

**FRANKLIN COUNTY WATER DISTRICT  
WATER CONSERVATION  
AND  
DROUGHT CONTINGENCY PLAN**

**Adopted:  
April, 2001  
Amended May, 2005  
Amended July, 2006**



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CYPRESS BASIN AGREEMENT

**I. WATER CONSERVATION PLAN**

**A. Description of the Service Area**

**1. Purpose**

A Water Conservation and a Drought Contingency Plan are required of the Franklin County Water District (the District) by the Texas Commission on Environmental Quality (TCEQ). These requirements are contained in the Water Code, Chapter 288.5 and 288.22. This document provides specific conservation and drought contingency in accordance with the TCEQ’s requirements for wholesale water suppliers.

**2. Background Information**

The District is a conservation and reclamation district and a political subdivision of the State of Texas, which encompasses all of Franklin County. It was created in 1965 to develop Lake Cypress Springs and to administer the water stored therein, recreational uses of the reservoir, and certain lands adjacent to the reservoir. Today, these functions are carried out through wholesale water supply contracts, operation of a number of parks and campgrounds, law enforcement on and around the lake, administration of the lake and water rights, and administration of various leases and land rights around the reservoir.

Lake Cypress Springs is a spring and surface runoff supplied reservoir located on Cypress Creek. The dam was completed in February of 1971. The reservoir has a normal capacity of 72,800 acre-feet over an area of 3,400 acres at an elevation of 378 feet above mean sea level (M.S.L.). It has an emergency capacity of 100,400 acre-feet over an area of 4,500 acres at an elevation of 385 feet above M.S.L.

At present, the District is authorized to divert and use a maximum of 11,710 acre-feet per year as a water supply. This volume of water is currently designated for the following purposes:

<i>Municipal</i>	<i>11,500 acre-feet</i>
<i><u>Irrigation</u></i>	<i><u>210 acre-feet</u></i>
<i>TOTAL</i>	<i>11,710 acre-feet</i>

Water is withdrawn from the lake for these purposes through six raw water intake structures located on the lake; these structures are owned and maintained by the District’s individual customers.

An additional 3,590 acre-feet of water from Lake Cypress Springs is permitted by TCEQ to the City of Mt. Pleasant. Mt. Pleasant draws its permitted water through an intake jointly shared with Cypress Springs SUD, into Lake Bob Sandlin.

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The District has the following four customers: City of Mount Vernon, City of Winnsboro, Cypress Springs SUD (formerly South Franklin W.S.C.), and M&W Recreational Facility. Each customer has executed a Water Purchase Contract with the District.

### **3. Service Area and Customer Data**

The District is a raw water supplier only; it does not supply treated water. However, it does own and operate lands adjacent to the lake. The residents have long-term (99-year) leases and pay the District annually. Though the District does not supply these residents water, it does inspect and issue permits for any construction on these properties as well as operate and maintain the amenities (parks, campgrounds, boat ramps, etc.) surrounding the lake. The District has direct contact with these residents and visitors to the lake (through billing, permitting, rentals, etc.), which allows it to influence, but not enforce, water conservation.

In addition, the District can encourage, though not require, water conservation within the service area of each wholesale customer. Included in the Appendix is a map distinguishing the service areas of the District's four customers. The following is information on the service area for each customer including area and population data, water use data, water supply system data, and wastewater data (if applicable).

#### **a. City of Mount Vernon**

The service area includes the city limits of Mount Vernon and selective parts of the City's extra territorial jurisdiction, and covers an area of approximately 3.5 square miles.

The 2000 population of the Mount Vernon service area was 2286, and the population served water by Mount Vernon (including a portion of the ETJ) was 2928. The source cited for population data is the 2006 Region D Water Plan Draft Report.

The active connections as of 2003 by user type are as follows: 856 residential, 181 commercial, and 19 manufacturing. The City averaged approximately 491 acre-feet of water per year diverted for 2003 and 2004 (438,300 gpd). This historical water use data was calculated by observing the City's master meter, which is located at the point of diversion at the City's raw water intake. The City's

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raw water intake is located on the north side of the lake on the east side of F.M. 115.

The City is supplied entirely from surface water out of Lake Cypress Springs. Mount Vernon's current contract with the District makes available 3,000 acre-feet of water per year for municipal purposes. The length of this contract is through the year 2024. The City currently operates water treatment facilities with a capacity of 1.44 million gallons per day (MGD). The City has the following water storage facilities:

<i>500,000 gallons</i>	<i>Ground Storage Tank</i>
<i>300,000 gallons</i>	<i>Elevated Storage Tank</i>

Mount Vernon also operates wastewater treatment facilities with a capacity of 245,000 gallons per day (GPD). The plant is operated by the City under TCEQ Permit #11122-022. The wastewater treatment facilities consist of an activated sludge plant, which discharges its effluent into Town Branch Creek, in the Sulphur River Basin.

**b. City of Winnsboro**

The service area includes the City limits of Winnsboro and covers approximately four square miles.

The 2000 population of the service area was 3584 and the population served water by the City was 3624. The source of the population information is the draft 2006 Region D Water Plan.

The active connections in 2003 by user type are as follows: 1353 residential, 223 commercial, and 16 manufacturing. The City has averaged approximately 728 acre-feet of water per year diverted for 2003 and 2004. The historical water use data was calculated by observing the City's master meter that is located at a point of diversion at the City's raw water intake. Winnsboro's intake structure is located on the south side of the lake, west of F.M. 115.

Winnsboro is also supplied entirely by surface water from the lake and currently is under contract with the District for a maximum of 5,000 acre-feet of water. The City's current contract with the District is valid until the year 2029. Winnsboro operates a 1.5 MGD water treatment plant. It also has a one million gallon ground storage tank, a 350,000 gallon elevated storage tank and a 500,000 gallon ground storage tank.

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Winnsboro has wastewater treatment facilities with a capacity of 1.50 MGD. This plant is operated by the City of Winnsboro under TCEQ Permit #10319-002., and a major expansion was completed in early 2005. It is an activated sludge plant with the treated effluent discharging into Indian Creek, thence to Big Sandy Creek in Segment #0514 of the Sabine River Basin.

**c. Cypress Springs SUD**

The service area includes most of Franklin County outside of Mount Vernon and north of Winnsboro (including Lake Cypress Springs). The Corporation serves an approximate 150 square mile area.

The 2005 population is estimated at approximately 6370 people based upon 4100 active connections (meters). Approximately 50 of these meters are livestock related, primarily poultry houses.

The utility district obtains its water supply primarily from surface water from Lake Cypress Springs and supplements that with groundwater from one well in the Carrizo-Wilcox aquifer. The Corporation's current contract with the District allows for a maximum of 3,500 acre-ft of surface water from the lake. This contract is valid through the year 2060.

The corporation currently has three raw water intakes in the lake, serving these water plants, these are located on the north, south, and northeast parts of the lake. The intake on the north side of the lake is located just east of F.M. 115 and supplies the 1.0 MGD Purley Plant. The intake on the south side of the lake is located west of F.M. 115 and supplies the Corporation's users in the southern part of its service area from the 0.6 MGD South Plant. The intake on the northeast of the lake is shared with the City of Mt. Pleasant, and serves the system's 2.0 MGD Northeast Plant. Total capacity is 3.6 MGD surface water, and 0.18 MGD groundwater.

The corporation averaged 1168 acre-feet of water per year diverted from Lake Cypress Springs for 2003 and 2004.

The corporation does not provide wastewater service.

**d. M&W Recreational Facility**

M&W Recreational Facility operates a country club and a golf course on the southern shore of Lake Cypress Springs, on property it leases long-term from the

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District. The water M&W purchases are primarily for irrigation of the golf course.

