by moving this chapter to the 200 series of Title 30 of the Texas Administrative Code that is reserved for rules related to water programs. In addition, the rule reorganizes the current Chapter 313 rule to reflect the proper sequence of steps required to obtain approval from the executive director to commence construction of a regulated activity. Obsolete cross-references to other commission rules were corrected, ambiguous language was revised, and processes and procedures were streamlined as part of the commission's regulatory reform process.

The new chapter responds to public comment received during hearings held pursuant to §26.046 of the Texas Water Code. This provision requires the agency to hold annual public comment hearings to receive evidence from the public on actions the commission should take to protect the Edwards Aquifer from pollution. Agency staff conducted three such hearings in 1994 on March 30, April 5, and June 2, in San Antonio, Austin, and Hondo, respectively. Staff then compiled a report which recommended a two-phased approach to amending the existing rules based upon the comments received. The first phase included those changes that were supported by existing data, studies, and other information. These changes were also determined to be reasonable, necessary, and the most cost-effective way to directly address specific, demonstrated water quality threats and to avoid duplication or conflict with local regulations. Phase II of the rulemaking process will include those changes for which additional data, studies, and information must be developed. Staff held three hearings on December 6 and December 12, 1995 in San Antonio and Austin, respectively, and January 10, 1996 in Belton to receive comment on the report.

This rule reflects the first phase of changes identified in the staff report. These changes include, but are not limited to, adding a non-degradation policy; requiring 150 foot setback from a sensitive feature for new Underground Storage Tank (UST) without tertiary containment and for temporary Aboveground Storage Tank (AST) facilities; the regulation of temporary ASTs on construction sites; the lowering of the threshold level for the exemption for the regulation of permanent AST facilities from 1,000 to 500 gallons of cumulative storage capacity; adding all new Municipal Solid Waste Type I facilities to the list of prohibited activities in both the recharge and transition zones, including facilities required to comply with Type I standards (i.e. Types I, II, and III facilities as defined in 30 TAC §330.41 (b), (c), and (d)); clarifying and redefining significant recharge feature (now sensitive feature) to aid in consistent program implementation and facilitate implementation of setback provisions and recharge protection; clarifying that no discharge from sewage collection line leakage is allowed while retaining flexibility in repair schedules; removing requirements which are duplicative of Chapter 317 design criteria for sewage collection lines; requiring Professional Engineer certification for plans which address sensitive features encountered during construction of sewage collection lines; requiring a geologic assessment for new sewage lift station applications; requiring a geologic assessment for all new sewage collection systems; and modifying the exemption for geologic assessments to be based on acreage and amount of development.

The rules have been updated to reflect the current day-to-day operations of the agency relating to the protection of the water quality of the Edwards Aquifer and should make the administration of the Edwards Aquifer Protection Program more efficient and effective. These changes include: reducing the downgradient requirement for a geologic assessment from a distance of at least one mile downstream of all regulated developments to one-half mile, due to property access problems; clarifying the approved sewer line testing procedures; requiring a project that is partially located on the recharge and transition zone, where water in the transition zone drains back to the recharge zone, to meet standards as if the entire project is located within the recharge zone; placing a two-year expiration on AST and UST approvals to provide consistency with other expiration dates for approved regulated activities; and eliminating the requirement for a AST plan for electrical transformer stations containing mineral oil while clarifying that construction of supporting structures is a regulated activity subject to a water pollution abatement plan (WPAP).

In addition, the commission has included a requirement for the use and inspection of best management practices and measures that are proposed as part of an Edwards Aquifer protection plan that are taken to prevent pollution of stormwater flowing onto and off a site. Maintenance and repair of these practices and measures is required. The agency is revising a technical guidance manual that will include suggested measures to avoid increased instream erosion from a site.

These rules do not regulate in a totally independent manner. They build upon and expand the protection measures found in other existing commission rules under Title 30 of the Texas Administrative Code which govern various permitting, licensing, and spill response programs that address surface and groundwater pollution prevention from storage, transportation, and disposal of waste, hazardous substances, and wastewater. Some of these chapters are cross-referenced within Chapter 213 and some of these chapters have special cross-references to the Edwards Aquifer or are otherwise made applicable to the Edwards by referencing their applicability to a sole source aquifer as designated under the federal Safe Drinking Water Act.

Specific cross-references in the rule relate to on-site wastewater treatment which are contained in Chapter 285 of this title (relating to On-Site Sewage Facilities). These rules contain specific and more stringent provisions for on-site sewerage facilities (including septic tanks) in the recharge zone having the potential to cause pollution of the Edwards Aquifer. Cross references in the rule also refer to Chapter 238 of this title relating to the Water Well Drillers Rules. This chapter specifically addresses the proper procedures for drilling and abandonment of wells to insure groundwater quality protection. While there are specific requirements for organized sewage collection systems contained in the rule, the general design, design plans, and specifications must also comply with Chapter 317 of this title relating to Design Criteria for Sewerage Systems. To insure proper design and installation, underground storage tank systems (USTs) are required to be installed by a person registered under Chapter 334 of this title (relating to Underground and Aboveground Storage Tanks). More stringent requirements for the design, installation, monitoring, and containment of USTs are provided in Chapter 213. The design of wastewater treatment plants must be in accordance with Chapter 317 of this title and attain the effluent discharge standards contained in Chapter 309 of this title (relating to Effluent Limitations) and Chapter 311 of this title (relating to Watershed Protection) where applicable. Such effluent criteria are the most stringent in the state and require a 97.5% pollutant removal. The agency also regulates nonpoint source pollution from certain developments in a limited part of the contributing, recharge and transition zones of the aquifer under Chapter 216 of this title (relating to Water Quality Performance Standards for Urban Development).

Prohibited activities are cross-referenced in the rule to the chapters that contain the permitting provisions under this title. Waste disposal wells under Chapter 331, new feedlot/concentrated animal feeding operation under Chapter 321, land disposal of Class I wastes under Chapter 335, and new municipal solid waste landfill facilities required to meet and comply with Type I standards under Chapter 330 are all prohibited on the recharge zone. Waste disposal wells, land disposal of Class I waste, and new municipal solid waste facilities are all prohibited on the transition zone. Chapter 335 (relating to Industrial Solid Waste and Municipal Hazardous Waste) has specific provisions in the

section on location standards for hazardous waste storage, processing, or disposal that prohibit a land treatment facility, waste pile, storage surface impoundment, or landfill on the recharge zone of a sole source aquifer which cross references the Edwards Aquifer recharge zone maps under Chapter 213. Storage and processing facilities (excluding storage surface impoundments) under Chapter 335 may not be located on the recharge zone of a sole source aquifer such as the Edwards unless secondary containment is provided.

Although not specifically referenced in Chapter 213, additional water quality protection from oil and hazardous substances spills is provided by staff in the Regional Offices and through the Emergency Response Center. As specified under Chapter 327 of this title (relating to Spill Prevention and Control), the Texas Natural Resource Conservation Commission is the state's lead agency for response to all hazardous substance discharges or spills, and discharges or spills of other substances and certain inland oil discharges or spills which may cause pollution of the aquifer. This authority is derived from §26.039 and §§26.261 through 26.268 of the Texas Water Code and through the Texas Hazardous Substances Spill Prevention and Control Act. Pursuant to §26.039(b), whenever an accidental discharge or spill occurs, the individual operating or responsible for the activity or facility must notify the agency as soon as possible, but not later than 24 hours after the occurrence. In addition, the Railroad Commission of Texas has authority over discharges or spills from crude oil or natural gas pipelines under their jurisdiction. However, discharges or spills from pipelines transporting refined products such as gasoline, diesel, or other fuel oils fall under the jurisdiction of the agency. As specified under the "State of Texas Oil and Hazardous Substances Spill Contingency Plan," the agency serves as the lead in directing and approving the response for the discharge or spill of a harmful quantity of crude oil (defined as five or more barrels discharged or spilled on the ground or any quantity discharged or spilled into water) during highway transportation. Rail transportation spills are reported to the National Spill Response Center under the U.S. Department of Transportation. In addition, the agency works with the Texas Department of Transportation to address both potential contamination issues surrounding the construction of highways and the placement of hazardous material traps to capture accidental spills resulting from accidents.

Section 213.1, Purpose, provides the intent of this chapter, delegates authority to the executive director to act on behalf of the commission and makes all actions taken by the executive director subject to 30 TAC Chapter 50, Subchapter C. A goal of nondegradation of the existing quality of groundwater, consistent with §26.401 of the Texas Water Code has been added as a result of comments.

Section 213.2, Applicability and Person or Entity Required to Apply, specifies that these rules are applicable only to the Edwards Aquifer and identifies who must file applications with the executive director for approval.

Section 213.3, Definitions, provides definitions for terms used throughout the chapter. Definitions for best management practice, commencement of construction, and site were revised. To provide clarification, new definitions for Edwards Aquifer protection plan and tertiary containment were added

Section 213.4, Application Processing and Approval, identifies who needs to file an Edwards Aquifer protection plan and how the plan will be processed. Clarification was added to §213.4(a) regarding when input must be received from affected governmental entities.

Section 213.5, Required Edwards Aquifer Protection Plans, Notification, and Exemptions, lists activities that require an Edwards Aquifer protection plan, contents of a plan, notification and inspection requirements, and exemptions from submitting a plan. Section 213.5(a) lists regulated activities by type of activity that requires an Edwards Aquifer protection plan. A water pollution abatement plan (WPAP) is required for all regulated activities on the recharge zone not specified in §213.5(c), (d), or (e). An organized sewage collection system plan (OSCSP) is required for rehabilitation or construction of existing or new systems on the recharge zone. An underground storage tank facility plan (USTFP) is required for the rehabilitation or construction of an underground storage tank system for the storage of static hydrocarbons and hazardous substances on the recharge or transition zone. An aboveground storage tank facility plan (ASTFP) is required for the rehabilitation or construction of an aboveground storage tank system for the storage of static hydrocarbons and hazardous substances on the recharge or transition zone.

Section 213.5(b) specifies that the contents of the WPAP are the application, site location information, assessment of area geology, and a technical report. The rule provides a standard method to identify sensitive features by requiring the use of executive director approved forms. The WPAP will have to specifically address these sensitive features to insure that contamination of the aquifer does not occur. The technical report details the nature of the regulated activity including size, projected population, amount and type of impervious cover, volume and character of wastewater to be produced, volume and character of stormwater runoff expected, and activities or processes which could be a potential source of aquifer contamination. The technical report will contain a description of the best management practices and measures that will be taken to prevent pollution of stormwater originating on-site or upgradient and the best management practices and measures that will prevent polluted stormwater runoff from leaving a site during and after construction. To provide flexibility for the development of

new BMPs, §§213.5(b)(4)(B) through (D) were expanded to include the phrase “Pilot-scale field testing (including water quality performance monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.” The report will also contain a description of measures that will be taken to prevent pollutants from entering the aquifer while, to the extent practicable, maintaining flow to naturally occurring sensitive features. This provision does not preclude local ordinances from prohibiting the sealing of features. The technical report will contain a description of measures to be taken to avoid or minimize instream erosion from water flowing off the site. The method of wastewater disposal from the site and measures that will be taken to contain any spill from the temporary storage of 250 or more gallons on site of static hydrocarbons or hazardous substance must be described. A plan for the inspection of best management practices and measures, and their maintenance and repair is required as part of the report.

Section 213.5(c) provides for the submittal of an OSCSP for rehabilitation or construction related to existing or new organized sewage collection systems on the recharge zone. The general design of the system must comply with 30 TAC §317, Design Criteria for Sewerage Systems, and must be filed with and approved by the executive director. Section 213.5(c)(3) contains special requirement for sewage collection systems on the recharge zone. The use of newer black and white television equipment was added to the list of testing methods for sewage collection systems. The OSCSP, under §213.5(c)(4), must contain an application, narrative description of the proposed system, plans and specifications, and assessment of area geology. The assessment of area geology is required along the path of the sewer line(s) plus 50 feet on either side of the line(s) as described in §213.5(b)(3). The OSCSP will contain pollution abatement measures for sensitive features identified along the path of the proposed sewer line.

Section 213.5(d), Static Hydrocarbon and Hazardous Substance Storage in Underground Storage Tanks System, specifies the design standards for an underground storage tank system and the required contents of the underground storage tank facility plan (USTFP) for facilities located on either the recharge or transition zone. New or replacement systems will be double-walled or an approved equivalent. Any new system that is within 150 feet of a domestic, industrial, irrigation, public water supply well without a sanitary control easement, or other sensitive feature requires tertiary containment. Under §213.5(d)(2), the required contents of an USTFP are the application; site location map as specified under §213.5(b)(2); assessment of area geology as described under §213.5(b)(3), with a change that this shall be submitted for the site and 200 feet downgradient if the site is located in the transition zone; and a technical report as described under §213.5(b)(4) to be submitted on forms provided by the executive director.

Section 213.5(e), Static Hydrocarbon and Hazardous Substance Storage in an Aboveground Storage Tank Facility, specifies the design standards for aboveground storage tank systems, the contents of the aboveground storage tank facility plan (ASTFP), and exemptions for facilities located on either the recharge or transition zone. Under §213.5(d)(2), the required contents of an ASTFP are the application; site location map as specified under §213.5(b)(2); assessment of area geology as described under §213.5(b)(3), with a change that this shall be submitted for the site and 200 feet downgradient if the site is located in the transition zone; and a technical report as described under §213.5(b)(4) to be submitted on forms provided by the executive director. Section 213.5(d)(4)(A) was clarified to provide an exemption from §213.5(e) for equipment used to transmit electricity insulating oil while requiring the construction of supporting structures to be a regulated activity subject to requirements on §213.5(a)(1).

Section 213.5(f), Notification and Inspection, specifies that written notification is required no later than 48 hours prior to commencement of construction or rehabilitation. Notice is required if any sensitive features are discovered during construction or rehabilitation. Upon completion of excavation for any lift station or tankhold, a qualified geologist is required to inspect the excavation for the presence of sensitive features. If sensitive features are discovered, methods to protect the aquifer from potentially adverse impacts from the regulated activity must be approved by the executive director. The rule was clarified that construction may continue if the geologist certifies that no sensitive features were present.

Section 213.5(g) addresses on-site sewerage disposal, requiring systems located on the recharge zone to be designed, installed, maintained, repaired, and replaced in accordance with Chapter 285. Section 213.5(h), Exemption, clarifies that the installation of natural gas, telephone or electric lines, water lines, or other such utility lines which are not designed to carry and will not carry pollutants, stormwater runoff, sewage effluent, or treated effluent from a wastewater treatment facility are exempt from the Edwards Aquifer protection plan submittal requirements under this section. However, the construction of these facilities on the recharge zone is a regulated activity requiring the installation and maintenance of appropriate temporary erosion and sedimentation controls.

Section 213.6, Wastewater Treatment and Disposal Systems, contains a prohibition on new discharges or increases in discharges of wastewater into or adjacent to water in the state, on the recharge zone that would create additional loading. Existing permits may be renewed for the same discharge volumes and with the same conditions and authorizations specified in those permits. New wastewater treatment plants located on the recharge zone must be designed, constructed, and operated such that there are no bypasses of the treatment facilities or any discharges of untreated or partially treated wastewater from those facilities. Wastewater treatment plants must be designed in accordance with 30 TAC §317. With

the exception of licensed private sewage facilities, land application systems, under §213.6(b), that rely on percolation for wastewater disposal are prohibited on the recharge zone. Disposal of wastewater on the recharge zone utilizing land application methods, such as evaporation or irrigation, will be considered on a case-by-case basis. Land application that relies on percolation for wastewater disposal is prohibited on the recharge zone, except for licensed on-site sewage facilities. Existing permits may be renewed for the same discharge volume and with the same conditions and authorizations specified in the permit. Specific standards for wastewater discharge into or adjacent to water in the state, upstream from the recharge zone, are contained in §213.6(c). Under §213.6(c)(4), any new permitted industrial wastewater discharges will be considered on a case-by-case basis, in accordance with appropriate discharge limits applicable to that industrial activity and with consideration of proximity to the recharge zone.

Section 213.7, Plugging of Abandoned Wells, requires all abandoned water wells, including injection, dewatering, and monitoring wells, be plugged pursuant to Chapter 238. Section 213.8, Prohibited Activities, lists activities that are prohibited on either the recharge or transition zone. Section 213.9, Exceptions, provides for exceptions to this chapter to be granted by the executive director and specifies the procedure for requesting an exemption.

Section 213.10, Enforcement, specifies that failure to comply with any provision of this chapter, any applicable statute or regulation, or order of the commission issued pursuant to this chapter may result in liability for penalties and may subject a noncompliant person to enforcement proceedings initiated by the executive director under Chapter 26 of the Texas Water Code. Section 213.11, Groundwater Conservation Districts, recognizes the authorities, powers, and duties of groundwater conservation districts to conserve, prevent waste, and protect groundwater quality and encourages districts to assist the commission in its administration of this chapter by conducting specific functions within the areal extent of their geographic jurisdiction.

Section 213.12, Application Fees, requires applicants under this chapter to pay an application fee in the amount set forth in §213.14. The fee is due at the time the application is filed. Section 213.13, Fees Related to Requests for Extensions, requires applicants under this chapter to pay \$100 for each extension request. The fee is due at the time the extension request is filed. The application must include a copy of the approved Edwards Aquifer protection plan. Section 213.14, Fee Schedule, contains the criteria for calculating the application fee for the Edwards Aquifer protection plan.

TAKINGS IMPACT ASSESSMENT

The commission has prepared a Takings Impact Assessment for this rule pursuant to Tex. Government Code Ann. §2007.043. The following is a summary of that Assessment. The specific purpose of the rule is to regulate activities having the potential for causing pollution of the Edwards Aquifer. The rule will substantially advance this specific purpose by clarifying the procedures and criteria to be used by the commission in the review and approval of Edwards Aquifer protection plans for regulated activities under this chapter. Promulgation and enforcement of this rule could affect private real property which is the subject of the rule.

However, there are exceptions to the application of Chapter 2007 of the Texas Government Code. One exception exists since the possibility of degradation to the quality of the water supply presents a real and substantial threat to public health and safety (see Texas Gov't Code Sec. 2007.003(b)(13)). The rule will significantly contribute to the prevention of this threat. The Edwards Aquifer is the sole or primary source of water for over 1.5 million people. To the extent this rule regulates activities over the recharge and transition zones which have the potential for causing significant pollution of the Edwards Aquifer, it significantly advances health and safety. This rule is necessary to carry out the stated authority of the commission to protect human health and the environment.

Additionally, regardless of the applicability of §2007.003(b)(13) of the Act, §2007.003(c) also applies to this rule. Subsection (c) exempts the enforcement or implementation of a statute, ordinance, order, rule, regulation, requirement, resolution, policy, guideline, or similar measure that was in effect September 1, 1995 and that prevents the pollution of a reservoir or an aquifer designated as a "sole source" aquifer. This exception applies to the enforcement or implementation of the entire rule even though only part of the Edwards Aquifer has been designated as a sole source aquifer (See 40 Fed.Reg. 58344 (1975) and 53 Fed.Reg. 20897 (1988)). Current Chapter 313 rules regulating activities over the recharge or transition zones of the Edwards Aquifer have been in effect since March 21, 1990.

The activities addressed by the rule are those that may pose a threat to water quality. This rule specifically applies to the Edwards Aquifer and is not intended to be applied to any other aquifers in the state of Texas. Unless otherwise provided under this chapter, the owner of an existing or proposed site such as a residential or commercial development, sewage collection system, or aboveground or underground storage tank facility for static hydrocarbons or hazardous substance, who proposes new or additional regulated activities under this chapter, must file all appropriate applications with the executive director for approval.

Changes in the rule prohibit Type I, II or III municipal solid waste disposal facilities to be located over the recharge zone. However, there are no known permitted or proposed Type I, II or III municipal solid waste facilities currently located within the recharge or transition zones of the aquifer. Generally, the topography, availability of soil liner materials, and geologic factors are unsuitable and uneconomical for locating municipal solid waste landfills on the recharge zone. Other activities with high potential for pollution, including new confined animal feeding operations and disposal of hazardous waste, are already prohibited under the existing Edwards Aquifer rule.

HEARINGS AND COMMENTERS

Public hearings on this rule were held in San Antonio on September 4, 1996 and in Austin on September 10, 1996, with oral testimony provided at both hearings. The comment period closed September 16, 1996. Fifty-one commenters provided both general and specific comments on the overall proposal. The following thirteen commenters generally supported the rules but suggested changes: an individual; American Planning Association, Texas Chapter, San Antonio Section (APA); Barton Springs/Edwards Aquifer Conservation District (BSEACD); State Senator Gonzalo Barrientos; City of Austin (COA); City Public Service of San Antonio, Texas (CPS); Diamond Shamrock (DS); League of Women Voters of the San Antonio Area (LWV-SA); League of Women Voters of Texas (LWV-TX); Northside Neighborhoods for Organized Development (NNOD); San Antonio Open Space Advisory Board (SAOSAB); Sierra Club Lone Star Chapter (SCLSC); and Texas Department of Transportation (TxDOT). Four individuals and the Save Our Springs Alliance (SOS) opposed the rules because specific types of protection measures were not included. The following thirty-one commenters did not generally voice support or opposition to the proposal, but suggested changes: six individuals; American Society of Civil Engineers, San Antonio Branch of the Texas Section (ASCE); Aquifer Guardians in Urban Areas (AGUA); Brown Engineering Co. (BEC); Consulting Engineers Council of Texas (CEC); Dwight C. Russell Associates, Inc. (DCRA); Earth First (EF); Glenrose Engineering and Save Our Spring Alliance (GE/SOSA); HydroGeology International and HydroGeology Associates (HGI); Industrial Council on the Environment (ICE); League of Women Voters of the Austin Area (LWV-AA); New Braunfels Utilities (NBU); R. L. Masters Environmental Consulting (RLM); R. W. Opitz & Associates (RWOA); City of San Antonio Councilman Howard Peak; The Real Estate Council of Austin, Inc. (RECA); Regional Clean Air and Water Association of San Antonio, Texas (RCAWA); City of San Antonio/San Antonio Water System (SA/SAWS); Save Barton Creek Association (SBCA); Sierra Club Alamo Group (SCAG); Sierra Club Austin Regional Group (SCARG); Southwestern Bell Telephone (SWB); Texas Industries, Inc. (TI); Texas Society of Professional Engineers-Professional Engineers in Private Practice, Bexar Chapter (PEPP); Texas Mid-Continent Oil and Gas Association (TMOGA); and State Senator Jeff Wentworth. The Edwards Aquifer Authority and an individual made statements but offered no comment on the rules.

GENERAL COMMENTS

A large number of generally favorable comments from a wide variety of commentors were received. APA supported the detail and thoroughness of the technical rewrite of the existing Chapter 313. COA commented that the rules are clearer, easier, and more palatable. Senator Barrientos commented that he is pleased that the commission is cleaning up the rules to make them more readable and understandable. RECA, in general, supported the proposed revisions as providing both increased efficiency in the regulatory structure and increased protection for the resources. An individual commented that the rules are headed in the right direction. SCLSC stated that they are pleased with many of the changes proposed and that the rules seem more streamlined and yet more sensitive to the environmental realities that are currently facing this region. SCLSC continued that their organization is happy to see setback requirements, lower exemption levels for AST facilities, five-year testing requirements for sewer lines on the recharge zone, and inclusion of those projects partially on the recharge zone within the definition of a regulated recharge zone site. BSEACD commented that the proposed rules attempt to address some concerns that were expressed during past public comment periods on the program operation. It also comments that improvements to the program include: clarification and streamlining of rule language; setback requirements for underground and aboveground storage tanks; exempt aboveground storage tanks and reduction in their cumulative storage capacity; redefining geologic assessment expectations; and recognizing development impacts that increase storm flow, flashiness and stream scour. SCAG acknowledges that some helpful recommended changes such as prohibition of municipal landfills in the recharge zone, the testing of sewer lines by TV every five years, two-year limits on permits for regulated activities, and the requirement for a full water pollution abatement plan for projects when only a part of the property is in the recharge zone were made.

Similarly, a number of generally unfavorable comments were also received. An individual commented that despite innumerable attempts to strengthen the rule by individuals and institutions, the changes are cosmetic and are so insignificant as to be laughable because all the changes lack substance. Another individual commented that the rules do not reflect any of the substantive changes recommended by the San Antonio Water System, the (former) Edwards Underground Water District, AGUA, or numerous neighborhood organizations, business groups, and individuals. Four individuals, Senator Jeff Wentworth and SA/SAWS stated they are concerned that out of the 41 suggestions proposed by SA/SAWS, only two have been accepted in the rule. Another individual commented that the rules should be more stringent. Another individual commented that in some instances the rules have been strengthened but in some areas the rules have been weakened, however not much has changed in the last couple of years. The commenter continued that the rules are weak and will almost certainly mean that the degradation of the water quality will continue as development continues. SCLSC was concerned that some of the proposed revisions may not go far enough in fulfilling or may work against

the purpose of the rules. SOS commented that the proposed rules will not protect the Edwards Aquifer for the following reasons: they do not limit the impervious cover to the 10-20 percent shown to be the threshold for preventing degradation of surface and groundwater; they do nothing to protect the contributing zone of the aquifer; they do not prohibit gas stations and other facilities that are known to generate extremely contaminated runoff and present high risks of spills or leaks from tanks, trucks and chemical transfer operations; they do nothing to provide for meaningful enforcement of whatever rules are adopted so that wholesale violations, as is occurring now, do not continue; and they do not restrict or prohibit either directly or indirectly the use of pesticides, fertilizers and other chemicals or overstocking or over concentration of animals.

The commission believes that these rule changes will substantially strengthen the Edwards Aquifer Protection Program. The commission appreciates the support from commenters and with regard to the concerns expressed, responses to specific comments are included under pertinent sections of the preamble. The commission generally responds that each of the individual changes suggested by SA/SAWS, as with all comments received by the agency during the comment period, are addressed in the preamble. Where appropriate, changes to the proposed rules were made. However, many of the comments suggested by SA/SAWS and others lacked sufficient supporting data or information, were either beyond the scope of the proposed rules, were administrative in nature and not subject to rulemaking, or were beyond the scope of the commission's jurisdiction. Some comments were on activities covered by other rules adopted by the agency. Some were not adopted because there is a regulatory policy difference between methodologies or approaches to protect the aquifer water quality. For example, to provide flexibility within the rules and to the regulated community, performance-based solutions provided in the rules to many problems can achieve the same water quality protection results as the suggested prohibitions or prescriptive actions.

APA and SA/SAWS commented that the commission should consider delegating approval authority for Water Pollution Abatement Plans to local agencies, where local governments have demonstrated the resources and the willingness to enforce water pollution abatement plan requirements. SBCA commented that the commission should delegate the enforcement authority for the Barton Springs segment of the Aquifer to the Barton Springs/Edwards Aquifer Conservation District and that delegation of the enforcement role to them, would both enhance environmental protection and speed up the review and approval of water pollution abatement plans. LWV-AA supported delegation of water pollution abatement plan approval authority to the Barton Springs/Edwards Aquifer Conservation District and the Edwards Underground Water District (now the Edwards Aquifer Authority) in their respective jurisdictions because both have technical staff with resources to implement the review and

approval process. LWV-AA continued that an appropriate percentage of the permit application fees should be allocated to these agencies for this purpose. SCLSC commented that a percentage of the application fees should be appropriated to the Barton Springs/Edwards Aquifer Conservation District and the Edwards Aquifer Authority so they can implement the review and approval process of water pollution abatement plans.

In the *Edwards Aquifer Water Quality Protection Program DRAFT 1994 Public Comment Report*, agency staff identified this issue as needing further study during the second phase of rulemaking for the program. The commission is conducting a pilot delegation project with the City of Round Rock to further develop recommendations on proper oversight, fee-sharing, and jurisdictional issues. Based upon an evaluation of this pilot project, it is anticipated that future rulemaking under Phase II will address this matter. The commission has made no change to the rules at this time in response to these comments.

APA commented that the rules do not provide a mechanism to determine the cumulative impact of development on the aquifer, including information on both pollutant discharges from development and the recharge displaced by development. LWV-TX stated that the agency should be closely involved in assuring that the information being collected in the water pollution abatement plan is maintained in a data base accessible to the public and used by the commission and other interested parties in a coordinated management and protection program for the Edwards Aquifer. LWV-TX continued that keeping track of the cumulative impact of urban and suburban growth and highway construction is necessary to evaluate the effectiveness of the rules and other protection measures. SCAG commented that the program should be changed to allow for the evaluation of cumulative effects of multiple projects in the drainage and recharge zone. SCLSC commented that the rule should take into account the cumulative effects of pollution generated by the projects approved under the rule. SCLSC continued that the agency should evaluate developments in terms of their pollution effects, combined with other projects, on the recharge and transition zone areas; implement a cumulative assessment that would review critical environmental factors such as stormwater runoff, underground storage tanks and pipelines, sewage lines, fuel lines, sealing of recharge features, and floodplain operations; and require the agency to provide the public with the cumulative studies at least once a year. SA/SAWS urged agency staff to begin to develop a methodology and criteria for regulating and monitoring the pollutant load (cumulative effects) of land use activities over the Edwards recharge zone. Pollutant loading has been occurring over time and the need to assess water quality in these terms must be studied. Such studies should be coordinated with appropriate local entities for technical assistance and provide necessary information.

