



AGENDA
CITY COUNCIL REGULAR MEETING
THURSDAY, JANUARY 2, 2020, 6:00 P.M.

The Garden Ridge City Council will meet in a regular session on Thursday, January 2, 2020, at 6:00 p.m. in the City Council Chambers, 9400 Municipal Parkway, Garden Ridge, Texas. This is an open meeting, open to the public, subject to the Open Meetings Law of the State of Texas, and as required by law, notice is hereby posted providing time, place, date, and agenda thereof. The meeting facility is wheelchair accessible and accessible parking spaces are provided. Requests for accommodations or interpretative services must be made to the City Secretary 48 hours prior to this meeting.

1. Call to Order

2. Roll Call

3. Pledge of Allegiance

4. City/Employee Recognitions/Employee Introductions

- a) Thank you note from Building Inspector Wilbert Lenz to Public Works Department Employee Manuel Troncoso.
- b) Thank you note from Chief Padula, Selma Police Department, to Lt. Bellinger.
- c) Recognition of Utility Clerk Denise Bissell for completion and release from probationary period.

5. Citizen Comment Period – limited to 30 minutes total

Rules for Citizens' Participation: The City Council welcomes citizen participation and comments at all City Council Meetings. The City Council offers citizens the opportunity to address them by signing up to speak prior to the meeting. If you speak, you must follow these guidelines:

- a) Respect and courtesy:
 - 1. Direct your comments to the entire City Council, not to an individual member, nor to the audience.
 - 2. Show the City Council the same respect that you would like to be shown.
 - 3. End your speaking at the time allotted below.
- b) Speaking:
 - 1. First citizen comment period.
 - 1.1. You are required to sign up to speak and you are limited to one 3-minute period.
 - 2. Second citizen comment period.
 - 2.1. You are not required to sign up and you are limited to one 2-minute period.
 - 3. State your name and address before your comments begin.
 - 4. You are only allowed to speak once per topic, unless also speaking during a posted Public Hearing.

NOTE: The Texas Open Meetings Act permits a member of the public or a member of the governmental body to raise a subject that has not been included in the notice for the meeting. However, any discussion of the subject must be limited to a proposal to place the subject on the agenda for a future meeting and any response to a question posed to the City Council is limited to either a statement of specific factual information or a recitation of existing policy. TEX. GOV'T CODE § 551.042.

6. Consent Agenda

THE FOLLOWING ITEMS MAY BE ACTED UPON IN A SINGLE MOTION. NO SEPARATE DISCUSSION OR ACTION ON ANY OF THESE ITEMS WILL BE HELD UNLESS REQUESTED BY A MEMBER OF CITY COUNCIL. PUBLIC COMMENT ON CONSENT AGENDA ITEMS MAY BE HEARD DURING CITIZEN'S PARTICIPATION, BUT COMMENTS HEARD DURING CITIZEN'S PARTICIPATION DOES NOT MEAN THAT THE ITEM WILL BE CONSIDERED OUTSIDE THE CONSENT AGENDA.

- a) Approval of Minutes for the December 4, 2019, City Council Regular Meeting.
- b) Financial Statement, Summary Report, and Management's Discussion and Analysis of Results of Operations – November 30, 2019.

7. Staff Reports

The following items are for discussion, consideration, and action.

- a) City Administrator Monthly Activity Report.
 - Community Center usage and financial report, Building Permits issued to date for residential, commercial and minor construction projects, City Council Idea/Suggestions, communication efforts, Citizen Concern/Input, and upcoming events.
- b) Police Department Monthly Activity Report.
 - Traffic and Code Compliance Enforcement, criminal activity, and upcoming events.
- c) Public Works Monthly Activity Report.
 - Street and right-of-way maintenance, drainage facility and easement maintenance, City parking lots and facility maintenance, Animal Services (domestic and wild), Oak Wilt, and Public Works Projects.
- d) Water Department Monthly Activity Report.
 - Water pumping/usage from City wells, water system infrastructure maintenance, repairs and/or projects, leak adjustments, Water and/or Drought Management (current Watering Stage).
- e) Library Monthly Activity Report.
 - Upcoming events.

