

# **District Regulatory Plan 1999**

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**Harris-Galveston  
Subsidence District  
1660 West Bay Area Blvd.  
Friendswood, Texas 77546-2640  
(281) 486-1105  
[www.subsidence.org](http://www.subsidence.org)**

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## **PURPOSE AND INTENT**

It is the purpose and intent of the District Regulatory Plan (DRP) to establish policy in the areas of groundwater regulation, permits and enforcement and to establish District regulatory areas and regulatory requirements for each area.

The District's Regulatory Plan has been developed for the period through the year 2030 with an overall goal to reduce groundwater withdrawal to no more than 20% of total water demand. This Regulatory Plan may be amended prior to year 2030.

## **BACKGROUND**

The Harris-Galveston Coastal Subsidence District (District) was created in 1975 by the 64th Legislature to regulate the withdrawal of groundwater within Harris and Galveston Counties. The District was created "...for the purpose of ending subsidence, which contributes to or precipitates flooding, inundation, or overflow of the district, including without limitation rising waters resulting from storms or hurricanes."

The District has adopted three regulatory plans beginning in 1976. The initial plan focused on having an immediate impact in the area where the most subsidence had taken place and where surface water was available as an alternative to groundwater. The 1976 Plan regulated pumpage in all of Galveston County and much of eastern Harris County in an area referred to as the "Area of Concentrated Emphasis" (ACE).

The 1985 plan divided the District into eight regulatory areas so that subsidence could be addressed throughout the entire District. This plan had an overall goal of changing primary water usage from groundwater to surface water in a series of steps.

The 1992 plan modified the 1985 plan based on a detailed re-analysis of regional population and water demand data. The 1992 plan divided the District into seven regulatory areas with goals, for each area, for the reduction of groundwater withdrawal by certain dates. The areas were based on surface water availability, geophysical characteristics and groundwater demand.

This 1999 Regulatory Plan divides the District into three Regulatory Areas. The Regulatory Areas of this Regulatory Plan have been reconfigured from the 1992 plan to generally reflect converted versus unconverted areas. The requirements contained within this Regulatory Plan are based on the most current data and studies on water demand, aquifer levels and projected subsidence and provide permittees organizational flexibility in meeting these regulations.

## **REGULATORY OBJECTIVES**

The low-lying areas along the coast are the most vulnerable to flooding resulting from hurricane storm surge events. This vulnerability remains of such concern to the District that the objective in the coastal area is to prevent any further subsidence.

In the areas that are not vulnerable to storm surge, subsidence contributes to flooding. The objective in these areas is to halt subsidence as soon as realistically feasible. Historically, pumpage of groundwater throughout the entire District has contributed to subsidence in areas affected by storm surge.

In establishing these objectives, the District has taken into account the time and cost of introducing surface water into the District and considered other water resource management strategies that may be available.

## **EQUITY AND DISCRETION**

The District recognizes that the burden of controlling subsidence should be borne by all users of groundwater. Although a single permittee's groundwater withdrawal may not be capable of causing severe subsidence problems, the total actions by all permittee's can cause significant subsidence. Therefore, every permittee must be regulated. To achieve the objectives for each area, the District must have discretion in permitting groundwater withdrawals.

This Regulatory Plan prescribes ratios of groundwater withdrawal to total water demand. Nothing in this Regulatory Plan, however, should be interpreted to mean that a permittee is entitled to use groundwater in any amount merely because the Plan prescribes a ratio for that specific area.

## **GROUNDWATER REGULATION**

This portion of the District's Regulatory Plan establishes policy for the District regarding groundwater regulation. These policies are designed to support the regulation of groundwater withdrawals to control subsidence on a regional basis. Because subsidence is a region-wide problem requiring solutions achieved through concerted efforts, the District will work with other political subdivisions in the region to implement this Regulatory Plan.

## Permitting

The District may deny permits or limit groundwater withdrawals following the guidelines stated in the Act, the Rules of the District, and this Regulatory Plan. In determining whether to issue a permit or limit groundwater withdrawal, the District will weigh the public benefit against individual hardship after considering all appropriate documentation and relevant factors including:

1. the purposes of the Act;
2. the objectives and requirements of this Regulatory Plan;
3. the quality, quantity and availability of surface water or alternative water supplies at prices that are competitive with prices charged by suppliers of surface water in the district;
4. the feasibility of implementing alternative water strategies; and
5. the economic impact on the applicant from grant or denial of the permit, or terms prescribed by the permit, in relation to the effect on subsidence that would result.

