

WORKSHEET 8.0 CALCULATION OF FEES

This worksheet is for calculating required application fees. Applications are not Administratively Complete until all required fees are received. **Instructions, Page. 34**

1. NEW APPROPRIATION

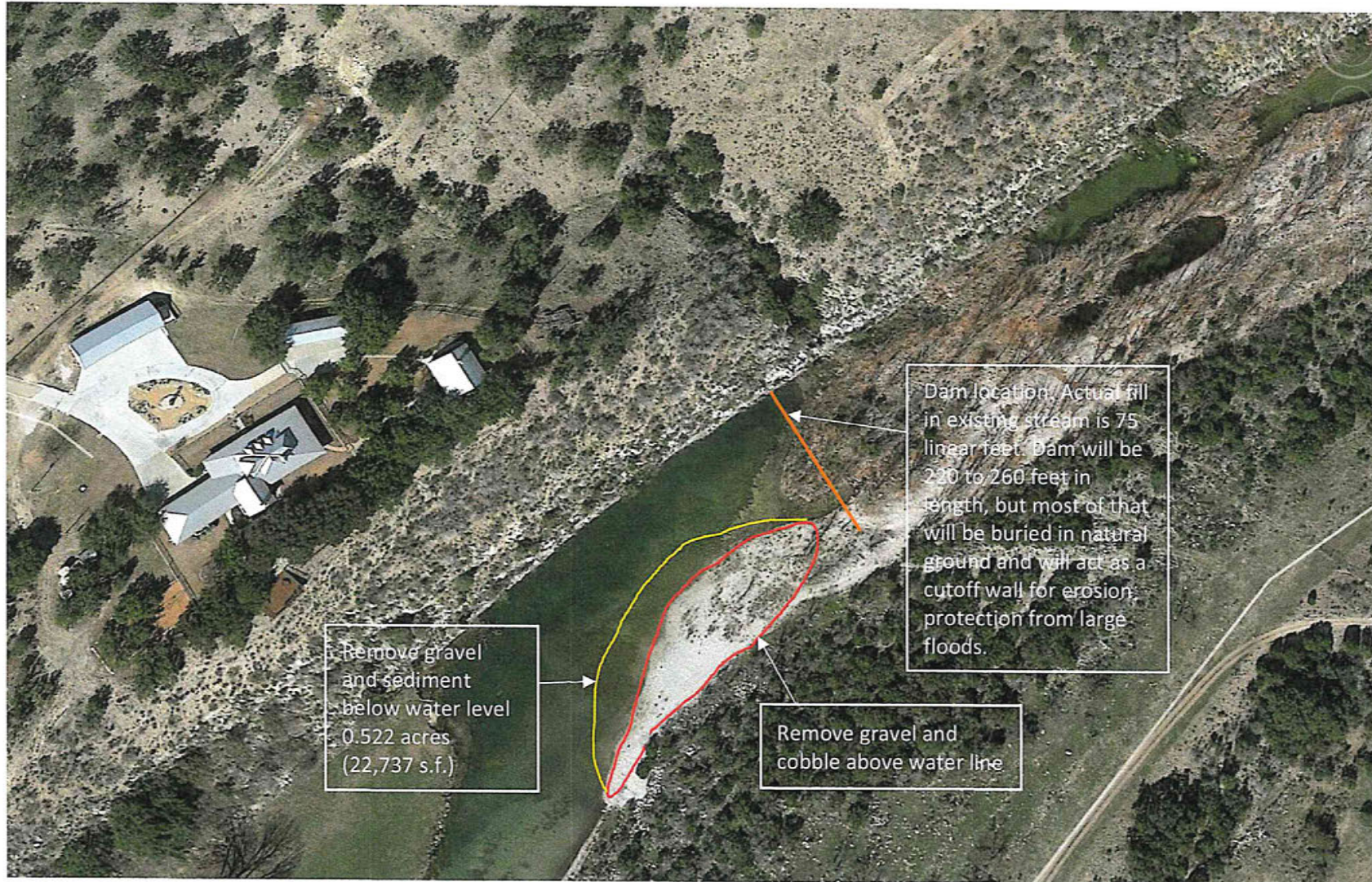
	Description	Amount (\$)
Filing Fee	Circle fee correlating to the total amount of water* requested for any new appropriation and/or impoundment. Amount should match total on Worksheet 1, Section 1. Enter corresponding fee under Amount (\$) . In Acre-Feet	\$100.00
	a. Less than 100 \$100.00 b. 100 - 5,000 \$250.00 c. 5,001 - 10,000 \$500.00 d. 10,001 - 250,000 \$1,000.00 e. More than 250,000 \$2,000.00	
Recording Fee		\$25.00
Agriculture Use Fee	<i>Only for those with an Irrigation Use.</i> Multiply 50C x Number of acres that will be irrigated with State Water. **	\$0.00
Use Fee	<i>Required for all Use Types, excluding Irrigation Use.</i> Multiply \$1.00 x Maximum annual diversion of State Water in acre-feet. **	\$0.00
Recreational Storage Fee	<i>Only for those with Recreational Storage.</i> Multiply \$1.00 x acre-feet of in-place Recreational Use State Water to be stored at normal max operating level.	\$12.02
Storage Fee	<i>Only for those with Storage, excluding Recreational Storage.</i> Multiply 50C x acre-feet of State Water to be stored at normal max operating level.	\$0.00
Mailed Notice	Cost of mailed notice to all water rights in the basin. Contact Staff to determine the amount (512) 239-4691.	\$1,154.02
TOTAL		\$ 1,291.04