Appropriate methodologies are not currently available to specifically address total loadings which might impact the aquifer and which would fairly address the cumulative effects of widely varying kinds of development. In addition, the large amounts of data necessary to provide reasonably accurate results have not been compiled into electronic format for the necessary data analyses. This issue is an ongoing concern and the commission intends to address this issue as part of a second phase of rulemaking with input from appropriate interested and affected parties. The commission has made no change to the rules at this time in response to these comments.

Senator Barrientos commented that some effort needs to be made to extend the rules into the contributing zone of the aquifer, perhaps not the entire contributing zone, but certainly the part that has been recognized in the upstream wastewater discharge section of the rules. GE/SOSA commented that approximately 67 to 75% of the areas contributing recharge to the Edwards Aquifer lie outside of the area regulated by the rules and that failure to regulate development in this contributing area will result in degradation of both the surface and groundwaters of the area. SA/SAWS requested the establishment of a drainage zone, similar to the boundaries of the catchment area, to be phased in over the next three years with similar regulations that govern the recharge zone, especially, in the areas of underground storage tanks, proper construction and inspection of sewer mains and private service laterals, and stormwater abatement controls. They suggested the addition to §213.3 of a definition for drainage zone to be “That area immediately to the north, northeast and northwest of the recharge zone that captures precipitation and directs it onto the recharge zone of the Edwards Aquifer.” SCLSC commented that the rules should apply to the drainage area of the Edwards Aquifer and suggested that the commission adopt definitions for “drainage area” and “drainage zone”; change the definitions of “regulated activity” and “regulated development” to include the drainage area; and include the watersheds of Onion, Little Bear, Bear, Slaughter, Williamson, and Barton Creek in the jurisdictional boundaries of the rules. LWV-TX, LWV-AA, LWV-SA, EF, and an individual commented that the rules should be extended to regulate activities with the potential for generating pollution within the drainage or contributing zones. SBCA commented that the scope of the Edwards rules needs to be broadened to include the whole drainage area of the Edwards Aquifer: the contributing zone that runs off into the creeks contributes to the Aquifer when it reaches the recharge zone. SCAG commented that stronger rules are needed for the drainage and recharge zones of the whole Edwards Aquifer because the potential for the effects of pollution cross political boundaries and stated that pollution occurring in the drainage and recharge areas of northern Medina County could eventually end up in wells in San Antonio. COA and LWV-TX commented that approximately 85% of the water recharging the Barton Springs segment of the Edwards Aquifer originates as baseflow in the contributing zone and, therefore, water quality and baseflow protection in the contributing zone is critical to the prevention of degradation in the aquifer as protecting recharge features in the recharge zone. COA

commented that the major flaw with the Edwards Aquifer Rules is that it does not contain underground storage tank, water pollution abatement plans, organized sewage collection system, or any other requirements in the contributing zone. In addition, COA, EF, and LWV-AA stated that the proposed Chapter 213 rules were cited in the Barton Springs Salamander agreement between the agency, U.S. Fish and Wildlife, Texas Parks and Wildlife, and the Texas Department of Transportation as one of the prime regulations to protect the species and that water quality protection in the contributing zone is imperative to remove threats to the Barton Springs ecosystem. COA continued that expanded jurisdiction across this area and more aggressive enforcement is needed. LWV-AA stated that the official withdrawal of the proposed listing, based upon the Conservation Agreement, included measures to revise, adopt, and implement regulations “to protect water quality in the Barton Springs watershed and the Barton Springs segment of the Edwards Aquifer from degradation.” LWV-AA continued that the definition of regulated activity should be expanded to include construction-related activity in the contributing zone as well as on the recharge zone of the Barton Springs segment to provide the protection needed for the Barton Springs salamander.

As stated above, statewide rules relating to water quality protection currently apply in the contributory watershed of the Edwards Aquifer. These rules include, but are not limited to, the regulation of petroleum storage tanks, on-site sewerage systems, the treatment and disposal of hazardous and non-hazardous waste, and the discharge of treated wastewater. The commission agrees that non-point source pollution prevention measures should be imposed in riparian areas upstream of the recharge zone in the contributory watershed. However, the costs and benefits of extending certain water quality measures in the contributing zone, the appropriate scope of such measures, and the extent of the geographic area to be covered are not fully known. The size of the area generally identified as the contributing zone for the aquifer and which has been suggested for regulation is large, encompassing significant portions of eight counties not currently subject to the regulations. The commission is concerned that the economic impacts on state government and on those subject to compliance with the regulation for extending regulations to this area may be substantial and, thus, require a substantial and thorough, scientific demonstration that the measures and geographic scope will provide a significant increase in water quality protection. There is currently insufficient information on which to base decisions about the type of activity that needs to be regulated, the scope of regulatory efforts and the most appropriate geographic area for regulation. This issue is an ongoing concern and the commission intends to address this issue in the next phase of rulemaking with input from appropriate interested and affected parties. The commission has made no change in the rules at this time in response to these comments.

SCARG commented that development on the Edwards Aquifer should be limited because irreversible contamination of groundwater resources will inevitably result from over-reliance on engineered structural controls. The commenter continued that scientific studies show pollutant removal rates for all 'Best Management Practices' are insufficient to prevent degradation. An individual requested that the commission severely limit any additional development on the Edwards Aquifer recharge zone and severely limit development of the Edwards Aquifer drainage zone.

Best management practices have been shown to be effective in controlling, but not completely eliminating, potential contamination from nonpoint sources. The commission supports the use of best management practices and engineered solutions for pollution prevention. However, nondegradation of water quality and the protection of existing and potential uses of groundwater does not mean zero contaminant discharge. The use of best management practices and engineered solutions is consistent with the goal of the chapter. The commission is also concerned that severely limiting development on the recharge and contributing zones will have economic impacts and that there has been an insufficient demonstration that the method being proposed will significantly protect water quality and outweigh such economic impacts. The commission has made no change in response to these comments.

AGUA commented that the commission is passing on the burden of pollution to the community and future generations which rely on the Edwards Aquifer for drinking water under the guise of streamlining, avoiding duplication, and cost-savings. AGUA continued that the program includes a multitude of hidden costs to the San Antonio area, including the tremendous costs of monitoring and remediating contamination sources the agency has approved, such as underground storage tanks, sewer lines and septic tanks. Effective pollution prevention planning will not take place until harm is demonstrated and levels of pollutants are measurable in the aquifer. AGUA suggested that the agency should reevaluate the program for hidden costs and reduce present and future program cost by reducing the number of new toxic sites on the recharge zone with prohibition of hazardous substances the most efficient pollution abatement program.

There are few instances of pollution of the aquifer and no evidence of a burden of pollution, as described by the commenter, resulting from activities regulated under the rules. Instances of pollution have generally been the result of non-compliance with the rules; not that the rules themselves were deficient. Further, remediation is generally the responsibility of the owner or operator of the facility causing the problem rather than the community. There is no evidence of a regional problem which would cause impacts to the community at large. The agency's technical guidance document was withdrawn for revision and information regarding design of pertinent

facilities in the context of the water pollution abatement plan approval process is available from the commission's Regional Offices in San Antonio and Austin. With regard to limiting sites which store hazardous materials or prohibiting such storage, the commission believes that control measures other than prohibition provide adequate protection. Additional regulations to include hazardous substances other than waste presents a resource burden to the agency and a financial burden to those individuals who would be subject to such a regulation which would be substantial. Therefore, clear, convincing, and scientifically and technologically sound information must exist indicating that such measures would provide a significant increase in water quality before they would be imposed.

SCAG supported the banning of the use of specific hazardous materials in the drainage and recharge zones of the Aquifer. SA/SAWS and an individual commented that the agency should take action to determine prohibiting large volumes of hazardous material being stored or used on the Edwards recharge zone and developing a permitting process for small quantity storage and usage. SA/SAWS has clarified this recommendation to mean "to develop a process of permitting the storage and usage of small quantities of hazardous materials over the recharge zone, while continuing to prohibit large-volume storage and usage."

The prohibition of storage or use of "hazardous materials" over the Edwards recharge zone as proposed by the commenters is unreasonable and unnecessary to protect water quality. Rather, existing, stringent, design, installation, maintenance, monitoring, and containment regulations are sufficient and less costly to protect water quality. Prohibiting the storage and usage of all liquid hazardous materials in either aboveground or underground storage tanks or the storage and usage of solid hazardous material is not justified because problems and benefits have not been demonstrated. The commission believes that current and proposed design criteria for underground and aboveground storage tank systems under §213.5(d) and (e) and under Chapter 334 (related to Underground and Aboveground Storage Tanks) are protective of the aquifer and should prevent leaks and spills which could contaminate the aquifer. Additionally, this action would result in a significant financial burden on those regulated and an inconvenience for the general public. It would limit or prohibit many commercial activities and businesses from being located in the recharge zone. The commission believes that engineering solutions are a viable approach to pollution prevention rather than this total prohibition. The commission has made no change in response to these comments.

LWV-TX, LWV-AA commented that they support the addition of Bell County to the area covered by the Edwards Aquifer rules because of the significant groundwater and springs in the Edwards and

associated limestones of Bell County, and the importance of Salado and other springs to local drinking water supply and recreation. SCLSC commented that Bell County should be included in the definition of the Edwards Aquifer.

The commission held a public hearing in Bell County on January 10, 1996, to accept comments on this issue. Many comments were generally favorable to the extension of these rules to Bell County because of the similar hydrogeology and potential for contamination of the Edwards Aquifer from surface activities. However, other commenters noted the lack of existing development on the recharge zone and requested the opportunity to develop a local approach. The commission will continue to evaluate the proposal to include Bell County in the area subject to the rules during the second phase of rulemaking.

GE/SOSA stated that municipalities, regulating development over the Edwards Aquifer, routinely require programs to limit the application of pesticides and herbicides to protect water quality and that the rules are inadequate to protect the water quality and quantity of the aquifer because they fail to address this issue. SBCA commented that the commission should limit the use of pesticides, herbicides, and chemical fertilizers throughout the Edwards Aquifer recharge zone, and especially near recharge features such as caves, sinkholes, and fissures. SCAG commented that the rules should provide for the inclusion of a plan to minimize the use of fertilizers, pesticides and herbicides in all water pollution abatement plans. SCLSC commented that the use of fertilizers, pesticides, and herbicides in critical areas overlying the aquifer should be restricted, preferably using an approach similar to the SOS rules in Austin to limit their use or, at a minimum, require all water pollution abatement plans to include a plan to minimize the use of fertilizers, pesticides and herbicides for the care of vegetative cover. SA/SAWS commented that the agency should require the certification of commercial fertilizer and pesticide applicators operating within the Edwards Aquifer recharge zone.

The commission lacks jurisdiction to regulate the use and application of pesticides, the labeling of pesticides, or license pesticide applicators. These regulatory activities are the jurisdiction of the Texas Department of Agriculture under both the Texas Agriculture Code and the Federal Insecticide, Fungicide, Rodenticide Act. However, §26.121 of the Texas Water Code prohibits the unlawful discharge of these pollutants to waters in the state and the Texas Agriculture Code allows the commission address through enforcement contamination of water by pesticides. The technical guidance document that is being developed by the agency will also contain a section on non-structural BMPs that will address the proper use of pesticides and fertilizers.

The LWV-TX suggested that the commission is relying on the continued high quality of water in Barton Springs, and the continued counting of a few salamanders there as evidence that the Edwards rules are working properly. They continued that the agency has many rules regulating point-source discharges and hazardous materials, but has been reluctant to develop specific rules for adequately controlling nonpoint pollution. LWV-TX commented that studies show that, while the overall water quality in Barton Springs is still predominantly “high quality,” additional pollutant loadings resulting from construction and urbanization in portions of the entire Barton Springs watershed are entering the aquifer -- even though the Edwards rules have been in place for over six years. It is the long-term effect of the continuing degradation that is of concern to LWV-TX. LWV-TX recommended the commission openly recognize that there are threats and risks to the Edwards Aquifer; that the current Edwards Rules do not provide all the protection needed for that resource. They continued that the commission should work with others to develop regulatory and nonregulatory management and protection programs for the maintenance of the water quality and quantity in the aquifer.

The Edwards Aquifer protection program, including the rules adopted and administered by the commission and the newly adopted Chapter 216 rules (relating to Water Quality Protection Zones), are nonpoint source regulatory programs applicable to the Barton Springs segment of the Edwards Aquifer. The commission’s awareness of potential threats to the quality of the aquifer is evidenced by the previous adoption of these rules as well as the proposal of these new rules and the continuing efforts to update the rules to provide effective, cost-efficient regulation. The agency is working diligently with other signatories of the “Barton Springs Salamander Conservation Agreement and Strategy” to develop regulatory and nonregulatory management and protection programs to address specific issues related to the Barton Creek Watershed.

SA/SAWS commented that the commission should establish formal communications with the Texas Railroad Commission (RRC) and the Texas Department of Transportation (TxDOT) on new construction, repairs, accidental spills from oil and gas pipelines, and transportation of hazardous materials.

The commission has established formal communication with other appropriate state agencies, including RRC and TxDOT, as a programmatic issue rather than as a rule requirement. The agency works with TxDOT to address both potential contamination issues surrounding the construction of highways and the placement of hazardous material traps to capture accidental spills. The commission has a Memorandum of Understanding with TxDOT which provides for, among other things, commission review and approval of TxDOT projects on the recharge zone of the Edwards Aquifer. Staff are working formally on a team with TxDOT to address issues

related to accidental spills under the Barton Springs Salamander Conservation Agreement and Strategy. Additional water quality protection from spills is provided by staff in Regional Offices and through the Emergency Response Center. As specified under Chapter 327 of this title (relating to Spill Prevention and Control), the commission is the state's lead agency for response to all hazardous substance discharges or spills, and discharges or spills of other substances, and certain inland oil discharges or spills which may cause pollution of the aquifer. This authority is derived from §26.039 and §§26.261 through 26.268 of the Texas Water Code through the Texas Hazardous Substances Spill Prevention and Control Act. Pursuant to §26.039(b), whenever an accidental discharge or spill occurs, the individual operating or responsible for the activity or facility must notify the agency as soon as possible, but not later than 24 hours after the occurrence. If the individual or facility lacks the capability to take immediate, remedial action, the agency performs this task or contracts it to a private company and obtains reimbursement from the responsible parties. The agency may also request the assistance of local governmental entities such as a fire department, river authority, or district.

In addition, the Railroad Commission of Texas has authority over discharges or spills from crude oil or natural gas pipelines under their jurisdiction. However, discharges or spills from pipelines transporting refined products such as gasoline, diesel, or other fuel oils fall under the jurisdiction of the agency. As specified under the "State of Texas Oil and Hazardous Substances Spill Contingency Plan," the agency serves as the lead in directing and approving the response for the discharge or spill of a harmful quantity of crude oil (defined as five or more barrels discharged or spilled on the ground or any quantity discharged or spilled into water) during highway transportation.

SA/SAWS commented that the rule should encourage education and awareness of the Edwards Aquifer recharge zone among Homeowner Associations, Commercial Developers, and the general public, located on or traveling on the Edwards Aquifer recharge zone.

The commission agrees that public information and education is an important element in protecting the quality of water in the Edwards Aquifer. The commission will include a section on public information and education and non-structural BMPs in its revised *Edwards Aquifer Technical Guidance Manual*. The commission coordinates the preparation and implementation of the state management program for urban runoff, construction, land disposal, hydrologic modification and other categories of nonpoint source pollution under §319 of the Federal Clean Water Act. Over seventeen projects, that include public information and education dissemination, have been funded through the agency for projects related to the Edwards Aquifer.

§213.1. PURPOSE

BSEACD commented that §213.1 should include the State's policy on nondegradation for groundwater taken from §§26.401(a)(5) and (b) of the Texas Water Code which states "it is the goal of groundwater policy in this state that the existing quality of groundwater not be degraded." SCLSC and Senator Barrientos commented that the rules should clearly state that a minimum goal of the rule is nondegradation of the water in the Edwards Aquifer. SOS commented that the proposed rules, like the existing rules, fail to comply with the State and Federal Antidegradation rule and, as a result, violate the federal Clean Water Act.

The commission agrees with BSEACD's comment. Commission rules seek to maintain and protect the water quality standards and related aquatic life uses designated for the Barton Creek watershed in accordance with the state's nondegradation policies for surface and ground water. To make this clear, §213.1 has been expanded to include the State's policy regarding nondegradation of groundwater as set forth in §26.401(b) of the Texas Water Code. The full citation from the Code reads "The legislature determines that, consistent with the protection of public health and welfare, the propagation and protection of terrestrial and aquatic life, the protection of the environment, the operation of existing industries, and the maintenance and enhancement of the long-term economic health of the state, it is the goal of groundwater policy in this state that existing quality of groundwater not be degraded. This goal of nondegradation does not mean zero-contaminant discharge." Section 26.401(c) provides that "It is the policy of the state that...discharges of pollutants, disposal of wastes, or other activities subject to regulation by state agencies be conducted in a manner that will maintain present uses and not impair potential uses of groundwater.." While the proposed §213.1 stated that "The purpose of the chapter is to regulate activities...to protect existing and potential uses of groundwater and maintain Texas Surface Water Quality Standards," the explicit inclusion of a nondegradation goal is consistent with the purpose of the rule.

The Clean Water Act requires each state to develop and enforce water quality standards. Such standards must include the federal antidegradation policy. This antidegradation policy applies to "navigable waters in the U. S." The policy has been approved by the U.S. Environmental Protection Agency and incorporated into commission rules contained in §307.5 of this title. This antidegradation policy also helps to protect groundwater quality. All discharges are subject to the Texas Surface Water Quality Standards promulgated by the commission and approved by the U.S. Environmental Protection Agency under the Clean Water Act. Streams crossing the recharge zone, and providing recharge to the aquifer, fall under one of the following "tiers" contained in the antidegradation policy: Tier I - all surface waters are addressed by the basic

provision of the antidegradation policy, which states that “water quality sufficient to protect existing uses will be maintained;” Tier II - no activities subject to state and federal regulatory action are allowed to cause degradation of “waters which exceed fishable/swimmable quality,” unless it can be shown that “the lowering of water quality is necessary for important economic or social development.” This provision applies to water bodies which have an aquatic-life use of at least high quality.

COA commented that the rules do not fully provide for nondegradation of the aquifer and current state standards are incompatible with the city’s nondegradation goal for the Barton Springs zone. LWV-AA commented that the rules should explicitly state that a minimum goal of the rule is nondegradation of the aquifer.

The commission disagrees that its rules are incompatible with COA’s nondegradation goal for the Barton Creek Watershed. The agency and COA both have the same performance goal but their regulatory approaches are different. The COA assumes nondegradation has been achieved if a certain impervious cover limitation is met. On the other hand, the commission allows a regulated entity the flexibility to demonstrate that alternatives may achieve the same performance goal. This does not preclude the applicant’s choice of the COA’s impervious cover limitation. In either case, the nondegradation goals of both the COA and commission must be met.

SOS commented that the rule fails to protect the habitat of the Barton Springs Salamander and other endangered species of the Edwards Aquifer and, therefore, is a violation of the Endangered Species Act.

The commission disagrees that the rules fail to protect the Barton Springs Salamander and federally listed species. As previously stated, the rules seek to maintain and protect water quality standards and related aquatic life uses designated for the Barton Creek watershed. The commenter does not state specifically how compliance with the rules would fail to adequately protect the species. Additionally, the USFWS, in its notice that it would not list the Barton Springs Salamander as an endangered species, has found that the existing rules as well as the adoption of the proposed rules were sufficiently protective of the salamander’s aquatic habitat. Furthermore, the USFWS has not filed any comments regarding the proposed rules. Actions, not rules, would be a violation of the Endangered Species Act, and the adoption of a rule seeking to protect water quality would not be a violation. The person committing a takings of an endangered species would be in violation of the Act.

LWV-AA commented that under §213.1, the rules should represent minimum standards to regulate activities which may pollute the aquifer. They continued that nothing within the rules should be interpreted or construed to limit the right or authority of any governmental entity to impose different or stricter standards to regulate or prevent aquifer pollution. COA commented that where local governments have adopted a nondegradation strategy for the areas within their jurisdiction, the state rules should provide support rather than a hindrance. APA agreed that commission rules should not duplicate or unnecessarily conflict with local regulations. APA and LWV-SA commented that the commission should give further consideration to local ordinances and regulations which are more stringent than Chapter 213. APA and SAOSAB suggested that the City of San Antonio ordinances should be applied uniformly throughout the region. SCLSC commented that the rule should be baseline requirements on activities conducted in regulated areas and should be considered to be the minimum requirements for regulated activities. SCLSC commented that the rules should explicitly state that local jurisdictions may impose more stringent regulations than the agency on projects in the recharge zone. SA/SAWS commented that the agency should acknowledge the efforts of localities that have municipal ordinances or regulations in place which are more stringent than the existing rules and use them as guidelines for future regional application. SA/SAWS suggested that §213.5 be changed to read: “Those elements of Pollution Prevention Criteria required for Category 2 and Category 3 properties as applicable in Ordinance No. 81491 will be adopted for properties located over the recharge zone of the Edwards Aquifer. Pollution Prevention for these categories include, but are not limited to; impervious cover limits, floodplain and floodplain buffer protections, protective measures around recharge features assessed as highly significant and Best Management Practices. The applicant must submit all contents listed in Chapter 34, Article VI, Division 6, Section 34-911 of the City Code, that would be required to obtain a Letter of Certification from the Watershed Protection and Management Department of the San Antonio Water System.” RCAWA comments that the State’s Edwards Rules are taking precedence over local ordinances and the City of San Antonio could be fined for not meeting required standards for nonpoint source pollution reduction and water quality under NPDES mandates. RCAWA states that subsection (b) of the City of San Antonio ordinance prescribes the intended BMP to prevent pollutant loading in stormwater from entering the Edwards Aquifer. RCAWA did not ask that these best management practices be applied to the entire recharge zone, but that the city be allowed to enforce their own rules.

The commission agrees that Chapter 213 is the minimum aquifer-wide standard for regulated activities. However, §213.1 states that “Nothing in this chapter is intended to restrict the powers of the commission or any other governmental entity to prevent, correct, or curtail activities that result or might result in pollution of the Edwards Aquifer.” This assures that nothing in the Edwards Aquifer rules prohibits local governments from imposing additional standards to

prevent aquifer pollution, as long as the local standards are as protective of water quality as the Edwards Aquifer rules. Although Chapter 213 and other applicable rules are sufficiently protective of water quality, the commission encourages each municipality or local governmental entity to adopt ordinances or regulations more suitable to local conditions and acceptable to local voters. As long as there is no irreconcilable conflict between a state law and a city ordinance, the ordinance may be imposed as well as the state regulations. Local entities are not prohibited from enforcing local ordinances within their area of jurisdiction.

An individual commented that the new Edwards Aquifer Authority also has protection powers which overlap with the commission, and apparently the City of San Antonio among others. The commenter suggested that an inter-agency cooperative effort be formalized in order to clarify what happens in areas of overlapping jurisdiction so that the aquifer can be protected efficiently and effectively, and clarify what rules the people have to follow.

The commission agrees with the comment. The purpose of Chapter 213 is to regulate activities on the designated recharge and transition zones having the potential for causing pollution of the Edwards Aquifer. The activities addressed are those that pose direct threats to water quality. As ambiguous situations occur, the commission will work closely with the EAA to resolve problems. If jurisdictional conflicts arise, they can be addressed through memorandum of understanding between the agencies.

SA/SAWS proposed the following modification to the definition of aboveground storage tank system to conform with their Ordinance 81147 definition of UST which states it is 10% or more volume below grade--delete "on or above the surface of the floor of a structure below ground, such as a mineworking, basement, or vault" and replace with "less than 10% of the volume below grade". AGUA suggested that the definition of underground storage tank should be changed from "10% or more beneath the surface of the earth" to "below grade." SA/SAWS commented that the definition of underground storage tank system should be changed to be consistent with city ordinance no. 81147 to read beneath grade rather than beneath the surface of the ground.

The commission made no change in response to these comments. The definition of underground storage tank used in these rules is consistent with agency rules in Chapter 334 of this title (regarding to Underground and Aboveground Storage Tanks) and with the federal regulations contained in 40 CFR Part 280, Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST).

§213.3. *DEFINITIONS.*

ASCE suggested that the definition of Best Management Practice be plural Practices and that the definition is misleading by including reference to groundwater and the Texas Surface Water Quality Standards in the same phrase and suggested the following rewording: “. . . existing and potential uses of groundwater and maintains surface water quality in compliance with Texas Surface Water Quality Standards, as”

The commission agrees with the comment and has made the suggested changes.

SA/SAWS commented that they support the proposed definition of Best Management Practice.

PEPP commented that the definition of Best Management Practices could be construed to require individual landowners to monitor the effectiveness of their BMPs. In addition, it does not establish the authority or the technical guidelines on which staff will rely to determine if the BMP selected has had appropriate field testing and monitoring. They suggested that the definition should be clarified to insure that a wide range of BMPs can be utilized from different technical sources and new innovations. They also recommended that the definition include some language that would allow for the agency to adopt a Technical Guidance Manual without having to revise the rules. RECA commented that under the definition of Best Management Practices that the phrase “verified through performance monitoring” refers to an agency preference for the use of BMPs that have been shown to be effective by field studies. The commenter continued that the reference be clarified to make clear that it is not anticipated that individual BMPs will be subject to performance monitoring in the sense of monitoring of water quality for particular constituents as opposed to maintenance and inspection requirements, which are appropriate. RECA stated that water quality monitoring of individual BMPs would be extremely and unnecessarily time-consuming and expensive to administer and would place a large economic burden on landowners. RECA also suggested that the rules should provide flexibility to allow for BMPs pursuant to §213.9, even where they have not been “verified through performance monitoring.”

The commission agrees with the comments. The definition of Best Management Practices has been modified to include a reference to technical guidance prepared by the executive director and to provide for other BMPs which are technically justified based upon studies and reports that are generally relied upon by professionals in the environmental protection field. Such studies or information may include, but not be limited to, guidance developed by the EPA, or studies performed by trade and professional organizations such as the American Society of Civil Engineers or the Water Environment Research Foundation. Additionally, §213.5(b)(4)(B)-(D) have been modified to state that pilot-scale field testing (including water quality performance

monitoring) may be required for BMPs that are not addressed in technical guidance prepared by the executive director or provided in other acceptable studies or guidance. The commission also agrees that all BMPs, including those specified in technical guidance or those otherwise authorized for use by the executive director, are subject to monitoring in the form of inspection and maintenance activities.

RECA commented that under the definition of Best Management Practices that the “performance standard” is protection of existing uses and maintenance of Surface Water Quality Standards, without reference to any specific numeric standards relative to particular constituents removed by the BMP. The commenter continued that this interpretation is consistent with the existing regulatory definition of BMP in §307.3 (relating to Surface Water Quality Standards) and that numeric standards for removal of particular constituents by BMPs have not been generally determined and have not been used by the agency. The commenter recommended that the reference to “performance standard” be clarified to reflect that the standard is generally protective of existing uses (rather than numerically based removal standards) and that at this time the imposition of specific, numeric standards for BMPs is not intended.

The commission agrees, in part, with the comment. Protection of groundwater uses and maintenance of surface water quality standards are goals of the appropriate use of best management practices. These goals are achieved through the performance of best management practices in the removal of specific water quality constituents. The use of BMPs, rather than the imposition of numeric effluent criteria, is consistent with the EPA’s interim guidance on stormwater permitting. However, demonstrated performance efficiencies for the removal of contaminants will be a basis for identifying acceptable BMPs in the technical guidance prepared by the executive director.

RECA commented that Best Management Practices are defined in §307.3 of this title and that this existing and accepted definition is adequate for the purposes of Chapter 213. If some form of the proposed definition is retained, the commenter suggested that the nebulous reference to “professionals in the environmental protection field” be changed to “Texas Registered Professional Engineers with experience in water quality protection.”

The commission disagrees with the comment pertaining to the adequacy of the definition of BMPs in §307.3 for the purposes of Chapter 213. The definition proposed in Chapter 213 provides additional information necessary for the efficient implementation of the regulation as it is specifically applied in the context of the protection of the Edwards Aquifer. The commission also disagrees with the comment pertaining to references to “professionals in the environmental

protection field.” The commission does not believe that licensure as a Registered Professional Engineer in Texas is a necessary prerequisite for the proper evaluation of studies and other information on the performance of BMPs.

An individual commented on the use of the word “best” in Best Management Practice, stating that “best” means different things to an ecologist verses an engineer. The commenter requested that some guidelines for the term “best” be developed that would balance the environmental needs with the development economics. The individual also requested that the commission provide research direction and seek funding for research.

The commission has made no change to the rule in response to this comment. The term “Best Management Practice” is a term of art adopted from the EPA. The word “best” is not intended to be used in its common usage. However, examples of “best” management practices will be identified in the revised *Edwards Aquifer Technical Guidance Manual* which is currently being revised by the agency.

PEPP commented that under the definition for commencement of construction, the phrase “activities will be considered on a case-by-case basis to have commenced” should be finite and not leave any gray areas. Either construction has started or the applicant has not met the rest of the definition of commencement of construction. BEC commented that this should not be a subjective decision which is done on a case-by-case basis and should not require that the owner obtain all necessary non-agency permits. SA/SAWS commented that the definition for commencement of construction needs to be modified so that the signing of a contract to begin construction is not the same as actually starting construction. They continued that because a reasonable time is not defined that a water pollution abatement plan may be validated and have no time limit just by signing a contract. The commenter suggested the following changes to the last sentence: “Activities will be considered on a case-by-case basis to have commenced if the owner has obtained all necessary federal, state, and local approvals or permits required to begin a regulated activity; and on-site construction directly related to the development has begun.”

