

**MINUTES**  
**Lower Colorado Regional Water Planning Group**  
**Population and Demand Committee Meeting**  
**April 10, 2023**

INTERA Incorporated Offices  
9600 Great Hills Plaza, Suite 300W  
Austin, TX 78759  
9:00 A.M.

**Meeting Minutes:**

1. Call to Order, Introductions and Roll Call – Lauri Gillam, Committee Chair  
Meeting was called to order at 9:02 A.M.

**Attendance:**

**Committee Members:**

Lauri Gillam, Small Municipalities, Committee Chair

Christianne Castleberry, Water Utilities

Barbara Johnson, Industry

Monica Masters, River Authorities

Jennifer Walker, Environmental

David Lindsay, Recreation

Teresa Lutes, Municipalities

Jason Homan, Alternate for Environmental

Daniel Berglund, Small Business

**Other Planning Group Members**

Earl Wood, Water Utilities

**Other attendees:**

Earl Foster, Alternate for Small Municipalities

Sue Thorton, Alternate for Recreation

Lann Bookout, TWDB

Sara Eatman, Austin Water

Marisa Flores-Gonzalez, Austin Water

Stacy Pandey, LCRA

Robert Adams, Plummer, Consulting Team

Adam Conner, FNI, Consulting Team

Neil Deeds, INTERA, Consulting Team

Cindy Smiley, Smiley Law Firm  
Jordan Furnans, Concerned Citizen

### **1. Call to Order, Introductions and Roll Call – Lauri Gillam, Committee Chair**

Meeting called to order at 9:02a.

### **2. Receive public comments (Limit 3 minutes per person)**

Jordan Furnans spoke about his experience with the Colorado Basin, and suggested there could be alternative approaches to the typical WAM modeling that is done as part of the planning process. He had heard there has been discussion whether releases to environmental flows should be considered as demands. He urged the committee to consider environmental flows in the planning process. He said that the environmental flows represent large releases that are not currently represented as demands in the WAM, and that the cumulative amount of water for environmental flows, divided by the number of years, exceeded the roughly 33,000 AFY allocated for these purposes. He strongly urged that these flows be included as demands, even though they are not traditional demands, because LCRA is required to manage the flows in a way that is consistent with them being demands.

Lauri noted there would be additional discussion of environmental flows in Item 8.

Cindy Smiley thanked the committee, noting that their important work provides a foundation for the planning process. She encouraged the committee to look closely at the numbers, so that everything is accounted for in a way that is most protective. She suggested that we should plan for a drought worse than the drought of record. She said the committee should ask for variances when needed, in order to plan for the worst case, and to use those numbers to be protective. She asked that everything that relates to demands should be reflected somehow, and noted that the LCRA WMP is unique to this Region, and that the WMP includes environmental flows, so they need to be reflected in the RWP process. Finally, she asked that the committee consider a safe yield not a firm yield in its planning.

### **3. Review and approve meeting minutes**

Lauri Gillam noted that she would work with the consultant to clean up misspellings and other grammatical items in the minutes and asked if any members had substantial changes to the minutes.

David Lindsay was unclear about “double cropping corn” comment on page three of February 28 minutes. Daniel Berglund clarified that a second commodity or other grain or cover crop could constitute a second crop. Neil noted that he had likely misrepresented the speaker of that phrase during their exchange. Daniel noted that new agricultural practices are coming online, given fewer acres and more demand.

David Lindsay asked that there be a parallel writeup [to the previous plan] for irrigation. He asked that the writeup be available prior to approval. Monica Masters said that while we don’t have the detailed report ready today, it will be ready prior to the April 26 meeting. Lauri said that the report did not have to be part of the decision making, in terms of approving the draft numbers, but served as a backup both for the planning group and for the revision request. Monica agreed that LCRA (along with the consultant contributions) could have it ready for the next meeting.

Three sets of minutes were approved.

November 2, 2022: Jennifer Walker moved to approve, Lauri seconded, passed with no opposition.

February 6, 2023: Daniel moved to approve, Christianne Castleberry seconded, passed with no opposition.

February 28, 2023: Jennifer moved to approve, Lauri seconded, noting the required revisions regarding the double cropping statement.

#### **4. Summarize existing revision requests in non-municipal demands**

Lauri gave shoutout to Sara on her summary of revisions that had been emailed out after the last meeting.

Robert Adams of the consulting team presented a summary of revision requests. Livestock and steam electric were presented without comment.

On manufacturing, Lauri Gillam asked if the Matagorda County estimates of future demand were 20,000 AFY or 30,000 AFY? Monica Masters answered that in LCRA's draft Water Supply Resources Report, LCRA plans for an expected case of 20,000 AFY and a high case of 30,000 AFY, but that the previous Population and Demand Committee decided to use 20,000 AFY. Sue Thornton asked whether these represent the "tire kickers", and Monica replied in the affirmative.

Jason Homan noted that a previous discussion in the committee had suggested we could not propose unassigned future demands and asked if we needed additional justification if we did propose them. Neil Deeds said that LCRA and Austin Water would prepare justification for each of their unassigned demands. Jason asked if these justification documents will be ready before we approve the proposed demands? Sara Eatman responded that Austin Water's justification will be ready for the April 26 meeting, and will be made available as a part of the meeting package prior to that meeting. Teresa said that while the consultant will prepare the overall revision request package, Austin Water and LCRA will contribute their justification portions to the package.

Lauri Gillam asked that we go straight to item 6 in the agenda so we could discuss an amendment to mining demands.

#### **6. Consider revision and re-approval of mining demands based on Collier permit application to LCRA**

[This was handled after #4, out of order.]

Robert Adams discussed the sand dredging contract from Collier Materials. He noted that the contract had a 5 year timeline, and asked the committee whether we want to include the demands in 2030 and beyond?

Monica said that this is the first dredging permit, and is now two water contracts, both 1,963 AFY. The permit for dredging is 5 years, and then Collier will have to do a full reapplication for the entire project to get it renewed. Collier only requested a 5 year water contract, because they need to reapprove the dredging permit.

Daniel Berglund asked how they use the water? Monica Masters said that they pick up the water with the sand, and then most of the water drains in a retention pond, making its way back to the lake. Lann Bookout noted that only a small percentage gets carried out as product retention, much of it returns to the lake. Monica said that they are very early in the application, it was just deemed administratively complete. Jennifer Walker asked where the sand is being mined? Monica replied that it is being mined from the island, location at the upper end where the Llano River comes in.

Sue Thorton noted that several people have expressed concerns today about making sure we are working with high numbers, not low numbers, and would it behoove us to keep it high, just to cover future

contingencies? The dredging is an evolving process, and why she raised concerns in earlier meetings. If Burnet County mining demands need to triple, common sense that Llano County mining demands would increase significantly. Monica Masters asked if this demand should be captured in full if most of the water returns to the lake? Sue Thornton stated that these full demands could cover future need, even if some of the water is returning? Jennifer Walker stated that because this is a contract, it should be included in full and considered a commitment. Monica agreed that they are indeed short-term commitments and that they have other short-term commitments that do not get included. Jennifer said that it is most appropriate for Region K to reflect the full commitment, since return flows are not captured in other LCRA contracts that are used in the planning process. Lauri asked how far out we should include it? Jason suggested that since the contract is 5 years, we put it in 2030 only, then reevaluate in next planning cycle.

Sara Eatman suggested that we could potentially add the two 1,963 AFY contracts over 5 years by splitting them in half over the decade, to represent an average over those 10 years. She said that if we assign a number to 2030 it implies a decade-long commitment, rather than the 5 years that are in the contract. There was some follow-up discussion about what the 2030 planning horizon means, and Jennifer Walker indicated that the 2030 was indicative of the years leading up to 2030. Lann gave the example of a 2020 strategy having to be in place by March of 2023, indicating that the strategy was applied to 2020.

Marisa asked to clarify whether these demands represent a snapshot in time (similar to how the WAM simulated demands) or an average demand over a 10-year period?

Lauri suggested that the group use a total of 1,963 AFY over 10 years, which is similar to what Sara suggested. Teresa asked if both diversion points are in Llano County, and Monica confirmed they are. Sue noted that LCRA has received two water requests for 2 of the 4 designated dredging zones, and if the current operations proceed, others will apply for the other two, and those water requests may be of similar volume. She asked how are we accounting for it? Lauri replied that they would be accounted for in the next plan, should those additional operations progress.

Barbara Johnson made a motion for 1,963 AFY to cover the 10 years, 2020 through 2029, assigned to 2030. Jason seconded. Passed with no opposing votes.

Monica made a motion to approve this amendment to the mining demands. Christianne seconded. Passed with no opposing votes.

**Action: Add 1,963 AFY to the existing 251 AFY to the Llano County mining demand in 2030. Remaining years remain as proposed by TWDB.**

## **5. Review groundwater irrigation demand projections**

Robert Adams presented the proposed irrigation groundwater demands, which included two possible strategies. Methodology #1 refers to the highest year of groundwater use, and Methodology #2 refers to an average groundwater use over 2011-2014.

David Lindsay noted that we are proposing to use highest year for our irrigation estimates, which is in conflict with the average demand we discussed for mining. He noted that surcharges were a large driver after 2011, but Stacy Pandey clarified that surcharges are in place now, and were in place in 2011.

Robert Adams presented a proposed strategy for splitting Matagorda County demand between Regions K and P that was not based on land area but the distribution of wells. Lauri clarified that while TWDB split approximately 60/40 between P/K, we are proposing 40/60 P/K so we are reversing the ratio. Robert noted that Neil Hudgeons [Wharton and Matagorda GCD General Manager] said that using the number of

wells was appropriate for the allocation between P and K. The GCD does not have the well demands mapped at that resolution.

Teresa noted the future decline in irrigation demands that is projected. Robert replied that as in last planning cycle, we assume 2.7% decline in each decade, while TWDB assumes one number, applies as constant through the future. The decline is based on assumed efficiencies in distribution systems, conservation, etc. similar to passive conservation assumptions applied to municipal demand projections.

Lauri asked if the difference in the two potential strategies is that we are using the drought years in Methodology #2? Robert replied yes, but also that we are using an average in Methodology #2 for the drought years instead of a high year in Methodology #1 for the more recent non-drought years.

Daniel Berglund said that the groundwater information is better today than 6 years ago. Lauri Gillam noted that Methodology #2 is the more conservative of the two. Robert Adams observed that the second strategy gives us a starting point about 2.7% less than the starting point of the last planning cycle.

David Lindsay asked what kind of duty is currently being assessed? Daniel Berglund replied that this was difficult to determine, given multiple crops. Surface water is mostly rice, while all the other demands are variable, with well water and more wells being drilled. He also said that the water costs so much, nobody uses more than they have to.

David Lindsay noted that a previous driver for planning was the waste standards. Daniel Berglund explained that the GCD manages to a standard where there is a maximum percentage of waste per crop, and the GCD helps farmers if there are issues with wasting water. Excessive use is the main source of water loss. Sue Thornton asked how excessive use is defined? Daniel replied that it is when water is not being confined to the field. Lann Bookout and Daniel Berglund had a short discussion about cost driving efficiency; land leveling and other efficiency strategies have been funded by the federal government.

David Lindsay asked whether coastal agricultural users have gone to real-time monitoring, etc. Daniel replied that they are getting to that level, but it's hard to make a change – change is coming and being driven by economics.