8. City Engineer Projects Status Reports

- a) FM 2252 TxDOT Project.
- b) FM 2252 Wastewater Project.
- c) The Woods of Garden Ridge / Bindseil Lane Drainage Project.
- d) T. Blackwell Office Building.

9. City Commission and Committee Reports/Recommendations/Possible Actions

- a) Planning and Zoning Commission Recommendations and Possible Action:
 - 1. Receive monthly activity update as applicable.
- b) Quarry Commission Recommendations and Possible Action:
 - 1. Receive monthly activity update as applicable.
- c) Water Commission Recommendations and Possible Action:
 - 1. Receive monthly activity update as applicable.
- d) Wildlife Management Advisory Commission Recommendations and Possible Action:
 - 1. Wildlife Management Plan.
 - 1.1. Receive recommendation from the Wildlife Management Advisory Commission.
 - 1.2. Take action on recommendation.
 - 2. Receive monthly activity update as applicable.
- e) Garden Ridge Parks Committee:
 - 1. Receive monthly activity update as applicable.
- f) *Volunteer Garden Ridge!*
 - 1. Receive monthly activity update as applicable.

10. Approvals/Authorizations

The following items are for discussion, consideration, and action.

- a) Discuss and take action on authorizing Garden Ridge Volunteers to utilize City dumpster services.

- b) Discuss and take action on Ordinance No. 143-012020 An Ordinance of the City Council of the City of Garden Ridge, Texas, granting an exclusive franchise agreement between the City of Garden Ridge, Texas, and BFI Waste Services, LP/DBA/Republic Services of San Antonio for the collection and disposal of solid waste and recycling service; authorizing the Mayor to execute the contract; setting forth general specifications establishing rates for collection and disposal of solid waste and recycling service; providing for enforcement and the collection of established rates; providing a penalty for violations of this Ordinance of a fine of not less than \$100.00 nor more than \$500.00 and making each day a separate offense; providing a cumulative and savings clause; providing for severability; and declaring an effective date.
- c) Garden Ridge Market Days.
 - 1. Discuss status and monthly activity update.
 - 2. Take action on Market Governance Guidelines.

11. Updates

- a) City Administrator Reports.
 - 1. Update on CIP projects.
 - 2. Update on security upgrades at Paul Davis Park.
- b) Mayor's Projects.
 - 1. Communication Report.
 - 2. Citizen Contact Report.
 - 3. City Facility Update.
 - 3.1. Audio/Visual Upgrades and Streaming.
 - 4. TxDOT Coordination/FM 3009 Safety.
 - 5. Update on pending traffic control revisions to Ordinance No. 22.

12. Discussion of Future Agenda Items

13. Citizen Comment Period – limited to 20 minutes total **See “Rules for Citizens’ Participation” under Item 5.**

14. Reports and Comments from Mayor and City Councilmembers

The Mayor and/or City Councilmembers may comment, make general announcements, and/or provide progress reports on events, activities and/or committees/board meetings concerning the following:

Alamo Area Metropolitan Planning Organization
 Boy Scouts and/or Girl Scouts
 City of Garden Ridge sponsored events and outreach efforts
 Comal ISD (Garden Ridge Elementary School/Danville Middle School/Davenport High School)
 Counties (Bexar/Comal/Guadalupe)
 Garden Ridge Lions Club
 Garden Ridge Citizen Police Academy Alumni Association/Citizen Patrol
 Garden Ridge Women's Club
 Greater Bexar County Council of Cities
 Northeast Partnership

15. Executive Session

The City Council will recess its open meeting and reconvene in Executive Session:

- a) Pursuant to Texas Government Code Section 551.071 – Consultation with Attorney.
 - 1. To seek legal advice in connection with deliberating the purchase, lease, exchange, or value of real property and regarding related negotiations for City building projects, and utility projects.
 - 2. To seek legal advice regarding requirements for Comal County Emergency Services and authority to contract for such services through an interlocal agreement.