The commission agrees with the comments and has changed the definition to more clearly define commencement of construction to mean the construction of physical facilities including but not limited to buildings, roads, and utility infrastructure. Section 213.4(h) has been modified to clarify when expiration of an approved plan will occur relating to commencement of construction. Substantial construction, defined as when more than 10% of total construction has commenced, will be the standard that commencement of construction will be based. In addition, §213.4(h)(2)

has been revised to state that an extension will not be granted if not more than 50% of the total construction has been completed within 10 years from initial plan approval. Section 213.5(f) has been modified to establish that to get an extension of an approved plan, subsequent notification verifying that construction has commenced is received by the appropriate regional office.

SA/SAWS commented that physical removal and fill operations within the 100-year floodway should be prohibited unless the project involves the perpendicular crossing of roadway construction, is shown to improve drainage, enhance recharge, and protect water quality. The commenter recommended the addition of a definition as follows: "Floodplain-those areas designated on the FEMA maps or creek beds within watersheds of greater than 300 acres. Physical removal and fill operations within the 100-year floodplain should be prohibited unless the project involves the perpendicular crossing of roadway construction, is shown to improve drainage, enhance recharge, and protect water quality."

The commission has made no change in response to the comment. The commission agrees that regulated activities within the 100-year floodplain may present a potential for increased pollution to the aquifer; however, it is unnecessary to prohibit such activities in order to protect water quality. The rule requires that developers proposing regulated activities follow construction methods which will prevent pollutants from leaving the developed site during and after construction. Such activity may also be subject to §401 water quality certification by the state if it requires a federal permit such as a §404 dredge or fill permit under the Clean Water Act.

RLM commented that the new term "Edwards Aquifer Protection Plan" should be further defined or replaced with the old "Water Pollution Abatement Plan." The commenter continued that individual plans do not constitute an Edwards Aquifer Protection Plan nor do they or can they in the aggregate. TI requests that a definition be added for Edwards Aquifer Protection Plan.

The commission comments that in the past, the term "water pollution abatement plan" has been the general term used for the proposed pollution prevention measures for all types of regulated activities. This has been very confusing to a portion of the regulated public that were installing USTs, ASTs, or sewage collection systems; therefore, the new term Edwards Aquifer protection plan has been established to clarify and encompass the different types of regulated activities (water pollution abatement plan, organized sewage collection system, underground storage tank facility plan, aboveground storage tank facility plan, or an exception or variance granted by the executive director). In response to the comment, a definition for Edwards Aquifer protection plan has been added to the rule.

SCLSC commented that aquaculture should be included in the definition of feedlot/confined animal feeding operation.

The rule prohibits new confined animal feeding operations on the recharge zone. Feedlot/concentrated animal feeding operations are not allowed to discharge or dispose of waste or wastewater to water in the state, except in accordance with §321, Subchapter K of this title (relating to Concentrated Animal Feeding Operations). Aquaculture facilities are allowed to discharge if they have a wastewater discharge permit and meet the requirements for discharges in this rule. The agency is currently drafting specific rules related to discharges from aquaculture production facilities. These rules will contain specific protection provisions for aquaculture facilities located in the Edwards Aquifer recharge zone. The commission has made no change in response to this comment.

SA/SAWS commented that the definition for geologic or manmade features is just a restatement of commonly known definitions.

The commission agrees with the comment.

TI commented that the definition of hazardous substance should include any solid waste. The commentor continues that under Chapter 335 of this title, the definition for solid waste includes inert solid wastes and that these inert wastes should be excluded from the regulations.

The definition of hazardous substance, in addition to the CERCLA hazardous substances, includes only those solid wastes that are “designated to be hazardous by the commission,” and does not include inert solid wastes. The commission has made no change in response to this comment.

SAWS comments that the definition of regulated activity combines the old definition of regulated development with regulated activity, identifies the installation of USTs and ASTs as a regulated activity, and that the installation of utility lines is now included.

The commission agrees with the comment.

PEPP commented that the regulated activity definition exception under subparagraph (A) which refers to “the clearing of vegetation in a 10-foot wide path, for the sole purpose of surveying” causes confusion on what type of clearing is acceptable on a piece of property. The commenter continues that

an agriculture user, such as a rancher, appears to be able to clear all the cedar from his land by using bulldozers while a developer can only clear cedar in 10-foot paths for survey. They suggest that mechanical clearing of cedar should be approved for all properties as long as it was done with a rubber tire machinery and could be done on some basis equal to the agricultural activity.

Neither the clearing of vegetation in a 10-foot wide path for the sole purpose of surveying nor the clearing of vegetation as a part of or relating to agricultural activities is considered a “regulated activity.” The former is considered to have a low potential to degrade water quality. The latter, agriculture related clearing and the resulting potential nonpoint source pollution, falls under the jurisdiction of the Texas State Soil and Water Conservation Board, as provided by the Texas Agriculture Code. All other clearing that has a potential to adversely impact water quality must be covered by an Edwards Aquifer protection plan. The commission has made no change in response to this comment.

BSEACD commented that the regulated activity definition exception under subparagraph (D) which refers to “routine maintenance of existing structures that does not involve additional site disturbance, such as: resurfacing of roads, parking lots, sidewalks, or other development-related impervious surfaces; . . .” is currently being used by developers to convert unpaved, primitive pasture trails and jeep roads into paved roads complete with box culverts, curbs, and sometimes bridges prior to or as part of subdividing a property. They continue that this loophole allows some developers to conduct what is normally a regulated activity (construction of paved roads) without submitting a water pollution abatement plan. BSEACD recommended that the language be changed to read “. . . such as; resurfacing of existing paved roads, parking lots, sidewalks, or other development related impervious surfaces; . . .”

The commission agrees with the comment and has incorporated the suggested changes. The construction of roads is a regulated activity and subject to an Edwards Aquifer protection plan. Anyone conducting activities as described by the commenter, without an approved plan is subject to enforcement under §213.10.

BSEACD commented that the regulated activity definition exception under subparagraph (E) is being used by developers to plat in lots of 5 acres or greater to avoid the Edwards Rules, and one platted “lot” is jointly owned by all the subdivision property owners. This “lot” becomes a paved and “privately owned road.” This road is unregulated by the Edwards Rules since it is a legal lot of greater than 5 acres in an approved subdivision. Similarly, some extremely long and wide “driveways” are being constructed for use by more than one property owner to circumvent the rules. BSEACD

suggested that language be added under the definition of “regulated activity” to include “construction of any paved or otherwise impervious roadway, box culverts, or bridges . . .” and to subparagraph (E) “. . . where no more than one single-family residence is located on each lot, and paved driveway access serves no more than one single-family residence and is limited to no more than 5000 square feet of pavement.” PEPP commented that the regulated activity definition exception under subparagraph (E) is confusing and needs to be clarified. They state that some are interpreting this to mean that developments of five acre lots or greater do not need a pollution abatement plan for the development; however, commission staff have interpreted that the development requires a pollution abatement plan, but the construction of the house does not require a plan.

Under the referenced definition a regulated activity does not include construction of single-family residences on lots that are larger than five acres, where no more than one single-family residence is located on each lot. The definition also states that the construction of roads and highways is a regulated activity. Therefore, roadways (including those in a subdivision composed of five (5) acre lots) are subject to regulation under §213.4, whereas private drives to a single-family residence are not regulated under §213.4. The commission has made no change in response to this comment.

BSEACD commented that the definition for a regulated activity needs to be amended to include mining or quarrying activities and asked if these activities are covered under the part of the definition that reads “. . . excavation or any other activities which alter or disturb . . .” SCLSC commented that the definition of regulated activity should include quarrying. RLM commented that all quarries should be classified as sensitive recharge features due to their type of business and location. RLM continued that classification may nullify current concerns with the percentage of sink hole and significant recharge features that are being sealed up as a result of development because the number of acres of open quarries should positively mitigate the few acres that are being or have been sealed up. TI commented that the proposed regulations do not address existing activities on sites--in particular clearing and excavation in quarries as an existing and ongoing activity. TI continued that the preparation of a water pollution abatement plan for an entire site, including an existing industrial operation associated with a quarry is a significant imposition and cost. TI suggested that the time to apply for and implement the protection plan for existing and ongoing activities should be considered.

The definition of regulated activity is intended to include activities impacting water quality, including those conducted at quarries, and is based on authority to regulate discharges to waters in the state under Chapter 26, Texas Water Code. Agency staff agree that more specific regulations regarding quarry operations need to be developed. However, there is insufficient

information on many of the specific impacts that may result from quarry operations. This issue is an ongoing concern and the commission intends to address this issue under the second phase of rulemaking with input from appropriate interested and affected parties. The commission has made no change to these rules in response to these comments.

BSEACD stated that revisions to definitions, such as “sensitive environmental feature” and “regulated development” may help clarify some of the program expectations. TxDOT commented that they support the development of a standard method to identify sensitive features, but would hope that there would be an opportunity to review or otherwise provide input into the development of such a form. SA/SAWS commented that the definition for sensitive feature needs to be clarified because it is unclear whether the assessment of low, medium, or high will come from the geologic assessment chart. They recommend the incorporation of the assessment chart as part of the rule.

The instructions to the geologist contained on the geologic assessment form and the form itself are standard methods to identify features. All applicable forms will be modified to incorporate the definition of sensitive features. The commission has made no change in response to these comments.

PEPP and BEC commented that the definition of “sensitive feature” is critical to the protection of both water quality and water quantity of the Edwards Aquifer but the current definition is not necessarily consistent with the new standard method and new forms developed by agency staff. PEPP continued that there is a difference between a “sensitive recharge feature” and a “significant recharge feature” because a sensitive recharge feature can provide a direct conduit to the aquifer and should be evaluated from a point source concern. A significant recharge feature is likely to take large quantities of runoff water and is a direct conduit to the aquifer. However, a feature located on the top of a hill is not considered a significant recharge feature as very little natural recharge occurs through this feature. BEC stated that it appears that this term is not clearly defined, but is the trigger for many special requirements. LWV-AA commented that the definition needs to require identification of any critical environmental feature, including any cave, sinkhole, spring, bluff, wetland, canyon rimrock, or solution-enlarged fault, fracture, or feature and that the apparent surface area contributing to these features often inaccurately reflects their subsurface importance. SCLSC commented that the definition of geologic or manmade features should include springs, bluffs, wetlands, canyon rimrocks, and solution-enlarged faults or fractures. GE/SOSA commented that the rules have set no standards for establishing whether a potential recharge feature is to be treated as significant or not. The current, very general, *Instruction to Geologists* leaves room for widely different interpretations. GE/SOSA continued that a lack of specific numerical standards for significant features assessment has resulted in

a purely arbitrary process and that only precise and quantifiable requirements will result in uniform rule application and aquifer protection.

The agency agrees that there is a difference between “sensitive feature” and “significant recharge feature” (SRF). A sensitive feature includes all conduits or potential conduits of pollution or contamination to the aquifer, whereas a SRF is limited to conduits where flowing streams or stormwater runoff is observed to enter the ground. The “sensitive feature” concept is more protective of the aquifer and includes all potential ports of entry for recharge as well as pollutants and contaminants. The executive director has developed forms to clarify and standardize the identification of sensitive features. The commission had made no change in response to the comments.

CPS commented that under the definition of site, “regulated activities located partially on the recharge and transition zones shall be treated as if the entire site is located on the recharge zone.” They requested that this statement be qualified to take into account how much of the regulated activity will fall within the recharge or transition zone and treat the area according to the zone of greater impact. They continued that this provision will be unnecessarily burdensome. TxDOT commented that the proposed language for the definition of site could be interpreted on a linear project, such as highways, to regulate activities miles from the recharge zone. The commenter continued that it does not seem reasonable to apply constraints to a portion of a project that would otherwise not require constraints were it not for a small piece of the project being on the recharge zone. They stated that this interpretation could also lead to unnecessary and non-beneficial cost increases for water quality control measures on the transition zone. TI commented that the proposed regulations do not limit themselves to new activities at existing sites. The commenter requested clarification be made on how regulated activities will be impacted by these regulations. TI commented that the definition for site includes the entire area within the legal boundaries which for a large industrial facility could include thousands of acres. TI suggested that the rule should include a definition for “regulated activity site” which would allow a limiting of the affected area or the term site could be redefined to limit it to a regulated activity site. TI also suggested that the second sentence be reworded to read “Regulated activities that are located partially on the recharge zone and transition zone shall be treated as if the entire regulated activity is located on the recharge zone. TI continued that any regulated activity on the recharge zone requires a protection plan. Portions of the various plans apply to the whole site, regardless of the actual area of impact of the regulated activity. The area of impact and surrounding areas is what should be evaluated for purposes of protection plans. SA/SAWS commented that the proposed definition for site puts into writing the procedure which has been followed by the local commission office, and no change is needed. However, later in their comments they stated that the definition of

site applies the rules to non-recharge zone property. SA/SAWS suggested the definition be changed to read: "Regulated activities on a site that is located partially on the recharge zone and transition zone shall regulate only those activities located on the recharge zone.

The commission agrees with the comments that the definition should be qualified and the definition has been revised to clarify that the portion of the site which is in the transition zone, but drains back to the recharge zone, shall be treated as if the entire site is located on the recharge zone.

DS and TMOGA commented that tertiary containment under §213.5(d)(1)(B) is not defined. They stated that tertiary containment consisting as a physical barrier such as a liner or vault, has not been proven a cost effective method of ensuring environmental protection. The addition of a physical barrier adds up to \$40,000 to the average cost of a typical Edwards Aquifer UST system installation. The concept of "tertiary protection" has been accepted by the City of San Antonio as a viable alternative to the containment barrier systems. DS and TMOGA suggested a definition be added to the rules for tertiary protection as follows: "Tertiary protection - A method by which a third level of protection is provided for underground storage tanks systems by means of either 1) a physical barrier to be installed around a double-walled tank and piping system designed to prevent a release of the regulated substance from migrating into the environment, should such a release go undetected at the secondary containment level; or 2) equivalent technology, which shall include: a. continuous leak detection for the entire system at a centralized location with dedicated personnel; b. site specific training; and c. Annual testing for system integrity. DS and TMOGA also commented that §213.5(d)(1)(B) should be modified to include this definition for tertiary protection to replace the term tertiary containment. ICE commented that they support the comments presented by DS.

In response to these comments, the commission has added a definition of tertiary containment to §213.3. Tertiary containment is defined as "a containment method by which an additional wall or barrier is installed outside of the secondary storage vessel (e.g., tank or piping) in a manner designed to prevent a release from migrating beyond the tertiary wall or barrier before the release can be detected. Tertiary containment systems include, but are not limited to, impervious liners and vaults surrounding a secondary tank and piping system, or equivalent triple wall tank or piping system as approved by the executive director." The requirement for tertiary containment applies only in a limited number of sites, if the tank owner chooses to install a new underground storage tank within 150 feet of a domestic, industrial, irrigation, or public water supply well without a sanitary easement, or other sensitive feature. In requiring tertiary containment rather than tertiary "protection," the commission has provided added protection

from releases from double-walled systems. The commission wants to ensure that, in areas near sensitive features or water wells, any possible release from a double-wall system is discovered in a timely manner and contained before the released substance affects groundwater. Other than a tertiary physical barrier, the commission does not agree with the commenters' assertion that "tertiary protection" provides an adequate means to prevent releases to the aquifer in areas near sensitive features or water wells. Continuous leak detection is already required under this chapter for all underground storage tank systems and the commission does not agree that annual tank integrity tests in addition to double-wall systems will provide the desired level of protection. While it is true that "triple-wall" tanks can be expensive, there are alternative and less expensive methods of providing the tertiary containment.

COA suggested that the maps of the Edwards Aquifer recharge zone and transition zone be updated to include the Jollyville Plateau portion of the Northern Edwards Aquifer to provide protection under the rules to this segment of the aquifer that feeds numerous springs which discharge into Bull Creek, an important water supply for the city.

The commission has made no changes in response to this comment. Based upon data available to the commission, the areas identified by the commenter provide little or no recharge to the Edwards Aquifer. Therefore, additional regulations to include this area present an unnecessary resource burden to the agency and a financial burden to those individuals who would be subject to a regulation that would be substantial and would outweigh the increase, if any, in environmental protection afforded the aquifer.

An individual commented that the definition of recharge zone is a line on a map someplace but if you live next to that line you can't hardly define it. Another individual commented that the rules cover the whole recharge zone without regard to the differences in the recharge features and recharge potential in a regional sense. The individual continued that a distinction should be made between each zone--San Antonio, Austin region, north of the Colorado River, Williamson County, and Bell County.

The commission responds that the boundaries of the recharge zone are geologic and hydrologic boundaries that are essential to delineating potential recharge areas where groundwater impacts may occur. Such boundaries are easily identified by qualified persons when the geologic site assessments are performed in conjunction with plan approval. The commission agrees with the comment that the recharge zone does not distinguish relative sensitivities of different areas. The commission responds that a more refined mapping of recharge potential has only become possible with recent, new mapping efforts in only a few counties of the recharge zone. In addition, the

scope of regulatory techniques which could be applied in more sensitive areas has not been adequately studied. The commission notes that this issue is an ongoing concern and intends to address this issue in future research with input from appropriate interested and affected parties.

SCLSC commented that the definition of pollution should incorporate “aesthetic quality” within the list of alterable qualities (physical, thermal, chemical, and biological).

The commission has made no change in response to this comment. The definition contained in the rule is identical to the definition contained in Chapter 26 of the Texas Water Code and includes the protection of water for aesthetic purposes. This definition includes the alteration or contamination of water that impairs the usefulness or public enjoyment of the water. Water quality standards contained in Chapter 307 of this title include narrative criteria relating to the aesthetic quality of the water.

§213.4. APPLICATION PROCESSING AND APPROVAL.

BEC questioned how much time will be given for “timely input from local government entities” under §213.4(a).

Input must be received within 30 days from the date the submittal is mailed to affected incorporated cities and groundwater conservation district to be considered by the executive director. This clarification has been incorporated into the rule.

LWV-TX commented that there is a lack of ways for the public to be notified of a water pollution abatement plan submittal and approval under §213.4(a) and to ask for review of actions by the executive director under §213.1, which is critical because of the lack of protection standards in the rule. They continued that the county is not notified of applications, even though application may be for activities requiring some level of county approval and that there is no requirement that approvals of water pollution abatement plans be noticed to affected cities, conservation districts, counties, or to the public. LWV-SA objected to the allowance for variance of the rule by simple decision of the executive director without public notification or opportunity for public comment.

The commission partially agrees with these comments. The executive director has routinely provided a copy of all plan applications and plan approval letters to affected incorporated cities, groundwater conservation districts, and counties through the county judge. This routine practice is now incorporated into the rules. The commission also notes that exceptions under §213.9 may

be granted on a case-by-case basis only when the requestor can demonstrate equivalent protection for the Edwards Aquifer.

BEC commented, under §213.4(b)(1)(D)(ii), that laterals should not be included in fee assessment since they are not part of the OSCS.

An organized sewage collection system includes the main line and the portion of the private service lateral stubouts which are located within the street and utility easement. The private service lateral, outside the utility easement and within the private lot, is regulated by the local plumbing code. The executive director's review and the review fee will include all portions of the sewage collection system including the private service lateral stubouts. The commission has made no change in response to this comment.

SWB commented, under §213.4(d)(1)(A) and (d)(2), that all large corporations will have a very difficult time obtaining the principal executive officer's signature on these documents. To be a representative, a submittal of written proof of authorization is required and this will take time and be difficult to obtain. The commenter suggested that perhaps this delegation of authority could be placed on Environmental Managers or Environmental Departments within these very large corporations since this would be their primary responsibility for their companies without the submittal of written proof of authorization.

The commission responds that the proposed rules allow for a principal executive officer to delegate signature authority to a duly authorized representative and that it is the responsibility of the corporate official to determine how and to whom the authority is delegated. The commission has made no change in response to the comment.

PEPP commented that they are disappointed that the commission has increased the available time for review from 120 to 150 days under §213.4(e), and the increase in time for review is unnecessary and unacceptable. BEC commented that the time allowance should remain at 30-60 days.

The commission agrees with the comment and clarifies that one of the two 30-day periods allowed for review of administrative completeness in the current §313.4(a) has been eliminated. To reflect this change, the phrase "60 days" has been changed to "30 days" in §213.4(e) of the rule.

SWB commented that, under §213.4(g), deed recordation for sites which are already in existence and property totally utilized to the maximum seems a bit extreme. They continued that this is especially

true when an aboveground tank is added to the facility. They stated that the need for this process to occur for all new development is understandable. When no new construction at the facility could ever occur, the delaying of the installation of a tank system could jeopardize utility service, national defense, and so on. In §213.4(i), notification to new owners by the current one is very clear and defined. They suggested that this would be the time to assure that the deed is updated and the new owner is made aware of the Edwards Aquifer protection plan and construction schedules are often driven by budgets and interim interest rates during construction. This could be a very costly factor to a corporation or to a small business trying to get a new business started.

The commission comments that the former Chapter 313 rules required applicants to record water pollution abatement plans within 30 days of receiving written approval, and required the applicant to submit proof of deed recordation to the appropriate regional office prior to commencing construction. (Under the proposed §213.4(g), this same requirement was made for all approved Edwards Aquifer protection plans). Upon review, the commission recognized that the deed recordation requirement to for OCS plans would be difficult because this activity is located in public easements with multiple owners. The rule has been revised to eliminate this requirement for this reason. However, the commission does not believe that deed recordation of approved tank systems (ASTs or USTs) would result in a significant delay in tank installation and has made no change to this requirement.

LWV-SA supported §213.4(h) which establishes a two-year permit term in the recharge zone. SCLSC comments that the two-year approval limit on regulated activities is a promising improvement in the rules. SA/SAWS commented that USTs and ASTs were not previously addressed by a term limit and agreed that all projects should have equal term limits.

CPS commented that the operational control of a construction site may transfer from one operator to another before stabilization has occurred and requested guidance in addressing this issue under §213.4(i).

A standard condition of approval for all plans is that temporary erosion and sedimentation controls remain in place until the construction site has stabilized. The new owner of a site would have to comply with all standard and special conditions of the approved plan. The commission has made no change in response to this comment.

BEC commented that §213.4(i) should include legal transfer that includes dedication or giving to a “Municipality.”

Once title to real property is transferred by properly executing and recording the deed in the county courthouse, it is “legally transferred.” The deed, when transferred to the new owner, such as a municipality, must contain the restriction that the property is subject to the terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new plan must be filed that specifically addresses the new activity. The commission has made no change in response to this comment.

SWB commented that, under §§213.4(j)(5) and (6), modifications to approved plans for physical modifications to underground and aboveground storage tanks needs to be clarified. This could mean a minute change to an existing tank system would require a very costly rewrite and approval process before the work is done. The commenter continued that if the work is substantial, this would certainly be warranted. If the work is minimal; for example, changing the grounding lugs on the tank from one lug to two lug style, the commenter questioned if this would really be necessary. They suggested that the section needs to be clarified to specify the details for when this requirement would be in effect.

Minor equipment changes will not require the submission of a modified plan. A list of activities related to significant modifications requiring prior executive director approval is part of each application form. Additionally, the *Edwards Aquifer Technical Guidance Manual* will address this issue and commission staff are available to provide assistance and clarification whenever needed. If an environmental problem exists as a result of equipment failure or repair, the appropriate regional office should be notified and repairs should commence immediately. The commission has made no change in response to this comment.

§213.5. REQUIRED EDWARDS AQUIFER PROTECTION PLANS, NOTIFICATION, AND EXEMPTIONS.

§213.5(a) REQUIRED PLANS.

SCLSC comments that under §213.5(a), the rules for water pollution abatement plans should apply to regulated activities on the transition zone.

Not all requirements of a water pollution abatement plan are applicable to the transition zone because of the absence of surface recharge features. However, activities such as the use of petroleum storage tanks that could cause potential pollution of the aquifer from leaks to subsurface features are regulated. The commission has made no changes in response to this comment.

SWB commented under §213.5(a)(3) and (4) that it is completely understandable for a plan to be required for new construction for the installation or the replacement of a tank system. The word “repair” could be misunderstood and the section should state “major repair” where concrete breaking is required or something of this nature to distinguish them from the many minor repairs which are done on a more frequent basis. In addition, the repair must not be for an emergency response. If a tank system is having a problem, the owner/operator would not want to be out of business five or six months, awaiting plan approval, before he could repair his system, or stop the contamination which may be occurring, and clean up the environment which may have been impacted. This should be clarified to distinguish between regularly scheduled maintenance items which can and should be planned for by the owners/operators and an emergency response to a potential environmental impact due to a release. It may be best to remove the word “repair” totally from the document rather than clarifying when it applies.

Releases and emergency response protocol is addressed under Subchapter D of Chapter 334.76 of this title relating to Underground and Aboveground Storage Tanks. Commission staff are available to provide clarification for the requirements for submitting a modification application for emergency repairs. The commission has made no change in response to this comment.

SA/SAWS commented that Water Pollution Abatement Plans approved prior to 1987, in which some construction was performed but the development was never completed, should be required to modify their Water Pollution Abatement Plan to address the new requirements. They proposed a change to §213.5(a)(1) to read as follows: “(a) water pollution abatement plans submitted prior to 1987, in which some construction was performed but the development was never completed, must modify their Water Pollution Abatement Plan to address the new requirements of the application.”

Changes to the Texas Government Code (SB 1704, 1995) prohibit the agency from retroactively applying new rules on previously approved plans. However, the agency retains the ability to require a person to take appropriate steps to prevent or cease the pollution of water in the state. The commission has made no change in response to this comment.

§213.5(b) WATER POLLUTION ABATEMENT PLAN

SA/SAWS commented that the rules should require Master Water Pollution Abatement Plans for large developments and that a mechanism for a group of smaller developments willing to develop under a single Master Water Pollution Abatement Plan should be developed so that a credit system on the required fees could be implemented for applicants that attempt to implement a Master Water Pollution Abatement Plan. By using the Master Water Pollution Abatement Plan process, the pollutant load of

the development can be evaluated at one time rather than in a piecemeal development process. The following change to §213.5(b)(1) was suggested: “Developments larger than 250 acres will require a Master Water Pollution Abatement Plan addressing the overall intended land use for the property. Water pollution abatement plans will not be submitted on a unit per unit basis within this large development in an attempt to assess the pollutant load and consider the overall impact of the development. Developments that consist of smaller acreage may opt to submit a Master Water Pollution Abatement Plan in conjunction with surrounding smaller developments. In this instance the applicants will evenly divide the fee assessed for the submittal of the one Water Pollution Abatement Plan application. A Master Water Pollution Abatement Plan shall include all of the information required for a Water Pollution Abatement Plan listed under §213.5(b).”

In the *Edwards Aquifer Water Quality Protection Program DRAFT 1994 Public Comment Report*, agency staff raised regulatory concerns regarding this concept if phased development takes more than a few years. Texas Government Code provisions, as recently amended by SB 1704 (1995), state that only the rules in place at the time an application is approved may apply. This could result in portions of a large development being "grandfathered" from new requirements, even if construction has not yet begun nor will begin in the foreseeable future. However, under the second phase of rulemaking for the Edwards Aquifer program, the concept of Master Water Pollution Abatement Plan will be studied. If it can be demonstrated to be useful and workable, the agency will work with the regulated community and other interested parties to develop appropriate definitions and procedures for evaluation and approval within the limits of state law. The commission has made no change in response to this comment.

BSEACD commented that §§213.5(b)(2)(C)(iv) and (b)(3) should also include areas beyond the site that are not in the 100-year flood plain. They continued that many drainage ways that carry runoff away from development sites are not within the 100-year floodplain and could contain sensitive geologic features.

The commission responds that measures to prevent pollution downgradient of the site by stormwater runoff from the site during construction and after completion of construction are sufficient to protect sensitive features that are located outside the 100-year floodplain and no modifications to the proposed rules have been made.

BSEACD commented that to aid in both reviewer and applicant assessment of the viability and location of proposed temporary and permanent BMPs and local geology sensitive to stormwater runoff impacts, §213.5(b) should require an applicant to include a map drawn at the site plan scale that graphically

depicts a site's topography according to the following groups: 0-5% grades, 5-10% grades, 10-15% grades, and grades greater than 15%.

The commission responds that the site plan information required in §213.5(b)(2)(C) provides adequate data to determine the varying slope of the site and drainage paths, and that production of the map requested would not be a justifiable additional expense for the applicant. No change has been made in response to this comment.

SA/SAWS commented that buffers should be established along 100-year floodplain in the recharge zone and the drainage zone. The commenter also stated that the floodplain should be defined as those designated on the FEMA maps or on creek beds with watersheds of greater than 300 acres. They recommended changes to §213.5(b)(2)(C)(i) that included the addition of floodplain buffer zones on the site plan that are parallel to all 100-year floodplains. They suggest that the outer perimeter of each floodplain buffer zone extend outward from the outer boundaries of the 100-year floodplain, based on an increasing slope and to a distance determined by taking the average slope of the first 50 ft. of buffer width from the floodplain preservation area. SCARG commented that there are no provisions currently in the Edwards Rules for setbacks from floodplains and suggested a prohibition on building in these areas and on steep hillsides.