Jennifer Walker asked if 5.25 ft/acre is the limit for rice? Robert Adams responded that this is the limit for two crops. Jennifer recalled a limit of 6 ft/acre? Daniel replied that with canal loss, surface water demands can get that high, but that groundwater districts have a stricter standard because it is on-farm use. Sue Thornton noted that Daniel's comments and answers are helpful for the rest of the committee to understand the irrigation demands.

Daniel Berglund moved to accept Methodology #2, Lauri Gillam seconded.

David Lindsay noted for the record that it "is a lot of water", but that he is not arguing the demand number, he just wanted to recognize the magnitude of the use. Daniel Berglund said that 2022 is going to be even higher use for groundwater because of curtailment under LCRA's water management plan. Robert Adams finished the discussion by noting that the regional total that will be brought to the planning group has slightly higher totals than the three county totals that the committee has been focusing on due to the small contributions from other counties.

The motion to accept the results from Methodology #2 passed by voice vote, with no opposing votes.

**Action: Bring Methodology #2 result for irrigation demands forward to the full planning group for approval of revision request.**

Committee took a break at 10:31a.

Committee resumed at 10:41a.

## **7. Municipal population and demands**

Adam Conner of the consulting team presented information regarding municipal population and demand projections, starting with methodology and then discussing the survey that the consultants are sending to water user groups (WUGs).

### **b. Methodology, draft estimates, potential revision constraints**

Adam explained the development process for population includes estimates from the TDC of county totals, and the TWDB allocates that population between WUGs in each county based on data from the Water Use Surveys.

Jennifer Walker asked what is TDC? Adam replied that it is Texas Data Center [actually Texas Demographic Center], and Lann noted they are the state demographers.

David Lindsay asked about the definition of WUGs in Region K, and brought up a concern about how the Brushy Creek Regional Utility Authority (BCRUA) project would be handled in the planning process. He wanted to be sure that the growth in demands for that project was accounted for. Adam noted that the municipal demand for the project is in Region G. Neil added that Adam had set up a coordination meeting with the consultants from Region G and other adjacent regions to address these types of interregional items. David asked whether this represented an inter-basin transfer. Monica said that the BCRUA project is required to adhere to House Bill 1437.

Teresa stated that this item will be handled during the discussion of supplies, because the demands do not originate in Region K, but the supply will be provided by entities in Region K. David noted that a portion of Leander is in Region K. Adam replied that in the process the “primary” region for a given WUG (Region G in this case) typically brings the demand numbers forward, so Carollo [Region G consultant] would be drafting the demands for all of Leander, and we will coordinate with them. David asked whether this is similar for Corpus Christi? Adam replied that yes we will be coordinating with Regions L and P as well. Adam also said that we can provide a more detailed description of BCRUA in this update of Region K’s plan, even though the demands are being handled by Region G. Monica closed the discussion noting that BCRUA is not the ultimate customer for the water, but rather it is the three member cities.

### **a. Progress on WUG survey**

Jennifer Walker asked Adam Conner if he could provide a copy of the WUG survey, Adam replied in the affirmative. Jennifer noted that other sources of information will come from the TWDB and others that can help inform this process. Barbara asked that the committee be informed on which WUGs are responsive to the survey. Lauri asked the committee members and others in attendance to talk to people from Region K WUGs about the survey and encourage them to fill it out. Jason Homan noted that we (Region K) don’t have leverage to compel WUGs to reply to surveys, unlike some of the TWDB required surveys. Adam noted that our survey was strategically short and should only take 5 minutes. Cindy Smiley offered to help find utilities contact information.

David Lindsay asked how we would contact County-Other? Adam replied that they are a dispersed group, and we don’t typically reach out to them, since there is no “leader” to contact. David noted that category

is where the golf courses would fall. Monica asked what the WUG size cutoff is and Adam and Lann replied that it is based on water use greater than 100 AFY.

**Action: send draft survey to P&WD committee. Have a list of those WUGs who have responded for each committee meeting. Will also bring up list of folks without contact information. Will also provide summaries of revision requests to P&WD Committee prior to full RWPG.**

#### **8. Review of legislative recommendation regarding an environmental demand included in the 2021 Region K plan**

Lauri Gillam opened the discussion by noting that there are concerns about amount of water sent from the lakes for environmental flows. Environmental flows are not specifically accounted for in the work that this committee does, but are addressed in the water modeling committee. This was brought up in last cycle and resulted in a recommendation that the legislature consider changing the approach. At this point, there is no funding for the committee or the consultants to explore this issue. We have not been charged by TWDB to put environmental flows into demands, but we could put the item in the legislative recommendations again.

[This was a long discussion and a summary is captured here. No action came from the discussion.]

Teresa Lutes stated that environmental flows are being accounted for in the process, just not in Chapter 2 (the demands chapter), but rather in Chapter 5, when water management strategies and their impacts on the water balance in the river are evaluated. She felt that discussing them as demands was putting the cart before the horse, since “static” demands need to be considered for the modeling, and that the modeling then informs other portions of the water balance, like return flows and environmental flows.

Jennifer Walker said that she reviewed the legislative recommendations. She (and NWF) have proposed that the environment be treated as a separate user group, but that has not been acted on by the legislature. She said that while the SB3 process is not perfect, it does provide a process by which environmental flows are characterized and accounted for. She proposed that the legislative recommendation (and some others) be revisited and carried forward in this round of planning, but that any additional analysis is not scoped nor funded. Lauri followed up by noting that the discussion of environmental flows, as Teresa said, will be handled in the water management strategy committee, and that folks are welcome to attend those meetings.

Barbara Johnson asked whether the region could apply for grant funding to perform a study that would address some of the un-scoped and unfunded aspects Jennifer mentioned? Jennifer said this was a good idea, and added that there is a discussion (without direct action required) in the current Chapter 2 on environmental flows that she recommended be repeated, which includes SB3 results and other information.

David Lindsay provided a handout that showed environmental releases from Highland Lakes from 2011 to 2021, operational and threshold criteria for releasing water to Matagorda Bay, and freshwater triggers and inflow criteria. Sara Eatman said that when the WAM runs are done, that the requirements from the WMP are included in those runs, and that the basis is the 85 year historical flow regime.

David Lindsay went over the handout. He said that with new requirements after 2015 that releases increased and noted the large volume in 2020. He spoke of the LCRA daily report, where a two-month summary had gotten his attention because of the large volume. He stated his concern that the gap that is created by the need to meet environmental flows does not get handled in Chapter 4 (where other needs

are addressed). He said that a permit is a permit, not an option [with respect to the releases for environmental flows]. Jennifer Walker pointed out that “storable water” which is included on David’s handout does not necessarily get stored.

Lauri Gillam summarized that environmental flows would be discussed further on in the process – they are significant and important, and will be discussed but not in the context of demands. Teresa Lutes added that during the future discussions, we can talk about how environmental flows are sometimes mixed with other demands, such as irrigation, i.e. irrigation water can sometimes help meet environmental flows.

Jason Homan asked how we can ensure that the other committees responsible for the environmental flow issue (Modeling, Legislative, WMS) are coordinating with one other? How can we ensure that legislative recommendations be carried forward? Teresa Lutes noted that she chairs the Water Availability Modeling committee, and Jennifer Walker said that this will be handled in the legislative committee a little later in the process.

## **9. Review schedule**

### **a. Schedule future meetings of Population and Demand Committee, as needed.**

Lauri Gillam and Neil Deeds agreed that a P&WD committee meeting should be held in May and will coordinate with the consultant team and committee to identify a date.

### **b. Consider report(s) to and request(s) of the full Region K Regional Water Planning Group**

Lauri stated that non-municipal demand revisions will be proposed at the April 26 meeting. She spoke about how these proposed demands reflect all the hard work of the committee, and hoped that the full committee would recognize all of the work that has been done to bring the demands forward.

Lann Bookout noted the small window of time between the July planning group meeting and the deadline for municipal demands to be submitted in August. He suggested that the planning group needs to hear about the municipal process at this coming meeting to prime them for the following meeting.

Adam Conner stated that the consulting team will have pre-meetings with TWDB staff to work through any items prior to proposing any revisions to the full committee, which could help to assure the full committee that the draft numbers are sound.

## **10. Future Agenda Items**

Lauri Gillam noted that municipal demands would dominate future agenda items. No other items were proposed at this time.

### **11. Receive public comments (Limit 3 minutes per person)**

No additional public comments.

### **12. Adjourn**

Adjourn at 11:43 pm.



May 22, 2023

9:00 AM

# Population and Water Demand Committee Meeting



Agenda Item 3

# Review and Approve Meeting Minutes



# Irrigation Demand Methodology Memo



- Draft memo available at back of package
- Please provide comments in the next couple of weeks
- Electronic version (clickable in slide PDF):
  - [IrrigationDemandMethodology.pdf](#)

Agenda Item 4

# Identification of Infeasible Strategies



# Background

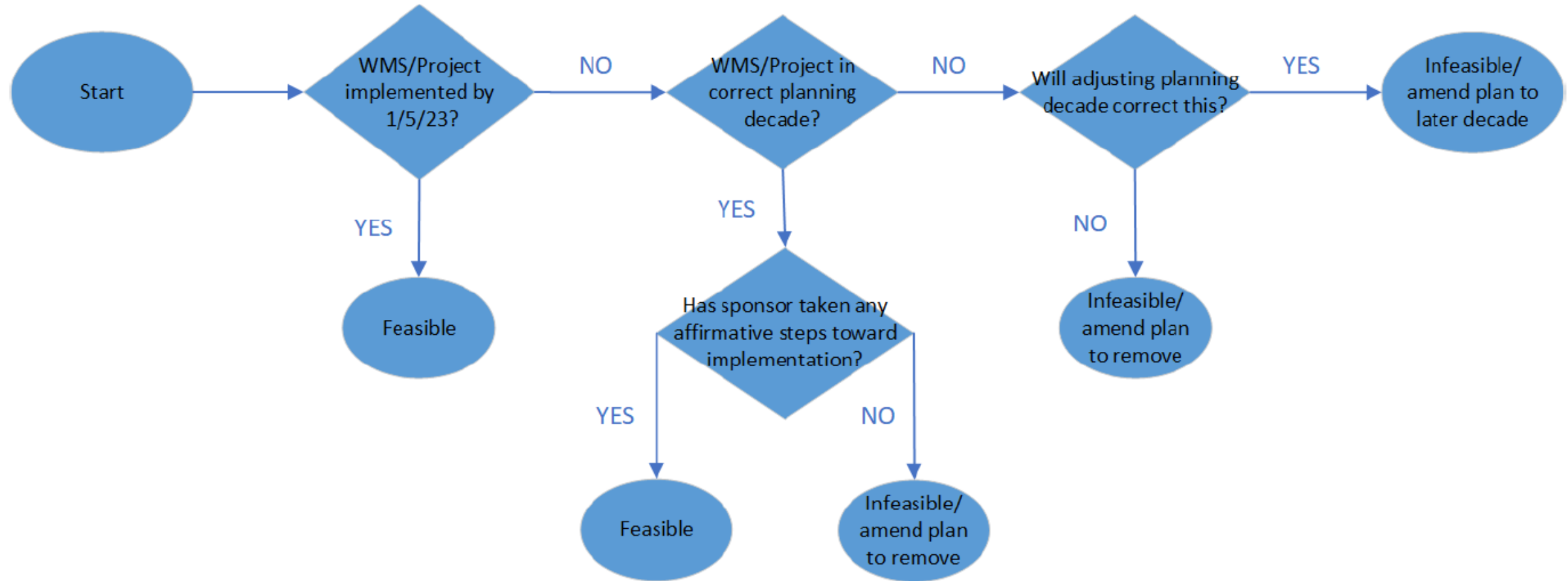


- A new ask for this cycle: “identify infeasible WMS in the 2021 RWP”
- At a minimum, review strategies/projects with an online decade of 2020
- Encouraged to review additional near-term WMS
- Recommended strategies/projects must be online and delivering water by January 5, 2023
- Infeasible if:
  - Not currently implemented
  - Project sponsor not taken affirmative steps towards implementation (spending money, voting to spend money, applying for federal or state permits)
- Not required for strategies or projects that do not require a permit or involve construction (focus on reservoirs, desal, DPR, ASR, out of state transfers, etc)

