

## REGIONAL WATER QUALITY PROTECTION PLAN

### **Goal Statement:**

“Develop an implement-able Regional Water Quality Management Plan that protects and manages activities within the planning region so that existing and future development does not impair the physical properties of the groundwater within the Barton Springs Segment of the Edwards Aquifer or the surface water in the contributing portion of the watersheds within the planning region.”

### **Objectives necessary to accomplish the goal:**

#### **Objective 1**

*What Causes Water Quality Problems?*

1. Identify activities within the planning region that have had or could have a short term or long term adverse impact on water quality in the Barton Springs Segment of the Edwards Aquifer or in the contributing watersheds within the planning region.

#### **Strategy to Achieve Objective 1**

- Use existing rules, regulations, published studies and generally accepted engineering and scientific standards to list short term and long term activities that have been shown to adversely impact water quality.

#### **Objective 2**

*What Standards do we Apply?*

2. Identify standards that can be used to define: (1) baseline water quality including existing regulatory standards for drinking water; (2) current analysis of groundwater quality in the Barton Springs Segment of the Edwards Aquifer; (3) current surface water quality in the contributing watersheds within the planning region; and, (4) scientifically-based thresholds for adverse impacts to human health and the environment.

#### **Strategies to Achieve Objective 2**

- Review existing groundwater, surface water and drinking water regulations to determine applicable water quality parameters and their corresponding limits.
- Review existing groundwater, surface water and drinking water evaluations to determine any available historical and current levels for the identified water quality parameters.
- Review technical literature to determine any regulatory agency approved scientifically based water quality parameter thresholds for adverse impact to human health and the environment.
- Review technical literature to determine any peer-reviewed scientifically based water quality parameter thresholds for adverse impact to human health and the environment.

### **Objective 3**

*Who Can Act?*

3. Identify entities capable of monitoring and enforcing water quality protection measures within the planning area, as well as any existing legal and institutional constraints on these entities.

### **Strategies to Achieve Objective 3**

- Review existing legislation and legal authority for existing entities in the planning region and determine their existing powers to regulate activities affecting water quality.
- Review options for implementing water quality plans among existing local political subdivisions, determine areas of gaps/overlaps and recommend solutions to fill the gaps and clarify areas of overlap.
- Recommend options for establishing legal authority to implement any new water quality protection measures not currently authorized, including establishing a new entity or entities, or expanding the authorities of existing entities.

### **Objective 4**

*What Measures are Already in Place?*

4. Identify existing water quality plans and regulations currently in effect in the planning region including any parameters used to measure the success of those plans and regulations, identify any significant deficiencies in these plans and regulations, and identify proposed solutions for these deficiencies.

### **Strategies to Achieve Objective 4**

- Review existing water quality plans and regulations which include parameters used to measure the success of water quality protection measures.
- Using existing rules, regulations, published studies and generally accepted engineering and scientific standards list what can be considered existing structural and non-structural Best Management Practices (BMP's) for the protection of water quality. As part of this evaluation an assessment of the success rate and cost of operations and maintenance of the BMP's will be performed.
- Using existing rules, regulations, published studies and generally accepted engineering and scientific standards develop monitoring standards for measuring water quality within the Edwards Aquifer and Barton Creek Watershed, as defined in the objectives.

### **Objective 5**

*What New Measures are Needed?*

5. Identify new structural and non-structural water quality protection measures to avoid substantially reducing baseline groundwater or surface water quality, as defined above, including any parameters used to measure the success of those protection measures.

### **Strategies to Achieve Objective 5**

- Using published studies and generally accepted engineering and scientific standards, list additional structural and non-structural BMP's for the protection of water quality. As part of this evaluation an assessment of the success rate and cost of operations and maintenance of the BMP's will be performed.
- Identify alternative sponsors and methods of financing for developing capital improvements, monitoring and operations and maintenance to meet water quality parameters.
- Develop recommendations for parameters to be used to measure the success of new water quality protection measures.

### **Objective 6**

*What is our Strategy for Action?*

6. Identify a strategy to: (1) enforce existing water quality protection measures; (2) implement the identified solutions for existing deficient water quality protection measures; (3) implement the identified new water quality protection measures; (4) monitor and assess the effectiveness of the water quality protection measures; and, (5) revise current and future water quality protection measures assessed to be ineffective.

### **Strategy to Achieve Objective 6**

- Using the previously developed assessment of the existing water quality protection measures, recommend procedures to adequately enforce existing water quality protection measures
- Using the previously developed assessment of any areas where existing water quality protection measures are deficient, recommend changes to those measures, and procedures to adequately enforce the proposed solutions.
- Using the previously developed list of additional structural and non-structural BMPs, recommend specific implementation measures and procedures to adequately enforce the implementation measures.
- Using the previously developed list of critical water quality parameters (including existing limits and other scientifically based thresholds), recommend specific monitoring measures, identify legal mechanisms for performing the monitoring, recommend the process to evaluate the monitoring data and assess the effectiveness of the water quality protection measures.
- Based on the recommended procedures for assessing the effectiveness of water quality protection measures, recommend procedures for revising and updating any water quality protection measures deemed to be ineffective.

## **Areas of Focus for the Plan**

*This presentation of “Areas of Focus” for the regional plan is for the purposes of discussion. These “Areas of Focus” are not intended to be inclusive or exclusive. In addition, some of the items under each “Area of Focus” include examples for illustration purposes that are similarly not intended to be inclusive or exclusive.*

### **Background**

- Definition of planning region
- Goals/Objectives
- Entities involved
- Identification of areas of focus

### **What Does the Regional Plan Protect?**

- Hydrology
- Definition of critical parameters
- Scientific basis for critical parameters
- Definition of monitoring and assessment of critical parameters

### **Watershed Management/Water Quality Protection Measures**

- Location (e.g. buffer zones, sensitive features, etc.) of development
- Density (e.g. impervious cover, clustering, etc.) of development
- Nature (e.g. residential, commercial, industrial, etc.) of development.
- Land-use restrictions
- Management of undeveloped land/Open space planning
- Agricultural
- Conservation easements/land acquisition for habitat protection (e.g. set-asides, offsets, mitigation)
- Voluntary water quality protection measures (e.g. rainwater harvesting, water conservation, good housekeeping, integrated pesticide/herbicide management)

### **Public Education/Outreach**

- Awareness of the Regional Plan
- Support of Regional Plan concepts and implementation

### **Implementation, Enforcement and Accountability**

- What parameters are to be used to measure and monitor water quality within the project area.
- Who will be responsible for implementing the plan.
- How will this be accomplished(e.g. legal, technical and financial)
- Implementation schedule for the plan

### **Economic Implications**

- Costs for initial implementation
- Costs for on-going operations and maintenance
- Costs for enforcement and oversight
- Costs of failure and/or inadequacy