2. AMENDMENT OR SEVER AND COMBINE **NOT APPLICABLE**

	Description	Amount (\$)
Filing Fee	Amendment: \$100	
	OR Sever and Combine: \$100 x _____ of water rights to combine	
Recording Fee		\$0
Mailed Notice	Additional notice fee to be determined once application is submitted.	
TOTAL INCLUDED		\$

3. BED AND BANKS **NOT APPLICABLE**

	Description	Amount (\$)
Filing Fee		\$0.00
Recording Fee		\$0.00
Mailed Notice	Additional notice fee to be determined once application is submitted.	
TOTAL INCLUDED		\$0.00



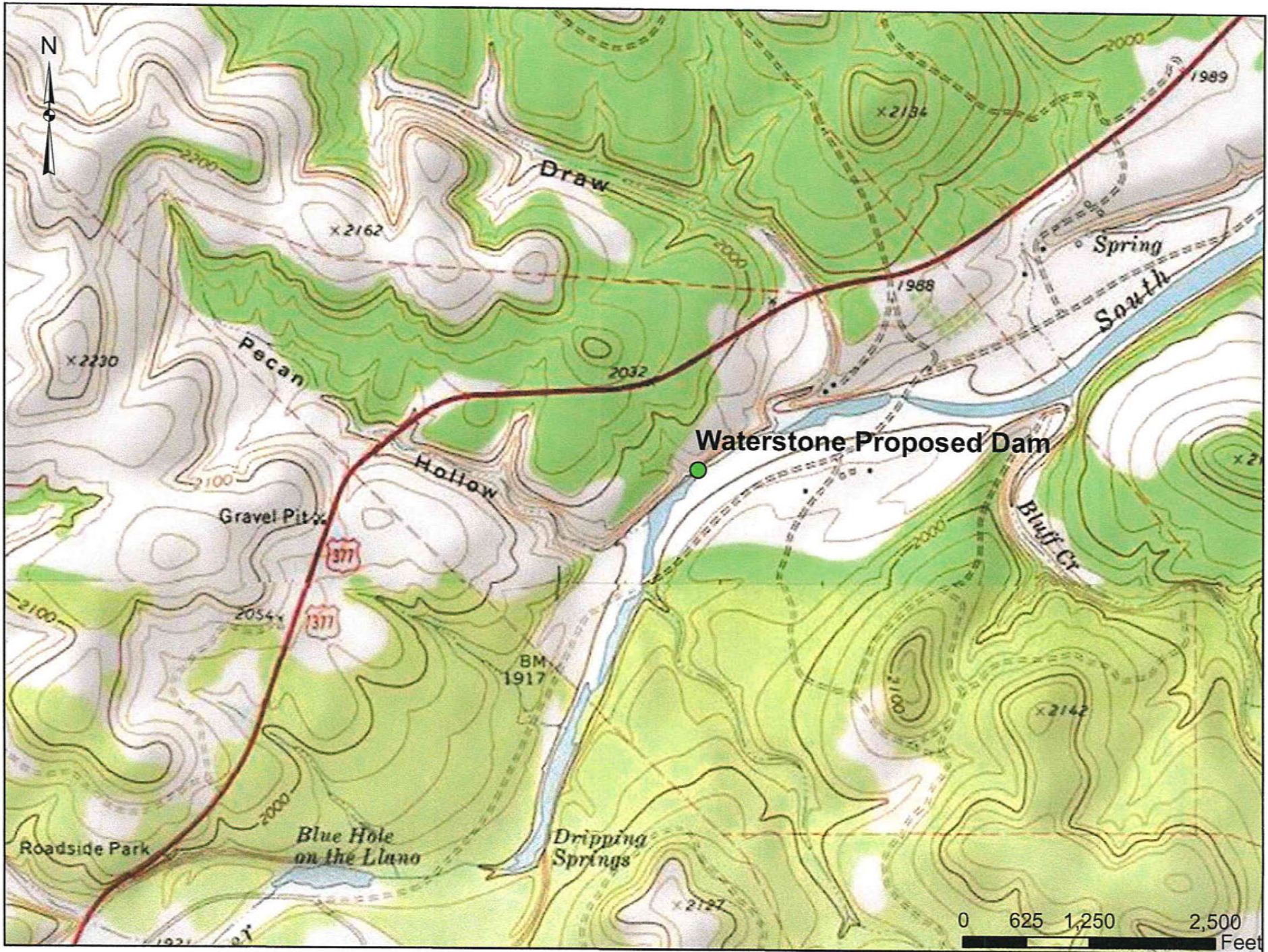


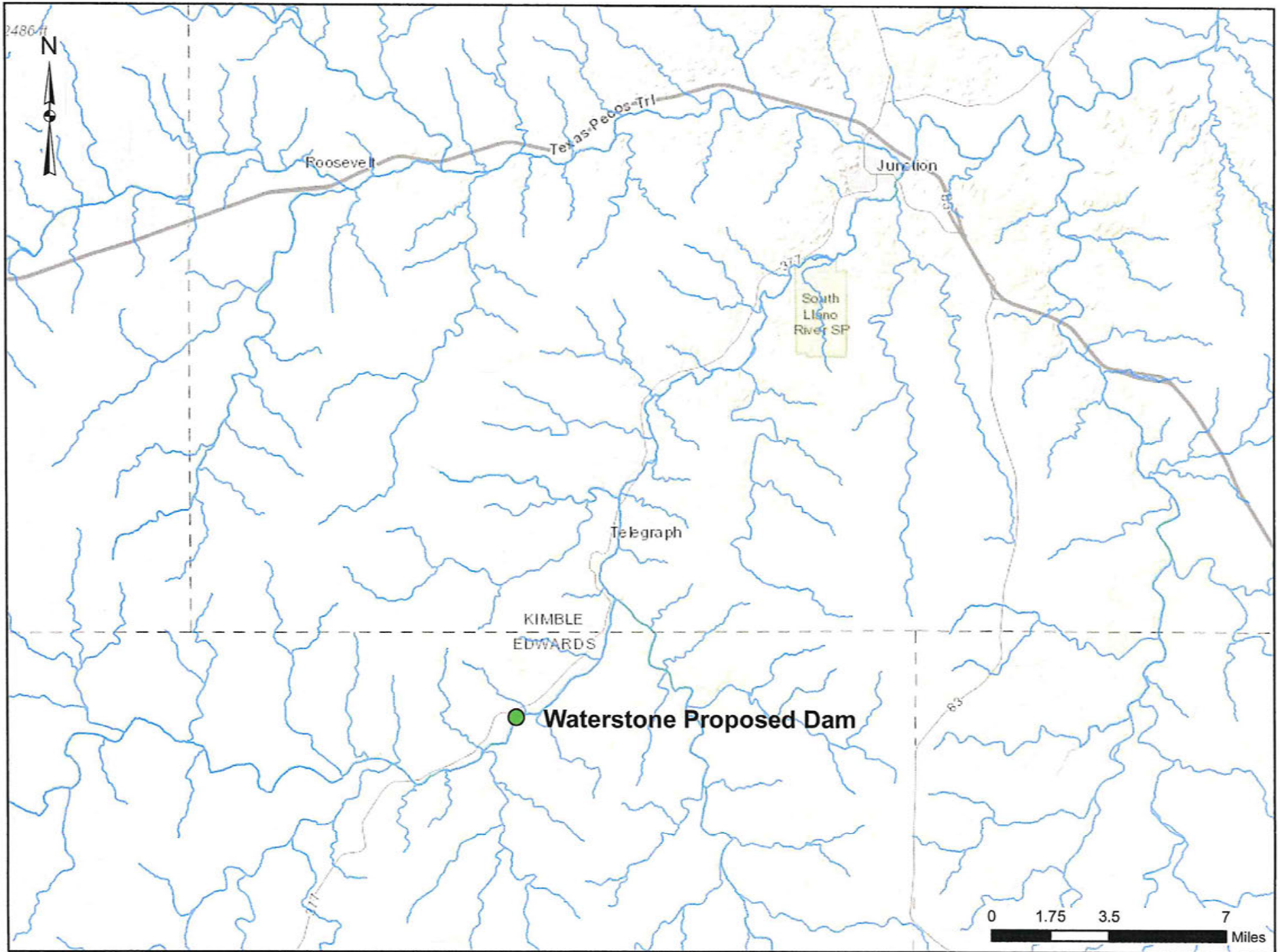


NOTE: Top of low water crossing slab,
minimum elevation = 1892.54'.
Top of proposed dam elevation = 1892'

WATERSTONE APPLICATION

Area of Existing Pond = 2.7 acres
Area of Proposed Pond = 4.77 acres





APPENDIX E - Water Availability Analysis

Waterstone Creek LLC

Colorado River Basin - Edwards County

OVERVIEW

The applicant owns property adjacent to the South Llano River near Telegraph Texas, which contains a natural reservoir with an exposed water surface area of 2.7 acres and a capacity of 5.4 acre-feet. The applicant proposes to construct a small dam at the downstream end of the natural reservoir, which will inundate the natural reservoir and result in a total exposed water surface area of 4.77 acres and 12.02 acre-feet, an increase of 2.07 acres and 6.62 acre-feet. The proposed dam will be equipped with a low flow outlet and will be used for recreation purposes with no diversion of water requested. The applicant's proposed location on the South Llano River is approximately 20 miles southwest of the City of Junction and upstream of the Lower Colorado River Authority's (LCRA) existing reservoirs LBJ, Marble Falls, and Travis.