The commission has not included specific management measures such as setbacks or other mandatory management measures. Under §213.5(b)(4), the developer is required to provide a description of the best management practices and measures that will be taken to prevent pollution of stormwater originating on-site, upgradient from the site, or leaving the site and to provide a description of best management practices and measures that will be taken to prevent pollutants from entering the aquifer and measures that will be taken to avoid or minimize changes in the way water enters a stream as a result of construction that would increase instream erosion. This information will be reviewed by staff and approved on a case-by-case basis. The commission believes that best management practices have been shown to be effective in controlling potential contamination from nonpoint sources and supports the use of best management practices and engineered solutions for pollution prevention. The commission responds that insufficient data are currently available to determine appropriate, environmentally supported setback distances. Additional information is also needed on the relative impacts of different activities related to significant recharge features. The commission notes that this issue is an ongoing concern and intends to address this issue in future research with input from appropriate interested and affected parties. The commission has made no change in response to this comment.

PEPP commented that §213.5(D)(2)(c)(ii) should include the language “within the site boundary” and that the current requirement of the location of all known wells could be construed to mean all known wells within Bexar County.

The commission responds that there is no §213.5(D)(2)(c)(ii) contained in the rules; however there is a §213.5(b)(2)(C)(iii) that requires the location of all known wells (including but not limited to water well, oil wells, and unplugged and abandoned wells) on the site plan. If this is the section the commenter is referring to, the rule limits the extent of the location of wells to the site as part of the site location data and maps. The commission has made no change in response to this comment.

SCLSC comments that §213.5(b)(2)(C)(iii) should be revised to include all known wells within a one-mile radius of the site.

The necessity of identifying all wells within a one-mile radius of the site is questionable, considering that flow within the aquifer is not radial, but usually confined to natural sensitive features. On the recharge zone, wells that are within the 100-year floodplain and the shorter distance of either one-half mile downgradient of the site or the downgradient boundary of the recharge zone, will be identified as part of the geologic assessment. For UST and AST sites in the transition zone, wells that are 200 feet downgradient of the site will be identified. The commission has made no changes in response to this comment.

LWV-TX commented that under §213.5(b)(3) the modification of the exemption for geologic assessments to apply only to single-family residential developments constructed on less than 10 acres still leaves the possibility of that acreage having 40 or more homes and no assessment. They suggested that this exemption needs further discussion in order to assure adequate aquifer protection. SCLSC and SA/SAWS commented that all residential developments, no matter what their size, should have to submit a geological assessment along with a complete water pollution abatement plan. SCLSC continued that the exemption for 10-acre residential subdivisions could still be a fairly dense development of 40 homes on 1/4 acre lots and have significant pollution possibilities. SA/SAWS suggested that the last sentence be struck in §213.5(b)(3) and replaced with the following: “All residential, commercial and multi-family developments, regardless of acreage, must provide a geologic assessment along with a complete Water Pollution Abatement Plan.”

The commission has made no change in response to these comments. The expense for an assessment is a large financial burden for a small development. A geologic assessment is provided

by commission staff for these small developments during their pre-approval inspection conducted for all regulated activities.

SCLSC commented that the requirement under §213.5(b)(3) to extend the geologic assessment the shorter distance of either one-half mile downgradient of the site or the distance to the downgradient boundary of the recharge zone could mean a half-mile shortening in some geologic assessments. The commenter suggested that perhaps the answer to property access problems is not in shortening the distance required for the assessment, but to sticking with the one-mile requirement and working with the problems as they come. An individual commented that the requirement for a geologic assessment should be kept at one mile downgradient, not the proposed one-half mile. SA/SAWS commented that access to private property is quite difficult and may not be safe sometimes and that this change will result in decreased cost for assessment work. TxDOT supported the change under §213.5(b)(3) which shortens the distance required for surveys of sensitive recharge features within the 100-year floodplain because it is difficult to survey off of their right-of-way, especially for the previous required distance of one mile.

The commission believes that measures to prevent pollution downgradient of the site by stormwater runoff from the site during construction and after completion of construction are sufficient to protect sensitive features that are located downgradient of the site. No change has been made in response to these comments.

BEC commented on §213.5(b)(3)(A) that by definition non-sensitive features do not need to be shown on the geologic map; however, this is not consistent with §213.5(i) which requires assessment of all geologic and man-made features.

The commission disagrees with the comment and clarifies that according to §213.5(b)(3)(A), a geologic map showing all geologic and manmade features must be included in the geologic assessment which is consistent with the requirement in §213.5(b)(3)(C)(i). No change has been made in response to this comment.

APA, AGUA, COA, LWV-SA, and four individuals stated that §213.5(b)(4)(D) should not allow the sealing of sensitive recharge features and that the sealing of sensitive recharge features and filling of caverns should be the last resort to prevent pollution, rather than a policy of choice. One commenter stated that appropriate measures, such as buffer zones, diversion of stormwater runoff, and the treatment of stormwater runoff, should be considered first and that these alternatives are not given enough emphasis in the proposed rules. SCARG commented that there are no provisions currently in

the Edwards Rules for setbacks from critical environmental features such as sinkholes and suggested a prohibition on building in these areas and on steep hillsides. SBCA, LWV-AA, SA/SAWS, SAOSAB, and RCAWA commented that the rules should prohibit the sealing of recharge features, include a requirement for construction setbacks from such features, and contain siting and buffering policies, which will allow recharge features to remain open instead of being closed. Another individual commented that the executive director should take into consideration the following before allowing a sink hole or cave to be sealed: the dilution power of significant run off from rain; the court demanding that ratepayers seek supplementary water to the aquifer and lost recharge that will need to be replaced; and ratepayers feeling the effects of new 400 million dollar drainage projects due to plugging sink holes and caves. Another individual commented that in order to leave sinkholes open, any source of pollution should be contained and remediated, which raises the question of the commission responsibilities' to interface with federal stormwater regulations. SA/SAWS commented that their Ordinance No. 81491 states that the sealing of significant recharge features, as defined by the commission, shall be prohibited and that the last sentence of §213.5(b)(4)(D) should be changed to read: "The sealing of sensitive features as a pollution control measure will be prohibited. (Note: Water Quality Ord. No. 81491 "Sealing of significant recharge features shall be prohibited.") RCAWA, SA/SAWS and SAOSAB suggested that the width of the buffer area measured from the outer perimeter of the recharge feature be based upon an increasing buffer width with increasing percent slope. RCAWA did not ask that these best management practices be applied to the entire recharge zone, but that the city be allowed to enforce their own rules. HGI commented that whether to plug an open karst feature or to trap sediments and pollutants is a dilemma; while either option can lessen the risk of contamination to groundwater and both reduce recharge (with trapping considerably less so than plugging), both require monitoring to assure that the structures are functioning. HGI continued that both will ultimately fail and either engineering fix must be monitored and that the agency should avoid plugging and opt for surface structures and mandate regular surveillance. PEPP stated that they support the City of San Antonio's effort to prevent the sealing of significant recharge features, however they also support the commission's decision as defined in §213.5 that allows the sealing of high concern features on a case-by-case basis. COA suggested the final sentence in §213.5(b)(4)(D) be modified to read "The sealing of sensitive features as a pollution control measure will be evaluated by the executive director on a case-by-case basis, and only as a last resort."

The commission is also concerned with the issues described by the commenters related to maintaining recharge to the aquifer as opposed to the need to insure that recharge that enters the aquifer is of high quality. However, the commission notes that according to the U.S. Geological Survey, 80 to 90% of recharge enters the aquifer through streambeds in the recharge zone, not in areas typically under construction. Plans submitted for development over the recharge and

transition zones must satisfy the purpose of Chapter 213. To provide flexibility to the regulated community, the agency does not prescribe specific management measures that would prohibit development near features. There are engineered solutions to many problems that can achieve the same water quality protection results as prohibitions or prescriptive action. As part of §213.5(b)(4), the developer of the property is required to provide a description of the best management practices and measures that will be taken to prevent pollution of stormwater originating on-site, upgradient from the site, or leaving the site. They are also required to provide a description of best management practices and measures that will be taken to prevent pollutants from entering the aquifer while to the extent practicable, maintaining flow to naturally occurring sensitive features identified in either the assessment of area geology or during excavation, blasting, or construction. While staff will review a proposal for the sealing of naturally occurring sensitive features as a pollution control measure, this will only be considered on a case-by-case basis, when no other practical alternative to protect water quality is possible. Nothing in the Edwards Aquifer rules or the program prohibits local governments from addressing this issue or enforcing local ordinances within their area of jurisdiction. The rules recognize the authority of local entities to regulate activities which may be included in §213.1 and state that “Nothing in this chapter is intended to restrict the powers of the commission or any other governmental entity to prevent, correct, or curtail activities that result or might result in pollution of the Edwards Aquifer.”

Additionally, the commission has modified §213.5(b)(4)(D) which requires the maintenance of flow to naturally occurring sensitive features. This change was made to clarify that manmade features, such as abandoned wells, should be plugged to prevent contamination from entering the aquifer. Also §213.5(b)(4)(D) was modified to indicate that the sealing of naturally occurring sensitive features as a pollution control measure will be avoided where reasonable and practicable alternatives exist.

COA commented that the narrative description of the site-specific geology in §213.5(b)(3)(D) should be based on investigations specific to the site. Further, if insufficient exposures of bedrock limit the ability to evaluate the potential for fluid movement to the aquifer, then subsurface investigations using borings or shallow trenches should be conducted.

The commission responds that the language of the proposed rule, §213.5(b)(3)(D) clearly indicates that the assessment must be site specific. Further the proposed rule is not intended to restrict the methods that may be used to make the appropriate assessment. The commission believes such flexibility is necessary for accomplishing the purpose of the rule.

SCLSC commented that, under §213.5(b)(4)(A), the assessment for a water pollution abatement plan should contain an estimate of the number and type of vehicles expected to be parked on the lots of the development.

The commission disagrees with the comment. A requirement to estimate the number and types of vehicles expected to be parked on lots in the development represents a level of detail that is not normally utilized in the design of best management practices. Potential water quality concerns from parking lots (and other land uses) are more typically addressed through a consideration of their area, runoff volume and average constituent concentrations.

BSEACD commented that the technical report under §213.5(b)(4) should explicitly address each phase of construction and that the applicant should be required to comply with the approved water pollution abatement plan. They continued that often only road building and infrastructure were addressed in the past and that later phases of construction, such as home-building, may not have obtained or complied with water pollution abatement plan requirements. They stated that these later phases of development may rely on water quality detention ponds installed during an earlier phase or upon nothing at all and that it is unclear whether the use of these structures is appropriate or if the structures are capable of handling the additional flow and sediment. In addition, maintenance may not be undertaken or may be compromised by new demands. They stated that this problem is exacerbated by a commission policy that does not require water quality detention ponds in residential subdivisions.

The commission notes that a regulated activity includes construction of residential subdivisions, where each lot is 5 acres or less, including home construction. The technical report provided with the Edwards Aquifer protection plan should include all regulated activities. If it does not, or if the regulated activity is modified at a later time, the holder of the plan must notify the regional office in writing and obtain approval from the executive director as required under §213.4(j). The commission has made no change in response to this comment.

LWV-TX commented that under §213.5(b)(4) no specific mention of erosion and sedimentation control is made in describing the requirements for a water pollution abatement plan. They continued that controlling sediments from construction sites is especially important in maintaining water quality, and sediments from highway construction sites in the Austin area have impacted the water quality at Barton Springs. LWV-TX stated that the proposed rules do not adequately provide for controlling such sediments. They commented that there is a need for specific language about agency inspections to determine the adequacy of erosion and sedimentation controls during construction.

The commission responds that §213.5(b)(4)(B) and (C) require a description of best management practices which may include the temporary or permanent structural controls that will be in place both during and after completion of construction. The agency is developing a *Technical Guidance Document* that will provide information on erosion and sedimentation control. Therefore, no modifications to the proposed rules are necessary.

BSEACD commented that §213.5(b)(4)(A)(iii) remains unchanged since its adoption in 1990 and is potentially one of the most useful sections within the rule; however, the information submitted by the applicants and accepted by staff does not adequately address a development's potential impact to surface water or groundwater. They stated that the commission should amend this section and require applicants to submit estimates of pollutant loading expected from a site prior to treatment. A number of techniques exist to quantify either the quantity or quality of stormwater runoff. This information could be used to determine which treatment system(s) will be used at the site or what degree of treatment is necessary.

The need for estimation of average annual constituent loadings from a site prior to new development and after new development has occurred will be considered as the agency examines BMP performance standards as part of the second phase of rule revisions and the cumulative assessment issue. The commission has made no change in response to the comment.

COA commented that under §213.5(b)(4)(C), the description of the best management practices and measures to be taken to prevent pollution of the Edwards Aquifer should be based on established stormwater management practices and rely upon known performance standards or design standards. GE/SOSA commented that the rules are almost completely devoid of design or performance standards and water quality regulations which typically specify standards for water quality control capture volume, pollutant reduction, construction-phase erosion and sedimentation controls, and/or setbacks from environmental features. GE/SOSA continued that lacking standards, there is no assurance that implementation of the rules will achieve any effective water quality protection.

The commission disagrees with the comment pertaining to the need to prescribe best management practices, performance standards, design standards, capture volumes, construction-phase controls or setbacks from environmental features in the rule. The commission agrees, however, that these issues need to be clarified and has included references in the rules to technical guidance to be prepared by the executive director that will specify these requirements.

LWV-TX commented that as currently proposed under §213.5(b)(4), the judgement is left of the agency staff as to whether the proposed protections, described on the application for water pollution abatement plan, are adequate to protect existing and potential uses of groundwater and maintain Texas Surface Water Quality Standards. They continued that the rule contains insufficient requirements and no publicly reviewed and referenced technical guidance document, by which an applicant or interested member of the public may adequately be assured that plans that meet the submittal language of the rules will not actually result in degradation of the water in the aquifer, is available. APA and LWV-SA urged the commission to adopt a technical guidance manual to inform the regulated community about effective Best Management Practices (both structural and non-structural) and what is acceptable to regulators. SA/SAWS recommended that the agency should evaluate comments on the old *Edwards Aquifer Technical Guidance Document* for their content, amend the manual for increasing effectiveness and accuracy where needed, and then release a new edition of the manual. PEPP commented that they strongly support the development of a Technical Guidance Manual by the agency and are concerned that they may end up having to work under two different manuals, the agency's and one developed by the San Antonio Water System. LWV-AA stated that the agency should establish a formal process for public comment and review of the Edwards Aquifer Technical Guidance Manual. RLM commented that variations in design and function of measures to prevent pollution of stormwater originating on-site do not provide for reliable sedimentation and filtration of stormwater and that the agency should issue a call for review and standardization of specific guidelines. SAOSAB and SA/SAWS commented that the commission should formally adopt the Technical Guidance Manual as a component of the Edwards Rules and unless it is incorporated into the new Chapter 213, it is little more than another important document, often ignored and gathering dust on office shelves. SCAG stated that the use of a Technical Guidance Manual with specific performance standards for items such as filtration basins is needed. NNOD requested that the Technical Guidance Manual be reinstated to give engineers, cities and other who depend upon the agency's expertise some guidelines by which to deal with issues.

The commission agrees with the comments and has incorporated references in the rule to a technical guidance manual to be prepared by the executive director as well as acceptable guidance provided by EPA or trade or professional organizations. The *Edwards Aquifer Technical Guidance Manual* is currently in revision and will contain a section on structural and non-structural BMPs. This document should be available in the summer of 1997. The commission disagrees that the guidance manual should be incorporated into the rules and believes that guidance documents should be advisory and explain how regulated entities can accomplish compliance with the rules. The technical guidance manual shall be updated periodically based upon the availability of new information and changing circumstances.

SA/SAWS proposed the addition of a new section to §213.5(b)(4) as follows: “All commercial or multifamily projects to be located over the recharge zone of the Edwards Aquifer must utilize a pollution abatement structure to isolate and capture the first half inch of stormwater runoff. All water discharging from the pollution abatement structure must be sampled for constituents based on the associated land use. This testing should be done after each significant rainfall event and results submitted to the commission within two weeks of the event. Sampling should continue until such time that the executive director has deemed it no longer necessary.”

The commission does not propose to prescribe specific best management practices, treatment volumes or monitoring requirements in this rule. The executive director will accept best management practices for Edwards Aquifer protection plans that are consistent with technical guidance manual prepared by the executive director, EPA guidance, or studies by trade and professional organizations. The executive director may also accept other best management practices, however, these practices must be justified through technical analyses based upon studies and reports that are generally relied upon by professionals in the environmental protection field. Water quality performance monitoring shall not be required of applicants that utilize best management practices that are consistent with the technical guidance manual prepared by the executive director. The executive director may require pilot scale testing (including water quality performance monitoring) by an applicant for a water pollution abatement plan which proposes to utilize best management practices that are not consistent with the technical guidance manual recognized by or prepared by the executive director.

COA recommended that §213.5(b)(4)(B) through (E) include minimum standards for BMP pollutant removal efficiency and monitoring requirements to verify compliance. As an alternative, COA recommended that minimum technology based requirements, such as those contained in draft Chapter 216 of this title related to Water Quality Performance Standards for Urban Development, be established. COA recommended that the new rule include measures to minimize instream channel erosion by including a requirement for detention of the two-year storm to reduce overbank and channel peak stormwater velocities. COA also commented that the agency should establish minimum standards for permanent BMP pollutant removal efficiency, or establish technology-based requirements for BMP sizing. SBCA commented that the proposed §§213.5(b)(4)(B) through (D) do not include any specific requirement of pollution prevention or elimination measures for ordinary residential and commercial development, other than during the period of construction. They continued that the proposed new rule would merely require that a developer’s water pollution abatement plan describe the “best management practices” that will be used and that this requirement offers no guidance to a developer on what is expected or adequate, and it invites the laxness and arbitrariness that goes with total reliance on a case-

by-case evaluation of each plan. The commenter urged the commission to review all of the approaches that have been tried in Texas and elsewhere to control nonpoint source pollution, and then to propose new amendments of the Edwards Rules that are suitable to assure the Aquifer is protected. BSEACD stated that §§213.5(b)(4)(B)-(4)(E) lack information, guidance or expectations which underscores an obvious weakness in the program. They stated that a set(s) of minimum expectations placed upon applicants will remove any uncertainty regarding proposed stormwater treatment expectations and that this information coupled with information from §213.5(b)(4)(A)(iii) could form the basis for a cumulative assessment of groundwater impacts within the Edwards Aquifer.

The commission agrees with the comment to modify §§213.5(b)(4)(B) through (D) and has included references to procedures for the approval of BMPs including those that are consistent with technical guidance manual prepared by or recognized by the executive director or those that can be technically justified. The rule further clarifies that approval of BMPs that are not consistent with technical guidance manual prepared by the executive director may be required to be field tested on a pilot-scale prior to executive director authorization for full-scale implementation. The commission disagrees with the comment to require detention of the two-year storm to reduce overbank and channel peak flow velocities. The commission does not propose to prescribe specific BMPs in the rule, but will consider BMPs proposed by applicants that are consistent with technical guidance prepared by the executive director or otherwise approved for use by the executive director.

EF commented that the HAZMAT trap technology, water quality ponds with sediment accumulations, and silt fences are all inadequate. They stated that the commission needs to examine the methodology for these designs.

The commission believes that HAZMAT traps, ponds and silt fences are adequate to perform certain water quality protection functions. The design of BMPs will be examined as part of the preparation of the technical guidance manual.

RLM commented that requirements for sampling and analyzing stormwater runoff entering or exiting sedimentation/filtration basins are not currently uniform. The commenter continued that if there is a potential that parking lot runoff has the potential to contribute various pollutants and therefore is a threat to recharge quality then every basin should be sampled for standard indicator pollutants such as BTEX, TPH, and lead.

The commission agrees that stormwater sampling procedures are not currently uniform. The commission notes, however, that under the rule, stormwater sampling is only required for applicants proposing BMPs that are not consistent with technical guidance and which, in the judgement of the executive director, require additional documentation of performance effectiveness. The executive director shall review stormwater sampling procedures proposed by the applicants in these cases. The commission has made no change in response to this comment.

AGUA suggested that the agency should immediately adopt either the Austin Manual or LCRA Technical Guidance Manual to provide the best information to the development and regulator community of effective engineering and landscaping designs.

The commission disagrees with the comment pertaining to adopting technical guidance prepared by the City of Austin or the LCRA. The commission proposes to develop a technical guidance manual. This document will incorporate information from a wide range of resources, including the City of Austin and the LCRA, as deemed appropriate by the executive director.

SCLSC commented that the rules should include water quality performance standards. They suggested that the agency should develop a technical guidance manual that would include real performance standards for nonpoint runoff, sizing and siting of filtration basins, and impervious cover limits. The commenter continued that the rules should set impervious cover limits for both residential and non-residential development.

In the second phase of rule revisions, the commission will consider performance standards. The commission has incorporated references in the rule to a technical guidance manual to be prepared by the executive director. The commission disagrees with the comment pertaining to the rule setting impervious cover limits. The commission believes impervious cover limitations are one among many valid best management practices for achieving equivalent levels of water quality protection. The commission believes applicants should be provided with flexibility in achieving water quality protection goals in a manner that is best suited to their particular circumstances. The commission has made no change to these rules in response to the comment.

COA recommended that the agency should examine the use of impervious cover limits as a nonpoint source pollution control measure because they can reduce the reliance on structural controls, provide less uncertainty about long-term effectiveness, and reduce costly maintenance requirements. BSEACD suggested that the agency create a sliding treatment scale based upon percent impervious cover, which would allow an applicant to determine the degree of treatment necessary. GE/SOSA commented that

research shows that impervious cover is the single measurable aspect of development that correlates with water quality degradation and that research across the country and in the Texas Hill Country indicates that degradation begins at 10 to 20% imperviousness. COA stated that nonpoint source pollution monitoring studies have shown that annual per acre discharges of urban stormwater pollution are positively related to the amounts of imperviousness in the land use with the greater the imperviousness the greater the annual nonpoint pollution load. COA continued that the monitoring database on the effectiveness of structural controls is not as extensive as the database on stormwater pollution loading from different levels of urban development and imperviousness. COA stated that sole reliance on structural controls is a poor strategy because their long-term reliability has not yet been demonstrated and requires a heavy reliance on regular maintenance and periodic clean-outs. SCAG commented that the rules should establish impervious cover limits for both residential and non-residential development. LWV-TX commented that impervious cover limits should be incorporated into the strategy for protecting the Edwards Aquifer and in the language of the rule. They continued that these limits are seen by some as an interference with private property rights; however, in the conflicts between private interest and public welfare, precedence should be give to the public interest and protection of the quality and quantity of the Edwards Aquifer is for the public benefit. LWV-AA stated the rules should incorporate impervious cover limits for residential and non-residential development and that it should reflect levels which will protect the filtering and recharging capacity of existing natural areas. LWV-AA continued that allowable impervious cover should not exceed limits which will maintain base flow in recharging streams, and should not exceed the pollution reduction potential of water quality control technology.

The commission disagrees with the comments pertaining to the rule incorporating language establishing impervious cover limits. The commission believes impervious cover limitations are one among many valid best management practices for achieving equivalent levels of water quality protection. The commission believes applicants should be provided with flexibility in achieving water quality protection goals in a manner that is best suited to their particular circumstances. Impervious cover limits along with other BMPs may be included in the technical guidance to be prepared by the executive director.

SCARG commented that developments with less than 10% impervious cover should be exempt from having to build structural controls. The commenter continued that developments with greater than 10% impervious cover should be required to retain polluted stormwater on-site and, following construction, runoff from all impervious surfaces would be conveyed to a lined, on-site retention pond. The pond should be sized to retain the volume of an average month's rainfall and be located out of the 100-year floodplain. Finally, the commenter suggested that disposal of impounded stormwaters should only

occur on-site, above the 100-year floodplain, through spray irrigation (in an area that drains back to the control structure).

The commission disagrees with the comment that the rule should exempt developments with less than 10% impervious cover from having to build structural controls. The technical guidance to be prepared by the executive director will establish a methodology for determining water quality control requirements. The commission also disagrees with the comments relating to the size and location of retention structures and the disposition of retained stormwater runoff. The commission does not propose to prescribe specific BMPs in the rule but will consider those that are proposed by the applicant and which are consistent with technical guidance prepared by the executive director or otherwise approved by the executive director.

SCARG commented that there should be restraints to development in the Barton Springs recharge and contributing zones. Under §213.5(b)(4), all site plans should be reviewed to ensure that planned streets, roads and other construction do not cause runoff problems. Floodplain crossing should be minimized and roads should follow topographic contour lines.

The proposed rule in §§213.5(b)(4)(A) through (D) requires the technical report to identify and assess stormwater characteristics and measures to be taken to prevent contamination both on-site and downgradient from the site. This requirement would include all roads and related construction. The commission has made no change in response to the comment.

BSEACD stated that, under §§213.5(b)(4)(B) through (4)(E), developers should be required to install structural BMPs in residential subdivisions and to designate or create a responsible party (such as a neighborhood association) for ongoing maintenance and repair. They continued that the rule language requiring applicants to submit inspection, maintenance, and repair plans should address concerns related to a lack of maintenance.

The commission recognizes the need for ongoing maintenance and repair of structural BMPs. Improperly maintained structural BMPs pose a threat to the water quality of the Edwards Aquifer by allowing pollutants to accumulate in concentrated quantities and potentially washing downstream during a heavy rainfall. Nonstructural BMPs will be emphasized in the *Edwards Aquifer Technical Guidance Manual* as a way of meeting the requirements of §213.4, for single-family residential developments.

BEC commented that §213.5(b)(4)(E) should focus on outfall conditions only not “instream conditions.” This would force a flood peak shaving basin to be utilized. They continued that measures related to instream erosion are usually not under the control of the developer/owner.

The commission disagrees with the comment and believes that both outfall conditions and downstream conditions should be addressed in the technical report. The commission notes that, while instream erosion is not totally within the control of individual developers/owners, individual developers/owners contributing to instream flows have an obligation to ensure that runoff from their properties do not contribute to increased downstream erosion and associated water quality degradation.

RECA commented that under §213.4(b)(4)(E) the principles being espoused in this new section dealing with instream impact of stormwater are not applicable to rock bed channels as is evidenced by clear waters during periods of high base flow in streams of the Hill Country and recharge zone. A literal interpretation of this section would preclude any new development from occurring because development of property results in placement of impervious cover on property which, in turn, increases the volume of runoff that is delivered to streams. They continued that this is not necessarily bad on the recharge zone as it has been reported that 85-90% of the recharge to the aquifer occurs in the stream beds. Retention of stormwater and subsequent disposal on developed property is the only option available to satisfy the rule. The commenter supported the concepts that measures should be taken to avoid or minimize changes that will result in increases in stronger flow or velocity in receiving streams for public safety and downstream property protection. However, broad ambiguous clauses like “otherwise increases instream erosion and further water quality degradation” do not provide sufficient guidance.

The commission agrees with the comment that further clarification of the requirements necessary to satisfy §213.4(b)(4)(E) would be useful and proposes to include such clarification in the technical guidance to be prepared by the executive director. The commission disagrees with the comment that instream impacts of stormwater are not applicable to the areas within the jurisdiction of this rule. Increased stormwater flows and flow velocities can erode downstream channels degrading water quality. The commission does not agree with the comment that increased runoff due to urban development is an appropriate mechanism for increasing recharge to the aquifer due to the potential adverse water quality and hydrologic impacts resulting from this runoff. A variety of BMPs are potentially available for satisfying the requirements of this paragraph, in addition to retention and subsequent disposal on the property.

SA/SAWS commented that Hazardous Material Traps should be required in close proximity to sensitive recharge areas, and where highways cross stream channels based on guidelines set in the old *Edwards Aquifer Technical Guidance Manual* and all roadway projects with anticipated or actual Average Daily Traffic volumes in excess of 30,000 vehicles per day should be required to construct hazardous material traps to capture a hazardous spill. The commenter requested that the following be inserted into §213.5(b)(4)(F): “Hazardous Material Traps are required in close proximity to sensitive recharge areas, and where highways cross stream channels based on guidelines set in the “Edwards Aquifer Technical Guidance Manual” and all roadway projects with anticipated or actual Average Daily Traffic volumes in excess of 30,000 vehicles per day should be required to construct hazardous material traps to capture a hazardous spill.”

The commission agrees that Hazardous Material Traps near or adjacent to sensitive features will continue to be required and the commission will continue to evaluate highway construction on a project-by-project basis along with other appropriate control measures. However, no modifications to the proposed rules to prescribe specific requirements are made because such case-by-case guidance is more appropriate to the technical manual than to rulemaking. Section 213.5(b)(4)(G) has been modified to explicitly cover spills of hydrocarbons or hazardous substance on a roadway or from a pipeline.

SWB commented that §213.5(b)(4)(G) and (e)(3) could be deleted due to the requirements already in place by the National Fire Code and/or Uniform Fire Code or emergency cases should be addressed and defined to avoid confusion. The commenter continued that they operate under very stringent Federal regulations and guidelines which mandate that service be maintained or restored in specific time frames. When a tank system has a problem, it must be taken out of service and a temporary tank must be introduced to provide the fuel system. A temporary tank of 250 gallons and up to 660 gallons would be placed inside the facility and would present no danger to the environment. If over 660 gallons are required, a temporary location would be found outside of the building in close proximity to the emergency engine. If the facility is small, 150 feet distance from a water well or sensitive feature could be impossible to obtain. The commenter continued that all due care should be taken to assure the safety of the environment, but all Fire Codes have these covered adequately by requiring security, safeguarding from damage, proper signage, and containment dikes for all aboveground tanks installed whether they are permanent or temporary. Permits can not be obtained for the placement of the aboveground tank without meeting these requirements with the local Fire Marshall. ICE commented that the regulations including temporary tanks could adversely effect their utility members from providing service to their clients as required by Federal laws and asked that these sections be removed to allow hospitals and utility companies to provide service.

