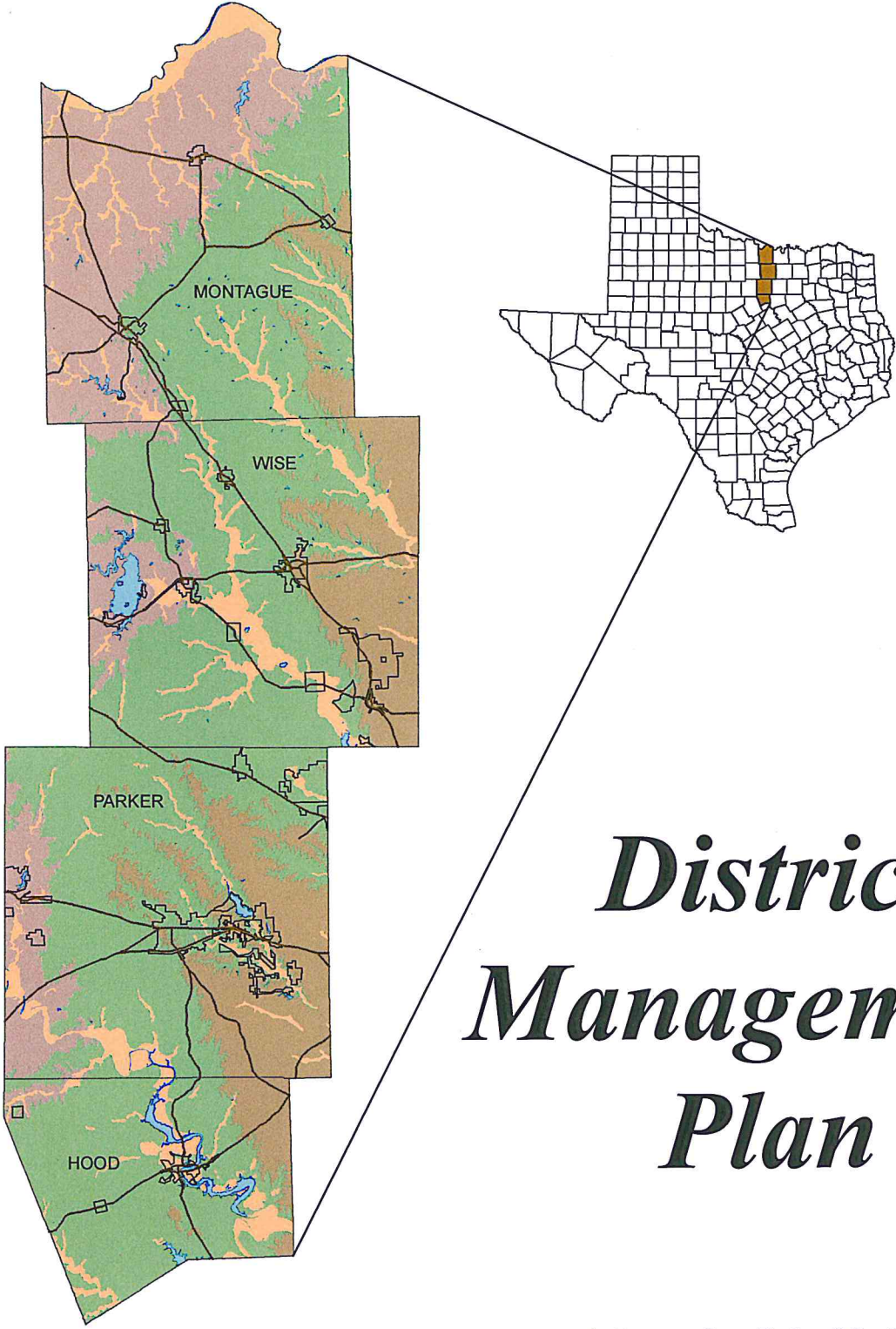


Upper Trinity Groundwater Conservation District



***District
Management
Plan***

Adopted – July 20, 2015

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I. DISTRICT MISSION

The Mission of the Upper Trinity Groundwater Conservation District (“District”) is to develop rules to provide protection to existing wells, prevent waste, promote conservation, provide a framework that will allow availability and accessibility of groundwater for future generations, protect the quality of the groundwater in the recharge zone of the aquifer, insure that the residents of Montague, Wise, Parker, and Hood counties maintain local control over their groundwater, and operate the District in a fair and equitable manner for all residents of the District.

II. PURPOSE OF THE MANAGEMENT PLAN

The 75th Texas Legislature established a comprehensive regional and statewide water planning process in 1997. A critical component of that far-reaching overhaul of the Texas’ water planning process included a requirement that each groundwater conservation district develop a management plan that defines the water needs and supply within each District and defines the goals the District will use to manage the groundwater in order to meet the stated needs or demonstrate that the needs exceed available groundwater supplies. Information from each District’s management plan is incorporated into the regional and state water plans. The management plan is also used as the basis for the development of the District’s permitting and groundwater management rules.

The time period for this plan is five years from the date of approval by the TWDB. This plan will be reviewed and readopted with or without amendments at least once every five years, or more frequently if deemed necessary or appropriate by the District Board. This management plan will remain in effect until it is replaced by a revised management plan approved by the TWDB

In addition, Chapter 36, Texas Water Code (“Chapter 36”), requires joint planning among Districts located within the same Groundwater Management Area (“GMA”). Among other activities conducted pursuant to this joint planning process, the Districts within each GMA must establish desired future conditions for all aquifers located in whole or in part within the GMA. The desired future conditions established through this process are then submitted to the Texas Water Development Board (“TWDB”), which is required to provide each District with estimates concerning the amount of groundwater that can be produced from each aquifer annually within each county located in the GMA in order to achieve the desired future conditions established for each aquifer. This quantified annual water budget for each aquifer is known as the “Modeled Available Groundwater” or “MAG” amount. Chapter 36 requires that technical information, such as the desired future conditions of the aquifers within a District’s jurisdiction and the amount of modeled available groundwater from such aquifers, be included in the District’s management plan. This technical information is used as a guide for a District’s regulatory and management policies. This groundwater management plan for the District is required by Chapter 36 and was developed in accordance with the administrative rules of the TWDB. Chapter 36 and the TWDB require use of projections of future water demands, surface water availability, water management strategies, and groundwater use provided to the District by the TWDB from the

State Water Plan in the management plan. This management plan will be used to: (1) serve as a planning tool for the District in its management and operations; (2) provide general information about the District and its groundwater resources; (3) provide technical information concerning groundwater resources, water supply, and demand; (4) establish goals, management objectives, and performance standards for the District; (5) serve as a resource to help guide the District's development of additional technical information on local groundwater resources, use, and demand; and (5) support the District's development of its well permitting and regulatory program. The District considers the collection and development of site-specific data on groundwater use in Hood, Montague, Parker, and Wise counties and the groundwater sources of these counties to be a high priority. This plan will be updated as the District develops the site-specific data on local groundwater use and aquifer conditions. Although the District must review and readopt the plan at least once every five years, it is not restricted from doing so more frequently if deemed appropriate by the District.

III. DISTRICT INFORMATION

A. Creation

The Upper Trinity Groundwater Conservation District (the "District") was created by the passage of Senate Bill 1983 by the 80th Texas Legislature under the authority of Section 59, Article XVI, of the Texas Constitution, and in accordance with Chapter 36, by the Act of May 25, 2007, 80th Leg., R.S., Ch. 1343, 2007 Tex. Gen. Laws 4583, codified at TEX. SPEC. DIST. LOC. LAWS CODE ANN. Ch. 8830, as amended ("the District Act"). The creation of the District was overwhelmingly confirmed by the citizens of Hood, Montague, Parker, and Wise counties on November 6, 2007, in an election called for that purpose. The District was created to serve a public use and benefit, and is essential to accomplish the objectives set forth in Section 59, Article XVI, of the Texas Constitution. The purpose of the District is to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater, and of groundwater reservoirs or their subdivisions, consistent with the objectives of Chapter 36 and Section 59, Article XVI, Texas Constitution.

B. Directors

The Board of Directors consists of eight members, two from each of the following four counties: Hood, Montague, Parker, and Wise. The directors for each county are appointed by their respective commissioners' courts, and serve staggered four-year terms. Each Director is eligible for multiple consecutive terms.

C. Location, Topography and Drainage

The area encompassed by the District is approximately 3,200 square miles and is coextensive with the boundaries of Hood, Montague, Parker and Wise counties. The topography of the District can be generally classified as high to gently rolling prairies with elevations ranging from approximately 850 to 1,300 feet above mean sea level in Montague County, an average of 800 feet in Wise County, 700 to 1,200 feet in Parker County and 600 to 1,000 feet above sea level in Hood County.

The District falls in the drainage area of three separate major river basins. The northern part of Montague County is drained by the Red River, while the Denton-Elm and West forks of the Trinity River drain the east-central and southern parts of the county, respectively. Tributaries of the Trinity River drain Wise County, the northeastern part of Parker County, and the very northeastern corner of Hood County. The southwestern part of Parker County and the vast majority of Hood County are drained by the Brazos River and its tributaries.

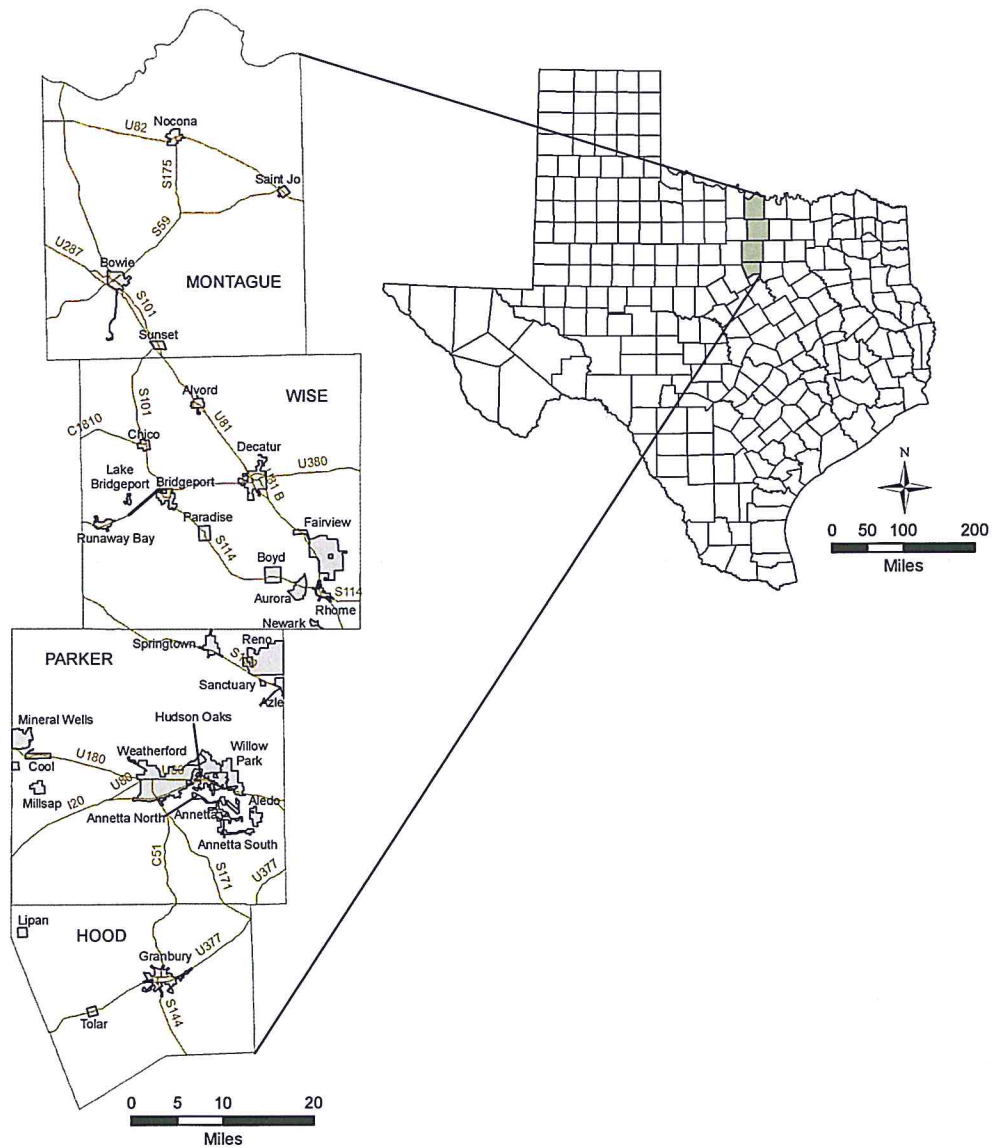


Figure 1. Locations and boundaries of the District.

D. Groundwater Resources in the District

Groundwater resources in the four counties making up the District include the Cretaceous-age Trinity Aquifer, several water-bearing units of Pennsylvanian- and Permian-age, referred to as the Paleozoic aquifers, and alluvial deposits. The Trinity Aquifer is recognized by the TWDB as a major aquifer in Texas. The Paleozoic aquifers are not recognized by the TWDB as either major or minor aquifers. No minor aquifers, as defined by the TWDB, are located in the District. The TWDB defines a major aquifer as one that supplies large quantities of water over large areas of the state and defines a minor aquifer as one that supplies relatively small quantities of water over large areas of the state or supplies large quantities of water over small areas of the state (Ashworth and Hopkins, 1995). A generalized stratigraphic section representative of the hydrogeology of the District is provided in **Table 1**.

Major Aquifer – the Trinity Aquifer

The Trinity Aquifer, shown in **Figure 2**, is defined by the TWDB as a major aquifer composed of several individual aquifers contained within the Trinity Group. In the District, the Trinity Aquifer consists of the aquifers of the Paluxy Sand, the Glen Rose Formation, the Twin Mountains Formation, and the Antlers Formation. The Antlers Formation is the coalescence of the Paluxy and Twin Mountains formations north of the line where the Glen Rose Formation thins to extinction. This occurs approximately in central Wise County (**Figure 3**). The Cretaceous-age Fredericksburg and Washita Groups are generally considered confining units and they overlie the subcrop portion of the Trinity Aquifer in the easternmost areas of the District.

The Paluxy Sand consists of sand, silt, and clay, with sand dominating. The sand and silts in the aquifer are primarily fine-grained, well sorted, and poorly cemented (Bené and others, 2004). Coarse-grained sand is found in the lower sections grading up to fine-grained sand with shale and clay in the upper section (Nordstrom, 1982). In general, natural groundwater flow in the Paluxy Sand is east to southeast (Langley, 1999). Wells completed into the Paluxy Sand typically yield small to moderate quantities of water that is fresh to slightly saline (Nordstrom, 1982). Where the Glen Rose Formation is absent, the Paluxy Sand is equivalent to the upper sands of the Antlers Formation (Baker and others, 1990).

The Glen Rose Formation consists primarily of limestone with some shale, sandy-shale, and anhydrite. In general, the aquifer yields small quantities of water in localized areas (Baker and others, 1990). Groundwater flow in the Glen Rose Formation is generally to the east and southeast.

Table 1. General Stratigraphy (Bené and others 2004; McGowen and others, 1967; 1972; Brown and others, 1972).

System	Hydrogeologic Characteristic	Group	Formation	
			North	South
	Water-Bearing		alluvial deposits	
Cretaceous	Confining Units (locally productive)	Washita	Weno Denton Fort Worth Duck Creek Kiamichi	
			Fredericksburg	Goodland
	Walnut Clay	Comanche Peak		
	Aquifer	Trinity	Antlers	Paluxy
				Glen Rose
Twin Mountains				
Permian	Water-Bearing	Bowie	Nocona Archer City Markley Thrifty and Graham, undivided	
Pennsylvanian	Water-Bearing	Canyon	Colony Creek Shale	
			Ranger	
			Ventioner	
			Jasper Creek	
			Chico Ridge Limestone	
			Willow Point	
	Water-Bearing	Strawn	Palo Pinto	
			Mineral Wells	
			Brazos River	
			Mingus	
			Buck Creek Sandstone	
Grindstone Creek				
Lazy Bend				

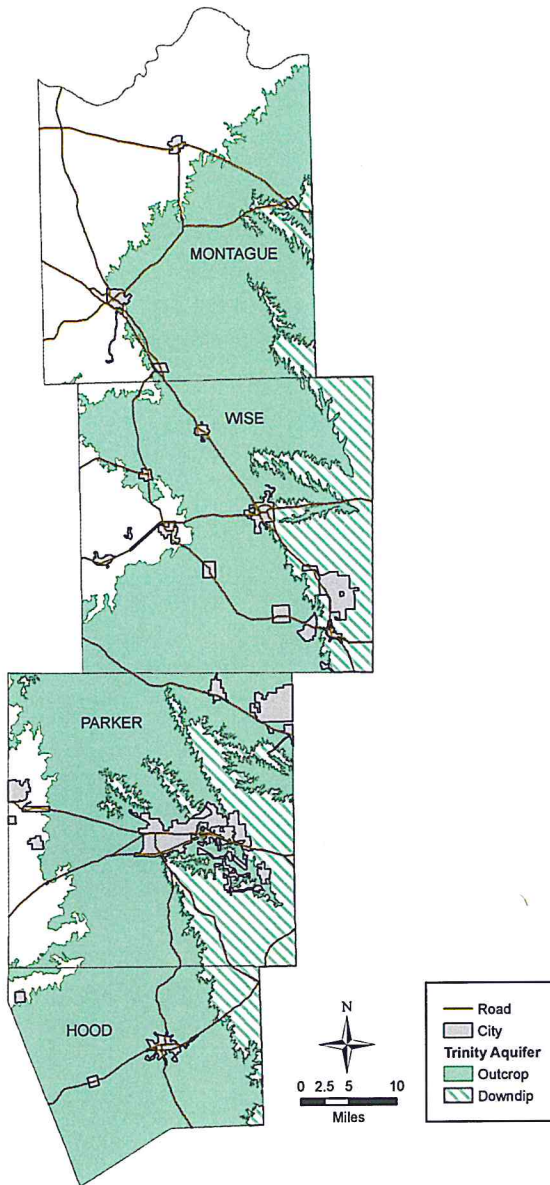


Figure 2. Outcrop and subcrop of the Trinity Aquifer in the District.

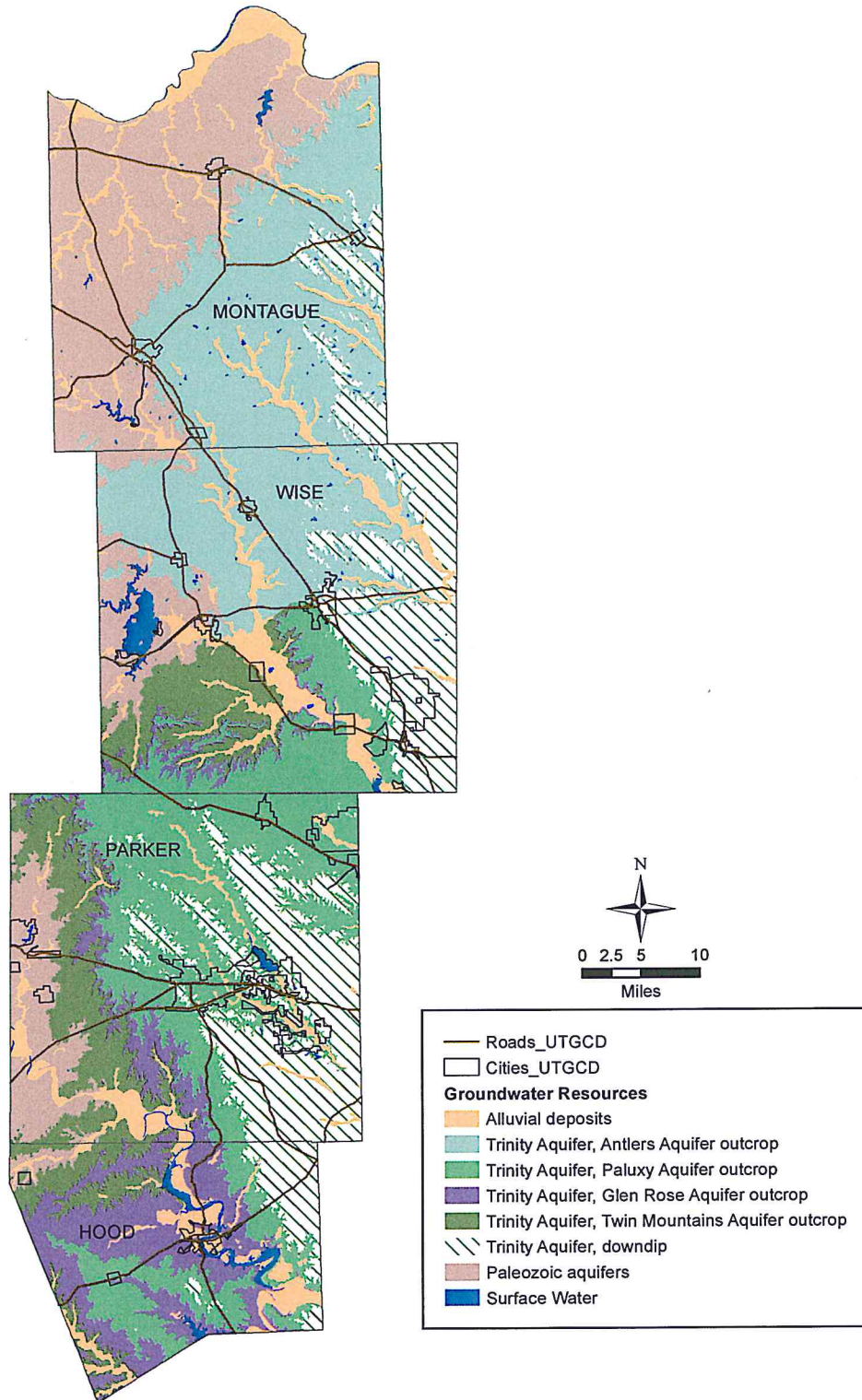


Figure 3. Groundwater resources in the District.

The Twin Mountains Formation consists predominantly of medium- to coarse-grained sand, silty clay, and conglomerates. A massive sand is found in the lower portion of the formation while less sand is found in the upper portion of the aquifer due to increased interbedding of shale and clay (Nordstrom, 1982). In general, wells are primarily completed into the lower part of the aquifer. Where the Glen Rose Formation is absent, the Twin Mountains Formation is equivalent to the lower sands of the Antlers Formation (Baker and others, 1990). Typically, wells completed into the Twin Mountains Formation yield fresh and slightly saline water in moderate to large quantities (Nordstrom, 1982). Groundwater flow in this formation is generally to the east and southeast.

Typically, the Antlers Formation consists of a basal conglomerate and sand overlain by poorly consolidated sand interbedded with discontinuous clay layers (Nordstrom, 1982). Considerably more clay is found in the middle portion of the formation than in the upper and lower portions. Limestone is also found in the middle portion near the updip limit of the Glen Rose Formation. Generally, groundwater flow in the Antlers Formation is to the east and southeast. Well yield in the Antlers Formation is similar to that in the Twin Mountains Formation with subcrop wells generally more productive than those in the outcrop areas.

Minor Aquifer

No minor aquifers, as defined by the TWDB, are located in the District. However, the Paleozoic strata outcropping to the west of the Trinity Group are used as a source of groundwater within the District.

Other Water-Bearing Formations

Paleozoic Aquifers

Several Pennsylvanian- and Permian-age formations in the District are capable of producing usable quantities of groundwater. These formations are referred to collectively as the Paleozoic aquifers (see **Figure 3**). Literature regarding these formations is very limited and, therefore, information regarding their hydrologic characteristics is also limited. The Paleozoic aquifers are a significant source of groundwater in northern and western portions of Montague County, west-central Wise County, and western Parker County where the Trinity Aquifer is absent. Based on information in the TWDB groundwater database (TWDB, b) as of November 2009, the percentage of wells in the District completed into the Paleozoic aquifers is 78.2, 14.8, 5.4, and 0.0 percent for Montague, Wise, Parker, and Hood counties, respectively.

From youngest to oldest, the formations of the Bowie, Canyon, and Strawn groups make up the Paleozoic aquifers. The Bowie Group consists of the Nocona Formation (mudstone with sandstone and siltstone in thin lenticular beds throughout), the Archer City Formation (predominantly mudstone with thin siltstone beds and sandstone), the Markley Formation (mudstone with local thin beds of sandstone in upper portion and mudstone and shale with some coal and limestone below), and the undivided Thrifty and

Graham formations (predominantly mudstone and shale with thin sandstone beds and some sandstone sheets locally and two limestone members).

The underlying Canyon Group is comprised of the Colony Creek Shale (shale with some siltstone, local thin to medium beds of sandstone, and limestone lentils), the Ranger Limestone (predominantly limestone with local thin shale beds), the Ventioner Formation (shale and mudstone with numerous sandy and silty lenses and thin to medium beds), the Jasper Creek Formation (upper portion predominantly shale with thin siltstone beds throughout and isolated massive sandstone lenses and lower portion shale with thin limestone lentils and local thin and lenticular thick sandstone beds), the Chico Ridge Limestone (predominantly limestone with local shale beds), the Willow Point Formation (shale and claystone locally silty and sandy with local thin beds of sandstone and several limestone beds in lower portion and a single coal bed), and the Palo Pinto Formation (predominantly limestone and marl with some sandstone and shale). Sandstone lenses found in the Canyon Group are locally important to the occurrence of groundwater (Bayha, 1967).

The Strawn Group consists of the Mineral Wells Formation (shale containing local sandstone beds and a few limestone beds), the Brazos River Formation (sandstone with local lenses of conglomerate and mudstone), the Mingus Formation (sandy shale with one thin coal seam and some limestone beds), the Buck Creek Sandstone (sandstone), the Grindstone Creek Formation (shale, in part sandy, with local thin coal beds and sandstone lentils and limestone beds with some shale), and the Lazy Bend Formation (shale, in part sandy or silty, with local coal beds and limestone beds).

The Paleozoic aquifers are the primary source of water in Montague County (Bayha, 1967) as indicated by the high percentage of wells completed into these aquifers in the county. Bayha (1967) indicates that groundwater is difficult to trace in these aquifers due to the complex depositional sequence.

Alluvial Deposits

Some alluvial deposits of Pleistocene to Recent age are capable of producing water in the District, especially along the Red River in Montague County and the Brazos River in Parker County. The majority of these sediments are stream deposits but some are of windblown origin. The alluvial deposits, consisting of sand, gravel, silt, and clay, yield small to large quantities of fresh water. Based on information in the TWDB groundwater database (TWDB, 2009b) as of November 2009, the percentage of wells in the District completed into alluvial deposits is 10.0, 0.4, 3.0, and 0.1 percent for Montague, Wise, Parker, and Hood counties, respectively.