The facility averaged approximately 36 acre-feet of water per year diverted for 2003 and 2004. The historical water use data was calculated by observing the facility's meter, which is located at a point of diversion at the facility's raw water intake structure. The intake structure is located on the south side of the lake, west of F.M. 115.

**B. Goals – until May 1, 2005**

The goal of a water conservation and drought contingency plan is that of using water supplies wisely and conservatively at all times; thus protecting supplies for future users.

The goal of this water conservation plan is to encourage continuous water conservation in Franklin County. The Franklin County Water District considers the following gpcpd reasonable, conservative rates of water use for each customer and encourages its wholesale customers to reduce use to this level or below.

<u>Customer</u>	<u>2000 Use<sup>1</sup></u>	<u>Goal<sup>2</sup></u>	<u>% Reduction</u>
City of Mt. Vernon	195 gpcpd	<b>170 gpcpd</b>	13%
City of Winnsboro	176 gpcpd	<b>153 gpcpd</b>	13%
Cypress Springs SUD	211 gpcpd	<b>183 gpcpd</b>	13%

<sup>1</sup> 2000 TWDB Projected Per Capita Use. Source: NETRWPG Final Regional Water Plan

<sup>2</sup> 2020 TWDB Projected Per Capita Use. Source: NETRWPG Final Regional Water Plan

In addition, the District considers 15% a reasonable and conservative amount of unaccounted-for water, and will encourage its wholesale customers to maintain losses below this target percentage.

**C. Specific Quantified Targets – after May 1, 2005**

Beginning May 1, 2005, TCEQ rule 288.5(c) requires specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the District's service area, maximum acceptable unaccounted-for water, and the basis for development of these goals. The goals established under this plan are not enforceable.

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According to the draft 2006 Regional Water Plan for the North East Texas Regional Planning Group (Region D), per capita municipal usage and waster loss for the District's service area is as follows:

	<b>Per Capita Usage</b>	<b>Water Loss (2000-2002)</b>
City of Mt. Vernon	133	3-4%
City of Winnsboro	146	11-21%
Cypress Springs SUD	126	3-5%

The draft 2006 Regional Plan is the basis for development of 5-year and 10-year goals. The plan recommends the following 5-year and 10-year gallon per capita per day reductions based upon the assumed replacement of toilets and faucets with new water efficient fixtures as mandated in State and Federal legislation:

	<b>5-year reduction</b>	<b>10-year reduction</b>
City of Mt. Vernon	6 gpcpd	9 gpcpd
City of Winnsboro	4 gpcpd	7 gpcpd
Cypress Springs SUD	4 gpcpd	7 gpcpd

In addition, the state Water Conservation Task Force has proposed 140 gpcpd as a non-enforceable voluntary goal for municipal water use. 10-15% water losses are considered reasonable. Mt. Vernon and Cypress Springs SUD currently fall below the 140 gpcpd and 10-15% loss. While Winnsboro is slightly high at 146 gpcpd, a reduction in losses to the 15% range would help. The following non-enforceable target goals are suggested by the District:

	<b>5-year gpcpd</b>	<b>10-year gpcpd</b>
City of Mt. Vernon	127	124
City of Winnsboro	140	139
Cypress Springs SUD	122	119

**D. Water Measurement Practices**

The District requires, and will continue to require, that all wholesale water be metered. The water meters are read and billed on a monthly basis. Each of the water purchase contracts between the District and its customers contain requirements for maintenance and accuracy (2%) of the meters. The meters will be calibrated at least every three years.

In addition, the District recommends to its wholesale customers that they meter 100% of their water sales, track water loss rates, and implement or continue an aggressive maintenance schedule for all of their metering equipment and distribution piping. Each wholesale customer is encouraged to test and repair its retail meters on a regular basis.

***E. Monitoring and Record Management***

Water deliveries from the District to its wholesale customers are monitored by raw water meters installed at each intake structure. These meters are read on a monthly basis.

There are no losses attributable to the District system since the water is delivered to the customer systems from the lake.

***F. Metering and Leak Detection***

The District has no storage, delivery, or distribution system, and this requirement is therefore not applicable. Metering of water diverted from Lake Cypress Springs is discussed in paragraph (D). The actual diversion structures and piping are part of the customer's system – not the District's.

***G. Water Supply Contract Renewals***

The District will require, through contractual agreement, that other entities contracting to purchase raw water from the District will either 1) adopt appropriate provisions for water conservation and drought management from this plan, or 2) have a plan in place that has been approved by the Texas Commission on Environmental Quality. This requirement will be effective for new water purchase contracts, and for existing contracts at the time they are renewed. Furthermore, the contract will require that each successive customer in the resale of the water will implement water conservation measures in accordance with this plan or other approved plans. This is a TCEQ requirement for wholesale water suppliers.

## ***H. Reservoir System Operations Plan***

Franklin County Water District is a signatory to the Cypress Basin Operating Agreement, which is a cooperative arrangement between the owner's of reservoirs in the Cypress Creek Basin, including Cypress Springs, Bob Sandlin, Lake O' the Pines, and Ellison Creek Reservoir.

One of the significant goals of the operating agreement is to optimize water supplies in the basin through coordinated operation of the various reservoirs.

The District does not own any reservoirs other than Lake Cypress Springs which could be used to enhance this goal.

## ***I. Implementation and Enforcement***

The Franklin County Water District will implement this plan by passing a Board Resolution, indicating official adoption of the plan, a copy of which is included herewith.

The adoption resolution provides that the General Manager of the District will have the authority to enforce the plan. Dependent upon the infraction involved, enforcement may be by the District's licensed peace officer enforcing applicable state laws or District regulations, or through enforcement in an appropriate court of specific wholesale contract provisions.

## ***J. Coordination with the Regional Water Planning Group***

The FCWD service area lies entirely within the Region D water planning area. In preparing this plan, the FCWD has coordinated per capita consumption, demand projections, population and similar basic data with the corresponding numbers in the draft regional plan. A copy of the completed plan will be provided to the Regional Water Planning Group for review and comment.

## **II. DROUGHT CONTINGENCY PLAN**

### ***A. Introduction, Declaration of Policy, Purpose, and Intent***

Texas Commission on Environmental Quality (TCEQ) rules require wholesale water suppliers to develop a “drought contingency plan” that provides a minimum of three stages for implementation of measures in response to water supply conditions during a repeat of the drought of record.

One dictionary defines a drought as simply “a long period of dry weather.” This type of drought will develop slowly, over an extended period. Other uncontrollable circumstances can disrupt the normal availability of a raw water supply much more quickly. Regardless of the normal adequacy of any water supply, the supply may become contaminated or a natural disaster could curtail the availability. During drought periods, consumer demand is typically higher than under normal conditions. Therefore, it is important to be prepared well in advance for a drought or supply disruption emergency.

A drought contingency plan outlines a strategy or series of strategies for supply and demand management responses to temporary and potentially recurring shortages and other water supply emergencies.

A drought contingency plan is distinctly different from a water conservation plan. While water conservation involves implementing permanent efficient water use and reuse practices, drought contingency plans establish temporary methods or techniques designed to be implemented only as long as the emergency exists.

In order to conserve the available water supply, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the Franklin County Water District (FCWD) adopts the following Drought Contingency Plan (the Plan).

### ***B. Public Involvement/Education***

The District has no retail water supply customers, and four wholesale customers. These are the City of Mt. Vernon, the City of Winnsboro, the M&W Recreational Facility, and the Cypress Springs Special Utility District. In addition, the City of Mt. Pleasant holds water rights in Lake Cypress Springs. Each of these entities was provided a copy of the Drought Contingency Plan prior to June 2006.