- b) Pursuant to Texas Government Code Section 551.074 – Personnel Matters and Section 551.071 – Consultation with Attorney, if necessary.
1. To discuss the duties, responsibilities, and potential corrective action in relation to incident involving Eric Lowman and Brian Horne.

16. Business Items

The City Council will reconvene into Regular Session upon conclusion of the Executive Session and may recall any item posted for Executive Session for action, as necessary.

17. Adjournment

AGENDA NOTICES:

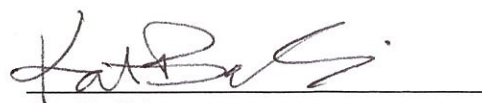
Decorum Required: Any disruptive behavior, including shouting or derogatory statements or comments may be ruled out of order by the Presiding Officer. Continuation of this type of behavior could result in a request by the Presiding Officer that the individual leave the meeting, and if refused, an order of removal.

Action by Council Authorized: The Council may vote or act upon any item within this Agenda. The Council reserves the right to adjourn into closed session at any time during the course of this meeting to discuss any of the matters listed above, as authorized by Title 5, Chapter 551, of the Texas Government Code.

Executive Sessions Authorized: This agenda has been reviewed and approved by the City's legal counsel and the presence of any subject in any Executive Session portion of the agenda constitutes a written interpretation of Texas Government Code Chapter 551 by legal counsel for the governmental body and constitutes an opinion by the attorney that the items discussed therein may be legally discussed in the closed portion of the meeting considering available opinions of a court of record and opinions of the Texas Attorney General known to the attorney. This provision has been added to this agenda with the intent to meet all elements necessary to satisfy Texas Government Code Chapter 551.144(c) and the meeting is conducted by all participants in reliance on this opinion.

Attendance By Other Elected or Appointed Officials: It is anticipated that members of the other city boards, commissions and/or committees may attend the meeting in numbers that may constitute a quorum of the other city boards, commissions and/or committees. Notice is hereby given that the meeting, to the extent required by law, is also noticed as a meeting of the City Council, other boards, commissions and/or committees of the City, whose members may be in attendance. The members of the boards, commissions and/or committees may participate in discussions on the same items listed on the agenda, which occur at the meeting, but no action will be taken by such in attendance unless such item and action are specifically provided for on an agenda for that board, commission or committee subject to the Texas Open Meetings Act.

This is to certify that I, Kat Balbi, posted this Agenda at 1:00 p.m. on December 20, 2019, on the bulletin board located at the entrance to the Garden Ridge City Hall, 9400 Municipal Parkway, Garden Ridge, Texas.


Kat Balbi
Assistant City Secretary

City Secretary

From: Public Works
Sent: Wednesday, November 27, 2019 12:37 PM
To: City Secretary
Subject: FW: Manual

Can this be added to the employee recognition portion of the agenda?

From: Building Inspections <buildinginspections@ci.garden-ridge.tx.us>
Sent: Tuesday, November 26, 2019 10:32 AM
To: Public Works <publicworks@ci.garden-ridge.tx.us>
Subject: Manual

Stephen,

Thanks for letting Manual help me with a home builder this morning. She spoke very little English and I speak no Spanish. I may need him in the future when working with this builder.

Wilbert Lenz
Building Inspector
City of Garden Ridge

City Secretary

From: Ron Eberhardt
Sent: Thursday, December 5, 2019 1:53 PM
To: City Administrator; City Secretary; Assistant City Secretary
Subject: FW: Lt. Bellinger LETTER OF APPRECIATION

I wanted to pass this on for the January City Council agenda.