IV. ESTIMATES OF TECHNICAL INFORMATION REQUIRED BY 31TAC 356.52/TWC § 36.1071

A. Modeled Available Groundwater in the District based on adopted Desired Future Conditions – 31TAC 356.52(a)(5)(A)/TWC §36.1071(e)(3)(A)

The Texas Legislature has established that the preferred method of managing groundwater in Texas is through rules developed by a groundwater conservation district. A groundwater conservation district is a district created under Texas Constitution, Article III, Section 52 or Article XVI, Section 59, which has the authority to regulate the spacing of water wells, the production from water wells, or both. Many groundwater conservation districts boundaries are consistent with political boundaries such as county boundaries and, as such, are not consistent with hydrologic boundaries which would need to be considered in the cohesive management of an aquifer.

Modeled available groundwater is defined as: “the amount of water that the executive administrator determines may be produced on an average annual basis to achieve a desired future condition established under Section 36.108.”

In 2005 the Texas legislature recognized that aquifers may need to be managed based on hydrologic boundaries, and not just the political boundaries, such as county boundaries, that defined many groundwater conservation districts. That year legislation was passed requiring joint planning among groundwater conservation districts within a common groundwater management area (GMA). These GMAs are required to meet at least annually, and are charged with developing desired future conditions (DFCs) by which any aquifer deemed relevant by a GMA will be managed. The District only has one TWDB-designated major or minor aquifer within its boundaries—the northern Trinity Aquifer, which is a major aquifer. GMA 8 readopted DFC’s for the northern Trinity and Woodbine aquifers on April 27, 2011 that submittal package can be found here: http://www.twdb.texas.gov/groundwater/docs/DFC/GMA8_DFC_Adopted_2011-0427.pdf. The TWDB MAG report has been provided in Table 3, and can be found here: http://www.twdb.texas.gov/groundwater/docs/GAMruns/GR10-063_MAG.pdf

Selected Management Conditions

The selected management conditions for the District are based upon results from the Northern Trinity GAM. In the GAM the Trinity Aquifer is divided into four model layers generally representing the dominant hydrostratigraphy of the Trinity Aquifer in North-Central and North Texas; the Upper Trinity (Paluxy and Glen Rose aquifers), the Middle Trinity (Hensell aquifer) and the Lower Trinity (Hosston aquifer). The GAM models the Paluxy aquifer as model layer 3, the Glen Rose aquifer as model layer 4, the Hensell aquifer as model layer 5, and the Hosston aquifer as model layer 7. Model layer 6 represents the Pearsall/Cow Creek/Hammitt members of the Travis Peak Formation, which are conceptualized as a confining unit. The relationship between these model layers and the formations in the District is illustrated in **Table 2**.

Table 2. Relationship Between Model Layers in Trinity Aquifer GAM and Formations in the District

District (North and West)		South		GAM Model	
Montague and northern Wise counties	Hood, Parker, southern Wise counties			Model Stratigraphy	Model Layer
Antlers Formation	Paluxy Sand	Paluxy Sand	Paluxy Sand	Paluxy aquifer	3
	Glen Rose Formation	Glen Rose Formation	Glen Rose Formation	Glen Rose aquifer	4
	Twin Mountains Formation	Travis Peak Formation	Hensell Member	Hensell aquifer	5
			Pearsall Member	Pearsall/Cow Creek/Hammett/Sligo confining unit	6
			Cow Creek Member		
			Hammett Member		
Sligo Member	Hosston Member	Hosston aquifer	7		

Because the GAM was used as a means of defining desired future conditions as well as estimating the managed available groundwater, the following discussion is couched in terms of hydrostratigraphic nomenclature and model layers consistent with the GAM.

The desired future conditions were specified based upon average drawdown from the year 2000 through the year 2050 on a county and aquifer (model layer) basis. **Table 3** summarizes the desired future conditions for the four counties comprising the District for the Northern Trinity Aquifer. For example, for the Hosston aquifer in Hood County, the specified management goal (desired future condition) is defined “from estimated year 2000 conditions, the average drawdown of the Hosston Aquifer should not exceed approximately 56 feet after 50 years” (Oliver, 2011). All of the desired future conditions are specified in (Oliver, 2011) in a similar format.

Table 3. Desired Future Conditions and Modeled Available Groundwater for the northern Trinity Aquifer in the District.

County	Trinity Sub-Aquifer	Desired Future Condition ⁽¹⁾	Modeled Available Groundwater ⁽²⁾ (AFY)
Hood	Paluxy	1	942
	Glen Rose	2	4
	Hensell	16	3,595
	Hosston	56	6,604
Hood County Total		NA	11,145
Parker	Paluxy	5	9,800
	Glen Rose	6	192
	Hensell	16	1,441
	Hosston	40	3,815
Parker County Total		NA	15,248
Wise	Paluxy	4	2,559
	Glen Rose	14	5
	Hensell	23	1,480
	Hosston	53	5,238
Wise County Total		NA	9,282
Montague	Paluxy	0	505
	Glen Rose	1	0
	Hensell	3	362
	Hosston	12	1,807
Montague County Total		NA	2,674
District Total		NA	38,349

(1) Average drawdown in feet after 50 years from the year 2000 (DFC Report dated 04/27/2011)

(2) from GAM Run 10-063 MAG (Oliver, 2011)

Other Aquifers

The TWDB currently identifies groundwater use within two aquifers which are not classified by the State as either major or minor aquifers; the Paleozoic Formations west of the northern Trinity Aquifer outcrop and the Alluvial Aquifers described in Section F of this plan and shown in **Figure 3**. These units are lumped as “other” aquifers within the TWDB water use system. Within the outcrop of the Trinity Aquifer, it is reasonable to assume that the Trinity Aquifer and the Alluvial Aquifers are in hydraulic contact and could be considered grouped. Other aquifer usage which may be attributable to the Paleozoic Aquifers is very minor in Parker and Wise counties. However, in Montague County, use is dominantly from the Paleozoic Aquifer relative to the total pumping in the county. GMA-8 has not proposed a desired future condition for the Paleozoic aquifers. However, due to its importance as a source within their boundaries, the District has contracted with Intera to develop a model of the Paleozoic aquifer to be used as a management tool.

B. Amount of groundwater being used within the District on an annual basis – 31TAC 356.52(a)(5)(B)/TWC §36.1071(e)(3)(B)

See Appendix A

C. Annual amount of recharge from precipitation to the groundwater resources within the District–31TAC 356.52(a)(5)(C)/TWC §36.1071(e)(3)(C)

See Appendix B

D. For each aquifer, annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers – 31 TAC 356.52(a)(5)(D)/TWC §36.1071(e)(3)(D)

See Appendix B

E. Annual volume of flow into and out of the District within each aquifer and between aquifers in the District, if a groundwater availability model is available – 31 TAC 356.52(a)(5)(E)/TWC §36.1071(e)(3)(E)

See Appendix B

F. Projected surface water supply in the District, according to the most recently adopted State Water Plan – 31 TAC 356.52(a)(5)(F)/TWC §36.1071(e)(3)(F)

See Appendix A

G. Projected total demand for water in the District according to the most recently adopted State Water Plan – 31 TAC 356.52(a)(5)(G)/TWC §36.1071(e)(3)(G)

See Appendix A

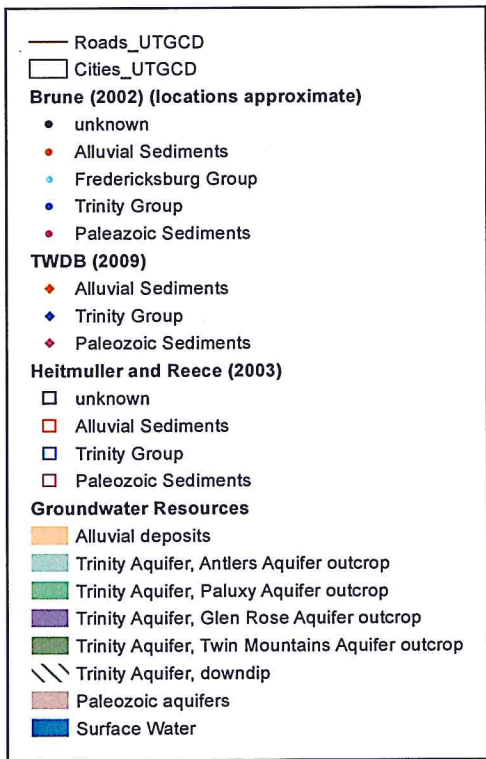
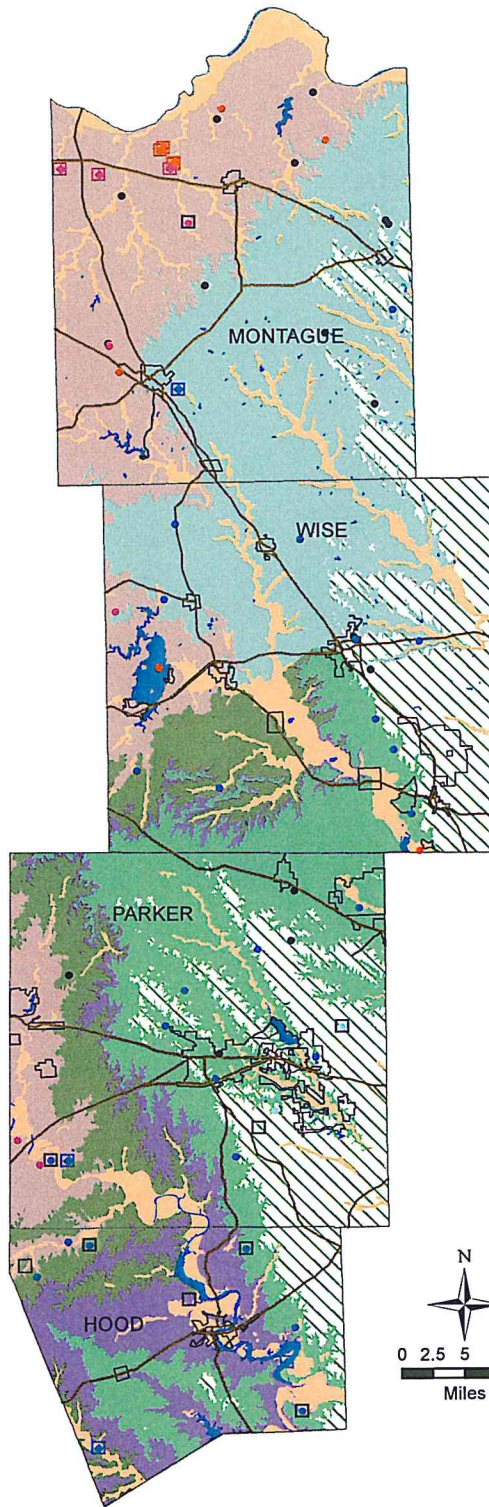
H. Consider the Water supply needs included in the most recently adopted State Water Plan – TWC §36.1071(E)(4)

See Appendix A

I. Consider the Water Management Strategies included in the most recently adopted State Water Plan – TWC §36.1071(E)(4)

See Appendix A

Figure 4. Documented springs in the District.



V. Details on the District Management of Groundwater

The District is acutely aware that its decisions regarding the possible permitting and regulation of water wells may have a significant impact on the manner in which water is provided to support human, animal, and plant life, land development, public water supplies, commercial and industrial operations, agriculture, and other economic growth in the District. The District Board takes its responsibilities very seriously with regard to these decisions and the impacts they may have on the property rights of the citizens of the District, and desires to undertake its approach to the development of a regulatory system in a careful, measured, and deliberate manner. In that regard, the District is determined to accumulate as much data and information as is practicable on the groundwater resources located within its boundaries before developing permanent rules and regulations that may impose permitting or groundwater production regulations on water wells.

The District began its initial studies and analysis of the aquifers and groundwater use patterns within its boundaries in early 2008 in an attempt to both catch up with then-ongoing discussions regarding the development of desired future conditions of the aquifers by the existing groundwater conservation districts in GMA-8, and to develop some baseline information on which decisions could be made for the development of temporary rules governing water wells. In August 2008, the District adopted its first set of temporary rules, which pioneer the District's information-gathering initiative. A copy of the District's temporary rules is available on the District's website at <http://www.uppertrinitygcd.com/pdf/temprules.pdf>. The District is currently working to develop permanent rules, but is likely 1 to 2 years from adoption. Among other things, the rules require non-exempt wells to be registered with the District, have meters installed to record the amount of groundwater produced, and submit records of the amounts produced to the District. These well owners are also required to submit fee payments to the District based upon the amount of groundwater produced.

In addition, all new wells are required to be registered with the District and comply with the minimum well spacing requirements of the District. The minimum well spacing requirements were developed by the District to try to limit the off-property impacts of new wells to existing registered wells and adjoining landowners. They include minimum tract size requirements, spacing requirements from the property line on the tract where the well is drilled, and spacing requirements from registered wells in existence at the time the new well is proposed. The spacing distances were developed through hydrogeologic modeling of the varying sizes of the cones of depression of various well capacities, and such distances naturally increase with increases in well capacities. Well interference problems caused by wells being located too close to each other have historically been one of the predominant problems for wells completed in the Trinity Aquifer in the District and throughout GMA-8 and GMA-9. The District's spacing requirements should go a long way toward prospectively limiting such well interference problems between new wells and between new and existing wells.

The District has also established a monitoring well network at key locations throughout the four counties to monitor water levels and aquifer conditions over time. Information from the well network will be assimilated along with groundwater production and use reports and estimates, well location and completion data, information on aquifer recharge rates and other hydrogeologic properties, and other information in a database in order to better understand and manage the

groundwater resources of the area. Information gleaned from these efforts will be used by the District in the future in the establishment of desired future conditions for the aquifers, in the monitoring of actual conditions of the aquifers and calibration of modeled conditions, in making planning decisions, and in the development of permanent District rules that may include a permitting system for water wells.

Chapter 36 requires the District to both adopt and enforce rules that will achieve the desired future conditions established for the aquifers in the District. Ideally, the District will be able to establish desired future conditions and implement rules that will promote and provide for sustainable groundwater production throughout the District for the current and future generations of citizens of the District. However, the science and information to be developed by the District may ultimately indicate that such a goal of sustainability, or perhaps even some less idealistic goal, is not achievable without reductions in groundwater production. Once again, if the District determines that groundwater production must be reduced in the future in order to achieve the desired future conditions, it will do so extremely cautiously and with due care and consideration for the possible economic impacts and other effects on the citizens and businesses of the District and their property rights and interests.

Chapter 36 and the District Act afford the District a number of options and tools for the management of groundwater and possible approaches to the regulation of production. Chapter 36 allows the District to be more protective of existing or historic wells and their use than it is of wells that have not yet been drilled. It allows the District to adopt dissimilar regulatory approaches for wells completed in separate aquifers or in different geographic regions of the District, in order to address critical areas or to otherwise tailor-make regulations that are more suitable for a particular aquifer or area. Groundwater management strategies employed for the outcrop of the aquifer may differ from those utilized in subcrop areas. The District may adopt production regulations that authorize production from a well based upon its past or existing use, the acreage or size of the tract of the property on which it is located, the level of decline in the aquifer where the well is located, or other reasonable and appropriate criteria as authorized by law.

Because the District is in a high-density growth area near the Dallas-Fort Worth Metroplex, the District will thoroughly investigate groundwater-to-surface-water conversion management strategies similar to those that have been or are being implemented in the Harris, Galveston, and Montgomery counties growth corridor along Interstate 45 in the Gulf Coast region of Texas. These regulatory approaches, which have been studied for decades as a method to fairly reduce groundwater production in high-growth suburban and urban regions, may prove to be the most appropriate for the District to pursue if it is required to reduce groundwater in order to achieve the desired future conditions established for the aquifers. However, groundwater reduction and surface water conversion management strategies can take many years to implement and represent a considerable capital investment for water users, as securing alternate sources of water supply by economically feasible means is an arduous endeavor that typically involves a very large number of stakeholders and overcoming numerous technical, legal, and financial hurdles. The District will ensure that it has thoroughly evaluated the alternatives and implications of pursuing such management strategies before opting for them, and has allowed a reasonable and sufficient amount of time for them to be implemented. This may necessitate the short-term allowance of groundwater production in excess of annual pumping goals or limits designed to achieve desired

future conditions, and nothing in this plan shall be construed to limit the ability of the District to utilize that regulatory flexibility.

The District has and will continue to promote water conservation and public awareness in its management efforts and may investigate and pursue conservation incentive-based management strategies that encourage or reward conservation. In many cases, conservation and public awareness strategies can be among the most cost-efficient means to reduce water use, and thus groundwater production, and will be thoroughly investigated and promoted by the District.

Water quantity issues are only part of the District's concern and regulatory purview. Water quality issues are equally important. The District is very concerned about protection of the quality of the groundwater resources in the four counties and will continue to pursue management strategies to protect those resources from contamination, which can threaten to undermine groundwater conservation efforts by rendering the resource unusable. The District has implemented an injection well monitoring program to monitor and evaluate permit applications submitted to the Railroad Commission of Texas and the Texas Commission on Environmental Quality for injection of various types of waste into the geologic formations underlying the freshwater aquifers in the District. The District works with injection well permit applicants to insure that any concerns it may have regarding threats to groundwater resources are addressed and, if necessary, will vigorously protest an injection application before those state agencies to ensure such resource protection. The District also has adopted and will enforce well completion standards for the drilling and completion of water wells, as well as standards for the capping and plugging of abandoned or deteriorated water wells.

VI. ACTIONS, PROCEDURES, PERFORMANCE AND AVOIDANCE FOR PLAN IMPLEMENTATION

The provisions of this plan will be implemented by the District and will be used by the District as a guidepost for determining the direction or priority for all District activities. All operations of the District, all agreements entered into by the District, and any additional planning efforts in which the District may participate will be consistent with the provisions of this plan.

Rules adopted by the District for the permitting of wells and the use of groundwater shall comply with Chapter 36, the District Act, and the provisions of this management plan. All rules will be adhered to and enforced. The development and enforcement of the rules will be based on the best technical evidence available to the District. A copy of the rules is included in Appendix C, and can be found here: <http://www.uppertrinitygcd.com/pdf/temprules.pdf>.

The District will encourage cooperation and coordination in the implementation of this plan. All operations and activities of the District will be performed in a manner that best encourages and fosters cooperation with state, regional, and local water entities.

VII. METHODOLOGY FOR TRACKING DISTRICT PROGRESS IN ACHIEVING MANAGEMENT GOALS

The General Manager of the District will prepare and submit an Annual Report which will include an update on the District's performance in regards to achieving management goals and objectives set forth herein. The General Manager of the District will annually present the Annual Report to the Board of Directors after its completion. The District will maintain a copy of the Annual Report on file at the District's offices for members of the public to inspect upon adoption of the report by the board.

VIII. GOALS, MANAGEMENT OBJECTIVES AND PERFORMANCE STANDARDS

Management Goals

A. Providing the Most Efficient Use of Groundwater – 31TAC 356.52(a)(1)(A)/TWC §36.1071(a)(1)

- A1. Objective - Each year the District will require registration of all new wells within the District.
- A.1 Performance Standard - Annual reporting of well registration statistics will be included in the Annual Report provided to the Board of Directors.
- A.2 Objective - Each year the District will monitor annual production from all non-exempt wells within the District.
- A.2 Performance Standard - The District will require installation of meters on all non-exempt wells and reporting of production to the District. The annual production of groundwater from non-exempt wells will be included in the Annual Report provided to the Board of Directors.

B. Controlling and Preventing Waste of Groundwater – 31TAC 356.52(a)(1)(B)/TWC §36.1071(a)(2)

- B.1 Objective - Annual evaluation of the rules to determine if any amendments are recommended to decrease waste of groundwater within the District.
- B.1 Performance Standard - Annual discussion of the evaluation of the rules and a reporting of whether any of the District rules require amendment to prevent waste of groundwater to be included in the Annual Report provided to the Board of Directors.
- B.2 Objective - The District will encourage the elimination and reduction of groundwater waste through the collection of a water-use fee for non-exempt production wells within the District.

- B.2 Performance Standard - Annual reporting of the total fees paid and total groundwater used by non-exempt wells will be included in the Annual Report provided to the Board of Directors.
- B.3 Objective - Each year, the District will provide information to the public on eliminating and reducing wasteful practices in the use of groundwater by including information on groundwater waste reduction on the District's website.
- B.3 Performance Standard - Each year, a copy of the information provided on the groundwater waste reduction page of the District's website will be included in the District's Annual Report to be given to the District's Board of Directors.

C. Addressing Conjunctive Surface Water Management Issues – 31TAC 356.52 (a)(1)(D)/TWC §36.1071(a)(4)

- C.1 Objective - Each year the District will participate in the regional water planning process by attending at least one of the Region B, C or G Regional Water Planning Group Meetings to encourage the development of surface water supplies to meet the needs of water user groups within the District.
- C.1 Performance Standard - The attendance of a District representative at any Regional Water Planning Group meeting will be noted in the Annual Report provided to the Board of Directors.

D. Addressing Drought Conditions – 31TAC 356.52 (a)(1)(F)/TWC §36.1071(a)(6)

- D.1 Objective - Monthly review of drought conditions within the District using the Texas Water Development Board's Monthly Drought Conditions Presentation available at: <http://waterdatafortexas.org/drought/drought-monitor>)
- D.1 Performance Standard – An annual review of drought conditions within the District will be included in the Annual Report provided to the Board of Directors and on the District website.

E. Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, or Brush Control, where Appropriate and Cost Effective – 31TAC 356.52 (a)(1)(G)/TWC §36.1071(a)(7)

Precipitation enhancement is not an appropriate or cost-effective program for the District at this time because there is not an existing precipitation enhancement program operating in nearby counties in which the District could participate and share costs. Given the relative youth of the District, development and running of a District-wide precipitation

enhancement program is not considered a priority. The District has determined that addressing precipitation enhancement is not applicable to the District at this time.

Recharge enhancement is not an appropriate or cost-effective program for the District at this time. The District has determined that addressing recharge enhancement is not applicable to the District at this time.

Brush Control is not an appropriate or cost-effective program for the District at this time. The District has determined that addressing brush control is not applicable to the District at this time.

E.1 Objective - The District will annually submit an article regarding water conservation for publication to at least one newspaper of general circulation in the District counties.

E.1 Performance Standard - Each year, a copy of the conservation article will be included in the District's Annual Report to be given to the District's Board of Directors.

E.2 Objective - The District will annually submit an article regarding rain water harvesting for publication to at least one newspaper of general circulation in the District counties.

E.2 Performance Standard - Each year, a copy of the rain water harvesting article will be included in the District's Annual Report to be given to the District's Board of Directors.

E.3 Objective - Each year, the District will include an informative flier on water conservation within at least one mail out to groundwater non-exempt water users distributed in the normal course of business for the District.

E.3 Performance Standard - Each year, a copy of the water conservation mail-out flyer will be included in the District's Annual Report to be given to the District's Board of Directors.

F. Addressing the Desired Future Conditions of the Groundwater Resources – 31TAC (a)(1)(H)/TWC §36.1071(a)(8)

F.1 Objective - Within 3 years of Groundwater Management Plan adoption develop a Groundwater Monitoring Program within the District.

F.1 Performance Standard - Upon development, attachment of the District Groundwater Monitoring Program to the District's Annual Report to be given to the District's Board of Directors.

- F.2 Objective - Upon approval of the District Monitoring Program – conduct water level measurements at least annually on groundwater resources within the District.
- F.2 Performance Standard - Annual evaluation of water-level trends and the adequacy of the monitoring network to monitor aquifer conditions within the District and comply with the aquifer resources desired future conditions. The evaluation will be included in the District’s Annual Report to be given to the District’s Board of Directors. The District may also take into consideration any measurements made by the TWDB groundwater measurement team.
- F.3 Objective - Monitor non-exempt pumping within the District for use in evaluating District compliance with aquifer desired future conditions.
- F.3 Performance Standard - Annual reporting of groundwater used by non-exempt wells will be included in the Annual Report provided to the District’s Board of Directors.

IX. MANAGEMENT GOALS DETERMINED NOT-APPLICABLE TO THE DISTRICT

A. Addressing Natural Resource Issues which Impact the Use and Availability of Groundwater, and which are Impacted by the Use of Groundwater – 31TAC 356.52 (a)(1)(E)/TWC §36.1071(a)(5)

The District has not been advised as to any threatened or endangered species that exist within the boundaries of the District and are significantly impacted by groundwater usage. At this time, this goal is not considered applicable to the District.

B. Controlling and Preventing Subsidence – 31TAC 356.52 (a)(1)(C)/ TWC §36.1071(a)(3)

This category of management goal is not considered applicable to the District because the formations making up the aquifers of use are consolidated with little potential for subsidence within the District as a result of groundwater withdrawal. Mace and others (1994) studied the potential for subsidence resulting from the significant historical water-level declines observed in the northern Trinity Aquifer in central Texas. They concluded that even in the confined portions of the aquifer, where the largest declines have occurred, the subsidence expected would be only a small amount and would take a very long time to manifest itself.