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The District discussed the original Drought Contingency Plan during its April, 2005 board meeting. Amendments were discussed at the July, 2006 board meeting. These meetings were open to the public and the press and agendas were advertised publicly.

As means of educating customers about the plan, the District will periodically provide information on the plan to its wholesale customers through the following methods:

1. Fact sheets
2. Newspaper articles
3. Personal contact (phone calls, letters, etc.)

A copy of this plan, including amendments, has been provided to all wholesale customers.

***C. Coordination with Regional Water Planning Group***

The water service area of the Franklin County Water District is located within the North East Texas Regional Water Planning Area (Region D), and the District has provided a copy of the latest Plan to the North East Texas Regional Water Planning Group (NETRWPG).

***D. Authorization***

The General Manager, or his/her designee, is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety, and welfare. The General Manager, or his/her designee, shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this Plan.

***E. Applicability***

The provisions of this Plan shall apply to all customers utilizing water provided by the Franklin County Water District. The terms “person” and “customer” as used in the Plan include individuals, corporations, partnerships, associations, municipalities, districts, and all other legal entities.

**F. Trigger Conditions**

A “trigger condition” is a criteria or benchmark for determining when an action is necessary in response to drought conditions.

For some systems, the trigger could involve the capacity of pumps, delivery pipelines, treatment plants, or other infrastructure. However, since the District neither owns nor operates any such facilities, the principal trigger for the District will be the available supply in Lake Cypress Springs. Normally this will be reflected by the lake surface elevation.

The District has historical lake elevation data. This data is available on the District's website at [www.fcwd.com](http://www.fcwd.com) on a weekly basis since 1972. The information is collected by an automated gauging station at the spillway, and is provided by the USGS. For more recent periods, daily data is also available on the website.

Levels in down-stream reservoirs can also affect the District’s water supply. The District is required by the Cypress Basin Operating Agreement to release enough water to avoid adverse effects on the down stream water rights of prior users (specifically Lake O the Pines). A copy of this agreement is included in the Appendix. While a release for this purpose has never occurred, it must be recognized that the possibility exists and that it would very likely have a significant impact on the level in Cypress Springs.

The normal water surface elevation for Lake Cypress Springs is 378.0 feet MSL. Record high and low elevations are as follows:

<b>Date</b>	<b>High</b>	<b>Low</b>
12/17/2001	382.10	
12/26/1987	382.00	
2/17/2001	381.60	
5/18/1989	381.20	
10/28/1978		373.75
9/24/1978		374.80
10/25/1977		375.05
1/21/2006		374.70
8/7/2006		374.36

The District will initiate drought contingency measures upon occurrence of the following triggers:

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Mild Conditions:

The District will recognize that a mild water shortage condition exists when the lake elevation remains 3 feet below the 23 by 23 foot rectangular drop structure (morning glory - elev. 378 feet above M.S.L.) located near the dam, for 60 consecutive days. The storage capacity at the 375' water level is approximately 58,000 acre-feet, which is 85% of the normal capacity at 378 feet above M.S.L. (See Area/Capacity Curve, Figure 2). This elevation has been selected based upon historic level data as shown in Figure 1. Recorded lake level has never been below 373 feet.

Termination: The District will recognize that a mild water shortage condition will terminate when the lake elevation rises to 2 feet below the spillway.

Moderate Conditions:

The District will recognize that a moderate water shortage condition exists when the lake elevation reaches ~~is 3~~ 7 feet below the 23 by 23 foot rectangular drop inlet (morning glory - elev. 378 feet above M.S.L.) located near the dam. At this depth, the low level pump intake at the C.S.M.U.D.'s intake structure on the north and east side, and the City of Mt. Pleasant's low level intake, will begin to be exposed. The affected wholesale customers would likely have to modify their intake structures. The storage capacity at this water level is approximately 47,000 acre-feet, which is 69% of normal capacity. This level is selected based upon calculations on probable annual lake level decline due to customer water usage and evaporation in a year with no rainfall - estimated as approximately 6.5 feet below the 378 conservation pool level. The lake has never dropped to this level. However, lower levels may be experienced in a drought of longer record, and as wholesale users call for increasing percentages of their contract amounts.

Termination: The District will terminate the moderate water shortage condition when the lake elevation rises to 6 feet below the spillway. Mild conditions will then be initiated.

Severe Conditions:

The District will recognize that a severe water shortage condition exists when the lake elevation reaches 12.5 feet below the 23 foot by 23 foot rectangular drop inlet (morning glory - elev. 378 feet above M.S.L.) located near the dam. The storage capacity at this level is approximately 34,000 acre-feet, which is 50% of normal capacity.

It should be noted that at 50% capacity, the majority of the intake structures would be above the 365.5 feet elevation. The area-capacity curve for Lake Cypress Springs (Figure 2) shows a marked acceleration in capacity reduction at elevations below 365 feet.

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Termination: The District will terminate the severe water shortage condition when the lake elevation rises to 11.5 feet below the spillway. Moderate conditions will then be initiated.

Emergency Conditions:

The District will recognize that an emergency water shortage condition exists when:

- 1) Major water line breaks or pump system failures, or reservoir problems occur, which cause unprecedented loss of capability to provide water service, or
- 2) Natural or man-made contamination of the water supply source occurs.

Termination: These conditions will terminate when the general manager determines that:

- 1) The capacity to provide water service is restored, or
- 2) The water source is safe for drinking purposes.

## **G. Notification Procedures**

When trigger conditions appear to be approaching, the District will notify each wholesale customer in writing, by mail.

When drought response stages are reached, the District will notify each wholesale customer by letter and telephone that drought contingency measures are necessary, and specify the measures to be taken. Customers will be notified in the same manner when each drought stage is terminated.

## **H. Drought Response Targets and Best Management Practices**

The ability of the Franklin County Water District to curtail or reduce diversions by its wholesale customers is limited by the terms and conditions of its wholesale contracts.

The District will direct its customers to take necessary actions when trigger conditions are reached. The following are specific actions that will be taken if trigger conditions are

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met. They are divided into recommended actions for mild, moderate, severe and emergency drought conditions.

Mild Conditions

The District's target at this level will be to raise public and customer awareness of the water supply conditions. The District will initiate regular communication with its wholesale customers, and may publicize lake levels in the local media.

Moderate Conditions

The District will formally request its wholesale customers to implement portions of their own water conservation plans requiring that all nonessential water use be prohibited. This includes car washing, street washing, water hydrant flushing, filling swimming pools, etc. It may also include implementation of a mandatory lawn water schedule. This request will be publicized by the District in the local media. The target will be to achieve a 10% reduction in diversion from the reservoir.

Severe Conditions

The District will ration water supplies to its wholesale customers in accordance with Texas Water Code, §11.039 and the Water Purchase Contracts between the District and its customers. The contracts stipulate that if there is insufficient availability of water to meet the District's contractual agreement, the water available will be rationed on a pro rata basis to the District's customers. Texas Water Code 11.039 states:

*“If a shortage of water in a water supply results from drought (sic), accident, or other cause, the water to be distributed shall be divided among all customers pro rata, according to the amount each may be entitled to, so that preference is given to no one and everyone suffers alike.”*

Water will be available for the following uses in order of priority:

1. Municipal
2. Commercial
3. Industrial

The target for this phase will be a 25% reduction in diversions from the reservoir.

