

**GROUNDWATER REDUCTION PLANS:
A CASE STUDY
FROM WITHIN THE LONE STAR GROUNDWATER
CONSERVATION DISTRICT REGARDING COMPLIANCE AND
ALTERNATIVE WATER SUPPLIES**

CAROLYN AHRENS

Booth, Ahrens & Werkenthin, P.C.

515 Congress Avenue, Suite 1515

Austin, Texas 78701

512.472.3263

Carolyn@baw.com

State Bar Of Texas

THE CHANGING FACE OF WATER RIGHTS 2011

February 24-25, 2011

San Antonio

CHAPTER 14.1

CAROLYN AHRENS
Booth, Ahrens & Werkenthin, P.C.
515 Congress Avenue, Suite 1515
Austin, Texas 78701
512.472.3263
Carolyn@baw.com

CAROLYN AHRENS practices law primarily in the areas of water rights and contracts, utility and environmental law. She also has been active in representing clients on legislative issues affecting water supply and regulation. Ms. Ahrens is a frequent speaker and author on the subject of water and legislative issues affecting water suppliers.

Ms. Ahrens is a dedicated participant in professional associations that are focused on water resources for public and industrial water supply. She serves on the national Board of Directors of the WaterReuse Association and has chaired that association's National Legislative Committee. She currently chairs the American Water Works Association's Water Resources Sustainability Division that encompasses national committees on Climate Change, Groundwater, Source Water Protection, Water Desalting, Water Resource Planning and Water Reuse. Ms. Ahrens formerly served on the Board of Trustees of the Water Environment Federation whose mission is to preserve and enhance the global water environment. The Water Environment Federation has provided technical education and training for the world's water quality professionals since 1928.

At the state level, Ms. Ahrens serves on the board of the Texas Water Conservation Association. She chaired that association's Water Laws Committee under three association presidents and currently is active with the Federal Affairs Committee, the Water Project Implementation Committee, and the General Environmental Panel. She also served on the Board of Directors and as an Officer of the Water Environment Association of Texas for many years. For that association, Carolyn has convened the Texas Water Forum, a network of Texas associations that share perspectives on legislative and regulatory issues facing water suppliers.

Ms. Ahrens has twice received the TWCA President's Award for "outstanding dedication, contribution and service to the water resources of the State of Texas;" the Arthur Sidney Bedell Award, presented by the Water Environment Federation "acknowledging extraordinary personal service to the Water Environment Association of Texas;" the Water Environment Association's President's Service Award; and two Watermark awards for raising the public's level of understanding of Texas water issues.

Ms. Ahrens is a graduate of the University of Texas Law School. She is a Life Fellow of the Texas Bar Foundation; a Fellow of the American Bar Association Young Lawyers Division; a member of the Joseph Pritchard Inn; and a Founding Fellow of the Austin Bar Foundation. For the International Young Lawyers Association, Ms. Ahrens served on the Executive Committee as National Vice-President for the United States, the highest office for national representatives.

TABLE OF CONTENTS

I. INTRODUCTION 1

II. THE DISTRICTS 1

III. GROUNDWATER USE REDUCTION PROGRAM 2

 A. Authority for Regulation..... 2

 B. Groundwater District Regulatory Plan 3

 1. Mandates Regarding Reductions in Groundwater Use..... 3

 2. Mandates Regarding Alternative Water Source Planning 4

 C. Engaging in the Regulatory Process 4

IV. SATISFYING THE CONVERSION REQUIREMENTS 5

 A. Independent Conversion or Participating in the San Jacinto River Authority Groundwater Reduction Plan . 5

 B. Water Supply Alternatives for Independent Conversion..... 7

 1. Purchasing Raw Surface Water 7

 2. Bed and Banks Water Reuse..... 8

 3. Developing Deep and/or Brackish Groundwater Supplies 10

V. CONCLUSION 11

GROUNDWATER REDUCTION PLANS: A CASE STUDY

I. INTRODUCTION

Historic and sole reliance on groundwater supplies, regulatory limitations that address both groundwater reduction and replacement water supplies, and due diligence with regard to alternatives set the stage for this case study. The study is presented from the perspective of legal counsel for Montgomery County Municipal Utility Districts 8&9's (the "Districts"). The opinions expressed are those of the author and not those of the Districts.

The Districts are adapting to regulatory groundwater-use reductions, mandated under the proportional adjustment rules of the Lone Star Groundwater Conservation District, the boundaries of which are co-extensive with those of Montgomery County. The groundwater district's rules and the regulatory plan under which the reductions in use are required are available to the public on the groundwater district's website: <http://www.lonestargcd.org>.

This case study is offered with high personal and professional regard for all of the participants in the groundwater-use reduction process. The discussion here cannot adequately convey what is at stake in that process.

Regulatory groundwater reductions are precipitated by projections of a future that would occur when growing population and increasing groundwater use collide with declining groundwater levels. The reductions that the groundwater district imposes inevitably will shift the fortunes of the entire area. This is no small burden for the groundwater district to bear.

Those who carry the responsibility to provide essential public utilities for their communities are faced with a challenge not wholly unlike a catastrophic loss of water supply, albeit with advance warning but also with permanent effect. This is no small challenge, and the people ultimately responsible for facing it do so in their capacities as public servants, not as paid consultants or managers. The personal toll that this effort takes should not be underestimated nor taken for granted.

Both the adoption and implementation of regulatory reductions and the search for alternative water supply solutions take place amidst all the pressures that local, and even statewide, politics have to offer. These also are no small pressures.

II. THE DISTRICTS

The Districts are adjacent conservation and reclamation districts in Montgomery County, Texas. The Districts exist as governmental agencies under and subject to the authority, conditions, and restrictions of the "Conservation Amendment" to the Texas Constitution. The nature of the Districts as local governments has implications throughout this case history.