## Permit Fee

The District's permit fees are intended to operate as an economic disincentive in order to regulate groundwater withdrawal. This 1999 Regulatory Plan establishes a permit fee structure that includes a base fee and a disincentive fee.

The District's permit fees are established for the purpose of achieving certain regulatory objectives and the reduction of groundwater withdrawals. All funds collected from permit fees will be used for regulatory purposes.

**Base Fee.** This fee is applied to all of a permittee's permitted groundwater withdrawals.

Funds obtained from collection of base fees are used to cover the costs of issuing permits and performing other regulatory functions of the District.

**Disincentive Fee.** In addition to the base fee, a disincentive fee will be applied to permitted groundwater withdrawals that exceed 20% of total water demand (10% in Area 1).

The purpose of the disincentive fee is to encourage permittees to take steps to ultimately reduce groundwater use to no more than 20% of total water demand in Areas 2 and 3 (10% in Area 1) according to the schedule set forth in this Regulatory Plan. The disincentive fee can be avoided through actions in compliance with milestones contained in a certified Groundwater Reduction Plan (GRP). The disincentive fee is applied in each permit year that groundwater reduction requirements are not met.

A disincentive fee study will be conducted by an outside consultant to recommend an appropriate disincentive fee rate and any necessary financial management structures and procedures for administering funds obtained from such fees. The disincentive fee study will be completed during calendar year 1999.

Funds obtained from the collection of disincentive permit fees will be placed in a special account for the purpose of expediting reductions in groundwater withdrawal, the development of water conservation measures and other alternative water supply strategies. The District's enabling legislation authorizes the use of these funds to provide grants and/or loans for purposes such as financing for design and construction of surface water treatment and transmission facilities. The District will also consider various alternative means, including coordination with other agencies, for the distribution of any such funds.