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The intent of both voluntary and mandatory conservation is to prolong the usefulness of the available supply in the face of an extended drought. To accomplish this intent, the water allocation during restricted periods must be based on current diversions rather than upon some contractual diversion rate that may not reflect actual consumption until far in the future. Thus the allowable diversion for each entity would be computed on a monthly basis, based upon the average diverted for that month for the last three years. An example would be as follows:

Assume that stage 3 is enacted in June 2006, and the example is for Mt. Vernon. Then the allowable diversion for Mt. Vernon for July 2006, is –

Mt. Vernon July 2005 diversion =	53.8 ac-ft
Mt. Vernon July 2004 diversion =	45.6 ac-ft
Mt. Vernon July 2003 diversion =	<u>48.2 ac-ft</u>
3 year total	147.6 ac-ft
	<u>÷3</u>
3 year average	49.2 ac-ft
	<u>x 0.75</u>
Allowable July, 2006 diversion	36.9 ac-ft

Similar calculations would be performed for Winnsboro, Cypress Springs, M and W Recreation, and Mt. Pleasant.

Emergency Conditions

During emergency conditions, the General Manager will assess the situation and determine the appropriate response measure according to experienced judgment. If the emergency is caused by a system failure, water rationing may be implemented, as in Severe Conditions. If the lake becomes contaminated, the General Manager will monitor the lake to determine if the water is safe for drinking. If not, alternate sources of water must be determined.

**III. IMPLEMENTATION AND ENFORCEMENT**

The ability of the Franklin County Water District to curtail or reduce diversions by its wholesale customers is limited by the terms and conditions of its wholesale contracts.

As mentioned in previous sections of this plan, the District has direct control only of inspecting and permitting the property it leases around the lake. The legal basis by which the District can enforce water conservation by its customers and their users is to contractually obligate each successive user to use water conservation techniques or adopt water conservation plans. By requiring the wholesale customer to adopt a water conservation plan, the District can indirectly conserve its water supply.

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The City of Mt. Pleasant is a water right holder, rather than a wholesale customer, pursuant to that certain Agreement between Franklin County Water District and Titus County FWSD #1, dated February 28, 1997 (the “Water Agreement”). The rights and obligations of Titus County FWSD #1 under the Water Agreement were subsequently assigned to the City of Mt. Pleasant. The Water Agreement obligates the water right holder (i.e., The City of Mt. Pleasant) to abide by any drought contingency plan implemented by Franklin County Water District.

The administrator of this plan will be the Franklin County Water District’s General Manager.

#### **IV. VARIANCES**

The General Manager may, in writing, grant a temporary variance to the water rationing policy provided in this plan if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the public health, welfare, or safety. Persons requesting a variance shall file a petition for variance with the General Manager within 5 days after rationing has been initiated. This petition must include the following:

- Name and address of the petitioner
- Statement with supporting data as to how the rationing plan adversely impacts the petitioner
- Description of the relief requested
- Period of time for which the variance is sought
- Alternative measures the petitioner is taking to try to comply with the drought contingency plan
- Other pertinent information

Variances granted shall be subject to the following conditions, unless waived by the District’s Board of Directors:

- Variances shall have specific time limits
- Variances shall expire when the plan is no longer in effect

No variance shall be retroactive or otherwise justify any violation of this plan occurring prior to the issuance of the variance.

## **APPENDIX**

FIGURE 1 – Lake Cypress Springs, Water Surface at or below 378 feet

FIGURE 2 – Lake Cypress Springs, Area-Capacity Curve

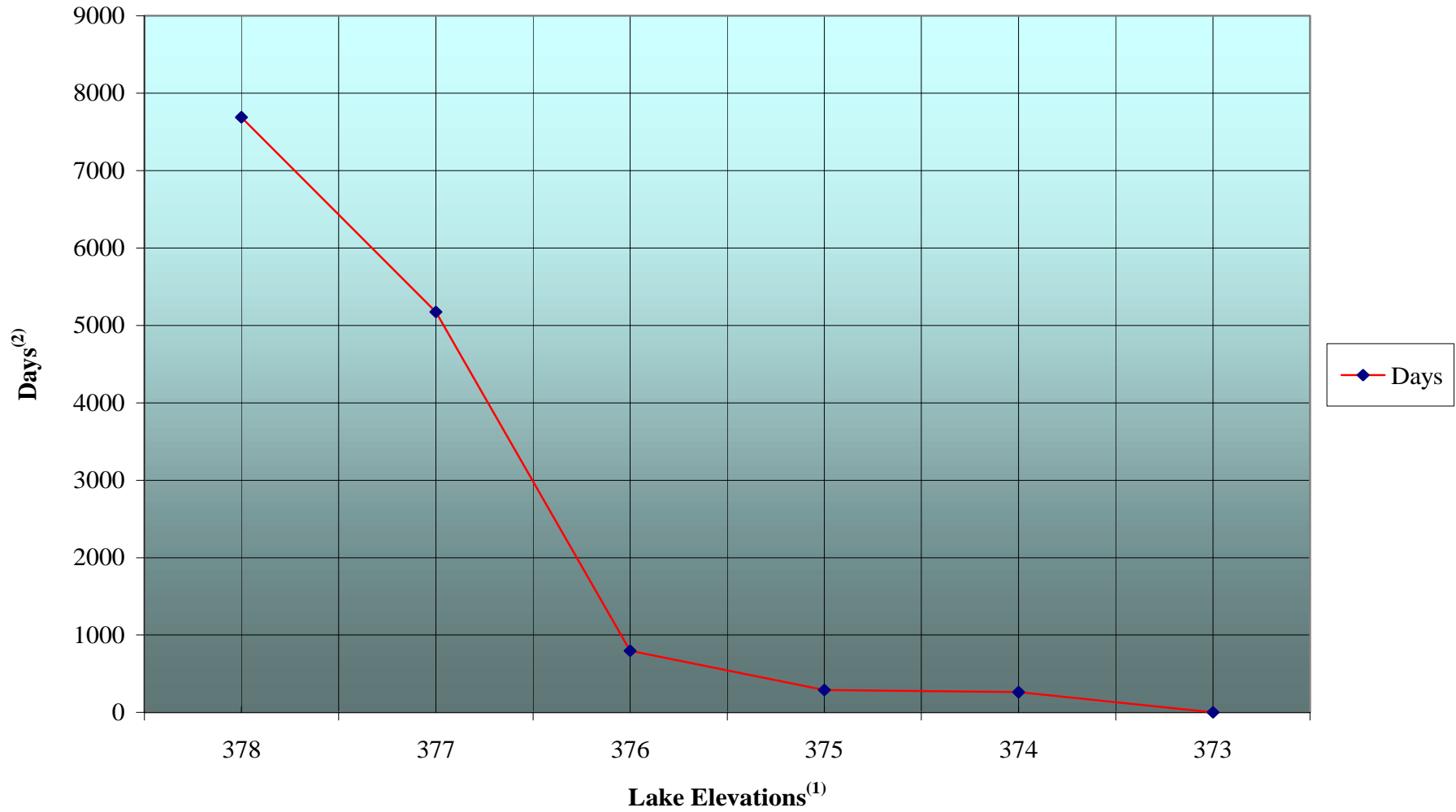
FIGURE 3 – Vicinity Map

ATTACHMENT A: Cypress Springs SUD location map; City of Mt. Vernon location map; City of Winnsboro location map

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**FIGURE 1**

**Lake Cypress Springs  
Water Surface at or below 378 feet**



<sup>(1)</sup> 378 ft. MSL is normal water level

<sup>(2)</sup> Days of record 1972-2005 with water surface at or below stated level.

Not all days may be recorded. 11,000 + total days in period.