In addition to declaring it a public right and duty for the Legislature to conserve and develop the natural resources of this State, the Conservation Amendment authorizes the creation of conservation and reclamation districts, as follows:

There may be created within the State of Texas, or the State may be divided into, such number of conservation and reclamation districts as may be determined to be essential to the accomplishment of the purposes of this amendment to the constitution, which districts shall be governmental agencies and bodies politic and corporate with such powers of government and with the authority to exercise such rights, privileges and functions concerning the subject matter of this amendment as may be conferred by law.

TEX. CONST. art. 16, § 59(b).

The Districts specifically were created as municipal utility districts, and as such are further empowered and regulated pursuant to Chapters 49 and 54 of the Texas Water Code. *See generally*, TEX. WATER CODE ANN. Ch. 49 (Vernon and Vernon Supp.) ("Provisions Applicable to All Districts") and *id.* Ch. 54 ("Municipal Utility Districts"). Because the Districts are governmental agencies, they also act under those laws and regulations that apply generally to the state's political subdivisions, including provisions found in the Government Code and the Local Government Code.

In their governmental capacity, the Districts currently provide potable water to approximately 3,000 connections combined. The connections are primarily residential, with no industrial base within the Districts' boundaries. Average day demand for the Districts' combined systems is approximately 1.53 million gallons per day ("MGD") and at build-out is projected to be approximately 2.71 MGD. Expressed annually, demand at build-out is a little over 3,000 acre-feet. Return flows from water use within the Districts are treated at one wastewater treatment plant that currently is permitted to discharge an annual average 0.9 MGD, or about 1000 acre-feet per year.

Together, the Districts are bounded on three sides by water. Literally, the Districts are located on a peninsula extending into Lake Conroe. The permitted storage capacity of Lake Conroe is 430,260 acre-feet. However, the Districts' sole source of water supply is groundwater, pumped from wells completed in the Gulf Coast Aquifer. The Districts are not alone in that regard, as most of the water use in Montgomery County currently is sourced in groundwater, despite the existence of the reservoir.

III. GROUNDWATER USE REDUCTION PROGRAM

A. Authority for Regulation

The Districts are located within the boundaries and jurisdiction of the Lone Star Groundwater Conservation District, another conservation and reclamation district created in reference to the Conservation Amendment to the Texas Constitution. Lone Star Groundwater Conservation District was created by the Texas Legislature in 2001 and confirmed by local voters in November of that year. *See* Chapter 1321, Acts of the 77th Legislature, Regular Session, 2001 (as amended).

Two provisions of Chapter 36 of the Texas Water Code address, but do not resolve, the relationship between groundwater users and groundwater conservation districts. Section 36.0015 speaks to the purpose of groundwater district legislation, stating that:

In order to provide for the conservation, preservation, protection, recharging and prevention of waste of groundwater, and of groundwater reservoirs or their subdivisions, and to control subsidence caused by withdrawal of water from those groundwater reservoirs or their subdivisions, consistent with the objectives of Section 59, Article XVI, Texas Constitution, groundwater conservation districts may be created as provided in this chapter. Groundwater conservation districts created as provided by this chapter are the state's preferred method of groundwater management.

TEX. WATER CODE ANN., § 36.0015 (Vernon and Vernon Supp.).

Section 36.002 continues on the issue of ownership of groundwater, and states that:

The ownership and rights of the owners of the land and their lessees and assigns in groundwater are hereby recognized, and nothing in this code shall be construed as depriving or divesting the owners or their

lessees and assigns of the ownership or rights, *subject to rules promulgated by a district.*

Id. § 36.002 (emphasis added). In the absence of special district legislation authorizing rule-making powers, it is Water Code Chapter 36 that both grants the power for and limits a groundwater district's rulemaking. Water Code § 36.101, for example, provides that "A district may make and enforce rules, including rules limiting groundwater production based on tract size or the spacing of wells, to provide for conserving, preserving, protecting, and recharging of the groundwater reservoir or its subdivisions . . .". *Id.* 36.101. Chapter 36 does not, however, provide any express authorization or guidelines for groundwater reduction programs per se.

Lone Star Groundwater Conservation District also does not have any specially legislated powers for groundwater reduction planning. In this regard, one might compare the kind of authority expressly granted to the Harris-Galveston Subsidence District, under which that district's board may require a person to completely or partially discontinue the use of groundwater "only if the person is able to: (1) acquire an alternative water supply needed to replace the water supply covered by the order; or (2) participate in a groundwater reduction plan or other agreement approved by the board that complies with the district's regulatory requirements." SPECIAL DISTRICT LOCAL LAWS CODE ANN. § 8801.163 (Vernon and Vernon Supp.). In this case study, Lone Star Groundwater Conservation District mandated reductions in use of groundwater by a date certain based on general powers in its legislation and in Water Code Chapter 36.

Lone Star Groundwater Conservation District does have particular authority to adopt different rules for each aquifer, subdivision of an aquifer, or geologic stratum and for different geographic areas of an aquifer or subdivision of an aquifer if the district finds that conditions in or use of the aquifer differs substantially from one geographic area to another, or to promote better management of groundwater resources. *See also* TEX. WATER CODE ANN. § 36.1216(d) (Vernon and Vernon Supp.). However, as discussed below, Lone Star Groundwater Conservation District determined to apply its reductions countywide, without differences based on varying groundwater level conditions and pumping impacts. The groundwater district also determined to apply the reduction rules only to large-volume groundwater users.