The commission agrees that the local fire codes should always be consulted to determine local requirements for installation of tank systems. However, such codes are not applicable in all areas of the state and may vary from place to place. Should an emergency situation require the installation of an aboveground or underground storage tank within 150 feet of a water well or other sensitive feature, the local commission region office should be consulted to request an exception in emergency situations as provided in §213.9.

APA endorsed the requirement under §213.5(b)(4)(H) for maintaining and inspecting Best Management Practices. BSEACD stated that inspection, maintenance and repair plans are the hallmark of any viable stormwater pollution prevention program; however the rules place no minimum expectations on an applicant. BEC commented that the rules should incorporate a provision that any such inspection may be performed by an appropriate city or county inspector. GE/SOSA commented that many municipalities implementing water quality regulations have required a financial commitment from the developer in the form of fiscal surety to assure construction and maintenance of proposed best management practices. GE/SOSA continued that the current rules provide no checks on the actual implementation of any proposed BMPs. RLM commented that maintenance plans and schedules for sedimentation/filtration basins should be standardized and requirements set out by the commission, not by individual applicants. SCARG commented that maintenance of structural controls is an area where builders have fallen short in the past, and that a pollution control fee should be charged to developers and then deposited in an interest-bearing account to cover all the expected annual expenses for maintaining stormwater facilities in perpetuity. SCLSC suggested that the requirement for inspection may not be enough because studies have shown best management practices to be less than ideal in satisfying the requirements for suspended solids, oils, greases, nutrients, metals, and other pollutants. SA/SAWS commented that the responsibility for maintenance and upkeep of stormwater abatement structures should be addressed by adding the following to §213.4(b): “For water pollution abatement plans, an affidavit from the appropriate affiant showing the acceptance of legal and financial responsibility for structural controls, maintenance cost, monitoring, and remediation.”

The commission agrees with comments that additional clarification is needed on the actual requirements for BMP owner inspection, maintenance and repair and proposes to include such clarification in the technical guidance to be prepared by the executive director. Section 213.5(b)(4)(H) has been modified to include timely maintenance and repair and, if necessary, retrofit. The commission disagrees with the comment that compliance inspections should be performed by city or county personnel. BMP compliance inspections are to be performed by personnel in the agency’s regional offices. The commission disagrees that financial assurances should be required of applicants for the maintenance and repair of BMPs. Persons or entities

responsible for an Edwards Aquifer protection plan shall be held responsible for maintaining BMPs in accordance with appropriate maintenance procedures or be subject to enforcement proceedings as specified in §213.10.

§213.5(c) ORGANIZED SEWAGE COLLECTION SYSTEMS.

NBU commented that the proposed rules seem to have a significant impact on the cost of maintaining an organized collection system and while it is important to provide the best protection possible for the aquifer, the proposed changes will substantially increase maintenance cost with very little increase in overall protection.

The commission responds that the new rules have not significantly changed the special requirements for or testing of an organized sewage collection system from the existing rules. Most of the changes to Chapter 213 have been for the purpose of clarifying testing methods. The commission agrees that testing of sewer lines is costly and notes that §213(c)(3)(E)(i)(IV) allows the executive director to review and approve alternative testing methods, on a case-by-case basis, which are shown to be accurate and reliable.

SA/SAWS commented that sewer line PVC pipe required for gravity collection systems should be upgraded to City of San Antonio standards of SDR 26 and suggest §213.5(c)(3)(B)(i) reflect a SDR change to 26.

The commission has made no change in response to the comment. The commission does not have sufficient data to indicate that SDR 26 PVC pipe will provide a significant increase in protection of the aquifer than what is obtained from SDR 35 PVC pipe when it is installed in compliance with Chapters 213 and 317 of this title and the manufacturer's specifications. The commission also responds that PVC pipe with a SDR of 26 or less or other stiffer pipe would be required if the deflection analysis for sewage collection systems found in Chapter 317 indicates that a stiffer pipe is needed. However, in the recharge zone, trenches in limestone allow very deep pipe burials due to the inherent strength of the rock, which prevents excessive pipe deflections. Therefore, the use of SDR 26 PVC pipe instead of SDR 35 PVC pipe for sewage collection systems installed within the Edwards Aquifer recharge zone would increase the cost of development without providing a significant increase in protection.

NBU commented that §213.5(c) needs to better define what constitutes repair. The commenter continues with the following questions: does it mean a full set of plans, specification report, and approval will be required to repair an existing sewer main that is found broken or crushed during a

scheduled inspection or as a result of a flow problem; is maintenance considered a repair; and what determines the limits of each?

The commission agrees with the commenter that the requirements for repairing sewage collection system lines needs to be better defined. Generally, repairs to facilities on the recharge zone are addressed in §213(c)(3)(E)(ii). That section requires repairs to an organized sewage collection system be certified by a registered professional engineer. In response to the comment, all references in the rule to repairs will be clarified by replacing the phrase “repair, replacement” with rehabilitation. Repairs that are routine maintenance that do not have the potential to contaminate the aquifer are not subject to a plan.

LWV-SA supported §213.5(c)(3)(E), the testing of sewer lines on the recharge zone every five years by television, although there is no money to implement the program. They recommended a monitoring and annual inspection fee for this purpose. SCLSC commented that they are happy to see a five-year testing requirement for sewer lines on the recharge zone; however, under §213.5(c)(3)(E), existing sewer collection systems should be tested every 3 years to determine types and locations of structural damage and defects.

The commission responds that the five year testing requirement is not new. As in the past, local entities are responsible for the inspection, repair, and maintenance of sewage collection systems and can establish fees for that purpose. The commission has made no change in response to the request for a three-year test period. A three-year test period for existing sewage collection system lines would be too costly and onerous to undertake. However, local entities can identify problem areas and take the initiative to require more frequent monitoring in order to locate damaged lines that may potentially contaminate the aquifer.

NBU commented that under §213.5(c)(3)(E) new manholes and lift station wet wells are commonly tested by imposing a vacuum on the structure or filling with water and measuring any exfiltration (leakage) volumes; however, neither of these methods are very practical on a live (active) system. The commenter continued that all incoming and outgoing piping will have to be plugged during testing and all existing sewage flows will have to be held or rerouted during the test period. They stated that this is very difficult and costly when dealing with large capacity lines.

The commission responds that the testing requirements specified in §213.5(c)(3)(E) are the same as currently required in repealed Chapter 313 for the Edwards Aquifer and Chapter 317 for the entire of the state; therefore, the rule does not impose any new requirements or expenses to the

responsible party. Again, the commission agrees that testing of sewer lines is costly and notes that §213(c)(3)(E)(i)(IV) allows the executive director to review and approve alternative testing methods, on a case-by-case basis, which are shown to be accurate and reliable.

NBU commented that to reduce costs, the regulations should allow more alternative testing, such as flow monitoring of key drainage areas to determine the problem areas, then detail testing of only the problem areas. Another alternative would be to analyze continuous flow monitoring results for unexplained changes in flow quantity. The commenter continued that with alarms on continuous flow monitoring, significant flow changes could alert the operator to a problem shortly after they occur, instead of finding the problem four or five years later. NBU concluded that the rule requires a Texas Registered Professional Engineer to certify that new systems are tested, inspected, and meet the requirements of the regulation. The same approach should be allowed to determine the most cost effective and practical method of insuring the integrity of the system by allowing for more alternative test techniques.

Section 317.2(c)(5)(H) allows the use of alternative testing methods which ensures compliance with allowable leakage standards; however, the alternative methods must be approved by the commission prior to the commencement of testing of the sewage collection system. Section 213.5(c)(3)(E)(i)(IV) also allows for other testing methods to be used, upon executive director approval. The commission has made no change in response to the comment.

PEPP and BEC commented that under §213.5(c)(3)(E), private sewer laterals are not part of the organized sewage collection system and should not be included in this section. BEC continued that in residential units, private service laterals are owned by home buyers and that §213.5(c)(3)(E)(i)(II) should be deleted for this reason.

The commission responds that the testing of private service laterals under §213.5(c)(3)(E) is not a new requirement of these rules. The commission states that by definition, the operation and maintenance of private service laterals are the responsibility of the owner or tenant. However, private service laterals can be a source of contamination; therefore, the commission feels that testing of the laterals is necessary. Repair of leaking laterals located on private property remains the responsibility of the property owner. Testing of lateral lines by smoke testing is provided under §213.5(c)(3)(E)(i)(III). Television testing, specified in §213.5(c)(3)(E)(i)(II), is not required for laterals.

CEC commented that §213.5(c)(3)(E)(i) is unclear as to whether the rule is intended to require any or all of these testing methods for wastewater collection lines.

The commission agrees that clarification is needed to identify what testing methods are appropriate for new sewer lines and for existing sewer lines. The use of only one of the acceptable methods which are described in §213.5(c)(3)(E) is required to satisfy the testing requirement for sewage collection systems. The rule has been changed to clarify this requirement.

NBU commented on §213.5(c)(3)(E)(i)(I) that in-place deflection testing was designed for testing newly installed flexible pipe such as PVC and is not applicable for ridged pipe such as Ductile Iron. They continued that pulling a mandrel through an active line risks line blockage and possible sewer overflows. To do a deflection test safely, the line segments would need to be cleaned and then tested while pumping the existing sewage flow around the test section; however, this type of testing on active lines would be extremely expensive. NBU stated that a mandrel also does not tell you that a leakage problem exists. PVC pipe can be displaced far beyond 5% deflection and not experience leakage; however, a mandrel can bridge across small breakage areas or holes in the pipe that actually leak and not detect a problem.

The commission responds that deflection testing is not required under Chapters 213 or 317 of this title for rigid pipe. The testing requirements specified in §213.5(c)(3)(E) are the same as required in repealed Chapter 313 for the Edwards Aquifer and Chapter 317 for the remainder of the state; and therefore, the rule does not impose any new requirements or expenses on the responsible party.

NBU commented on §213.5(c)(3)(E)(i)(II) that internal line inspection by television camera is one of the better ways to inspect lines although the process is very expensive. Black and white cameras should be allowed to help reduce inspection cost and would be better than deflection testing. The cost to clean and TV is \$2.00 to \$2.50 per foot and for NBU's system that has more than 42 miles of collection lines over the Edwards Aquifer, the inspection cost will be \$400,000 to \$500,000. NBU continued that TV testing will not detect any leakage below the flow line unless the leakage was a majority of the total flow in the pipe. SA/SAWS commented that they currently use color TV when televising and that they currently smoke test mains 12 inches or less in diameter and private service laterals. They stated that additional TV equipment and personnel will be needed.

The commission responds that older black and white television inspection equipment have not provided acceptable inspections. If a party responsible for testing the sewage collection systems can demonstrate to the executive director that newer black and white equipment will provide acceptable results, prior to line testing, the new equipment may be used. In-line smoke testing of mains and lines which are covered by several feet of fill will not provide good results and in line smoke testing is acceptable for private service laterals only. Section 213.5(c)(3)(E)(i)(II) will be revised to indicate that newer black and white television cameras may be used with prior approval of the executive director.

NBU commented on §213.5(c)(3)(E)(i)(III) that smoke testing is the most economical means of testing lines and cost \$60,000 to \$70,000 to test NBU's 42 miles of collection system. Restricting smoke testing to only service laterals will greatly increase the cost of system testing. The commenter continued that since it is not practical without major modification to allow more access points to televise service laterals, the entire collection system will have to be smoke tested to check service laterals and then another method such as televising will have to be used for inspection of mains, greatly compounding the cost of inspection. Breakage in the top of the pipe is typically the type of problem that can be found by smoke testing. NBU continued that since most small leaks go undetected by deflection testing and by TV inspection, smoke testing should remain as an acceptable means of testing. The commenter stated that 80-90 percent of all defects have been found on private service laterals and that the total number of defects also seem to decrease after each series of tests, which means the customers are adequately fixing the problems. NBU suggested that the regulations should allow more alternative testing such as flow monitoring of key drainage areas to determine problem areas or to analyze continuous flow monitoring results for unexplained changes in flow quantity. The regulations should allow for a Texas Register Professional Engineer to determine the most cost effective and practical method of insuring the integrity of the system by allowing for more alternative test techniques.

The commission responds that in line smoke testing of most sewage collection system main lines do not provide adequate results because the lines are generally installed at greater depths and beneath street paving; therefore, any smoke leaking from the mains require extended periods to surface, can be absorbed in the trench backfill, or may never reach the surface because of the street paving. These obstructions will give the impression that no defects or leaks exist. Again, the commission notes that §317.2(c)(5)(H) allows the use of alternative testing methods which ensure compliance with allowable leakage standards; however, the alternative methods must be approved by the executive director prior to commencing testing of the sewage collection system.

SCLSC commented that §213.5(c)(3)(E)(ii) should be changed to provide for quicker initiation of repair of defects in sewage collections to give the system owner 30 days to initiate repairs. SA/SAWS commented that §213.5(c)(E)(ii) should require that immediate emergency measures for detected defects be implemented to prevent pollution as referenced in Chapter 26 of the Texas Water Code using methods as deemed necessary to prevent contamination to the water quality of the Edwards Aquifer. Final repairs should be initiated within 90 days of detection of structural defects. LWV-TX stated that the language providing the maximum infiltration/exfiltration rate for sewer pipes has been deleted and the requirements of §317.2 of this title referred to instead. They stated that it is not clear whether there is a different, more stringent infiltration/exfiltration rate for sewer lines over the aquifer recharge zone than anywhere else and that it is not specifically stated that sewer line leakage is not allowed.

The commission recognizes that repairs may be a significant expense to a municipality or utility and allocation of funds may take time. However, §26.121 of the Texas Water Code prohibits pollution during the repair period, no matter how much time the repair requires. The rule requires that defects be repaired within one year; however, the rule also requires that all leakage be immediately contained to prevent any discharge to the waters of the state or pollution of the Edwards Aquifer whether necessary repairs have been completed or not. Failure to contain leakage from a defect is a violation of §26.121 of the Texas Water Code. The commission also responds that the current infiltration/exfiltration rate requirements of Chapter 317 of this title are as stringent as the requirements in the repealed Chapter 313. Section 213.5(c)(3)(E)(ii) has been modified to clarify that except as otherwise provided in an enforcement order of the commission, that as soon as possible but at least within one year repairs must be completed. Leakage is a violation of §26.121 of the Texas Water Code and it has been emphasized that the rules are not intended to excuse such unlawful discharge.

AGUA commented that to save all recharging features, §213.5(c)(3)(F) (regarding blasting regulations) should consider the study work accomplished by the Edwards Underground Water District, and should take into account the special circumstances of the recharge zone not reflected in the National Fire Protection Association criteria. They continued that to save recharging features, §213.5(c)(3)(K) should protect caverns for their integrity to the water supply system and caverns should not be filled to save a sewer route, rather the sewer lines should be rerouted. SA/SAWS commented that an inter-local agreement should be established between the commission and local regulatory agencies to regulate blasting throughout the county. The commenter recommended that the commission require detailed reporting of conditions surrounding blasting on the recharge zone; especially the proximity of a blast to the closest sewer lines, amount of explosive, and monitoring of the blast with a copy of the monitoring

device printout. They suggested the following items for rule consideration: (1) date of blast, (2) location description, (3) blaster's name, (4) contractor, (5) purpose of blasting, (6) number of shots, (7) depth and diameter, (8) type of explosive, (9) amount of explosive, (10) directional or not, (11) utility map with distances to shot points, (12) utilities contacted, (13) fire department contacted, (14) type of monitoring-seismic or sound, (15) include copy of monitoring device printout, (16) significant recharge features in the area including map with distances and, (17) any comments or special conditions. The commenter proposed that the following be added to the end of §213.5(c)(3)(F): "Prior to utilizing blasting for sewer line excavation, the applicant must notify the commission and submit detailed information as to the length and duration of the blasting project, location of the proposed blast in relation to significant recharge features and existing sewer lines, amount of explosives to be used, and number of holes to be drilled, their depth and diameter."

Section 26.121 of the Water Code provides protection to the aquifer by prohibiting unauthorized discharges of sewage to water in the state. The utility owner should cease unauthorized discharges if the integrity of the line is compromised by blasting. Section 213.5(c)(3)(F) requires the owner of the system to repair and retest the damage sewer line immediately. With regards to the suggestion for requiring a detailed blasting report, the commission is uncertain if the benefits of this proposed action are justified for the costs to implement. In addition, information on how this record keeping would address specific water quality concerns from blasting and how this activity would fall under the commission's existing statutory authority is unclear. Potential overlap with the local Fire Marshall jurisdiction may occur. With regard to the comment on §213.5(c)(3)(K) of the rules, the commission responds that requiring rerouting of the line or prohibition against sealing the feature limits the ability to adequately address protection of the aquifer through engineered solutions. The newly required geologic assessment under §213.5(c)(4)(D) should allow for the identification and rerouting of lines prior to construction. Staff are developing technical guidance to standardize protocols for protecting solution features encountered during sewer line trenching. The commission has made no change in response to the comment.

APA, AGUA commented that sewers should be sited outside the 100-year floodplain whenever possible (§213.5(c)(3)(H)), and lift stations over the recharge zones should be strongly discouraged (§213.5(c)(3)(C)).

The commission agrees that the construction of sewage lines in the 100-year floodplain and lift stations on the recharge zone present the potential for polluting the aquifer; however, topographic restraints and the prohibition of new wastewater discharges on the Edwards Aquifer

recharge zone necessitates the construction of these facilities on the recharge zone. The commission emphasizes that sewage collection lines and lift station components are required to be designed and constructed to assure that they comply with the requirements of Chapters 213 and 317; therefore, the construction of lift stations on the recharge zone cannot be prohibited. The commission has made no change in response to the comment.

BSEACD and BEC commented that §213.5(c)(3)(K) refers to sewer lines bridging caverns or other sensitive features and refers applicants to section (g) which describes on-site sewerage systems and they question if this is the appropriate reference.

The commission responds that this is not the appropriate cross reference and published a correction of errors in the August 16, 1996 Texas Register stating that the appropriate reference is §213.5(f).

SA/SAWS commented that plans submitted for protection of significant recharge features discovered during construction should be required to be certified by a Texas Registered Professional Engineer. They suggested that this be added to the end of §213.5(c)(3)(K). SA/SAWS also commented that §213.5(c)(3)(K) is a necessary change that makes a phone call to the regional office insufficient notification that a feature has been discovered.

A plan holder who discovers features under §213.5(c)(3)(K) must comply with §213.5(f) which requires a Texas Registered Professional Engineer to submit proposed plans for insuring the structural integrity of the sewer line or modifying the proposed collection system alignment around the feature. Regulated activities near the sensitive feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from potential adverse impacts to water quality. The commission has made no change to the rules in response to this comment.

AGUA commented that under §213.5(c)(3)(N) the agency should require liability insurance for all sewage lift stations.

The commission disagrees with the comment to require liability insurance for all sewage lift stations. Obligations pertaining to the operation of sewage lift stations are specified in state and federal waste water permits. Discharges from sewage lift stations are the responsibility of the permit holder. Claims for damages resulting from discharges from sewage lift stations can be sought in civil court.

SA/SAWS commented that §213.5(c)(4)(C)(ii) will provide more detailed delineation of line routes in regards to floodplains and that §213.5(c)(4)(C)(iii)(IV) will address sensitive features and provide for more detailed maps and better information as to where lines need to be inspected during construction. SA/SAWS commented that §213.4(c)(4)(D) will provide more detail for exact line route.

The commission agrees with the comments.

BEC commented that under §213.5(c)(4)(C)(iii)(III) it should be possible to reference specifications if a standard municipal set is being utilized.

The commission agrees and notes that the organized sewage collection system application form requires that this information be provided. No change to the rule has been made in response to the comment, because the commission does not specify every contingency in the rule.

APA commented that, under §213.4(c)(4)(D), a geologic assessment should be required for an entire development site to determine the least sensitive route for sewers. AGUA commented that, to save all recharging features, §213.5(c)(4)(D) should require a geologic assessment for the entire development to ascertain the least sensitive areas for sewer placement. LWV-TX stated that if the sewage collection system is being proposed for a water pollution abatement plan by itself and not as part of a water pollution abatement plan requiring a full area-wide geologic assessment, then the 50 feet on each side limit under §213.5(c)(4)(D) may not adequately reflect the full impact that sewer line construction and installation might have. EF commented that a geologic assessment 50 feet on either side of the trench is not adequate and should be expanded to incorporate historical records and a better geologic assessment in the vicinity of these trenches.

The commission has made no change in response to these comments. Section 213.4(c)(4)(D) is the requirement for a geologic assessment for a proposed sewer line which is not associated with additional development and that the 100-foot wide assessment path covers the alignment of the proposed trench. Based upon the geologic assessment, placement of a sewer line should be adjusted for sensitive features before an application is submitted for review by the executive director. If the sewer line is associated with a development site, a geologic assessment is required for the entire development site as specified under §213.5(b)(3). The commission notes that avoiding all recharge features may require the construction of lift stations. Section 213.5(c)(3)(K), states the requirements for notification and approval of methods to protect when sensitive features are encountered during construction.

§213.5(d) STATIC HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE IN UNDERGROUND STORAGE TANKS SYSTEM.

CEC, DCRA, RWOA and BEC commented that under §213.5(d)(1), the requirement for designs to be prepared and signed by a “contractor” registered under Chapter 334 should be changed to require the preparation and sealing by a registered professional engineer because system design is an engineering function and the special designs needed to protect the environmentally sensitive area require the appropriate technical oversight of a professional engineer. RWOA continued that the current Edwards Aquifer Program form (TNRCC-0583) requires such a signature certification. CEC and DCRA commented that under §213.5(e)(1) the design standards and contents of aboveground tank facility plans should be prepared and signed by a registered professional engineer because system design is an engineering function and the special designs needed to protect the environmentally sensitive area require the appropriate technical oversight of a professional engineer.

The commission responds that its certification program for contractors registered under Chapter 334 requires a working knowledge of Subchapter “C” (Technical Standards) for underground storage tank systems. Section 334.42(a) states, “All components of any new or existing underground storage tank system subject to the provisions of this subchapter shall be designed, installed, and operated in a manner that will prevent releases of regulated substances due to structural failure or corrosion for as long as the underground storage tanks system is used to store regulated substances.” Therefore, a contractor registered under Chapter 334 is required to install the tank and piping system to ensure that structural failure of the system does not occur. Should a solution opening be discovered in the tank pit excavation, a geologist would evaluate the feature and determine its sensitivity. An engineer would then be the appropriate consultant to determine if the tank system would be compromised by questionable structural support from the floor of the tankhold. An engineer meeting the certification requirements of Chapter 334 could perform both functions. The commission has deleted the reference to system design from §213.5(d). The Edwards Aquifer program form (TNRCC-0583) will be modified to reflect the requirements in Chapter 334.

APA, AGUA commented that §213.5(d)(1) should be changed to allow no new underground storage tanks in the recharge zone because underground storage is a hazardous practice and leaks occur.

The commission has made no change in response to this comment. The current requirements for double containment of new underground storage tanks and the upgrading of existing systems with

release detection, spill and overflow control, and corrosion protection is adequate to prevent releases to the environment.

APA, AGUA stated that §213.5(d)(1) should be changed to require all existing tanks be upgraded to provide tertiary containment. SCLSC commented that they are concerned that only USTs without tertiary containment and temporary ASTs are required to be setback 150 feet from sensitive features. SA/SAWS commented that the rules should require tertiary containment for USTs on the recharge zone as well as the transition zone and offers that following change to §213.5(d)(1): “Standards for Underground Storage Tank Systems. For all facilities located on the recharge zone, new or replacement systems for underground storage of static hydrocarbons or hazardous substances shall require tertiary containment. For all facilities located on the transition zone, tertiary protection shall be required for new and replacement systems for the underground storage of static hydrocarbons or hazardous substances. Methods for detecting leaks in the inside wall of a ~~double-walled~~ system shall be included in the facility’s design and construction.” SA/SAWS suggested that the rest of the section should read the same. SA/SAWS also commented that a five-year to ten-year timetable based on compliance with state or EPA compliance should be established to require the upgrade of existing single-wall tanks and piping on the recharge zone and the transition zone by December 22, 2003 (to conform with the latest date for upgrade over the transition zone as given by Ordinance 81147 adopted by the City of San Antonio). These tanks would be upgraded to at least double-wall tanks and double wall piping. If tertiary requirements are to be extended to the recharge zone and the transition zone, then the single walled systems should be upgraded to tertiary containment by December 22, 2003.

The commission has made no change in response to these comments. To address the most immediate threat to groundwater, §213.5(d)(1)(B) requires tertiary containment for any new underground storage tank system that is within 150 feet of a domestic, industrial, irrigation, or public water supply well without a sanitary easement, or other sensitive feature. In addition, this issue will be studied further, including an analysis of the frequency of double wall tank failures and a cost/benefit analysis. Should readers have information on double containment failures, the commission would appreciate assistance in this study. The commission believes that double containment along with other tank standards adequately prevents releases to the environment in areas not adjacent to a sensitive feature. Commission rules require that existing underground storage tanks which contain hazardous substances (as defined in Chapter 334 of this title), be upgraded to secondary containment by December 22, 1998. Such secondary containment can be, but does not have to be, double wall construction. Existing underground storage tanks are those which were installed prior to December 22, 1988. Commission rules have required that all regulated underground storage tanks installed over the Edwards transition or recharge zones be

double walled with continuous interstitial monitoring since September 29, 1989. Chapter 313 provided for earlier compliance with this requirement, depending upon the county in which the facility was located. Commission rules require that all existing regulated underground storage tanks be upgraded to meet requirements for release detection monitoring (by December 22, 1993), spill/overflow prevention (by December 22, 1994) and corrosion protection (by December 22, 1998). Owners of a single walled tank and piping system have already spent a significant sum of money to meet current requirements and will be spending another \$6,000 to \$15,000 per 3-tank site to meet corrosion protection requirements. If those same owners are then required to further upgrade to double or triple wall containment, all monies spent to that point to maintain compliance will be lost, as the upgraded single wall tanks will have to be removed and completely replaced. This imposes an unreasonable hardship on tank owners who have complied with existing regulations and would be especially damaging to small business owners.

AGUA, APA, and LWV-SA commented that no tanks or hazardous materials should be sited within 150 feet of a public water supply well or sensitive recharge feature. AGUA continued that the national model ordinances for Well Head Protection suggests an area free of toxics of at least 150 feet and preferably a half-mile radius. SA/SAWS commented that §213.5(d)(1)(B) would allow for USTs to be placed next to or over sensitive features and suggest the following changes: “Any new underground hydrocarbon and hazardous substance storage tank system shall be located a minimum horizontal distance of 300 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature. RWOA commented that §213.5(d)(1)(B) is in conflict with 30 TAC §290.41(c)(1)(A) for Water Sources of Public Water Systems that restricts well to be no closer than 150 feet to any underground petroleum storage tank, regardless of containment method. The commenter continued that the proposed revision is less restrictive than current rules for water wells and should be more restrictive, not less. The commenter continued that engineers currently conform to §290.41(c)(1)(A) and have been doing so for some time without problems and that no UST system should be placed closer than 150 feet to any well, no matter what effort is taken to protect the tanks.

The commission responds that current agency rules under Chapter 238 (related to Water Well Drillers Rules) and §290.41(c)(1)(A) (related to Water Hygiene) govern the placement of a well adjacent to potential sources of contamination and do not govern the later placement of a potential source of contamination adjacent to an existing well. Section 213.5(d)(1)(B) provides a higher standard of protection for tanks placed within 150 feet of a sensitive feature as determined by the assessment of area geology (which includes geologic features and manmade features, such as domestic, industrial, irrigation, or public water supply wells; borings; and excavations, that have a potential for hydraulic interconnectedness between the surface and the aquifer and where

rapid infiltration to the subsurface may occur). The rule has been modified to recognize the sanitary control easement for public water supply wells contained under §290.41(c)(1)(F) which prohibits the placement of an underground petroleum and chemical storage tank within 150 of an existing public water supply well without an exception from the executive director. However numerous public water supply wells were placed in service prior to the adoption of the sanitary easement requirement. Section 213.5(d)(1)(B) has been modified to apply to all sensitive features and for public water supply wells without a sanitary control easement of 150 feet around the well. The commission has made no change in response to the comment that the radius should be increased to 300 feet because the 150 foot diameter is consistent with protection provisions under Chapters 290 and 238.

SCLSC commented that the requirement for 150 foot setback from a sensitive feature under §213.5(d)(1)(B) for new underground storage tanks without tertiary containment and temporary above ground storage tank facilities under §§213.5(b)(4)(G) and 213.5(e)(3) are a step in the right direction; however, the rule still allows tertiary-contained underground tanks and permanent aboveground tanks to be placed right next to sensitive features such as public wells and recharge features. The commenter suggested that under the rule, all underground storage of hazardous materials should be prohibited in the recharge and transition zone areas; that a minimum setback distance for underground storage tanks of 150 feet from any unplugged Edwards well be included, whether in use or abandoned; spacing requirements for USTs to avoid accumulation of USTs in a single area on the recharge and transition zones be included; and that the rules should require annual testing/inspection by the commission of primary and secondary containment for all tanks and piping to insure that they are in compliance with the rules and specific conditions of their approved permit.

The commission has made no change in response to the comment suggesting prohibition of underground storage of hazardous materials in the recharge and transition zone areas as stated earlier. The commission has made no change in response to the comment suggesting spacing requirements for USTs to avoid accumulation of USTs in a single area. The commission responds that the agency's experience with tank failures indicates that failures have affected individual tanks. The commission is not aware of any simultaneous multiple tank failures. Lacking data to the contrary, the commission believes that double-walled or equivalent containment, required in the proposed rules, along with other tank standards, such as upgrades required by Chapter 334 of the commission's rules for underground storage of hazardous materials, adequately prevents releases to the environment and is protective of the Edwards Aquifer. The commission has previously responded to setback requirements for active wells. Abandoned well when plugged as

required by §213.7, are no longer a sensitive feature. Testing requirements have been responded to earlier.