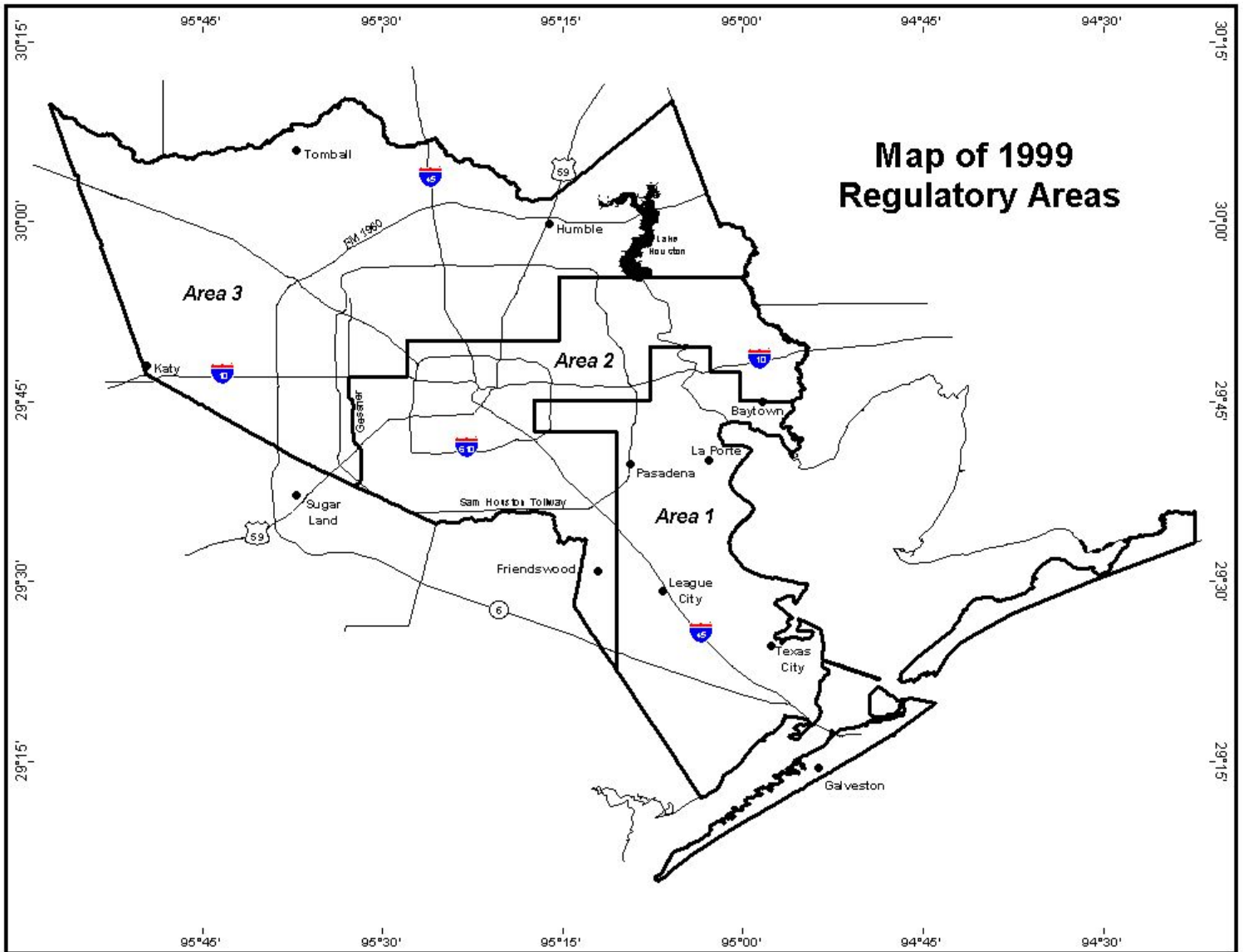
## **General Elements**

Elements of the District's 1999 Regulatory Plan, which are applicable to all regulatory areas and all permittees, include:

1. Permits for irrigating agricultural crops, as defined in the District Rules, are exempted from groundwater reduction requirements and disincentive fees in the District Regulatory Plan. However, all permittees are encouraged to use best management practices to reduce groundwater withdrawals.
2. Beginning in January 2001, a disincentive fee will be applied consistent with specific groundwater reduction requirements in Regulatory Areas 1 and 2. In Regulatory Area 3, a disincentive fee will be applied consistent with specific milestone requirements beginning in January 2003.
3. Exemptions from the disincentive fee will be granted for users with a total water demand of 10 million gallons per year (MGY) or less. Exemptions may also be granted for economic hardship.
4. When an alternative water supply is available to a site, permittees will be required to convert to 80% alternative water supply (90% in Area 1), unless the permittee is in compliance with a certified Groundwater Reduction Plan.
5. Two or more permittees within the same regulatory area, may enter into contractual agreements to share costs or cooperate in ways that achieve orderly reductions in total groundwater use and conversions to alternative water supplies. Permittees may join with or form new regional entities for the purpose of reducing groundwater withdrawal. Individual permittees will be waived from separate compliance with groundwater reduction requirements when they form part of a group of permittees, within the same regulatory area, that together (as a group) achieve compliance with the regulatory area requirement.

6. The District encourages the use of alternative water strategies to reduce water demand and permitted groundwater withdrawals. Reductions in groundwater withdrawal resulting from use of water conservation measures will be determined based on reductions from historical groundwater pumpage. Technical assistance is available to permittees wishing to pursue aggressive conservation programs.
7. Groundwater credits will be honored for the terms, conditions and periods prescribed in their issue.

## Regulatory Area Map



See Appendix A for a detailed description of area boundaries

## **Regulatory Area Requirements**

**The District is divided into three regulatory areas. This Regulatory Plan sets out a schedule for regulating groundwater withdrawal for each of the three areas. Specific regulatory area requirements are in addition to applicable general element requirements cited previously.**

### **Area One**

1. Groundwater withdrawals for each permittee must comprise no more than 10% of the permittee's total water demand.
2. Beginning in January, 2001, a disincentive fee will be applied to any groundwater withdrawn that constitutes greater than 10% of the permittee's total water demand.