B. Groundwater District Regulatory Plan

The amount of Lone Star Groundwater District's reduction requirement was identified based on a concept of "aquifer sustainable yield," identified as a ratio of annual recharge to the area of the groundwater district in acres. The aquifer sustainable yield and basis for future allowable production currently is calculated at 64,000 acre-feet per year. The reasonableness of this calculation, however, has not yet been challenged. It also is the case that additional aquifer studies are ongoing. Considering permitted production in 2009 and estimates of exempt use, current authorized production is reported to be approximately 95,000 acre-feet per year.

Without intending to diminish at all the technical and managerial expertise that is involved in assessing available groundwater supplies and the impact of pumping, it seems fair to say that the reduction component of a groundwater reduction plan can be relatively straightforward. The more complex issues appear to exist in making the reductions achievable and in factoring how the reductions impact the regulated community and even the community at large.

The instrument of Lone Star Groundwater Conservation District's reduction mandate was promulgation of a District Regulatory Plan ("DRP"), adopted in two phases. Taken as a whole, the DRP addresses not only the required groundwater reductions but also requirements related to obtaining alternative water sources that would replace the groundwater supplies to which access will be denied. At the date of this writing, the DRP consists of Phase I (adopted December 12, 2006), Phase II(A) (adopted February, 2008, and subsequently amended) and Phase II(B) (adopted November 10, 2009, and subsequently amended). In all, the time between adoption of DRP Phase I and the date on which, pursuant to DRP Phase II(B) large-volume groundwater users must submit a compliant groundwater reduction plan to the groundwater district is just a little over four years.

The DRP, in all its phases, is available on the Lone Star Groundwater Conservation District's website cited above, under the category of rules and bylaws and is referenced frequently in the discussion below. Terms in the discussion, such as "conversion obligation," are used consistently with use of those terms in the DRP.

1. Mandates Regarding Reductions in Groundwater Use

At the time Phase I was adopted, the DRP acknowledged that the groundwater district had regulatory options and that there was a scientific basis for establishing different management zones within the

county. The task during Phase I, the DRP explained, would be to establish one or more management zones and to determine if any proportional adjustments or other reductions of groundwater production and use are necessary within the designated management zones.

Pending completion of the permitting process for historic groundwater users, the DRP explained further, the District would establish a single management zone for the entire county, but the District expressly reserved the right to further subdivide the District into multiple management zones. Meanwhile, all past, current, and future users of groundwater in Montgomery County were expressly put on notice that the District would curtail both new and historic use of groundwater as necessary, by a date certain, to reduce total production and use of groundwater in the District. At the time of that notice, the date certain was year-2015, although it has since been extended by one year.

Phase I was not inconsistent with an expectation by some that Lone Star Groundwater District would, on a case-by-case basis, consider the time frames by which groundwater users could reasonably secure alternate sources of water by economically feasible means when applying its proportional adjustments. However, as the regulatory plan unfolded over time, this would not be the case.

DRP Phase II(A) maintained the single, countywide management zone regulatory approach. It also required large-volume groundwater users to demonstrate incremental progress towards conversion to alternative water supplies by submitting a Water Resources Assessment Plan to the groundwater district. Phase II(A) directed each groundwater user that prepared an assessment to do so based on anticipating a 30% reduction in allowable production by year-2015. Still, the DRP expressly held open the prospect of multiple management zones.

It is Phase II(B) of Lone Star Groundwater Conservation District's DRP that sets out the actual regulatory requirements for partial "conversion" to water supplies alternative to continued reliance on fresh groundwater supplies from the Gulf Coast Aquifer in Montgomery County. When Phase II(B) of the DRP was initially published on September 23, 2009, the extent of the proposed regulatory plan became increasingly clear. The single, countywide management zone would be maintained throughout the conversion period, presumably at least as it applies to production from the Gulf Coast Aquifer. That decision to maintain one zone was reached on a basis that was not detailed in the plan but that clearly included factors outside those of aquifer characteristics and pumping effects.

The deadline for converting to alternative water supplies would be uniform, and fully enforceable by penalties. There would be no process proposed through which existing groundwater users could come forward to demonstrate particular circumstances that warranted variances or extensions of the conversion requirement. Also, the initial conversion requirement would, indeed, be 30% with a clear warning that additional percentage conversions are likely in the future.

2. Mandates Regarding Alternative Water Source Planning

In addition to quantifying the conversion obligation and requiring the implementation of groundwater reduction by a date certain, Phase II(B) sets out a process by which large-volume groundwater users must demonstrate their acquisition of alternative water supplies to the groundwater district's satisfaction. Users were required by March 1, 2010, for example, to declare their intent to submit a groundwater reduction plan or to participate in a reduction plan sponsored by another entity. A detailed and sufficient groundwater reduction plan then must be submitted by April 1, 2011.

To be sufficient, a groundwater reduction plan must include, among other things:

- population and water demand projections for years 2016, 2025, 2035 and 2045;
- additional information regarding service area;
- a water reuse feasibility assessment;
- evidence demonstrating that alternative water sources will be adequate in volume;
- a description of each alternative water source and supplier and/or conservation project;
- documentation that any supplier relied on has supplies and sufficient legal rights and is willing to provide the volume and rate necessary;
- if supply is based on a contract expiring before 2045, then also renewal information and/or additional available alternatives;
- design, engineering, construction, legal, financial and technical components;
- a description of any feasibility studies for development, siting, easements, and construction;
- a report of preliminary engineering on facilities to be constructed through 2016 and conceptual engineering for how future demands might be met through averaging;
- how alternative water supplies will be financed; and
- a timetable with deadlines for completing various components of the project.

The groundwater reduction plan must be signed and sealed by a professional engineer.

Generally, through its groundwater reduction plan, a large-volume groundwater user must convince Lone Star Groundwater Conservation District, six years in advance, that the user's implementation of alternative water supplies will be feasible, sufficient, and timely to meet the user's conversion obligation in 2016. For groundwater users that participate together in a joint groundwater reduction plan, the sponsor of the joint plan must demonstrate that the group, as a whole, will meet the conversion obligation timely. The potential penalties for failure to make the necessary demonstrations, in addition to those for failing to meet the conversion obligation itself, are steep.