BIBLIOGRAPHY

- Aschenbach, E., 2009, GAM Run 09-022: Texas Water Development Board, <http://www.twdb.state.tx.us/gam/GAMruns/GR09-22.pdf>.
- Ashworth, J.B., and Hopkins, J., 1995, Aquifers of Texas: Texas Water Development Board, Report No. 345.
- Baker, B., Duffin, G., Flores, R., and Lynch, T., 1990, Evaluation of Water Resources in Part of North-Central Texas: Texas Water Development Board, Report 318.
- Bayha, D.C., 1967, Occurrence and Quality of Ground Water in Montague County, Texas: Texas Water Development Board, Report 58.
- Bené, J., Harden, B., O'Rourke, D., Donnelly, A., and Yelderman, J., 2004, Northern Trinity/Woodbine Groundwater Availability Model: Contractor report to the Texas Water Development Board by R.W. Harden and Associates.
- Bené, J., Harden, B., Griffin, S., and Nicot, J-P., 2007, Northern Trinity/Woodbine Groundwater Availability Model: Assessment of Groundwater Use in the Northern Trinity Aquifer Due to Urban Growth and Barnett Shale Development. Contract report to the Texas Water Development Board, 278 p.
- Brown, Jr., L.F., Goodson, J.L., Harwood, P., and Barnes, V.E., 1972, Geologic Atlas of Texas, Abilene Sheet, Scale: 1:250,000, Frederick Byron Plummer Memorial Edition: The University of Texas at Austin, Bureau of Economic Geology.
- Brune, G., 2002, Springs of Texas, Volume I, Second Edition: Texas A&M University Press, College Station, TX.
- Heitmuller, F.T., and Reece, B.D., 2003, Database of historical documented springs and spring flow measurements in Texas: United States Geological Survey, Open-File Report 03-315.
- Langley, L., 1999, Updated Evaluation of Water Resources in Part of North-Central Texas, 1990-1999: Texas Water Development Board, Report 349.
- Mace, R.E., Dutton, A.R., and Nance, H.S., 1994, Water-Level Declines in the Woodbine, Paluxy, and Trinity Aquifers of North-Central Texas: Transactions of the Gulf Coast Association of Geological Societies, Vol. XLIV, pages 412-402.
- McGowen, J.H., Hentz, T.F., Owen, D.E., Pieper, M.K., Shelby, C.A., and Barnes, V.E., 1967, Geologic Atlas of Texas, Sherman Sheet, Scale: 1:250,000, Walter Scott Adkins Memorial Edition: The University of Texas at Austin, Bureau of Economic Geology.
- McGowen, J.H., Proctor, Jr., C.V., Haenggi, W.T., Reaser, D.F., and Barnes, V.E., 1972, Geologic Atlas of Texas, Dallas Sheet, Scale: 1:250,000, Gayle Scott Memorial Edition: The University of Texas at Austin, Bureau of Economic Geology.

Norstrom, P.L., 1982, Occurrence, Availability, and Chemical Quality of Ground Water in the Cretaceous Aquifers of North-Central Texas, Volume 1: Texas Department of Water Resources, Report 269.

Oliver, W., Bradley, R.G., 2011, GAM Run 10-63 MAG: Texas Water Development Board, http://www.twdb.texas.gov/groundwater/docs/GAMruns/GR10-063_MAG.pdf.

TWDB, 2009a, Desired Future Conditions Submitted by the Groundwater Conservation Districts: Attachment A to letter from J. Kevin Ward with the TWDB to Cheryl Maxwell with the Clearwater Underground Water Conservation District dated March 31, 2009, <http://www.gma8.org/images/stories/pdf/MAG/trinity%20mag%20final%2031mar09.pdf>.

TWDB, 2009b, Groundwater database: <http://www.twdb.state.tx.us/publications/reports/GroundWaterReports/GWDatabaseReports/GWdatabaserpt.htm>, accessed November 2009.

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Estimated Historical Water Use And 2012 State Water Plan Datasets:

Upper Trinity Groundwater Conservation District

by Stephen Allen
Texas Water Development Board
Groundwater Resources Division
Groundwater Technical Assistance Section
stephen.allen@twdb.texas.gov
(512) 463-7317
June 19, 2015

GROUNDWATER MANAGEMENT PLAN DATA:

This package of water data reports (part 1 of a 2-part package of information) is being provided to groundwater conservation districts to help them meet the requirements for approval of their five-year groundwater management plan. Each report in the package addresses a specific numbered requirement in the Texas Water Development Board's groundwater management plan checklist. The checklist can be viewed and downloaded from this web address:

<http://www.twdb.texas.gov/groundwater/docs/GCD/GMPChecklist0113.pdf>

The five reports included in part 1 are:

1. Estimated Historical Water Use (checklist Item 2)
from the TWDB Historical Water Use Survey (WUS)
2. Projected Surface Water Supplies (checklist Item 6)
3. Projected Water Demands (checklist Item 7)
4. Projected Water Supply Needs (checklist Item 8)
5. Projected Water Management Strategies (checklist Item 9)
reports 2-5 are from the 2012 Texas State Water Plan (SWP)

Part 2 of the 2-part package is the groundwater availability model (GAM) report. The District should have received, or will receive, this report from the Groundwater Availability Modeling Section. Questions about the GAM can be directed to Dr. Shirley Wade, shirley.wade@twdb.texas.gov, (512) 936-0883.

DISCLAIMER:

The data presented in this report represents the most up-to-date WUS and 2012 SWP data available as of 6/19/2015. Although it does not happen frequently, neither of these datasets are static so they are subject to change pending the availability of more accurate WUS data or an amendment to the 2012 SWP. District personnel must review these datasets and correct any discrepancies in order to ensure approval of their groundwater management plan.

The WUS dataset can be verified at this web address:

<http://www.twdb.texas.gov/waterplanning/waterusesurvey/estimates/>

The 2012 SWP dataset can be verified by contacting Sabrina Anderson (sabrina.anderson@twdb.texas.gov or 512-936-0886).

For additional questions regarding this data, please contact Stephen Allen (stephen.allen@twdb.texas.gov or 512-463-7317) or Rima Petrossian (rima.petrossian@twdb.texas.gov or 512-936-2420).

Estimated Historical Water Use

TWDB Historical Water Use Survey (WUS) Data

Groundwater and surface water historical use estimates are currently unavailable for calendar year 2013. TWDB staff anticipates the calculation and posting of these estimates at a later date.

HOOD COUNTY

All values are in acre-feet/year

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2013	GW	6,848	12	27	13	3,102	207	10,209
	SW	840	0	325	3,056	5,000	255	9,476
2012	GW	6,859	14	96	9	3,640	197	10,815
	SW	903	0	496	563	5,355	240	7,557
2011	GW	7,083	13	700	9	397	246	8,448
	SW	1,602	0	876	439	10,916	300	14,133
2010	GW	6,708	6	1,216	6	675	240	8,851
	SW	664	0	1,522	485	7,500	293	10,464
2009	GW	5,823	12	1,313	26	404	247	7,825
	SW	917	0	1,643	593	8,298	301	11,752
2008	GW	5,337	20	1,410	41	0	238	7,046
	SW	1,533	0	1,765	487	6,083	292	10,160
2007	GW	5,085	25	0	150	498	184	5,942
	SW	919	0	0	1,652	5,044	225	7,840
2006	GW	5,232	25	0	77	2,776	260	8,370
	SW	1,667	0	0	39	5,641	317	7,664
2005	GW	5,276	22	0	93	0	245	5,636
	SW	1,329	0	0	293	7,960	299	9,881
2004	GW	4,704	17	0	53	0	275	5,049
	SW	545	0	0	302	5,540	281	6,668
2003	GW	4,782	15	0	44	0	255	5,096
	SW	762	0	0	1,489	8,726	261	11,238
2002	GW	4,145	16	0	39	0	361	4,561
	SW	1,920	0	0	3,070	2,691	371	8,052
2001	GW	3,807	24	0	46	0	299	4,176
	SW	1,988	0	0	3,339	2,691	307	8,325
2000	GW	3,362	20	0	47	10	311	3,750
	SW	2,142	0	0	3,884	3,230	311	9,567

MONTAGUE COUNTY

All values are in acre-fee/year

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2013	GW	1,188	0	507	0	465	56	2,216
	SW	1,435	0	2,031	0	0	1,066	4,532
2012	GW	1,393	0	690	0	530	50	2,663
	SW	1,675	1	2,130	0	0	958	4,764
2011	GW	1,526	0	1,644	0	739	59	3,968
	SW	1,801	1	1,919	0	0	1,127	4,848
2010	GW	1,354	0	616	0	695	59	2,724
	SW	1,751	1	719	0	0	1,110	3,581
2009	GW	1,261	0	530	0	874	66	2,731
	SW	1,593	1	620	0	0	1,255	3,469
2008	GW	1,131	0	444	0	131	63	1,769
	SW	1,594	1	520	0	0	1,204	3,319
2007	GW	983	0	0	0	91	76	1,150
	SW	1,426	1	0	0	0	1,442	2,869
2006	GW	1,255	0	0	0	387	67	1,709
	SW	1,829	1	0	0	12	1,272	3,114
2005	GW	1,195	0	0	0	172	69	1,436
	SW	1,697	1	0	0	0	1,310	3,008
2004	GW	1,091	0	0	0	158	72	1,321
	SW	1,884	1	0	0	0	1,345	3,230
2003	GW	1,139	0	0	0	57	75	1,271
	SW	1,725	1	0	0	0	1,393	3,119
2002	GW	1,124	0	0	0	268	74	1,466
	SW	1,426	1	0	0	0	1,370	2,797
2001	GW	1,159	0	0	0	147	83	1,389
	SW	1,539	1	0	0	0	1,528	3,068
2000	GW	1,212	0	0	0	60	150	1,422
	SW	1,460	6	0	0	0	1,351	2,817

Estimated Historical Water Use and 2012 State Water Plan Dataset:

Upper Trinity Groundwater Conservation District

June 19, 2015

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PARKER COUNTY

All values are in acre-fee/year

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2013	GW	7,103	16	123	0	919	115	8,276
	SW	10,480	30	1,190	0	152	1,048	12,900
2012	GW	8,798	20	341	0	28	97	9,284
	SW	7,850	49	1,773	565	156	869	11,262
2011	GW	9,047	25	989	0	185	229	10,475
	SW	8,102	62	2,198	604	77	2,060	13,103
2010	GW	7,938	16	2,450	0	182	226	10,812
	SW	6,756	54	3,414	464	27	2,035	12,750
2009	GW	7,285	16	1,926	0	44	157	9,428
	SW	6,536	53	3,009	741	88	1,408	11,835
2008	GW	6,196	15	1,401	0	73	129	7,814
	SW	7,476	40	2,393	2	117	1,164	11,192
2007	GW	6,508	7	0	0	60	177	6,752
	SW	6,578	89	887	2	20	1,591	9,167
2006	GW	7,130	14	0	0	474	178	7,796
	SW	8,542	98	887	9	16	1,601	11,153
2005	GW	5,901	11	0	0	206	132	6,250
	SW	7,818	73	698	3	190	1,185	9,967
2004	GW	5,192	10	0	0	130	65	5,397
	SW	7,182	78	840	0	124	1,242	9,466
2003	GW	5,365	8	0	0	39	74	5,486
	SW	6,676	85	1,269	703	381	1,389	10,503
2002	GW	5,302	8	0	0	64	89	5,463
	SW	6,568	72	2,431	703	293	1,685	11,752
2001	GW	5,257	12	0	0	64	90	5,423
	SW	2,977	91	1,466	10,970	293	1,693	17,490
2000	GW	5,277	21	0	0	74	185	5,557
	SW	6,151	182	403	4,568	348	1,670	13,322

Estimated Historical Water Use and 2012 State Water Plan Dataset:

Upper Trinity Groundwater Conservation District

June 19, 2015

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WISE COUNTY

All values are in acre-fee/year

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2013	GW	4,206	179	440	1	1,261	224	6,311
	SW	3,768	43	2,874	2,593	39	899	10,216
2012	GW	4,550	160	613	0	1,516	210	7,049
	SW	3,989	44	2,808	2,879	46	841	10,607
2011	GW	4,873	162	3,662	0	1,458	257	10,412
	SW	3,854	292	5,126	0	10	1,027	10,309
2010	GW	4,383	176	5,135	0	830	254	10,778
	SW	3,642	53	6,821	0	761	1,017	12,294
2009	GW	3,263	187	4,454	0	692	321	8,917
	SW	2,215	97	6,090	0	831	1,285	10,518
2008	GW	2,218	418	3,773	0	0	267	6,676
	SW	2,141	121	5,316	0	1,070	1,067	9,715
2007	GW	2,085	120	14	0	130	405	2,754
	SW	2,016	52	966	0	1,220	1,618	5,872
2006	GW	2,280	93	1	0	290	288	2,952
	SW	2,443	70	977	0	1,000	1,150	5,640
2005	GW	2,196	99	1	0	62	295	2,653
	SW	2,103	62	977	0	1,323	1,178	5,643
2004	GW	1,934	69	12	0	128	713	2,856
	SW	1,774	72	1,003	0	152	713	3,714
2003	GW	1,767	283	1	0	45	780	2,876
	SW	1,946	235	266	0	430	780	3,657
2002	GW	1,810	66	1	0	129	782	2,788
	SW	1,436	456	8,298	0	316	782	11,288
2001	GW	1,721	391	1	0	116	841	3,070
	SW	1,168	928	24,627	0	284	841	27,848
2000	GW	1,704	220	1	0	147	857	2,929
	SW	1,652	553	14,699	0	355	857	18,116

Estimated Historical Water Use and 2012 State Water Plan Dataset:

Upper Trinity Groundwater Conservation District

June 19, 2015

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Projected Surface Water Supplies TWDB 2012 State Water Plan Data

HOOD COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
G	ACTON MUD	BRAZOS	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	3,733	3,734	3,735	3,734	3,729	3,717
G	COUNTY-OTHER	BRAZOS	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	949	949	949	949	949	949
G	DECORDOVA	BRAZOS	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	593	592	591	592	597	608
G	GRANBURY	BRAZOS	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	226	226	226	226	226	226
G	IRRIGATION	BRAZOS	BRAZOS RIVER COMBINED RUN-OF- RIVER IRRIGATION	12,644	12,648	12,651	12,655	12,658	12,662
G	LIVESTOCK	BRAZOS	LIVESTOCK LOCAL SUPPLY	617	617	617	617	617	617
G	LIVESTOCK	TRINITY	LIVESTOCK LOCAL SUPPLY	6	6	6	6	6	6
G	MANUFACTURING	BRAZOS	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	10,000	10,000	10,000	10,000	10,000	10,000
G	MINING	BRAZOS	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	300	300	300	300	300	300
G	STEAM ELECTRIC POWER	BRAZOS	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	43,447	43,447	43,447	43,447	43,447	43,447
Sum of Projected Surface Water Supplies (acre-feet/year)				72,515	72,519	72,522	72,526	72,529	72,532

Estimated Historical Water Use and 2012 State Water Plan Dataset:

Upper Trinity Groundwater Conservation District

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Projected Surface Water Supplies

TWDB 2012 State Water Plan Data

MONTAGUE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
B	BOWIE	TRINITY	AMON G. CARTER LAKE/RESERVOIR	1,302	1,229	1,160	1,092	1,027	961
B	COUNTY-OTHER	RED	FARMERS CREEK/NOCONA LAKE/RESERVOIR	52	55	56	56	55	56
B	COUNTY-OTHER	TRINITY	AMON G. CARTER LAKE/RESERVOIR	131	137	139	140	138	139
B	IRRIGATION	RED	FARMERS CREEK/NOCONA LAKE/RESERVOIR	100	100	100	100	100	100
B	IRRIGATION	RED	RED RIVER COMBINED RUN-OF-RIVER IRRIGATION	108	108	108	108	108	108
B	IRRIGATION	TRINITY	TRINITY RIVER COMBINED RUN-OF-RIVER IRRIGATION	0	0	0	0	0	0
B	LIVESTOCK	RED	LIVESTOCK LOCAL SUPPLY	949	949	949	949	949	949
B	LIVESTOCK	TRINITY	LIVESTOCK LOCAL SUPPLY	716	716	716	716	716	716
B	MANUFACTURING	RED	FARMERS CREEK/NOCONA LAKE/RESERVOIR	11	14	18	23	29	29
B	MINING	RED	AMON G. CARTER LAKE/RESERVOIR	0	0	0	0	0	0
B	MINING	TRINITY	AMON G. CARTER LAKE/RESERVOIR	0	0	0	0	0	0
B	NOCONA	RED	FARMERS CREEK/NOCONA LAKE/RESERVOIR	1,097	1,091	1,086	1,081	1,076	1,075
Sum of Projected Surface Water Supplies (acre-feet/year)				4,466	4,399	4,332	4,265	4,198	4,133

PARKER COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
C	AZLE	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	332	305	272	241	222	218
C	COUNTY-OTHER	BRAZOS	PALO PINTO LAKE/RESERVOIR	479	479	479	479	479	479
C	COUNTY-OTHER	BRAZOS	TRWD LAKE/RESERVOIR SYSTEM	0	145	129	113	95	81

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Projected Surface Water Supplies

TWDB 2012 State Water Plan Data

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
C	COUNTY-OTHER	BRAZOS	WEATHERFORD LAKE/RESERVOIR	0	86	74	64	53	43
C	FORT WORTH	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	3,016	12,161	15,886	15,942	15,476	14,546
C	HUDSON OAKS	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	109	178	230	265	290	302
C	IRRIGATION	BRAZOS	BRAZOS RIVER COMBINED RUN-OF-RIVER IRRIGATION	117	117	117	117	117	117
C	IRRIGATION	TRINITY	TRINITY RIVER COMBINED RUN-OF-RIVER IRRIGATION	122	122	122	122	122	122
C	LIVESTOCK	BRAZOS	LIVESTOCK LOCAL SUPPLY	903	903	903	903	903	903
C	LIVESTOCK	TRINITY	LIVESTOCK LOCAL SUPPLY	1,019	1,019	1,019	1,019	1,019	1,019
C	MANUFACTURING	BRAZOS	OTHER LOCAL SUPPLY	0	0	0	0	0	0
C	MANUFACTURING	BRAZOS	PALO PINTO LAKE/RESERVOIR	25	25	25	24	25	25
C	MANUFACTURING	BRAZOS	TRWD LAKE/RESERVOIR SYSTEM	185	192	180	171	161	152
C	MANUFACTURING	BRAZOS	WEATHERFORD LAKE/RESERVOIR	45	45	45	45	45	45
C	MANUFACTURING	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	423	453	428	406	383	362
C	MANUFACTURING	TRINITY	WEATHERFORD LAKE/RESERVOIR	191	221	207	197	185	174
C	MINERAL WELLS	BRAZOS	MINERAL WELLS LAKE/RESERVOIR	0	0	0	0	0	0
C	MINERAL WELLS	BRAZOS	PALO PINTO LAKE/RESERVOIR	756	734	719	703	697	694
C	MINING	BRAZOS	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	2,000	2,000	2,000	2,000	2,000	2,000
C	MINING	BRAZOS	OTHER LOCAL SUPPLY	16	16	15	15	14	14
C	MINING	TRINITY	OTHER LOCAL SUPPLY	4	4	5	5	6	6
C	RENO	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	148	141	121	104	95	88

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Projected Surface Water Supplies

TWDB 2012 State Water Plan Data

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
C	SANCTUARY	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	90	198	245	250	252	246
C	SPRINGTOWN	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	246	388	445	489	518	534
C	STEAM ELECTRIC POWER	TRINITY	WEATHERFORD LAKE/RESERVOIR	24	20	22	38	44	53
C	WALNUT CREEK SUD	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	2,259	2,264	1,862	1,557	1,308	1,133
C	WEATHERFORD	BRAZOS	TRWD LAKE/RESERVOIR SYSTEM	106	151	172	185	198	207
C	WEATHERFORD	BRAZOS	WEATHERFORD LAKE/RESERVOIR	94	113	116	116	117	117
C	WEATHERFORD	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	2,214	3,240	3,515	3,673	3,801	3,910
C	WEATHERFORD	TRINITY	WEATHERFORD LAKE/RESERVOIR	1,982	2,372	2,325	2,267	2,223	2,175
Sum of Projected Surface Water Supplies (acre-feet/year)				16,905	28,092	31,678	31,510	30,848	29,765

WISE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
C	BOLIVAR WSC	TRINITY	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	49	24	21	23	26	34
C	BOLIVAR WSC	TRINITY	RAY ROBERTS LAKE/RESERVOIR NON-SYSTEM PORTION	15	0	0	0	0	0
C	BOLIVAR WSC	TRINITY	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	31	65	69	72	75	89
C	BOYD	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	62	117	147	167	183	159
C	BRIDGEPORT	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	1,337	1,700	1,700	1,700	1,700	1,700
C	CHICO	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	81	102	111	111	111	111
C	COMMUNITY WSC	TRINITY	TRWD	18	16	13	11	9	8

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			LAKE/RESERVOIR SYSTEM						
C	COUNTY-OTHER	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	1,863	1,955	1,646	1,398	1,212	1,057
C	DECATUR	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	1,614	1,754	1,754	1,754	1,754	1,754
C	FORT WORTH	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	503	2,339	2,780	3,119	3,537	3,794
C	IRRIGATION	TRINITY	TRINITY RIVER COMBINED RUN-OF- RIVER IRRIGATION	139	139	139	139	139	139
C	IRRIGATION	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	212	195	165	143	125	109
C	LIVESTOCK	TRINITY	LIVESTOCK LOCAL SUPPLY	1,117	1,117	1,117	1,117	1,117	1,117
C	MANUFACTURING	TRINITY	OTHER LOCAL SUPPLY	0	0	0	0	0	0
C	MANUFACTURING	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	2,299	2,429	2,313	2,202	2,083	1,981
C	MINING	TRINITY	OTHER LOCAL SUPPLY	0	0	0	0	0	0
C	MINING	TRINITY	TRINITY RIVER COMBINED RUN-OF- RIVER MINING	51	51	51	51	51	51
C	MINING	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	7,943	7,961	7,395	6,961	6,603	6,175
C	PARADISE	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	71	82	85	90	98	104
C	RHOME	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	330	654	1,012	1,130	1,130	1,130
C	RUNAWAY BAY	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	293	327	335	330	323	313
C	STEAM ELECTRIC POWER	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	1,751	1,143	948	1,267	1,207	1,416
C	WALNUT CREEK SUD	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	289	296	243	198	169	151
C	WEST WISE RURAL SUD	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	478	481	442	417	402	390
Sum of Projected Surface Water Supplies (acre-feet/year)				20,546	22,947	22,486	22,400	22,054	21,782

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Projected Water Demands

TWDB 2012 State Water Plan Data

Please note that the demand numbers presented here include the plumbing code savings found in the Regional and State Water Plans.

HOOD COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
G	COUNTY-OTHER	BRAZOS	2,854	3,290	3,677	4,081	4,582	5,167
G	DECORDOVA	BRAZOS	593	592	591	592	597	608
G	LIPAN	BRAZOS	171	239	333	467	656	924
G	TOLAR	BRAZOS	143	179	213	246	289	342
G	GRANBURY	BRAZOS	2,795	3,456	4,058	4,708	5,524	6,485
G	CRESSON	BRAZOS	37	44	53	63	77	94
G	OAK TRAIL SHORES SUBDIVISION	BRAZOS	511	504	492	484	480	480
G	ACTON MUD	BRAZOS	2,425	2,912	3,363	3,851	4,464	5,204
G	MANUFACTURING	BRAZOS	25	28	30	32	34	37
G	STEAM ELECTRIC POWER	BRAZOS	4,000	5,862	6,853	8,062	9,535	11,331
G	LIVESTOCK	BRAZOS	617	617	617	617	617	617
G	IRRIGATION	BRAZOS	3,179	3,120	3,062	3,005	2,948	2,893
G	MINING	BRAZOS	162	161	160	159	158	157
G	CRESSON	TRINITY	6	8	9	11	13	16
G	COUNTY-OTHER	TRINITY	9	11	12	13	15	17
G	LIVESTOCK	TRINITY	6	6	6	6	6	6
Sum of Projected Water Demands (acre-feet/year)			17,533	21,029	23,529	26,397	29,995	34,378

MONTAGUE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
B	COUNTY-OTHER	RED	441	463	469	473	467	469
B	LIVESTOCK	RED	1,054	1,054	1,054	1,054	1,054	1,054
B	IRRIGATION	RED	59	59	59	59	59	59
B	MANUFACTURING	RED	9	12	15	19	24	24
B	MINING	RED	491	467	459	463	476	476
B	NOCONA	RED	693	681	671	664	657	660
B	SAINT JO	TRINITY	99	101	98	97	96	96
B	COUNTY-OTHER	TRINITY	866	909	920	927	917	920
B	BOWIE	TRINITY	1,027	987	966	952	941	943
B	LIVESTOCK	TRINITY	796	796	796	796	796	796

Estimated Historical Water Use and 2012 State Water Plan Dataset:

Upper Trinity Groundwater Conservation District

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Projected Water Demands

TWDB 2012 State Water Plan Data

Please note that the demand numbers presented here include the plumbing code savings found in the Regional and State Water Plans.

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
B	MINING	TRINITY	14	14	14	14	14	14
B	IRRIGATION	TRINITY	238	238	238	238	238	238
Sum of Projected Water Demands (acre-feet/year)			5,787	5,781	5,759	5,756	5,739	5,749

PARKER COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
C	WEATHERFORD	BRAZOS	251	302	361	418	479	547
C	LIVESTOCK	BRAZOS	872	872	872	872	872	872
C	IRRIGATION	BRAZOS	408	408	408	408	408	408
C	COUNTY-OTHER	BRAZOS	2,252	2,389	2,703	2,931	2,888	2,867
C	MANUFACTURING	BRAZOS	231	261	289	317	341	370
C	MINERAL WELLS	BRAZOS	766	753	744	730	726	726
C	MINING	BRAZOS	5,628	1,641	1,623	1,638	1,640	1,651
C	CRESSON	BRAZOS	28	34	42	51	62	76
C	AZLE	TRINITY	353	438	533	614	708	811
C	ANNETTA	TRINITY	218	265	305	339	374	416
C	COUNTY-OTHER	TRINITY	2,483	2,169	1,888	1,616	1,364	1,129
C	WALNUT CREEK SUD	TRINITY	2,310	3,355	5,215	6,407	6,757	6,990
C	WEATHERFORD	TRINITY	5,258	6,315	7,246	8,136	9,082	10,194
C	SPRINGTOWN	TRINITY	504	659	807	961	1,113	1,272
C	RENO	TRINITY	319	321	322	321	327	337
C	HUDSON OAKS	TRINITY	394	475	576	674	771	867
C	ALEDO	TRINITY	455	957	1,532	2,106	2,213	2,213
C	ANNETTA SOUTH	TRINITY	91	105	116	124	135	147
C	FORT WORTH	TRINITY	3,328	14,576	22,773	26,034	28,518	30,423
C	CRESSON	TRINITY	28	34	41	50	61	75
C	SANCTUARY	TRINITY	92	216	314	370	426	478
C	LIVESTOCK	TRINITY	984	984	984	984	984	984
C	IRRIGATION	TRINITY	14	14	14	14	14	14
C	WILLOW PARK	TRINITY	681	934	1,298	1,557	1,731	1,855
C	MINING	TRINITY	240	61	69	64	72	69
C	STEAM ELECTRIC POWER	TRINITY	24	22	28	56	75	102
C	MANUFACTURING	TRINITY	548	618	685	751	809	878
Sum of Projected Water Demands (acre-feet/year)			28,760	39,178	51,788	58,543	62,950	66,771

Estimated Historical Water Use and 2012 State Water Plan Dataset:

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WISE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
C	PARADISE	TRINITY	73	89	109	134	165	202
C	WEST WISE RURAL SUD	TRINITY	483	524	567	618	681	756
C	WALNUT CREEK SUD	TRINITY	296	439	680	815	874	932
C	RUNAWAY BAY	TRINITY	296	356	430	489	547	608
C	FORT WORTH	TRINITY	555	2,803	3,985	5,094	6,518	7,936
C	COMMUNITY WSC	TRINITY	18	17	17	16	16	16
C	BOLIVAR WSC	TRINITY	187	238	303	440	612	918
C	IRRIGATION	TRINITY	502	502	502	502	502	502
C	LIVESTOCK	TRINITY	1,714	1,714	1,714	1,714	1,714	1,714
C	MINING	TRINITY	26,477	28,924	31,620	34,393	37,258	39,956
C	STEAM ELECTRIC POWER	TRINITY	1,751	1,245	1,216	1,878	2,042	2,748
C	COUNTY-OTHER	TRINITY	3,776	4,261	4,221	4,142	4,103	4,103
C	MANUFACTURING	TRINITY	2,313	2,660	2,979	3,277	3,539	3,858
C	BOYD	TRINITY	215	278	339	397	459	459
C	BRIDGEPORT	TRINITY	1,361	1,899	2,702	3,187	3,713	4,444
C	AURORA	TRINITY	187	218	237	253	292	338
C	ALVORD	TRINITY	199	214	228	243	263	287
C	NEWARK	TRINITY	154	232	301	418	564	787
C	NEW FAIRVIEW	TRINITY	201	272	340	409	488	579
C	RHOME	TRINITY	590	955	1,541	2,151	2,760	3,369
C	CHICO	TRINITY	208	235	276	333	405	495
C	DECATUR	TRINITY	1,639	2,011	2,748	3,537	4,580	5,385
Sum of Projected Water Demands (acre-feet/year)			43,195	50,086	57,055	64,440	72,095	80,392

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Projected Water Supply Needs

TWDB 2012 State Water Plan Data

Negative values (in red) reflect a projected water supply need, positive values a surplus.