FIGURE 2 – Lake Cypress Springs, Area-Capacity Curve

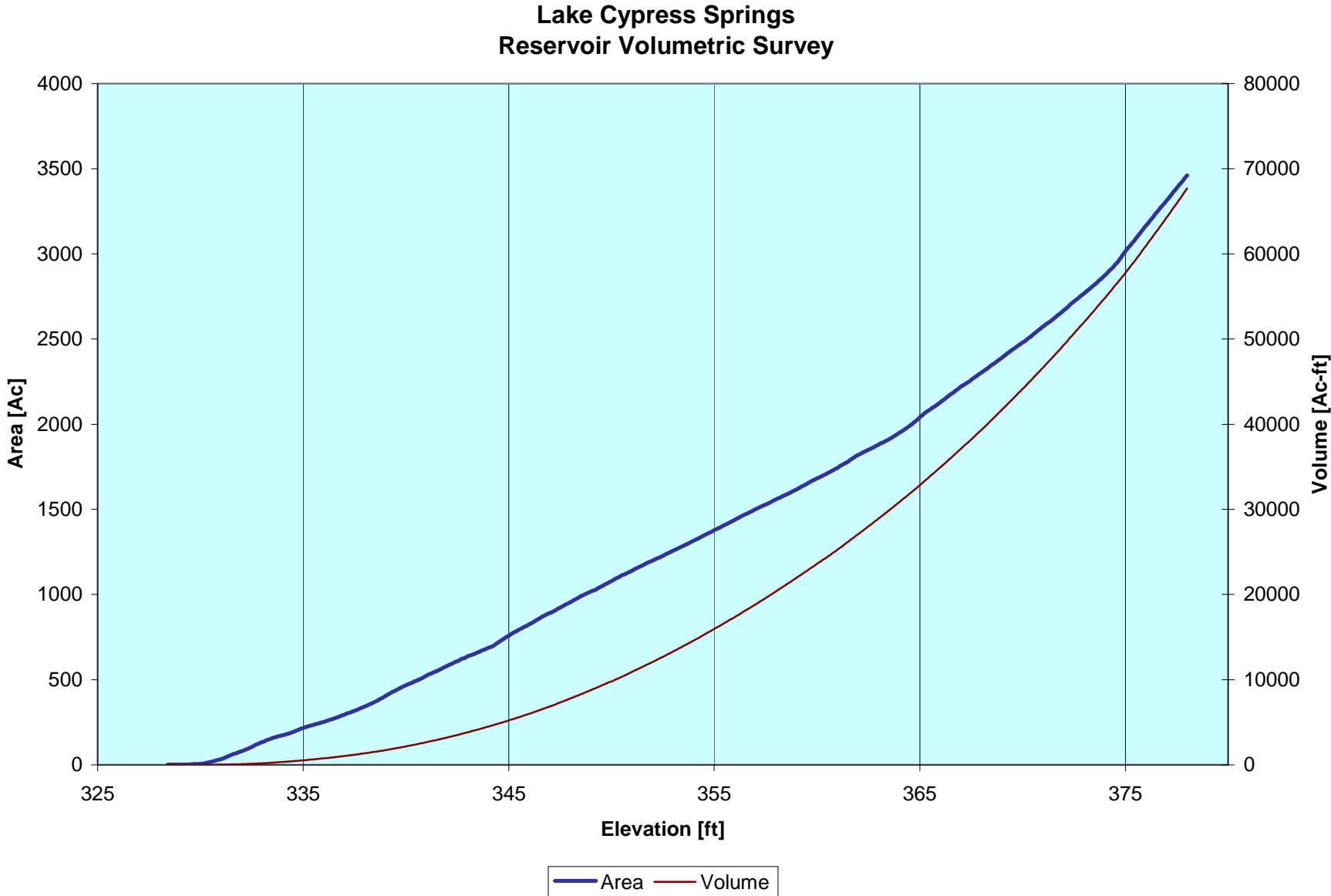
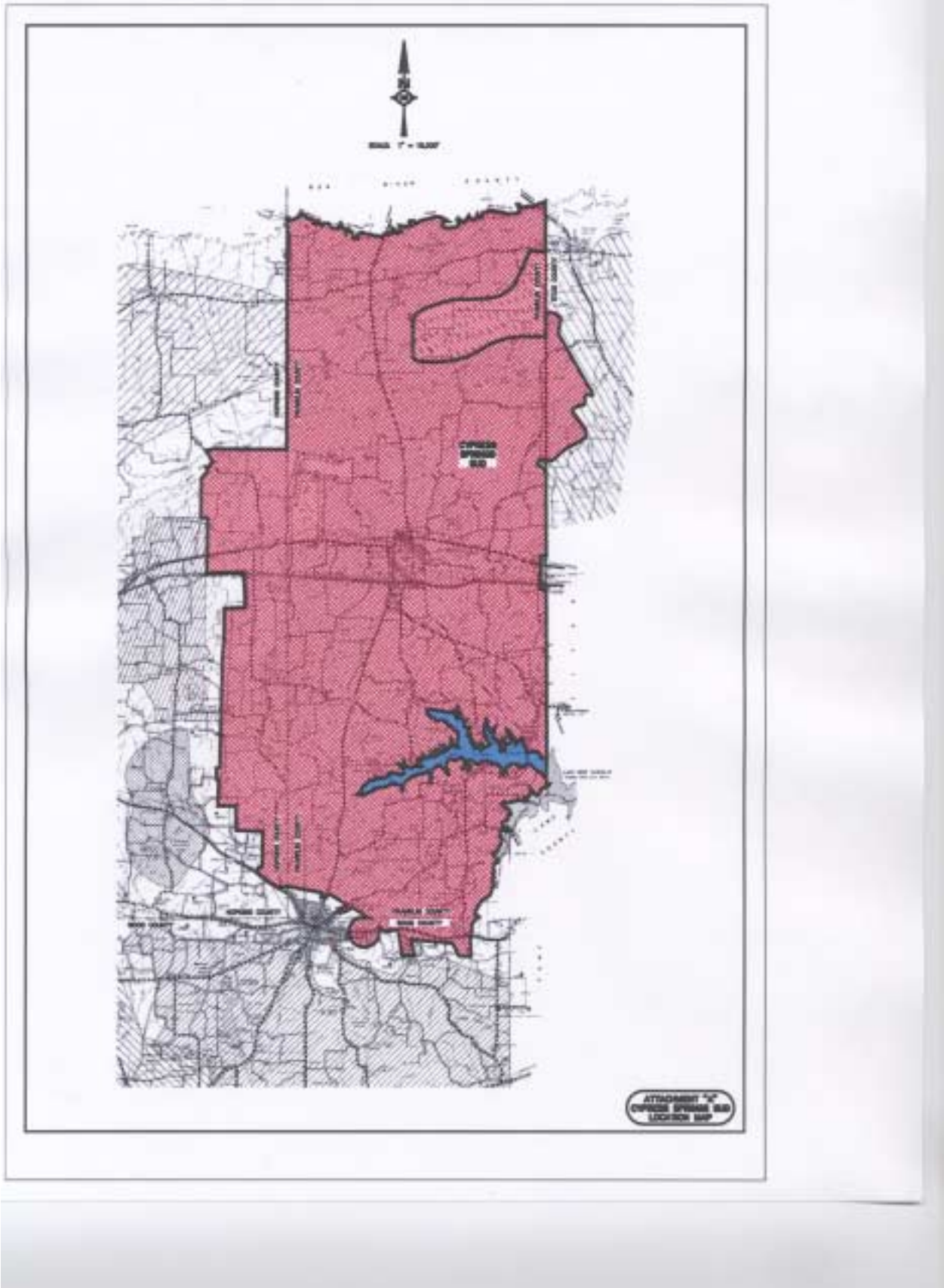