Thank you

From: David Padula <dpadula@ci.selma.tx.us>
Sent: Thursday, December 5, 2019 1:48 PM
To: Ron Eberhardt <reberhardt@ci.garden-ridge.tx.us>
Subject: Lt. Bellinger

Chief Eberhardt,

I wanted to reach out to you and thank you for allowing Lt. Bellinger to be a part of our promotion process. Lt. Bellinger was extremely professional and his questions and input were excellent for this process. Through his questions I was able to take notes on areas where the two candidates will need additional training and guidance as they step into their new roles as Sergeants in our agency. He is an excellent example of the professionalism of the Garden Ridge Police Department and represents your agency well! If there is ever a time we can return the favor please don't hesitate to ask. You have a great Lieutenant and his presence made this process better than I could have hoped for.

Thanks again,
Dave Padula
Chief of Police
Selma Police Department
9375 Corporate Dr., Selma, TX 78154
210-651-7810 Office
210-651-9570 Fax
[*dpadula@ci.selma.tx.us*](mailto:dpadula@ci.selma.tx.us)



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MINUTES
CITY COUNCIL REGULAR MEETING
WEDNESDAY, DECEMBER 4, 2019, 6:00 P.M.

Councilmembers Present:

Mayor Larry Thompson
Mayor Pro-Tem John McCaw
Councilmember Lisa Swint
Councilmember Bryan Lantzy
Councilmember Todd Arvidson
Councilmember Kay Bower

Councilmembers Absent:

None

City Staff Present:

Nancy Cain, City Administrator
Marisa Spencer, City Secretary
Kat Balbi, Assistant City Secretary
Cynthia Trevino, City Attorney
Ron Eberhardt, Police Chief
Jacob Parsons, Water Manager
Steven Steinmetz, Public Works Director
Karen Ford, Finance/HR
Linda Crosland, Librarian

City Commission Representatives Present:

Dr. Jim Miller, Chair, Planning and Zoning Commission
Jesse Valdez, Chair, Water Commission
Johnell Holly, Chair, Quarry Commission
Cynthia Shanahan-Segovia, Chair, Wildlife Management Advisory Commission

Other City Commissioners in Attendance:

Ken Kneupper, Wildlife Management Advisory Commissioner
Shannon Drichta, Wildlife Management Advisory Commissioner
Dr. Denise Miner-Williams, Wildlife Management Advisory Commissioner
Wayne Mudge, Quarry Commissioner
Joseph Haltaman, Water Commissioner
Andre Bullard, Water Commissioner
James Mueller, Water Commissioner

1. Call to Order

With a quorum of the City Councilmembers present, Mayor Thompson called the regular meeting of the Garden Ridge City Council to order at 6:00 p.m. on Wednesday, December 4, 2019, in the City Council Chambers of the Garden Ridge City Hall, 9400 Municipal Parkway, Garden Ridge, Texas 78266.

2. Roll Call: See above.

3. Pledge of Allegiance: Mayor Thompson led the Pledge of Allegiance and the Texas Pledge.

4. City/Employee Recognitions/Employee Introductions

a) **Thank you note from Patrick and Jeannie Jang to Water Department Employee Chris Graef.**

Nancy Cain, City Administrator, stated a thank you note was received from Patrick and Jeannie Jang to Water Department Employee Chris Graef for being professional, helpful, and efficient while resolving a water concern at their residence.

b) Thank you note from Darren Bates to Water Department Employee Duane Scognio.

Nancy Cain, City Administrator, stated a thank you note was received from Darren Bates to Water Department Employee Duane Scognio for his assistance during a water main break at their residence.

c) Thank you note from Garden Ridge Library to Garden Ridge Police Department.

Nancy Cain, City Administrator, stated a thank you note was received from the Garden Ridge Library to the Garden Ridge Police Department for their participation in the Trunk or Treat Event.

d) Thank you note from Marilyn Winters to City Secretary Marisa Spencer, Public Works Department Employee Stanley Georg, and Community and Event Center Manager Kim Ryan.