# Flowchart



**Figure 3 – Criteria of an infeasible WMS**



# TWDB provided list of actionable strategies/projects



Tab 2: Recommended source related WMS strategy supply with an online decade of 2020							
WMS identified as infeasible? (Y/N)	RWPG Comments	WMS Sponsor Region	WMS Type	WMS Description	WMSid	WMS Name	WMS Sponsor and/or select WUG Benef
		K	Aquifer storage and recovery	Aquifer Storage & Recovery	3318	Edwards/Middle Trinity ASR	Buda
		K	Groundwater wells and other	Groundwater Well Development	3303	Development of New Groundwater Supplies - Gulf Coast Aquifer	Irrigation, Matagorda
		K	Groundwater wells and other	Groundwater Well Development	5029	Development of New Groundwater Supplies - Sparta Aquifer	County-Other, Fayette
		K	Groundwater wells and other	Groundwater Well Development	3272	Expansion of Current Groundwater Supplies - Gulf Coast Aquifer	Irrigation, Colorado
		K	Groundwater wells and other	Increase Groundwater Pumping Using Existing Wells	3272	Expansion of Current Groundwater Supplies - Gulf Coast Aquifer	County-Other, Fayette
		K	Groundwater wells and other	Groundwater Well Development	3272	Expansion of Current Groundwater Supplies - Gulf Coast Aquifer	Irrigation, Matagorda
		K	Groundwater wells and other	Groundwater Well Development	3272	Expansion of Current Groundwater Supplies - Gulf Coast Aquifer	Irrigation, Wharton
		K	Groundwater wells and other	Groundwater Well Development	3293	Expansion of Current Groundwater Supplies - Trinity Aquifer	Mining, Hays
		K	Groundwater wells and other	Groundwater Well Development	3293	Expansion of Current Groundwater Supplies - Trinity Aquifer	Irrigation, Mills
		K	Groundwater wells and other	Groundwater Well Development	5032	Expansion of Current Groundwater Supplies - Yegua-Jackson Aquifer	Mining, Fayette
		K	Indirect reuse	Non-Potable Reuse	3331	Austin Return Flows	Irrigation, Colorado; Irrigation, Matagorda; Ir
		K	Indirect reuse	Non-Potable Reuse	3341	Downstream Return Flows	Lower Colorado River Authority - Unassignec
		K	Other direct reuse	Non-Potable Reuse	4984	Austin - Centralized Direct Non-Potable Reuse	Austin
		K	Other direct reuse	Non-Potable Reuse	5011	Direct Reuse - Meadowlakes	Meadowlakes
		K	Other surface water	Surface Water Yield Enhancement	3485	Austin - Lake Austin Operations	Austin
		K	Other surface water	Surface Water Yield Enhancement	3342	Blend Brackish Surface Water in STPNOC Reservoir	Steam-Electric Power, Matagorda
		K	Other surface water	Transfer/Transaction	2825	LCRA - Interruptible Water for Agriculture (LCRA WMP Amendments)	Lower Colorado River Authority
		K	Other surface water	Transfer/Transaction	5050	New Water Purchase - Llano	Burnet
		K	Other surface water	Transfer/Transaction	5047	Water Purchase Amendment - Barton Creek WSC	Travis County MUD 4

Agenda Item 5a

# Municipal Population and Demands

## Update on WUG Survey Responses





Agenda Item 5a

# Municipal Population and Demand Update on WUG Survey Responses



**As of 5/17/23**

Completed Survey



44 out of 101  
44%

Requested Revision(s)



23 out of 101

Received Supporting  
Documentation



11 out of 101

## Agenda Item 5a

# Municipal Population and Demand Update on WUG Survey Responses



### Received Feedback

- 1.Aqua WSC
- 2.Austin
- 3.Barton Creek West WSC
- 4.Barton Creek WSC
- 5.Bertram
- 6.Buda
- 7.Cottonwood Creek MUD 1
- 8.Creedmoor-Maha WSC
- 9.Dripping Springs WSC
- 10.Elgin
- 11.Fayette WSC
- 12.Goldthwaite
- 13.Hays
- 14.Hays County WCID 1
- 15.Hays County WCID 2
- 16.Headwaters at Barton Creek
- 17.Hornsby Bend Utility
- 18.Horseshoe Bay
- 19.Hurst Creek MUD
- 20.Johnson City
- 21.Kingsland WSC
- 22.La Ventana WSC
- 23.Lago Vista
- 24.Lakeway MUD
- 25.Llano
- 26.Manor
- 27.Mid-Tex Utilities
- 28.Palacios
- 29.Rough Hollow in Travis County
- 30.Ruby Ranch WSC
- 31.San Saba
- 32.Schulenburg
- 33.Senna Hills MUD
- 34.Sunset Valley
- 35.Travis County MUD 18
- 36.Travis County MUD 2
- 37.Travis County WCID 10
- 38.Travis County WCID 17
- 39.Travis County WCID 18
- 40.Travis County WCID 20
- 41.Travis County WCID Point Venture
- 42.Wells Branch MUD
- 43.West Travis County PUA
- 44.Windermere Utility

### Requested Revision(s) Received Supporting Documentation

- 1.Austin
- 2.Buda
- 3.Cottonwood Creek MUD 1
- 4.Creedmoor-Maha WSC
- 5.Elgin
- 6.Goldthwaite
- 7.Hays
- 8.Hays County WCID 2
- 9.Horseshoe Bay
- 10.Hurst Creek MUD
- 11.Johnson City
- 12.La Ventana WSC
- 13.Lago Vista
- 14.Lakeway MUD
- 15.Manor
- 16.Ruby Ranch WSC
- 17.San Saba
- 18.Schulenburg
- 19.Sunset Valley
- 20.Travis County MUD 18
- 21.Travis County WCID 17
- 22.Travis County WCID 18
- 23.Wells Branch MUD
- 1.Austin
- 2.Buda
- 3.Elgin
- 4.Horseshoe Bay
- 5.Hurst Creek MUD
- 6.La Ventana WSC
- 7.Lakeway MUD
- 8.Ruby Ranch WSC
- 9.San Saba
- 10.Sunset Valley
- 11.Wells Branch MUD

Agenda Item 5b

# Municipal Population and Demands

## Update on Revision Requests



Agenda Item 5b

# Municipal Population and Demand Update on Revision Requests



## Criteria for Adjustment

- Ongoing Census correction request
- Evidence of
  - Errors in projection
  - Different recent migration rates
  - Different near-future rates
- Changes to PWS service area
- Plans for new development or expansions
- Build-out conditions

## Data Requirements

- Documentation of:
  - Data corrections
  - Different rates
  - Plans for facilities or other employment centers
  - New development
- Other data the RWPG feels supports changes

Agenda Item 5b

# Municipal Population and Demand Update on Revision Requests



## Austin\*

- Requesting higher population and demand
  - Perhaps a result of incorrect service area boundaries

## Buda

- Requesting higher initial population and lower population in later decades, lower GPCD

## Cottonwood Creek MUD 1

- Requesting static population
  - Currently showing population increasing
  - Subdivision is basically at build-out

## Elgin

- Requesting higher population and demand
  - Has provided map of proposed developments that greatly increases their population

# Municipal Population and Demand Update on Revision Requests



## Horseshoe Bay

- Requesting higher, static population and lower GPCD
  - Currently showing population decreasing
  - Higher population request likely includes transient population so might not be approved by TWDB

## Hurst Creek MUD

- Requesting lower population and lower GPCD
  - CCN aligns with Village of the Hills city limits (with a few exceptions)

## La Ventana WSC

- Requesting static population
  - Currently showing population increasing
  - Subdivision is at 85% build-out

## Lakeway MUD

- Requesting higher initial population and lower population in later decades, slightly higher GPCD

Agenda Item 5b

# Municipal Population and Demand Update on Revision Requests



## Ruby Ranch WSC

- Requesting static population
  - Currently showing population increasing
  - Subdivision is basically at build-out

## San Saba

- Requesting higher, static population and lower GPCD
  - Connection counts found within WUSs justify a higher population

## Schulenburg\*

- Requesting higher, static population
  - Connection counts found within WUSs justify a higher population

## Sunset Valley

- Requesting static population
  - Currently showing population decreasing
  - Located in the heart of south Austin

Agenda Item 5b

# Municipal Population and Demand Update on Revision Requests



## Wells Branch MUD\*

- Requesting higher population
  - Connection counts found within WUSs justify a higher 2030 population
  - Growth rate could be supported by known future developments

## Non-Travis County-Other

- Anticipated to maintain County totals at 0.5/1.0 migration scenario totals

## Travis County

- Might warrant an increase in County (and therefore Region) total, depending on magnitude of Austin Water revision request





# Agenda Item 5b

## Municipal Population and Demand Update on Revision Requests - Population



WUG	County	Draft Projections						Proposed Projections					
		2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080
County-Other, Bastrop	Bastrop	9,855	13,829	18,565	23,936	30,020	36,908	2,209	1,960	3,887	7,591	14,791	22,948
County-Other, Burnet	Burnet	21,560	22,821	23,492	24,085	24,690	25,407	20,834	22,179	22,922	23,594	24,289	25,108
County-Other, Hays	Hays	30,703	46,786	67,462	95,015	129,676	166,742	30,703	47,650	69,463	98,558	134,968	174,015
County-Other, Llano	Llano	5,984	5,348	4,319	3,714	2,992	2,142	2,986	2,523	1,588	1,317	973	548

# DRAFT TECHNICAL MEMORANDUM



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**TO:** Region K Water Planning Group

**CC:** File

**FROM:** Adam Conner, Neil Deeds

**SUBJECT:** Region K Draft Population and Municipal Demand Revision Requests

**DATE:** May 22, 2023

**PROJECT:** ITA21936

---

In January 2023, the Texas Water Development Board (TWDB) released draft municipal population and water demand projections to each of the Regional Water Planning Groups for review and comment. Plumbing Code Savings assumptions were revised and new projections were provided in May 2023. Since the 2020 Census data was released subsequent to the publication of the 2021 Plans, regional and county population totals were altered in the projections provided by TWDB. Individual water user groups (WUGs) were adjusted to be representative of retail water service area boundaries rather than political city limit boundaries, as was done in the 2021 Plans. TWDB determined to allow populations of some WUGs whose historic population has been decreasing to continue to decrease. Finally, TWDB has begun using Commercial Plumbing Code Savings for the first time this planning cycle.