### **Area Two**

1. Groundwater withdrawals for each permittee must comprise no more than 20% of the permittee's total water demand.
2. If a permittee has already established an initial groundwater reduction to 20% of their total water demand, then increases in groundwater withdrawal may be permitted so long as the quantity of alternative water supply used is not decreased. Beginning in January, 2001 and continuing thereafter, annual groundwater withdrawals for each permittee must again be no more than 20% of the permittee's total water demand.
3. Beginning in January, 2001, a disincentive fee will be applied to any groundwater withdrawn that constitutes greater than 20% of a permittee's total water demand.
4. The disincentive fee will be waived if a permittee has a certified Groundwater Reduction Plan (GRP) and is on schedule with required implementation actions contained within the GRP.

### **Area Three**

1. Following adoption of the District's Regulatory Plan, the District will require that unconverted permittees begin a planning process to define acceptable methods necessary to meet the groundwater compliance requirements established within this Regulatory Plan.
2. Beginning in January, 2003, a permittee (or a group of permittees operating under a single permit, within the same regulatory area) will be required to submit a Groundwater Reduction Plan (GRP) to the District for certification. (Minimum requirements for an acceptable GRP are presented in more detail further in this Regulatory Plan)

3. Beginning in January, 2005, a permittee will be required to provide the District with evidence that construction of the infrastructure defined within the permittee's certified GRP has started.
4. Beginning in January, 2010, a permittee (or a group of permittees operating under a single permit, within the same regulatory area) shall be required to reduce and maintain their groundwater withdrawals to comprise no more than 70% of the permittee's total water demand.
5. Beginning in January, 2020, a permittee (or a group of permittees operating under a single permit, within the same regulatory area) shall be required to reduce and maintain their groundwater withdrawals to comprise no more than 30% of the permittee's total water demand.
6. Beginning in January, 2030, and continuing thereafter, a permittee (or a group of permittees operating under a single permit, within the same regulatory area) shall be required to reduce and maintain their groundwater withdrawals to comprise no more than 20% of the permittee's total water demand.
7. A disincentive fee shall be applied to any groundwater withdrawals that constitute greater than 20% of a permittee's (or a group of permittee's operating under a single permit, within the same regulatory area) total water demand if a permittee has not developed and received certification of a GRP by January, 2003 (Item 2 of this section) or if a permittee is not able to provide evidence of construction of the infrastructure defined within the permittee's certified GRP by January, 2005 (Item 3 of this section).
8. A disincentive fee shall be applied to any groundwater withdrawals that constitute greater than 20% of a permittee's (or a group of permittee's operating under a single permit, within the same regulatory area) total water demand if a permittee is not in compliance with the reduction schedule found in Items 4, 5, and 6, of this section.

## **REGULATORY PLAN ADMINISTRATION**

This section provides guidance for fulfilling milestone requirements in this Regulatory Plan. The District has developed a regulatory approach, which provides a hierarchy of options to consider when evaluating how to reduce reliance on groundwater. Implementation of these options could significantly reduce a permittee's groundwater need while not requiring this reduction to come totally from an alternative water supply.

The evaluation of strategies for meeting water demands involves an analytical process, which requires an integrated examination of the following options:

1. Efficient Management -- the applicant should pursue all feasible measures to assure efficient management of the applicant's water supplies in order to minimize groundwater usage;

2. Water Conservation and/or Reuse -- the applicant should consider the implementation of an aggressive water conservation and/or reuse program;
3. Conversion to an Alternative Water Supply -- the applicant should initiate implementation of conversion to an alternative water supply.

## **Conservation and Alternative Water Strategies**

Measurable reductions in groundwater withdrawals can be achieved through the use of conservation and other water strategies. Conservation measures result in the overall reduction in total water demand, which reduce both the need for groundwater withdrawals and the need for conversion to an alternative water supply. The District encourages the use of any conservation or alternative use strategies that reduce reliance on groundwater. The District may require permittees to submit water conservation and drought management plans with implementation strategies, to preserve and protect groundwater resources within the District's boundaries. Strategies that can be implemented include:

1. Audits of facilities to determine what measures can be used to reduce water consumption such as irrigation schedule, installation of low flow toilets or other water conservation devices, and removal of once-through cooling units.
2. Installation of systems which reuse gray water.
3. Installation of water efficient appliances such as washers, dishwashers, etc.
4. For municipal users, rebate programs for installation of low flow toilets, low water use appliances, and/or retrofit kits which include items such as low flow shower heads, faucet aerators, shut off valves, flow restrictors, and toilet leak detection dye tablets.
5. Adoption of educational programs such as "Learning to be Water Wise™"
6. Education of the public through water conservation pamphlets.
7. Pricing policies that discourage excessive water use.
8. Reuse of treated wastewater.