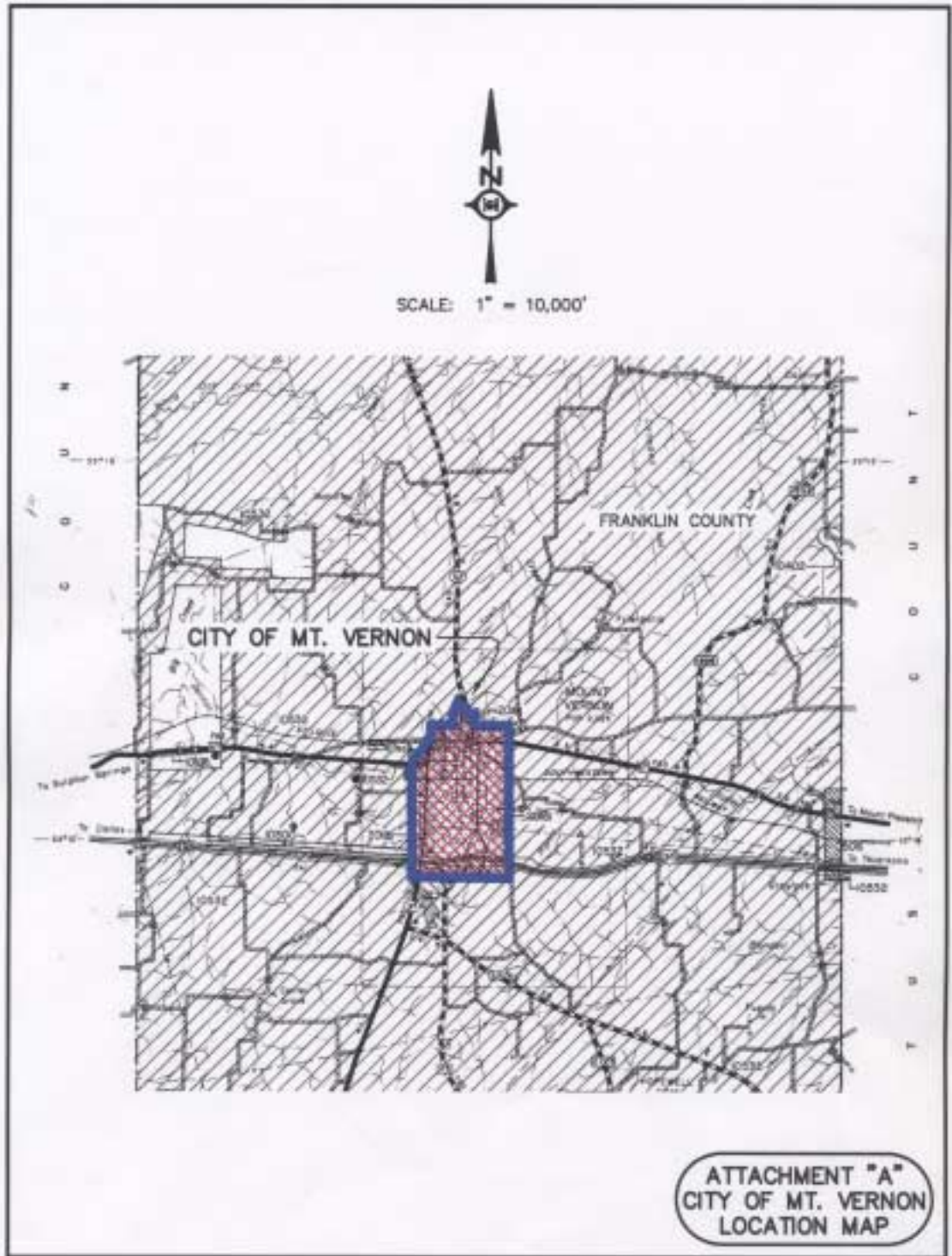
FIGURE 3 – Vicinity Map



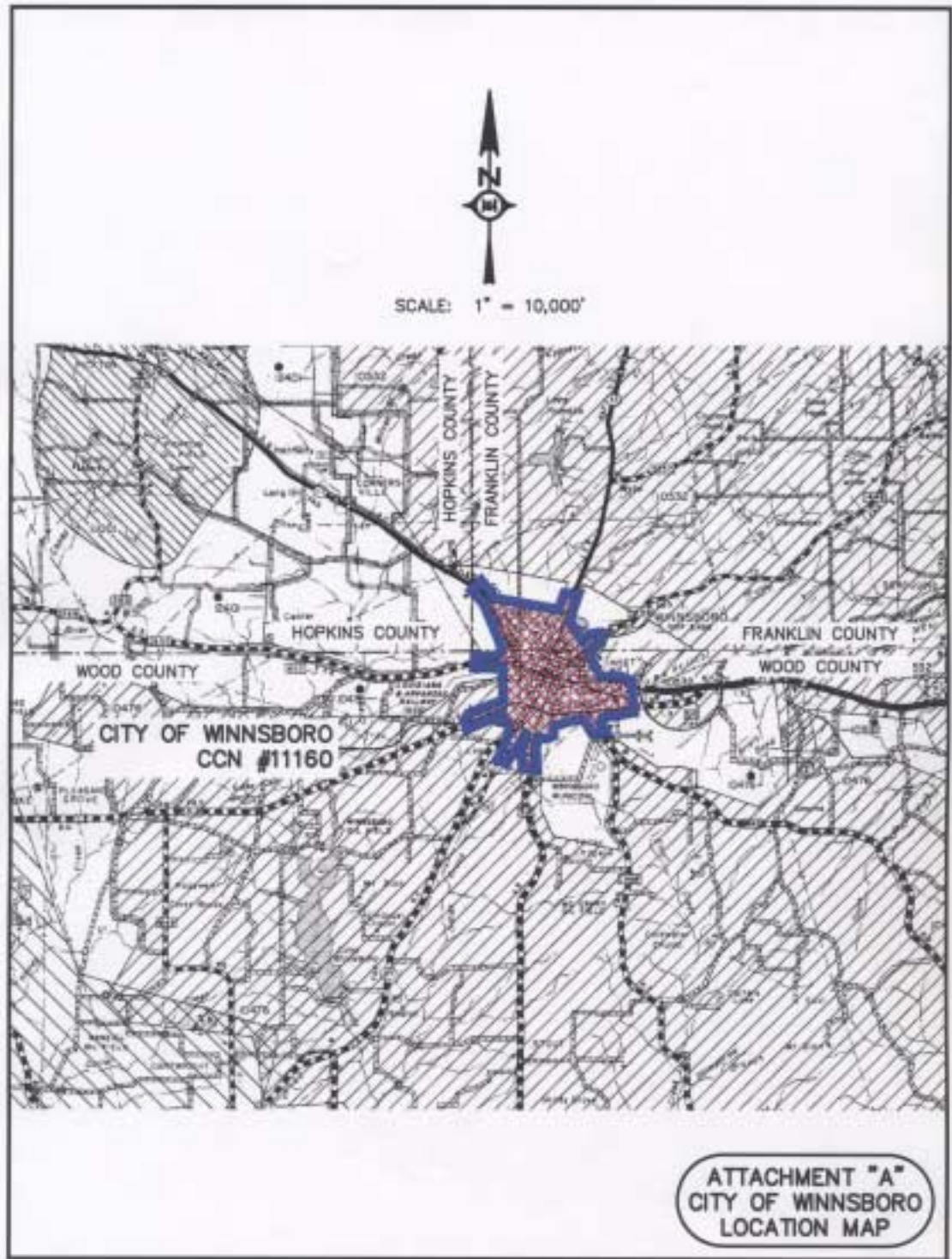
ATTACHMENT A: Cypress Springs SUD location map; City of Mt. Vernon location map; City of Winnsboro location map



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# Cypress Basin Agreement

## EXHIBIT V CYPRESS BASIN OPERATING AGREEMENT

This agreement entered into this        day of        1972, by and between the Franklin County Water District, the Titus County Fresh Water Supply District No. 1, the Northeast Texas Municipal Water District, the Texas Water Development Board and Loan Star Steel Company.