C. Engaging in the Regulatory Process

The Districts engaged actively in the groundwater district's rulemaking process. Three rounds of formal written comments were submitted to a like number of published versions of DRP Phase II(B) within a two-month period. Other comments were discussed informally with the groundwater district's representatives. The Districts continue to disagree with many elements of the groundwater district's rules. In all instances, however, the Districts greatly value their working relationship with the groundwater district and the efforts that the groundwater district did make to accommodate the Districts' concerns.

Some of the Districts' concerns related to communication and clarity in the rules as initially proposed. Would the percentage mix of groundwater use (70%) and alternative water supplies (30%), for example, apply as demands for water increased? Through the comments process, the DRP was clarified to specify that the concept of percentage conversion would not carry forward, but that an allowable amount of production would be calculated one time and would apply to actual demand in the year of initial conversion, as well as in future years subject to averaging to meet future growth in demand.

Similarly, the Districts were concerned that the proposal to apply the conversion requirement percentage to a demand level that would not be known until the year that conversion was required created problems for planning purposes. The Districts urged that the conversion requirement be knowable far in advance. They specifically proposed a mechanism to certify now a level of demand (to which the 70/30 ratio then applies), either based on approved demand projections in the year-2010 water supply assessments or by some specific procedure later within the conversion timeframe, but including a settle-up period through 2045. In response, the groundwater district re-proposed its rules in order to apply the conversion ratio

to year-2009 permitted groundwater withdrawal quantities. The impact of that change had mixed results, depending on the degree to which an entity was over-permitted and the amount of growth anticipated before the conversion-year. Nevertheless, it was greatly important for planning purposes to have as much clarity as possible regarding the amount of groundwater use that would be allowed going forward.

The Districts also expressed concerns with the effect of the rules, for example how would the reduction requirements relate to the advancement of water conservation? As proposed, the DRP required a large-volume groundwater user to actually produce and supply alternative water in the minimum amount of 30% of the year-2009 permit amount, even if provision of that water was not necessary to accommodate the limitation on groundwater supply. The Districts argued that the groundwater user could not benefit appropriately from water conservation if conservation could only further reduce its groundwater pumpage but not reduce the required amount of the more expensive, replacement supply. As revised, conservation measures can contribute more broadly to a groundwater users satisfaction of the rules.

The purpose of the Districts' engagement in the kinds of issues illustrated through the examples above was to make the DRP more realistic and reasonable as applied from the regulated community's perspective. Hopefully that also will contribute to making compliance with the DRP more efficient and effective. Modest deadline extensions also were incorporated into the rules, including the postponement of the conversion obligation to year-2016. One category of concern, however, went to the conceptual underpinning of the groundwater district's approach to regulating the alternative water supply planning process and would not be resolved through comment or compromise.

The Districts never disputed the groundwater district's authority to reasonably manage groundwater withdrawals and expressed their appreciation for the groundwater district's efforts to protect and extend the groundwater resource. However, the Districts strongly objected to elements of the DRP that would allow the groundwater district to impose on the Districts' ratepayers expensive penalties because the groundwater district's board of directors disagreed with the Districts' elected directors regarding use of non-groundwater resources or regarding the financing, engineering, construction, and other timetables for developing the Districts' alternative water supplies. A groundwater district has no claim to the particular expertise or capabilities necessary to develop and manage a municipal water supply system. Nor does the groundwater district have any responsibility for

acting in the particular best interests of the Districts' constituents.

How the groundwater district will interpret its rules, and how rigidly the rules will be applied, are unknown. As the deadline for submission of groundwater reduction plans is not yet passed, no plans have yet been certified or rejected. Whether or not Lone Star Groundwater Conservation District's single-zone proportional adjustment decisions are supportable and whether its regulation of the process by which groundwater users will develop alternative water supplies goes beyond the groundwater district's authority have not been tested or defended in court. The standards applicable to groundwater district regulatory authority, however, have been articulated in various cases. The power of any groundwater district is limited by the terms of the applicable statutes authorizing its creation, and it can exercise no authority that the Texas legislature has not clearly granted. A groundwater district may only exercise those powers granted by statute, together with those necessarily implied from the statutory authority conferred or duties imposed. *See, e.g., Stauffer v. City of San Antonio*, 344 S.W.2d 158, 160 (Tex. 1961); *see also South Plains Lamesa Railroad, Ltd. v. High Plains Underground Water Conservation District No. 1*, 52 S.W.3d 770, 779-80 (Tex. App.—Amarillo 2001, no pet.).

IV. SATISFYING THE CONVERSION REQUIREMENTS

A. Independent Conversion or Participating in the San Jacinto River Authority Groundwater Reduction Plan

In order for the Districts to comply with the groundwater district's conversion requirements, the Districts' water supply alternatives analyses have been ongoing simultaneously with their engagement in rulemaking processes and in regional water supply planning. A critical decision for the Districts involved choosing whether to join in a groundwater reduction plan under the sponsorship of another entity or to meet their obligations for groundwater conversion independently.

In lock-step with the Lone Star Groundwater Conservation District's development of reduction requirements, yet another conservation and reclamation district, the San Jacinto River Authority, was developing a plan for making alternative water supplies available from an already permitted and constructed, but largely untapped, municipal surface water supply reservoir in Montgomery County. That reservoir is Lake Conroe, water rights for which were issued in 1959.

The San Jacinto River Authority and the Lone Star Groundwater Conservation District commenced joint planning activities under a grant from the Texas Water Development Board in 2004. The resulting “Regulatory Study and Facilities Implementation Plan for Lone Star Groundwater Conservation District and San Jacinto River Authority” (June 2006) also is available on the groundwater district’s website referenced above, under the “publications” menu.