Nancy Cain, City Administrator, stated a thank you note was received from Marilyn Winters to City Secretary Marisa Spencer, Public Works Department Employee Stanley Georg, and Community and Event Center Manager Kim Ryan for their assistance and support with preparations and setup for early voting and election day voting. Ms. Cain also stated Ms. Winters expressed appreciation to the office staff for being very accommodating to all election workers.

e) Thank you note from Rod Chamberlain to the Public Works Department.

Nancy Cain, City Administrator, stated a thank you note was received from Rod Chamberlain, The Forest of Garden Ridge Homeowners Association President, to the Public Works Department for their attention to safety and level of professionalism leading to a job well done.

f) Recognition of Employee Service Years with the City of Garden Ridge.

Nancy Cain, City Administrator, recognized City employees with anniversary dates in the month of December for their hard work, dedication, and tenure with the City of Garden Ridge. This recognition included: Officer Corey Hackenberg-4 years and Lieutenant Dan Bellinger-17 years.

5. Citizen Comment Period – limited to 30 minutes total

Mayor Thompson reviewed the rules for Citizen Comment Period.

Shannon Drichta, 9380 Cinchona Trail, spoke regarding Comal ISD board meetings and concerns regarding traffic and safety.

6. Consent Agenda

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- a) Approval of Minutes for the November 6, 2019, City Council Regular Meeting.**
- b) Financial Statement, Summary Report, and Management's Discussion and Analysis of Results of Operations – October 31, 2019.**
- c) Destruction of City records in accordance with the City of Garden Ridge Records Retention Plan.**
- d) Approval of the Certification of Tax Levy for the Tax Year 2019 for the City of Garden Ridge.**
- e) Approval of City Administrator's Recommendation for Appointments to the Capital Improvements Advisory Committee.**
- f) Ordinance No. 54-122019 An Ordinance adopting a comprehensive water company for the City of Garden Ridge; providing definitions; statement of organization; establishing a Water Commission; general policies; regulations and rules; rates and billing cycles; providing for a penalty; providing for severability; and declaring an effective date.**
- g) Ordinance No. 22-122019 An Ordinance regulating traffic on streets, roads, and highways within the City of Garden Ridge by establishing stop sign locations and placement of traffic control**

devices; establishing prima facie speed limits and placement of traffic control devices; establishing through truck traffic regulations and placement of traffic control devices; establishing no parking zones; and regulating and requiring permits for certain assemblages and processions, providing for a fine not to exceed five hundred dollars (\$500.00) for each violation concerning assemblages and processions.

- h) **Agreement with Texas Commission on Environmental Quality to install standard highway markers on the recognized highways leading into the area served by the City of Garden Ridge in view of having received a superior public water system rating in accordance with Texas Commission on Environmental Quality standards.**

Mayor Thompson stated in the interest of the City Council requesting to shorten the length of meetings, action items that are straightforward or routine will be placed in the consent agenda and sent to Councilmembers in advance to review and request clarification from City Staff if needed. He stated these items and any supporting documents still will be included in the packet available to the public on the City's website prior to the meeting with adequate time for citizens to discuss these items with their Councilmembers.

Mayor Thompson stated he recommends City Council pull consent agenda item g) Ordinance No. 22 and move the item to the January agenda due to substantive errors and corrections noticed after the agenda was posted. He stated City staff will make the necessary revisions and City Council will once again receive this in advance, thanking Councilmember Bower for her role in helping staff with the revisions.

Motion: A motion was made by Councilmember Bower, seconded by Mayor Pro-Tem McCaw, to pull Consent Agenda item g) Ordinance No. 22-122019 and move the item to the January agenda for consideration. The City Council voted five (5) for and none (0) opposed. The motion carried unanimously.

Motion: A motion was made by Councilmember Lantzy, seconded by Councilmember Bower, to approve Consent Agenda items 6. a), b), c), d), e), f), and h). The City Council voted five (5) for and none (0) opposed. The motion carried unanimously.

7. Staff Reports

The following items are for discussion, consideration, and action.

a) City Administrator Monthly Activity Report.