HOOD COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
G	ACTON MUD	BRAZOS	2,833	2,341	1,885	1,390	764	1
G	COUNTY-OTHER	BRAZOS	2,655	2,219	1,832	1,428	927	342
G	COUNTY-OTHER	TRINITY	15	13	12	11	9	7
G	CRESSON	BRAZOS	63	56	47	37	23	6
G	CRESSON	TRINITY	34	32	31	29	27	24
G	DECORDOVA	BRAZOS	0	0	0	0	0	0
G	GRANBURY	BRAZOS	-1,806	-2,467	-3,109	-3,799	-4,615	-5,576
G	IRRIGATION	BRAZOS	9,478	9,541	9,602	9,663	9,723	9,782
G	LIPAN	BRAZOS	68	0	-94	-228	-417	-685
G	LIVESTOCK	BRAZOS	0	0	0	0	0	0
G	LIVESTOCK	TRINITY	0	0	0	0	0	0
G	MANUFACTURING	BRAZOS	10,015	10,012	10,010	10,008	10,006	10,003
G	MINING	BRAZOS	347	348	349	350	351	352
G	OAK TRAIL SHORES SUBDIVISION	BRAZOS	-364	-357	-345	-337	-333	-333
G	STEAM ELECTRIC POWER	BRAZOS	39,506	37,644	36,653	35,444	33,971	32,175
G	TOLAR	BRAZOS	52	16	-18	-51	-94	-147
Sum of Projected Water Supply Needs (acre-feet/year)			-2,170	-2,824	-3,566	-4,415	-5,459	-6,741

MONTAGUE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
B	BOWIE	TRINITY	275	242	194	140	86	18
B	COUNTY-OTHER	RED	-89	-108	-113	-117	-112	-113
B	COUNTY-OTHER	TRINITY	-135	-172	-181	-187	-179	-181
B	IRRIGATION	RED	154	154	154	154	154	154
B	IRRIGATION	TRINITY	1	1	1	1	1	1
B	LIVESTOCK	RED	1	1	1	1	1	1
B	LIVESTOCK	TRINITY	0	0	0	0	0	0
B	MANUFACTURING	RED	2	2	3	4	5	5
B	MINING	RED	-163	-139	-131	-135	-148	-148
B	MINING	TRINITY	-14	-14	-14	-14	-14	-14
B	NOCONA	RED	404	410	415	417	419	415

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Projected Water Supply Needs

TWDB 2012 State Water Plan Data

Negative values (in red) reflect a projected water supply need, positive values a surplus.

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
B	SAINT JO	TRINITY	112	110	113	114	115	115
Sum of Projected Water Supply Needs (acre-feet/year)			-401	-433	-439	-453	-453	-456

PARKER COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
C	ALEDO	TRINITY	46	-456	-1,031	-1,605	-1,712	-1,712
C	ANNETTA	TRINITY	22	-25	-65	-99	-134	-176
C	ANNETTA SOUTH	TRINITY	9	-5	-16	-24	-35	-47
C	AZLE	TRINITY	-21	-133	-261	-373	-486	-593
C	COUNTY-OTHER	BRAZOS	145	239	0	0	0	0
C	COUNTY-OTHER	TRINITY	1,464	1,778	1,956	1,974	2,240	2,472
C	CRESSON	BRAZOS	55	49	41	32	21	7
C	CRESSON	TRINITY	55	49	42	33	22	8
C	FORT WORTH	TRINITY	-122	-1,754	-6,048	-9,305	-12,332	-15,255
C	HUDSON OAKS	TRINITY	-4	-16	-65	-128	-200	-284
C	IRRIGATION	BRAZOS	232	232	232	232	232	232
C	IRRIGATION	TRINITY	119	119	119	119	119	119
C	LIVESTOCK	BRAZOS	31	31	31	31	31	31
C	LIVESTOCK	TRINITY	248	248	248	248	248	248
C	MANUFACTURING	BRAZOS	24	1	-39	-77	-110	-148
C	MANUFACTURING	TRINITY	84	74	-32	-130	-223	-324
C	MINERAL WELLS	BRAZOS	-10	-19	-25	-27	-29	-32
C	MINING	BRAZOS	2,020	6,186	6,196	6,186	6,176	6,168
C	MINING	TRINITY	0	0	0	0	0	0
C	RENO	TRINITY	-4	-13	-34	-50	-65	-82
C	SANCTUARY	TRINITY	-2	-18	-69	-120	-174	-232
C	SPRINGTOWN	TRINITY	-206	-219	-310	-420	-543	-686
C	STEAM ELECTRIC POWER	TRINITY	0	-2	-6	-18	-31	-49
C	WALNUT CREEK SUD	TRINITY	-51	-1,091	-3,353	-4,850	-5,449	-5,857
C	WEATHERFORD	BRAZOS	-51	-38	-73	-117	-164	-223
C	WEATHERFORD	TRINITY	-1,062	-703	-1,406	-2,196	-3,058	-4,109
C	WILLOW PARK	TRINITY	76	-177	-541	-800	-974	-1,098
Sum of Projected Water Supply Needs (acre-feet/year)			-1,533	-4,669	-13,374	-20,339	-25,719	-30,907

Estimated Historical Water Use and 2012 State Water Plan Dataset:

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WISE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
C	ALVORD	TRINITY	117	102	88	73	53	29
C	AURORA	TRINITY	65	34	15	-1	-40	-86
C	BOLIVAR WSC	TRINITY	74	-24	-120	-264	-431	-700
C	BOYD	TRINITY	-3	-11	-42	-80	-126	-150
C	BRIDGEPORT	TRINITY	-24	-199	-1,002	-1,487	-2,013	-2,744
C	CHICO	TRINITY	-3	-9	-41	-98	-170	-260
C	COMMUNITY WSC	TRINITY	0	-1	-4	-5	-7	-8
C	COUNTY-OTHER	TRINITY	1,071	678	409	240	93	-62
C	DECATUR	TRINITY	-25	-257	-994	-1,783	-2,826	-3,631
C	FORT WORTH	TRINITY	-20	-337	-1,058	-1,821	-2,819	-3,980
C	IRRIGATION	TRINITY	139	122	92	70	52	36
C	LIVESTOCK	TRINITY	210	210	210	210	210	210
C	MANUFACTURING	TRINITY	0	-217	-652	-1,061	-1,442	-1,863
C	MINING	TRINITY	0	-4,285	-9,469	-14,185	-18,815	-23,116
C	NEW FAIRVIEW	TRINITY	20	-51	-119	-188	-267	-358
C	NEWARK	TRINITY	15	-63	-132	-249	-395	-618
C	PARADISE	TRINITY	-2	-7	-24	-44	-67	-98
C	RHOME	TRINITY	-17	-58	-286	-778	-1,387	-1,996
C	RUNAWAY BAY	TRINITY	-3	-29	-95	-159	-224	-295
C	STEAM ELECTRIC POWER	TRINITY	0	-102	-268	-611	-835	-1,332
C	WALNUT CREEK SUD	TRINITY	-7	-143	-437	-617	-705	-781
C	WEST WISE RURAL SUD	TRINITY	-5	-43	-125	-201	-279	-366
Sum of Projected Water Supply Needs (acre-feet/year)			-109	-5,836	-14,868	-23,632	-32,848	-42,444

Projected Water Management Strategies

TWDB 2012 State Water Plan Data

HOOD COUNTY

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
GRANBURY, BRAZOS (G)							
INCREASE TREATMENT CAPACITY	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM [RESERVOIR]	3,920	3,920	3,920	3,920	7,840	7,840
MUNICIPAL WATER CONSERVATION	CONSERVATION [HOOD]	55	158	148	156	165	193
LIPAN, BRAZOS (G)							
ADDITIONAL TRINITY AQUIFER DEVELOPMENT (INCLUDES OVERDRAFTING)	TRINITY AQUIFER [HOOD]	0	0	100	227	418	685
MUNICIPAL WATER CONSERVATION	CONSERVATION [HOOD]	5	16	19	23	31	44
OAK TRAIL SHORES SUBDIVISION, BRAZOS (G)							
VOLUNTARY REDISTRIBUTION	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM [RESERVOIR]	390	390	390	390	390	390
TOLAR, BRAZOS (G)							
ADDITIONAL TRINITY AQUIFER DEVELOPMENT (INCLUDES OVERDRAFTING)	TRINITY AQUIFER [HOOD]	0	0	100	100	100	150
MUNICIPAL WATER CONSERVATION	CONSERVATION [HOOD]	6	15	16	14	13	15
Sum of Projected Water Management Strategies (acre-feet/year)		4,376	4,499	4,693	4,830	8,957	9,317

MONTAGUE COUNTY

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
BOWIE, TRINITY (B)							
MUNICIPAL CONSERVATION	CONSERVATION [MONTAGUE]	8	34	34	61	69	72
WASTEWATER REUSE	AMON G. CARTER LAKE/RESERVOIR [RESERVOIR]	0	0	0	171	171	171
COUNTY-OTHER, RED (B)							
DEVELOP OTHER AQUIFER SUPPLIES	OTHER AQUIFER [MONTAGUE]	160	160	160	160	160	160

Projected Water Management Strategies

TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
DEVELOP TRINITY AQUIFER SUPPLIES (INCLUDES OVERDRAFTING)	TRINITY AQUIFER [MONTAGUE]	68	68	68	68	68	68
MUNICIPAL CONSERVATION	CONSERVATION [MONTAGUE]	9	46	47	47	48	48

COUNTY-OTHER, TRINITY (B)

DEVELOP OTHER AQUIFER SUPPLIES	OTHER AQUIFER [MONTAGUE]	85	85	85	85	85	85
DEVELOP TRINITY AQUIFER SUPPLIES	TRINITY AQUIFER [MONTAGUE]	271	271	271	271	271	271
MUNICIPAL CONSERVATION	CONSERVATION [MONTAGUE]	9	32	33	33	33	33

MINING, RED (B)

PURCHASE WATER FROM LOCAL PROVIDER	FARMERS CREEK/NOCONA LAKE/RESERVOIR [RESERVOIR]	163	163	163	163	163	163
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MINING, TRINITY (B)

PURCHASE WATER FROM LOCAL PROVIDER	AMON G. CARTER LAKE/RESERVOIR [RESERVOIR]	14	14	14	14	14	14
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Sum of Projected Water Management Strategies (acre-feet/year)		787	873	875	1,073	1,082	1,085
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PARKER COUNTY

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
ALEDO, TRINITY (C)							
CONVEYANCE PROJECT (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	96	322	472	454
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	5	54	108	167	193	212
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [PARKER]	5	14	24	33	35	35
OKLAHOMA WATER TO NTMWD, TRWD, UTRWD	OKLAHOMA LAKE/RESERVOIR [RESERVOIR - OKLAHOMA]	0	0	0	0	0	129
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	419	804	1,083	1,012	882
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0

ANNETTA, TRINITY (C)

CONVEYANCE PROJECT (2)	INDIRECT REUSE	0	14	49	80	89	112
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	[NAVARRO]							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	3	11	16	19	23	27	
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	22	37	
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0	
ANNETTA SOUTH, TRINITY (C)								
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	1	4	6	8	9	10	
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	1	10	16	26	37	
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0	
AZLE, TRINITY (C)								
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	18	15	21	27	34	41	
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [PARKER]	3	4	4	5	6	7	
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	12	
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	96	144	175	196	201	
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	79	18	0	3	0	13	
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	92	165	250	321	
COUNTY-OTHER, BRAZOS (C)								
CONVEYANCE PROJECT (1)	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	500	500	500	500	500	
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	21	87	137	163	172	180	
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	38	61	74	83	
COUNTY-OTHER, TRINITY (C)								
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	23	79	96	90	81	71	
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0	
CRESSON, BRAZOS (C)								
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	1	2	2	3	4	5	
CRESSON, TRINITY (C)								
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	0	1	2	2	3	4	
FORT WORTH, TRINITY (C)								
DIRECT REUSE	DIRECT REUSE [TARRANT]	30	627	1,354	1,268	1,147	1,003	
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	92	675	1,319	1,735	2,141	2,537	

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Projected Water Management Strategies

TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [PARKER]	0	37	108	148	162	172
PURCHASE FROM WATER PROVIDER (1)	OKLAHOMA LAKE/RESERVOIR [RESERVOIR - OKLAHOMA]	0	0	0	0	0	2,551
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	0
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	415	0	135	0	0
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	3,267	6,019	8,882	8,992
HUDSON OAKS, TRINITY (C)							
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	29	79	139	208
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	4	23	36	49	61	76
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0
IRRIGATION, TRINITY (C)							
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0
LIVESTOCK, TRINITY (C)							
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0
MANUFACTURING, BRAZOS (C)							
MANUFACTURING CONSERVATION	CONSERVATION [PARKER]	0	1	2	3	3	3
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	4
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	37	74	107	141
MANUFACTURING, TRINITY (C)							
MANUFACTURING CONSERVATION	CONSERVATION [PARKER]	0	0	4	6	7	7
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	9

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Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
WUG, Basin (RWPG)							
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	28	124	216	308
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0
MINERAL WELLS, BRAZOS (C)							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	10	19	25	27	29	32
MINING, TRINITY (C)							
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0
RENO, TRINITY (C)							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	4	13	17	19	21	22
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	0
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	17	32	44	60
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0
SANCTUARY, TRINITY (C)							
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	53	101	149	203
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	2	10	16	20	25	29
TRWD THIRD PIPELINE AND REUSE	INDIRECT REUSE [NAVARRO]	0	8	0	0	0	0
SPRINGTOWN, TRINITY (C)							
CONVEYANCE PROJECT (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	53	137	236	351
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	20	48	71	94	117	144
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [PARKER]	3	4	4	5	6	7
NEW WELLS - TRINITY AQUIFER	TRINITY AQUIFER [PARKER]	184	184	184	184	184	184
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0
WATER TREATMENT PLANT - EXPANSION	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
WATER TREATMENT PLANT - NEW	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0

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Projected Water Management Strategies

TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
STEAM ELECTRIC POWER, TRINITY (C)							
CONVEYANCE PROJECT (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	6	18	31	50
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	2	0	0	0	0
WALNUT CREEK SUD, TRINITY (C)							
CONVEYANCE PROJECT (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	838	1,618	2,313	2,614
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	35	141	272	361	404	440
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [PARKER]	17	24	37	46	48	50
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	138
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	816	2,206	2,767	2,684	2,469
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	111	0	58	0	146
WATER TREATMENT PLANT - EXPANSION	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
WATER TREATMENT PLANT - NEW	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
WEATHERFORD, BRAZOS (C)							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	8	17	25	33	42	52
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [PARKER]	2	3	5	6	7	8
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	63	68
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	68	127	122	133	117	129
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	0
WEATHERFORD, TRINITY (C)							
FACILITY IMPROVEMENTS	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	165	353	502	637	791	975
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [PARKER]	48	72	95	117	131	146

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TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	1,188	1,269
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	1,323	2,556	2,400	2,543	2,210	2,396
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	413	1,066	1,798	2,497
WATER TREATMENT PLANT - EXPANSION	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0

WILLOW PARK, TRINITY (C)

MUNICIPAL CONSERVATION-BASIC	CONSERVATION [PARKER]	8	51	57	74	88	100
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [PARKER]	4	8	8	9	10	11
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	20
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	118	422	540	576	566
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	0	0	0	0	19
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	54	177	307	382
SUPPLEMENTAL WELLS	TRINITY AQUIFER [PARKER]	0	0	0	0	0	0
Sum of Projected Water Management Strategies (acre-feet/year)		2,186	7,782	16,235	23,384	29,685	34,961

WISE COUNTY

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
ALVORD, TRINITY (C)							
CONVEYANCE PROJECT (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	2	7	10	12	14	17
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	23	37	47	56
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0
TRWD THIRD PIPELINE AND REUSE	INDIRECT REUSE [HENDERSON]	0	5	0	0	0	0

AURORA, TRINITY (C)

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MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	3	9	13	15	18	22
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	50	50	50	50	86
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0
BOLIVAR WSC, TRINITY (C)							
LAKE RALPH HALL - INDIRECT REUSE	INDIRECT REUSE [DENTON]	0	2	16	48	64	85
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	3	10	15	23	34	54
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [WISE]	2	2	2	4	5	7
PURCHASE FROM WATER PROVIDER (1)	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION [RESERVOIR]	0	3	10	19	25	30
PURCHASE FROM WATER PROVIDER (1)	OKLAHOMA LAKE/RESERVOIR [RESERVOIR - OKLAHOMA]	0	0	0	0	0	69
PURCHASE FROM WATER PROVIDER (1)	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	12	51	104	148	254
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [DENTON]	0	2	6	10	14	17
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	62	81
PURCHASE FROM WATER PROVIDER (3)	RALPH HALL LAKE/RESERVOIR [RESERVOIR]	0	13	45	88	120	158
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0
BOYD, TRINITY (C)							
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	26	60	101	123
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	3	10	16	20	25	27
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	1	0	0	0	0
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0
BRIDGEPORT, TRINITY (C)							
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	407	784	1,195	1,729
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	11	83	150	205	270	360
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [WISE]	13	23	38	47	55	65
TRWD THIRD PIPELINE AND REUSE	INDIRECT REUSE [NAVARRO]	0	50	0	0	0	0
WATER TREATMENT PLANT - EXPANSION	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
WATER TREATMENT PLANT - NEW	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	43	407	451	494	590

Projected Water Management Strategies

TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
CHICO, TRINITY (C)							
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	19	50	92	150
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	2	8	13	16	21	28
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [WISE]	1	1	1	2	2	2
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	8	30	55	80
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0
COMMUNITY WSC, TRINITY (C)							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	0	1	1	1	2	2
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	0
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	3	4	5	6
COUNTY-OTHER, TRINITY (C)							
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	356	557	717	865
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	49	166	216	232	245	259
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	0
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	149	92	0	0	0	0
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	356	557	717	865
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0
TRWD THIRD PIPELINE AND REUSE	INDIRECT REUSE [NAVARRO]	0	92	0	0	0	0
DECATUR, TRINITY (C)							
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	416	872	1,476	2,096
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	13	88	158	234	342	446
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [WISE]	12	20	32	45	58	68
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	92	389	633	952	1,021

Projected Water Management Strategies

TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	57	0	0	0	0
WATER TREATMENT PLANT - EXPANSION	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0

FORT WORTH, TRINITY (C)

DIRECT REUSE	DIRECT REUSE [TARRANT]	5	120	236	249	263	262
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	15	130	231	339	489	662
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [WISE]	0	7	19	29	37	45
PURCHASE FROM WATER PROVIDER (1)	OKLAHOMA LAKE/RESERVOIR [RESERVOIR - OKLAHOMA]	0	0	0	0	0	665
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	0
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	80	0	26	0	0
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	572	1,178	2,030	2,346

IRRIGATION, TRINITY (C)

GOLF COURSE CONSERVATION	CONSERVATION [WISE]	0	5	10	13	15	18
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	21	17	0	0	0	0
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	47	69	87	103
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0

LIVESTOCK, TRINITY (C)

SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0
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MANUFACTURING, TRINITY (C)

MANUFACTURING CONSERVATION	CONSERVATION [WISE]	0	1	12	18	19	21
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	640	1,043	1,423	1,842
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [HENDERSON]	0	216	0	0	0	0
SUPPLEMENTAL WELLS	OTHER AQUIFER [WISE]	0	0	0	0	0	0

Projected Water Management Strategies

TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
MINING, TRINITY (C)							
DIRECT REUSE	DIRECT REUSE [WISE]	0	3,569	7,378	10,828	14,241	17,304
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	716	0	0	0	0
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	2,091	3,357	4,574	5,812
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0
NEW FAIRVIEW, TRINITY (C)							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	4	13	20	26	32	40
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	47	93	127	158	184
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	6	36	77	134
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0
NEWARK, TRINITY (C)							
CONVEYANCE PROJECT (2)	INDIRECT REUSE [NAVARRO]	0	0	0	0	0	0
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	2	9	15	22	32	47
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [WISE]	1	2	3	4	5	7
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	58	103	168	233	318
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	12	55	125	246
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0
PARADISE, TRINITY (C)							
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	18	37	57	86
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	2	4	6	7	10	12
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	3	0	0	0	0
RHOME, TRINITY (C)							
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	201	483	831	1,155
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	17	43	85	137	199	270

Projected Water Management Strategies

TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	44
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	158	357	481
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	15	0	0	0	47
SUPPLEMENTAL WELLS	TRINITY AQUIFER [WISE]	0	0	0	0	0	0

RUNAWAY BAY, TRINITY (C)

MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	70	127	183	245
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	3	16	25	32	41	50
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	13	0	0	0	0
WATER TREATMENT PLANT - EXPANSION	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0

STEAM ELECTRIC POWER, TRINITY (C)

CONVEYANCE PROJECT (2)	DIRECT REUSE [WISE]	0	0	0	0	0	0
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	1,098	102	0	0	0	0
PURCHASE FROM WATER PROVIDER (3)	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	268	611	835	1,332

WALNUT CREEK SUD, TRINITY (C)

MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	109	206	299	349
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	5	19	36	46	53	60
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [WISE]	2	3	5	6	6	7
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	18
PURCHASE FROM WATER PROVIDER (1)	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	107	288	352	347	329
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	14	0	7	0	19

Projected Water Management Strategies

TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
WEST WISE RURAL SUD, TRINITY (C)							
MARVIN NICHOLS RESERVOIR	MARVIN NICHOLS LAKE/RESERVOIR [RESERVOIR]	0	0	98	169	241	321
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [WISE]	5	18	27	32	38	45
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	25	0	0	0	0
WATER TREATMENT PLANT - EXPANSION	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
WATER TREATMENT PLANT - NEW	TRWD LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
Sum of Projected Water Management Strategies (acre-feet/year)		1,443	6,314	15,977	25,207	34,762	44,644

Estimated Historical Water Use and 2012 State Water Plan Dataset:

Upper Trinity Groundwater Conservation District

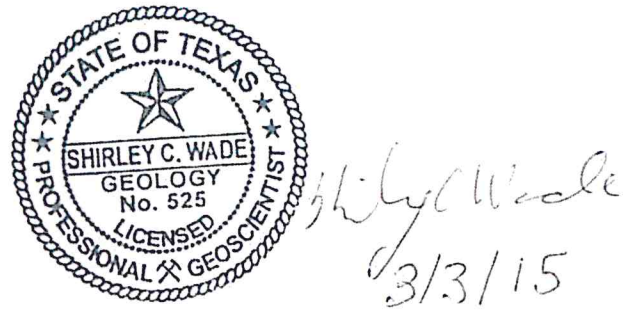
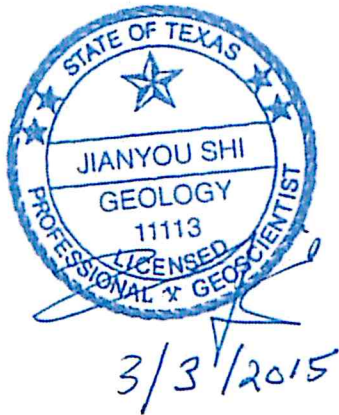
February 10, 2015

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Appendix B

GAM RUN 14-008: UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN

by Jianyou(Jerry) Shi, Ph.D., P.G. and Shirley C. Wade, Ph.D., P.G.
Texas Water Development Board
Groundwater Resources Division
Groundwater Availability Modeling Section
(512) 463-5076
March 3, 2015



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GAM RUN 14-008: UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN

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Texas Water Development Board

Groundwater Resources Division

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(512) 463-5076

March 3, 2015

EXECUTIVE SUMMARY:

Texas State Water Code, Section 36.1071, Subsection (h), states that, in developing its groundwater management plan, a groundwater conservation district shall use groundwater availability modeling information provided by the executive administrator of the Texas Water Development Board (TWDB) in conjunction with any available site-specific information provided by the district for review and comment to the executive administrator. Information derived from groundwater availability models that shall be included in the groundwater management plan includes:

- the annual amount of recharge from precipitation to the groundwater resources within the district, if any;
- for each aquifer within the district, the annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers; and
- the annual volume of flow into and out of the district within each aquifer and between aquifers in the district.

This report (Part 2 of a two-part package of information from the TWDB to Upper Trinity Groundwater Conservation District) fulfills the requirements noted above. Part 1 of the two-part package is the Estimated Historical Water Use/State Water Plan data report. The district will receive, or received, this data report from the TWDB Groundwater Technical Assistance Section. Questions about the data report can be directed to Mr. Stephen Allen, Stephen.Allen@twdb.texas.gov, (512) 463-7317.

The groundwater management plan for the Upper Trinity Groundwater Conservation District should be adopted by the district on or before July 29, 2015 and submitted to the executive administrator of the TWDB on or before August 28, 2015. The current management plan for the Upper Trinity Groundwater Conservation District expires on October 27, 2015.

