

NOTICE OF OPEN MEETING

Notice is given that a **Regular Meeting** of the Board of Directors of the Barton Springs/Edwards Aquifer Conservation District will be held in the **District office**, 1124 Regal Row, Austin, TX, on **Thursday, February 11, 2010, commencing at 6:00 p.m.** for the following purposes, which may be taken in any order at the discretion of the Board:

Note: The Board of Directors of the Barton Springs/Edwards Aquifer Conservation District reserves the right to adjourn into Executive Session at any time during the course of this meeting to discuss any of the matters listed on this agenda, as authorized by the Texas Government Code Sections §551.071 (Consultation with Attorney), 551.072 (Deliberations about Real Property), 551.073 (Deliberations about Gifts and Donations), 551.074 (Personnel Matters), 551.076 (Deliberations about Security Devices), 551.087 (Economic Development) 418.183 (Homeland Security). No final action or decision will be made in Executive Session.

1. **Call to Order.**
2. **Citizen Communications (General Public Comments).**
3. **Routine Business.**
 - a. **Consent Agenda** Note: These items may be considered and approved as one motion. Directors or citizens may request any consent item be removed from the consent agenda, for consideration and possible approval as an item of Regular Business.
 1. Approval of Financial Reports under the Public Funds Investment Act, Directors' Compensation Claims, and Specified Expenditures greater than \$5,000.
 2. Approval of minutes from the January 23, 2010, Special Called Meeting and Work Session, and from the January 28, 2010, Regular Meeting.
 3. Approval of out-of-state travel:
 - a) by General Manager Kirk Holland and one other staff member (to be designated) to attend the National Groundwater Association's 2010 Groundwater Summit on "Groundwater for a Thirsty World", in Denver, Colorado, April 11-14, 2010; and
 - b) by Robin Gary to make a presentation on karst drought response and role of public awareness at the Geological Society of America Joint Sectional Meeting in Branson, Missouri, April 10-14.
 - b. **General Manager's Report.** Note: Topics discussed in the General Manager's Report are intended for general administrative and operational information-transfer purposes. The Directors will not take any action on them in this meeting, unless the topic is specifically listed elsewhere in this as-posted agenda.

1. Personnel matters and utilization;
2. Upcoming meetings and public events of possible interest;
3. Aquifer conditions and status of drought indicators.

4. Discussion related to current staff work areas and specific activities of staff teams and directors. Note: Individual topics listed below may be discussed by the Board in this meeting, but no action will be taken unless a topic is specifically posted elsewhere in this agenda as an item for possible action. A Director may request an individual topic that is presented only under this agenda item be placed on the posted agenda of some future meeting for Board discussion and possible action.
 - i. Update on Technical Team discussions and activities.
 - ii. Update on progress related to evaluations of alternative non-Edwards and Edwards DFC recommendations for GMA-10.
 - iii. Update on potential change to a component of the Hays County Water Control and Improvement District No. 1 wastewater treatment facility serving the Belterra subdivision.
 - iv. Update on progress in evaluating the use of reclaimed wastewater as an alternative water supply for part of Texas Lehigh and Centex water demands.
 - v. Update on intergovernmental drought response coordination activities, including planning for a joint press event at the Wildflower Center to kick off the water conservation period.

4. Regular Meeting: New Business.

- a. **6:05 p.m.** Presentation, discussion and possible action on approval of the FY 2009 Financial Audit.
- b. Discussion and possible action related to approving a recommended boundary between the Northern and Central subdivisions of GMA-10.
- c. Discussion and possible action related to setting meetings of the District Policy Advisory Committee, the HCP Citizens Advisory Committee, and one or more public meeting(s) to receive inputs on GMA-10 DFCs.
- d. Discussion and possible action related to approving possible changes in the expression of watering schedule requirements in our standard-template UDCPs and in related enforcement policies, and authorizing related rulemaking.

5. Regular Meeting: Briefings

7:30 p.m. Briefing by the HCP biology consultant, Dr. Bryan Brooks, on the ecological studies completed for the District HCP concerning salamander physiology.

6. Regular Meeting: Continued Business.

- a. **6:15 p.m.** Discussion and possible action on the permit applications submitted by the City of Kyle for 1) a Class B Conditional Production Permit to increase the permitted pumpage from the Edwards aquifer for public water supply purposes from 165,000,000 gallons/year up to 350,000,000 gallons/year, and 2) a Transport Permit to export the increased volume outside of the District into the City of Kyle's service area. The increased pumpage requested would be from the City of Kyle's existing Well No. 4, located near the intersection of RM 2770 and CR 171 in the 700 block of Kohlers Crossing, in Kyle, Texas. (Note: these applications were the subject of a contested-case hearing that was conducted by the District Board in early December.)
- b. Discussion and possible action related to the preparation of a proposal to the Texas Water Development Board for a feasibility study of a brackish groundwater desalination facility in the eastern part of the District.
- c. Discussion and possible action related to status and progress on the contested-case SOAH proceedings associated with the TCEQ preliminary decision on the TLAP for Jeremiah Venture, L.P.
- d. Discussion and possible action related to the District staff's assessment of the effect of withdrawals of non-flood flows of Onion Creek by a property owner to fill an off-channel reservoir and its potential to diminish recharge and prolong drought.

