

**EXHIBIT E**

WATER CONSERVATION PLAN

**Lakecliff Golf Club**  
**Water Conservation Plan**  
**For Recreational/Irrigation Water Use**

1. The Golf Club consists of 180+/- acres over 18 holes. The greens are comprised of 6000 sq ft each. The Greens are AI A4 bent grass and are mowed daily. The Fairways are planted with Sport Turf and are mowed 3 times a week
2. The irrigation system is comprised of zones each containing pressure regulators using a combination of pop up spray heads and rotor type sprinklers. A diagram is attached. In addition, all water used on the golf course is regulated through a Toro Site Pro computerized system.
3. The diversion of the water from Lake Travis is regulated through an LCRA meter that is certified to be within an accuracy of +/-5%.
4. The goals for the next 5 10 years will be to maintain a 75% system efficiency, by replacing and/or repairing broken, misdirected, and ineffective sprinklers and spray heads with ones that are better suited for the intended purpose using the latest technology available on the market.
5. The system is inspected daily by maintenance crews, and repairs are done as needed.
6. Hand-held sprinklers are used to water the fairways and roughs when necessary, and to control "hot spots" on the trees and greens. Weed control is done by hand and fertilization of the greens and tee boxes are only done when necessary to maintain the vitality of the grass.
7. We are still working on repairs and maintenance through our LCRA Grant program, however we will continue to look for ways to improve water use efficiency and maintain a playable, low maintenance golf course.

WATER CONSERVATION PLAN  
NONPOINT SOURCE POLLUTION ABATEMENT PLAN

FOR  
LAKECLIFF ON LAKE TRAVIS

IN SUPPORT OF THE USE OF IRRIGATION WATER FROM LAKE TRAVIS

A GOLF COURSE COMMUNITY IN TRAVIS COUNTY

Owner:

Lakecliff Dream, LLC  
1700 Kahala Sunset Dr  
Spicewood, TX 78669

May 15, 2022

**WATER CONSERVATION PLAN  
FOR  
LAKECLIFF ON LAKE TRAVIS  
IN SUPPORT OF THE USE OF IRRIGATION WATER FROM LAKE TRAVIS**

This report is written to meet the requirements of LCM's Water Conservation & Drought Contingency Rules, dated November 2011. The purpose of the rules is to extend existing surface and groundwater supplies through conservation and beneficial reuse and help to assure an adequate supply of clean water within the LCRA water service area.

**GENERAL DESCRIPTION OF THE SITE:**

The subdivision is located on Lake Travis, in Travis County. The proposed irrigation area will consist of approximately 180 acres of golf course and approximately 200 single-family lots. There are approximately 65 single-family homes, 14 duplexes, 4 (4)condo-plexes, a tennis clubhouse, and a golf clubhouse. Providing irrigation water will reduce potable water treatment costs and reduce the need for treatment plant expansion. The estimated landscaped area of each lot will average  $\frac{1}{4}$  acre. There are 6 major ponds located as shown on the enclosed map, which provides a mean of runoff collection, pollution abatement and reduction, and creates a natura parkland area for the property owners and golf enthusiasts.

**WATER UTILITY PROFILE:**

The irrigation water pumped from the Lake will be used for irrigation purposes only. A separate distribution system has been constructed which will not be cross-connected to the potable water system. The irrigation water will be used to maintain landscape plantings, grasses, and supplement the ponds when necessary. A water model has indicated that a maximum need of 994 AC—ft/yr.

**BUILD OUT:**

200 Homes  
180 Acre Golf Course & Greenbelt  
Supplementation Of 6 ponds

PEAK MONTHLY: 132 AC•FT/month for up to 3 months

AVERAGE MONTHLY: 83 AC-FT/month over the year

**Irrigation Service Area:**

180 AC golf course & up to 200 homes

**Irrigation Water Utility Data:**

There will be up to 230 metered irrigation connections. This will meter 100% of the Lake water consumption. The peak pumping capacity is 1,800 GPM. The maximum storage in the irrigation pond is 2.2 million gallons. Service to individual lots will be provided by irrigation lines, which has been laid in the rights-of-way with individual meters at each lot. Irrigation water for the golf course will be pumped directly from the irrigation pond. All water for the golf course will be controlled by a state-of-the-art computerized controller.