This report discusses the methods, assumptions, and results from a model run using the recently adopted groundwater availability model (approved by the TWDB executive administrator on November 21, 2014) for the Trinity (northern portion) and Woodbine aquifers, version 2.01 (Kelley and others, 2014). This model run replaces the results of GAM Run 09-022 (Aschenbach, 2009) that used version 1.01 of the groundwater availability model for the Trinity (northern portion) and Woodbine aquifers (Bené and others, 2004). Table 1 summarizes the groundwater availability model data required by statute to be included in the district's groundwater conservation management plan, and Figure 1 shows the areas of the model from which the values in the table were extracted. If after review of the figure, Upper Trinity Groundwater Conservation District determines that the district boundaries used in the assessment do not reflect current conditions, please notify the TWDB at your earliest convenience.

METHODS:

In accordance with the provisions of the Texas State Water Code, Section 36.1071, Subsection (h), the updated groundwater availability model for the northern portion of the Trinity Aquifer and Woodbine Aquifer (Kelley and others, 2014) was used for this analysis. Water budgets for the Upper Trinity Groundwater Conservation District were extracted for the historical model periods (1980-2012) using ZONEBUDGET Version 3.01 (Harbaugh, 2009). The average annual water budget values for recharge, surface water outflow, inflow to the district, outflow from the district, net interaquifer flow (upper), and net inter-aquifer flow (lower) for the portion of the aquifers located within the district are summarized in this report.

PARAMETERS AND ASSUMPTIONS:

NORTHERN PORTION OF THE TRINITY AQUIFER AND WOODBINE AQUIFER

- We used the updated groundwater availability model for the northern portion of the Trinity Aquifer and Woodbine Aquifer. See Kelley and others (2014) for assumptions and limitations of the updated groundwater availability model for the northern portion of the Trinity Aquifer and Woodbine Aquifer.

- The groundwater availability model includes eight layers, that generally correspond to:
 - the surficial outcrop area and the younger formations overlying the subcrop portions of the Woodbine Aquifer and Washita and Fredericksburg groups (Layer 1),
 - the Woodbine Aquifer (Layer 2),
 - the Washita and Fredericksburg groups (Layer 3),
 - the Paluxy Aquifer (Layer 4),
 - the Glen Rose Formation (Layer 5),
 - the Hensell Sand (Layer 6),
 - the Pearsall Formation (Layer 7), and
 - The Hosston Formation (Layer 8).
- The Trinity Aquifer is the major source of groundwater in the Upper Trinity Groundwater District. Most of the Trinity Aquifer occurs in a north-south trending outcrop through the central portion of the district. A lesser amount of the aquifer is present as subcrop to the east. All of the eight numerical layers in the model are designated as active in the Upper Trinity Groundwater Conservation District. The Trinity Aquifer is represented by Model Layers 1 through 8 in the outcrop area and by Model Layers 4 through 8 in the subcrop area. These layers were combined to calculate water budget values for the Trinity Aquifer in the district.
- Groundwater in the Trinity Aquifer within Upper Trinity Groundwater Conservation District is primarily fresh water, with total dissolved solids concentrations less than 1,000 milligrams per liter (see Figures 4.4.11 through 4.4.15 in Kelley and others (2014)).
- The model was run with MODFLOW-NWT (Niswonger and others, 2011).

RESULTS:

A groundwater budget summarizes the amount of water entering and leaving the aquifer according to the groundwater availability model. Selected groundwater budget components listed below were extracted from the model results for the Trinity Aquifer within the district and averaged over the duration of the calibration and verification portion of the model run in the district, as shown in Table 1.

- Precipitation recharge—the areally-distributed recharge sourced from precipitation falling on the outcrop areas of the Trinity Aquifer (where the aquifer is exposed at land surface) within the district.
- Surface water outflow—the total volume of water discharging from the aquifer (outflow) to surface water features such as streams, reservoirs, and drains (springs).
- Flow into and out of district—the lateral flow within the aquifer between the district and adjacent counties.
- Flow between aquifers—the net vertical flow between aquifers or confining units. This flow is controlled by the relative water levels in each aquifer or confining unit and hydraulic properties of each aquifer or confining unit. In the Upper Trinity Groundwater Conservation District, this net vertical flow represents the net groundwater flow between the Trinity Aquifer and the immediate geologic unit overlying the aquifer in the subcrop area.

The information needed for the Upper Trinity Groundwater Conservation District’s management plan is summarized in Table 1. It is important to note that sub-regional water budgets are approximate. This is due to the size of the model cells and the approach used to extract data from the model. To avoid double accounting, a model cell that straddles a political boundary, such as a district or county boundary, is assigned to one side of the boundary based on the location of the centroid of the model cell. For example, if a cell contains two counties, the cell is assigned to the county where the centroid of the cell is located (Figure 1). Please note that the results of this model run are different from the results of the model run 09-022 that were obtained from the older groundwater availability model. The changes can be attributed to several characteristics of the new model, such as differences in model layering, geologic boundaries, hydraulic properties distribution, and the use of MODFLOW modeling packages.

TABLE 1: SUMMARIZED INFORMATION FOR THE TRINITY AQUIFER THAT IS NEEDED FOR THE UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT’S GROUNDWATER MANAGEMENT PLAN. ALL VALUES ARE REPORTED IN ACRE-FEET PER YEAR AND ROUNDED TO THE NEAREST 1 ACRE-FOOT.

<i>Management Plan requirement</i>	<i>Aquifer or confining unit</i>	<i>Results</i>
Estimated annual amount of recharge from precipitation to the district	Trinity Aquifer	129,020

Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Trinity Aquifer	121,643
Estimated annual volume of flow into the district within each aquifer in the district	Trinity Aquifer	13,083
Estimated annual volume of flow out of the district within each aquifer in the district	Trinity Aquifer	35,508
Estimated net annual volume of flow between each aquifer in the district	From overlying Washita and Fredericksburg Confining Units into the Trinity Aquifer	25,672

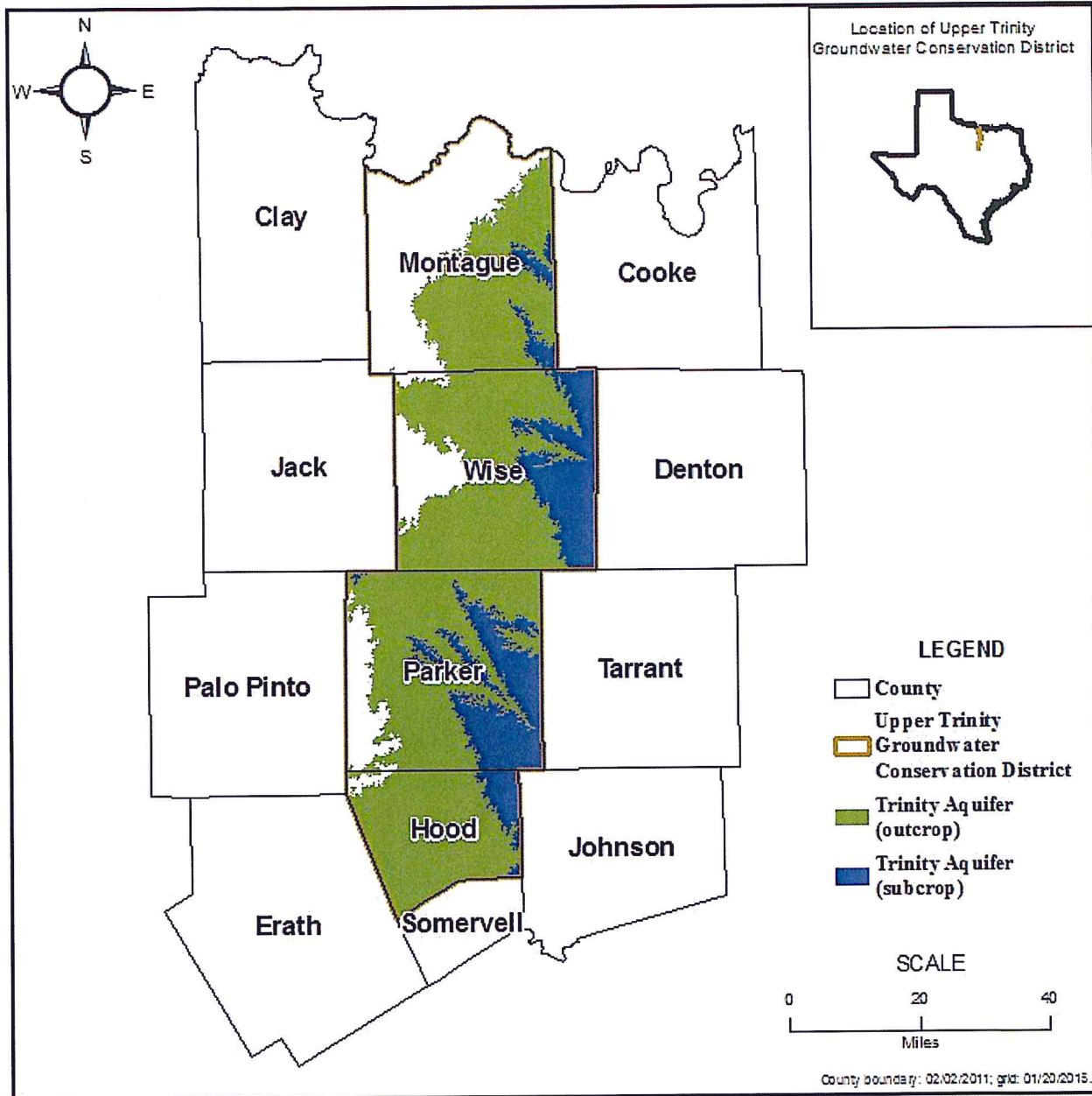


FIGURE 1: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE NORTHERN PORTION OF THE TRINITY AQUIFER AND WOODBINE AQUIFER FROM WHICH THE INFORMATION IN TABLE 1 WAS EXTRACTED (THE TRINITY AQUIFER FOOTPRINT EXTENT WITHIN THE DISTRICT BOUNDARY).

LIMITATIONS

The groundwater model used in completing this analysis is the best available scientific tool that can be used to meet the stated objectives. To the extent that this analysis will be used for planning purposes and/or regulatory purposes related to pumping in the past and into the future, it is

important to recognize the assumptions and limitations associated with the use of the results. In reviewing the use of models in environmental regulatory decision making, the National Research Council (2007) noted:

“Models will always be constrained by computational limitations, assumptions, and knowledge gaps. They can best be viewed as tools to help inform decisions rather than as machines to generate truth or make decisions. Scientific advances will never make it possible to build a perfect model that accounts for every aspect of reality or to prove that a given model is correct in all respects for a particular regulatory application. These characteristics make evaluation of a regulatory model more complex than solely a comparison of measurement data with model results.”

A key aspect of using the groundwater model to evaluate historic groundwater flow conditions includes the assumptions about the location in the aquifer where historic pumping was placed. Understanding the amount and location of historic pumping is as important as evaluating the volume of groundwater flow into and out of the district, between aquifers within the district (as applicable), interactions with surface water (as applicable), recharge to the aquifer system (as applicable), and other metrics that describe the impacts of that pumping. In addition, assumptions regarding precipitation, recharge, and interaction with streams are specific to particular historic time periods.

Because the application of the groundwater models was designed to address regional scale questions, the results are most effective on a regional scale. The TWDB makes no warranties or representations related to the actual conditions of any aquifer at a particular location or at a particular time.

It is important for groundwater conservation districts to monitor groundwater pumping and overall conditions of the aquifer. Because of the limitations of the groundwater model and the assumptions in this analysis, it is important that the groundwater conservation districts work with the TWDB to refine this analysis in the future given the reality of how the aquifer responds to the actual amount and location of pumping now and in the future. Historic precipitation patterns also need to be placed in context as future climatic conditions, such as dry and wet year precipitation patterns, may differ and affect groundwater flow conditions.

REFERENCES:

- Aschenbach, E., 2009, GAM Run 09-022: Texas Water Development Board, GAM Run 09-022 Management plan data for Upper Trinity GCD Report, 6 p., <http://www.twdb.texas.gov/groundwater/docs/GAMruns/GR09-22.pdf>.
- Bené, J., Harden, B., O'Rourke, D., Donnelly, A., and Yelderman, J., 2004, Northern Trinity/Woodbine Groundwater Availability Model: contract report to the Texas Water Development Board by R.W. Harden and Associates, 391 p., http://www.twdb.texas.gov/groundwater/models/gam/trnt_n/TRNT_N_Model_Report.pdf.
- Harbaugh, A. W., 2009, Zonebudget Version 3.01, A computer program for computing subregional water budgets for MODFLOW ground-water flow models, U.S. Geological Survey Groundwater Software.
- Kelley, V.A., Ewing, J., Jones, T.L., Young, S.C., Deeds, N., and Hamlin, S., 2014, Updated Groundwater Availability Model of the Northern Trinity and Woodbine Aquifers: contract report prepared for North Texas GCD, Northern Trinity GCD, Prairielands GCD, and Upper Trinity GCD by INTERA Incorporated, Bureau of Economic Geology, and LBG-Guyton Associates, 990 p., http://www.twdb.texas.gov/groundwater/models/gam/trnt_n/Final_NTGAM_Vol%20I%20Aug%202014_Report.pdf.
- Niswonger, R.G., Panday, S., and Ibaraki, M., 2011, MODFLOW-NWT, a Newton formulation for MODFLOW-2005: USGS, Techniques and Methods 6-A37, 44 p.
- National Research Council, 2007, Models in Environmental Regulatory Decision Making Committee on Models in the Regulatory Decision Process, National Academies Press, Washington D.C., 287 p., http://www.nap.edu/catalog.php?record_id=11972.

Appendix C

Temporary Rules

<http://uppertrinitygcd.com/wp-content/uploads/2014/12/UTGCD-Rules-as-Amended-December-16-2013-CORRECTED.pdf>

Upper Trinity Groundwater Conservation District

**Temporary Rules for Water Wells in
Hood, Montague, Parker, and Wise Counties, Texas**

As Revised and Adopted on December 16, 2013

Procedural History of Rules Adoption

These temporary rules of the Upper Trinity Groundwater Conservation District were initially adopted by the Board of Directors on August 18, 2008, at a duly posted public meeting in compliance with the Texas Open Meetings Act and following notice and hearing in accordance with Chapter 36 of the Texas Water Code. In accordance with Section 59 of Article XVI of the Texas Constitution, the District Act, and Chapter 36 of the Texas Water Code, the following rules are hereby ratified and adopted as the rules of this District by its Board. These rules which initially took effect on August 18, 2008, were subsequently amended after proper notice and hearing on February 9, 2009, November 30, 2009, and again on December 16, 2013, and are effective in their present form as of December 16, 2013.

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Upper Trinity Groundwater Conservation District

District Rules

PREAMBLE

The Upper Trinity Groundwater Conservation District ("District") was created in 2007 by the 80th Texas Legislature with a directive to conserve, protect and enhance the groundwater resources of Montague, Wise, Parker, and Hood Counties, Texas. The District's boundaries are coextensive with the boundaries of Montague, Wise, Parker, and Hood Counties, and all lands and other property within these boundaries will benefit from the works and projects that will be accomplished by the District. The creation of the District was confirmed by the citizens of Montague, Wise, Parker, and Hood Counties, Texas, on November 6, 2007, in an election called for that purpose, with over 78 percent of the voters casting favorable ballots.

The Mission of the Upper Trinity Groundwater Conservation District is to develop rules to provide protection to existing wells, prevent waste, promote conservation, provide a framework that will allow availability and accessibility of groundwater for future generations, protect the quality of the groundwater in the recharge zone of the aquifer, insure that the residents of Montague, Wise, Parker, and Hood Counties maintain local control over their groundwater, and operate the district in a fair and equitable manner for all residents of the district.

The District is committed to manage and protect the groundwater resources within its jurisdiction and to work with others to ensure a sustainable, adequate, high quality and cost effective supply of water, now and in the future. The District will strive to develop, promote, and implement water conservation, augmentation, and management strategies to protect water resources for the benefit of the citizens, economy and environment of the District. The preservation of this most valuable resource can be managed in a prudent and cost effective manner through conservation, education, and management. Any action taken by the District shall only be after full consideration and respect has been afforded to the individual property rights of all citizens of the District.

SECTION 1. DEFINITION, CONCEPTS, AND GENERAL PROVISIONS

Rule 1.1 **Definition of Terms.**

In the administration of its duties, the District follows the definitions of terms set forth in Chapter 36, Texas Water Code, and other definitions as follows:

- (1) "Agriculture" means any of the following activities:
 1. cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers;
 2. the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or nonsoil media, by a nursery grower;
 3. raising, feeding, or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts, or other tangible products having a commercial value;
 4. planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure;
 5. wildlife management; and
 6. raising or keeping equine animals.
- (2) "Agricultural use" means any use or activity involving agriculture, including irrigation.
- (3) "Aquifer" means a water bearing geologic formation in the District.
- (4) "Artificial excavation" means man-made rather than naturally occurring in nature.
- (5) "As equipped" for purposes of determining the capacity of a well means the pump, visible pipes, plumbing, and equipment attached to the wellhead or adjacent plumbing that controls the maximum rate of flow of groundwater and that is permanently affixed to the well or adjacent plumbing by welding, glue or cement, bolts or related hardware, or other reasonably permanent means.
- (6) "Beneficial use" or "beneficial purpose" means use of groundwater for:
 1. agricultural, gardening, domestic, stock raising, municipal, mining, manufacturing, industrial, commercial, or recreational purposes;
 2. exploring for, producing, handling, or treating oil, gas, sulfur, lignite, or other minerals; or
 3. any other purpose that is useful and beneficial to the user that does not constitute waste.
- (7) "Board" means the Board of Directors of the District.

- (8) “Contiguous” means property within a continuous perimeter boundary situated within the District. The term also refers to properties that are divided by a publicly owned road or highway or other easements if the properties would otherwise share a common border.
- (9) “District” means the Upper Trinity Groundwater Conservation District created in accordance with Section 59, Article XVI, Texas Constitution, Chapter 36, Texas Water Code, and the District Act.
- (10) “District Act” means the Act of May 25, 2007, 80th Leg., R.S., ch. 1343, 2007 Tex. Gen. Laws 4583, codified at TEX. SPEC. DIST. LOC. LAWS CODE ANN. ch. 8830 (“the District Act”), as may be amended from time to time.
- (11) “Domestic use” means the use of groundwater by an individual or a household to support domestic activity. Such use may include water for drinking, washing, or culinary purposes; for irrigation of lawns, or of a family garden and/or family orchard; for watering of domestic animals. Domestic use does not include water used to support activities for which consideration is given or received or for which the product of the activity is sold. Domestic use does not include use by or for a public water system. Domestic use does not include irrigation of crops in fields or pastures. Domestic use does not include water used for open-loop residential geothermal heating and cooling systems, but does include water used for closed-loop residential geothermal systems. Domestic use does not include pumping groundwater into a pond or other surface water impoundment unless the impoundment is fully lined with an impervious artificial liner and has a surface area equal to or smaller than one-third of a surface acre (14,520 square feet).
- (12) “Dry hole” means wells which do not encounter groundwater.
- (13) “Effective date” means August 18, 2008, which was the original date of adoption of these Temporary Rules.
- (14) “Emergency purposes” means the use of groundwater:
- (a) to fight fires, manage chemical spills, and otherwise address emergency public safety or welfare concerns; or
 - (b) for training exercises conducted in preparation for responding to fires, chemical spills, and other emergency public safety or welfare concerns.
- (15) “General Manager” as used herein is the chief administrative officer of the District, as set forth in the District's bylaws, or the District staff acting at the direction of the General Manager.
- (16) “Groundwater” means water percolating below the surface of the earth.

- (17) "Groundwater reservoir" means a specific subsurface water-bearing stratum.
- (18) "Landowner" means the person who holds possessory rights to the land surface or to the withdrawal of groundwater from wells located on the land surface.
- (19) "Livestock" means, in the singular or plural, grass- or plant-eating, single- or cloven-hooved mammals raised in an agricultural setting for subsistence, profit or for its labor, or to make produce such as food or fiber, including cattle, horses, mules, asses, sheep, goats, llamas, alpacas, and hogs, as well as species known as ungulates that are not indigenous to this state from the swine, horse, tapir, rhinoceros, elephant, deer, and antelope families, but does not mean a mammal defined as a game animal in section 63.001, Parks and Wildlife Code, or as a fur-bearing animal in section 71.001, Parks and Wildlife Code, or any other indigenous mammal regulated by the Texas Department of Parks and Wildlife as an endangered or threatened species. The term does not include any animal that is stabled, confined, or fed at a facility that is defined by Texas Commission on Environmental Quality rules as an Animal Feeding Operation or a Concentrated Animal Feeding Operation.
- (20) "Maintenance and Repair" of a well means work done in the normal course of operation to ensure safe and proper operation, water quality, proper sanitary measures, and normal replacement or repair of well components, so as not to exceed the original capacity of the well. This term includes the repair or replacement of the pump as long as the replacement pump does not exceed the maximum design production capacity of the pump being replaced or the maximum design production capacity of the replacement pump does not exceed 17.36 gpm.
- (21) "Meter" or "measurement device" means a water flow measuring device that can measure within +/- 5% of accuracy the instantaneous rate of flow and record the amount of groundwater produced or transported from a well or well system during a measure of time.
- (22) "Nursery grower" means a person who grows more than 50 percent of the products that the person either sells or leases, regardless of the variety sold, leased, or grown. For the purpose of this definition, "grow" means the actual cultivation or propagation of the product beyond the mere holding or maintaining of the item prior to sale or lease and typically includes activities associated with the production or multiplying of stock such as the development of new plants from cuttings, grafts, plugs, or seedlings.
- (23) "Penalty" means a reasonable civil penalty set by rule under the express authority delegated to the District through Section 36.102(b) of the Texas Water Code.
- (24) "Person" means an individual, corporation, limited liability company, organization, government, governmental subdivision, agency, business trust, estate, trust, partnership, association, or other legal entity.

- (25) "Poultry" means chickens, turkeys, nonmigratory game birds, and other domestic nonmigratory fowl, but does not include any other bird regulated by the Parks and Wildlife as an endangered or threatened species. The term does not include any animal that is stabled, confined, or fed at a facility that is defined by Texas Commission on Environmental Quality rules as an Animal Feeding Operation or a Concentrated Animal Feeding Operation.
- (26) "Production" or "producing" means the act of extracting groundwater from an aquifer by a pump or other method.
- (27) "Property Line" means the outer perimeter of a tract of land.
- (28) "Public Water System" means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, which includes all uses described under the definition for "drinking water" in 30 Texas Administrative Code, Section 290.38. Such a system must have at least 15 service connections or serve at least 25 individuals at least 60 days out of the year. This term includes any collection, treatment, storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system, and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Two or more systems with each having a potential to serve less than 15 connections or less than 25 individuals but owned by the same person, firm, or corporation and located on adjacent land will be considered a public water system when the total potential service connections in the combined systems are 15 or greater or if the total number of individuals served by the combined systems total 25 or greater at least 60 days out of the year. Without excluding other meanings of the terms "individual" or "served," an individual shall be deemed to be served by a water system if he lives in, uses as his place of employment, or works in a place to which drinking water is supplied from the system.
- (29) "Pump" means any facility, device, equipment, materials, or method used to obtain water from a well.
- (30) "Registrant" means a person required to submit a registration.
- (31) "Registration" means a well owner providing certain information about a well to the District, as more particularly described under Section 3.
- (32) "Rule" or "Rules" or "Temporary Rules" means these Temporary Rules of the District regulating water wells, which shall continue to be effective until amended or repealed.
- (33) "Spacing requirement" means a well spacing, tract size, or minimum distance requirement established under Rule 4.3.
- (34) "Substantially alter" with respect to the size or capacity of a well means to increase the inside diameter of the pump discharge column pipe size of the well in any way or to

increase the size of the pump on the well, but, shall not apply to an increase in the size of the pump if the maximum designed production capacity of the new pump is 17.36 gpm or less.

(35) “Tract” means a contiguous parcel of land under the ownership of a single entity, such as a corporation, partnership or trust, or an individual or individuals holding as joint owners or tenants in common.

(36) “Transfer” means a change in a registration as follows, except that the term “transfer” shall have its ordinary meaning as read in context when used in other contexts:

(a) ownership; or

(b) the person authorized to exercise the right to make withdrawals and place the groundwater to beneficial use.

(37) Types of wells:

(a) “Exempt well” means a new or an existing well that is exempt under Rule 2.1 from certain regulatory requirements in these rules.

(b) “Existing well” means a well that was in existence or for which drilling commenced prior to January 1, 2009.

(c) “Leachate well” means a well used to remove contamination from soil or groundwater.

(d) “Monitoring well” means a well installed to measure some property of the groundwater or the aquifer that it penetrates, and does not produce more than 5,000 gallons per year.

(e) “New well” means a well for which drilling or artificial excavation commenced on or after January 1, 2009.

(38) “Waste” means one or more of the following:

(a) withdrawal of groundwater from the aquifer at a rate and in an amount that causes or threatens to cause an intrusion into the aquifer unsuitable for agriculture, gardening, domestic, stock raising, or other beneficial purposes;

(b) the flowing or producing of water from the aquifer by artificial means if the water produced is not used for a beneficial purpose;

(c) the escape of groundwater from the aquifer to any other underground reservoir or geologic stratum that does not contain groundwater;

- (d) pollution or harmful alteration of groundwater in the aquifer by saltwater or by other deleterious matter admitted from another stratum or from the surface of the ground;
 - (e) willfully or negligently causing, suffering, or allowing groundwater to escape into any river, creek, natural watercourse, depression, lake, reservoir, drain, sewer, street, highway, road, or road ditch, or onto any land other than that of the owner of the well unless such discharge is authorized by permit, rule, or other order issued by the Texas Commission on Environmental Quality under Chapters 11 or 26 of the Texas Water Code;
 - (f) groundwater pumped for irrigation that escapes as irrigation tailwater onto land other than that of the owner of the well unless permission has been granted by the occupant of the land receiving the discharge;
 - (g) for water produced from an artesian well, “waste” has the meaning assigned by Section 11.205, Texas Water Code;
 - (h) operating a deteriorated well; or
 - (i) producing groundwater in violation of any District rule governing the withdrawal of groundwater through production limits on wells, managed depletion, or both.
- (39) “Well” means any artificial excavation located within the boundaries of the District dug or drilled for the purpose of exploring for or withdrawing groundwater from the aquifer, including water wells producing less water than desired by the well owner, test holes, and dry holes.
- (40) “Well owner” means the person who owns a possessory interest in: (1) the land upon which a well or well system is located or to be located; (2) the well or well system; or (3) the groundwater withdrawn from a well or well system.
- (41) “Well system” means a well or group of wells tied to the same distribution system.
- (42) “Withdraw” means the act of extracting or producing groundwater by pumping or other method.
- (43) “Year” means a calendar year (January 1 through December 31), except where the usage of the term clearly suggests otherwise.