Whereas, the full development of the water resources of Cypress Creek Basin in Texas is our primary interest to the local area and to the State of Texas, and

Whereas, to accomplish this, it is necessary to resolve the problems associated with water rights in the basin upstream from Lake O' the Pines. This agreement consists of governing rules for division of water resources of the basin through an exchange of storage between Franklin County Reservoir, Titus County Reservoir, Lake O' the Pines and Ellison Creek Reservoir without impairment of existing water rights and will provide a solution for this initial problem.

Whereas, this agreement will:

- a. Allow Franklin and Titus Reservoirs to impound portions of their natural inflows which may in fact be covered by prior downstream rights.
- b. Provide rules which insure that waters covered by prior downstream rights, if impounded in the upper reservoirs, will be released when necessary to avoid adverse effects on the downstream rights.

## Cypress Basin Agreement

c. Equitably divide the waters of Franklin and Titus Reservoirs between the owners of storage space therein.

d. Provide a workable system whereby the Texas Water Rights Commission can monitor hydrologic conditions and administer water rights in the Cypress Creek watershed above Ferrells Bridge Dam (Lake O' the Pines) under conditions of full development and use.

The following abbreviations and definitions are used in this agreement:

1. "FCWD" shall mean Franklin County Water District.
2. "TCFWSB" shall mean Titus County Fresh Water Supply District No. 1.
3. "NETMWD" shall mean Northeast Texas Municipal Water District.
4. "TWDB" shall mean Texas Water Development Board.
5. "TWRC" shall mean Texas Water Rights Commission.
6. "LSS" shall mean Lone Star Steel Company.
7. "Titus Reservoir" shall mean the reservoir proposed for construction on Cypress Creek by TCFWSB and TWDB.
8. "Lake O' the Pines" shall mean Lake O' the Pines Reservoir on Cypress Creek.
9. "Ellison Reservoir" shall mean Ellison Reservoir on Ellison Creek.
10. "Franklin Reservoir" shall mean Lake Cypress Springs on Cypress Creek.

11. "Normal pool level" shall mean the elevation in a reservoir designated as the top of the storage space allocated for water conservation.

12. "Storage account" shall mean a volume of water held in storage in either Franklin or Titus Reservoir and belonging to a specific water rights holder.

13. "Accounting period" shall mean the interval of time at which storage accounts in Franklin and Titus Reservoirs are up-dated. The accounting period shall normally be by calendar months. Any shorter period may be set by mutual agreement between PCWD, TCFVSP, NETMWD, LSS and TWDR. If Lake O' the Pines is drawn down to elevation 211.5 or lower, NETMWD shall have the right to have the accounting period shortened to one week.

14. "Daily inflows" shall mean the computed daily inflows of Franklin and Titus Reservoirs, which shall be determined for purposes of establishing the quantity of water which could possibly be obligated to LSS and NETMWD. Daily inflows to each of the two reservoirs from uncontrolled runoff shall be determined in the following manner:

(a) The over-land runoff entering each reservoir during the accounting period shall be calculated as the algebraic sum of:

(1) The change in reservoir content during the accounting period;

(2) Plus all diversions and releases made from the reservoir during the accounting period;

## Cypress Basin Agreement

(3) Plus all spills from the reservoir during the accounting period;

(4) Plus the computed gross evaporation loss from the lake surface during the accounting period;

(5) Minus the computed total rainfall volume falling on the lake surface during the accounting period;

(6) Minus, in the case of Titus Reservoir, any release or spills coming in from Franklin Reservoir during the accounting period.

(b) The average lake surface area during the accounting period shall be subtracted from the net drainage area contributing to the lake (75 square miles in the case of Franklin Reservoir and 128 square miles in the case of Titus Reservoir) to determine the watershed area from which the over-land runoff originated.

(c) The total runoff for the accounting period shall then be computed as the over-land runoff multiplied by the ratio of the net drainage area (75 square miles for Franklin and 128 for Titus) to the over-land runoff watershed area derived in step (b) above.

(d) If the total runoff for the accounting period is negative, daily inflows shall be taken as zero throughout the accounting period. If the total runoff is positive, the daily inflows shall be computed from the total runoff by assuming a daily pattern of flows comparable to the daily flow pattern observed at the stream gaging station specified in Section E-2-c below.

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15. "Net inflow" to Franklin and Titus Reservoirs shall be computed for each accounting period as described below and shall provide the basis for division of the impounded waters between the respective owners of storage space:

a. The change in reservoir content during the accounting period;

b. Plus all releases and diversions chargeable to PCWD, TCFWSB, and TWDB;

c. Minus the changes in the storage accounts of NETMGR and LSS during the accounting period as defined in Section A below;

d. Plus or minus appropriate adjustments for delayed releases by Franklin Reservoir through Titus Reservoir.

It is therefore agreed between the parties that the following are the rules to be used for the exchange of storage:

### A. Water Accounting

The water in storage at the end of each accounting period creditable to each owner of a storage account in Franklin and Titus Reservoirs shall be determined as follows:

#### 1. LSS's Storage Accounts

a. LSS's storage accounts in both Franklin and Titus Reservoirs at the end of an accounting period shall be computed as the water in storage to LSS's credit at the beginning of the accounting period:

(1) Plus the daily inflows accumulated during the accounting period creditable to LSS as described in Section B below;

(2) Minus releases made from LSS's storage accounts;

(3) Minus reservoir spills chargeable to the LSS storage accounts (spills are chargeable first to NETMWD's storage accounts until depletion of those accounts and then to LSS's storage accounts);

(4) Minus the computed difference in net evaporation loss at Ellison Reservoir due to the LSS storage account water being withheld unstream, based on computation procedures to be developed by engineers of the respective agencies;

(5) Plus, in the case of Titus Reservoir, incoming spills from Franklin Reservoir which are charged against the LSS storage account in Franklin Reservoir.

b. If LSS's storage account total in Franklin and Titus Reservoirs is greater than the empty conservation storage space in Ellison Reservoir, the excess shall transfer to the NETMWD storage accounts, with adjustments being made first in Franklin Reservoir because FCWD holds prior rights over TCFWD.

## 2. NETMWD's Storage Accounts

a. NETMWD's storage accounts in both Franklin and Titus Reservoirs at the end of an accounting period shall be computed as the water in storage to NETMWD's credit at the beginning of the accounting period:

## Cypress Basin Agreement

(1) Plus the daily inflows accumulated during the accounting period creditable to NETMWD (daily inflows are creditable to NETMWD's storage account only to the extent that the daily inflow is surplus, on a day-to-day basis, to that to which LSS is entitled according to rules set forth herein);

(2) Minus releases made from NETMWD's storage accounts;

(3) Minus reservoir spills chargeable to the NETMWD storage accounts (spills are chargeable first to NETMWD's storage accounts until depletion of those accounts and then to LSS's storage accounts);

(4) Minus the computed difference in net evaporation loss at Lake O' the Pines due to the NETMWD storage account water being withheld upstream, based on computation procedures to be developed by engineers of the respective agencies;

(5) Plus, in the case of Titus Reservoir, incoming spills from Franklin Reservoir which are charged against the NETMWD storage account in Franklin Reservoir;

(6) Minus releases or diversions made to satisfy municipal requirements for Pittsburg (a debit balance may accumulate in NETMWD's storage account from this source).

b. If NBTMWD's storage account total in Franklin and Titus Reservoirs at the end of an accounting period is greater than the empty space in Lake O' the Pines, the excess shall transfer to the accounts of FCWD, TCFWSD, and TWNS, divided in the manner set forth for net inflow in Sections A-3 and A-4 below, with adjustment being made first in Franklin Reservoir because FCWD holds prior rights over TCFWSD.