7. Adjournment.

Came to hand and posted on a Bulletin Board in the Courthouse, Travis County, Texas, on this, the ___th day of February, 2010, at _____ .m.

_____, Deputy Clerk

Travis County, TEXAS

Please note:

This agenda and available related documentation have been posted on our website, www.bscacd.org. If you have a special interest in a particular item on this agenda and would like any additional documentation that may be developed for Board consideration, please let staff know at least 24 hours in advance of the Board Meeting so that we can have those copies made for you.

The Barton Springs/Edwards Aquifer Conservation District is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please contact the District office at 512-282-8441 at least 24 hours in advance if accommodation is needed.

Item 3

Routine Business

a. Consent Agenda

- 1. Approval of Financial Reports under the Public Funds Investment Act, Directors' Compensation Claims, and Specified Expenditures greater than \$5,000.**
- 2. Approval of minutes from the January 23, 2010, Special Called Meeting and Work Session, and from the January 28, 2010, Regular Meeting.**
- 3. Approval of out-of-state travel:**
 - b) by General Manager Kirk Holland and one other staff member (to be designated) to attend the National Groundwater Association's 2010 Groundwater Summit on "Groundwater for a Thirsty World", in Denver, Colorado, April 11-14, 2010; and**
 - c) by Robin Gary to make a presentation on karst drought response and role of public awareness at the Geological Society of America Joint Sectional Meeting in Branson, Missouri, April 10-14.**



**Barton Springs
Edwards Aquifer**
CONSERVATION DISTRICT

MEMORANDUM

Date: 2/3/2010

From: Robin Gary

Re: Attendance at Geological Society of America North-Central and South Central-
Sectional Meeting, Branson, Missouri, April 11-13, 2010

I would like to request permission to travel to Branson, Missouri to attend the Geological Society of America (GSA) Sectional Meeting. I submitted (Brian Hunt and Brian Smith as co-authors) an abstract to present in the following session:

Aquifer Management Challenges: Unsustainable, Unbounded, Undefined, or Unregulated.

Chairs: Susan Stover, Kansas Water Office; Robert Mace, Texas Water Development Board.

With increasing development and reliance on limited ground water sources, management of aquifers is becoming more challenging. This session will focus on federal, state, interstate and local efforts to improve aquifer characterization, create new management tools, and heighten public awareness of aquifer management challenges.

GSA attracts several of the well-known karst scientists and provides a forum for data and information exchange on groundwater management strategies and aquifer dynamics. Anticipated costs for attending the Sectional Meeting are listed below:

Conference/Workshop Registration: \$175

Hotel (~\$119/night): \$357

Per Diem (\$46/day): \$184

Travel: \$482

Total estimated cost: \$ 1,198

Item 4

Regular Meeting: New Business

d. Discussion and possible action related to approving possible changes in the expression of watering schedule requirements in our standard-template UDCPs and in related enforcement policies, and authorizing related rulemaking.



Memorandum

To: District Board of Directors
From: John T. Dupnik, P.G., Regulatory Compliance Team Leader
Date: February 4, 2010
Subject: Landscape Watering Schedules

Background:

The September 10, 2009, District rule revisions and amendments created new provisions associated with an additional drought Stage. The addition of the new “Exceptional” drought stage requires that *all* permittees update their User Drought Contingency Plans (UDCPs). Template UDCPs and monthly target pumpage charts were created by Staff to assist the permittees in this update. District Rules allow the General Manager to approve these UDCPs so long as the submitted plans are consistent with the Staff-developed templates. District Rule 3-7.5.B. states:

Compliance. ...The General Manager may administratively approve new or revised UDCPs on behalf of the Board, provided that the UDCP is substantively similar to the most current staff-prepared guidance ... Any other revisions or amendments must be approved by the Board.