Rule 1.2 Authority of District.

The Upper Trinity Groundwater Conservation District is a political subdivision of the State of Texas organized and existing under Section 59, Article XVI, Texas Constitution, Chapter 36, Texas Water Code, and the District Act. The District is a governmental agency and a body politic and corporate. The District was created to serve a public use and benefit.

Rule 1.3 Purpose of Rules.

These Temporary Rules are adopted under the authority of Sections 36.101 and 36.1071(f), Texas Water Code, and the District Act for the purpose of conserving, preserving, protecting, and recharging groundwater in the District in order to prevent subsidence, prevent degradation of water quality, prevent waste of groundwater, and to carry out the powers and duties of Chapter 36, Texas Water Code, and the District Act.

Rule 1.4 Use and Effect of Rules.

These rules are used by the District in the exercise of the powers conferred on the District by law and in the accomplishment of the purposes of the law creating the District. These rules may be used as guides in the exercise of discretion, where discretion is vested. However, under no circumstances and in no particular case will they, or any part therein, be construed as a limitation or restriction upon the District to exercise powers, duties and jurisdiction conferred by law. These rules create no rights or privileges in any person or water well, and shall not be construed to bind the Board in any manner in its promulgation of the District Management Plan, amendments to these Temporary Rules, or promulgation of permanent rules.

Rule 1.5 Purpose of District.

The purpose of the District is to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater, and of groundwater reservoirs or their subdivisions, consistent with the objectives of Section 59, Article XVI, Texas Constitution.

Rule 1.6 Construction.

A reference to a title or chapter without further identification is a reference to a title or chapter of the Texas Water Code. A reference to a section or rule without further identification is a reference to a section or rule in these Rules. Construction of words and phrases is governed by the Code Construction Act, Subchapter B, Chapter 311, Texas Government Code. The singular includes the plural, and the plural includes the singular. The masculine includes the feminine, and the feminine includes the masculine.

Rule 1.7 Methods of Service Under the Rules.

Except as provided in these rules, any notice or document required by these rules to be served or delivered may be delivered to the recipient or the recipient's authorized representative in person, by agent, by courier receipted delivery, by certified or registered mail sent to the recipient's last known address, by regular mail sent to the recipient's last known address unless superseded by specific District rule, by electronic mail (email), or by telephonic document transfer to the recipient's current telecopier number and shall be accomplished by 5:00 o'clock p.m. on the date which it is due. Service by mail is complete upon deposit in a post office depository box or other official depository of the United States Postal Service. Service by telephonic document transfer is complete upon transfer, except that any transfer commencing after 5:00 o'clock p.m. shall be deemed complete the following business day. If service or delivery is by mail and the recipient has the right or is required to do some act within a prescribed period of time after service, three days will be added to the prescribed period. If service by other methods has proved unsuccessful, service will be deemed complete upon publication of the notice or document in a newspaper of general circulation in the District.

Rule 1.8 Severability.

If a provision contained in these Temporary Rules is for any reason held to be invalid, illegal, or unenforceable in any respect, the invalidity, illegality, or unenforceability does not affect any other rules or provisions of these Temporary Rules, and these Temporary Rules shall be construed as if the invalid, illegal, or unenforceable provision had never been contained in these rules.

Rule 1.9 Regulatory Compliance; Other Governmental Entities.

All registrants of the District shall comply with all applicable rules and regulations of the District and of all other governmental entities. If the District Rules and regulations are more stringent than those of other governmental entities, the District Rules and regulations control.

Rule 1.10 Computing Time.

In computing any period of time prescribed or allowed by these Rules, order of the Board, or any applicable statute, the day of the act, event, or default from which the designated period of time begins to run is not included, but the last day of the period so computed is included, unless it is a Saturday, Sunday, or legal holiday, in which event the period runs until the end of the next day which is neither a Saturday, Sunday, or legal holiday.

Rule 1.11 Time Limits.

Applications, requests, or other papers or documents required or allowed to be filed under these Rules or by law must be received for filing by the District within the time limit for filing, if any. The date of receipt, not the date of posting, is determinative of the time of filing. Time periods set forth in these rules shall be measured by calendar days, unless otherwise specified.

Rule 1.12 Notification to Well Owners.

As soon as practicable after the effective date, the District shall publish notice to inform the well owners of the District's existence, the management authority of the District, and the well owners' duties and responsibilities under these Rules. This provision does not apply to the adoption of amendments to these Rules.

Rule 1.13 Amending of Rules.

The Board may, following notice and hearing, amend or repeal these rules or adopt new rules from time to time.

Rule 1.14 Ownership of Groundwater.

The District recognizes that a landowner owns the groundwater below the surface of the landowner's land as real property, and nothing in these rules shall be construed as depriving or divesting a landowner, including a landowner's lessees, heirs, or assigns, of the groundwater ownership and rights described by Section 36.002 of the Texas Water Code.

SECTION 2.
APPLICABILITY OF REGULATORY REQUIREMENTS; EXEMPTIONS

Rule 2.1 Wells Exempt from Fee Payment, Metering, and Reporting Requirements of These Temporary Rules.

- (a) The requirements of these Temporary Rules relating to the payment of fees under Section 7, the requirement to install and maintain a meter under Section 8, and the requirement to report to the District the amount of water produced from a well under Section 3 do not apply to the following types of wells:
 - 1. All wells, existing or new, of any size or capacity used solely for domestic use, livestock use, poultry use, or agricultural use;
 - 2. An existing well or new well that does not have the capacity, as equipped, to produce more than 25 gallons per minute and is used in whole or in part for commercial, industrial, municipal, manufacturing, or public water supply use, use for oil or gas or other hydrocarbon exploration or production, or any other purpose of use other than solely for domestic, livestock, poultry, or agricultural use, except as provided by Subsection (b) of this rule; or
 - 3. Leachate wells and monitoring wells.
- (b) For purposes of determining whether the exemption set forth under Subsection (a)(2) applies, the capacity of a well that is part of a well system shall be determined by taking the sum of the capacities of each of the individual wells, as equipped, in the system. If the total sum of the capacities is greater than 30 gallons per minute, the well system and the individual wells that are part of it are not exempt from the fee payment, metering, and reporting requirements of these rules.
- (c) A well exempted under Subsection (a) will lose its exempt status if the well is subsequently used for a purpose or in a manner that is not exempt under Subsection (a).
- (d) A well exempted under Subsection (a)(2) will lose its exempt status if, while the well was registered as an exempt well, the District determines that the well had the capacity, as equipped, to produce more than 25 gallons per minute. Such wells are subject to the fee payment, metering, reporting, and other requirements of these Temporary Rules, and may be subject to enforcement under Section 9.
- (e) The owner of a new well that is exempt under this Rule shall nonetheless register the well with the District, as required under Section 3.

Rule 2.2 Wells Subject to Fee Payment, Metering, and Reporting Requirements of These Temporary Rules

All wells not described as exempt under Rule 2.1(a) are subject to the fee payment, metering, reporting, registration, and other requirements of these Temporary Rules. Such wells include wells with a capacity, as equipped, to produce more than 25 gallons per minute and that are used

in whole or in part for any purpose of use other than solely for domestic use, livestock use, poultry use, or agricultural use.

Rule 2.3 Exemption from Production Fees for Groundwater Used for Certain Emergency Purposes

- (a) Groundwater produced within the boundaries of the District is exempt from the assessment of applicable Water Use Fees and Groundwater Transport Fees otherwise required by Section 7 if the groundwater is used by a fire department or an emergency services district solely for emergency purposes and the use is qualified under Subsection (b).
- (b) To qualify for the exemption provided for in Subsection (a), a fire department or emergency services district that uses groundwater produced from within the District, or a person that supplies groundwater produced from within the District to a fire department or emergency services district, shall submit to the District a Water Production Report that complies with Rule 3.10.

SECTION 3.
REGISTRATIONS, RECORDS, REPORTS, AND LOGS; PERMIT NOT REQUIRED

Rule 3.1 Purpose and Policy

The accurate and timely reporting to the District of activities governed by these Rules is a critical component to the District's ability to effectively and prudently manage the groundwater resources that it has been charged by law with regulating. The purpose of Section 3 is to require the submission, by the appropriate person or persons, of complete, accurate, and timely registrations, records, reports, and logs as required throughout the District Rules. Because of the important role that accurate and timely reporting plays in the District's understanding of past, current and anticipated groundwater conditions within the District, the failure to comply with these rules may result in the assessment of additional fees, civil penalties, or any combination of the same, as specifically set forth under Section 9.

Rule 3.2 Permit Not Required Under Temporary Rules.

No permit of any kind is required under these Temporary Rules. Notwithstanding Chapter 36, Water Code, a permit is not required under these Temporary Rules to drill, equip, operate, or complete a well, produce water from a well, or to substantially alter the size or capacity of a well. Permitting requirements will be developed and adopted by the District in the future after it has had a sufficient opportunity to develop a management plan and carefully consider various regulatory approaches and how such approaches may impact landowners and other water users in the District while achieving proper management of the groundwater resources. Permitting rules will be adopted only after ample opportunity has been afforded the public to participate in the development of such rules.

Rule 3.3 Well Registration.

- (a) The following wells must be registered with the District:
1. all new wells drilled on or after January 1, 2009, including new wells exempt under Rule 2.1(a);
 2. all existing wells that are not exempt under Rule 2.1(a);
 3. all wells replaced and plugged under Rule 3.11; notwithstanding anything in these rules, there shall be no fee for wells registered under this subsection.
- (b) A person seeking to register a well shall provide the District with the following information in the registration application on a form provided by the District:
1. the name and mailing address of the registrant and the owner of the property, if different from the registrant, on which the well is or will be located;
 2. if the registrant is other than the owner of the property, documentation establishing the applicable authority to file the application for well registration, serve as the registrant in lieu of the property owner, and construct and operate a well for the proposed use;
 3. a statement of the nature and purpose of the existing or proposed use of water from the well;
 4. the location or proposed location of the well, identified as a specific point measured by latitudinal and longitudinal coordinates;
 5. the location or proposed location of the use of water from the well, if used or proposed to be used at a location other than the location of the well;
 6. the production capacity or proposed production capacity of the well, as equipped, in gallons per minute;
 7. a water well closure plan or a declaration that the applicant will comply with well plugging guidelines, as set forth in the Texas Water Well Drillers and Pump Installers Administrative Rules, Title 16, Part 4, Chapter 76, Texas Administrative Code, and report closure to the District;
 8. a statement that the water withdrawn from the well will be put to beneficial use at all times; and
 9. any other information deemed necessary by the Board.

- (c) The timely filing of an application for registration shall provide the owner of a well described under Subsection (a)(2) with evidence that a well existed before the effective date of these Temporary Rules for purposes of grandfathering the well from the requirement to comply with any well location or spacing requirements of the District and any other entitlements that existing wells may receive under these Temporary Rules or under permanent rules adopted by the District. A well that is required to be registered under this Rule and that is not exempt under Rule 2.1(a) shall not be operated after January 1, 2009, without first complying with the metering provisions set forth under Section 8.
- (d) Once a registration is complete, which for new wells also includes receipt by the District of the well report required by Rule 3.7, the registration shall be perpetual in nature, subject to being amended or transferred and to enforcement for violations of these Rules.

Rule 3.4 Registration of Existing Non-Exempt Wells Required By July 1, 2009.

- (a) The owner of an existing well described under Rule 3.3(a)(2) must register the well with the District between January 1, 2009, and July 1, 2009, and must install a meter on the well as set forth under Section 8 of these rules by January 1, 2009. Failure of the owner of such a well to timely register the well under this Rule shall subject the well owner to enforcement under these Rules.
- (b) Although not required under these Temporary Rules, the owner of an existing well exempt under Rule 2.1(a) may elect to register the well with the District to provide the owner with evidence that the well existed before the adoption of these Temporary Rules for purposes of grandfathering the well from the requirement to comply with any well location or spacing requirements of the District and any other entitlements that existing wells may receive under these Temporary Rules or under permanent rules adopted by the District.

Rule 3.5 Registration of New Wells or Alterations to Existing Wells Required Prior to Drilling or Alteration.

- (a) An owner or well driller, or any other person legally authorized to act on their behalf, must submit all applicable registration fees, obtain approval of a registration application, and submit a well report deposit with the District before any new well, as defined in Rules 1.1(39) and 1.1(37)(e), except leachate wells or monitoring wells, may be drilled, equipped, or completed, or before an existing well may be substantially altered with respect to size or capacity, beginning on and after January 1, 2009.
- (b) A registrant for a new well has 120 days from the date of approval of its application for well registration to drill and complete the new well, and must file the well report within 60 days of completion. The registrant may apply for one extension of up to 120 days which may be approved by the General Manager without further action by the Board of Directors. However, if the well is for a public water system, the registrant shall have 240 days to drill and complete the new well from the date of approval of its application for

well registration, in order to allow time for Texas Commission on Environmental Quality (TCEQ) approval(s), and must file the well report within 60 days of well completion. Such a public water system registrant may apply for one extension of an additional 240 days which may be approved by the General Manager without further action by the Board of Directors, or may resubmit an identical well registration without the need to pay an additional administrative fee associated with the submittal of well registrations for new wells.

- (c) If the well report is timely submitted to the District, the District shall return the well report deposit to the owner or well driller. In the event that the well report required under this rule and Rule 3.7 are not filed within the deadlines set forth under Subsection (b) of this rule, the driller or owner shall forfeit the well report deposit and shall be subject to enforcement by the District for violation of this rule.
- (d) Notwithstanding any other rule to the contrary, the owner and driller of a new well are jointly responsible for ensuring that a well registration required by this section is timely filed with the District and contains only information that is true and accurate. Each will be subject to enforcement action if a registration required by this section is not timely filed by either, or by any other person legally authorized to act on the behalf of either.

Rule 3.6 General Provisions Applicable to Registrations.

- (a) Registration applications may be submitted to the District by utilizing any of the methods described in Rule 1.7, using the registration form provided by the District.
- (b) The General Manager, or his designee, shall, within five business days after the date of receipt of an application for registration, make a determination and notify the applicant as to whether the application is administratively complete or incomplete. If an application is not administratively complete, the District shall request the applicant to complete the application. The application will expire if the applicant does not complete the application within 120 days of the date of the District's request. An application will be considered administratively complete and may be approved by the General Manager without notice or hearing if:
 - (1) it substantially complies with the requirements set forth under Rule 3.3(b), including providing all information required to be included in the application that may be obtained through reasonable diligence; and
 - (2) if it is a registration for a new well:
 - (A) includes the well log deposit; and
 - (B) proposes a well that complies with the spacing, location, and well completion requirements of Section 4.

A person may appeal the General Manager's ruling by filing a written request for a hearing before the Board. The Board will hear the applicant's appeal at the next regular Board meeting. The General Manager may set the application for consideration by the Board at the next available Board meeting or hearing in lieu of approving or denying an application.

- (c) Upon approval or denial of an application, the General Manager shall inform the registrant, by utilizing a method described in Rule 1.7, of the approval or denial, as well as whether the well meets the exemptions provided in Rule 2.1 or whether it is subject to the metering, fee payment, and reporting requirements of these Rules.
- (d) An application pursuant to which a registration has been issued is incorporated in the registration, and the registration is valid contingent upon the accuracy of the information supplied in the registration application. A finding that false information has been supplied in the application may be grounds to refuse to approve the registration or to revoke or suspend the registration.
- (e) Submission of a registration application constitutes an acknowledgment by the registrant of receipt of the rules and regulations of the District and agreement that the registrant will comply with all rules and regulations of the District.
- (f) The District may amend any registration, in accordance with these Rules, to accomplish the purposes of the District Rules, management plan, the District Act, or Chapter 36, Texas Water Code.
- (g) If multiple wells have been aggregated under one registration and one or more wells under the registration will be transferred, the District will require separate registration applications from each new owner for the wells retained or obtained by that person.
- (h) No person shall operate or otherwise produce groundwater from a well required under this Section to be registered with the District before:
 - (1) timely submitting an accurate application for registration, or accurate application to amend an existing registration as applicable, of the well to the District; and
 - (2) obtaining approval from the District of the application for registration or amendment application, if such approval is required under these Rules.
- (i) District approval of a registration application may not automatically grant the registrant the authority to drill, complete, or operate a well under another governmental entity's rules or regulations. The registrant should refer to the rules and regulations of other governmental entities' with jurisdiction over the drilling and operation of water wells at the location specified in the District registration application, including but not limited to, the county, the city, the Texas Department of Licensing and Regulation, and/or the Texas Commission on Environmental Quality, where applicable, to determine whether there are

any other requirements or prohibitions in addition to those of the District that apply to the drilling and operation of water wells.

Rule 3.7 Records of Drilling, Pump Installation and Alteration Activity, and Plugging

- (a) Each person who drills, deepens, completes or otherwise alters a well shall make, at the time of drilling, deepening, completing or otherwise altering the well, a legible and accurate well report recorded on forms prescribed by the District or by the Texas Department of Licensing and Regulation. Replacement of a pump, which does not exceed the capacity of the pump being replaced or which has a maximum designed production capacity of 17.36 gpm or less, shall not constitute an alteration for purposes of the requirement to submit a well report under this section.
- (b) Each well report required by subsection (a) of this Rule shall contain:
- (1) the name and physical address of the well owner;
 - (2) the location of the drilled, deepened, completed or otherwise altered well, including the physical address of the property on which the well will be located, as well as the coordinates of the wellhead location, as determined by a properly functioning and calibrated global positioning system (GPS) unit;
 - (3) the type of work being undertaken on the well;
 - (4) the type of use or proposed use of water from the well;
 - (5) the diameter of the well bore;
 - (6) the date that drilling was commenced and completed, along with a description of the depth, thickness, and character of each strata penetrated;
 - (7) the drilling method used;
 - (8) the borehole completion method performed on the well, including the depth, size and character of the casing installed;
 - (9) a description of the annular seals installed in the well;
 - (10) the surface completion method performed on the well;
 - (11) the location of water bearing strata, including the static level and the date the level was encountered, as well as the measured rate of any artesian flow encountered;
 - (12) the type and depth of any packers installed;
 - (13) a description of the plugging methods used, if plugging a well;

- (14) the type of pump installed on the well, including the horsepower rating of the pump, as assigned by the pump manufacturer;
 - (15) the type and results of any water test conducted on the well, including the yield, in gallons per minute, of the pump operated under optimal conditions in a pump test of the well; and
 - (16) a description of the water quality encountered in the well.
- (c) The person who drilled, deepened, completed or otherwise altered a well pursuant to this rule shall, within 60 days after the date the well is completed, file a well report described in Subsections (a) and (b) of this Rule with the District.
 - (d) Not later than the 30th day after the date a well is plugged, a driller, licensed pump installer, or well owner who plugs the well shall submit a plugging report to the District.
 - (e) The plugging report described in Subsection (d) must be in substantially similar form to the Texas Department of Licensing and Regulation Form a004WWD (Plugging Report) and shall include all information required therein.

Rule 3.8 Transfer of Well Ownership

- (a) Within 90 days after the date of a change in ownership of a well that is registered with the District as exempt under Rule 2.1, the new well owner (transferee) shall notify the District in writing of the effective date of the change in ownership, the name, daytime telephone number, and mailing address of the new well owner, along with any other contact or well-related information reasonably requested by the General Manager.
- (b) Within 90 days after the date of a change in ownership of a well that is not exempt under District Rule 2.1 from the fee payment, metering, and reporting requirements of these rules, the new well owner (transferee) shall submit to the District, on a form provided by the District staff, a signed and sworn-to application for transfer of ownership.
- (c) If a registrant conveys by any lawful and legally enforceable means to another person the real property interests in one or more wells or a well system that is recognized in the registration so that the transferring party (the transferor) is no longer the “well owner” as defined herein, and if an application for change of ownership under subsection (b) has been approved by the District, the District shall recognize the person to whom such interests were conveyed (the transferee) as the legal holder of the registration, subject to the conditions and limitations of these District Rules.
- (d) The burden of proof in any proceeding related to a question of well ownership or status as the legal holder of a registration issued by the District and the rights thereunder shall be on the person claiming such ownership or status.

- (e) Notwithstanding any provision of this Rule to the contrary, no application made pursuant to Subsection (a) or (b) of this Rule shall be granted by the District unless all outstanding fees, penalties, and compliance matters have first been fully and finally paid or otherwise resolved by the transferring party (transferor) for all wells included in the application or existing registration, and each well and registration made the subject of the application is otherwise in good standing with the District.
- (f) The new owner of a well that is the subject of a transfer described in this rule (transferee) may not operate or otherwise produce groundwater from the well after 90 days from the date of the change in ownership until the new owner has:
 - (1) submitted written notice to the District of the change in ownership, for wells described in subsection (a); or
 - (2) submitted to the District a completed application for transfer of ownership, for wells described in subsection (b).

A new well owner that intends to alter or use the well in a manner that would constitute a substantial change from the information in the existing registration or that would trigger the requirement to register the well under these Rules must also submit and obtain District approval of a registration application or registration amendment application, as applicable, prior to altering or operating the well in the new manner.

Rule 3.9 Amendment of Registration

A registrant shall file an application to amend an existing registration and obtain approval by the District of the application prior to engaging in any activity that would constitute a substantial change from the information in the existing registration. For purposes of this rule, a substantial change includes a change that would substantially alter the size or capacity of a pump or well, but shall not apply to an increase in the size of the pump if the maximum designed production capacity of the new pump is 17.36 gpm or less, a change in the type of use of the water produced, the addition of a new well to be included in an already registered aggregate system, a change in location of a well or proposed well, a change of the location of use of the groundwater, or a change in ownership of a well. A registration amendment is not required for maintenance or repair of a well if the maintenance or repair conforms to the definition in Rule 1.1(20).

Rule 3.10 Water Production Reports

- (a) Not later than January 31 and July 31 of each year, the owner of any non-exempt well within the District must submit, on a form provided by the District, a report containing the following:
 - (1) the name of the registrant;
 - (2) the well numbers of each registered well within the District owned or operated by the registrant;

- (3) the total amount of groundwater produced by each well or well system during the immediately preceding reporting period;
 - (4) the total amount of groundwater produced by each well or well system during each month of the immediately preceding reporting period;
 - (5) the purposes for which the water was used;
 - (6) for water used at a location other than the property on which the well is located, and that is not used by a fire department or emergency services district for emergency purposes or by a public water system:
 - (A) the location of the use of the water; and
 - (B) if the water was sold on a retail or wholesale basis, the name of the person to whom it was sold and the quantity sold to each person; and
 - (7) for water used at a location other than the property on which the well is located and that is used by a public water system, a description of identified system losses, including:
 - (A) an estimate of the total quantity, reported in gallons or in percentages of total annual production, of water lost to system loss, if known;
 - (B) the sources of system losses reported under Subpart (A); and
 - (C) the methods, if any, employed to address the system losses reported under this subsection; and
 - (8) additionally, for fire departments, emergency services districts, and any person that provides groundwater produced from within the District to a fire department or emergency services district and that seeks a fee payment exemption under Rule 2.3:
 - (A) the total amount of groundwater produced or used, as applicable, solely for emergency purposes during each month of the reporting period provided for under this Rule; and
 - (B) the total amount of groundwater produced or used, as applicable, for any purpose other than for emergency purposes during each month of the reporting period provided for under this Rule.
- (b) The report due on January 31 shall report groundwater produced during the period of the immediately preceding July 1 to December 31. The report due July 31 shall report groundwater produced during the period of the immediately preceding January 1 to June

30. To comply with this rule, the registrant of a well shall read each water meter associated with a well not later than the dates the reports are due as set forth in this section and report the readings to the District on the form described in Subsection (a). Additionally, to comply with this rule, all applicable information required under Subsection (a) must be contained in the water production report filed with the District.

- (c) The report required by Subsection (a) must also include a true and correct copy of the meter log required by District Rule 8.6.
- (d) The first deadline to submit a report to the District under this Rule is:
 - (1) July 31, 2014, for wells in existence or completed by June 30, 2014; and
 - (2) no later than the first January 31 or July 31 following the date the well was completed, for wells completed after June 30, 2014 .

Rule 3.11 Replacement Wells.

- (a) No person may replace an existing well without first having obtained authorization for such work from the District. Authorization for the construction of a replacement well may only be granted following the submission to the District of an application for registration of a replacement well.
- (b) Each application described in Subsection (a) shall include the information required under Rule 3.3(b), as well as any other information, fees, and deposits required by these rules for the registration of a new well. In addition, information submitted in the application must demonstrate to the satisfaction of the General Manager each of the following:
 - (1) the proposed location of the replacement well is within 50 feet of the location of the well being replaced;
 - (2) the replacement well and pump will not be larger in designed production capacity than the well and pump being replaced, unless the maximum designed production capacity is 17.36 gpm or less; and
 - (3) immediately upon commencing operation of the replacement well, the well owner will cease all production from the well being replaced and will begin efforts to plug the well being replaced, which plugging shall be completed within 90 days of commencing operation of the replacement well.
- (c) Except as required under Subsection (d), applications for registration of replacement wells submitted under this rule may be granted by the General Manager without notice or hearing. A person may appeal the General Manager's ruling by filing a written request for a hearing before the Board. The Board will hear the applicant's appeal at the next available regular Board meeting or hearing called for that purpose, as determined by the General Manager in his discretion.

- (d) Notwithstanding Section (b)(1) of this Rule, the General Manager may authorize the drilling of a replacement well at a location that is beyond 50 feet of the location of the well being replaced if the applicant demonstrates to the satisfaction of the General Manager that water quality, sanitation, or other issues prevent the replacement well from being located within 50 feet of the location of the well being replaced. Requests to locate a replacement well beyond 100 feet of the location of the well being replaced may be granted only by the Board.

SECTION 4.
SPACING AND LOCATION OF WELLS; WELL COMPLETION

Rule 4.1 Spacing and Location of Existing Wells.

Wells drilled prior to the effective date shall be drilled in accordance with state law in effect, if any, on the date such drilling commenced and are exempt from the spacing and location requirements of these rules to the extent that they were drilled lawfully.

Rule 4.2 Spacing and Location of New Wells.