3. FCWD's Storage Account - FCWD's storage account in Franklin Reservoir at the end of an accounting period shall be equal to the water in storage to FCWD's credit at the beginning of the accounting period, plus a percentage of the net inflow to Franklin Reservoir during the period, minus the releases and diversions chargeable to FCWD during the period. The percentage applied to the net inflow shall be based on percentage ownership of conservation storage space whenever the net inflow is positive, and on the percentage ownership of actual water in storage whenever the net inflow is negative.

4. TCFWSD's Storage Account - TCFWSD's storage account in Titus Reservoir at the end of an accounting period shall be equal to the water in storage to TCFWSD's credit at the beginning of the accounting period, plus a percentage of the net

inflow to Titus Reservoir during the period, minus the releases and diversions chargeable to TCFWSD during the period. The percentage applied to the net inflow shall be based on percentage ownership of conservation storage space whenever the net inflow is positive, and on the percentage ownership of actual water in storage whenever the net inflow is negative.

5. TWDB's Storage Account - TWDB's storage accounts in Franklin and Titus Reservoirs at the end of an accounting period shall be, respectively, the total content of the conservation space in Franklin and Titus Reservoirs less the amounts credited in each to FCMD, TCFWSD, NETC and LSS.

6. Transfer of Credits

a. At no time will water in conservation storage credited to either FCMD, TCFWSD, or TWDB exceed the respective volumes of conservation storage owned by those agencies, and any water in excess of the own conservation storage capacity shall be transferred to the other storage accounts.

b. Transfer of storage credits between parties to this agreement may be made at any time by mutual agreement between the parties concerned, subject to approval to TWRC.

7. Withdrawal of Credits

a. FCND, TCFNSD and TWDB may utilize water from their respective storage accounts at any time subject to the following:

(1) Releases and diversions made during any calendar year shall not exceed the appropriative rights granted by the TWRC.

(2) Releases and diversions shall be limited to the extent that water is available to their respective storage accounts.

b. NETMWD shall have the right to obtain releases from its storage accounts in the two upper reservoirs to the extent that the total volume of water in those accounts exceeds the following values as they relate to drawdown in Lake O' the Pines (below normal Pool Level, El. 228.5):

<u>Drawdown in Lake O' the Pines (in feet)</u>	<u>NETMWD's Combined Storage Account in the Upper Reservoirs (in Acre-Ft)</u>
2'	50,000 Ac-Ft
3'	24,000 Ac-Ft
4'	18,000 Ac-Ft
5'	12,000 Ac-Ft
6'	6,000 Ac-Ft
7'	0 Ac-Ft

c. If at any time the quantity of water credited to NETMWD's storage account in either of the upper reservoirs exceeds twenty percent (20%) of the total storage therein, the excess shall be released if requested by NETMWD.

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d. In addition to the above, NETMWD shall have the unconditional right to furnish municipal water for the City of Pittsburg from its storage accounts. NETMWD shall have the right to construct an intake structure and diversion pump station at Titus Reservoir for this purpose.

e. LSS shall have the right to utilize water from its storage accounts to the extent of its availability whenever Ellison Reservoir level is three (3') feet or more below normal.

f. When the LSS storage accounts have been exhausted, and so long as the flow in Cypress Creek at the LSS diversion point remains less than the capacity of existing diversion facilities, the upper lakes shall be operated so as to pass current inflows through these lakes on a day-to-day basis, to the extent that such inflows are creditable to the LSS accounts, if such action is requested by LSS.

g. If releases are made under the terms of Section A-7-b or Section A-7-e above, they shall be made first from Titus Reservoir insofar as possible and then from Franklin Reservoir.

h. Any release from the NETMWD and LSS storage accounts in Franklin Reservoir shall be allowed to pass through Titus Reservoir without hindrance.

B. Operation of Ellison Reservoir

1. When storage accounts are up-dated at the end of an accounting period, the LSS storage accounts shall have priority over NETHWD storage accounts, and water shall be credited to the LSS storage accounts if the following two conditions are met:

a. LSS shall be entitled to storage account credit for a given day only if the flow in Cypress Creek at the LSS diversion point on that day is less than the amount that LSS is able to divert from Cypress Creek with existing facilities under terms of Permit 1405, as amended, and also

b. LSS shall be entitled to storage account credit for a given day only if the amount actually diverted from Cypress Creek by LSS on that day is equal to or greater than ninety (90%) percent of the amount of water available to LSS in Cypress Creek.

2. On any day when these conditions are satisfied, the amount of water credited to the LSS storage accounts shall be the difference between the said LSS diversion capacity and the amount flowing in Cypress Creek at the point of diversion, the amounts credited, however, to be limited to not exceed the inflows to the upper reservoirs on the same day.

C. Until Modifications are made to the outlet works at the Franklin Reservoir, it may be impossible to release waters credited to NETHWD or LSS as rapidly as desired. Insofar as

as it is practicable to do so, releases will be made from Titus Reservoir storage to make up for the restricted discharge capability at Franklin Dam, and compensating releases will be made from Franklin Reservoir as rapidly as possible. Metering of the water released from Franklin into Titus Reservoir shall be accomplished by PCWD at its expense.

D. LSS and NETMWD shall have the option at any time of calling for the water credited to their storage accounts, when eligible to do so, or leaving the water in storage in the upper reservoirs. Each shall retain title to such waters until conditions prevail as described in Section A-1-b for LSS's account and A-2-b for NETMWD's account when adjustments in ownerships shall be made as set forth therein. Waters released will be at the rate and time requested by LSS or NETMWD, measured at Franklin Dam for releases required from Franklin Reservoir and at Titus Dam for releases required from Titus Reservoir.

E. Streamflow Gages

Parties to this agreement will cooperate with the U. S. Geological Survey in the cost of operation and maintenance of recording streamflow gages as described herein and others that may be required by the TRRC.

1. PCWD's Gages

- a. Franklin Reservoir lake-stage recording gage,
- b. Cypress Creek upstream from head of Franklin Reservoir:

## Cypress Basin Agreement

### 2. TCFNSD's Gages

- a. Cypress Creek downstream from its dam for measurement of spillway and outlet works discharges.
- b. Titus Reservoir lake-stage recording gage.
- c. Tributary stream upstream from head of Titus Reservoir for use in computation of daily inflows.

### 3. NETMVD's Gages

- a. Lake O' the Pines lake-stage recording gage.

### 4. LSS's Gages

- a. Ellison Reservoir lake-stage recording gage.

### 5. Gages Financed Jointly by Owners of the Four Reservoirs

- a. Cypress Creek upstream from mouth of Ellison Creek.

6. In addition to the stream flow gages, all diversions made from Franklin Reservoir, Titus Reservoir, Ellison Reservoir, and Lake O' the Pines will be netored with modern equipment indicating quantities to an accuracy within five (5%) percent, and all records collected will be available for examination by other parties to the Agreement.

F. This agreement shall become effective January 1, 1973.