## Groundwater Reduction Plans

Permittees eligible to submit GRPs in Regulatory Areas 2 and 3 are required to submit Groundwater Reduction Plans for groundwater reductions in compliance with the deadlines in this Regulatory Plan. All GRPs must, at a minimum, include details of the strategies and steps necessary for achieving the groundwater reduction requirements outlined for the regulatory area within which the permittee is located.

Permittees must have received certification on their GRP by January, 2001 for Area 2 and January, 2003 for Area 3. The District may adopt a schedule, by rule or resolution, for GRPs to be submitted for review. GRPs must be submitted to the District for certification prior to filing an application for renewal or for a new well beginning in January, 2001 for Area 2 and January, 2003 for Area 3.

Minimum requirements for an acceptable GRP include:

1. Identification of current and projected total water demand
  - The data must be from a source agreed upon by the District and permittee
  - Projections must be for a time period sufficiently into the future to achieve full compliance with regulatory requirements.
  - Reasons detailing any potential increase in groundwater use
2. Plans for groundwater reduction
  - Definition of infrastructure requirements to meet permittee's projected total water demand
  - Timetable showing what infrastructure will be constructed by a specific date to meet projected requirements
  - Explanation of how infrastructure costs will be financed
  - Identification of source for water supply, water provider, and amount of water supply available
  - Evidence (executed contractual agreement and/or financial commitment) that the water supplier has sufficient water supplies and/or rights and is willing to meet the permittee's present and projected demands
  - Preliminary engineering report of the proposed facilities to be constructed through year 2010 including a description of the proposed project and area maps.
  - Conceptual schematic plans of the proposed facilities to be constructed for the year 2020 and 2030 requirements.
3. Specific details of conservation and/or alternative water strategies to be implemented.
4. Other information reasonably necessary for an adequate understanding of the project.

## **Contractual Agreement and/or Financial Commitment**

A contractual agreement and/or financial commitment is any legally binding written instrument that is evidence of the agreement between, in this case, a water supplier and a permittee requiring water supply. The contractual agreement shall include the term of the agreement, the amount of water to be supplied, and the method of payment. The financial commitment shall include the manner in which financial resources will be acquired, as well as the manner in which funding will be dispensed.

## **Construction Start Date**

The construction start date for infrastructure projects will be deemed to be the point in time when a construction contract has been signed, a notice to proceed has been issued, and the actual physical construction begins in accordance with the schedule. A schedule for construction with milestones tied to specific calendar dates must be in place before a project's construction start date will be acknowledged by the District.

## **DEFINITIONS**

“Act” means Chapter 151 of the Texas Water Code.

“Area” means a geographical area designated by the Board in which regulatory policy will be applied.

“Alternative Water Supply” means metered water from any source, other than groundwater withdrawn from within Harris or Galveston Counties, that meets the regulatory requirements of the HGSD District Regulatory Plan including but not limited to: surface water, reuse water, treated effluent, desalinated water, or water from a public water supply.

“Board” means the Board of Directors of the Harris-Galveston Coastal Subsidence District.

“Conservation” means water saved through efficient practices and technology.

“Contractual Agreement” means the entire agreement made between the parties where, in this case, one party agrees to provide a specified amount of an alternative water supply to another for a specified period of time.

“Construction Start Date” means the date fixed for the start of work that is adequate to meet infrastructure requirements as described in the GRP approved by the District.

“District” means the Harris-Galveston Coastal Subsidence District.

“DRP” means District Regulatory Plan

“Economic Hardship” means, for the purpose of this Regulatory Plan, a permittee serving an area that does not have an alternative water supply available and where average per capita income is 25% or more below the county average. If data for a permittee’s specific service area or geographic limits is not available, a permittee may use data corresponding to the appropriate census tracts or zip codes.

“GMP” means Groundwater Management Plan

“GRP” means Groundwater Reduction Plan

“Groundwater” means water located beneath the earth’s surface but does not include water produced with oil in the production of oil and gas.

“Permittee” includes any person (see below) to whom the District issues a permit for a water well allowing the withdrawal of a specified amount of groundwater for a designated period of time. Permittee may also include a group of individual entities, within the same regulatory area who have contracted together to operate under a single permit in order to meet groundwater reduction requirements.