- (a) All new wells must comply with the spacing and location requirements set forth under the Texas Water Well Drillers and Pump Installers Administrative Rules, Title 16, Part 4, Chapter 76, Texas Administrative Code, unless a written variance is granted by the Texas Department of Licensing and Regulation and a copy of the variance is forwarded to the District by the applicant or registrant. All such new wells must also be drilled or completed at locations that comply with the minimum tract sizes requirements, the minimum distances from the nearest registered well, and the minimum distances from the property lines for the land upon which the well is to be located, as provided in the Rule 4.3 below, unless an exception is granted by the Board under this rule.
- (b) After authorization to drill a new or replacement well has been granted by the District, the well may only be drilled at a location that is within ten (10) yards (30 feet) of the location specified in the registration. New wells must nonetheless be actually drilled in compliance with the spacing requirements under Rule 4.3. Replacement wells must be actually drilled and completed so that they are located no more than 50 feet from the well being replaced, unless otherwise authorized by Rule 3.11(d).
- (c) The Board may authorize wells producing from different aquifers to observe a reduction in spacing between each other if the wells comply with the additional well completion requirements set forth under Rule 4.4(c).
- (d) Compliance with the spacing and location requirements of these rules or the grant of an exception to such requirements does not necessarily authorize a person to drill a well at a specified location in the District. Agencies or other political subdivisions of the State of Texas that are located in whole or in part within the boundaries of the District may impose additional requirements related to the drilling or completion of water wells.
- (e) The owner and driller of a well are jointly responsible for ensuring that the well is drilled at a location that strictly complies with the location requirements of Subsection (b). If the board determines that a well is drilled at a location that does not strictly comply with the location requirements of Subsection (b), the Board may, in addition to taking all other appropriate enforcement action, require the well to be permanently closed or authorize the institution of legal action to enjoin any continued drilling activity or the operation of the well.

Rule 4.3 Well Spacing Requirements

All (1) new wells drilled or completed in any aquifer in the District, and (2) all existing wells that are substantially altered, unless the maximum amount of water the altered existing well can actually produce as equipped is 17.36 gpm or less, shall observe the spacing and tract size requirements in the following table:

Maximum Allowed Well Production	Minimum Tract Size	Spacing from Other Well Sites	Spacing from Property Line
The maximum amount of water the well can actually produce as equipped in gallons per minute (gpm).	The minimum tract size that may be considered an appropriate site for a new well.	The minimum distance, in feet, that a new well or proposed well site may be located from an existing registered well or approved well site.	The minimum distance, in feet, that a new well or proposed well site may be located from the nearest property line of the tract of land on which it is to be located.
17.36 gpm or less	Minimum Tract Size is 2 acres.	150 feet	50 feet
More than 17.36 gpm but not more than 40 gpm		1,200 feet	100 feet
More than 40 gpm but less than 80 gpm		1,800 feet	200 feet
80 gpm or larger		2,400 feet	400 feet

Rule 4.4 Standards of Completion for All Wells

- (a) All wells must be completed in accordance with the well completion standards set forth under the Texas Water Well Drillers and Pump Installers Administrative Rules, Title 16, Part 4, Chapter 76, Texas Administrative Code, and under these Rules.
- (b) Water well drillers shall indicate the method of completion performed on the well report.
- (c) To prevent the commingling of water between the aquifers which can result in a loss of artesian (or static) head pressure or the degradation of water quality, each well penetrating more than one aquifer or subdivision thereof must be completed in a manner so as to prevent the commingling of groundwater between aquifers or between subdivisions of an aquifer if required by the Texas Water Well Drillers and Pump Installers Administrative Rules, Title 16, Part 4, Chapter 76, Texas Administrative Code. The driller shall indicate the method of completion used to prevent the commingling of water on the well report. The well driller may use any lawful method of completion calculated to prevent the commingling of groundwater.
- (d) In order to protect water quality, the integrity of the well, or loss of groundwater from the well, the District may impose additional well completion requirements on any well as determined necessary or appropriate by the Board.

Rule 4.5 Exceptions to Spacing Requirements.

- (a) The Board may grant exceptions to the spacing requirements of the District only after consideration of an application filed pursuant to this Rule.
- (b) An application for an exception to the spacing requirements of the District must include:
 - (1) a short, plain statement explaining each circumstance that the applicant believes justifies the requested exception to the spacing requirements of the District;
 - (2) a plat or sketch of the property upon which the applicant proposes to locate the well that is the subject of the application for exception to the spacing requirements of the District that:
 - (A) is drawn to scale;
 - (B) accurately identifies and depicts the location of the boundaries of each property located, in whole or in part, within the minimum spacing distances from the proposed well location under Rule 4.3; and
 - (C) accurately identifies and depicts the location of each well registered with the District that is located within the minimum spacing distances from the proposed well location under Rule 4.3; and
 - (3) a list of the names and physical addresses of the owner of each property and the owner of each well described under Paragraphs (2)(B) and (C) of this subsection; and
 - (4) a completed application for new well registration; and
 - (5) a filing fee in an amount to be set by resolution of the Board, which shall cover all expenses involved in recording the exception in the property deed records of the county in which the well is located. This filing fee shall be refunded to the applicant in the event the exception is denied.
- (c) An application for an exception filed pursuant to this Rule must be sworn to or affirmed by a person with personal knowledge of relevant facts who shall swear or affirm that the facts contained in the application are true and correct to the best of the person's knowledge. A plat filed pursuant to this Rule must be certified by the county clerk's office where the land is located or sworn to or affirmed by a person with personal knowledge of relevant facts set forth in the plat, unless the District already has a certified plat by the appropriate county clerk's office on file at the District office that covers the property in question.
- (d) The Board may not approve an application filed pursuant to this Rule unless:
 - (1) the General Manager has declared the application to be administratively complete;

- (2) following the General Manager's written declaration of administrative completeness to the applicant, the applicant has, using a form provided by the District, provided written notice to each person described in Subsection (b)(3) in accordance with Subsection (e); and
 - (3) following the applicant's satisfaction of the notice requirements of Subsection (d)(2), the Board holds a public hearing on the application at the next available Board meeting or hearing called for that purpose, as determined by the General Manager in his discretion, where the applicant may be required to appear and show cause why the application should be granted, and at which all interested persons shall be given an opportunity to appear and be heard on the application.
- (e) The notice required by Subsection (d)(2) shall:
- (1) include each of the following:
 - (A) the name and address of the applicant;
 - (B) a description of the location of the property upon which the applicant proposes to locate the well that is the subject of the application for exception to the spacing requirements of the District;
 - (C) a general description of the applicant's request; and
 - (D) the date, time, and location of the public hearing on the application; and
 - (2) be delivered to each person described in Subsection (b)(3), using a method of service that complies with Rule 1.7, no less than ten calendar days before the date of the public hearing on the application.
- (f) The Board may grant or deny an application filed pursuant to this Rule on any reasonable grounds based on information contained in the application or properly and timely presented to the Board for its consideration at the public hearing. Grounds for granting an exception may include evidence that the well or wells proposed in the application will produce groundwater from an aquifer other than the aquifer from which the wells that are closer than the minimum distances are producing.
- (g) Notwithstanding any subsection of this rule to the contrary, the Board may grant an administratively complete application filed pursuant to this Rule without the requirement of the notice described in Subsection (d)(2) and without the requirement of a public hearing described in Subsection (d)(3) if:
- (1) the applicant obtains, on a form provided by the District, a signed, voluntary waiver indicating the consent to the applicant's requested exception to the spacing requirements of the District from the following:

- (A) the owner of each property that is located, in whole or in part, within the applicable minimum spacing distance, as established under these Rules, from the proposed well location; and
 - (B) the owner of each well registered with the District that is located within the applicable minimum spacing distance, as established under these Rules, from the proposed well location; or
- (2) the applicant seeks an exception to the spacing requirements of the District for a well that is proposed to be located on a tract of land that was platted, meets an exception to platting, or was otherwise lawfully configured, prior to January 1, 2009, as a tract that is too small to comply with the minimum tract size and spacing requirements set forth under Rule 4.3, but only if:
- (A) the well is to be used solely for domestic, livestock, or poultry watering use;
 - (B) the well as equipped is incapable of producing more than 17.36 gallons of water per minute;
 - (C) such tract is not further subdivided into smaller tracts of land after the January 1, 2009, and prior to the drilling, completion, or equipping of the well; and
 - (D) the applicant provides evidence of the date the tract of land was platted or was otherwise lawfully configured.
- (h) Any person interested in supporting or challenging the application may;
- (1) submit comments or other information in writing to the District, if received by the District prior to the date of the public hearing on the application; or
 - (2) appear before the Board in person at the public hearing.
- (i) Applications for an exception under Subsections (g)(1) or (2) of this Rule may be approved or denied by the General Manager. A person may appeal the General Manager's ruling by filing a written request for a hearing before the Board. The Board shall hear the applicant's appeal at the next regular Board meeting, unless the General Manager sets the application for consideration by the Board at an earlier Board meeting or hearing called for that purpose, as determined by the General Manager in his discretion, in lieu of approving or denying an application. Upon approval or denial of an application, the General Manager shall inform the registrant in writing by utilizing a method described in Rule 1.7.

- (j) If the Board or General Manager grants an exception to the spacing requirements, the General Manager or his designee shall have such exception recorded in the property deed records of the county in which the well is located.
- (k) The burden of proof in any proceeding related to an application for an exception to a spacing requirement shall be on the applicant. The Board may impose additional restrictions on the exact location or the production of a well to be drilled pursuant to an exception that it grants.
- (l) The Board or General Manager may grant an application for an exception under this rule to a person who owns multiple tracts of land or lots in a platted subdivision for each tract or lot that meets the requirements of Subsection (g)(2) of this rule without the need to include a well registration application with the application for an exception. However, no well shall be drilled on any such tract until a well registration application for such well has been approved by the District.

Rule 4.6 Exception Requests Involving Certain Public Water Systems.

- (a) When considering a request for an exception to spacing requirements under Rule 4.5 by an applicant that is a retail public utility and proposes to drill a well to supply water exclusively for a public water system, the Board may consider evidence of whether the proposed well will be drilled at a location within the boundaries of a retail public utility that has prohibited the drilling of wells by other persons through a lawful ordinance, rule, resolution, or order of the retail public utility or whether the drilling of wells on other land in the area of the proposed well is prohibited through deed restrictions or other lawful means. The Board may consider whether and to what extent the well drilling prohibitions may reasonably be expected to limit the impact of the proposed well on surrounding landowners and well owners.
- (b) Notwithstanding the well owners and owners of land who are entitled to notice under Rule 4.5(d) and (e) and in lieu of the class of persons entitled to notice described under Rule 4.5(b)(3), notice of an application submitted under this Rule 4.7 shall be provided in the manner set forth under Rule 4.5 to:
 - (1) each registered well owner located within the minimum distance requirements from the proposed well under Rule 4.3; and
 - (2) each owner of land located within the minimum distance requirements from the proposed well under Rule 4.3 whose land is located in whole or in part outside of the corporate boundaries of the retail public utility.

SECTION 5.
REGULATION OF PRODUCTION; WASTE PROHIBITED

Rule 5.1 Temporary Production Limitations.

The maximum quantity of water that a person may withdraw after January 1, 2009, from a well that is not exempt under Rule 2.1(a) is the amount of water the person produces and timely:

- (1) submits payment to the District for in accordance with the fee rate adopted by the District under Section 7; and
- (2) reports pumpage volumes to the District under Rule 3.10.

Rule 5.2 Regular Production Limitations.

In order to accomplish the purposes of Chapter 36, Texas Water Code, and the District Act, and to achieve the goals of the District Management Plan, the District may, after notice and hearing, establish groundwater production limitations for all wells when it adopts permanent rules for the District.

Rule 5.3 Waste Prohibited.

No person shall engage in any conduct subject to the District's regulatory jurisdiction that constitutes waste, as that term is defined herein.

SECTION 6.

TRANSPORTATION OF GROUNDWATER OUT OF THE DISTRICT

Rule 6.1 General Provisions.

- (a) A person who produces or wishes to produce water from a well not exempt under Rule 2.1(a) that is located or is to be located within the District and transport such water for use outside of the District must register the well and submit timely payment of the Groundwater Transport Fee to the District under Rule 7.2 for any water transported out of the District. The District may require the person to install any meters necessary to report the total amount of groundwater transported outside of the District for reporting purposes and for purposes of calculating the Groundwater Transport Fee.
- (b) The District may not, in a manner inconsistent with rules and fees applied to production and use occurring wholly within the boundaries of the District, regulate production of groundwater or assess fees against the transport of water produced in an area of a retail public utility that is located inside the district boundaries and transported for use to an area that is within the same retail public utility but that is located outside the district boundaries if the majority of the geographic area of the retail public utility's boundaries or defined service area is within the boundaries of the District and the majority of the groundwater produced is used within the boundaries of the District. If conditions change

over time such that the majority of such geographic area or use is not within the boundaries of the District, the groundwater transported for use outside of the District shall be assessed the Groundwater Transport Fee.

Rule 6.2 Reporting.

A person transporting groundwater for use outside of the District and subject to the requirement to pay the Groundwater Transport Fee shall file periodic reports with the District describing the amount of water transported and used outside the District. The report shall be filed with the District for the reporting periods and by the deadlines set forth for Water Production Reports under Rule 3.10. The report for groundwater transported shall be on the appropriate form provided by the District and shall state the following: (1) the name of the person; (2) the well registration numbers of each well from which the person has produced groundwater transported for use outside the District; (3) the total amount of groundwater produced from each well or well system during the immediately preceding reporting period; (4) the total amount of groundwater transported outside of the district from each well or well system during each month of the immediately preceding reporting period; (5) the purposes for which the water was transported; (6) the amount and source of surface water transported, if any; and (7) any other information requested by the District.

SECTION 7.
FEES AND PAYMENT OF FEES

Rule 7.1 Water Use Fees.

- (a) A water use fee rate schedule shall be established by Board resolution annually at least 60 days before the end of the calendar year. The rate shall be applied to the groundwater pumpage in the ensuing calendar year for each well not exempt under Rule 2.1. The District will review the account of any person changing the use of a well from non-exempt to exempt or vice versa to determine if additional water use fees are due or if a refund of water use fees is warranted.
- (b) Wells exempt under Rule 2.1 shall be exempt from payment of water use fees. However, if exempt well status is withdrawn, the District may assess fees and penalties in accordance with the District Rules.
- (c) No later than 60 days prior to the end of the calendar year, beginning with calendar year 2009, the District shall send by regular mail to the owner or operator of each registered well that is required to pay the water use fee a reminder statement setting forth the water use fee rate applicable to the water produced in the ensuing year, setting forth deadlines for submission of fee payments and production reports of meter readings, and other information deemed appropriate by the District.

Rule 7.2 Groundwater Transport Fee.

The District shall impose a 50 percent export surcharge in addition to the District's water use fee for in-District use for groundwater produced in the District that is transported for use outside of the District, except as provide by Rule 6.1(b). The procedures, requirements, and penalties related to payment of the Water Use Fee shall also apply to payment of the Groundwater Transport Fee.

Rule 7.3 Payment of Water Use and Groundwater Transport Fees.

- (a) All fees for groundwater production or transport in a calendar year must be paid to the District semi-annually. Fees for water produced or transported between January 1 and June 30 each year are due to the District by July 31 of the same calendar year; fees for water produced or transported between July 1 and December 31 each year are due to the District by January 31 of the following calendar year. Fee payments shall be submitted in conjunction with the Water Production Reports, monthly logs, and groundwater transport reports if applicable.
- (b) Any well that is subject to fee payment under this rule and that provides water for both agricultural and non-agricultural purposes shall pay the water use fee rate applicable to non-agricultural purposes for all water produced from the well, unless the applicant can demonstrate through convincing evidence to the satisfaction of the District that a system is or will be in place so as to assure an accurate accounting of water for each purpose of use.

Rule 7.4 Failure to Make Fee Payments.

- (a) Payments not received within 30 days following the date that Water Use Fees or Groundwater Transport Fees are due and owing to the District pursuant to Rule 7.3(a) will be subject to a late payment fee of the greater of the following:
 - (1) \$25.00; or
 - (2) ten percent (10 %) of the total amount of water use fees due and owing to the District.
- (b) Persons failing to remit all water use fees due and owing to the District within 60 days of the date such fees are due pursuant to Rule 7.3(a) shall be subject to a civil penalty not to exceed three times the amount of the outstanding water use fees due and owing, in addition to the late fee penalty prescribed in Subsection (a) of this Rule, and may be subject to additional enforcement measures provided for by these Rules or by order of the Board.

Rule 7.5 Returned Check Fee.

The Board, by resolution, may establish a fee for checks returned to the District for insufficient funds, account closed, signature missing, or any other reason causing a check to be returned by the District's depository.

Rule 7.6 Well Report Deposit.

The Board, by resolution, may establish a well report deposit to be held by the District as part of the well registration procedures. The District shall return the deposit to the depositor if all relevant well logs are timely submitted to the District in accordance with these Rules. In the event the District does not timely receive all relevant well logs, or if rights granted within the registration are not timely used, the deposit shall become the property of the District.

Rule 7.7 Enforcement.

After a well is determined to be in violation of these rules for failure to make payment of water use fees or groundwater transport fees on or before the 60th day following the date such fees are due pursuant to Rule 7.3, all enforcement mechanisms provided by law and these Rules shall be available to prevent unauthorized use of the well and may be initiated by the General Manager without further authorization from the Board.

SECTION 8.
METERING

Rule 8.1 Water Meter Required.

- (a) Except as provided in Rule 8.2, the owner of a well located in the District and not exempt under Rule 2.1 shall equip the well with a flow measurement device meeting the specifications of these Rules and shall operate the meter on the well to measure the flow rate and cumulative amount of groundwater withdrawn from the well. Except as provided in Rule 8.2, the owner of an existing well not exempt under Rule 2.1 that is located in the District shall install a meter on the well prior to producing groundwater from the well after December 31, 2008.
- (b) A mechanically driven, totalizing water meter is the only type of meter that may be installed on a well registered with the District unless an approval for another type of meter is applied for and granted by the District. The totalizer must not be resettable by the registrant and must be capable of a maximum reading greater than the maximum expected annual pumpage. Battery operated registers must have a minimum five-year life expectancy and must be permanently hermetically sealed. Battery operated registers must visibly display the expiration date of the battery. All meters must meet the requirements for registration accuracy set forth in the American Water Works Association standards for cold-water meters as those standards existed on the date of adoption of these Rules.

- (c) The water meter must be installed according to the manufacturer's published specifications in effect at the time of the meter installation, or the meter's accuracy must be verified by the registrant in accordance with Rule 8.4. If no specifications are published, there must be a minimum length of five pipe diameters of straight pipe upstream of the water meter and one pipe diameter of straight pipe downstream of the water meter. These lengths of straight pipe must contain no check valves, tees, gate valves, back flow preventers, blow-off valves, or any other fixture other than those flanges or welds necessary to connect the straight pipe to the meter. In addition, the pipe must be completely full of water throughout the region. All installed meters must measure only groundwater.
- (d) Each meter shall be installed, operated, maintained, and repaired in accordance with the manufacturer's standards, instructions, or recommendations, and shall be calibrated to ensure an accuracy reading range of 95% to 105% of actual flow.
- (e) The owner of a well is responsible for the purchase, installation, operation, maintenance, and repair of the meter associated with the well.
- (f) Bypasses are prohibited unless they are also metered.

Rule 8.2 Water Meter Exemption.

Wells exempt under Rule 2.1(a) shall be exempt from the requirement to obtain a water meter under Rule 8.1.

Rule 8.3 Metering Aggregate Withdrawal.

Where wells are part of an aggregate system, one or more water meters may be used for the aggregate well system if the water meter or meters are installed so as to measure the groundwater production from all wells included in the system. The provisions of Rule 8.1 apply to meters measuring aggregate pumpage.

Rule 8.4 Accuracy Verification.

- (a) **Meter Accuracy to be Tested:** The General Manager may require the registrant, at the registrant's expense, to test the accuracy of a water meter and submit a certificate of the test results. The certificate shall be on a form provided by the District. The General Manager may further require that such test be performed by a third party qualified to perform such tests. The third party must be approved by the General Manager prior to the test. Except as otherwise provided herein, certification tests will be required no more than once every three years for the same meter. If the test results indicate that the water meter is registering an accuracy reading outside the range of 95% to 105% of the actual flow, then appropriate steps shall be taken by the registrant to repair or replace the water meter within 90 calendar days from the date of the test. The District, at its own expense, may undertake random tests and other investigations at any time for the purpose of verifying water meter readings. If the District's tests or investigations reveal that a water

meter is not registering within the accuracy range of 95% to 105% of the actual flow, or is not properly recording the total flow of groundwater withdrawn from the well or wells, the registrant shall reimburse the District for the cost of those tests and investigations within 90 calendar days from the date of the tests or investigations, and the registrant shall take appropriate steps to bring the meter or meters into compliance with these Rules within 90 calendar days from the date of the tests or investigations. If a water meter or related piping or equipment is tampered with or damaged so that the measurement of accuracy is impaired, the District may require the registrant, at the registrant's expense, to take appropriate steps to remedy the problem and to retest the water meter within 90 calendar days from the date the problem is discovered and reported to the registrant.

- (b) **Meter Testing and Calibration Equipment:** Only equipment capable of accuracy results of plus or minus two percent of actual flow may be used to calibrate or test meters.
- (c) **Calibration of Testing Equipment:** All approved testing equipment must be calibrated every two years by an independent testing laboratory or company capable of accuracy verification. A copy of the accuracy verification must be presented to the District before any further tests may be performed using that equipment.

Rule 8.5 Removal of Meter for Repairs.

A water meter may be removed for repairs and the well remain operational provided that the District is notified prior to removal and the repairs are completed in a timely manner. The readings on the meter must be recorded immediately prior to removal and at the time of reinstallation. The record of pumpage must include an estimate of the amount of groundwater withdrawn during the period the meter was not installed and operating.

Rule 8.6 Water Meter Readings.

The registrant of a well not exempt under Rule 2.1 must read each water meter associated with the well and record the meter readings and the actual amount of pumpage in a log at least monthly. The logs containing the recordings shall be available for inspection by the District at reasonable business hours. Copies of the logs must be included with the Water Production Report required by District Rule 3.10, along with fee payments as set forth under Section 7. The registrant of a non-exempt well shall read each water meter associated with a non-exempt well not later than January 31 and July 31 of each year and report the readings to the District on a form provided by the District along with copies of the monthly logs and payment of all Water Use Fees and Groundwater Transport Fees by the deadlines set forth for fee payment under Rule 7.3.

Rule 8.7 Installation of Meters.

Except as otherwise provided by these Rules, a meter required to be installed under these Rules shall be installed before producing water from the well on or after January 1, 2009.

Rule 8.8 Enforcement.

It is a major violation of these Rules to fail to meter a well and report meter readings in accordance with this Section. After a well is determined to be in violation of these rules for failure to meter or maintain and report meter readings, all enforcement mechanisms provided by law and these Rules shall be available to prevent unauthorized use of the well and may be initiated by the General Manager without further authorization from the Board.

SECTION 9.
REPORTS, INSPECTION, PENALTIES AND ENFORCEMENT OF RULES

Rule 9.1 Purpose and Policy.

The District's ability to effectively and efficiently manage the limited groundwater resources within its boundaries depends entirely upon the adherence to the rules promulgated by the Board to carry out the District's purposes. Those purposes include providing for the conservation, preservation, protection and recharge of the groundwater resources within the District, to protect against subsidence, degradation of water quality, and to prevent waste of those resources. Without the ability to enforce these rules in a fair, effective manner, it would not be possible to accomplish the District's express groundwater management purposes. The enforcement rules and procedures that follow are consistent with the responsibilities delegated to it by the Texas Legislature through the District Act, and through Chapter 36 of the Texas Water Code.

Rule 9.2 Rules Enforcement.

(a) If it appears that a person or entity has violated, is violating, or is threatening to violate any provision of the District Rules, including failure to pay any assessed penalty or fee, the Board may institute and conduct a suit in a court of competent jurisdiction in the name of the District for any remedy or combination of remedies listed below:

1. payment of fees owed;
2. injunctive relief;
3. recovery of a civil penalty in an amount set by District Rule per violation; and/or
4. any other legal or equitable remedy provided by District Rule or by law.

Each day of a continuing violation constitutes a separate violation.

- (b) Unless otherwise provided in these rules, the penalty for a violation of any District rule shall be either:
 - (1) \$10,000.00 per violation; or
 - (2) a lesser amount, as determined appropriate by the Board, as set forth in an enforcement policy that may include a civil penalty and disincentive fees schedule, which policy shall be adopted by the Board pursuant to Sections 36.101 or 36.1011 of the Texas Water Code, that shall be incorporated by this reference into these Rules and shall constitute a Rule of the District for all purposes.
- (c) A penalty under this section is in addition to any other penalty or remedy provided by law or by District Rule and may be enforced by filing a complaint in a court of competent jurisdiction in the county in which the District's principal office or meeting place is located.
- (d) If the District prevails in a suit to enforce its Rules, the District may seek, in the same action, recovery of attorney's fees, costs for expert witnesses, and other costs incurred by the District before the court. The amount of attorney's fees awarded by a court under this Rule shall be fixed by the court.

Rule 9.3 Failure to Report Pumpage and/or Transported Volumes.

The accurate reporting and timely submission of pumpage and/or transported volumes is necessary for the proper management of water resources in the District. Failure of a well owner required by these Temporary Rules to submit complete, accurate, and timely pumpage and transportation reports may result in:

- (a) the assessment of any fees or penalties adopted under Rule 9.2 for meter reading and inspection as a result of District inspections to obtain current and accurate pumpage and/or transported volumes; and
- (b) additional enforcement measures provided by these Rules or by order of the Board.

Rule 9.4 District Inspections.

No person shall unreasonably interfere with the District's efforts to conduct inspections or otherwise comply with the requirements, obligations, and authority provided in Section 36.123 of the Texas Water Code.

Rule 9.5 Notices of Violation.

