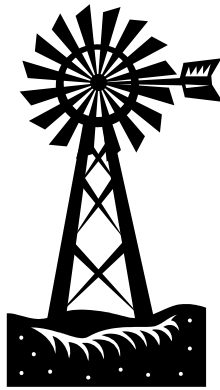


# **GROUNDWATER MANAGEMENT PLAN**



**Mesquite Groundwater  
Conservation District**

**Wellington, Texas**

**March 2009**

## **DISTRICT MISSION**

The mission of the Mesquite Groundwater Conservation District is to develop, promote and implement water conservation, augmentation, and management strategies to protect groundwater resources for the, present and future, benefit of the citizens, economy, and environment of the District.

## **TIME PERIOD FOR THIS PLAN**

This plan uses a ten-year planning horizon, becomes effective upon adoption by the Board of Directors, and remains in effect until a revised plan is approved, or until October 1, 2018, whichever is earlier. This plan will be readopted with or without changes by the District and submitted to the TWDB for approval at least every 5 years.

## **STATEMENT OF GUIDING PRINCIPLES**

The District recognizes that the water resources of the region are of vital importance. The utilization of this most valuable resource can be managed in a prudent and cost effective manner through a variety of actions, including education, cooperation, monitoring, permitting and regulation. The District's overall management standard is to have 50% of underground water supplies (saturated thickness) that was available in the year 2008 still available fifty (50) years later, in 2058. A basic understanding of the aquifers and their hydrogeologic properties, as well as a quantification of resources is the foundation from which to build prudent planning measures. This management document is intended as a tool to focus the thoughts and actions of those given the responsibility for the execution of district activities throughout the ten-year period that is the focus of this plan, i.e. (2008-2018).

## **GENERAL DESCRIPTION**

The District was originally created as Collingsworth County Underground Water Conservation District, by the citizens of Collingsworth County through election in November 1986. Selected parcels from Childress County were added by individual landowner petition in May 2007. Hall County also joined the District by petition with a conformation election in May 2007. The present District name was adopted in October 2007. The Mesquite Groundwater Conservation District (MGCD) encompasses all of Collingsworth and Hall Counties and parts of northern Childress County. The District has an economy dominated by agricultural production. Agricultural income is derived primarily from peanuts, cotton, wheat, and beef production. About 65 percent of the District is rangeland, 30 percent is cropland and the rest is urban, transportation, or water areas. Recreational hunting leases and production of petroleum also contribute to the income of the District. According to current District records, there are slightly more

than 600 active irrigation wells in the District. The District has several Municipal or public supply wells. The remaining wells are non-permitted water supplies for household and livestock consumption.

### **LOCATION AND EXTENT**

Mesquite GCD has an area of 1,866 square miles, or 1,194,278 acres, and is located in the southeastern Panhandle of the State of Texas. The District is bounded on the east by Beckham and Harmon Counties of the State of Oklahoma; on the north by Wheeler County; on the west by Donley & Briscoe Counties and on the south by Motley County and the remainder of Childress County. The principal towns within the District are Wellington and Dodson, in Collingsworth County, and Memphis, Estelline and Turkey in Hall County. There are no towns within the Childress County portion of the District.

### **TOPOGRAPHY AND DRAINAGE**

The District consists of rolling plains heavily dissected by Red River drainage. The elevation of the land surface ranges from 1,576 to 2,817 feet above mean sea level.

The Mesquite GCD lies entirely within the drainage systems of the Red River Basin. The Salt Fork and the Prairie Dog Town Fork of the Red River enter the District in the west, traverse the District and exit through the east. The Southern part of Hall County drains into the North Pease River. The Elm Creek watershed lies in the northeastern portion of the District, and the Buck Creek watershed in Collingsworth and Childress counties, is located in the southern portion.

### **GROUNDWATER RESOURCES OF MESQUITE GCD**

The Seymour and Blaine Aquifers are the primary sources of groundwater in the District. The Seymour Strata typically overlies the Blaine or Whitehorse Group.