This memo details the suggested changes to the population and demand projections that the Region K Water Planning group determined were necessary to more accurately reflect the upcoming water needs of the region. The Region K Water Planning Group identified two key factors impacting municipal water user groups that may not have been adequately accounted for in the TWDB draft population projections. These factors include errors and inaccuracies in the service area boundaries and individual communities growing at significantly different rates than was projected in the 2021 Plan. Baseline per capita water usage adjustments reflect corrected historical populations served, increased conservation, and more recent data. Projected per capita water usage incorporates the TWDB reductions for water efficiencies savings (Plumbing code implementation).

## 1.00 POPULATION REVISION REQUESTS

### 1.01 ERRORS AND CORRECTIONS

#### *Cottonwood Creek MUD 1*

In discussions with Cottonwood Creek MUD 1 leadership, it was discovered that the utility is roughly built out and land locked. It is estimated that buildout population is roughly 5,000. Therefore, it is proposed to cap population at 5,000. Aerial view of the WUG service area can be found in Attachment A. It should be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario	5,056	6,929	8,545	10,126	11,923	13,965
<b>Proposed Revised Population</b>	<b>5,000</b>	<b>5,000</b>	<b>5,000</b>	<b>5,000</b>	<b>5,000</b>	<b>5,000</b>

#### *Horseshoe Bay*

In discussions with Horseshoe Bay leadership, it was discovered that the utility’s current population exceeds its projected 2030 population. Furthermore, Horseshoe Bay’s population has remained steady over the past 10 years and should not show a decrease in population. Therefore, the proposed revised population shown below maintains population at 8,387. It should be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario						
Burnet County	909	993	1,065	1,144	1,234	1,336
Llano County	3,754	3,927	4,021	4,355	4,733	5,158
<b>Proposed Revised Population</b>						
Burnet County	<b>1,635</b>	<b>1,635</b>	<b>1,635</b>	<b>1,635</b>	<b>1,635</b>	<b>1,635</b>
Llano County	<b>6,752</b>	<b>6,752</b>	<b>6,752</b>	<b>6,752</b>	<b>6,752</b>	<b>6,752</b>

#### *Hurst Creek MUD*

Hurst Creek MUD’s CCN aligns almost exactly with the city limits of Village of the Hills city limits, with the exception of the areas identified in Attachment B. Village of the Hills’ 2020 Census estimate was 2,613. Page 1 of Attachment B shows 67 lots that fully lie outside of Village of the Hills’ city limits and fully within Hurst Creek MUD’s CCN. Page 2 of Attachment B shows only non-residential connections within those same parameters. Applying a 2.5 persons per connection ratio yields an additional 168 people, for a total estimated population in 2020 of 2,781.

In reviewing aerials of Hurst Creek MUD’s CCN, it was determined that the service area is fully built-out. Therefore, the proposed revised population shown below maintains population at 2,781. It should be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario	3,095	3,095	3,095	3,095	3,095	3,095
<b>Proposed Revised Population</b>	<b>2,781</b>	<b>2,781</b>	<b>2,781</b>	<b>2,781</b>	<b>2,781</b>	<b>2,781</b>

### *La Ventana WSC*

In discussions with La Ventana WSC leadership, it was discovered that the utility currently has a total of 307 lots available, of which 260 are currently serviced by the utility. Therefore, it is proposed to cap population at 825, assuming it reaches buildout by 2030. Aerial view of the WUG service area can be found in Attachment C. It should be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario	825	1,191	1,673	2,326	3,067	3,906
<b>Proposed Revised Population</b>	<b>825</b>	<b>825</b>	<b>825</b>	<b>825</b>	<b>825</b>	<b>825</b>

### *Ruby Ranch WSC*

In discussions with Ruby Ranch WSC leadership, it was discovered that the utility is roughly built out. Therefore, it is proposed to cap population at 1,122, assuming it reaches buildout by 2030. Aerial view of the WUG service area can be found in Attachment D. It should be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario	1,122	1,620	2,275	3,164	4,172	5,314
<b>Proposed Revised Population</b>	<b>1,122</b>	<b>1,122</b>	<b>1,122</b>	<b>1,122</b>	<b>1,122</b>	<b>1,122</b>

### *Sunset Valley*

City of Sunset Valley is located in south Austin and is fully surrounded by Austin city limits. It is in the heart of a rapidly growing urban center and should not show a decrease in population. Therefore, the proposed revised population shown below maintains population at 737. It should be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario	737	611	507	424	354	295
<b>Proposed Revised Population</b>	<b>737</b>	<b>737</b>	<b>737</b>	<b>737</b>	<b>737</b>	<b>737</b>

## 1.02 SIGNIFICANTLY DIFFERENT GROWTH RATES

### *Buda*

Communications with Buda Public Works Director Blake Neffendorf revealed that the City is currently undergoing an update to its Comprehensive Plan. The City keeps accurate records of the number of connections/population within its water service area (see Attachment E), and comparing the City's 2020 estimate to the 2020 Census data demonstrates how closely they correlate. Applying the growth rates projected for the entire city to its water service area yields population projections identified in the table below. Buda's requests effectively increase its population in the near decades and reduce it in the outer decades. It should be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario	18,055	26,040	36,554	50,826	67,000	85,329
<b>Proposed Revised Population</b>	<b>20,475</b>	<b>28,665</b>	<b>34,156</b>	<b>39,620</b>	<b>45,959</b>	<b>53,312</b>

### *Elgin*

City of Elgin Public Work Director Michael Gonzalez provided a map showing all proposed and applied for plats within the City's city limits and ETJ (Attachment F). These future lots/units total roughly 15,000 and the City is confident that a good number of them will be developed within the next 10-20 years. It should be noted that Elgin's city limits are different from its water Certificate of Convenience and Necessity (CCN).

Using a persons per connection ratio of 2.5 and assuming that one-quarter of the units are developed between Elgin's 2020 Census estimate of 9,784 and 2030, and one-quarter are developed in each subsequent decade, results in population projections that are much higher than the draft 1.0 migration scenario. It is assumed that the total population distribution between Bastrop and Travis County will be the same as the proportions found in the Draft 1.0 Migration Scenario. It is also assumed that full build-out is reached in 2060.

The draft and proposed revised population projections for Elgin are found below. It should be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario						
Bastrop County	8,712	9,455	10,311	11,293	12,409	13,678
Travis County	1,492	1,955	2,356	2,748	3,195	3,703
<b>Proposed Revised Population</b>						
Bastrop County	<b>16,358</b>	<b>21,324</b>	<b>24,989</b>	<b>27,638</b>	<b>27,638</b>	<b>27,638</b>
Travis County	<b>8,004</b>	<b>14,401</b>	<b>19,354</b>	<b>23,106</b>	<b>23,106</b>	<b>23,106</b>

### **Lakeway MUD**

In discussions with Lakeway MUD leadership, it was discovered that the utility’s current population exceeds its projected 2030 population. The utility also provided its buildout population of 12,194 by 2044. Lakeway MUD’s requests effectively increase its population in the near decades and reduce it in the outer decades. A more detailed description of the revision request can be found in Attachment G. It should be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario	9,779	10,776	11,632	12,436	13,025	13,025
<b>Proposed Revised Population</b>	<b>11,678</b>	<b>12,047</b>	<b>12,194</b>	<b>12,194</b>	<b>12,194</b>	<b>12,194</b>

### **1.03 COUNTY-OTHER POPULATION REVISION REQUESTS**

In order to equilibrate the County total populations with the various revisions within the County, changes in County-Other populations are proposed, as identified in the following subsections. In some Counties, an increase above the 1.0 migration scenario County total is requested.

#### **Bastrop County-Other**

It was determined that the draft 1.0 migration scenario should be used for the Bastrop County total. In order to maintain the county total to this population, the Bastrop County-Other population has been adjusted as described in the proposed revisions in the table below. It should be noted that the Proposed All Non-County-Other WUGs in Bastrop County incorporates all of the proposed revisions in **Section 1.01** and **Section 1.02**. It should also be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario - All Non-County-Other WUGs in Bastrop County	111,046	136,189	165,955	199,775	238,106	281,553
Draft 1.0 Migration Scenario – Bastrop County-Other	9,855	13,829	18,565	23,936	30,020	36,908
Draft 1.0 Migration Scenario – Bastrop County Total	120,901	150,018	184,520	223,711	268,126	318,461
Proposed All Non-County-Other WUGs in Bastrop County	118,692	148,058	180,633	216,120	253,335	295,513
<b>Proposed Revised Population – Bastrop County-Other</b>	<b>2,209</b>	<b>1,960</b>	<b>3,887</b>	<b>7,591</b>	<b>14,791</b>	<b>22,948</b>
Proposed Bastrop County Total	120,901	150,018	184,520	223,711	268,126	318,461

***Burnet County-Other***

It was determined that the draft 1.0 migration scenario should be used for the Burnet County total. In order to maintain the county total to this population, the Burnet County-Other population has been adjusted as described in the proposed revisions in the table below. It should be noted that the Proposed All Non-County-Other WUGs in Burnet County incorporates all of the proposed revisions in **Section 1.01** and **Section 1.02**. It should also be noted that all populations are for Region K portion only.

	2030	2040	2050	2060	2070	2080
Draft 1.0 Migration Scenario - All Non-County-Other WUGs in Burnet County	33,702	37,806	41,765	46,238	51,374	57,163
Draft 1.0 Migration Scenario – Burnet County-Other	21,560	22,821	23,492	24,085	24,690	25,407
Draft 1.0 Migration Scenario – Burnet County Total	55,262	60,627	65,257	70,323	76,064	82,570
Proposed All Non-County-Other WUGs in Burnet County	34,428	38,448	42,335	46,729	51,775	57,462
<b>Proposed Revised Population – Burnet County-Other</b>	<b>20,834</b>	<b>22,179</b>	<b>22,922</b>	<b>23,594</b>	<b>24,289</b>	<b>25,108</b>
Proposed Burnet County Total	55,262	60,627	65,257	70,323	76,064	82,570



**Hays County-Other**

It was determined that the draft 1.0 migration scenario should be used for the Hays County total. In order to maintain the county total to this population, the Hays County-Other population has been adjusted as described in the proposed revisions in the table below. It should be noted that the Proposed All Non-County-Other WUGs in Hays County incorporates all of the proposed revisions in **Section 1.01** and **Section 1.02**. It should also be noted that all populations are for Region K portion only.

	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>	<b>2080</b>
Draft 1.0 Migration Scenario - All Non-County-Other WUGs in Hays County	64,764	90,931	125,891	173,853	224,773	284,695
Draft 1.0 Migration Scenario – Hays County-Other	30,703	46,786	67,462	95,015	129,676	166,742
Draft 1.0 Migration Scenario – Hays County Total	95,467	137,717	193,353	268,868	354,449	451,437
Proposed All Non-County-Other WUGs in Hays County	67,184	92,692	121,492	159,853	198,440	245,405
<b>Proposed Revised Population – Hays County-Other</b>	<b>28,283</b>	<b>45,025</b>	<b>71,861</b>	<b>109,764</b>	<b>156,009</b>	<b>206,032</b>
Proposed Hays County Total	95,467	137,717	193,353	268,868	354,449	451,437

**Llano County-Other**

It was determined that the draft 1.0 migration scenario should be used for the Llano County total. In order to maintain the county total to this population, the Llano County-Other population has been adjusted as described in the proposed revisions in the table below. It should be noted that the Proposed All Non-County-Other WUGs in Llano County incorporates all of the proposed revisions in **Section 1.01** and **Section 1.02**. It should also be noted that all populations are for Region K portion only.