“Person” includes corporation, individual, organization, government or governmental subdivision or agency, business trust, estate, trust, partnership, association, or any other legal entity.

“Preliminary Engineering” means the amount of engineering necessary to define the infrastructure needs of the project, to determine the feasibility and projected construction timetable of the project, and to establish reliable cost estimates. The requirement of preliminary engineering is not intended to include preliminary construction plans for the entire submittal; however, that level of detail could be required for specific components. The District will make the final determination of whether a proposed GRP meets the definition of preliminary engineering.

“Subsidence” means the lowering in elevation of the surface of land by the withdrawal of groundwater.

“Total Water Demand” means the amount of water being utilized by a permittee to meet current or projected water needs.

“Well” means any excavation, facility, device or method that could be used to withdraw groundwater.

“Withdraw” means the act of extracting groundwater by any method.

# **APPENDIX A:**

## **Description of Regulatory Areas**

### **Area One**

Beginning at the mouth of Cedar Bayou on Galveston Bay at the Harris County boundary, follow the Harris County boundary north to 29° 45' 00" north latitude.

Thence, west along this line of latitude to the point at 95° 00' 00" west longitude.

Thence, north along this line of longitude to the point at 29° 47' 30" north latitude.

Thence, west along this line of latitude to the point at 95° 02' 30" west longitude.

Thence, north along this line of longitude to the point 29° 50' 00" north latitude.

Thence, west along this line of latitude to the point at 95° 07' 30" west longitude.

Thence, south along this line of longitude to the point at 29° 45' 00" north latitude.

Thence, west along this line of latitude to the point at 95° 17' 30" west longitude.

Thence, south along this line of longitude to the point at 29° 42' 30" north latitude.

Thence, east along this line of latitude to the point at 95° 10' 00" west longitude.

Thence, south along this line of longitude to the common boundary of Galveston and Brazoria Counties.

Thence, continuing generally south-southeast along this Galveston County boundary to the southernmost extent of Galveston County.

Thence, continuing generally northeast along this Galveston County boundary to the common boundary with Chambers County, this being the easternmost extent of Galveston County.

Thence, continuing generally west and north along this Galveston County boundary to the common boundary of Harris County.

Thence, continuing generally north along this Harris County boundary to the point of beginning for Area One, at the mouth of Cedar Bayou on Galveston Bay.

## **Area Two**

Beginning at the intersection of the common boundary of Galveston and Brazoria Counties and the line of 95° 10' 00" west longitude, follow this boundary generally north and northwest to Clear Creek, this being the southern boundary of Harris County.

Thence, generally west along the southern boundary of Harris County to the intersection of the common boundary of Harris and Fort Bend Counties and Gessner Road.

Thence, generally north along Gessner Road to the intersection with Interstate 10.

Thence, generally east along Interstate 10 to the point at 95° 27' 30" west longitude.

Thence, north along this line of longitude to the point at 29° 50' 00" north latitude.

Thence, east along this line of latitude to the point at 95° 15' 00" west longitude.

Thence, north along this line of longitude to the point at 29° 55' 00" north latitude.

Thence, east along this line of latitude to Cedar Bayou, this being the eastern boundary of Harris County.

Thence, generally south along the eastern boundary of Harris County to the point at 29° 45' 00" north latitude, this being the intersection of the boundary of Harris County and Area One.

Thence, generally west and south, following the line of definition of Area One to the point of beginning for Area Two.

## **Area Three**

Beginning at the intersection of the common boundary of Harris and Liberty Counties and the point at 29° 55' 00" north latitude, follow the Harris County boundary generally, north to the farthest northeastern point in Harris County.

Thence, generally west from the farthest northeastern point, follow the Harris County boundary to the farthest northwestern point in Harris County.

Thence, generally south-southeast from the farthest northwestern point, follow the Harris County boundary to the common boundary of Harris, Fort Bend and Waller Counties.

Thence, generally southeast from this common boundary, follow the Harris County boundary to the point of intersection of the common boundary of Harris and Fort Bend Counties and Gessner Road, the point of beginning of Area Two.

Thence, generally north and east, following the line of definition of Area Two to the point of beginning for Area Three.