**Financial Data**

Lakecliff on Lake Travis has a Property Owner's Association which will be responsible for notifications, Water fees, and maintenance of the irrigation infrastructure. The intent of the billing for the water system cost is to reimburse the owners for any overage fees collected in the previous year. Individual water meters will be installed and a "tap" fee will be charged to lot owners wanting to tie to the irrigation line. Fees Will be based on the meter readings. A flat fee divided by the number of lot owners will not be used as a billing basis.

**CONSERVATION STRATEGIES:**

**Conservation Goals:**

Water conservation will be encouraged by the Architectural Review Board and by the use of Xeriscaping. The development is new construction and as new water conservation techniques are employed, new projects will be made aware of these.

Because the water will be separately metered and billed, owners will be conscientious of their usage;

The owners will be strongly encouraged by the Architectural Review Board to utilize Xeriscape planting and native grasses to help reduce the water demand. All homes submit a landscape plan to the Board or the Architectural Review Board for review and approval. This requirement is stated in the recorded deed restrictions for all sections. Each lot is also required to connect to an underground sprinkler system. Public maintenance personnel will be instructed to monitor the system for leaks and check seasonal watering schedules.

### **Watering Schedule**

Permanent landscape watering schedule for spray irrigation. This schedule limits outdoor spray irrigation for landscapes to the following days and times:

Residential addresses ending in odd numbers: Wednesdays and Saturdays

Residential addresses ending in even numbers: Thursdays and Sundays

Commercial customers: Tuesdays and Fridays

Watering times: Midnight to 10am and 7pm to Midnight

### **Metering**

All water from the Lake will be metered by the Master 12" meter. All water sold to lots or used by the Golf course or common irrigation areas will be individually metered. A qualified meter reading service will be employed to read the individual meters. Readings Will be recorded on a computer program to analyze the total usage, which can be easily compared to the master meter reading.

The Property Owner's Association will set up the maintenance program to test the irrigation meters. A report will be provided to the LCRA on an annual basis. Any unaccounted water will be addressed and necessary action will be taken.

**Education:**

Information regarding water conservation will be given to all customers at least once per year. This information will be given to all new customers. With the help of the LCRA, an educational water conservation activity will be conducted at least once per year.

**Water Rates:**

The Association will develop rate structure to encourage water conservation by a method acceptable to the LCRA. This however, has not been completed, because of the unknown growth rate of the subdivision. This method will most likely be a seasonal load rate.

**Water Recycling Reservoirs:**

All surface runoff in the subdivision will be captured by retention ponds. The water will then be pumped as needed for irrigation of the various areas.

**DROUGHT CONTINENGY/EMERGENCY MANAGEMENT:**

All customers, including lot owners as well as the golf course management, will be notified of the stage and the water reduction activity necessary as well as the enforcement action. This is described in detail in subsequent sections. When water restrictions are implemented, they will follow the criteria described in the "Drought Contingency Plan".

**Public Involvement:**

Since this will be a closed, gated community, the Association will inform the customers of the level of the drought stage by information posted at the guard house & mailbox center along with email notification and will invite any input from the residences and golf course management.

**Public Education & Notification:**

Notice of the level of drought stage will be posted at the guard house & mailbox center at the entrance of the subdivision. Notices will be sent to customers explaining the drought stage and the action that must be taken. Water conservation practices and techniques will be presented in the notices. Similarly, notice will be given in the same manner for the termination of such restrictions.