The Seymour Aquifer is a major aquifer in Texas, and consists of isolated areas of alluvium that are erosional remnants of a larger area. The aquifer is found in parts of many north-central and Panhandle counties of Texas, and in the District is located in three distinct and separate areas referred to as "Pods". Its formation consists of discontinuous beds of poorly sorted gravel, conglomerate, sand, and silt clay deposited during the Quaternary Period by eastward-flowing streams. Saturated thickness is typically between 5 and 80 feet. Formation thickness may exceed 250 feet in isolated spots in the western portion of Collingsworth County. The thickness in the eastern portion of the county is generally too thin to support irrigation. The formation is also generally thinner in Hall County but does support irrigation. This aquifer is under water-table conditions in most of its extent, but artesian conditions may occur where the water-bearing zone is overlain by clay. The lower, more permeable part of the aquifer produces

the greatest amount of groundwater. Water quality is generally fresh to slightly saline, but some high saline problems occur. Nitrate concentrations in excess of drinking water standards are common.

The Seymour Aquifer comprises about 23% of the District area and provides about 77% of the irrigation water in the District. Yields of wells range from 5 gallons per minute to as much as 1,000 gallons per minute depending upon saturated thickness, with yields averaging about 300 gallons per minute.

The Blaine Aquifer is composed of anhydrite and gypsum with interbedded dolomite and clay and is an important source of groundwater in the District. The Blaine formation crops out in a band from Wheeler County south through Collingsworth and Childress Counties to King County, and extends westward in the subsurface to adjacent counties. In Collingsworth County the Blaine is found along the Salt Fork of Red River north to Wheeler County and east to the Oklahoma state line. The Blaine is also found South and East of Wellington, extending East to the Oklahoma State Line and south to the Prairie Dog Town Fork of the Red River. There are also small areas in the northeast and southeast corners of Hall County. Recharge occurs fairly rapidly, and travels primarily in the numerous solution channels of the Blaine under water-table conditions. Overall water quality is poor and salinity may be high, limiting the use of water for human and livestock consumption. Average depth to water ranges from a few feet to approximately 100 feet. Well depths range up to 200 feet below ground surface. Well yields vary from a few gallons per minute up to 1,000 gallons per minute. Although water in storage is generally under water-table conditions, larger yields are often associated with those areas of the aquifer that are confined by relatively impervious beds. Dry holes or wells of low yield are commonly found adjacent to wells of moderate to high yields because of the uneven nature in confining beds and the occurrence of the water in solution zones. Groundwater not intercepted by wells tends to discharge naturally in areas of lower topography through seeps and springs. The Blaine Aquifer comprises about 24% of the District area and provides about 19% of the irrigation water pumped in the District.

The Whitehorse Group is a Permian aquifer occurring in beds of shale, sand, gypsum, anhydrite, and dolomite. It constitutes the remainder of the District not occupied by the Seymour and Blaine, generally located in the south and west portions of Hall county and the western part of Collingsworth county. It has many of the same characteristics as the Blaine formation. Recharge values were calculated using procedures from the Panhandle Regional Plan and Panhandle GCD. Water quality is fair to poor, and well yields vary greatly. Principal use is for livestock water, with some irrigation use in Hall County. The Whitehorse comprises about 53% of the land area of the District and provides approximately 4% of the irrigation water within the District.

Some maps indicate small areas of the Ogallala Aquifer present in extreme western and northwestern areas of the District. Data from wells in this area is not consistent with typical Ogallala characteristics, and indicate that these wells are actually pumping from the underlying formations.