The “current staff-prepared guidance” or template UDCPs by which this provision is measured specifies a *once/5-days* landscape watering schedule. This schedule was previously the convention for the entire region; however, area municipalities and authorities have recently strayed from this convention by adopting various other schedules (See attached chart). The largest regional water providers (LCRA and Austin) have both recently adopted a watering schedule that allows for *twice/week watering* - a somewhat higher frequency-watering schedule than the current District guidance, but one that is more easily implemented by the end user and easier to enforce. There are few studies that have been conducted to measure the relative effectiveness of these protocols, however, logic would suggest that a higher frequency would result in higher volumes of water used for landscape irrigation. This could hinder a permittee’s ability to comply with monthly pumpage curtailments during District-Declared Drought.

However, the City of Austin has touted the twice/week-watering schedule as being partly responsible for the success of the recently adopted water conservation ordinance in reducing peak demand. It is not clear, however, if this success can be attributed to the

watering schedule or the increased outreach and enforcement efforts associated with the ordinance. Furthermore, reductions in peak demand do not necessarily connote reductions in overall demand that affect supplies. District staff have discussed the relative merits of all of the regional schedules and prepared a comparison of the common watering schedules with associated pros and cons (See attached).

Staff Recommendations

The District-wide requirement for all UDCPs to be updated has and will continue to trigger a high volume of submittals, staff review, and approval by staff or the Board. The staff requests Board direction on how best to consider these plans. The following recommendations are generally consistent with existing rules and GM authority and would not require any rule changes:

- UDCPs with any watering schedule that is consistent or less frequent than the historically preferred once/5-day schedule can be considered “substantively similar” to staff developed guidance and can be approved administratively by the GM. The template UDCPs will keep the current once/5-day schedule, but the permittee will be allowed to modify the UDCP to incorporate a less frequent schedule. This action is consistent with existing rules and GM authority and would not require any rule changes.
- UDCPs submitted with a 2/week schedule (City of Austin model) may be considered acceptable provided that the permittee can demonstrate that it has sufficient available alternative water supplies (e.g., Buda, Kyle, Sunset Valley, Goforth). The GM will set these on the Board’s consent agenda in order to keep the Board informed and to allow for further deliberation, if so desired by any particular Board member.
- Approval of UDCPs submitted with a twice/week schedule but with no demonstrable availability of alternative water supply will be deferred to the Board and set as a regular agenda item, to be considered on a case-by-case basis with recommendations for appropriate action to be provided by staff.
- Approval of UDCPs submitted with a watering schedule that would allow watering more frequently than the twice/week City of Austin model will be deferred to the Board and set as a regular agenda item for consideration and action. Staff will generally recommend that the Board deny these UDCPs unless the permittee can provide sufficient evidence to demonstrate such a watering schedule would not hinder their ability to comply with drought curtailments.

The rationale and authority for denial in the latter two scenarios would be that the UDCP did not sufficiently address all of the required elements prescribed in the rules, specifically Rule 3-7.5A(4) (excerpted below):

Contents of UDCP. UDCPs shall consider, as a minimum, the following:

(4). Additional demand reduction measures developed by the permittee, which achieve reduction goal percentages associated with and specified by each drought management stage;

For recommendations to deny approving such UDCPS, Staff generally would offer that such “demand reduction measures” for a permit of proper volume would not be able to “achieve reduction goal percentages” and therefore, would not comply with this rule.

Please note that during Critical and Exceptional Stage Droughts, no unattended outdoor water use (e.g., automated landscape irrigation) is allowed, and no change to these restrictions is intended. Accordingly, the schedule changes described here pertain to: a) any outdoor water use during Alarm Stage Drought, and b) to hand-held watering during Critical Stage Drought. No outdoor water use of any kind is allowed during Exceptional Stage Drought.

Watering Schedule Research

Watering schedules are known to reduce water use by limiting the times end users can water. There are many approaches to timing and scheduling watering restrictions. We should point out there are often 2 main challenges in water management:

1. Supply-based Limitations

When the water supply limits water available to the end user.

- Typically groundwater providers have less supply than surface water providers.
- These systems are limited by groundwater availability, pumping capacity, and permitted pumping volume.
- For example, during the drought many wells went dry or pumps had to be lowered.

Watering Schedule Strategy: Reduce number of days the end user can water.

2. Demand-based Limitations

When the water treatment process and distribution system limit water available to the end user.

- This is the case systems where peak demand can exceed the treatment and distribution capacity of the system.
- For example, if all end users watered on the same day, there would not be enough capacity for the system to meet the water demand.

Watering Schedule Strategy: Stagger watering days based on address (even/odd; address ending in 0 & 1 water Monday, etc.)

This document is meant as an internal review tool to help analyze what restrictions other water utilities use for drought response. The Watering Schedules—Quick Glance chart examines restrictions imposed on Residential Automatic Irrigation Systems by neighboring water providers. Information was compiled from websites on Feb. 2, 2010. Hyperlinks to key pages for each provider are provided in the final column.

Attached:

The **Watering Schedule Comparison** page provides pros and cons for each strategy.