**Specific Criteria:**

Guidance of the level of the drought stage will be given by the Property Owner's Association based on the Lake Travis level and area water usage. The Association will immediately inform the customers. The Association will initiate the Drought Contingency Plan when the following situations occur:

- A. When the level of Lake Travis reaches 647.0;
- B. When the daily volume of the intake pump reaches 90% of the maximum pumping capacity for more than 3 consecutive days (1.3 MGD);
- C. When notified by the LCRA.

**Stages:**

Implementation of various drought level will trigger typical response actions for lot owners and the golf course management. These typical actions are described below and will be Forwarded immediately to the customers.



## **NONPOINT SOURCE POLLUTION ABATEMENT:**

### **FERTILIZATION/PESTICIDES**

All property owners will be encouraged to use the minimum amount of fertilizers. Also, the use of native grasses and Xeriscape plants will be encouraged to minimize the need for nutrient supplements and reduce the risk of disease. Proper grass cutting and care will be discussed at the regular Property Owner's meetings.

The Golf course management applies fertilizers on an "as-needed-basis". The necessary watering is under the controlled application of the irrigation system to minimize any wasting of the fertilizer and to ensure an even application.

Again, most all the surface water runoff that may contain chemicals, will be totally captured in one of thy 6 ponds before entering the Lake. The water from these ponds is continuously recirculated and flows across waterfalls and other natural features. Any concentration of nutrients will be visible by excessive algae in the ponds Action will be taken to rectify any chemical imbalance condition to protect the aquatic life by notification of the maintenance staff and/or the homeowners.

Pesticides will be used as needed. General broadcasting will be minimized. Educational information such as that provided by the City of Austin, "A Homeowner's Manual for Watershed Protection" will be distributed to property owners at the regular informational meetings.

### **EROSION/SEDIMENTATION CONTROLS**

Any new construction that involves the disturbance of soil will utilize temporary erosion controls. The major retention ponds were built early in the grading process to serve as sedimentation ponds. BEST MANAGEMENT PRACTICES

Best management practices have been employed in the design and construction of the subdivision. They include vegetative filter strips which are primarily the golf course. Sub-drainage systems which are located throughout

the golf course, serve as particulate filters. Retention ponds serve as sedimentation ponds and water collection ponds.

Calculations show that the BMPs provided reduce the anticipated pollutants to below background levels. Erosion will be minimized using shallow, low gradient channels. Most every portion of the subdivision will have grass cover that will be maintained.

#### **MONITORING/LEAK DETECTION**

Employees are instructed to lookout for any wet spots. Such areas should be brought to the immediate attention of the irrigation system superintendent. Periodic on-site Checks of the pumps, meters, and piping will be conducted to ensure no leaks have occurred.

Property owners provided with the irrigation lines will be instructed on how to utilize the water. A hand-out describing the maintenance contacts, how and where to use the water, and the purpose of the system will be given to each user. Individual irrigation meters will be provided to each lot. This will serve as a general gauge of total water use.