## RECHARGE DUE TO PRECIPITATION

AQUIFER	RATE ac- ft/acre/year	AREA acres or data source	RECHARGE ac-ft/year	REFERENCES
Seymour	GAM 08-54	GAM 08-54	44,907	GAM 08-54
Blaine	GAM 08-54	GAM 08-54	23,892	GAM 08-54
Whitehorse	0.0361	636,050	22,961	Appx.L,PRWP;PGCD,2002
<b>DISTRICT TOTAL</b>		1,194,278	91,760	

**Table 1- Recharge Estimates**

Nearly all recharge to local aquifers is by direct infiltration of precipitation on the land surface. Published recharge rates for the Seymour and Blaine Aquifers are from GAM 08-54. Recharge data for the Whitehorse is based upon calculations and documentation provided by the Panhandle Groundwater Conservation District, December, 2002. Recharge potential is based upon soil types, annual rainfall, average depth to water and aquifer characteristics.

### DISCHARGE to SPRINGS, LAKES and STREAMS <sup>(1)</sup>

<b>Seymour</b>	<b>4,336 ac-ft/yr</b>
<b>Blaine</b>	<b>21,639 ac-ft/yr</b>

### VOLUME OF FLOW INTO THE DISTRICT <sup>(1)</sup>

<b>Seymour</b>	<b>1,708 ac-ft/yr</b>
<b>Blaine</b>	<b>25,112 ac-ft/yr</b>

### VOLUME OF FLOW OUT OF THE DISTRICT <sup>(1)</sup>

<b>Seymour</b>	<b>1,050 ac-ft/yr</b>
<b>Blaine</b>	<b>21,933 ac-ft/yr</b>

## VOLUME OF FLOW BETWEEN AQUIFERS <sup>(1)</sup>

From Seymour to Blaine and other Permian units	9,655 ac-ft/yr
From Seymour to Blaine only	15,454 ac-ft/yr

(1) Values extracted from GAM 08-54

## SURFACE WATER RESOURCES OF MESQUITE GCD

There are no significant surface impoundments used to supply water within the District other than small ponds constructed for livestock consumption.

## CURRENT WATER SUPPLIES AND PROJECTED DEMANDS FOR MESQUITE GCD

### Current Groundwater Supplies:

Table 2 shows the District's estimate of the currently available groundwater supplies within the District. The District management standard is to have at least 50% of the 2008 benchmarked available groundwater still available in the year 2058.

AQUIFER	SUPPLY FOR YEAR 2008 acre feet in storage	YEAR 2058 GOAL in acre feet
Seymour	1,022,453	511,227
Blaine	1,442,635	721,318
Whitehorse	636,050	318,025
DISTRICT TOTAL	3,101,138	1,550,570

Note: This data is from Mesquite GCD Sources.

### Table 2- Supply for 2008 and 2058 Goal

Storage for the Blaine and Whitehorse Group is difficult to determine due to the erratic characteristics of these formations. Storage was estimated by determining aquifer surface area and multiplying by estimated average saturated thickness. The Seymour is more consistent in character, and could be reliably estimated by using formation thickness to determine recoverable storage. The estimate of current supplies in Table 2 is based upon the best data available at this time. One of the District's major goals is to obtain adequate data to assess aquifer supplies.

**Projected Supplies and Demands:**

Table 3 shows the District’s estimate of the current and projected demands for groundwater within the District. The projection takes into account population changes and anticipated changes in irrigation due to expansion as well as improved efficiency of irrigation application.

YEAR 2008		YEAR 2018		YEAR 2058	
Currently Supply (acre-feet)	Demand (acre-feet)	Estimated Supply (acre-feet)	Estimated Demand (acre-feet)	Estimated Supply (acre-feet)	Estimated Demand (acre-feet)
3,101,138	78,328	2,604,956	90,860	2,077,762	104,489

**Table 3 – Current and Projected Supplies and Demands ( MGCD data, 2008)**

**Summary:**

Estimated annual recharge for aquifers in the District is 91,760 acre-feet. The estimated annual amount of groundwater used in the District in the year 2008 was 78,328 acre-feet. These figures indicate that recharge is adequate to supply current demand on a District-wide basis.