If not for the efforts of the river authority to propose a groundwater reduction plan that would be open to all large-volume groundwater users in the county, it is likely that many of the groundwater users affected by the groundwater district’s reduction requirements would not be able to comply with those requirements. The river authority’s county-wide solution is feasible because the groundwater district’s regulations allow for a kind of pooling under which some participants in a joint groundwater reduction plan over-convert to alternative supplies and others under-convert.

It also is undemonstrated, however, whether or not absent the driving force of the groundwater district’s alternative water supply requirements, the river authority’s proposal to commence large-scale supply of surface water from Lake Conroe under a groundwater reduction plan would achieve critical mass. Indeed, the Districts raised concerns in its formal comments to DRP Phase II(B) that without extension of time and a safety net for unanticipated regulatory delays inherent in the permitting process for *new* supplies, the DRP would preclude due diligence about alternative water supply options at most favorable cost and predetermine that participation in the river authority’s groundwater reduction plan would be the *sole* alternative for all large-volume groundwater users in the county.

Most affected groundwater users had participated in San Jacinto River Authority’s Water Rights Assessment Plan in 2008-09. However, the terms of the river authority’s proposed groundwater reduction plan contract did not become publicly known until late in December, 2009. The initial release was *after* the groundwater district’s DRP Phase II(B) was finally adopted, and only five months *before* the first deadline in the requirements.

The proposed contract was met with controversy among the potential participants in San Jacinto River Authority’s groundwater reduction plan. Some participants in the plan would be required to take and pay for treated surface water, and others would not. All participants would pay a fee on the groundwater that they continued to produce and all would remain ultimately responsible for their total water supply. The amount of the fee, and the rate paid for treated surface

water delivered would be designed to approach equilibrium. Not all potential participants were facing the same groundwater decline problems as others and the cost to provide water to some of the potential participants with the most pressing groundwater problems could be relatively high. For the Districts, it also was very significant that while some potential participants project extraordinary population growth, being located on a peninsula the Districts do not. Such issues as they related to equity and cost, however, were only two areas of concern.

Another common concern with the proposed contract involved the degree to which participants would be required to cede governmental control of their water supply system decisions. Subject to the terms of the contract, San Jacinto River Authority would determine when and how much treated surface water would be delivered to a participant. The final contract offered to all large-volume groundwater users in the county reflected San Jacinto River Authority’s negotiations with some participants and changes in some of the controversial provisions. Among other things, the contract included an enhanced role for a participants’ review committee and assurances that participants would maintain ownership and control of their groundwater-based return flows. The contract and historical documents related to it are available on the San Jacinto River Authority’s website at <http://www.sjra.net/h2all/index.html>.

The river authority-sponsored groundwater reduction plan clearly is the best path to regulatory compliance for many large-volume groundwater users that are affected by the groundwater district’s reduction requirement. Some additional groundwater users may yet join the San Jacinto River Authority groundwater reduction plan. However, entry now would be considered “late” by the river authority and late entry into the plan is not assured. San Jacinto River Authority’s contract provides that the authority will not allow late-entrants if it would impair the authority’s ability to deliver treated surface water to the existing participants. A participant who is allowed to join late will pay an equalization fee combined of (1) the entire amount of the payments that the participant would have made if it had joined on August 1, 2010, plus interest; and (2) San Jacinto River Authority’s actual or estimated increased costs (incurred in connection with the development and implementation of the groundwater reduction plan and the design and permitting of the reduction project) plus interest, that would have been avoided if the participant had joined timely.

A high percentage of the large-groundwater users affected by the groundwater district’s reduction requirements have signed the San Jacinto River

Authority's proposed contract. Other affected groundwater users, including the Districts, have declared their intent to pursue paths for regulatory compliance that are independent of the river authority's groundwater reduction plan.

B. Water Supply Alternatives for Independent Conversion

With the decision whether to pursue independent groundwater reduction plans behind most large-volume groundwater users in Montgomery County, their paths forward include bringing their alternative water supply planning to a conclusion that satisfies the groundwater district's criteria. Broadly categorized, options are few and include surface water, water reuse and groundwater pumped from formations that are not currently subject to proportional adjustment under the groundwater district's regulations.

Early on, the Districts identified bed and banks water reuse as an alternative water source. Clarifications of the DRP and the likelihood of future reduction mandates that would exceed 30% lowered the value of water reuse alone as an alternative. The primary alternatives for the Districts then were identified as (1) indirect water reuse and purchasing supplemental raw surface water for withdrawal at their boundaries abutting Lake Conroe; (2) indirect water reuse with a different supplemental supply; and (3) developing deep and/or brackish groundwater that is not subject to proportional adjustment under the current DRP. All of these alternatives would be coupled with water conservation efforts; however, conservation must be "metered" in order to qualify as an alternative water supply under DRP Phase II(B).

Cost projections and technical feasibility analyses, including for water treatment facilities, play a very significant role in the Districts' decision-making and are being performed by NRS Consulting Engineers. Determining the right alternative will be driven by consideration of "best value," a concept that for the Districts also includes evaluating regulatory risks and litigation risks. The discussion below focuses on these risks in developing alternative supplies in light of the groundwater district's requirements.

1. Purchasing Raw Surface Water

Currently, the only raw surface water supply of significant quantity in Montgomery County is that supply contained in the reservoir into which the Districts' territory extends, Lake Conroe. Lake Conroe is permitted to San Jacinto River Authority and the City of Houston and will be a primary initial water supply for the San Jacinto groundwater reduction plan participants. Shortly before offering its groundwater reduction plan contract, the river authority concluded

protracted negotiations with the City of Houston that promised the river authority significant additional control over long-term water supply from the reservoir. Indeed, that contract has been interpreted to preclude the city from selling water from Lake Conroe to any entity that is subject to Lone Star Groundwater Conservation District's reduction mandates, unless perhaps San Jacinto River Authority consents.