AGUA commented that the agency should require liability insurance for all sited hazardous materials.

Regulation of particular activities, and associated requirements for liability insurance, may be covered under other commission programs. For example, financial assurance requirements for owners and operators of underground storage tanks are specified in §§334.91-334.110 (relating to Financial Responsibility). The commission has made no change in response to this comment.

SWB commented under §213.5(d)(1)(B) a horizontal distance of 150 feet as a minimum may not be obtainable depending on the size of the plot of land for a hydrocarbon UST system installation. However, the siting of the UST should be carefully planned and all due consideration taken to assure that pollution to any water system is avoided. Tertiary containment would not prevent pollution in the event of a severe rupture due to a catastrophic occurrence and the only way to assure no pollution would be to disallow the installation of the tank systems totally. This is not feasible due to the needs of the public for fuel supplies, medical care with backup emergency power, and utility services for the public to assure their comfort and standard of living. The commenter states that double wall containment would safeguard the public just as adequately as the tertiary in most cases. The requirement for release detection monitoring will notify the owner/operator immediately so that action could be taken to control any release. The commenter continues that technology and best management practices should be adequate to safeguard the drinking water supply along with the natural filtration system to the Edwards region as migration moves through hundreds of feet of limestone before the water source is impacted.

The owner of the property may decide whether or not to install an underground storage tank or utilize a temporary aboveground storage tank within 150 feet of a water well or other sensitive feature. An alternative to installing an underground storage tank is the installation of a permanent aboveground storage tank where allowed by local government and other regulatory entities. The decision to install an underground storage tank rests with the owner. The commission disagrees with the comment that tertiary containment would not prevent pollution in the event of a severe rupture. Installation of underground storage tanks necessary in emergency situations may be allowed on a case-by-case basis. The commission has made no change in response to this comment.

SWB commented on §213.5(d)(1)(B) that technology and best management practices may not be adequate to safeguard the drinking water supply along with the natural filtration system to the Edwards region as migration moves through hundreds of feet of limestone before the water source is impacted for hazardous chemicals and perhaps this storage should be banned over the aquifer. SWB and ICE commented that especially the storage of dry cleaning chemicals such as “PERC”, tetrachloroethylene, which is a know sinker and heavier than water would pose a threat to a water system and that this chemical has already been documented to have reached excessive limits in drinking water wells over this region. ICE continued that these dry cleaning fluid UST systems should be banned over both the recharge and transition zone. SWB continued that if they are allowed in the aquifer region, tertiary containment would be necessary.

Double containment of hazardous substances in underground storage tanks has been required for all new tanks since September 29, 1989, and all existing hazardous substance tanks must upgrade to the new standards by December 23, 1998. The commission responds that double containment is adequate to prevent releases to the environment. The commission has received no information that tetrachloroethylene has “already been documented to have reached excessive limits in drinking water wells over this region.” The commission has made no change in response to this comment.

SWB commented that the requirement under §§213.5(d)(2)(C) and (e)(2)(C) for a complete geological assessment for a site within the transition zone seems to be excessive. In the current regulations, a 200-foot area is required to be reviewed rather than a complete geological study as stated and proposed. This requirement should be reconsidered and clarified to reduce this requirement over the transition zone. The area is not a great contributor to the recharging of the aquifer and therefore, the cost of the complete geological study may not be justified. Best management practices should be applied to avoid the possibility of contamination to the water source.

The commission clarifies that for both an aboveground storage tank facility and an underground storage tank facility where aboveground storage tank systems or underground storage tank systems are placed, the applicant should delineate the areal extent of the system and confine the assessment of area geology to the system and one half mile downgradient, or 200 feet downgradient, as appropriate for the recharge or transition zone. The following sentence has been added to §§213.5(d)(2)(C) and 213.5(e)(2)(C) in response to this comment: “For regulated activities to be located on the transition zone, the assessment of area geology shall be submitted for the site and 200 feet downgradient.”

SA/SAWS commented that the submittal of an Emergency Spill Response Plan should be a condition of the approval of an underground storage tank facility. They proposed a new §213.5(d)(2)(E) be added that states: “A description of measures that will be taken to contain a spill of hydrocarbons or hazardous substances from an underground storage tank shall be included with the plan.”

Requirements for spill response are already contained in Chapter 334; therefore, it is unnecessary to repeat them in Chapter 213. The inclusion of spill response requirements for underground storage tanks, that are consistent with Petroleum Storage Tank rules, are required on the UST application forms and in the Edwards Aquifer program implementation procedures. By reference to 30 TAC 334.50(a)(1)(B), the USTFP application form addresses requirements for releases detected from tank and piping systems. For surface spills, reference to §§334.75, 334.76 and 334.77 will be added to the application forms. The commission has made no change to the rule in response to this comment.

SA/SAWS commented that a new section on testing should be added to §213.5(d)(1) that would require sites containing underground storage tanks to test run-off prior to entering permanent stormwater abatement structures and upon discharge from said abatement structures. These analytical tests should be for an approved list of potential contaminants and should be performed by an EPA approved laboratory. They also commented that the overfill method of testing underground storage tanks should be prohibited on the recharge zone and transition zone and that the tanks should be tested using an approved underfill method in order to prevent an accidental leak.

The commission disagrees with the comment to require stormwater testing for sites containing underground storage tanks. The commission believes that provisions of this rule pertaining to underground storage tanks are sufficient to protect water quality and the additional monitoring is not warranted. The commission disagrees that overfill methods of testing underground storage tanks pose an unreasonable risk of a release. Overfill does not mean overtopped. No change has been made in response to this comment; however, as of December 22, 1998, the commission will no longer recognize tank tightness testing of any type as meeting release detection requirements pursuant to §334.50 (relating to Release Detection).

§213.5(e) STATIC HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE IN AN ABOVEGROUND STORAGE TANK FACILITY.

APA and LWV-SA stated that no hazardous materials should be sited aboveground within 150 feet of a public drinking supply well or sensitive recharge feature. SCLSC was concerned that only temporary aboveground storage tanks are required to be setback 150 feet from sensitive features.

The commission responds that current agency rules under Chapter 238 (related to Water Well Drillers Rules) and §290.41(c)(1)(A) (related to Water Hygiene) govern the placement of a well adjacent to potential sources of contamination and do not govern the later placement of a potential source of contamination adjacent to an existing well. Because of the potential for construction related accidents, §213.5(e)(3) provides a higher standard of protection for temporary tanks by prohibiting their placement within 150 feet of a sensitive feature. The prohibition was not extended to permanent aboveground tanks because the design standards in §213.5(e)(1); which include controlled drainage, a one and one-half times storage capacity capture area lined with a material impervious to the substance(s) being stored, and removal and disposal of any spill within 24-hours of the spill; are considered by the commission to be adequate to protect the aquifer. The commission has made no change in response to these comments.

CPS commented that §213.5(e)(1) should be reworded to take into account that some spills are not discovered within 24 hours of occurrence (especially for small leaks at remote sites, which are not commonly detectable by release monitoring systems unless the leaks result in catastrophic or complete failure of tank equipment). They continued that the wording should be consistent with the provisions of 30 TAC 327 Spill Prevention and Control and require the cleanup of spills within 24 hours of spill discovery.

Although, §327.3 does require notification of reportable discharges or spills as soon as possible but not later than 24 hours after the discovery of the spill or discharge, Chapter 327 does not apply to most AST facilities. Those facilities are addressed under Chapter 334. If the commenter is referring to transformers utilizing insulating oil, those facilities are exempt from the AST requirements under §213.5(e)(4), and would be subject to Chapter 327. Additionally, Texas Water Code §26.069(b) states that whenever an accidental discharge or spill occurs at or from any activity or facility which causes or may cause pollution, the individual operating, in charge of, or responsible for the activity or facility shall notify the commission as soon as possible and not later than 24 hours after occurrence. The Water Code section directly addresses water quality control and the rule is consistent with state law and Chapter 334 provisions. This is not a

new provision. The same removal requirement is contained in repealed §313.11. The commission has made no change in response to this comment.

TI comments that under §213.5(e)(2)(C), the assessment of area geology is for the entire site and for areas beyond the site boundary. Thousands of acres may need to be evaluated for the addition of one hazardous substance storage tank. This is a significant cost for a small impact.

The commission agrees with the comment and states that the farthest downgradient that an assessment would be required is one-half mile in the recharge zone or 200 feet in the transition zone. The requirement for an assessment for the aboveground storage tank facilities has been modified to require an assessment of the area containing the aboveground storage tank system, which has a specific definition related to where the system is placed and does not include the entire site.

SA/SAWS commented that temporary aboveground tanks were not addressed previously and that some additional review time will be needed. SA/SAWS comments that there is more control on these facilities that will require additional review. However, no change to the rule was requested.

SA/SAWS commented that the submittal of an Emergency Spill Response Plan should be a condition of the approval of any aboveground storage tank facility not just temporary ones and that §213.5(e)(3) should include permanent storage of 500 gallons or more. They also state that permanent aboveground storage tank systems should be setback from sensitive features. The commenter suggests the following addition: "A description of measures that will be taken to contain any spill of hydrocarbons or hazardous substances from temporary or permanent storage of 250 gallons or more shall be included with the plan unless described under subsection (b)(4)(F) of this section. Any new temporary or permanent aboveground hydrocarbon and hazardous substance storage tank system shall be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

The facility is required to be constructed within controlled drainage areas that are sized to capture one and one-half times the storage capacity of the aboveground storage tank system. The controlled drainage area is to be constructed of and in a material impervious to the substance(s) being stored, and will direct spills to a convenient point for collection and recovery. Any spills from the storage tank facilities shall be removed from the controlled drainage area for disposal within twenty-four hours of the spill. The inclusion of spill response requirements for aboveground storage tanks, that are consistent with Petroleum Storage Tank rules, are required

on the AST application forms and in the Edwards Aquifer program implementation procedures. By referencing §334.129, the AST application form addresses requirements of releases detected from tank and piping systems. This requirement does not need to be repeated in the Chapter 213 rule. The commission has made no change to the rule in response to this comment.

CPS commented that under §213.5(e)(4)(A) the term mineral oil should be replaced with the term insulating oil. In addition, they commented that although the oil-filled equipment is exempt from the requirements of §213.5(e), it is unclear whether a water pollution abatement plan submittal is required during installation or construction of the supporting structures. They requested that the paragraph be modified to read “Electrical substations and other oil-filled equipment facilities containing mineral oil or other insulating oil shall be exempt from this section.” SA/SAWS commented that mineral oil is not assumed to be a potential pollutant and that this will allow CPS not to have to file Pollution Abatement Plans.

The commission agrees that the term insulating oil is more appropriate than the term mineral oil and has revised §213.5(e)(4)(A) to reflect this change. Also, §213.5(e)(4)(A) has been clarified to reflect that electrical equipment utilizing insulating oil is exempt from §213.5(e) relating to requirements for Static Hydrocarbon and Hazardous Substance storage in an Aboveground Storage Tank Facility. However, construction of supporting structures is a regulated activity for which a water pollution abatement plan under §213.5(a)(1) is required.

SCLSC stated that their organization is happy to see lower exemption levels for AST facilities; however, the exemption for aboveground storage tanks with smaller capacities than 500 gallons should be struck from the rules.

The commission has no historical data to indicate these smaller tanks represent a threat to the aquifer. Therefore, the additional resources and financial expenditures can be better utilized by the agency elsewhere in the program. The commission has made no changes in response to this comment.

§213.5(f) NOTIFICATION AND INSPECTION.

SWB asked in what format must notification under §213.5(f)(1) be given. The commenter continued that written notice is given by construction notification 30-days prior to installation and asked if a form would be made available for use. The commenter also requests that the word “repair” be clarified and

detailed since many minor repairs could send mass mailing to the district offices in response to this request.

The commission responds that a notification form has not been developed. Minor equipment changes should not require the submission of a modified plan. The *Edwards Aquifer Technical Guidance Manual* will address this notification issue and staff is available to assist the regulated community in determining when a modification is necessary. The commission has made no change in response to the comment.

SA/SAWS commented that §213.5(f)(1) is clearer and provides better commencement of construction notification requirements. SA/SAWS also commented that §§213.5(f)(2)(A)(i) and (f)(2)(B) were necessary changes regarding notification when sensitive features are discovered. SWB commented that they concur with the need for sensitive feature discovery information to be given to the regional offices under §213.5(f)(2).

The commission agrees with the comment.

BEC commented that under §§213.5(c)(3)(K) and 213.5(f)(2) the time period should be five working days to report so that protective measures can be fully developed. In addition, under §213.5(f)(2)(A)(i) construction should continue without notice to the executive director if the inspection is clean. COA commented that §213.5(f)(2)(A)(i) suggests that the requirement for a geologist to inspect the lift station excavations could be interpreted to only be required if a sensitive feature is discovered rather than on a continual basis or at completion of the pit. COA continued that a geologist should inspect these excavations to determine if sensitive features are present and requests that this be clarified.

Under §§213.5(c)(3)(K) and 213.5(f)(2), the commission responds that the reporting of a cavern or sensitive feature encountered during sewer line trenching can be done within the specified two days. The plan for protective measures may be submitted at any time after that, and is not limited to two days. Under §213.5(f)(2)(A)(i), the following wording has been added for clarity: “Construction may continue if the geologist certifies that, in their assessment of the excavation, no sensitive feature or features were present.” Absence of sensitive features does not relieve the geologist of their responsibility to provide certification to the executive director.

COA commented that §213.5(f)(2)(B) suggests that the requirement for a geologist to inspect the tankhold excavations could be interpreted to only be required if a sensitive feature is discovered rather than on a continual basis or at completion of the tank hold. COA continued that a geologist should

inspect these excavation to determine if sensitive features are present and requests that this be clarified. BEC commented that construction should continue without notice to the executive director if the inspection is clean.

Under §213.5(f)(2)(B), the commission has added the following wording for clarity:

“Construction may continue if the geologist certifies that, in their assessment of the excavation, no sensitive feature or features were present.” Absence of sensitive features does not relieve the geologist of their responsibility to provide certification to the executive director.

AGUA commented that due to staffing and office resource deficiencies, that the one week review time for staff to determine the acceptability of plans intended to demonstrate methods to mitigate potential contamination associated with sensitive features under §213.5(f)(3) is too short.

The commission has made no change in response to the comment. The time frame of one week remains unchanged from the current rule and procedure, and staff anticipates that they will be able to complete reviews within one week.

§213.5(g) ON-SITE SEWERAGE SYSTEMS.

SA/SAWS commented that septic tanks should have a mandatory pumping requirement of every three years. They continued that the use of conventional septic systems utilizing soil absorption trenches or beds is an area of concern over the Edwards Aquifer recharge zone, because septic systems may pose a threat to water quality and suggested that a review of conventional versus alternative type systems be performed and that a setback of 150 feet be required between septic tanks and significant recharge features. They recommended that the following be added to the end of §213.5(g): “Septic tanks must be pumped out every three years.”

The commission has made no change in response to this comment. The pumping of septic tanks is a best management practice. However, the establishment of a mandatory three year requirement may not be appropriate due to the wide variability in systems used across the area. In addition, the operation of the on-site program in the Edwards recharge zone has been delegated to local authorized agents and any local authorized agent may adopt a mandatory every three year pump-out provision under §366 of the Health and Safety Code. The enforcement of a mandatory pump-out provision, if so desired, would be the responsibility of the authorized agent.

§213.5(h) EXEMPTION.

ASCE stated that §213.5(h) does not reference utility lines designed to carry reclaimed, recycled or reuse water and that the use of the term “pollutants” in the first sentence should be better defined.

The commission has revised §213.5(h) to include treated effluent from a wastewater treatment facility as an example of pollutant in the first sentence.

BSEACD stated that §213.5(h) which covers activities not explicitly designed to carry pollutants should be amended to recognize that these features may become conduits or preferential pathways for pollutants and trenches should be inspected by qualified geologists and if they bridge caverns or sensitive features, remedial action similar to those prescribed for sewer lines should be undertaken.

While “feature” can be encountered during the installation of activities under §213.5(h), the fluids carried in these structures are not considered a threat to the aquifer. Potential pollution from adjacent point sources has been addressed directly within the rule and control and containment of potential contaminant movement has been addressed at its source. No evidence has been presented to the commission that indicates that an ongoing threat is present. The commission has made no change in response to the comment.

PEPP commented that §213.5(h) appears to exempt dry utilities from these regulations, but clarification is needed on whether or not construction of these facilities requires an erosion control plan be submitted to the agency. BEC stated that temporary erosion and sediment controls under §213.5(h) for non Edwards Aquifer protection plan items are required but not submitted to the agency for approval and that this language should be taken out.

The commission responds that §213.5(h) exempts the installation of dry utilities from the requirement to submit an Edwards Aquifer protection plan. However, the activity is not exempt from requirements to provide protection to the aquifer during construction and until the construction area is stabilized. Temporary erosion and sedimentation controls are required to be in place during construction and are to remain in place until the construction area has stabilized. An Edwards Aquifer protection plan is not required for the placement of temporary controls.

CPS requested that the commission establish a minimum size requirement for compliance under §213.5(h) similar to those established by EPA under its NPDES Storm Water Program (5 acres or more of site disturbance). They stated that the agency should consider the size of the project and its potential for erosion, sedimentation and contamination of the aquifer when establishing these

requirements. CPS also recommended that the commission define when construction is stabilized or when vegetation is considered established and suggests that the commission adopt the EPA's definition for final stabilization under the federal stormwater program. They continued that a construction site is considered stabilized when "all soil disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed."

The commission has made no change in response to this comment relating to minimum size requirement for projects involving the construction of dry utilities under §213.5(h). The commission disagrees that the five acres or more of site disturbance is appropriate for utility lines and notes that a utility line installed in an area only 10 feet wide and having a total area of only one acre would involve a linear area of construction of greater than 4300 feet. The commission has elected not to define the point at which a construction area is stabilized at this time. This issue will be addressed as part of the revised *Edward Aquifer Technical Guidance Manual*.

RLM commented that all activities that are deemed not to carry pollutants, stormwater runoff, or sewage effluent and are therefore exempt from water pollution abatement plan submittal under §213.5(h), should be exempt from the Deed Recordation requirement.

The commission has made no change to the rule in response to this comment. Because this type of activity is exempt from the submittal of a water pollution abatement plan application under §213.4, no deed recordation is required.

SA/SAWS commented that §213.5(h) regarding exemptions was a necessary change to the rule.

§213.6. WASTEWATER TREATMENT AND DISPOSAL SYSTEMS.

SA/SAWS commented that §213.6 clarifies language from the current rules.

SBCA commented that wastewater disposal systems utilizing surface irrigation as a means of disposal be prohibited over the recharge zone. SCLSC commented that all wastewater land application systems should be prohibited over the recharge zone.

The commission is not aware of impacts to the aquifer attributable to irrigation of wastewater. The commission believes that prohibition of wastewater irrigation presents a financial burden to those individuals who would be subject to such a regulation that would be substantial and which

outweighs the increase in environmental protection afforded the aquifer. The commission has made no changes in response to this comment.

BEC questioned, under §213.6(b), what is a licensed private sewage facility and what rule allows the use of a percolation system. The commenter continued that land application systems using percolation should be allowed if soil profile and percolation rates are suitable.

Licensed private sewage facilities are on-site sewerage facilities and are regulated under Chapter 285 (related to On-Site Sewage Facilities). The term includes septic tanks, pit privies, cesspools, sewage holding tanks, injection wells used to dispose of sewage, chemical toilets, treatment tanks, and all other facilities, systems, and methods used for the disposal of sewage other than the disposal systems operated under a permit issued by the commission. Such facilities on the recharge zone are regulated by §285.40. Land application systems for facilities in the recharge zone that are larger than those allowed under Chapter 285 are allowed under the Chapter 213 rules based on a case-by-case evaluation and are permitted under Chapter 305, related to Consolidated Permits.

GE/SOSA commented that §213.6(b) should include as additional requirements for land application systems: minimum six-month storage capacity; sufficient application area, considering nitrogen and phosphorous utilization of the vegetation; controlled application rates so that hydraulic, phosphorous, and nitrogen loads do not exceed storage and assimilative capacity of the soils and vegetation; and downstream monitoring.

Storage capacity, adequate application area, hydraulic loading and the assimilative capacity of the soil and cover crop are considered during the case-by-case consideration of sites for disposal by evaporation or irrigation as required in commission rules governing wastewater treatment and discharge. Nitrogen and phosphorus loading are considered as a function of final treated effluent limitations, and are included in loading calculations. Adding specific language to this rule could eliminate staff flexibility in making recommendations based on case-by-case reviews. The commission has made no changes in response to this comment.

SCLSC commented that under §213.6(c), the concentration standards for upstream treated wastewater discharge should be revised by applying the concentration standard for ammonia nitrogen to total nitrogen and setting the concentration standard for nitrogen at less than 1 milligram per liter and the concentration standard for phosphorous at 0.1 milligram per liter.

The commission disagrees with the comment pertaining to modifying effluent treatment requirements for wastewater discharges upstream of the aquifer recharge zone to be less than 1 milligram per liter total nitrogen and 0.1 milligram per liter phosphorus. The commission does not have reason to believe that current effluent limitations and siting limitations are not adequate to protect the aquifer. Further, the commission believes the recommended effluent limits are not realistically achievable with conventional wastewater treatment technologies.

An individual questioned why industrial wastewater discharges are exempted from discharge upstream and even downstream and thinks that this should be clarified so it could be better understood.

Industrial treatment facilities are permitted under Chapter 26, Texas Water Code using 30 TAC 309 and 30 TAC 317, along with the best professional judgement of agency staff. Section 213.6(c)(4) provides for permitting of industrial wastewater discharges to be considered on a case-by-case basis, not “exempted” from regulation. Section 213.6(c)(1) does not exempt industrial discharges from regulation but rather exempts the discharges from the particular effluent limitations specified in Chapter 213, which are more appropriate for municipal discharges. Effluent limitations for industrial discharges depend upon the specific type of industrial facility and are more appropriately regulated on a case-by-case basis. The commission has made no change in response to this comment.

§213.7. PLUGGING OF ABANDONED WELLS.

COA suggested that §213.7 should include a statement that geotechnical exploration borings should also be plugged.

Exploration borings are excluded from regulation under Chapter 238. However, with the addition of “permeable geologic or manmade feature” in the definition of “sensitive feature,” applicants shall be required by §213.5(b)(4)(D) to provide “a description of the best management practices and measures that will be taken to prevent pollutants from entering the aquifer while, to the extent practicable, maintaining flow to sensitive features identified in either the assessment of area geology or during excavation, blasting, or construction.” This would include any geotechnical borings. The commission has made no change in response to the comment.

SA/SAWS suggested that §213.7 be modified so that no closed loop, vertical Geo-Thermal wells shall be drilled in the recharge zone of the Edwards Aquifer nor shall they penetrate the Del Rio Clay Formation.

Closed loop, vertical Geo-Thermal wells are regulated by the agency under the Class V injection well program. Staff have evaluated the construction of these wells and the fluids used for thermal exchange and determined that no threat of contamination to the aquifer exists. The commission is not aware of impacts to the aquifer attributable to geothermal well operation. The commission believes that prohibition of such wells presents a financial burden to those individuals who would be subject to such a regulation that would be substantial and which outweighs the increase in environmental protection afforded the aquifer. The commission has made no changes in response to this comment.

SA/SAWS commented that the plugging requirements should be strengthened (upgrade Chapter 287). The commenter also proposed the following modifications to §213.7. “All identified abandoned water wells which penetrate formations included in the Edwards Aquifer, including injection, dewatering, and monitoring wells are subject to the requirements listed below.

(a) Wells must be plugged pursuant to requirements under Chapter 338 of this title (relating to Water Well Drillers) and all other locally applicable rules, as appropriate.

(b) Plugging operations shall be performed by a licensed water well driller.

(c) A wireline log shall be performed prior to plugging.

(d) Plugging procedure. The uncased portion of the drilled hole shall be filled with washed, disinfected gravel from the bottom of the hole to within three (3) to five (5) feet of the bottom of the casing. A neat cement plug should be set above the gravel, extending upwards approximately eight (8) to ten feet into the casing. Once the plug has set for a minimum of twenty-four (24) hours, the water above the plug shall be pumped or bailed out to verify the seal. The entire casing shall then be filled with cement from the top of the plug to the land surface.

(e) A state inspector shall be present throughout plugging operations to ensure that proper procedures are followed.”

Section 213.7 requires that abandoned wells be plugged pursuant to requirements under Chapter 238 (relating to Water Well Drillers). With the exception of comments (c) and (e) above, these provisions are already required by the Water Well Drillers program under Chapter 238 under a blanket plugging exception for the area of the Edwards that is contained in groundwater conservation districts (Edwards Aquifer Authority and Barton Springs/Edwards Aquifer

District). Nothing in Chapter 213 prohibits the implementation of more stringent groundwater conservation district rules regarding the plugging of wells, such as the running of a wireline log prior to plugging. The commission does conduct site inspections if an individual driller is suspected of violating the agency rules, but the cost of overseeing every plugging is beyond the scope of the Drillers program. The commission has made no change in response to this comment.

§213.8. PROHIBITED ACTIVITIES.

APA endorses the provisions banning Type I solid waste landfills on the recharge and transition zones. LWV-SA supports the prohibition of Class 4D landfills. SCLSC comments that the prohibition of Type 1 Municipal Solid Waste facilities is a promising improvement in the rules. SA/SAWS comments that all landfills should be prohibited from being placed on the recharge zone and transition zone which requires a permit from commission, however the commenter also notes that no modification of the proposed rule is necessary.

§213.9. EXCEPTIONS.

TI comments that under §213.9 a person may apply for an exception prior to starting construction. If these regulations apply to existing and ongoing activities, some protection from enforcement should be given for persons who apply for an exception.

Exceptions are granted if the requestor can demonstrate equivalent water quality protection for the Edwards Aquifer. All exceptions are granted prior to starting construction, and existing and ongoing activities should be in compliance with an approved Edwards Aquifer protection plan. Section 213.9 has been clarified to indicate that prior approval under that section must be obtained for the exception to be authorized.

§213.10. ENFORCEMENT.

COA supported the premise that increased compliance monitoring, inspection, and enforcement activities are necessary for successful implementation of the rule and recommended that the agency develop criteria for determining whether construction sites are in compliance with BMP requirements. COA suggested that EPA's NPDES General Permit for Construction Activities or the Texas Department of Transportation Guidance Manual are adequate guidance for developing agency criteria and that the agency should require and enforce accountability for discharges that are not in compliance with these requirements using all of the penalties and enforcement procedures available through Chapter 26 of the Texas Water Code. COA strongly supported increased post-construction inspection activities, particularly of BMPs.

The commission responds that it will consider a number of existing references as staff revises the technical guidance manual, including those recommended by the commenter. The commission agrees with the commenter regarding the premise that increased inspections and enforcement activities are necessary for successful implementation of the rule. The commission is currently developing an *Edwards Aquifer Technical Guidance Manual* which will include a chapter on inspections. Staff have developed specific guidelines for inspectors regarding inspections. The commission believes that its enforcement authority under this and other provisions of the Texas Water Code provide sufficient disincentives for noncompliance.

GE/SOSA stated that on-site inspection is absolutely critical to the adequate implementation of water quality provisions for construction-phase erosion and sedimentation controls. GE/SOSA continued that currently the agency makes no provision for on-site inspection and that the rules are inadequate to protect the water quality and quantity of the aquifer because they fail to address this issue. BSEACD stated that due to agency staff limitations, few post-construction site inspections are performed. They suggested that regular post-construction site inspections to cover maintenance and repair of structures will enhance the program and that a portion of the regional office staff time would be better spent in the field performing inspections on completed development sites. They continued that if additional staff members cannot be hired, then a reallocation of staff time with a possible outcome of slowing application review could be possible. They stated that staff infrequently use the statutory allotted time to approve applications.

The commission disagrees with the comments that it makes no provision for on-site inspections during the construction phase of projects and that few post-construction inspections are performed. Commission staff completed more than 450 compliance inspections during fiscal year 1996. However, the commission agrees that regular post construction site inspections to cover maintenance and repair of structures will enhance the program, and the agency is striving to improve program efficiency to provide for additional field work. Staff are currently reviewing program administration procedures in an effort to find ways to increase the number of inspections that are conducted during all phases of the project including pre-construction, during construction, and post-construction.

LWV-TX commented that specific inspection and enforcement provisions to be performed by the agency should be included in the rules and should cover the installation and maintenance of erosion and sedimentation controls during construction, identification and protection of sensitive features, proper installation and maintenance over the years of water quality control structures and other approved best management practices. LWV-AA commented that the rules do not require inspection by the agency for

water pollution abatement plans and the Barton Springs Salamander Conservation Strategy lists enforcement and monitoring of compliance with regulations to protect the Barton Springs recharge zone as the first conservation action to be implemented. They commented that the rules should include as a minimum, requirements for initial site inspections, inspections during construction to check for erosion and sedimentation control, and post-construction inspections as now performed. They continued that the rules should more specifically provide compliance and enforcement of on-going operation and maintenance of water quality control structures.