Examination of the Seymour Aquifer alone provides a different picture, however. An estimation of the District’s annual water use, or 41,183 ac/ft, is pumped from the Seymour Aquifer, which has an annual estimated recharge of 44,907 ac/ft. Losses to other aquifers, discharges to springs and streams and net lateral flows result in a net loss of 9,609 acre feet per year. This estimated deficit in the Seymour Aquifer, plus expected irrigation expansion in coming years will result in a reduction of available groundwater supply.

The Year 2018 supply in Table 3 above is based upon using the groundwater at a rate consistent with anticipated additional irrigation development with no groundwater use restrictions other than present well spacing regulations. The Seymour water supply is expected to decrease, while the Blaine and other aquifers remain constant. Demand is expected to increase. The Year 2058 supply shown in Table 2 is 50% of the Year 2008 groundwater supply, as stated in the District’s overall management goal.

Regardless of published projected underground water supplies and needs of Mesquite GCD, comprehensive studies are needed to precisely determine the possibility of limited water availability in future years. An active water level monitoring program is essential

to this effort. The Texas Water Development Board (TWDB) has carried out a limited static water level monitoring program in the District in for several years, including a few wells in the Seymour Aquifer. Most wells in the Quail area have had declining static levels in the last few years, while other monitored wells have remained steady. The District initiated a comprehensive static water level monitoring program in the winter of 2002-2003 in order to gather more accurate aquifer use information and to incorporate it into future management plans. The Seymour Groundwater Availability Model (GAM) was made available in 2004 and is a valuable tool in predicting groundwater supplies and needs. Hopefully these tools will allow us to accurately predict what will happen in the future within the District.

Any large-scale water exporting projects would significantly alter the water balances within the District.



**Estimate of the Amount of Groundwater Being used Annually as Shown in the  
2007 Texas Water Development Board Water Uses Survey  
(acre-feet)**

<b>HISTORICAL GROUNDWATER USE BY CATEGORY, YEAR and COUNTY <sup>(1)</sup></b>						
County	Year	Municipal	Irrigation	Mining	Livestock	Annual Total
Childress <sup>(2) (3) (4)</sup>	2000	0	5,286	0	2	5,288
	2001	0	7,640	0	2	7,642
	2002	0	8,374	0	2	8,376
	2003	0	6,813	0	2	6,815
	2004	0	7,156	0	2	7,158
Collingsworth	2000	701	24,437	0	65	25,203
	2001	726	36,037	0	65	36,828
	2002	766	36,460	0	64	37,290
	2003	837	41,093	0	55	41,985
	2004	667	56,751	0	57	57,475
Hall	2000	612	15,977	22	33	16,644
	2001	555	21,183	22	32	21,792
	2002	552	28,216	22	31	28,821
	2003	529	25,736	22	27	26,314
	2004	537	28,148	22	26	28,733
<b>HISTORICAL GROUNDWATER USE</b>						
District Annual Total	2000		47135			
Groundwater Used	2001		66262			
	2002		74487			
	2003		75114			
	2004		93366			
values in acre feet						
all values extracted from TWDB Historical Water Use workbook						

Notes

1. There were no values for Manufacturing or Steam Electric Generation for these 3 counties.
2. The Childress County Municipal groundwater source and use is not located within the Mesquite GCD area.
3. Childress County Livestock water use equals 6 % of TWDB 2007 Water Use Survey values
4. Based on Mesquite GCD land use survey, ~ 2/3 of the Childress County Irrigation Water Use is located within the District. Childress County groundwater use values were calculated as 67% of 2007 Water Use Survey values.