TCEQ WAM MODEL DETAILS

The TCEQ's Colorado WAM GIS files and the RUN3 WAM model were downloaded from the TCEQ's website on 2/6/2018. Using the WAM GIS files, the drainage area of the applicant's location was estimated to be 505.76 square miles and a new control point was inserted into the TCEQ's WAM. Based on the model and GIS information, it was noted that there are no existing water rights upstream of the applicant's location on the South Llano River.

Initial discussions with TCEQ staff regarding this application indicate that the water availability analysis to support this application should consider the applicant to be subject to the environmental flow standards in TCEQ's rules that were made effective on August 30, 2012 as specified in Chapter 298, Subchapter D (298.300). Review of the TCEQ's permitting model indicate that these rules are not currently implemented in the model, therefore they had to be added to the model in order to properly determine water availability results for this application. Review of the locations at which the environmental flow rules prescribe environmental flow standards indicate that the nearest location downstream of the applicant's proposed reservoir is at the USGS gage on the Llano River at Llano. Accordingly, the entire suite of environmental flow requirements for this location (subsistence, base dry, base average, base wet, small seasonal pulse, large seasonal pulse, and annual pulse) were coded and placed into the WAM model at the Llano River at Llano location, and the applicant's ability to impound flows at the proposed reservoir was subjected to these minimum flow bypass requirements.

ANALYSIS

The applicant's existing (natural) and proposed expanded reservoir was represented as a single reservoir with a maximum storage capacity of 12.02 acre-feet and assigned a new priority date (most junior) in the WAM, with no right of diversion. Based on results from the WAM

simulation, the months in which the simulated storage of the combined reservoir was within the natural (existing) capacity were distinguished from those when the reservoir storage was above the natural capacity, and the calculation of the storage reliability for purposes of evaluating the application was determined using the following two methods:

- (1) Method #1: Only months in which water was stored in the expanded reservoir capacity were considered in computing the percent of time the reservoir was full.
- (2) Method #2: All months in the WAM period of record, regardless of whether water was stored in the expanded reservoir capacity or not, were considered in computing the percent of time the reservoir was full.

Initial simulation results indicate that water would be stored in the expanded portion of the reservoir in 20.9 percent of the months and that the reservoir would be 100% full in 37.1 percent of the months using method #1 and 7.7 percent of the months using method #2. Based on either of these methods for evaluation, the TCEQ's permitting criteria¹ for this type of water right application appears to not be satisfied.