The commission believes that inspection requirements are a program administration issue and are not appropriate for inclusion in the rules. The commission's enforcement authority under this and other provisions of the Texas Water Code provide sufficient authority for inspections and other enforcement activities. The commission has made no change in response to this comment.

APA and SA/SAWS commented that, related to the Edwards Rules, authority for final decisions should be granted to the local District Office, along with appropriate staffing and funding levels. They continued that the commission's Central Office is unable to devote sufficient staff and budget resources to meet the needs of the Edwards Region. SA/SAWS commented that the local Region 13 agency staff should be granted additional authority to penalize violations in the field and that enforcement be expedited for such violations through the Region 13 Office. They also commented that Region 13 staff should be provided priority access to legal staff for enforcement of Edwards rules violations or in-house legal staff should be provided for consultation on Edwards issues. The commenter continued that additional manpower should be provided for the Edwards Aquifer program in Region 13 for review and enforcement purposes. They suggested the following change and addition to §213.10: "Failure to comply with any provision of this chapter or of any applicable regulation or order of the commission issued pursuant to this chapter and in accordance with Chapter 26 and other relevant provisions of the Texas Water Code may result in liability for penalties and may subject a noncompliant person to enforcement proceedings. The executive director may initiate enforcement proceedings under the Texas Water Code, Chapter 26, and local Commission staff is granted additional enforcement authority to penalize violations within their regions. A person who has been found in violation by local Commission staff may file a request for appeal within twenty (20) working days from the date of citation. All such appeals shall be made in writing to the executive director and shall include all pertinent information which the person requesting the appeal wishes to be considered. The executive director may require additional information from, or request a meeting with the person making the appeal. A written decision from the executive director, or authorized designee, on the appeal shall be rendered within (20) working days from the date the appeal is received by the executive director. If the executive director, or authorized designee fails to render an opinion on the appeal

within the twenty working day period, the relief requested in the appeal shall be considered to have been wholly denied. Local Commission staff shall be provided priority access to legal counsel in the Commission's Austin Office for enforcement of Edwards Rules violations, or an in-house legal staff member shall be provided for consultation on Edwards issues at the local commission offices."

The concept of field citations was considered by the legislature last session but no legislation was passed. Although the U.S. Environmental Protection Agency has the authority to issue field citations, and has done so in conjunction with the commission in the past, the commission has not implemented such a program as of this date. Currently, the commission has an expedited enforcement procedure in place for the PST program which gives regional offices the authority to issue enforcement orders when there is no compliance with issued Notices of Violation. This procedure will be studied in more detail in order to determine whether it can be expanded to include other programs including the Edwards Aquifer protection program.

§213.11. GROUNDWATER CONSERVATION DISTRICTS.

BSEACD stated that groundwater districts are rarely equipped or staffed to develop and maintain maps of regulated activities, and furthermore, derive no income from the Edwards Program. They encouraged the agency to help groundwater districts develop a mechanism to track regulated activities throughout the Edwards Aquifer recharge, transition, and contributing zones. They suggested that the agency require applicants to submit site plans and information about water quality treatment systems, as well as other information, in an electronic format that could be entered into a geographic information system (GIS). They continued that this information would be fundamental to any cumulative assessment of development's impact on groundwater in the Edwards aquifer.

The commission responds that while the suggestion to require submission of Edwards Aquifer protection plan information in an electronic GIS-compatible format would contribute to the ability of the agency and others to cumulatively assess development impacts, such a change in the agency's application process is resource intensive and not currently feasible for this rule. The commission plans to study the GIS issues in future research efforts regarding cumulative assessment.

§213.14. FEE SCHEDULE.

APA, AGUA, and LWV-SA commented that the funds which are generated by the Edwards Aquifer program should be dedicated to the Edwards Aquifer regulatory programs. These funds should not be used to subsidize unrelated programs while enforcement of the Edwards Rules remains inadequate. PEPP commented that the current proposed regulations ignore requests to direct all fees paid in the

Edwards program back into the program. SA/SAWS commented that funds derived from fees and penalties from the related Edwards Aquifer Program, should be put directly back into the process for pollution abatement evaluation and active enforcement of approved activities which include such things as monitoring temporary and permanent abatement practices. They continued that these fees should not go to the waste treatment facility inspection fund.

In FY 1996, the Edwards Aquifer Protection Program in the Austin and San Antonio Regional Offices collected a total of approximately \$622,000 in fees for the review and approval of Water Pollution Abatement Plans, Sewage Collection System Plans, Aboveground Storage Tank Plans, and Underground Storage Tank Plans. Although the fees are consolidated under §26.0461 of Texas Water Code with other revenue streams into the waste treatment facility inspection fund, the monies generated by the program are devoted to the program. The fees collected are just sufficient to cover the current program costs and support for the existing program. The commission is seeking legislative approval to consolidate fee funds to provide the flexibility to direct funding to problem areas, rather than creating dedicated fee funding for specific programs. This is especially important when the fee collection structure under the program is considered. Section 26.0461 of the Texas Water Code authorizes a one-time only fee paid when the initial plans are submitted for review. However, many of the projects reviewed and approved by program staff require several years to complete and are subject to repeated follow-up inspections. Further, inspections of permanent stormwater structures must be conducted for the life of the structure. With the one-time only fee structure, it is assumed that the initial fee for the review of other plans will be sufficient to continue to pay for program support in subsequent years. However, this can lead to program shortfalls if the construction boom slows down but the demand on the program for system oversight and re-inspection remain constant. The commission has made no change in response to this comment.

PEPP stated that they have commented at previous public hearings on the Edwards Aquifer program that the manpower in the program should be increased and that the continued under staffing of the program weakens the agency's ability to effectively monitor activities over the recharge zone. APA, AGUA, and LWV-SA commented that the program should be adequately staffed and funded for effectiveness. COA commented that enforcement must be accomplished consistently for the rules to be effective and that an increase in fees is justified to fund enforcement, to hire additional inspectors, and to train inspection staff. An individual commented that the agency should budget for active monitoring and policing of polluters, assuming that the identification of pollution and the regulations regarding pollution control are in place. SCAG commented that the use of program fees to better support the mandate of aquifer protection needs to be addressed. SCLSC commented that the fee process should

be revised to return more fees collected from the program to the enforcement of program mandates. They suggested that the fee schedule should be changed to more accurately reflect the pollution potential of the proposed activity rather than the simple size of the activity for water pollution abatement plans and that new fee schedules, for areas other than development application approval, are needed. AGUA commented that the program should implement new fees for annual inspections and long-term enforcement of approved permits. They suggested that the fee schedule be revised for the entire program to reflect the increasing costs of administering projects with more acreage and bigger sewage facilities and that additional fees should be implemented for ongoing inspection and permit compliance and enforcement activities. LWV-TX commented that they would like to discuss further with agency staff the adequacy of current fees and funding, possible changes in the fee schedules to better reflect the pollution potential of the proposed activity rather than simply the raw acreage involved, and any legislation that might be necessary to accomplish such changes.

The agency is restricted by legislation to the maximum \$2,000 fee for all applications for the Edwards Aquifer program. Any changes to the upper limit of the fee schedule or changes in fee structure would have to be initiated through a legislative change. The commission has made no change in response to these comments.

AGUA suggested that the agency should assist local and regional agencies to find funding sources to accomplish mandates such as TV monitoring of sewer lines and studies on septic tank placement, blasting effects and sensitive recharge areas. They continued that the agency should provide for program costs and should have a high level (Assistant Executive Director) to coordinate the activities of the regional and administrative function of the program.

The commission responds that the funding mandates indicated by the commenter regarding the monitoring of sewer lines are not new and have been in effect since March 21, 1990. The commission has made no change to the rule in response to this comment because the funding of studies is beyond the scope of the rules, which is the regulation of activities having the potential to contaminate the aquifer. The commission also responds that the proposed position is unnecessary. The program is under the Office of Compliance and Enforcement headed up by a Deputy Director and is under the Field Operations Division headed by a Division Director. Both positions are filled with staff who are aware of the issues and coordinate internally through the Managers of both the San Antonio and Austin Regional Offices and can deal directly with external, local and federal regulatory authorities.

ADDITIONAL CHANGES TO THE RULE

The commission has provided addition citations in the paragraph on statutory authority. Section 213.1(2) has been clarified to indicate that an applicant may also be required to comply with local ordinances and regulations providing for the protection of water quality. Section 213.1(3) was clarified to refer to the specific section in Chapter 50 of this title related to Motion for Reconsideration. The rule has been modified throughout to clarify that water quality in surface streams that are hydrologically connected to the aquifer must also be protected. Sections 213.4(c) and 213.9(b) have been changed to provide for the submittal of an original and three copies from four copies. Minor typographical errors were corrected and wording clarifications were made throughout the rule. Rule citations were changed to reflect new rule adoptions since the proposal was published for the following chapters: Chapter 338 to Chapter 238 (related to Water Well Drillers Rules), Chapter 377 to Chapter 70 (related to Enforcement) and revised Chapter 285 (related to On-site Sewage Facilities). Section 213.5(d)(1)(B) was clarified to provide for siting requirement based upon sensitive features identified under the assessment of area geology or as part of the tankhold inspection. Sections 213.5(d)(2)(D) and 213.5(e)(2)(D) were clarified to indicate that the technical report should be submitted on forms provided by or approved by the executive director. Section 213.5(e)(1) was clarified to be the design standards for aboveground storage tank systems rather than facilities. Section 213.5(c)(3)(L) was clarified to provide guidance for when temporary erosion and sediment controls can be removed after construction is completed under an organized sewage collection system plan.

STATUTORY AUTHORITY

This new chapter is adopted under Texas Water Code, §§5.103, 5.105, 26.011, 26.341 and Texas Health and Safety Code, §§361.024 and 366.012 which provide the commission with the authority to promulgate rules necessary for the exercise of its jurisdiction and powers provided by the Codes and other laws. Additionally, Texas Water Code §26.046 requires the commission to hold annual public hearing to receive evidence form the public on actions the commission should take to protect the Edwards Aquifer from pollution, §26.0461 allows the commission to impose fees for processing plans or amendments that are subject to review or approval under the commission's Edwards Aquifer rules, §26.121 prohibits unauthorized discharges, §26.401 gives the goal for groundwater protection in the state, and §28.011 authorizes the commission to make and enforce rules for the protection and preservation of ground-water quality.

No other codes or statutes will be affected by this proposal.

**SUBCHAPTER A: EDWARDS AQUIFER IN MEDINA, BEXAR
COMAL, KINNEY, UVALDE, HAYS, TRAVIS AND
WILLIAMSON COUNTIES**

The new sections are adopted under the Texas Water Code, §§5.103, 5.105, 26.011, and 28.011 which provide the commission with the authority to adopt any rules necessary to carry out its powers and duties as provided by the Code and other state law and under the Texas Water Code, Texas Health and Safety Code, §§361.024 and 366.012, and Texas Water Code §26.0461, which provides the commission with the authority to impose fees for the filing of certain plans subject to review by the agency under its rules for the protection of the Edwards Aquifer. Additionally, Texas Water Code §26.046 requires the commission to hold annual public hearing to receive evidence from the public on actions the commission should take to protect the Edwards Aquifer from pollution, §26.121 prohibits unauthorized discharges, and §26.401 gives the goal for groundwater protection in the state.

§213.1. Purpose.

The purpose of this chapter is to regulate activities having the potential for polluting the Edwards Aquifer and hydrologically connected surface streams in order to protect existing and potential uses of groundwater and maintain Texas Surface Water Quality Standards. The activities addressed are those that pose a threat to water quality.

(1) Consistent with §26.401 of the Water Code, the goal of this chapter is the existing quality of groundwater not be degraded, consistent with the protection of public health and welfare, the propagation and protection of terrestrial and aquatic life, the protection of the environment, the operation of existing industries, and the maintenance and enhancement of the long-term economic health of the state.

(2) Nothing in this chapter is intended to restrict the powers of the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. In addition to the rules of the commission, an applicant may also be required to comply with local ordinances and regulations providing for the protection of water quality.

(3) The executive director shall review and act on an application subject to this chapter. The applicant or a person affected may file with the chief clerk a motion for reconsideration,

under §50.39(b)-(f) of this title (relating to Motion for Reconsideration), of the executive director's final action on an Edwards Aquifer protection plan, modification to a plan, or exception.

§213.2. Applicability and Person or Entity Required to Apply.

These rules specifically apply to the Edwards Aquifer and are not intended to be applied to any other aquifers in the state of Texas. Unless otherwise provided under this chapter, the owner of an existing or proposed site, such as a residential or commercial development, sewage collection system, or aboveground or underground storage tank facility for static hydrocarbons or hazardous substances, who proposes new or additional regulated activities under this chapter, must file and receive executive director approval of all appropriate applications prior to commencement of construction of new or additional regulated activities.

§213.3. Definitions.

The definitions in §26.001, §26.263, and §26.342 of the Texas Water Code are applicable to this chapter. When used in this chapter, those definitions shall have the same meaning as the following definitions unless the context in which they are used clearly indicates otherwise, or those definitions are inconsistent with the definitions listed below.

Abandoned well - A well that has not been used for six consecutive months. A well is considered to be in use in the following cases:

(A) a non-deteriorated well which contains the casing, pump and pump column in good condition; or

(B) a non-deteriorated well which has been capped (as defined by Chapter 238 of this title relating to Water Well Drillers Rules).

Aboveground storage tank facility - The site, tract, or other area where one or more aboveground storage tank systems is located, including all adjoining contiguous land and associated improvements.

Aboveground storage tank system - A non-vehicular device (including any associated piping) that is made of nonearthen materials; located on or above the ground surface, or on or above the surface of the floor of a structure below ground, such as a mineworking, basement, or vault; and designed to contain an accumulation of static hydrocarbons or hazardous substances.

Appropriate regional office - For regulated activities covered by this chapter and located in Hays, Travis and Williamson counties, the appropriate agency regional office is Region 11, located in Austin, Texas. For regulated activities covered by this chapter and located in Kinney, Uvalde, Medina, Bexar, and Comal counties, the appropriate agency regional office is Region 13, located in San Antonio, Texas.

Assessment of area geology - A report which is prepared by a geologist describing area and site-specific geology.

Best management practices (BMPs) - schedule of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of water in the State. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs are those measures that are reasonable and necessary to achieve a performance standard that protects existing and potential uses of groundwater and maintains surface water quality in compliance with Texas Surface Water Quality Standards, as contained in technical guidance prepared by the executive director or other BMPs which are technically justified based upon studies and other information that are generally relied upon by professionals in the environmental protection field and are supported by existing or proposed performance monitoring studies, including, but not limited to, U.S. Environmental Protection Agency, American Society of Civil Engineers, and Water Environment Research Foundation guidance.

Commencement of construction - Construction of physical facilities including but not limited to buildings, roads, and utility infrastructure.

Edwards Aquifer - That portion of an arcuate belt of porous, waterbearing, predominantly carbonate rocks known as the Edwards and Associated Limestones in the Balcones Fault Zone trending from west to east to northeast in Kinney, Uvalde, Medina, Bexar, Comal, Hays, Travis, and Williamson counties; and composed of the Salmon Peak Limestone, McKnight Formation, West Nueces Formation, Devil's River Limestone, Person Formation, Kainer Formation, Edwards Formation, and Georgetown Formation. The permeable aquifer units generally overlie the less-permeable Glen Rose Formation to the south, overlie the less-permeable Comanche Peak and Walnut formations north of the Colorado River, and underlie the less-permeable Del Rio Clay regionally.

Edwards Aquifer protection plan - A general term which includes water pollution abatement plan, organized sewage collection system plan, underground storage tank facility plan,

aboveground storage tank facility plan, or a modification or exception granted by the executive director.

Edwards Aquifer protection plan holder - Person who is responsible for compliance with an approved water pollution abatement plan, organized sewage collection system plan, underground storage tank facility plan, aboveground storage tank facility plan, or a modification or exception granted by the executive director.

Feedlot/concentrated animal feeding operation - A concentrated, confined livestock or poultry facility operated for meat, milk or egg production, growing, stabling, or housing, in pens or houses wherein livestock or poultry are fed at the place of confinement and crop or forage growing or production of feed is not sustained in the area of confinement.

Geologic or manmade features - Features including but not limited to closed depressions, sinkholes, caves, faults, fractures, bedding plane surfaces, interconnected vugs, reef deposits, wells, borings, and excavations.

Groundwater conservation district - Any groundwater district created by the Texas Legislature or the commission under the Texas Water Code, Chapter 36, as a groundwater conservation district to conserve, preserve, and protect the waters of an underground water reservoir.

Hazardous substance - Any substance designated as such by the administrator of the Environmental Protection Agency pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act; regulated pursuant to §311 of the Federal Water Pollution Control Act; or any solid waste, or other substance that is designated to be hazardous by the commission, pursuant to the Texas Water Code §26.263 or Texas Health and Safety Code §361.003.

Industrial wastewater discharge - Any category of wastewater except:

- (A) those that are primarily domestic in composition; or
- (B) those emanating from feedlot/concentrated animal feeding operations.

Land application system - A wastewater disposal system designed not to discharge wastewater into a surface drainage way.

Organized sewage collection system - Any public or private sewerage system for the collection and conveyance of sewage to a treatment and disposal system that is regulated pursuant to rules of the commission and provisions of Chapter 26 of the Texas Water Code. A system includes lift stations, force mains, gravity lines, and all appurtenances necessary for conveying wastewater from a generating facility to a treatment plant.

Pollution - The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to public health, safety or welfare, or impairs the usefulness of the public enjoyment of the waters for any lawful or reasonable purpose.

Private sewage facilities - On-site sewage facilities as defined under Chapter 285 of this title (relating to On-site Sewage Facilities).

Private service lateral - Facilities extending from the building drain to an existing private or public sewage collection system or other place of disposal that provides service to one individual household or building whose operation and maintenance are the sole responsibility of the tenant or owner of the building. Facilities extending from the convergence of private service laterals from more than one building is considered a sewage collection system.

Recharge zone - Generally, that area where the stratigraphic units constituting the Edwards Aquifer crop out, including the outcrops of other geologic formations in proximity to the Edwards Aquifer, where caves, sinkholes, faults, fractures, or other permeable features would create a potential for recharge of surface waters into the Edwards Aquifer. The recharge zone is identified as that area designated as such on official maps located in the appropriate regional office and groundwater conservation districts.

Regulated activity - Any construction-related activity on the recharge zone of the Edwards Aquifer, such as, but not limited to: construction of buildings, utility stations, roads, highways, or railroads; clearing, excavation or any other activities which alter or disturb the topographic, geologic, or existing recharge characteristics of a site; any installation of aboveground or underground storage tank facilities on the recharge or transition zone of the Edwards Aquifer; or any other activities which may pose a potential for contaminating the Edwards Aquifer and hydrologically connected surface streams. "Regulated activity" does not include:

(A) the clearing of vegetation in a 10-foot wide path, for the sole purpose of surveying;

(B) agricultural activities, except feedlots/concentrated animal feeding operations;

(C) activities associated with the exploration, development, and production of oil or gas or geothermal resources as defined in Chapter 335 of this title (relating to Industrial Solid Waste and Municipal Hazardous Waste);

(D) the routine maintenance of existing structures that does not involve additional site disturbance, such as but not limited to, the resurfacing of existing paved roads, parking lots, sidewalks, or other development-related impervious surfaces and the building of fences, or other similar activities in which there is little or no potential for contaminating groundwater, or there is little or no change to the topographic, geologic, or existing sensitive features; or

(E) construction of single-family residences on lots that are larger than five acres, where no more than one single-family residence is located on each lot.

Sensitive feature - Permeable geologic or manmade feature located on the recharge zone or transition zone where:

(A) a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer exists, and

(B) rapid infiltration to the subsurface may occur.

Sewage holding tank - A tank or other containment structure used to receive and store sewage until its ultimate disposal in an approved treatment facility.

Site - The entire area included within the legal boundaries of the property. Regulated activities on a site that is located partially on the recharge zone and transition zone, where the natural drainage in the transition zone flows back to the recharge zone, shall be treated as if the entire site is located on the recharge zone.

Static hydrocarbon - A hydrocarbon which is liquid at atmospheric pressure and 20° centigrade.

Stub out - A wye, tee, or other manufactured appurtenance placed in a sewage collection system providing a location for a future extension of the collection system.

Tertiary containment - A containment method by which an additional wall or barrier is installed outside of the secondary storage vessel (e.g., tank or piping) or other secondary barrier in a manner designed to prevent a release from migrating beyond the tertiary wall or barrier before the release can be detected. Tertiary containment systems include, but are not limited to, impervious liners and vaults surrounding a secondary tank and/or piping system, or equivalent triple wall tank or piping system as approved by the executive director.

Transition zone - That area where geologic formations crop out in proximity to and south and southeast of the recharge zone and where faults, fractures, and other geologic features present a possible avenue for recharge of surface water to the Edwards Aquifer, including portions of the Del Rio Clay, Buda Limestone, Eagle Ford Group, Austin Chalk, Pecan Gap Chalk, and Anacacho Limestone. The transition zone is identified as that area designated as such on official maps located in the appropriate regional office and groundwater conservation districts.

Underground storage tank facility - The site, tract, or other defined area where one or more underground storage tank systems are located, including all adjoining contiguous land and associated improvements.

Underground storage tank system - Any one or combination of underground tanks and any connecting underground pipes used to contain an accumulation of regulated substances, the volume of which, including the volume of the connecting underground pipes, is 10% or more beneath the surface of the ground.

Well - A bored, drilled or driven shaft, or an artificial opening in the ground made by digging, jetting or some other method, where the depth of the well is greater than its largest surface dimension. A well is not a surface pit, surface excavation, or natural depression.

§213.4. Application Processing and Approval.

(a) Approval by the executive director. No person shall commence the construction of any regulated activity until an Edwards Aquifer protection plan or modifications to the plan as required by §213.5 of this title (relating to Required Edwards Aquifer Protection Plans, Notification, and Exemptions) has been filed with the appropriate regional office, and the application has been reviewed and approved by the executive director. The appropriate regional office shall provide copies of submittals to affected incorporated cities, groundwater conservation districts, and counties having jurisdiction over the area potentially affected by a proposed regulated activity, for the purpose of considering timely comment from local government entities. Such comments must be received within 30 days from the date the submittal is distributed to affected incorporated cities and groundwater conservation districts to be considered by the executive director. A complete application for approval, as described in this section, must be submitted with the appropriate fee as specified in §213.12 of this title (relating to Application Fees).

(b) Contents of Application.

(1) Forms provided by the executive director. Applications for approval filed under this chapter must be made on forms provided by or approved by the executive director. Each application for approval must, at a minimum, include the following:

(A) name of the development, subdivision, or facility for which the application is submitted;

(B) a narrative description of the location of the project or facility for which the application is submitted, presenting sufficient detail and clarity so that the project site and its boundaries can be located during a field inspection;

(C) name, address, and telephone number of the owner or any other persons signing the application; and

(D) information needed to determine the appropriate fee under §213.14 of this title (relating to Fee Schedule) for the following plan types:

(i) for water pollution abatement plans and modifications to plans, the total acreage of the site where regulated activities will occur;

(ii) for organized sewage collection system plans and modifications to plans, the total linear footage of all lines; or

(iii) for static hydrocarbon and hazardous substance storage in underground or permanent aboveground storage tank facility plans, the total number of tanks or piping systems.

(2) Additional information. Each application must also include the following information, as applicable:

(A) for water pollution abatement plans, the information required under §213.5(b) of this title;

(B) for organized sewage collection system plans, the information required under §213.5(c) of this title;

(C) for static hydrocarbon and hazardous substance storage in underground storage tank systems, the information required under §213.5(d) of this title;

(D) for static hydrocarbon and hazardous substance storage in aboveground storage tank systems, the information required under §213.5(e) of this title; and

(E) any other pertinent information related to the application which the executive director may require.

(c) Application submittal. An original and three copies of the application must be submitted to the appropriate regional office. Only owners, their authorized agent(s), or those persons having an option to purchase or having the right to possess and control the property which is the subject of the Edwards Aquifer protection plan may submit the plan for review and approval by the executive director.

(d) Signatories to Applications.

(1) Required Signature. All applications must be signed as follows.

(A) For a corporation, a principal executive officer (president, vice-president, or a duly authorized representative) must sign the application. A representative must submit written proof of the authorization.

(B) For a partnership, a general partner must sign the application;

(C) For a political entity such as a municipality, state, federal or other public agency, either a principal executive officer or a duly authorized representative must sign the application. A representative must submit written proof of the authorization.

(D) For an individual or sole proprietorship, the individual or sole proprietor must sign the application.

(2) Proof of Authorization to Sign. The executive director requires written proof of authorization for any person signing an application.

(e) Executive director review. The executive director must complete the review of an application within 90 days after determining that it is administratively complete. The executive director must declare that the application is administratively complete or deficient within 30 days of receipt by the appropriate regional office. Grounds for a deficient application include, but are not limited to, failure to pay all applicable application fees.

(f) Additional provisions. As a condition of approval, the executive director may impose additional provisions deemed necessary to protect the Edwards Aquifer from pollution. The executive director may conditionally approve an Edwards Aquifer protection plan or impose special conditions on the approval of a plan.

(g) Deed recordation. Within 30 days of receiving written approval of a water pollution abatement plan, an aboveground storage tank plan, an underground storage tank plan, or modifications/exceptions to any of these plans for a proposed regulated activity, the applicant must record in the county deed records that the property is subject to an approved Edwards Aquifer protection plan. Prior to commencing construction, the applicant must submit, to the appropriate regional office, proof of application for recordation of notice in the county deed records.

(h) Term of approval. The executive director's approval of an Edwards Aquifer protection plan will expire two years after the date of initial issuance, unless prior to the expiration date,

substantial construction related to the approved plan has commenced. For purposes of this subsection, substantial construction is where more than 10 percent of total construction has commenced. If a written request for an extension is filed under the provisions of this subsection, the approved plan shall continue in effect until the executive director makes a determination on the request for the extension.

(1) A written request for an extension must be received not earlier than sixty (60) days and no later than 30 days prior to the expiration date of an approved Edwards Aquifer protection plan or a previously approved extension. Requests for extensions are subject to fees outlined in §213.13 of this title (relating to Fees Related to Requests For Extensions).

(2) An executive director's approved extension will expire six months after the original expiration date of the approved Edwards Aquifer protection plan or a previously approved extension unless prior to the expiration date, commencement of construction, repair, or replacement related to the approved plan has occurred. An extension will not be granted if not more than 50 percent of the total construction has not been completed within 10 years from the initial approval of a plan.

(3) Any requests for extensions received by the executive director after the expiration date of an approved Edwards Aquifer protection plan or a previously approved extension will not be accepted and a new application for the purposes of this chapter must be submitted with the appropriate fees for the review and approval by the executive director.

(4) An extension will not be granted if the proposed regulated activity or approved plan for the regulated activity(s) under this chapter has changed.

(i) Legal Transfer of Property. Upon legal transfer of property, sewage collection systems, force mains, lift stations, underground storage tank system, or aboveground storage tank system, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, he/she must file an Edwards Aquifer protection plan that specifically addresses the new activity.

(j) Modification of previously approved plans. The holder of any approved Edwards Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

(1) any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

(2) any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;

(3) any development of land previously identified as undeveloped in the original water pollution abatement plan;

(4) any physical modification of the approved organized sewage collection system;

(5) any physical modification of the approved underground storage tank system; or

(6) any physical modification of the approved aboveground storage tank system.

(k) Compliance. The holder of the approved or conditionally approved Edwards Aquifer protection plan shall be responsible for compliance with this chapter and any special conditions of an approved plan through all phases of plan implementation. Failure to comply with any condition of the executive director's approval is a violation of this rule.

§213.5. Required Edwards Aquifer Protection Plans, Notification, and Exemptions.

(a) Required plans. A plan must be submitted for the following, as appropriate:

(1) a water pollution abatement plan under subsection (b) of this section to conduct regulated activities on the recharge zone not covered by subsections (c), (d), or (e) of this section;

(2) an organized sewage collection system plan under subsection (c) of this section for rehabilitation or construction related to existing or new organized sewage collection systems on the recharge zone;

(3) an underground storage tank facility plan for static hydrocarbon and hazardous substance storage under subsection (d) of this section for the construction or rehabilitation of an

underground storage tank system; including tanks, piping, and related systems located on the recharge zone or transition zone; and

(4) an aboveground storage tank facility plan for static hydrocarbon and hazardous substance storage under subsection (e) of this section for the construction or rehabilitation of an aboveground storage tank system; including tanks, piping, and related systems, for the storage of hydrocarbon or hazardous substance located on the recharge zone or transition zone.

(b) Water Pollution Abatement Plan. A water pollution abatement plan must contain the following information.

(1) Application. The information required under §213.4 of this title (relating to Application Processing and Approval) is part of the plan and shall be filed with the executive director at the appropriate regional office.

(2) Site location. The location data and maps shall include the following:

(A) a legible road map with directions, including mileage, which would enable the executive director to locate the site for inspection;

(B) a general location map showing:

(i) the site location on a copy (or spliced composite of copies, if necessary) of an official recharge zone map(s) with quadrangle name(s) and recharge and transition zone boundaries clearly labeled; and

(ii) a drainage plan, shown on the recharge zone map, indicating all paths of drainage from the site to the boundary of the recharge zone; and

(C) a site plan with a minimum scale of 1 inch to 400 feet, showing:

(i) the 100-year floodplain boundaries (if applicable);

(ii) the layout of the development, and existing and finished contours at appropriate, but not greater than five foot contour intervals;

(iii) the location of all known wells (including but not limited to water wells, oil wells, and unplugged and abandoned wells); and

(iv) the location of any sensitive feature on the site of the proposed regulated activity or in areas beyond the site boundary as identified in the assessment of area geology under paragraph (3) of this subsection.