### Projected Surface Water Supplies (acre-feet)

County	Source or System	2010	2020	2030	2040	2050	2060
Childress <sup>(2)</sup>	Livestock Local Supply	18	18	18	18	18	18
Childress <sup>(2)</sup>	Other local Supply	1	1	1	1	1	1
Childress <sup>(3)</sup>	Greenbelt Lake	-	-	-	-	-	-
Childress <sup>(4)</sup>	Red River Irrigation	-	-	-	-	-	-
Collingsworth	Livestock Local Supply	750	750	750	750	750	750
Collingsworth	Red River Irrigation	798	798	798	798	798	798
Hall	Livestock Local Supply	301	301	301	301	301	301
Hall	Greenbelt Lake -Memphis	100	100	100	100	100	100
Hall	Greenbelt Lake -County						
Hall	Other	152	152	152	152	152	152
Hall	Red River Irrigation	59	59	59	59	59	59
District Totals		2179	2179	2179	2179	2179	2179

Notes: 1. All data from 2007 State Water plan, per TWDB direction  
 2. Childress values = 6% of county total, per TWDB area calculation  
 3. Greenbelt Lake water is supplied to the City of Childress, which is located in GatewayGCD  
 4. No Red River Irrigation is located in that part of Childress County within the Mesquite GCD.

### Projected Total Water Demands from the 2007 State Water Plan <sup>(1)</sup>

RWPG	Water User Group	County	River Basin	2010	2020	2030	2040	2050	2060
A	Wellington	Collingsworth	Red	456	457	446	431	420	401
A	County Other	Collingsworth	Red	234	234	220	200	185	160
A	Irrigation	Collingsworth	Red	24,967	24,327	23,046	20,486	17,925	16,645
A	Livestock	Collingsworth	Red	592	656	672	688	705	723
A	County Other	Childress <sup>(2)</sup>	Red	12	12	12	12	12	12
A	Mining	Childress <sup>(2)</sup>	Red	1	1	1	1	1	1
A	Irrigation	Childress <sup>(2)</sup>	Red	609	593	562	500	437	406
A	Livestock	Childress <sup>(2)</sup>	Red	18	21	21	22	22	23
A	Memphis	Hall	Red	442	441	440	440	440	442
A	County Other	Hall	Red	353	379	395	382	387	363
A	Mining	Hall	Red	15	14	14	14	14	14
A	Irrigation	Hall	Red	20,269	19,749	18,710	16,631	14,552	13,513
A	Livestock	Hall	Red	300	302	305	309	311	316

**Total Projected Water Demands (acre-feet per year) =** **48,267 47,186 44,845 40,116 35,412 33,018**

Notes: 1. Source: Volume 3, 2007 State Water Planning Database  
 2. Values for Childress County reflect 6% of total area within Childress County as calculated by TWDB & the District

### Projected Total Water Needs from the 2007 State Water Plan

There are no needs projected in the 2007 State Water Plan.

## **MANAGEMENT OF GROUNDWATER SUPPLIES**

For twenty two years, the District has managed and will continue to manage the supply of groundwater within the District in order to conserve and protect the limited resource while seeking to maintain the economic viability of all resource user groups, both public and private. The static water level observation network will continue to be implemented in order to monitor changing conditions of groundwater supplies within the District. The District will make periodic assessment of groundwater supplies and storage conditions, will cooperate with investigations of groundwater resources within the District, and will report these to the Texas Water Development Board and to the public.

The District uses all available sources to obtain aquifer recharge, supply and usage information for long-range planning purposes. This includes providing local data input and actively participating in meetings of the Seymour Aquifer Groundwater Availability Modeling (GAM) program. The District also participates in the Panhandle Regional Water Planning Area and uses published data available from it as well as that available from the Texas Water Development Board. Finally, the District relies most heavily on specific local data obtained by District personnel in monitoring water levels and quality, irrigation usage, crops and other local conditions and activities.

The District supports brush control as a management practice to maintain and improve groundwater supplies in the District and region.

In pursuit of the District's mission, in the future the District may require reduction of groundwater withdrawals to amounts that would lessen adverse effects to the aquifers. The District will enforce its rules by enjoining water users in a court of competent jurisdiction, as provided in TWC 36.102, if required, after exhausting other voluntary or cooperative remedies.

The District will utilize all technical resources at its disposal to evaluate the groundwater resources available within the District and to determine the effectiveness of conservation or regulatory measures.