	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>	<b>2080</b>
Draft 1.0 Migration Scenario - All Non-County-Other WUGs in Llano County	17,105	18,544	20,080	22,015	24,244	26,802
Draft 1.0 Migration Scenario – Llano County-Other	5,984	5,348	4,319	3,714	2,992	2,142
Draft 1.0 Migration Scenario – Llano County Total	23,089	23,892	24,399	25,729	27,236	28,944
Proposed All Non-County-Other WUGs in Llano County	20,013	21,369	22,811	24,412	26,263	28,396
<b>Proposed Revised Population – Llano County-Other</b>	<b>2,986</b>	<b>2,523</b>	<b>1,588</b>	<b>1,317</b>	<b>973</b>	<b>548</b>
Proposed Llano County Total	23,089	23,892	24,399	25,729	27,236	28,944

#### **1.04 SUMMARY OF POPULATION REVISION REQUESTS**

The following table summarizes the totality of population revision requests, by WUG and Region-County.

Region	WUG	County	Draft Projections						Proposed Projections					
			2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080
K	Buda	Hays	18,055	26,040	36,554	50,826	67,000	85,329	20,475	28,665	34,156	39,620	45,959	53,312
K	Cottonwood Creek MUD 1	Travis	5,056	6,929	8,545	10,126	11,923	13,965	5,000	5,000	5,000	5,000	5,000	5,000
K	County-Other, Bastrop	Bastrop	9,855	13,829	18,565	23,936	30,020	36,908	2,209	1,960	3,887	7,591	14,791	22,948
K	County-Other, Burnet	Burnet	21,560	22,821	23,492	24,085	24,690	25,407	20,834	22,179	22,922	23,594	24,289	25,108
K	County-Other, Hays	Hays	30,703	46,786	67,462	95,015	129,676	166,742	28,283	45,025	71,861	109,764	156,009	206,032
K	County-Other, Llano	Llano	5,984	5,348	4,319	3,714	2,992	2,142	2,986	2,523	1,588	1,317	973	548
K	Elgin	Bastrop	8,712	9,455	10,311	11,293	12,409	13,678	16,358	21,324	24,989	27,638	27,638	27,638
		Travis	1,492	1,955	2,356	2,748	3,195	3,703	8,004	14,401	19,354	23,106	23,106	23,106
K	Horseshoe Bay	Burnet	909	993	1,065	1,144	1,234	1,336	1,635	1,635	1,635	1,635	1,635	1,635
		Llano	3,754	3,927	4,021	4,355	4,733	5,158	6,752	6,752	6,752	6,752	6,752	6,752
K	Hurst Creek MUD 1	Travis	3,095	3,095	3,095	3,095	3,095	3,095	2,781	2,781	2,781	2,781	2,781	2,781
K	Lakeway MUD	Travis	9,779	10,776	11,632	12,436	13,025	13,025	11,678	12,047	12,194	12,194	12,194	12,194
K	La Ventana WSC	Hays	825	1,191	1,673	2,326	3,067	3,906	825	825	825	825	825	825
K	Ruby Ranch WSC	Hays	1,122	1,620	2,275	3,164	4,172	5,314	1,122	1,122	1,122	1,122	1,122	1,122

## **2.00 BASELINE GPCD REVISION REQUESTS**

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### **2.01 ERRORS AND CORRECTIONS**

*Buda*

*Hurst Creek MUD*

*Horseshoe Bay*

*San Saba*

### **2.02 CHANGES TO DRY YEAR**

*WUG 1*

*WUG 2*

### **2.03 SUMMARY OF BASELINE GPCD REVISION REQUESTS**

### **3.00 TOTAL DEMAND REVISION REQUESTS**

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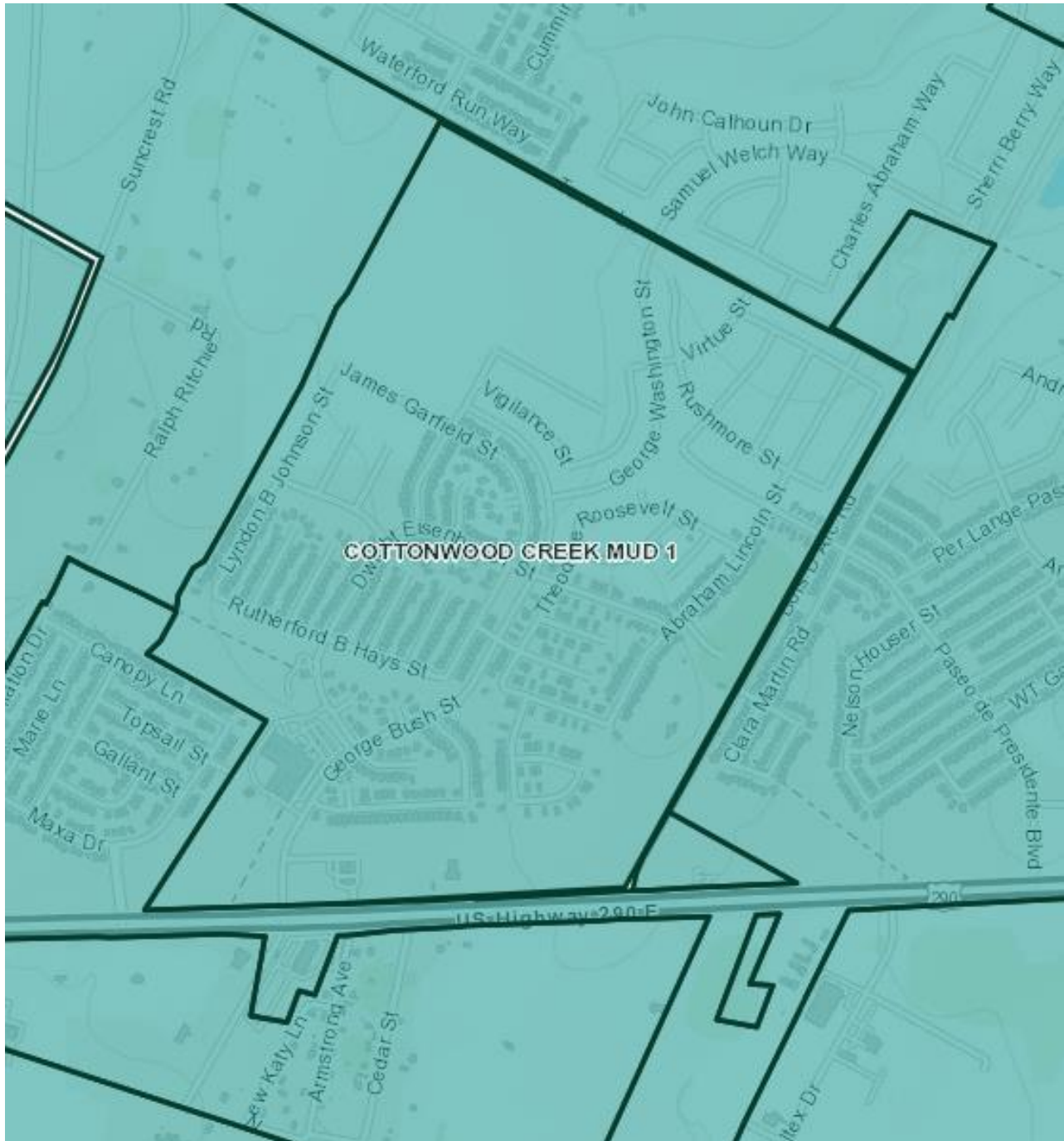
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*WUG 1*

*WUG 2*

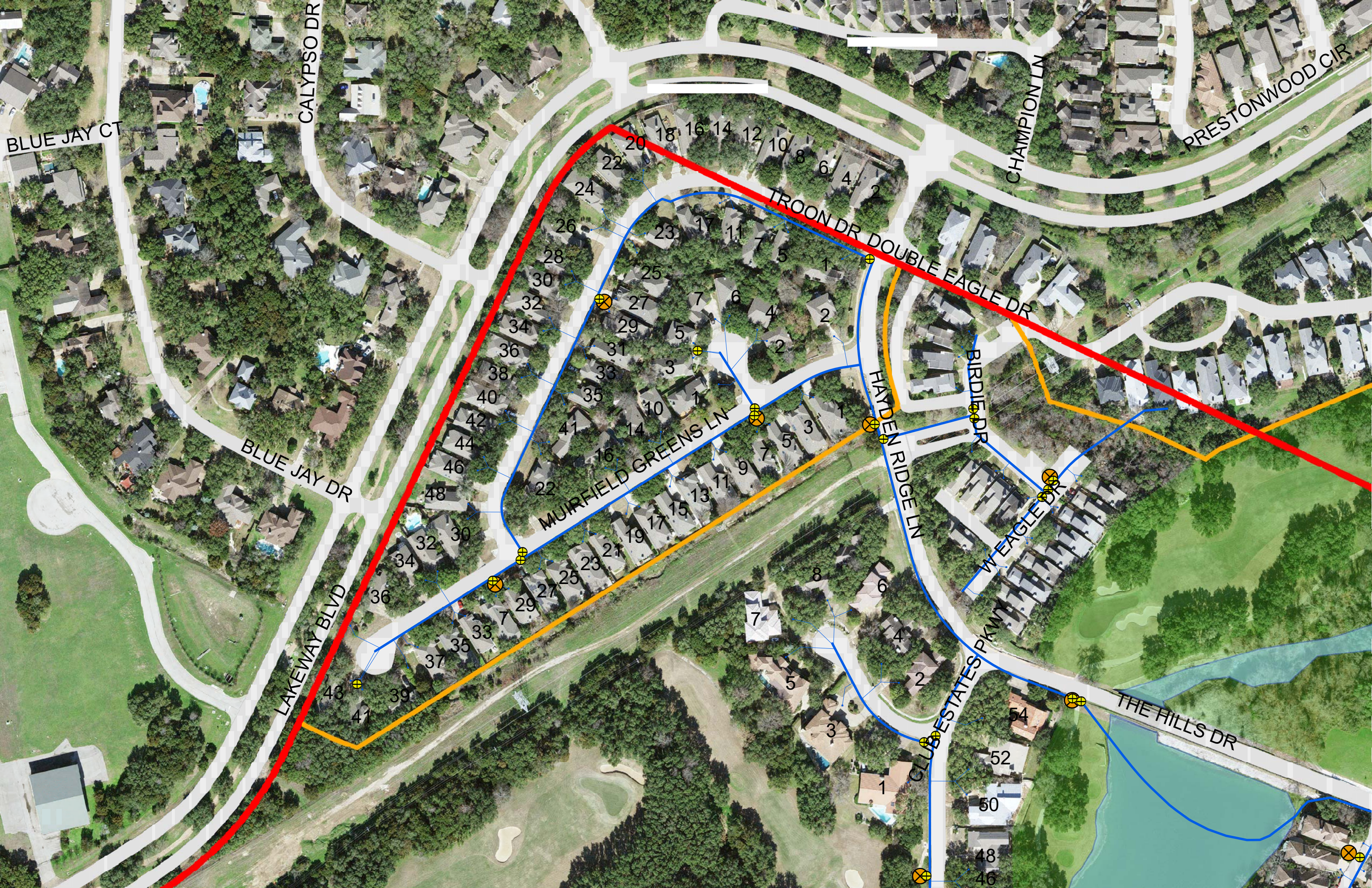
### **4.00 COUNTY SUMMARIES OF REVISION REQUESTS**