San Jacinto River Authority afterwards made it clear that *it* will not sell surface water from Lake Conroe to any entity that is not participating in the authority's groundwater reduction plan. The river authority specifically declined to sell raw surface water to the Districts to supplement bed and banks water reuse on anything but an annual and interruptible basis. Such sales, the Districts anticipate, would not satisfy the groundwater district's groundwater reduction plan requirements for feasibility nor represent a high value in water supply.

Relevant to the litigation risks inherent in the Districts continuing to pursue a purchase of raw surface water in the face of San Jacinto River Authority's denial, there are provisions in the Water Code under which a potential purchaser can compel service from a water reservoir and challenge the terms and price for water offered under a contract that the complaining party has not yet signed, and with additional considerations challenge the terms and price even of a contract that the complaining party has signed. When the Texas Commission on Environmental Quality *does* compel service, it also may set the rate for water under Water Code §§ 11.036, 11.141, and 12.013. A significant portion of the case law regarding the agency's compelled service jurisdiction arises within a primary dispute over the rates and terms in a proposed contract.

Water Code § 11.036 contemplates water service with and without a contract, stating:

Conserved or Stored Water: Supply Contract.

- (a) A person, association of persons, corporation, or water improvement or irrigation district having in possession and control any storm water, floodwater, or rainwater that is conserved or stored as authorized by this chapter may contract to supply the water to any person, association of persons, corporation, or water improvement or irrigation district having the right to acquire use of the water.
- (b) The price and terms of the contract shall be just and reasonable and without discrimination, and the contract is subject to the same revision and control as provided in this code for other water rates and charges. If

the contract sets forth explicit expiration provisions, no continuation of the service obligation will be implied.

* * * *

- (d) If any person uses the stored or conserved water without first entering into a contract with the party that conserved or stored it, the user shall pay for the use at a rate determined by the commission to be just and reasonable, subject to court review as in other cases.

TEXAS WATER CODE ANN. § 11.036 (Vernon and Vernon Supp.).

Water Code § 11.041, for compelling service from an unwilling seller, states in most pertinent part:

Denial of Water: Complaint.

- (a) Any person entitled to receive or use water from any canal, ditch, flume, lateral, dam, reservoir, or lake or from any conserved or stored supply may present to the commission a written petition showing:
- (1) that he is entitled to receive or use the water;
 - (2) that he is willing and able to pay a just and reasonable price for the water;
 - (3) that the party owning or controlling the water supply has water not contracted to others and available for the petitioner's use; and
 - (4) that the party owning or controlling the water supply fails or refuses to supply the available water to the petitioner, or that the price or rental demanded for the available water is not reasonable and just or is discriminatory.
- (b) If the petition is accompanied by a deposit of \$25, the executive director shall have a preliminary investigation of the complaint made and determine whether or not there are probable grounds for complaint.
- (c) If, after preliminary investigation, the executive director determines that probable grounds exist for the complaint, the commission shall enter an order setting a time and place for a hearing on the petition.

Id. § 11.041 (a)-(c); *see also id.* (d)-(g).

There are at least two lines of Texas court cases that have upheld agency determinations that a

complainant was entitled to water within the meaning of the relevant provisions. One group of cases relies on physical proximity to water. *See generally Borden v. Trespolacios Rice & Irrigation Co.*, 98 Tex. 494, 86 S.W. 11 (Tex. 1905), *aff'd*, 204 U.S. 667 (1907); *Trinity Water Reserve, Inc. v. Evans*, 829 S.W.2d 851 (Tex. App.—Beaumont 1992, no writ). *Texas Water Rights Comm'n v. City of Dallas*, 591 S.W.2d 609 (Tex. Civ. App.—Austin 1979, writ ref'd n.r.e.), on the other hand, demonstrates entitlement under Water Code § 11.041 based on representations made in securing water rights and establishment of a virtual monopoly.

In *City of Dallas*, City of Farmers Branch filed a petition with the Texas Commission on Environmental Quality's predecessor agency alleging that the treated water supply contract tendered to it by City of Dallas and rates commanded under it were unreasonable, unjust and discriminatory. The agency took jurisdiction under Water Code § 5.041 (now § 11.041) and § 6.056 (now § 12.013(a)) over the City of Dallas' objection. The Commission held by conclusion of law in the underlying administrative proceeding that "[b]y acceptance of permits for the use of the State's water, Dallas had subjected itself to the jurisdiction of the Commission. . . ." It apparently was persuasive that, as the Court put it, "Dallas enjoys a substantial monopoly closely resembling that of canal and irrigation entities occupying a monopolistic position. Dallas, over a long period of time, has secured permits to appropriate state waters which are so extensive as to afford Dallas control of substantially all municipal water supplies in Dallas County." *Id.* at 614.

Litigation risks outside the provisions of the Water Code include those that relate to principles of common-law utility and whether contracts that prohibit a public entity from selling water in a particular locality abdicate governmental authority or otherwise are against public policy and therefore void. *See e.g., Inverness Forest Improvement Dist. v. Hardy Street Investors*, 541 S.W.2d 454 (Tex. Civ. App.—Houston [1st Dist.] 1976, writ ref'd n.r.e.); *Banker v. Jefferson County Water Control & Improvement Dist. No. 1*, 277 S.W.2d 130 (Tex. Civ. App.—Beaumont 1955, writ ref'd n.r.e.).

As of the time of this writing, the Districts have directed their energies at negotiated solutions.