### **Actions, Procedures, Performance and Avoidance for Plan Implementation**

The District will utilize the provisions of this plan as a guidepost for determining the direction or priority of all District activities. All operations of the District, and agreements entered into by the District, will be consistent with the provisions of this plan.

The District has, and will amend as necessary, rules relating to the permitting of wells, depletion, and the production of groundwater. The rules adopted by the District shall be pursuant to Texas Water Code, Chapter 36, and the provisions of this plan. The relevant factors to be considered in making a determination to grant or deny a permit, or limit groundwater withdrawals will include:

1. The purpose of the District and its rules;

2. The equitable conservation and preservation of the resource; and
3. The economic hardship resulting from granting or denying a permit or the terms prescribed by the rules.

The District shall treat all citizens with equality. A public or private user may appeal to the District Board for discretion in enforcement of the provisions of the rules or contingency plans on grounds of economic hardship or unique local conditions. In granting of discretion to any rule, the District Board shall consider the potential for adverse effect on adjacent owners and aquifer conditions. The exercise of said discretion by the Board shall not be construed as limiting the power of the District Board of Directors.

The District will seek cooperation and coordination with local landowners and operators, and appropriate local, regional and state management entities in the implementation of this plan.

### **Managed Available Groundwater**

The District is located in Groundwater Management Area (GMA) 6. The Desired Future Conditions for the Aquifers within the District and the GMA have not been established. The District is participating in the GMA process. When the Desired Future Conditions are established, and the Managed Available Groundwater calculated, these values will be included in this plan.

### **Projected Water Management strategies**

The Water Management Strategies in the table below were extracted from the 2007 State Water Plan<sup>(1)</sup>

County	Strategy	2010	2020	2030	2040	2050	2060
Childress <sup>(2)</sup>	Irrigation Conservation	540	680	820	960	1,100	1,200
Collingsworth	Irrigation Conservation	1,858	2,357	2,855	3,354	3,853	4,217
Hall	Irrigation Conservation	1,691	2,123	2,555	2,988	3,420	3,726
District Totals		4,089	5,160	6,230	7,302	8,373	9,143
Notes: 1. All data from 2007 State Water plan 2. Childress values = 67 % of county total 3. units = ac-ft							

Irrigation Conservation was the only Management Strategy found in the State Water Plan data base and in the Region A Water Plan. The District has estimated that 2/3 of the irrigation in Childress County is within the District. Therefore, the Childress values in the table reflect 67 percent of the Childress county values listed in the 2007 State Water Plan.

## **GOALS, MANAGEMENT OBJECTIVES AND PERFORMANCE STANDARDS**

### **Tracking Progress in Achieving Goals and Management Objectives:**

The District manager will prepare an annual report to the Board of Directors on District performance with regards to achieving each stated management goal and objective during the preceding fiscal year. This annual report will be presented to the Board of Directors at the regular monthly meeting no later than November. The annual report will be maintained on file at the District office.

### **Goal 1.0 Implement measures to provide for conservation of the groundwater resources of the District:**

#### **1.1 Management Objective: Monitor static water levels in selected wells.**

1.1a. Performance Standard: Measure the static water level in at least 100 wells within the District by April 1 each year.

#### **1.2 Management Objective: Conduct water quality analyses of selected wells.**

1.2a. Performance Standard: Conduct water quality analyses of at least 25 wells within the District by September 30 each year.

#### **1.3 Management Objective: Publicize groundwater conservation issues through local newspapers, group presentations, schools, and other media opportunities.**

1.3a. Performance Standard: Publicize groundwater conservation issues using the above outlets on at least one occasion by September 30 each year

### **Goal 2.0 Provide for the most efficient use of groundwater within the District:**

#### **2.1 Management Objective: Monitor selected flow-meters on wells to facilitate water usage efficiency studies.**

2.1a. Performance Standard: Read and record pumping data from at least 40 flow-meter locations by December 31 each year.