ATTACHMENT A  
COTTONWOOD CREEK MUD 1 AERIAL



ATTACHMENT B  
HURST CREEK MUD SERVICE AREA  
BOUNDARY





BLUE JAY CT

CALYPSO DR

BLUE JAY DR

LAKEWAY BLVD

20 18 16 14 12 10 8 6 4 2

TROON DR DOUBLE EAGLE DR

MUIRFIELD GREENS LN

HAYDEN RIDGE LN

BIRDIE DR

CLUB ESTATES PKWY W EAGLE DR

THE HILLS DR

CHAMPION LN

PRESTONWOOD CIR

22 24 26 28 30 32 34 36 38 40 42 44 46 48

32 30 34 36 38 40 42 44 46 48

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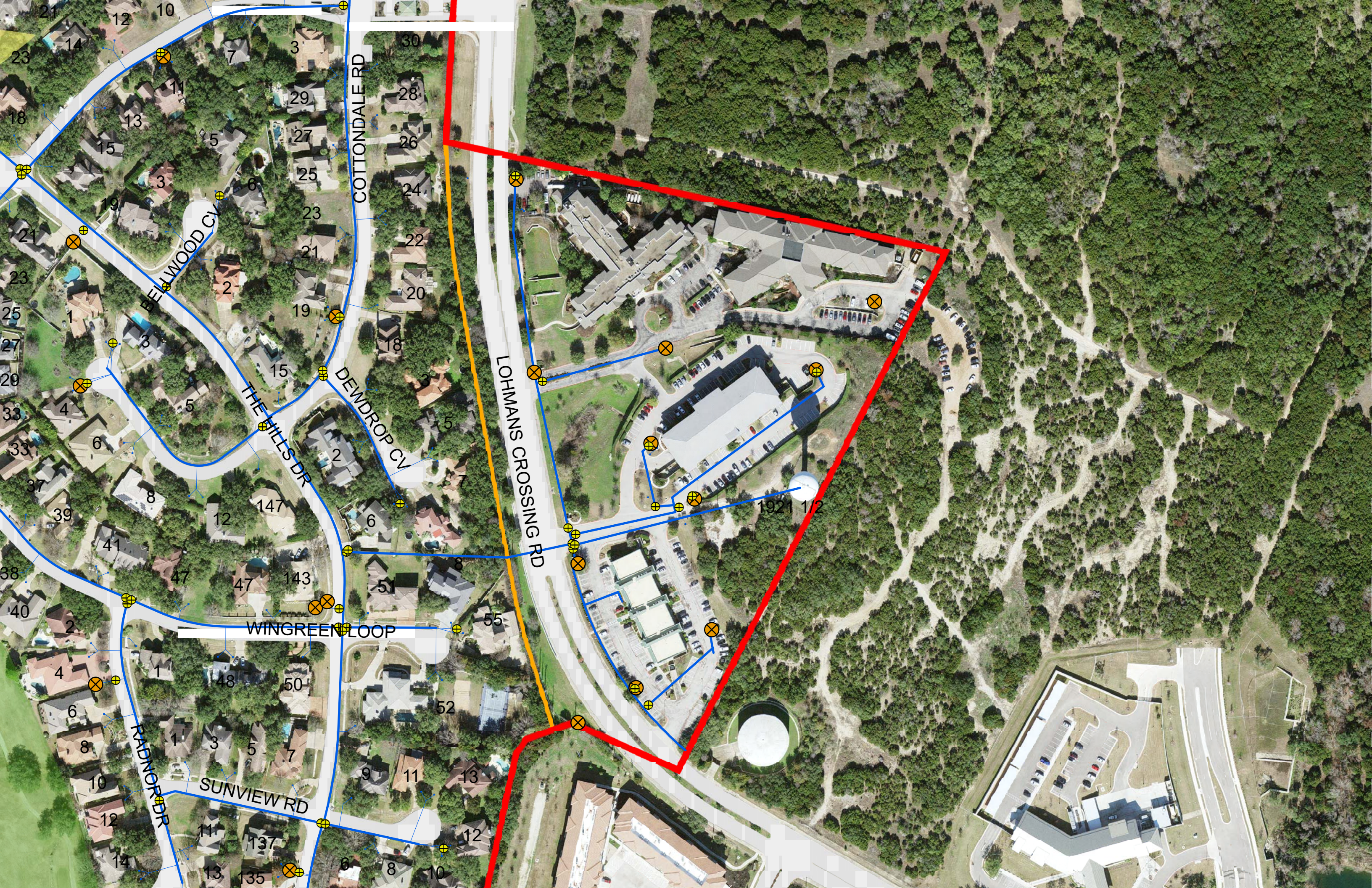
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COTTONDALE RD

BELWOOD CV

THE HILLS DR

DENDROP CV

LOHMANS CROSSING RD

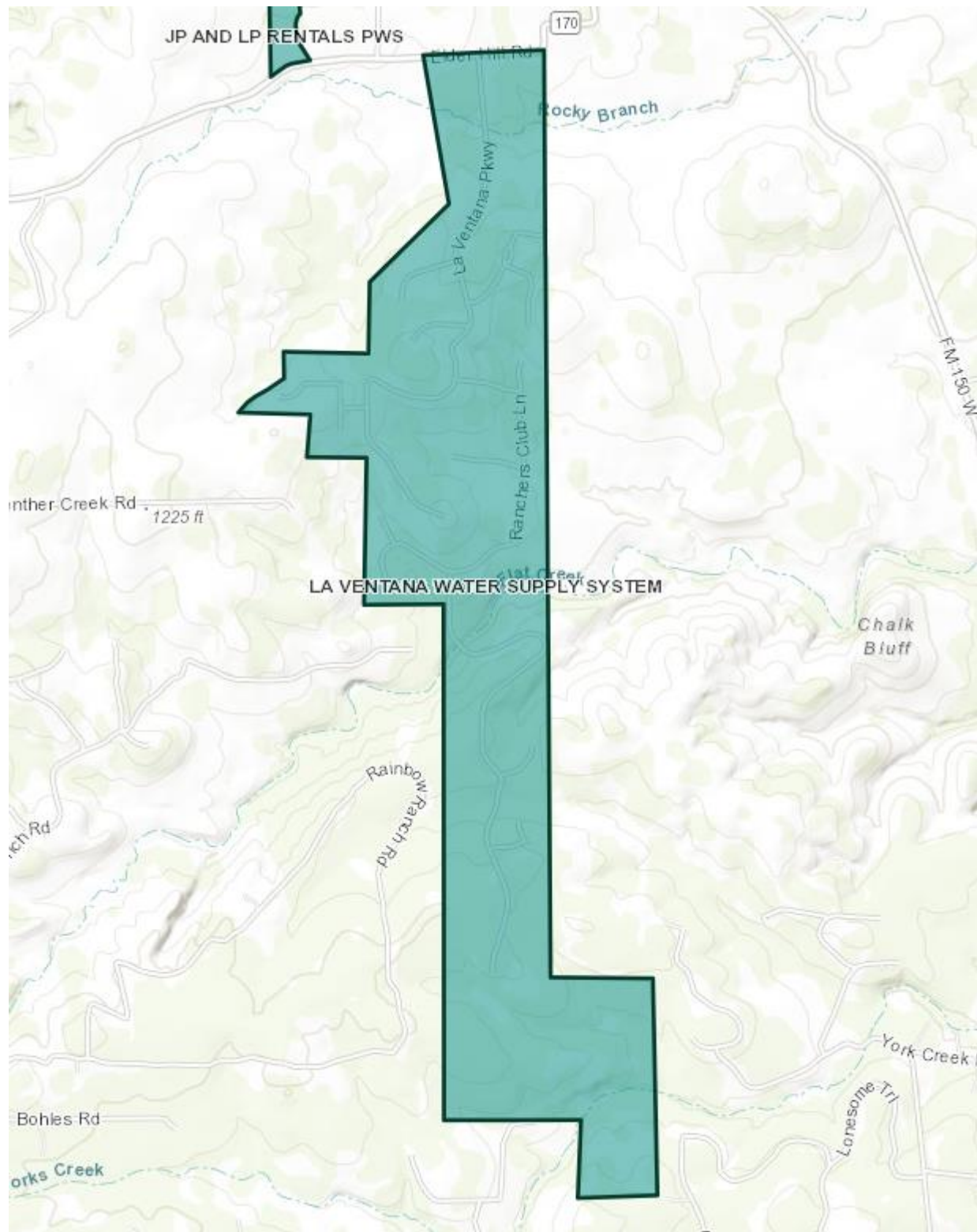
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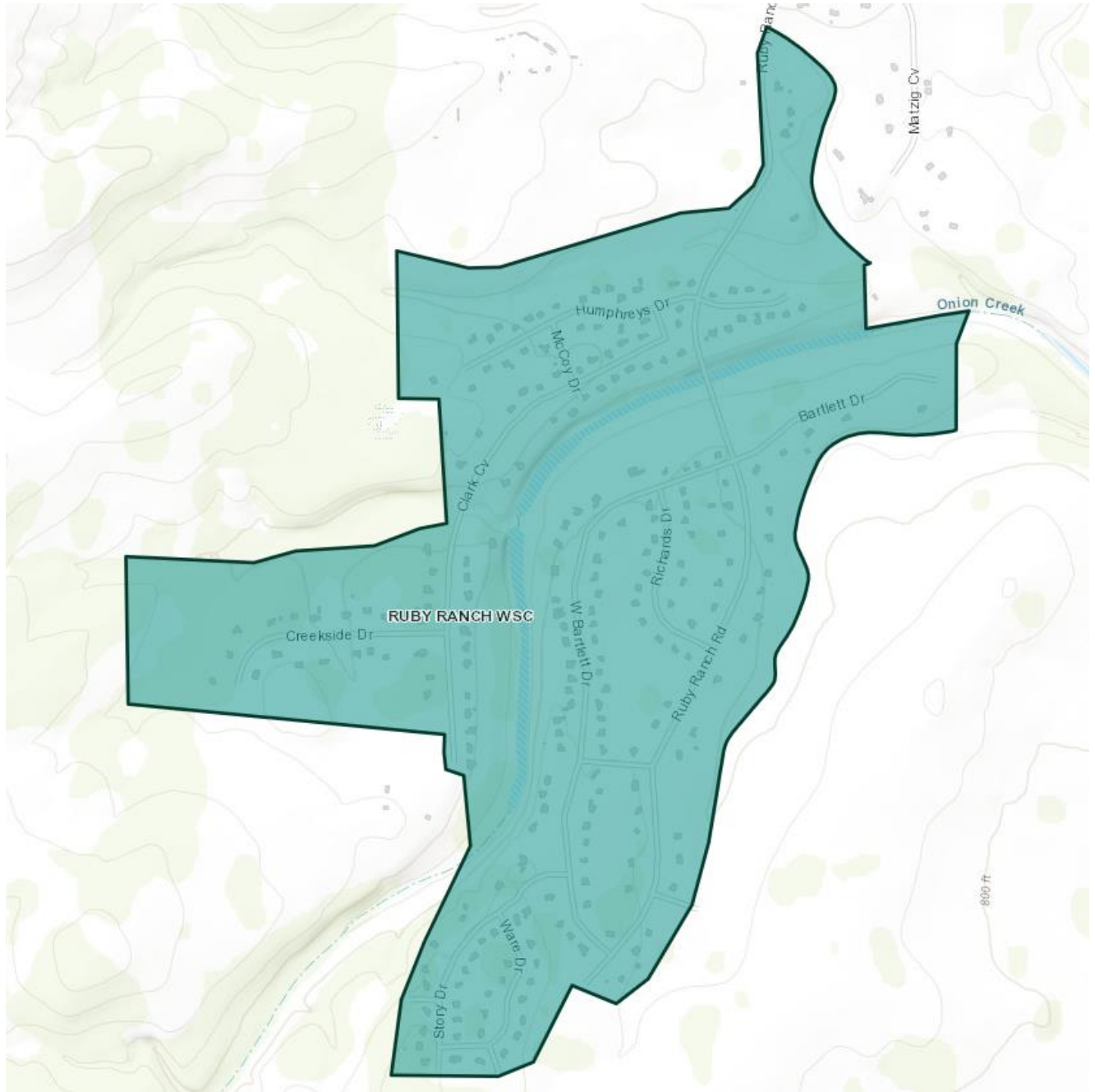
SUNVIEW RD