2. Bed and Banks Water Reuse

The Districts perceived water reuse as a viable alternative water source early in the groundwater-use reduction process and continue to do so. During the first two months of year-2009, long before DRP Phase II(B) was published or the San Jacinto River Authority groundwater reduction plan contract was proposed, the

Districts obtained resolutions of local support for their pursuit of a water reuse project from the Montgomery County Commissioners Court, the City of Conroe (the largest city in Montgomery County), the Lake Conroe Communities Network, and even the Lone Star Groundwater Conservation District and the San Jacinto River Authority, among others.

Bed and banks water reuse is the only reuse alternative that can provide the amount of water that the Districts need to secure. The Districts' bed and banks reuse involves two primary conceptual components. The first is the nature of the ownership interest in water, which differentiates groundwater-based effluent from effluent sourced in surface water under state statutes. The second concept is using the bed and banks of a state watercourse as a virtual pipeline for transporting the private water. Accounting the amount of water discharged and applying a carriage loss factor to arrive at the amount of water that is eligible for subsequent diversion protects other water right holders of all priorities.

In light of both the anticipated levels of groundwater-use reductions that ultimately may be required and the San Jacinto River Authority's refusal to provide even supplemental sales of raw surface water on a long-term basis, the Districts secured additional groundwater-based return flows and return flows from imported water by contract with the City of Huntsville. Together with the City of Huntsville supply, bed and banks reuse would see the Districts through future conversion requirements that would exceed the current 30% requirement. Bed and banks reuse of the Districts' return flows is designed on existing authorized discharges to Lake Conroe. Bed and banks reuse of Huntsville's return flows is designed on that city's existing authorized discharges to the West Fork San Jacinto River, which also flows into Lake Conroe. Neither amount of water is native to the San Jacinto River Basin.

The litigation and regulatory risks inherent in any bed and banks reuse project include those related to the permitting process. Water Code § 11.042 (b) and (c) provide the statutory authorization for such permitting, stating that:

Delivering Water Down Banks and Beds.

* * * * *

- (b) A person who wishes to discharge and then subsequently divert and reuse the person's existing return flows derived from privately owned groundwater must obtain prior authorization from the commission for the diversion and the reuse of these return flows. The authorization may allow for the diversion and reuse by the discharger of

existing return flows, less carriage losses, and shall be subject to special conditions if necessary to protect an existing water right that was granted based on the use or availability of these return flows. Special conditions may also be provided to help maintain instream uses and freshwater inflows to bays and estuaries. A person wishing to divert and reuse future increases of return flows derived from privately owned groundwater must obtain authorization to reuse increases in return flows before the increase.

- (c) Except as otherwise provided in Subsection (a) of this section, a person who wishes to convey and subsequently divert water in a watercourse or stream must obtain the prior approval of the commission through a bed and banks authorization. The authorization shall allow to be diverted only the amount of water put into a watercourse or stream, less carriage losses and subject to any special conditions that may address the impact of the discharge, conveyance, and diversion on existing permits, certified filings, or certificates of adjudication, instream uses, and freshwater inflows to bays and estuaries. Water discharged into a watercourse or stream under this chapter shall not cause a degradation of water quality to the extent that the stream segment's classification would be lowered. Authorizations under this section and water quality authorizations may be approved in a consolidated permit proceeding.

TEX. WATER CODE ANN. § 11.042 (Vernon and Vernon Supp.). The distinctions between these two subsections of the Water Code's bed and banks provision are purposeful, and evidence a greater right for bed and banks reuse of groundwater-based return flows. Bed and banks reuse under subsection (b) of groundwater discharges is superior to all downstream water rights except those that were granted in reliance on the discharges, and then only to the extent of historical discharge levels.

The Districts' application for bed and banks reuse was filed on October 2, 2009, and declared administratively complete on April 12, 2010. The Executive Director of the Texas Commission on Environmental Quality concluded technical review of the application and proposed a draft permit. The Executive Director has determined that the bed and banks of Lake Conroe meet the definition of a watercourse and that the water impounded in Lake Conroe is state water. Further, the Executive Director

has determined that the Districts' use of their return flows "does not constitute an impact" on any downstream water rights, including those related to Lake Conroe. The Districts' return flows are not part of the natural inflows to Lake Conroe, the Executive Director explains, and therefore cannot impact the basis on which water rights for the reservoir were issued.

The possibility of a contested case proceeding on the water rights application exists with either the Districts or other parties, including the water right holders for Lake Conroe, as requestors. The City of Huntsville's application to support the sale of return flows to the Districts downstream will be filed in the near future, and is being negotiated concurrently with the Districts' application.

Under the timelines of the DRP, permitting denials and even permitting delays present a particular challenge. However, certain provisions were added to the DRP to mitigate that circumstance. Additional litigation and regulatory risks must also be considered, however. To the extent that the "owners" of Lake Conroe propose a right of consent over the pass-through of private water through the reservoir, a compelled service action remains a possibility. On what terms and at what cost (if any) should the Districts be able to divert and use their own return flows and contract water from Lake Conroe? That the primary interested parties in the Districts' establishment of diversion facilities at the perimeter of Lake Conroe all are political subdivisions of the state also raises interesting issues regarding the use of the Districts' governmental eminent domain powers if agreement for the construction of facilities cannot be reached. As confirmed by the Texas Supreme Court, property subject to eminent domain also includes those property interests necessary to establish a diversion point on a reservoir owned by another political subdivision. *See Canyon Regional Water Authority v. Guadalupe-Blanco River Authority*, 258 S.W. 3rd 613 (Tex. 2008).