- **Community Center usage and financial report, Building Permits issued to date for residential, commercial and minor construction projects, City Council Idea/Suggestions, communication efforts, Citizen Concern/Input, and upcoming events.**

Nancy Cain, City Administrator, stated Community and Event Center Manager Kim Ryan submitted her resignation effective April 2020, and the City will be looking for a replacement for the position. She reminded everyone of the January City Council meeting being rescheduled to Thursday, January 2nd, announced the Danville Middle School Choir and Orchestra will be performing at City Hall on December 13th followed by the City Christmas Party. She spoke regarding the implementation of electronic utility billing beginning January 2020. Mayor Thompson spoke regarding the benefits of electronic utility billing, encouraging those who have not signed up to fill out the form and spread the word.

b) Police Department Monthly Activity Report.

- **Traffic and Code Compliance Enforcement, criminal activity, and upcoming events.**

Chief Eberhardt reviewed the police department monthly activity report and spoke regarding working with the Comal County Engineers Office for authorization to erect and maintain "no thru truck" traffic signs outside the City limits to allow these trucks adequate areas to turn around in an effort to curtail some of the thru truck traffic (see attached map). Chief Eberhardt stated that three out of the four crashes reported in November were vehicle versus deer collisions and reminded residents that it is a violation of city ordinance to feed the deer, stating a citation was issued to an individual that had multiple active feeders on their property. Chief Eberhardt also stated he followed up on a citizen comment regarding urban hunting in the City of Longview and reported to City Council that he contacted the City of Longview and was told they do not allow urban hunting nor were they aware of any such activity occurring in their city.

c) Public Works Monthly Activity Report.

- **Street and right-of-way maintenance, drainage facility and easement maintenance, City parking lots and facility maintenance, Animal Services (domestic and wild), Oak Wilt, and Public Works Projects.**

Steven Steinmetz, Public Works Director, reviewed the public works monthly activity report and spoke regarding three (3) dogs at the animal shelter, including addressing questions and comments from Councilmembers.

d) Water Department Monthly Activity Report.

- **Water pumping/usage from City wells, water system infrastructure maintenance, repairs and/or projects, leak adjustments, Water and/or Drought Management (current Watering Stage).**

Jacob Parsons, Water Manager, reviewed the water department monthly activity report and stated the Water Company received a superior rating from Texas Commission on Environmental Quality (TCEQ). He addressed questions and comments from Councilmembers.

e) Library Monthly Activity Report.

- **Upcoming events.**

Linda Crosland, Librarian, reviewed upcoming events at the Garden Ridge Library.

8. City Engineer Projects Status Reports

Pat Lackey, City Engineer, reviewed the Trihydro Corporation – Engineering Report for December 2019 and addressed questions from Councilmembers. The topics of discussion included the following items: FM 2252 TxDOT Project, FM 2252 Wastewater Project, The Woods of Garden Ridge / Bindseil Lane Drainage Project, T. Blackwell Office Building, Northeast Bible Church, and Amended Plat Reviews Pending.

9. City Commission and Committee Reports/Recommendations/Possible Actions

a) Planning and Zoning Commission Recommendations and Possible Action:

1. Receive monthly activity update as applicable.

Chair Dr. Miller provided City Council with an update on the topics discussed at the Commission's November meeting. He spoke regarding Chance Sparks with Freese and Nichols, Inc. attending the meeting to discuss legislative updates and the Draft Zoning Ordinance with the Commission.

b) Quarry Commission Recommendations and Possible Action:

1. Receive monthly activity update as applicable.

Chair Holly stated the Quarry Commission did not meet in November and the Commission's next meeting is on Monday January 13th, 2020.

c) Water Commission Recommendations and Possible Action:

1. Request for water leak adjustment for 19907 Wild Crest for the billing period of June 24, 2019 - July 22, 2019.

1.1. Receive recommendation from the Water Commission.

Chair Valdez stated the Commission reviewed the request for a water leak adjustment and stated the Commission recommends City Council approve the Water Manager's proposal of a \$3,959.58 account credit due to the Water Department's investigation of data revealing a water loss from June 30th to July 9th.