1921 1/2

ATTACHMENT C  
LA VENTANA WSC AERIAL



ATTACHMENT D  
RUBY RANCH WSC AERIAL



ATTACHMENT E  
BUDA HISTORICAL DATA

Year	Total Produced	Single Family Use	Multi Family Use	Commercial Use	Institutional	Reuse	Total Use	SFH Connect	MFH Connect	Com Connect	SFH Pop est	MFH Pop est	Total Pop est	GPCD (from produced)	GPCD (from use)
2022	618,094,819							3765	981	309	11907	1715	13622	124	0
2021	542,874,014	302,167,000	13,899,000	115,757,000	37,175,000	4,549,335	473,547,335	3,725	981	308	11793	1715	13508	110	96
2020	526,422,049	326,597,000	15,447,000	103,895,000	35,476,000	9,532,480	490,947,480	3655	981	286	11594	1475	13069	110	103
2019	520,434,048	309,861,000	13,422,000	121,151,000	29,518,000	5,962,086	479,914,086	3557	895	369	11386	1400	12786	112	103
2018	457,688,000	269,327,189	11,522,624	112,835,000	35,473,000	5,637,300	434,795,113	3478	847	334	10916	1375	12291	102	97
2017	456,904,300	263,463,207	28,911,793	137,262,000			429,637,000	3437	799	311	10762	1375	12137	103	97
2016	391,873,500	236,107,740	25,041,730	96,589,530			357,739,000	3375	733	298	10468	1375	11843	91	83
2015	386,821,400	229,782,000	19,557,000	117,939,000			367,278,000	3111	733	289	9588	1191	10779	98	93
2014	469,116,200	236,876,000	16,414,000	118,398,000			371,688,000	2952	433	281	9117	999	10116	127	101
2013	412,954,800	235,260,000	12,246,000	114,683,000			362,189,000	2647	433	274	8237	746	8983	126	110
2012	374,293,800	224,272,000	5,323,000	114,479,000			344,074,000	2402	133	251	7428	324	7752	132	122
2011	383,702,600	235,640,065	4,341,000	112,626,000			352,607,065	2244	133	248	6978	264	7242	145	133
2010	346,959,700	189,475,000	888,000	106,532,000			296,895,000	2098	1	236	6535	54	6589	144	123



ATTACHMENT F  
ELGIN FUTURE DEVELOPMENT

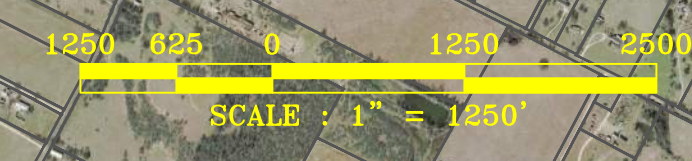
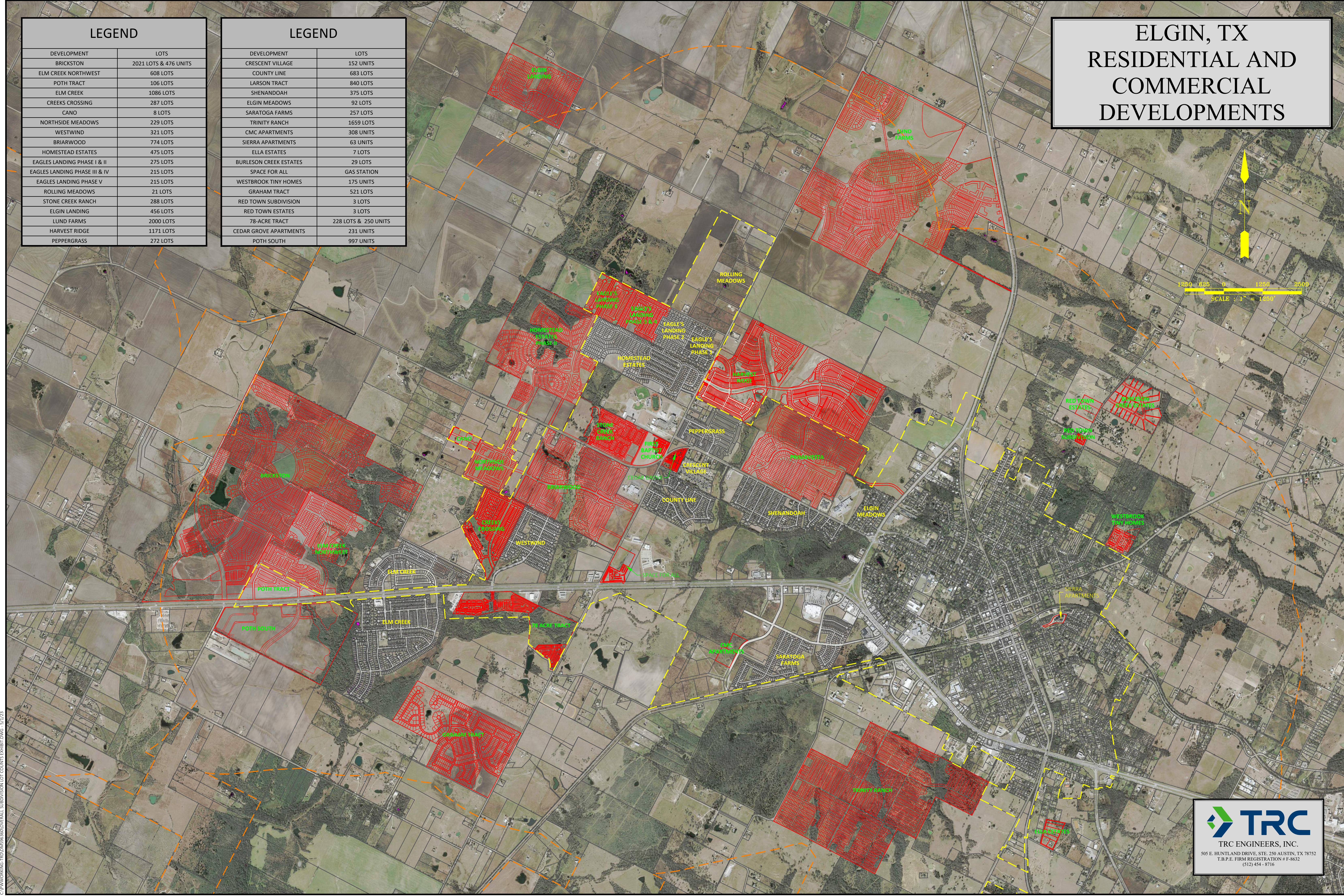
# ELGIN, TX RESIDENTIAL AND COMMERCIAL DEVELOPMENTS

## LEGEND

DEVELOPMENT	LOTS
BRICKSTON	2021 LOTS & 476 UNITS
ELM CREEK NORTHWEST	608 LOTS
POTH TRACT	106 LOTS
ELM CREEK	1086 LOTS
CREEKS CROSSING	287 LOTS
CANO	8 LOTS
NORTHSIDE MEADOWS	229 LOTS
WESTWIND	321 LOTS
BRIARWOOD	774 LOTS
HOMESTEAD ESTATES	475 LOTS
EAGLES LANDING PHASE I & II	275 LOTS
EAGLES LANDING PHASE III & IV	215 LOTS
EAGLES LANDING PHASE V	215 LOTS
ROLLING MEADOWS	21 LOTS
STONE CREEK RANCH	288 LOTS
ELGIN LANDING	456 LOTS
LUND FARMS	2000 LOTS
HARVEST RIDGE	1171 LOTS
PEPPERGRASS	272 LOTS

## LEGEND

DEVELOPMENT	LOTS
CRESCENT VILLAGE	152 UNITS
COUNTY LINE	683 LOTS
LARSON TRACT	840 LOTS
SHENANDOAH	375 LOTS
ELGIN MEADOWS	92 LOTS
SARATOGA FARMS	257 LOTS
TRINITY RANCH	1659 LOTS
CMC APARTMENTS	308 UNITS
SIERRA APARTMENTS	63 UNITS
ELLA ESTATES	7 LOTS
BURLESON CREEK ESTATES	29 LOTS
SPACE FOR ALL	GAS STATION
WESTBROOK TINY HOMES	175 UNITS
GRAHAM TRACT	521 LOTS
RED TOWN SUBDIVISION	3 LOTS
RED TOWN ESTATES	3 LOTS
78-ACRE TRACT	228 LOTS & 250 UNITS
CEDAR GROVE APARTMENTS	231 UNITS
POTH SOUTH	997 UNITS



C:\WORKING\TRC\DMG\360\OVERALL SUBDIVISION LOT COUNTS EXHIBIT DWG - 5/1/23

**TRC**  
TRC ENGINEERS, INC.  
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752  
T.B.P.E. FIRM REGISTRATION # F-8632  
(512) 454-8716

ATTACHMENT G  
LAKEWAY MUD SUPPORTING  
DOCUMENTATION

# LAKEWAY MUNICIPAL UTILITY DISTRICT

1097 LOHMANS CROSSING • LAKEWAY, TX 78734-4459

MAIN OFFICE: (512) 261-6222 x110 • CUSTOMERSERVICE@LAKEWAYMUD.ORG

AFTER HOURS EMERGENCY: (512) 314-7590 • FAX (512) 261-6681



May 15, 2023

Mr. Adam Conner  
Freese and Nichols  
10431 Morado Cir #300  
Austin, TX 78759

Transmitted via email: [adam.conner@freese.com](mailto:adam.conner@freese.com)

**RE: Region K Population & Demand Estimates  
Lakeway MUD - Request for Revision**

Mr. Conner,

After review of Lakeway MUD's (LMUD's) Region K 2030 through 2080 population and demand projections, it was found that the estimates are in need of slight revision.

The current Region K population and demand estimates were determined to be 16-21% low initially in 2030, compared to recent actual population and use, and a slightly higher ultimately in 2080 due to lack of consideration for area buildout. The projected distribution is consequently different and requested revisions are provided in more detail, below.

### Population Estimates

The current 2022 LMUD population already exceeds the estimates that Region K has for 2030. With additional consideration of the anticipated full buildout of the area by the year 2044, the revised population estimates are noted in the table below.

Year	P2030	P2040	P2050	P2060	P2070	P2080
Population	11,678	12,047	12,194	12,194	12,194	12,194

The above estimates assume 2.46 persons per household, per the 2017-2021 US Census.