As an alternative approach, an upstream water supply contract with the LCRA was then assumed to be in place and analyzed using the same WAM model, but with the priority date for the applicant's reservoir changed to a date immediately senior to LCRA's impoundment priority date associated with the Highland Lakes water rights (1926). Using the both of the same methods for calculating storage reliability as described above, the results from this simulation indicate that water would be stored in the expanded portion of the reservoir in 72.4 percent of the months and that the reservoir would be 100% full in 56.6 percent using method #1 and 41 percent of the months using method #2.

CONCLUSION

An application for a water right authorizing the applicant's proposed 6.62 acre-feet expansion of an existing natural reservoir should be supportable by the TCEQ as long as the water right is conditioned on maintaining an upstream water supply contract with the LCRA to offset the depletions associated with the applicant's reservoir expansion in excess of the natural reservoir. Furthermore, review of the natural and regulated flows in the WAM model indicate that there are no periods in which zero water is flowing in the South Llano River at the applicant's location, which is a strong indication that the reservoir will likely be full and spilling most of the time.

¹ The TCEQ's guideline for evaluating new water right applications for in-place recreation reservoirs is that, based on simulation results using the appropriate TCEQ water rights permitting model, an applicant's reservoir should be full in approximately 50% of the months of the period of record simulated.

FIGURE 1

Existing and proposed Dam location. Large rocks create exiting natural pool



FIGURE 2

Looking downstream at rock shoal that partially impounds water in natural pool



FIGURE 3

Looking upstream from proposed dam site



FIGURE 4

Middle shore of existing pool, Looking at proposed dam location (through downstream tree line)



Description of Proposed Contract with LCRA

Waterstone proposes that the application to increase the size of the natural reservoir, as described in the accompanying water right application documents, be subject to Waterstone obtaining a water supply contract with the Lower Colorado River Authority to cover the depletions associated with the water right application. Based on discussions with the appropriate LCRA staff, the amount of water that would need to be provided for by the LCRA's Highland Lakes water rights is 16 acre-feet per year, which is based on the WAM model results accompanying this application in Appendix G. This quantity was determined using the TCEQ's Colorado WAM Run3 model as received from the TCEQ on February 2, 2018 by tabulating the simulated annual depletions required to refill the reservoir then calculating the rolling 10 year maximum amount of 16 acre-feet per year. The changes that were made to the TCEQ's model to quantify this amount are noted as follows:

- (1) Waterstone's reservoir, as specified at the requested area and capacity in this application, was placed in the model at the appropriate location and given a priority date immediately senior to LCRA Highland Lakes water rights.
- (2) Senate Bill 3 instream flow restrictions, as specified in TCEQ rules as specified in Chapter 298, Subchapter D (298.300) for the Llano River at Llano streamflow location, were placed in the model and imposed on Waterstones's ability to refill the reservoir at the simulated priority date, then turned off so they would not be imposed on any other water right.

LCRA staff provided a copy of recent language used in a recent similar water right application. This language is recited below, with the appropriate quantiles specified to reflect the proposed Waterstone contract with LCRA for covering the depletions caused by the application:

Upon issuance by TCEQ to PURCHASER of the Permit(s) as required in Section XXX of this contract, PURCHASER shall have the right to impound up to a maximum of 12.02 acre-feet of raw water and to use such reservoir(s) for recreational purposes with no right of diversion, such impoundment(s) to be located on the South Llano River, tributary of the Llano River in Kimble County, Texas, at a point or points of availability within a segment bordering on the South Llano River, described and depicted in Exhibit "A" attached hereto (the "Point(s) of Availability"), said Exhibit depicting the segment by reference to a corner of an original land survey and/or other survey point, giving both course and distance and latitude and longitude. PURCHASER acknowledges that the impoundment, including evaporative losses, of water at the Point(s) of Availability will have an estimated impact to LCRA's senior water rights of approximately 16 acre-feet per year (the "Maximum Annual Quantity," or "MAQ"). PURCHASER's use of water from year to year may vary from the MAQ. PURCHASER further acknowledges that the MAQ is based on certain assumptions regarding diversion and/or impoundment limitations and other criteria that may be modified by the TCEQ as part of its review and issuance of PURCHASER'S Permit to Appropriate State Water. In the event that such permit differs in the amount authorized for impoundment, diversion, or use by PURCHASER or is based on different assumptions than those used to determine the MAQ stated herein, LCRA will amend this contract to reflect these limitations.