**2.2 Management Objective: Publicize the need for efficient use of groundwater through local newspapers, group presentations, schools, and other media opportunities.**

2.2a. Performance Standard: Publicize groundwater efficiency issues using the above outlets on at least one occasion by September 30 each year.

**Goal 3.0 Implement management strategies that will control and prevent waste and contamination of groundwater:**

**3.1 Management Objective: Identify and address local irrigation practices which are wasteful of groundwater resources.**

3.1a. Performance Standard: Educate the public on wasteful irrigation practices with at least one news article, group presentation, or other local publicity opportunity by September 30 each year.

**3.2 Management Objective: Maintain a program to identify, locate and obtain closures of abandoned wells.**

3.2a Performance Standard: Review and Maintain the Districts abandoned water well outreach plan at least once annually.

3.2b Performance Standard: Perform site inspections and complete an open or uncovered well report form for each well reported or located by the District within 30 days of receipt of the report of such well.

3.2c Performance Standard: Incorporate data from newly annexed areas into the existing Abandoned Well program by September 30, 2009.

3.2d Performance Standard: The General Manager will provide a report to the District Board of the number of reports of open or uncovered wells received during the year, the inspections performed on these wells, and the closure status of the wells thus identified by September 30<sup>th</sup> annually.

**Goal 4.0 Implement strategies to address drought conditions:**

**4.1 Management Objective: Maintain the District drought contingency plan .**

4.1a. Performance Standard: Review and update the District's Drought Contingency Plan by September 30, at least once, annually.

4.1b. Performance Standard: Incorporate newly annexed areas into the District's Drought Contingency Plan by September 30, 2009.

**Goal 5.0 Implement Strategies to enhance water supplies.**

**5.1 Management Objective: Recharge enhancement.**

5.1a. Performance Standard: Conduct a feasibility study of Recharge enhancement for the District by September 30, 2010.

5.1b. Performance Standard: Review the Recharge Enhancement Feasibility Study annually. A summary of the Feasibility Study review will be included in the annual report to the District Board.

**5.2 Management Objective: Rainwater Harvesting.**

5.2a. Performance Standard: Construct a demonstration project within the District by September 30, 2011.

5.2b. Performance Standard: Include an annual summary of the results of the Rainwater Harvesting Demonstration Project in the annual report to the District Board.

**SB-1 MANAGEMENT GOALS  
DETERMINED NOT APPLICABLE**

The following six goals mandated to be addressed by Senate Bill 1 of the 75<sup>th</sup> Texas Legislature, 1997, have been determined not to apply to the Mesquite Groundwater Conservation District for the reasons stated below.

**1.0 Addressing in a Quantitative Manner the Desired Future Conditions of the Groundwater Resources in the District**

The desired future conditions of the aquifers within the District have not yet been established. Therefore, this goal is not applicable to the District at this time.

**2.0 Cooperative resolution of natural resources management issues.**

The District has no documented occurrences of endangered or threatened species dependent upon groundwater resources.

**3.0 Control and prevention of subsidence.**

The rigid geologic framework of the region precludes significant subsidence due to groundwater pumping. Subsidence in the District is caused by groundwater dissolving

the gypsum commonly found in the Blaine formation, forming local sinkholes. There are no available measures to prevent water from dissolving gypsum

**4.0 Addressing conjunctive surface water issues.**

There are not currently any surface water impoundments within the District.

**5.0 Addressing Precipitation Enhancement.**

Presently not cost effective.

**6.0 Addressing Brush Control.**

The District plans to work cooperatively with the NRCS and the local Soil Conservation Board on brush control projects in the future when conservation funds are made available for such practices.

**APPROVAL AND ADOPTION**

Be it resolved that the Board of Directors of the Mesquite Groundwater Conservation District does hereby approve and adopt this Groundwater Management Plan in open meeting on March 19, 2009.

\_\_\_\_\_  
President

\_\_\_\_\_  
Member

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Vice-President

\_\_\_\_\_  
Member

\_\_\_\_\_  
Secretary

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Member

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Member

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Member