3. Developing Deep and/or Brackish Groundwater Supplies

Lone Star Groundwater Conservation District's DRP may have effectively foreclosed pumpage of groundwater outside of Montgomery County for importation as an alternative water supply source for most large-volume groundwater users. The DRP Phase II(B) defines "Alternative Water Source" to mean water other than groundwater produced from the Gulf Coast Aquifer within Montgomery County, *or any county that adjoins Montgomery County*. However, in the definition of "Gulf Coast Aquifer," the groundwater district also *opened* the door to pumpage

of groundwater from within or outside the county if it comes from beneath the aquifer formations that are subject to proportional adjustment.

Lone Star Groundwater Conservation Districts' enabling act is a primary resource for identifying the groundwater that the district may regulate. Section 3 of that enabling legislation made the district coextensive with the boundaries of Montgomery County. There is no express reference to which aquifers, within the county, may be regulated. To determine what water the groundwater district has *decided* to regulate, the Districts looked to the groundwater district's rules including those that defined "aquifer" to mean the portions of the Chico, Evangeline, or Jasper Aquifers located within the groundwater district *or any other water bearing geologic formation in the district* and "groundwater" to mean water percolating below the surface of the earth.

Prior to DRP Phase II (B), the groundwater district's regulations had addressed production and proportional adjustment without regard to water quality or depth of production. The development of deep or brackish water now is a viable alternative water supply for some, but this was not always the case under the DRP and the rules. The Districts and others urged the groundwater district to enhance the opportunity to produce deep or brackish groundwater as an alternative supply. Among other things, the Districts engaged actively in a fourth round of proposed rulemaking, early in year-2010.

DRP Phase II(B) as first published proposed that an alternative water source may include brackish groundwater produced from geologic formations underlying the Gulf Coast Aquifer, but only to the extent that any such production will not threaten the quality or the quantity of fresh water supplies within the Gulf Coast Aquifer within the groundwater district, and to the extent that such production does not cause subsidence. "Brackish groundwater" was defined to mean "groundwater with a total dissolved solids ('TDS') concentration in excess of 1,500 milligrams per liter (mg/l) [sic], unless it can be shown to the [d]istrict that a discrete source of water that has a lesser concentration of TDS nevertheless requires demineralization treatment before it is suitable for development as an Alternative Water Supply [sic]."

The Districts' concerns during the rulemaking process included that, as initially proposed, alternative groundwater had to come from "below the Gulf Coast Aquifer," but the definition of that aquifer was uncertain as was the extent to which recharge to all of the formations potentially described as the Gulf Coast Aquifer was counted toward the aquifer sustainable yield. The Districts proposed that hydrogeologic and technical analyses should be placed *above*

nomenclature when defining access to this important additional resource in Montgomery County. Also, the Districts particularly questioned the propriety of allowing access to only water that was of relatively poor quality. Indeed, preliminary reports from new test wells in the general area of the Districts indicate a quality of water better than 1,500 mg/L in some areas. Even if all of the other obstacles in the initial requirements were overcome, they arguably created a technically infeasible permitting condition as they required that production of brackish groundwater result in “no” subsidence. Generally, some subsidence could be expected to occur with most groundwater production but is only of concern if that subsidence has certain negative consequences. The subsidence criterion was removed from the final requirements.

Additional rulemaking is anticipated. The groundwater district’s production permitting rules were crafted at a time before the groundwater reduction requirements and before the district acknowledged that water would be available for production from below the Gulf Coast Aquifer and with mineral contents that could require treatment. It is an artifact, then, that the district’s production permitting rules are not an easy procedural fit for application to alternative water supply wells and the timelines of the alternative water supply requirements. For example, the groundwater district’s permitting regulations currently do not provide for obtaining a production permit significantly in advance of actual production. The practical implication of those rules if they are not further amended is that, for a desalination project, very significant facility construction would need to occur before a permit for production is secured. Also, when Lone Star groundwater district does issue a permit under its current rules, that permit is for a term of one year. Although there is statutory precedent for recognizing that longer-term permits should be issued for projects that involve the construction of significant transportation infrastructure, no such statutory or regulatory protections currently exist for projects that require the construction of desalination facilities for *in*-district use.

Even considering additional rulemaking, certain regulatory and litigation risks associated with a deep or brackish groundwater supply must be recognized. Production needs to be authorized by the groundwater district after application and opportunity for a contested proceeding. An applicant to operate alternative supply wells bears the burden of proof to establish that production will not impair water quantity or water quality in the Gulf Coast Aquifer. Application of these criteria is untested. Relatively little is known about the deep aquifer formations in Montgomery County, and without a history of production from those formations much about how the

formations will react to production must come from test wells and expert technical extrapolations. In the nature of a “buyer beware,” Lone Star Groundwater Conservation District has stated that if production from a permitted alternative water supply well begins to impair water resources in the Gulf Coast Aquifer, production authorization will be reduced or even withdrawn.

The possibility of future production restrictions also is very significant. Such authority as the groundwater district has to require reduction of historical pumpage levels due to perceived overproduction would apply also to deep, and/or brackish groundwater. That being the case, estimating the reliability of supplies based on production of water from deep, or alternative water supply wells requires analysis of projected water availability together with anticipated demand. In this case, Lone Star also has expressly admonished potential applicants for alternative groundwater well projects that the production from such wells may become subject to future proportional adjustment or other regulatory controls.

V. CONCLUSION

It would be customary for a case study to have a “conclusion.” However, in this particular study conclusion is premature. The Districts still have before them more than one alternative that they believe can satisfy Lone Star Groundwater Conservation District’s groundwater reduction requirements, and they are actively pursuing additional agreements and additional information that would assist them in choosing the “best value” water supply under the circumstances. Their groundwater reduction plan will be submitted by April 1, 2011, and their conversion will be achieved in year-2016 if not before.

On a larger scale, groundwater reduction and alternative water sources in Montgomery County will either succeed or fail through the collective efforts of all involved and the degree to which they work together for mutually beneficial solutions. It will be some time before the actual impacts of groundwater-use reduction conclude the story.