### Demand Estimates

The estimated value of 226 Base GPCD in the draft Region K estimates is low. Upon evaluation of recent 2022 potable water usage, the actual average gallons per capita day (gpcd) was 235 gpcd. The Lakeway area has a notable transient population of lake-area vacation and rental properties that impacts this resulting value.

While demand during 2022 is not as extreme as the 2011 drought of record demand, the value is recent and representative enough of high demand conditions to be adequate for planning purposes. The 235 gpcd baseline value from 2022 was used to develop the revised demand estimates, as noted in the table below.

Year	D2030	D2040	D2050	D2060	D2070	D2080
Demand (acre-ft)	3,069	3,166	3,205	3,205	3,205	3,205

Should you have any questions, please contact me at (512) 261-6222, extension 140.

Respectfully,



Earl Foster, General Manager

Cc: Mr. Neil Deeds, INTERA, via email at [ndeeds@intera.com](mailto:ndeeds@intera.com)



**Project Name:** 2026 Lower Colorado RWPG Irrigation Demand Methodology

**Date:** May 22, 2023

**Prepared For:** Population & Demand Committee

**Prepared By:** Robert Adams, P.E.

**Cc:** Neil Deeds/INTERA, Adam Conner/FNI

**1 TWDB METHODOLOGY FOR 2026 REGIONAL PLANS**

The TWDB methodology for the 2026 regional plans for projection decades 2030 through 2080 (6<sup>th</sup> planning cycle) is like the projection methodology utilized for the 2021 regional plans (5<sup>th</sup> planning cycle). The primary differences in the TWDB projections for the 2026 planning cycle are as follows:

- Baseline irrigation demand is calculated as the average as average of five years of TWDB annual region-county level estimates (2015 - 2019) instead of the average of five years of TWDB annual region-county level estimates (2010 - 2014).
- Draft Irrigation demand projections are held constant unless constrained by modeled available groundwater (MAG), then, after a single decade delay, the demands are reduced at the same rate as groundwater availability.

For Region K, like other regions, the annual region-county level baseline estimates are built-up by applying a calculated evapotranspiration-based "crop water need" estimate to the reported irrigated acreage by crop from the Farm Service Agency. The TWDB also acknowledges that a more credible methodology is to focus on recent historical irrigation water use data as an indicator of future use, and this is the reasoning for evaluating the 2015-2019 irrigated crop acreage to determine the baseline water use.

The resulting irrigation water use projection for Region K (2030-2080) is shown in Table 1, below, without constraints imposed by the MAG.

**Table 1. Draft Region K Irrigation Demands**

County	Demand (ac-ft.yr)
Bastrop	4,761
Blanco	1,914
Burnet	1,991
Colorado	95,693
Fayette	723
Gillespie	2,458
Hays	383

## MEMORANDUM

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County	Demand (ac-ft.yr)
Llano	648
Matagorda	86,951
Mills	4,515
San Saba	8,087
Travis	4,061
Wharton	124,581
Williamson	0

### 2 CONCERNS FOR APPLYING THE TWDB METHODOLOGY IN REGION K

The Lower Colorado Regional Water Planning Group (LCRWPG) Population and Water Demand Committee met several times to review and discuss the draft irrigation water demand projections. The specific concern was the draft irrigation water demand for the lower three counties in the region: Colorado County, Matagorda County, and Wharton County (Region K portion). For these three counties the TWDB Draft irrigation demand would be about 57 percent of the irrigation demand projected for the region in the 2021 planning cycle.

The LCRWPG Population and Water Demand Committee was concerned that the TWDB demand methodology did not adequately address the following elements:

- Canal system losses and on-farm distribution system losses.
- Actual water use for irrigation of both first and second crop rice.
- Water use for other crops and uses not specifically captured by the Farm Service Agency data.
- Concern that the Farm Service Agency data is incomplete or not adequately reported.

### 3 PROPOSED METHODOLOGY FOR THE 2026 REGIONAL PLAN FOR SURFACE WATER DEMAND

The methodology proposed for evaluating the surface water irrigation demand was based on the following key points:

1. First crop irrigation demand.
  - a. Irrigation demand will be based on 2022 water demand to capture water use during a dry year utilizing the most current practices for water management.
  - b. Acreage for each irrigation division will be based on the highest planted acreage since 2011.
  - c. The 2022 acre-foot per acre use will be combined with a minimum use floor of 1.5 ac-ft/acre to address areas where conjunctive groundwater use reduces surface water demand.
2. Second crop irrigation demand.
  - a. Based on highest acre-foot per acre use since 2016 with a minimum use floor to address conjunctive groundwater use.
3. Supplemental crops irrigation demand.
  - a. Includes turf, row crops, aquaculture
  - b. Based on average 2016-2021 acre-foot per acre use

These key points result in the demands shown in Table 1, below.

**MEMORANDUM**

**Table 1. Irrigation Demands Applied by Crop Season**

(Acre-foot per acre demand)	Garwood Agricultural Division	Lakeside Agricultural Division	Pierce Ranch*	Gulf Coast Agricultural Division
First season**	3.20	2.66	2.66	3.21
Second season***	1.30	1.27	1.27	1.83
Supplemental	1.3	1.6	1.6	1
Canal loss	20%	20%	20%	30%
*Estimated based on Lakeside Agricultural Division data. **Based on 2022 water use w/ minimum 1.5 a-f/acre use. ***Based on highest water use since 2016				

See Attachment 1 for the historical acreage data.

The historical acreage for each district is combined with the irrigation demands shown in Table 1 to arrive at the demands for each irrigation division as shown in Table 2.

**Table 2. Baseline Surface Water Irrigation Demand for the Rice Irrigation Areas**

Crop	Division	Highest Acres Planted since 2011 (ac)	2022 Adjusted Duty (ac-ft/ac)	Calculated Dry Year Use (ac-ft)	Assumed Canal Loss (%)	Calculated Base Year Use with Canal Loss (ac-ft)
1st Crop	Garwood	20,785	3.2	66,512	20%	79,814
	Lakeside	27,554	2.66	73,294	20%	87,952
	Pierce Ranch	6,792	2.66	18,067	20%	21,680
	Gulf Coast	18,316	3.21	58,794	30%	76,433
2nd Crop	Garwood	17,308	1.3	22,500	20%	27,000
	Lakeside	18,099	1.27	22,986	20%	27,583
	Pierce Ranch	3,693	1.27	4,690	20%	5,628
	Gulf Coast	15,120	1.83	27,670	30%	35,970
Supplemental	Garwood	-	NA	-	20%	-
	Lakeside	1,392	1.6	2,227	20%	2,673
	Pierce Ranch	-	NA	-	20%	-
	Gulf Coast	12,404	1	12,404	30%	16,125
<b>Total</b>		<b>141,463</b>		<b>309,144</b>		<b>380,859</b>

Geographic data shows the following on allocation of the agricultural divisions by County:

- 20% of the Garwood division is in Wharton County.
- 80% of the Garwood division is in Colorado County.
- 60% of the Lakeside division is in Wharton County.
- 40% of the Lakeside division is in Colorado County.
- The Gulf Coast division is within Matagorda County.
- Pierce Ranch is fully within Wharton County.



## MEMORANDUM

Applying the percentage for distribution of the irrigation divisions by county results in the surface water irrigation demands by County shown in Table 3.

**Table 3. Baseline Surface Water Demand for Irrigation**

County	Surface Water Demand for Irrigation (ac-ft/ac)
Colorado	131,618
Matagorda	128,528
Wharton	120,713
<b>TOTAL</b>	<b>380,859</b>

The LCRWPG Population and Water Demand Committee has elected, based on recommendation from the irrigation users, to apply a 2.7% reduction in demand each decade to account for increasing water use efficiency over time. This reduction in demand will be applied to surface water and groundwater-based irrigation demand.

#### 4 PROPOSED METHODOLOGY FOR THE 2026 REGIONAL PLAN FOR GROUNDWATER DEMAND

Through working with the irrigators, it was determined that there has been a significant increase in groundwater use over time. The total irrigation demand was considered, but the worst case is when there is no surface water available. This effectively sets the upper limit on irrigation demand from groundwater during drought years.

Therefore, the groundwater demand for irrigation during the drought period 2011-2014 when surface water use was terminated establishes the baseline for groundwater-based irrigation. The total groundwater demand by County is shown in Table 4. All data is based on information obtained from groundwater conservation districts, except for the data shown for Colorado County for 2011 through 2013, in which TWDB data was used.

**Table 4. Groundwater-based Irrigation Demand for 2011-2014 (ac-ft/yr)**

County	2011	2012	2013	2014	Average
Colorado	50,965	26,535	18,658	25,692	30,463
Matagorda	51,410	31,681	33,286	33,365	37,436
Wharton	176,895	140,017	151,440	141,570	152,481

Since Wharton County is split between planning regions K and P, an evaluation was done to assess well counts within each region. The results showed that 59.6% of the wells in Wharton County are in Region K. Therefore, the 152,481 ac-ft/yr shown for Wharton County is reduced to 90,878 ac-ft/yr to establish the groundwater baseline.

Combining data from Tables 3 and 4, and modifying the Wharton County groundwater demand, results in the Baseline Irrigation Demand shown in Table 5.

**Tale 5. Baseline Irrigation Demand**

County	Irrigation Demand (ac-ft/yr) (2030 Demand)
Colorado	162,081
Matagorda	165,964
Wharton	211,591

Applying the 2.3% reduction by decade results in the projections for irrigation demand shown in Table 6.

**Table 6. Irrigation Demand Projections (ac-ft/yr)**

County	2030	2040	2050	2060	2070	2080
Colorado	162,081	157,704	153,446	149,303	145,272	141,350
Matagorda	165,964	161,483	157,123	152,881	148,753	144,737
Wharton	211,591	205,878	200,320	194,911	189,648	184,528
TOTAL	539,636	525,066	510,889	497,095	483,673	470,614

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## Attachment 1 Historical Acreage

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Gulf Coast 1st crop acreage	18,316	0	0		0	13,714	8,545	11,728	6,253	9,590	8,952	8,327
Gulf Coast 2nd crop acreage	15,120	0	0		0	10,851	5,537	7,547	3,280	5,035	2,972	0
Gulf Coast supplemental acreage	12,404	4,543	3,077	0	1,820	3,704	2,686	3,564	1,776	3,333	1,826	4,662
Lakeside 1st crop acreage	27,554	0	0			24,190	19,371	22,415	17,998	21,460	21,594	25,625
Lakeside 2nd crop acreage	12,736	0	0			18,099	10,754	14,699	8,273	13,042	15,666	0
Lakeside supplemental acreage	0	0	0			1,047	511	270	1,392	856	1,299	875
Garwood 1st crop acreage	18,687	16,866	18,638	19,000	18,353	19,290	16,146	19,572	17,574	19,756	19,777	20,785
Garwood 2nd crop acreage	14,651	14,949	16,982	16,263	14,141	14,238	12,819	14,842	13,319	16,146	17,308	15,878
Garwood supplemental acreage	0	0	1,799	2,376	2,255	2,300	3,708	4,218	4,618	3,136	3,148	3,590
Pierce Ranch 1st crop acreage	6,792	0	506	733	584	2,482	2,895	2,468	2,499	2,494	2,225	2,676
Pierce Ranch 2nd crop acreage	3,693	324	0	0	0	2,068	2,706	2,468	1,597	1,746	1,521	
Pierce Ranch supplemental acreage	0	1,920	2,027	1,693	1,094	1,162	1,068	1,079	844	844	622	724

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