#### **CONCLUSIONS**

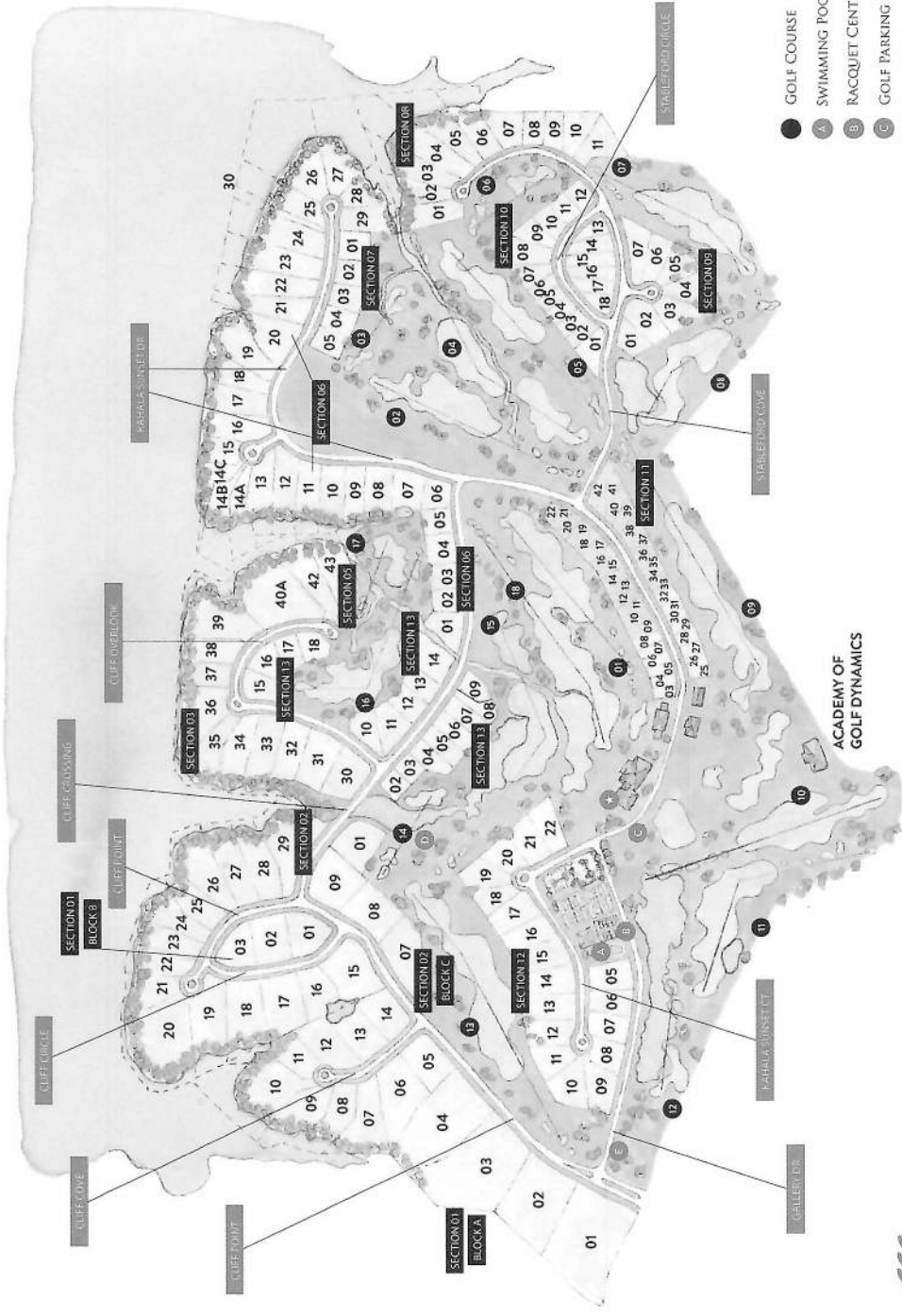
The pumping of the lake water for irrigation is practical at this location. The resulting potable water treatment cost savings and environmental benefits are very advantageous to all the customers. There will be continuous on-site maintenance personnel to monitor, modify, and repair the distribution system as needed to minimize the potential for leaks.

#### **SUMMARY**

The LCRA and Lakecliff on Lake Travis are committed to reduce the amount of nonpoint source pollution in association with the contract The Nonpoint Source Abatement and Water! Conservation Plan is one component for the purchaser to use to assist in the insurance on an environmentally safe and plentiful water supply for those it was designed to serve.

**ATTACHMENTS**

Map of the Service Area



- GOLF COURSE
- SWIMMING POOL
- RACQUET CENTER
- GOLF PARKING LOT
- RESTROOM
- MAILBOX
- CLUBHOUSE
- 19TH HOLE GRILL
- CIGAR LOUNGE



# LAKECLIFF LOT REFERENCE