Whenever the District determines that any person has violated or is violating any provision of the District's Rules, including the terms of any rule or order issued by the District, it may use any of the following means of notifying the person or persons of the violation:

- (a) **Informal Notice:** The officers, staff or agents of the District acting on behalf of the District or the Board may inform the person of the violation by telephone by speaking or attempting to speak to the appropriate person to explain the violation and the steps necessary to satisfactorily remedy the violation. The information received by the District through this informal notice concerning the violation will be documented, along with the date and time of the call, and will be kept on file with the District. Nothing in this subsection shall limit the authority of the District to take action, including emergency actions or any other enforcement action, without first providing notice under this subsection.
- (b) **Notice of Violation:** The District may inform the person of the violation through a written notice of violation issued pursuant to this rule. Each notice of violation issued hereunder shall explain the basis of the violation, identify the rule or order that has been violated or is being violated, and list specific required actions that must be satisfactorily completed—which may include the payment of applicable civil penalties—to address each violation raised in the notice. Notices of violation issued hereunder shall be tendered by a delivery method that complies with District Rule 1.7. Nothing in this rule subsection shall limit the authority of the District to take action, including emergency actions or any other enforcement action, without first issuing a notice of violation.
- (c) **Compliance Meeting:** The District may hold a meeting with any person whom the District believes to have violated, or to be violating, a District Rule or District order to discuss each such violation and the steps necessary to satisfactorily remedy each such violation. The information received in any meeting conducted pursuant to this rule subsection concerning the violation will be documented, along with the date and time of the meeting, and will be kept on file with the District. Nothing in this rule subsection shall limit the authority of the District to take action, including emergency actions or any other enforcement action, without first conducting a meeting under this subsection.

Rule 9.6 Show Cause Hearing.

- (a) Upon recommendation of the General Manager to the Board or upon the Board's own motion, the Board may order any person that it believes has violated or is violating any provision of the District's Rules a District order to appear before the Board at a public meeting called for such purpose and show cause why an enforcement action, including the initiation of a suit in a court of competent jurisdiction, should not be pursued by the District against the person or persons made the subject of the show cause hearing.
- (b) No show cause hearing under subsection (a) of this Rule may be held unless the District first serves, on each person to be made the subject of the hearing, written notice not less than 20 days prior to the date of the hearing. Such notice shall include the following:
 - 1. the time and place for the hearing;
 - 2. the basis of each asserted violation; and

3. the rule or order that the District believes has been violated or is being violated; and
 4. a request that the person cited duly appear and show cause why enforcement action should not be pursued.
- (c) The District may pursue immediate enforcement action against the person cited to appear in any show cause order issued by the District where the person so cited fails to appear and show cause why an enforcement action should not be pursued.
- (d) Nothing in this rule shall limit the authority of the District to take action, including emergency actions or any other enforcement action, against a person at any time regardless of whether the District holds a hearing under this Rule.

SECTION 10.

OTHER DISTRICT MANAGEMENT ACTIONS AND DUTIES

Rule 10.1 District Management Plan.

Following notice and hearing, the District shall adopt a comprehensive Management Plan. The District Management Plan shall specify the acts and procedures and performance and avoidance measures necessary to prevent waste, the reduction of artesian pressure, or the draw-down of the water table. The District shall use the Rules to implement the Management Plan. The Board will review the Management Plan at least every five years. If the Board considers a new Management Plan necessary or desirable based on evidence presented at a hearing, a new Management Plan will be developed and adopted. A Management Plan, once adopted, remains in effect until the subsequent adoption of another Management Plan.

SECTION 11.

EFFECTIVE DATE

Rule 11.1. Effective Date.

These Rules take effect on August 18, 2008, which was the date of their original adoption. An amendment to these Rules takes effect on the date of its original adoption. It is the District's intention that the rules and amendments thereto be applied retroactively to activities involving the production and use of groundwater resources located in the District, as specifically set forth in these Rules.

APPENDIX 1. Enforcement Policy and Civil Penalty Schedule.

Upper Trinity Groundwater Conservation District
ENFORCEMENT POLICY AND CIVIL PENALTY SCHEDULE

General Guidelines

When the General Manager discovers a violation of the District Rules that either (1) constitutes a Major Violation, or (2) constitutes a Minor Violation that the General Manager is unable to resolve within 60 days of discovering the Minor Violation, the General Manager shall bring the Major Violation or the unresolved Minor Violation and the pertinent facts surrounding it to the attention of the Board. Violations related to water well construction and completion requirements shall also be brought to the attention of the Board.

The General Manager shall recommend to the Board of Directors an appropriate settlement offer to settle the violation in lieu of litigation based upon the Civil Penalty Schedule set forth below or as otherwise provided in District Rules. The Board may instruct the General Manager to tender an offer to settle the violation or to institute a civil suit in the appropriate court to seek remedies, including, but not limited to civil penalties, injunctive relief, and costs of court and expert witnesses, damages, and attorneys' fees.

I. Minor Violations

The following acts each constitute a minor violation:

1. Failure to timely file a registration on a new well that qualifies for an exemption under Rule 2.1.
2. Failure to conduct a meter reading within the required period.
3. Failure to timely notify District regarding change of ownership.
4. Failure to timely file Well Report.
5. Failure to timely submit required documentation reflecting alterations or increased production.
6. Operating a meter that is not accurately calibrated.

CIVIL PENALTY SCHEDULE FOR MINOR VIOLATIONS

First Violation:	Up to \$250.00
Second Violation:	Up to \$500.00
Third Violation:	Major Violation

A second violation shall be any minor violation within 3 years of the first minor violation. A third violation shall be any minor violation following the second minor violation within 5 years of the first minor violation. Each day of a continuing violation constitutes a separate violation.

II. Major Violations

The following acts each constitute a major violation:

1. Failure to register a well where mandated by rules, including drilling, equipping, completing, altering, or operating a well without a compliant and approved registration.
2. Failure to timely meter a well when required.
3. Failure to submit accurate Groundwater Production report within the required period.
4. Failure to submit accurate Groundwater Transport report within the required period.
5. Drilling a well at a different location than authorized or in violation of spacing requirements.*
6. Failure to close or cap an open or uncovered well.
7. Failure to submit Water Use Fees within 60 days of the date the fees are due.**
8. Failure to timely submit Groundwater Transport Fees within 60 days of the date the fees are due.**
9. Intentionally or knowingly submitting inaccurate and untruthful information on District forms or to the Board.
10. Committing waste.

CIVIL PENALTY SCHEDULE FOR MAJOR VIOLATIONS

First Violation:	Up to \$1,000.00
Second Violation:	Up to \$5,000.00
Third Violation:	Civil Penalty Up to \$10,000.00 or Civil Suit for injunction and damages

A second violation shall be any major violation within 3 years of the first major violation. A third violation shall be any major violation following the second major violation within 5 years of the first major violation. Each day of a continuing violation constitutes a separate violation.

* In addition to the applicable penalty provided for in the Civil Penalty Schedule for Major Violations, persons who drill a well in violation of applicable spacing requirements may be required to plug the well.

** In addition to the applicable penalty provided for in the Civil Penalty Schedule for Major Violations, persons who do not submit all Water Use Fees and Groundwater Transport Fees due and owing within 60 days of the date the fees are due pursuant to Rule 7.3(a) shall be subject to a civil penalty not to exceed three times the amount of the outstanding Water Use Fees, Groundwater Transport Fees, or both, that are due and owing.

III. Water Well Construction and Completion Requirements

CIVIL PENALTY SCHEDULE: WATER WELL CONSTRUCTION & COMPLETION REQUIREMENTS

Failure to use approved construction materials: Up to **\$250 + total costs of remediation**

Failure to properly cement annular space: Up to **\$500 + total costs of remediation**

The terms “approved construction materials” and “properly cement annular space” refer to the construction material and annular space requirements for wells that are set forth in the Texas Water Well Drillers and Pump Installers Administrative Rules, Title 16, Part 4, Chapter 76, Texas Administrative Code. In addition to the civil penalties provided for in this schedule, persons who drill a well in violation of applicable spacing or completion requirements may be required to recomplete or reconstruct the well in accordance with the District's rules, or may be ordered to plug the well.

IV. Other Violations of District Rules Not Specifically Listed Herein

Any violation of a District Rule not specifically set forth herein shall be presented to the Board of Directors for a determination of whether the violation is Minor or Major, based upon the severity of the violation and the particular facts and issues involved, whereupon the procedures and the appropriate civil penalty amount set forth herein for Minor and Major Violations shall apply to the violation.

This Enforcement Policy and Civil Penalty Schedule was originally adopted by the Board of Directors on February 9, 2009, and was amended by the Board on December 16, 2013, as and in the manner of a rule of the District, after notice and hearing in accordance with the rulemaking hearing provisions of Chapter 36, Water Code, and in compliance with the provisions of the Texas Open Meetings Act, Chapter 551, Government Code.

Appendix D

Resolution Adopting the Management Plan

RESOLUTION#15-003 ADOPTING A MANAGEMENT PLAN

THE STATE OF TEXAS

§

UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT

§

§

Whereas, the Upper Trinity Groundwater Conservation District (the “District”) was created as a groundwater conservation district by the 80th Texas Legislature under the authority of Section 59, Article XVI, of the Texas Constitution, and in accordance with Chapter 36 of the Texas Water Code by the Act of May 25, 2007, 80th Leg., R.S., ch. 1343, 2007 Tex. Gen. Laws 4583, codified at TEX. SPEC. DIST. LOC. LAWS CODE ANN. ch. 8830 (“the District Act”);

Whereas, under the direction of the Board of Directors of the District (the “Board”), and in accordance with sections 36.1071 and 36.1072 of the Texas Water Code, and 31 Texas Administrative Code Chapter 356, the District has timely undertaken the development of its Management Plan;

Whereas, as part of the process of developing its Management Plan, the District requested and received the assistance of the Texas Water Development Board (the “TWDB”) and worked closely with the TWDB staff to obtain staff’s input and comments on the draft Management Plan and its technical and legal sufficiency;

Whereas, the Board and the staff of the District and the District’s consultants and legal counsel reviewed and analyzed the District’s best available data, groundwater availability modeling information, and other information and data required by the TWDB;

Whereas, the District issued the notice in the manner required by state law and held public hearings on July 20, 2015 in Springtown Texas to receive public and written comments on the Management Plan and received written comments at the District’s office located at 1250 E. Hwy 199, Springtown, Texas;

Whereas, the District coordinated its planning efforts on a regional basis with the appropriate surface water management entities during the preparation of the Management Plan;

Whereas, the Board finds that the Management Plan meets all of the requirements of Chapter 36, Water Code, and 31 Texas Administrative Code Chapter 356; and

Whereas, after the public hearing, the Board of Directors met in a regular board meeting on July 20, 2015, properly noticed in accordance with appropriate law, and considered adoption of the attached Management Plan and approval of this resolution after due consideration of all comments received.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The above recitals are true and correct.
2. The Board of Directors of the Upper Trinity Groundwater Conservation District hereby adopts the attached Management Plan as the Management Plan for the District;

3. The Board President and the General Manager of the District are further authorized to take all steps necessary to implement this resolution and submit the Management Plan to the TWDB for its approval; and

4. The Board President and General Manager of the District are further authorized to take any and all action necessary to coordinate with the TWDB as may be required in furtherance of TWDB's approval pursuant to the provisions of Section 36.1072 of the Texas Water Code.

AND IT IS SO ORDERED.

Upon motion duly made by Director Massey, and seconded by Director Caudle, and upon discussion, the Board of Directors voted 8 in favor, 0 opposed, 0 abstained, and 0 absent; the motion thereby PASSED on this 20 day of July, 2015.

UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT

By: Troy R. Mc
President
Dan Caudle
Secretary

Appendix E

Evidence that the Management Plan was Adopted after Notice and Hearing

Doug Shaw

From: Jennifer Myatt <jennifermyatt@uwmail.com>
Sent: Friday, July 10, 2015 11:37 AM
To: 'The Weatherford Democrat'; 'Hood County News'; 'Wise County Messenger'; 'The Community News'; 'Mark Campbell'; 'Bowie News'; 'The Community News'; 'Hood County News'; 'Hood County News'; 'Nocona News'; 'Saint Jo Tribune'; 'The Weatherford Democrat'; 'Wise County Messenger'; 'Wise County Messenger'; 'Keith Bridwell'; 'Mark Campbell'
Cc: 'Doug Shaw'; 'Jillian North'; 'Jillian McDonald'; 'Ann Devenney'; lainafurlong@uwmail.com
Subject: Subject: RE: This Notice has been updated----FOR IMMEDIATE RE-RELEASE----Upper Trinity GCD's Regular Board Meeting and Public Hearing.

Subject: RE: This Notice has been updated----FOR IMMEDIATE RE-RELEASE----Upper Trinity GCD's Regular Board Meeting and Public Hearing.

Please publish this updated notice for the Upper Trinity Groundwater Conservation Public Hearing and Regular Board Meeting for the July 20, 2015 meeting.

NOTICE

Upper Trinity Groundwater Conservation District's Board of Directors will conduct a Public Hearing to discuss, consider, take public comment on and potentially take action to adopt their 2015 Management Plan in conjunction with their regular monthly board meeting and Show Cause Hearings beginning at 5 p.m. Monday, July 20, 2015, at the District Office, 1250 E Hwy 199, Springtown. The Public is welcome to attend.

After evaluating water availability and existing supplies and identifying water needs for the counties of Montague, Parker, Wise, and Hood, the District will be submitting their technical data to the Texas Water Development Board (TWDB) in late July 2015. This is a critical step in the ultimate development of desired future conditions and water planning groups throughout the region. A public hearing has been set to gather public input on the proposed recommendations, as well as to present the final draft of the Management Plan to members of the Board. *Public comment will be accepted at the hearing held at the July 20 board meeting at the District office located at 1250 E Hwy 199, Springtown, Texas.* Both the management plan and agenda for the board meeting are below.

A copy of the plan may be obtained by contacting the District at 817-523-5200 or online at www.uppertrinitygcd.com/reports. Questions about the content of the plan should be directed to Mr. Doug Shaw, General Manager. Written comment may be submitted by email to sdougshaw@uwmail.com or by mailing comments to PO Box 1749, Springtown, TX 76082

*****SAVE WATER...IT DOESN'T GROW ON TREES!*****

UTGCD, established in November 2007, serves Montague, Wise, Parker, and Hood counties. The District works to protect existing wells, promote conservation, and to provide a framework that will allow availability and accessibility of groundwater for future generations.

For more information about UTGCD, including meeting dates and well registration forms, visit their website at www.uppertrinitygcd.com or call the District office 817-523-5200.

Jennifer Myatt

Data Coordinator
jennifermiyatt@uwmail.com

Upper Trinity Groundwater Conservation District
PO Box 1749
Springtown, TX 76082
Phone: 817-523-5200
Fax: 817-523-7687
www.uppertrinitygcd.com



A Regular Board Meeting & Show Cause Hearings are scheduled for Monday, July 20th at 5:00 p.m.

**NOTICE OF PUBLIC HEARING, SHOW CAUSE HEARING, AND REGULAR MEETING
OF THE
UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT**

**District Office
1250 E. Highway 199, Suite 102
Springtown, TX 76082**

**Monday, July 20, 2015
Hearings and Board Meeting begin at 5:00 PM
Regular Meeting begins at conclusion of Hearings**

RECEIVED
2:30 Clock P M

JUL 10 2015

Jeane Brunson, Co. Clerk
PARKER COUNTY, TEXAS
By R. Adams Deputy

INTRODUCTORY MATTERS

1. Welcome guests and members of the public.
2. Roll call, establish a quorum, call Show Cause Hearings and Board Meeting to order; declare the hearings and board meeting open to the public.
3. Pledges of allegiance to the flags.

PUBLIC HEARINGS

1. Discussion and public comment on the District's 2015 Management Plan proposed for adoption.
2. Adjourn or continue Public Hearing for the District's 2015 Management Plan - At the conclusion of the hearing or any time or date thereafter, the proposed Management Plan may be adopted in the form presented or as amended based upon comments received from the public, the TWDB, District staff, attorneys, consultants, or members of the Board of Directors without any additional notice.
3. Board consideration and possible action regarding an application submitted by Mr. Perry Mader to increase the pump size in his water well on retail/commercial property located at 1819 Martin Dr. Weatherford, TX.
4. Adjourn or continue Public Hearing for Perry Mader.

SHOW CAUSE HEARINGS

1. Conduct Show Cause Hearing regarding Rolling Hills Water Service Inc., 2522 Indian Gap, Weatherford for an alleged first major violation of District Rules; failing to timely pay usage fees.
2. Discuss, consider, and take appropriate action regarding the testimony received under item 1, to include authorizing President and/or General Manager to hire appropriate legal counsel to initiate a civil lawsuit in this matter to enforce compliance with the District Rules, including recovery of civil penalties, costs, and attorneys' fees, and all other appropriate legal and equitable relief.
3. Adjourn or continue Show Cause Hearing for Rolling Hills Water Service Inc.
4. Conduct Show Cause Hearing regarding Burke Lyons (Erwin Water Well) and John Thun (Landowner) for alleged major violations of District Rules at Mr. Thun's property on County Road 3840 in Wise County: failure to submit a well completion report; failure to complete the well according District Rules; and possible groundwater contamination.

5. Discuss, consider, and take appropriate action regarding the testimony received under item 4, to include authorizing President and/or General Manager to hire appropriate legal counsel to initiate a civil lawsuit in this matter to enforce compliance with the District Rules, including recovery of civil penalties, costs, and attorneys' fees, and all other appropriate legal and equitable relief.
6. Adjourn or continue Show Cause Hearing for Burke Lyons (Erwin Water Well) and John Thun (Landowner).
7. Conduct Show Cause Hearing regarding Ray French of Ray French Land, 316 Meadow Hill Rd., Fort Worth; requesting refund of new well registration fees for the Arbors of Brock located on Grindstone Road.
8. Discuss, consider, and take appropriate action regarding the testimony received under item 7, to include authorizing President and/or General Manager to hire appropriate legal counsel to initiate a civil lawsuit in this matter to enforce compliance with the District Rules, including recovery of civil penalties, costs, and attorneys' fees, and all other appropriate legal and equitable relief.
9. Adjourn or continue Show Cause Hearing for Ray French Land.

REGULAR BOARD MEETING

The Board may discuss, consider, and take appropriate action, including expenditure of funds as necessary or appropriate, on any item listed on this agenda:

1. Public comment.
2. **Consent Agenda:** Each of these items is recommended by the Staff and approval thereof will be strictly on the basis of the Staff recommendations. Approval of the Consent Agenda authorizes the General Manager or his designee to implement each item in accordance with the Staff recommendations. The consent agenda will be approved as a block. Any Board member that has questions regarding any item on the consent agenda may have the item pulled and considered as a regular item on the agenda. Any items so pulled for separate discussion will be considered as the first items following approval of the consent agenda.
 - A. Approval of minutes from Board meeting on June 15, 2015.
 - B. Approval of bank statement ending June 30, 2015, and current financial report of the District.
 - C. Payment of bills/invoices received through July 20, 2015.
 - D. Reimburse General Manager, Office Manager and/or Field Technician for invoices/bills paid on behalf of the District through July 20, 2015.
3. Any items from consent agenda that were pulled for further discussion.
4. Take action to elect District officers to serve two year terms ending in July 2017, appoint members to serve on existing committees or create new committees and make any other appointments necessary.
5. Take action to adopt the District's 2015 Management Plan by Resolution # 15-003.
6. Board consideration and possible action regarding proposed Custom Software and Database Restructuring.
7. Board consideration and possible approval of Annual Report for year ending December 31, 2014.
8. Budget & Finance committee update including, but not limited to, retirement contributions; take action as necessary.
9. Rules & Bylaws committee update including but not limited to, spacing requirements; take action as necessary.

10. **Management Report on Administrative and Operational Issues:** The General Manager and staff will brief the Board on the following items, which may be discussed, considered, and acted upon by the Board, including an update on any compliance and enforcement activities for violations of District Rules, including ordering any show cause hearings under District Rule 9.6. or other litigation where applicable.
 - A. General Manager's report
 - 1) Discussion and possible action regarding an application for a replacement well submitted by Rio Brazos Water Supply Company.
 - 2) Discussion and possible action regarding potential violation of District rules by Jeff Bennett (Bennett Water Well Drilling).
 - 3) Discussion and possible action regarding potential violation of District rules by James Cobb (Malone Well Service).
 - B. Report on delinquent customers of the District and take any necessary action for collection of delinquent fees, including but not limited to scheduling of Show Cause hearings for each.
 - C. Open Records Requests
 - D. Report on injection well applications filed with the Railroad Commission
 - E. Well Registration and Groundwater Volume reports
 - F. Education and Outreach
11. **General Counsel's Report:** The District's legal counsel will brief the Board on pertinent legal issues and developments impacting the District since the last regular Board meeting, and legal counsel's activities on behalf of the District, including without limitation: waste injection well monitoring activities; District rules enforcement activities; District Rules and District Management Plan development or implementation issues; groundwater-related legislative activities; joint planning and desired future conditions development activities; developments in groundwater case law and submission of legal briefs; contractual issues related to the District; open government, policy, personnel, and financial issues of the District; and other legal activities on behalf of the District.
12. **Hydrogeologist's Report:** The District's Hydrogeologist will brief the Board regarding activities and work it has performed on behalf of the District, take action as necessary.
13. Board discussion on DFC and GMA 8 activities; take action as necessary.
14. Board consideration and possible approval of Investment Officer's Quarterly report with recommendations.
15. Review line item expenditures and adopt budget amendment(s) as necessary.
16. Determine time and place for next meeting.
17. New business to be placed on the next meeting agenda.
18. Adjourn board meeting.

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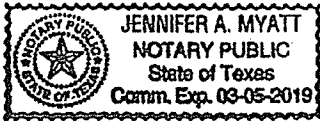
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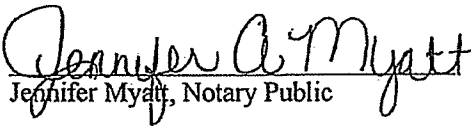
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Doug Shaw, General Manager

Sworn and subscribed to before me this 10 of July.





Jennifer Myatt, Notary Public

**NOTICE OF PUBLIC HEARING, SHOW CAUSE HEARING, AND REGULAR MEETING
OF THE
UPPER TRINITY GROUNDWATER CONSERVATION DISTRICT**

**District Office
1250 E. Highway 199, Suite 102
Springtown, TX 76082**

**Monday, July 20, 2015
Hearings and Board Meeting begin at 5:00 PM
Regular Meeting begins at conclusion of Hearings**

RECEIVED
150PM KF 7/10/15
Hood

INTRODUCTORY MATTERS

1. Welcome guests and members of the public.
2. Roll call, establish a quorum, call Show Cause Hearings and Board Meeting to order; declare the hearings and board meeting open to the public.
3. Pledges of allegiance to the flags.

PUBLIC HEARINGS

1. Discussion and public comment on the District's 2015 Management Plan proposed for adoption.
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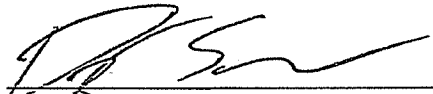
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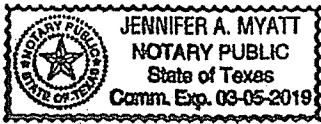
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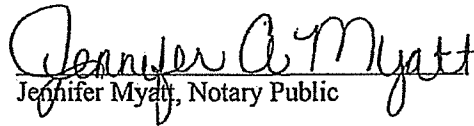
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Springtown, TX 76082

POSTED
AT 12:29 o'clock P M

Monday, July 20, 2015
Hearings and Board Meeting begin at 5:00 PM
Regular Meeting begins at conclusion of Hearings

JUL 10 2015
SHERRY LEMON, COUNTY CLERK
WISE COUNTY, TEXAS
By: Sarah Enochs DEPUTY

INTRODUCTORY MATTERS

Sarah Enochs

1. Welcome guests and members of the public.
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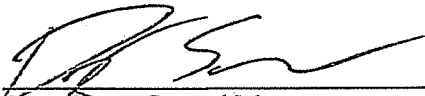
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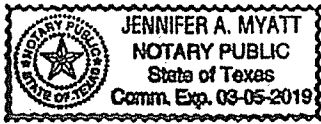
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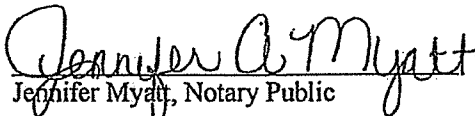
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OF THE
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**District Office
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**Monday, July 20, 2015
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Regular Meeting begins at conclusion of Hearings**

FILED
2015 JUL 10 PM 1:59
MONTAGUE COUNTY CLERK
MONTAGUE, TX

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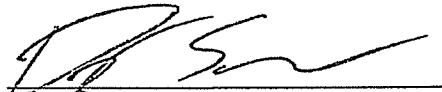
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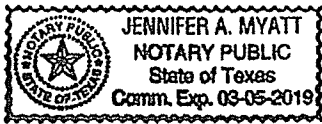
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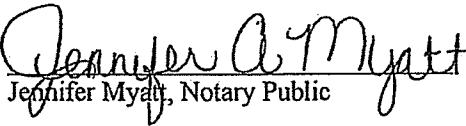
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Doug Shaw, General Manager

Sworn and subscribed to before me this 10 of July.





Jennifer Myatt, Notary Public

Appendix F

Evidence that the District Coordinated Development of the Management Plan with Surface Water Entities

Doug Shaw

From: Doug Shaw <sdougshaw@uwmail.com>
Sent: Friday, July 24, 2015 3:34 PM
To: 'renglish@amud.com'; 'pford@brazos.org'; 'rtow@cityofbowietx.com';
'clane@cityofbridgeport.net'; 'citymgr@granbury.org';
'sgrantham@cityofjacksboro.com'; 'citymanager@mineralwellstx.gov';
'rryan@runawaybaytexas.com'; 'sjcityhall@yahoo.com'; 'shayes@weatherfordtx.gov';
'pcsud@parkercountywater.com'; 'ccampbell@rra.dst.tx.us'; 'joliver@trwd.com';
'wardk@trinityra.org'; 'steve@walnutcreeksud.org'; 'jstjohn@runawaybaytexas.com';
'lynn_henley@hotmail.com'; 'revell_hardison@hotmail.com'; 'cindy@nocona.net'
Cc: sdougshaw@uwmail.com; Jillian North (jilliannorth@uwmail.com)
Subject: Adopted Upper Trinity Groundwater Conservation District Management Plan
Attachments: 2015 UTGCD Management Plan.docx

Attached you will find a copy of the UTGCD Groundwater Management Plan in compliance with Chapter 36 of the Texas Water Code. Our Groundwater Management Plan is the product of a public planning process that culminated in the adoption of the plan at the July 20 UTGCD Board Meeting.

The purpose of the Management Plan is to identify:

- Estimates of Technical Information:
 - Estimates of Historic Water Use
 - Projected Water Supplies, Demands and Needs (potential shortages)
 - Information from the most recent Groundwater Availability Model (GAM)
- How the District Manages and Plans to Manage Groundwater
- Methods for Tracking Progress
- Management Goals

If you have any questions or would like any further information please do not hesitate to give me a call.

Thanks,

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