(3) Assessment of area geology. For all regulated activities, the applicant must submit a report prepared by a geologist describing area and site-specific geology identifying all potential pathways for contaminant movement to the Edwards Aquifer. For areas beyond the site boundary that are within the 100-year floodplain and are the shorter distance of either one-half mile downgradient of the site or the downgradient boundary of the recharge zone, the geologic assessment must include an identification of sensitive features. If access to downgradient property is denied, these features may be inventoried from literature searches, recognized from aerial photographs, or identified from other sources of information. Where the 100-year floodplain has not been delineated, the applicant shall delineate the 100-year floodplain, showing all applicable data and calculations used to make such a delineation. Single-family residential subdivisions constructed on less than 10 acres are exempt from this requirement. The geologic assessment must include:

(A) a geologic map at site-plan scale showing the outcrop of surface geologic units and all geologic and manmade features, specifically identifying caves, sinkholes, faults, permeable fractures, solution zones, surface streams, and other sensitive features;

(B) a stratigraphic column showing at a minimum, formations, members, and thicknesses;

(C) forms provided by or approved by the executive director, which describe and evaluate all geologic and manmade features to assess and determine if they are sensitive features, and include:

(i) identification of each geologic or manmade feature, with a cross reference to the site-plan map coordinates; and

(ii) the type of geologic or manmade feature, including but not limited to, sinkholes, caves, faults, wells, surface streams, or potentially permeable fractures and solution zones;

(D) a narrative assessment of site-specific geology, detailing the potential for fluid movement to the Edwards Aquifer, including discussion of the stratigraphy, structure, and karstic characteristics of the site; and

(E) a narrative description of soil units and a soil profile, including thickness and hydrologic characteristics.

(4) Technical report. For regulated activities, a technical report shall address the following issues.

(A) An assessment of:

(i) the nature of the regulated activity (such as residential, commercial, industrial, or utility), including the size of the site in acres; the projected population for the site; the amount and type of impervious cover expected after construction is complete, such as paved surface or roofing; the amount of surface expected to be occupied by parking lots; and other factors that could affect surface and groundwater quality;

(ii) the volume and character of wastewater expected to be produced (such as wastewater generated at a site should be characterized as either domestic or industrial, or if commingled, by approximate percentages of each type);

(iii) the volume and character of stormwater runoff expected to occur (estimates of stormwater runoff quality and quantity should be based on area and type of impermeable cover, as described in clause (i) of this subparagraph); and

(iv) any activities or processes which may be a potential source of contamination.

(B) A description of the best management practices and measures that will be taken during and after construction to prevent pollution of surface or groundwater or of stormwater originating on-site or upgradient from the site and potentially flowing across the site. Pilot-scale field testing (including water quality performance monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.

(C) A description of the best management practices and measures that will be taken during and after construction to prevent pollution of surface or groundwater downgradient of the site, including pollution caused by contaminated stormwater runoff from the site. Pilot-scale field testing (including water quality performance monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.

(D) A description of the best management practices and measures that will be taken during and after construction to prevent pollutants from entering surface streams or the aquifer while, to the extent practicable, maintaining flow to naturally occurring sensitive features identified in either the assessment of area geology or during excavation, blasting, or construction. Pilot-scale field testing (including water quality performance monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director. The sealing of naturally occurring sensitive features as a pollution control measure will be avoided where reasonable and practicable alternatives exist and will be evaluated by the executive director on a case-by-case basis.

(E) Measures to be taken to avoid or minimize surface stream contamination or changes in which water may enter a stream as a result of construction and development that would increase flashing, create stronger flow and stream velocity; or otherwise increase instream erosion and further water quality degradation;

(F) A description of the method of disposal of wastewater from the site:

(i) if wastewater is to be disposed of by conveyance to a sewage treatment plant for treatment and disposal, the existing or proposed treatment facility must be identified; or

(ii) if wastewater is to be disposed of by an on-site sewage facility, the application must be accompanied by a written statement from the appropriate authorized agent, stating that the site is suitable for the use of private sewage facilities and will meet the special requirements for on-site sewage facilities located on the Edwards Aquifer recharge zone as specified under Chapter 285 of this title (relating to On-site Sewage Facilities), or identifying those areas that are not suitable.

(G) A description of measures that will be taken to contain any spill of hydrocarbons or hazardous substances such as on a roadway or from a pipeline or from temporary aboveground storage of 250 gallons or more. Temporary storage facilities are those used on site for

less than one year. Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity shall be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

(H) A plan for the inspection of best management practices and measures and for their timely maintenance and repair and, if necessary, retrofit.

(c) Organized Sewage Collection Systems.

(1) No person shall commence rehabilitation or construction related to an existing or new organized sewage collection system on the recharge zone, until design plans, specifications, and an engineering report, as specified in Chapter 317 of this title (relating to Design Criteria for Sewerage Systems) and appropriate special requirements of this section, have been filed with and approved by the executive director.

(2) General design of sewage collection systems. Design of new sewage collection systems on the recharge zone must comply with Chapter 317 of this title.

(3) Special requirements for sewage collection systems. In addition to the requirements in paragraph (2) of this subsection, sewage collection systems on the recharge zone must meet the following special requirements.

(A) Manhole rehabilitation or construction. All manholes rehabilitated or constructed after March 21, 1990, must be watertight, with watertight rings and covers and must be constructed and tested to meet the requirements of §317.2(c)(5)(H) of this title (relating to Sewage Collection System).

(B) Piping for gravity and pressurized collection systems. Compliance with the following is required, unless local regulations dictate more stringent standards:

(i) for gravity collection systems, all PVC pipe must have a Standard Dimension Ratio (SDR) of 35 or less and meet the requirements of §317.2(a) through §317.2(c)(4) of this title; and

(ii) for all pressurized sewer systems, all PVC pipe must have a minimum working pressure rating of 150 pounds per square inch and meet the requirements of

§§317.2(d)(2)-(d)(4) and §§317.3(d)(5)-(d)(7) of this title (relating to Sewage Collection System and Lift Stations).

(C) Lift station design. Lift stations must be designed and constructed to assure that bypassing of any sewage does not occur. All lift stations must be designed to meet the requirements of §317.2(d) and §317.3 of this title. A lift station submittal must include final construction plans and a design report prepared by or under the direct supervision of a Texas Registered Professional Engineer. All design information must be signed, sealed, and dated by a Texas Registered Professional Engineer.

(D) Certification of new sewage collection system lines by a Texas Registered Professional Engineer. Owners of sewage collection systems must insure that all new gravity sewer system lines having a diameter greater than or equal to six inches and all new force mains are tested for leakage following construction. Such lines must be certified by a Texas Registered Professional Engineer to meet the appropriate requirements of §317.2 of this title (relating to Design Criteria for Sewerage Systems). The engineer shall retain copies of all test results which shall be made available to the executive director upon request. The engineer shall submit a letter certifying that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Following the completion of the new sewer lines and manholes, they must be tested every five years thereafter in accordance with subparagraph (E) of this paragraph.

(E) Testing of existing sewer lines. Owners of sewage collection systems must insure that all existing sewer lines having a diameter greater than or equal to six inches, including private service laterals, manholes, and connections, are tested to determine types and locations of structural damage and defects such as offsets, open joints, or cracked or crushed lines that would allow exfiltration to occur. Existing manholes and lift station wetwells shall be tested using methods for new structures which are approved by the executive director.

(i) Testing of all sewage collection systems shall be completed within five years of commencement. Any sewage collection system in place as of March 21, 1990 shall have commenced and completed testing. Every five years thereafter, existing sewer collection systems must be tested to determine types and locations of structural damage and defects such as offsets, open joints, or cracked or crushed lines that would allow exfiltration to occur. These test results shall be certified by a Texas Registered Professional Engineer. The use of one of the following methods will satisfy the requirements for the five year testing of existing sewer lines.

(I) In-place deflection testing shall meet the requirements of §317.2(a)(4)(C) of this title. No pipe shall exceed a deflection rate of 5.0%.

(II) Internal line inspections, using a color television camera to verify that the lines are free of structural damage such as offsets, open joints, or cracked or crushed lines, that would allow exfiltration to occur, are acceptable. The use of older black and white television equipment will not be accepted by the executive director. Newer black and white television equipment may be used following demonstration to the executive director that an acceptable inspection can be performed as provided in subclause (IV) of this clause.

(III) In-line smoke testing is acceptable only for the testing of private service laterals.

(IV) Testing methods other than those listed above must be approved by the executive director prior to initiating the sewer line testing.

(ii) Except as otherwise provided in an enforcement order of the commission, as soon as possible, but at least within one (1) year of detecting defects, repairs to the sewage collection system must be completed by the system's owner. However, all leakage must be immediately contained to prevent any discharge to water in the state or pollution of the Edwards Aquifer whether necessary repairs have been completed or not. Leakage is a violation of §26.121 of the Texas Water Code and these rules are not intended to excuse such unlawful discharge of waste into or adjacent to water in the state. All repairs must be certified by a Texas Registered Professional Engineer. Repairs must be tested within 45 days of completion using the methods described in clause (i) of this subparagraph. Results must be submitted to the appropriate regional office within 30 days of testing.

(F) Blasting for sewer line excavation. Blasting for sewer line excavation must be done in accordance with appropriate criteria established by the National Fire Protection Association. Should such blasting result in damage to an existing or newly completed sewer line or any of its appurtenances, the owner of the sewer system and appurtenances must repair and retest the damaged sewer line and its appurtenances immediately. The use of sand for pipe embedment or backfill in blasted rock is prohibited.

(G) Sewer line stub outs. New collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be

marked on the ground such that their location can be easily determined at the time of connection of the proposed extensions. All stub outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle in accordance with accepted plumbing techniques.

(i) Main line stub outs. Manholes shall be placed at the end of all sewer lines that will be extended at a future date, as specified in §317.2(c)(5) of this title. If the main line is to be extended within one (1) year, a variance to allow the use of a stub out until the line is extended will be considered on a case-by-case basis. At the time of original construction, new stub outs must be constructed sufficiently to extend beyond the end of the street pavement. Stub outs that were not anticipated at the time of original construction must enter the manhole using a bored or drilled hole. Chiseling or hammering to enter a manhole is prohibited.

(ii) Private service lateral stub outs. Such stub outs must be manufactured using wyes or tees that are compatible in size and material with both the sewer line and the extension. Private service lateral stub outs that were not anticipated at the time of original construction must be connected using a manufactured saddle in accordance with accepted plumbing techniques.

(H) Locating sewer lines within a five-year floodplain. Sewer lines shall not be located within the five-year floodplain of a drainageway, unless an exemption is granted by the executive director. If the applicant demonstrates to the executive director that such location is unavoidable, and the area is subject to inundation and stream velocities which could cause erosion and scouring of backfill, the trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of six (6) inches.

(I) Inspection of private service lateral connections. After installing and prior to covering and connecting a private service lateral to an organized sewage collection system, a Texas Registered Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector shall inspect the private service lateral and the connection to the collection system and certify that construction conforms with the applicable provisions of this subsection. The owner of the collection system must maintain such certifications for three years and forward copies to the appropriate regional office upon request. No connections may be made to an approved sewage collection system until the executive director has received certification of new construction or repairs, and subsequent testing has

been performed as required by paragraph (D) or (E) of this subsection. Private service laterals may only be connected to approved sewage collection systems.

(J) Embedment materials. Embedment materials must meet the specification for bedding contained in §317.2(a)(5) of this title.

(K) Sewer lines bridging caverns or other sensitive features. Sewer lines that bridge caverns or sensitive features must be constructed in a manner that will maintain the structural integrity of the line. When such geologic features are encountered during construction, the location and extent of those features must be reported to the appropriate regional office in writing within two working days of discovery and must comply with the requirements under subsection (f) of this section.

(L) Erosion and sedimentation control. A temporary erosion and sedimentation control plan must be included with all construction plans. All temporary erosion and sedimentation controls must be installed prior to construction, must be maintained during construction, and shall be removed when sufficient vegetation is established to control the erosion and sedimentation and the construction area is stabilized.

(M) Alternative sewage collection systems. The executive director may approve an alternative procedure which is technical justified; signed, sealed and dated by a Texas Register Professional Engineer indicating equivalent environmental protection; and which complies with the requirements of §317.2(d) of this title (relating to Design Criteria for Sewerage Systems).

(N) Required corrective action. Notwithstanding compliance with the requirements of subparagraphs (A)-(M) of this paragraph, sewage collection systems must operate in a manner that will not cause pollution of the Edwards Aquifer. Any failure must be corrected in a manner satisfactory to the executive director.

(4) Contents of organized sewage collection system plan.

(A) Application. For organized sewage collection systems, the information required under §213.4 of this title (relating to Application Processing and Approval) shall be filed with the executive director at the appropriate regional office.

(B) Narrative description of proposed organized sewage collection system. A narrative report must include at a minimum a geographic description and anticipated type of

development within the sewage collection system service area. A technical report that was submitted under subsection (b) of this section satisfies this requirement, provided it properly addresses the proposed sewage collection systems.

(C) Plans and specifications. Plans and specifications addressing all the requirements in paragraphs (2) and (3) of this subsection, must include at a minimum:

(i) a map showing the location of the organized sewage collection system lay-out in relation to recharge zone boundaries;

(ii) a map showing the location of the organized sewage collection system lay-out, overlaid by topographic contour lines, using a contour interval of not greater than five (5) feet, and showing the area within both the 5-year floodplain and the 100-year floodplain of any drainage way;

(iii) construction documents prepared by or under the supervision of a Texas Registered Professional Engineer, which have also been signed, sealed, and dated by that Texas Register Professional Engineer, at a minimum, shall include:

(I) plan and profile views of the collection system;

(II) construction details of collection system components;

(III) specifications for all collection system components; and

(IV) proposed pollution abatement measures for sensitive features identified along the path of the proposed sewer line.

(D) Assessment of area geology. An assessment of area geology shall be performed along the path of the proposed sewer line(s), plus 50 feet on each side of the proposed sewer line as described in subsection (b)(3) of this section.

(d) Static Hydrocarbon and Hazardous Substance Storage in Underground Storage Tanks System.

(1) Standards for Underground Storage Tank Systems. New or replacement systems for the underground storage of static hydrocarbons or hazardous substances shall be of double-walled or an equivalent method approved by the executive director. Methods for detecting leaks in the inside wall of double-walled system shall be included in the facility's design and construction. The leak detection system shall provide continuous monitoring of the system and shall be capable of immediately alerting the system's owner of possible leakages.

(A) Installation. All underground hydrocarbon and hazardous substance storage tank systems shall be installed by a person possessing a valid certificate of registration in accordance with the requirements of Subchapter I of Chapter 334 of this title (relating to Underground and Aboveground Storage Tanks).

(B) Siting. Any new underground hydrocarbon and hazardous substance storage tank system that does not incorporate a method for tertiary containment shall be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation well, or other sensitive feature as determined under the assessment of area geology at the time of construction or replacement under subparagraph (C) of this subsection or the tankhold inspection under subsection (f)(2)(B) of this section. This method of tertiary containment shall also apply to the placement of a tank system within 150 feet of a public water supply well without a sanitary control easement of 150 feet as defined in §290.41(c)(1)(F) of this title (relating to Water Sources).

(2) Contents of an Underground Storage Tank Facility Plan. An underground storage tank facility plan must, at a minimum, contain the following information.

(A) Application. The information required under §213.4 of this title (relating to Application Processing and Approval) shall be filed with the executive director at the appropriate regional office.

(B) A site location map as specified in subsection (b)(2) of this section including a legible road map, a general location map, and a site plan, shall be submitted as part of the plan.

(C) Assessment of area geology. For all facilities, located on either the recharge zone or transition zone, an assessment of area geology, as described in subsection (b)(3) of this section, shall be submitted for the site and for areas beyond the site boundary that are within the 100-year floodplain the shorter distance of either one-half mile downgradient of the site or the

downgradient boundary of the recharge zone. For regulated activities located on the transition zone, the assessment of area geology shall be submitted for the site and 200 feet downgradient.

(D) Technical report. For all facilities, located on either the recharge zone or transition zone, a technical report as described in §213.5(b)(4) of this title (relating to Technical Report), shall be submitted on forms provided by or approved by the executive director.

(e) Static Hydrocarbon and Hazardous Substance Storage in an Aboveground Storage Tank Facility.

(1) Design standards. Systems used for the temporary and permanent aboveground storage of static hydrocarbon and hazardous substance shall be constructed within controlled drainage areas that are sized to capture one and one-half (1½) times the storage capacity of the system. The controlled drainage area shall be constructed of and in a material impervious to the substance(s) being stored, and shall direct spills to a convenient point for collections and recovery. Any spills from storage tank facilities shall be removed from the controlled drainage area for disposal within hours of the spill.

(2) Contents of an Aboveground Storage Tank Facility Plan. A permanent aboveground storage tank facility plan must contain, at a minimum, the following information.

(A) Application. For an aboveground storage tank facility, the information required under §213.4 of this title shall be filed with the executive director at the appropriate regional office.

(B) A site location map as specified in subsection (b)(2) of this section, including a legible road map, a general location map, and a site plan, shall be submitted as part of the plan for a permanent facility.

(C) Assessment of area geology. For all facilities, located on either the recharge zone or transition zone, an assessment of area geology, as described in subsection (b)(3) of this section, shall be submitted for the area containing the aboveground storage tank system and for areas beyond the site boundary that are within the 100-year floodplain the shorter distance of either one-half mile downgradient of the site or the downgradient boundary of the recharge zone. For regulated activities located on the transition zone, the assessment of area geology shall be submitted for the site and 200 feet downgradient.

(D) Technical report. For all facilities, located on either the recharge zone or transition zone, a technical report as described in subsection (b)(4) of this section, shall be submitted on forms provided by or approved by the executive director.

(3) A description of measures that will be taken to contain any spill of hydrocarbons or hazardous substances from temporary storage of 250 gallons or more shall be included with the plan unless described under subsection (b)(4)(G) of this section. Any new temporary aboveground hydrocarbon and hazardous substance storage tank system shall be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

(4) Exemptions from this section.

(A) Equipment used to transmit electricity that utilizes insulating oil for insulation or cooling purposes, including transformers and oil circuit breakers, are exempt from this subsection. Construction of supporting structures is a regulated activity for which a water pollution abatement plan under subsection (a)(1) of this section is required.

(B) Permanent storage facilities with a cumulative storage capacity of less than 500 gallons are exempt from this section.

(f) Notification and Inspection.

(1) The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation to the appropriate regional office 48 hours prior to commencing such regulated activity. Written notification shall include the date on which the regulated activity will commence and identify the approved plan under which the regulated activity will proceed. For purposes of determining whether the applicant is eligible to an extension of the approval of a plan, construction will not be deemed to have commenced until receipt by the appropriate regional office of a subsequent notice verifying that construction was commenced on a specific date.

(2) If any sensitive feature is discovered during construction, replacement, or rehabilitation, all regulated activities near the sensitive feature must be suspended immediately. The holder of an approved Edwards Aquifer protection plan must immediately notify the appropriate regional office of any sensitive features encountered during construction before continuing construction. Regulated activities near the sensitive feature may not proceed until the executive

director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.

(A) The holder of an approved sewage collection system plan, must meet the following.

(i) Upon completion of any lift station excavation, a geologist shall certify that the excavation has been inspected for the presence of sensitive features. Certification that the excavation has been inspected shall be submitted to the appropriate regional office. Further excavation and installation activities shall not proceed until the executive director has reviewed and approved the methods proposed to protect any sensitive feature discovered during this inspection and the Edwards Aquifer from potentially adverse impacts to water quality from the lift station. Construction may continue if the geologist certifies that, in their assessment of the excavation, no sensitive feature or features were present.

(ii) A Texas Registered Professional Engineer shall submit proposed plans for insuring the structural integrity of the sewer line or modifying the proposed collection system alignment around the feature.

(B) Upon completion of tankhold excavation under an approved underground storage tank facility plan, a geologist shall certify that the excavation has been inspected for the presence of sensitive features. Certification that the excavation has been inspected shall be submitted to the appropriate regional office. Installation activities shall not proceed until the executive director has reviewed and approved the methods proposed to protect any sensitive feature found during this inspection and the Edwards Aquifer from potentially adverse impacts to water quality from the underground storage tank system. This protection method shall be consistent with subsection (d)(1)(B) of this section. Construction may continue if the geologist certifies that, in their assessment of the excavation, no sensitive feature or features were present.

(3) The executive director must determine the acceptability of plans intended to demonstrate methods to mitigate potential contamination associated with the sensitive feature within one week of receiving the plans.

(g) On-site sewerage systems. On-site sewerage systems located on the recharge zone of the Edwards Aquifer must be designed, installed, maintained, repaired, and replaced in accordance with

§285.40 of this title (relating to OSSFs on the Recharge Zone of the Edwards Aquifer) and other applicable provisions contained in Chapter 285.

(h) Exemption. The installation of natural gas, telephone or electric lines, water lines, or other such utility lines which are not designed to carry and will not carry pollutants, stormwater runoff, sewage effluent, or treated effluent from a wastewater treatment facility is exempt from the Edwards Aquifer protection plan submittal requirements under this section. The construction of these facilities on the recharge zone is a regulated activity and the installation and maintenance of appropriate temporary erosion and sedimentation controls is required. All temporary erosion and sedimentation controls must be installed prior to construction, must be maintained during construction, and shall be removed when vegetation is established and the construction area is stabilized. The executive director may monitor stormwater discharges from these projects to evaluate the adequacy of the temporary erosion and sedimentation control measures. Additional protection will be required if the executive director determines that these controls are inadequate to protect water quality.

§213.6. Wastewater Treatment and Disposal Systems.

(a) General. New discharges or increases in discharges into or adjacent to water in the state that would create additional loading by treated wastewater are prohibited on the recharge zone. Existing permits may be renewed for the same discharge volumes and with the same conditions and authorizations specified in the permit unless the facility becomes non-compliant, as defined in Chapter 70 of this title (relating to Enforcement). New land application wastewater treatment plants located on the recharge zone must be designed, constructed, and operated such that there are no bypasses of the treatment facilities or any discharges of untreated or partially treated wastewater. Design of wastewater treatment plants must be in accordance with Chapter 317 of this title (relating to Design Criteria for Sewerage Systems).

(b) Land application systems. Except for licensed private sewage facilities, land application systems that rely on percolation for wastewater disposal are prohibited on the recharge zone. Wastewater disposal systems for disposal of wastewater on the recharge zone utilizing land application methods, such as evaporation or irrigation, will be considered on a case-by-case basis. At a minimum, those systems must attain secondary treatment as defined in Chapter 309 of this title (relating to Effluent Limitations). Existing permits may be renewed for the same discharge volumes and with the same conditions and authorizations specified in the permit unless the facility becomes non-compliant, as defined in Chapter 70 of this title (relating to Enforcement).

(c) Discharge upstream from the recharge zone.

(1) All new or increased discharges of treated wastewater into or adjacent to water in the state, other than industrial wastewater discharges, within zero to five (0 to 5) miles upstream from the recharge zone, at a minimum, shall achieve the following level of effluent treatment:

(A) five milligrams per liter of carbonaceous biochemical oxygen demand, based on a 30-day average;

(B) five milligrams per liter of total suspended solids, based on a 30-day average;

(C) two milligrams per liter of ammonia nitrogen, based on a 30-day average;
and

(D) one milligram per liter of phosphorus, based on a 30-day average.

(2) All new or increased discharges into or adjacent to water in the state, other than industrial wastewater discharges, more than five miles but within ten miles upstream from the recharge zone and any other discharges that the agency determines may affect the Edwards Aquifer, at a minimum, must achieve the level of effluent treatment for 2N based on a 30-day average as set out in Table 1 of Chapter 309 of this title. More stringent treatment or more frequent monitoring may be required on a case-by-case basis.

(3) All discharges, other than industrial wastewater discharges, more than five (5) miles upstream from the recharge zone which enter the main stem or a tributary of Segment 1428 of the Colorado River, or Segment 1427, main stem Onion Creek, or a tributary of Onion Creek must comply with §311.43 of this title (relating to Effluent Requirements for All Tributaries of Segment 1428 of the Colorado River and Segment 1427, Onion Creek, and Its Tributaries, of the Colorado River Basin), and to §311.44 of this title (relating to Disinfection). More stringent treatment or more frequent monitoring may be required on a case-by-case basis.

(4) Any existing permitted industrial wastewater discharges within zero to ten (0 to 10) miles upstream of the recharge zone must, at all times, discharge effluent in accordance with permitted limits. Any application for new industrial wastewater discharge permits for facilities zero to ten (0 to 10) miles upstream of the recharge zone will be considered on a case-by-case basis, in accordance with

appropriate discharge limits applicable to that industrial activity and with consideration of its proximity to the recharge zone.

§213.7. Plugging of Abandoned Wells.

All identified abandoned water wells, including injection, dewatering, and monitoring wells must be plugged pursuant to requirements under Chapter 238 of this title (relating to Water Well Drillers) and all other locally applicable rules, as appropriate.

§213.8. Prohibited Activities.

(a) Recharge zone. The following activities are prohibited on the recharge zone:

(1) waste disposal wells regulated under Chapter 331 of this title (relating to Underground Injection Control);

(2) new feedlot/concentrated animal feeding operations regulated under Chapter 321 of this title (relating to Control of Certain Activities by Rule).

(3) land disposal of Class I wastes, as defined in §335.1 of this title (relating to Definitions);

(4) the use of a sewage holding tank as part of an organized sewage collection systems; and

(5) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

(b) Transition zone. The following activities are prohibited on the transition zone:

(1) waste disposal wells regulated under Chapter 331 of this title;

(2) land disposal of Class I wastes, as defined in §335.1 of this title; and

(3) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

§213.9. Exceptions.

(a) Granting of exceptions. Exceptions to any substantive provision of this chapter related to the protection of water quality may be granted by the executive director if the requestor can demonstrate equivalent water quality protection for the Edwards Aquifer. Requests for exceptions will be reviewed by the executive director on a case-by-case basis. Prior approval under this section must be obtained for the exception to be authorized.

(b) Procedure for requesting an exception. A person requesting an exception to the provisions of this chapter relating to the protection of water quality must file an original and three copies of a written request with the executive director at the appropriate regional office stating in detail:

- (1) the name, address, and telephone numbers of the requestor;
- (2) site and project name and location;
- (3) the nature of the exception requested;
- (4) the justification for granting the exception as described in (a) of this section; and
- (5) any other pertinent information that the executive director requests.

§213.10. Enforcement.

Failure to comply with any provision of this chapter or of any applicable regulation or order of the commission issued pursuant to this chapter and in accordance with Chapter 26 and other relevant provisions of the Texas Water Code may result in liability for penalties and may subject a noncompliant person to enforcement proceedings initiated by the executive director under Texas Water Code, Chapter 26.

§213.11. Groundwater Conservation Districts.

The commission recognizes the authorities, powers, and duties of special-purpose districts, created by the Texas Legislature or by the commission under Chapter 36 of the Texas Water Code, as groundwater conservation districts to conserve, prevent waste, and protect the quality of ground water. In order to foster cooperation with local governments, the commission encourages districts to assist it in the administration of this chapter by carrying out the following functions within the areal extent of their geographic jurisdiction which includes the recharge zone or transition zone:

- (1) cooperating with licensing authorities in carrying out the provisions of this chapter,
- (2) conducting such geologic investigations as are necessary to provide updated information to the executive director regarding the official maps of the recharge zone and transition zone,
- (3) monitoring the quality of water in the Edwards Aquifer, and
- (4) maintaining maps of regulated activities on the recharge or transition zone.

§213.12. Application Fees.

The person submitting an application for approval or modification of any plan under this chapter must pay an application fee in the amount set forth in §213.14 of this title (relating to Fee Schedule). The fee is due and payable at the time the application is filed. The fee must be sent to the appropriate regional office or the cashier in the Austin Office of the agency, accompanied by an Edwards Aquifer Fee Application Form, provided by the executive director. Application fees must be paid by check or money order, payable to the "Texas Natural Resource Conservation Commission". If the application fee is not submitted in the correct amount, the executive director is not required to consider the application until the correct fee is submitted.

§213.13. Fees Related to Requests for Extensions.

The person submitting an application for an extension of an approval of any plan under this chapter must pay \$100 for each extension request. The fee is due and payable at the time the extension request is filed, and should be submitted as described in §213.12 of this title (relating to Application Fees). If the extension fee is not submitted in the correct amount, the executive director is not required to consider the extension request until the correct fee is submitted. The extension request must be

submitted to the appropriate regional office and must include a copy of the Edwards Aquifer protection plan and approval letter that is the subject of the extension request.

§213.14. Fee Schedule.

(a) Water Pollution Abatement Plans. For water pollution abatement plans and modifications to those plans, the application fee shall be based on the classification and total acreage of the site where regulated activities will occur as specified in Table 1.

Figure 1: 30 TAC §213.14(a))

(b) Organized sewage collection systems. For sewage collection system plans and modifications, the application fee shall be based on the total number of linear feet of all lines for which approval is sought. The fee shall be \$.50 per linear foot, with a minimum fee of \$500 and a maximum fee of \$2,000.

(c) Underground and aboveground storage tank facilities. For underground or permanent aboveground storage tank system facility plans and modifications, the application fee shall be based on the number of tanks or piping systems for which approval is sought. The fee shall be \$500 per tank or piping system, with a minimum fee of \$500 and a maximum fee of \$2,000.

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