The **Watering Schedules—Quick Glance** chart focuses on strategies used to manage for supply-based limitations.

WATERING SCHEDULE COMPARISON

(WATER CONSERVATION PERIOD AND ALARM STAGE ONLY)

<u>ONCE A WEEK</u>	
Pros	Cons
<ul style="list-style-type: none"> • Supports concept: Water deeply less frequently to encourage deep roots. • More restrictive than current District endorsed schedule. • Would definitely encourage water conservation because of the less frequent watering days. • Easy to program automatic sprinkler systems to weekly schedule. • Easier to remember. • Easier to enforce. • Similar, but more restrictive than AWU and LCRA drought management. 	<ul style="list-style-type: none"> • Some end users may consider this too restrictive because it will be 7 days between watering days.

<u>ONCE EVERY 5-DAYS</u>	
Pros	Cons
<ul style="list-style-type: none"> • Supports concept: Water deeply less frequently to encourage deep roots. • Allows more frequent watering than once a week. • Historically, this has been the District endorsed method. It has been tested and is known to sufficiently reduce demand on groundwater in drought. • Requires fewer changes to UDCPs. 	<ul style="list-style-type: none"> • Is contrary to other water suppliers in our area. • Difficult to program automatic sprinkler systems to 5-day schedule. • More difficult to remember. • More difficult to enforce.

<u>TWICE A WEEK</u>	
Pros	Cons
<ul style="list-style-type: none"> • Easy to program automatic sprinkler systems to weekly schedule. • In line with AWU and LCRA drought management strategies. • Easier to remember. • Easier to enforce. 	<ul style="list-style-type: none"> • May hinder compliance with monthly pumpage limits. • Aquifer water levels may decline more rapidly in Water Conservation Period and Alarm Stage Drought because of increased water use. • Does not support concept: Water deeply less frequently to encourage deep roots.

Residential Lawn Watering Schedules – Quick Glance
 Updated Feb. 2, 2010

	Not in drought or Water Cons. Period	Water Conservation Period (5/1 – 9/30)	Alarm Stage (Stage I)	Critical Stage (Stage II)	Exceptional Stage (Stage III)	Link
San Antonio	Auto irrigation sys. any day before 10am or after 8pm	Auto irrigation sys. any day before 10am or after 8pm	1 designated day per 7 Before 10am or after 8pm; No wknds	1 designated day per 7 3-8am or 8-10pm; No wknds.	1 designated day/ per 14 3am to 8am and 8pm to 10pm	http://www.saws.org/conservation/aquifermgmt/
San Marcos	Auto irrigation sys. any day only before 10am or after 8pm	Auto irrigation sys. any day only before 10am or after 8pm	1 designated day per 7 Midnight-10am or 8-12pm; No wknds.	1 designated day per 7 6-10am or 8-12pm; No wknds.	1 designated day/ per 14 6am to 10am or 8pm to 12pm	http://www.ci.san-marcos.tx.us/departments/AWWW/DroughtResponse.htm#top
City of Kyle (BSEA and GBRA water)	Voluntary Auto irrigation sys. any day before 10am or after 7pm	"Stage 1" Auto irrigation sys. any day before 10am or after 7pm	"Stage 2" Auto irrigation sys. 1 designated day/per 5 Midnight-10am	"Stage 3" Auto irrigation sys. prohibited	"Stage 3" Auto irrigation sys. prohibited	http://www.cityofkyle.com/StageTwoWaterMgmt.php
City of Buda (BSEA and GBRA water)		10% reduction Voluntary 5-Day 12am to 10am and 7pm to 12pm	1 designated day per 5 Before 10am or after 7pm	Auto irrigation sys. prohibited		http://ci.buda.tx.us/critical-stage-drought
City of Austin (Currently Under Internal Review)		"Stage 1" 2 designated days per 7; Before 10 am or after 7pm		Stage 2" 1 designated day per 7; Before 10am		Under Construction
LCRA		"Stage 1" Voluntary 2 designated days per 7; All before 10am or after 7pm	"Stage 2" 2 designated days per 7; All before 10am or after 7pm	"Stage 3" Auto irrigation systems prohibited at all times.	"Stage 4" Watering of landscaped areas prohibited.	http://www.lcra.org/water/utilities/drought_restrictions.html
BSEACD		10% reduction Voluntary 1 designated day per 5 12am to 10am and 7pm to 12pm	20% Overall reduction; Restrict outdoor water use; 1 designated day per 5; 4,000 per capita per month target	30% Overall reduction; Stop outdoor water use; Auto irrigation systems prohibited; 3,000 per capita per month target	40% Overall reduction; Minimize all water use; 2,000 per capita per month target	