1.2. Take action on recommendation.

Motion: A motion was made by Mayor Pro-Tem McCaw, seconded by Councilmember Arvidson, to approve the Water Commission's recommendation regarding the request for water leak adjustment for 19907 Wild Crest for the billing period of June 24, 2019-July 22, 2019, and credit the account in the amount of \$3,959.58. The City Council voted four (4) for and one (1) opposed. The motion passed by a vote of 4-1 (Councilmember Lantzy).

2. Request for water leak adjustment for 21319 Forest Waters Circle for the billing period of July 22, 2019 - August 22, 2019.

2.1. Receive recommendation from the Water Commission.

Chair Valdez stated the Commission reviewed the request for a water leak adjustment and stated the Commission recommends City Council approve the Water Manager's proposal of a \$571.18 account credit due to the Water Department's investigation of data revealing a water loss from August 7th to September 4th.

2.2. Take action on recommendation.

Motion: A motion was made by Mayor Pro-Tem McCaw, seconded by Councilmember Bower, to approve the Water Commission's recommendation regarding the request for water leak adjustment for 21319 Forest Waters Circle for the billing period of July 22, 2019-August 22, 2019, and credit the account in the amount of \$571.18. The City Council voted four (4) for and one (1) opposed. The motion passed by a vote of 4-1 (Councilmember Lantzy).

3. Request for water leak adjustment for 9331 Gardenia Bend Drive for the billing period of July 22, 2019 - August 22, 2019.

3.1. Receive recommendation from the Water Commission.

Chair Valdez stated the Commission reviewed the request for a water leak adjustment and spoke regarding the Water Department being unable to obtain data through a laptop read for the billing period in question due to the amount of time passed. Chair Valdez stated the resident was in attendance at the Water Commission meeting and spoke regarding the high water usage being related to an equipment malfunction of the irrigation control box; therefore, not an actual leak but still constituting a water loss.

3.2. Take action on recommendation.

Motion: A motion was made by Councilmember Bower, seconded by Councilmember Lantzy, to deny the request for water leak adjustment for 9331 Gardenia Bend Drive for the billing period of July 22, 2019-August 22, 2019. The City Council voted five (5) for and none (0) opposed. The motion carried unanimously.

4. Receive monthly activity update as applicable.

Chair Valdez provided City Council with an update on the topics discussed at the Commission's November meeting, including the number and amounts of additional water leak adjustment requests reviewed by the Commission with recommendations to the City Administrator for approval. He stated the Commission rescheduled their December meeting to Tuesday, December 17th due to Christmas. He addressed questions and comments from Councilmembers.

d) Wildlife Management Advisory Commission Recommendations and Possible Action:

1. Letter of appreciation to Craig Hensley, Texas Parks and Wildlife Department.

Chair Segovia spoke regarding the letter of appreciation to Craig Hensley, Texas Parks and Wildlife Department, prepared and signed by all the Commissioners for his dedication in going above and beyond for the City and requested the City Council sign the letter so it can be sent to Mr. Hensley as well as his supervisor.

2. Receive monthly activity update as applicable.

Chair Segovia provided City Council with an update on the topics discussed at the Commission's November meeting. She spoke regarding upcoming education sessions, feral hogs, deer management, the butterfly meadow in Paul Davis Park, and the Wildlife Management Plan. She stated the Commission will not meet in December and they rescheduled their January meeting to Monday, January 27th.

e) Garden Ridge Parks Committee:

1. Receive monthly activity update as applicable.

Dr. Jim Miller, Parks Committee, spoke regarding the annual Christmas tree lighting event and encouraged everyone to attend this tradition on December 5th at 5pm at the Community and Event Center.

f) Volunteer Garden Ridge!

1. Receive monthly activity update as applicable.

Nancy Cain, City Administrator, stated *Volunteer Garden Ridge!* reported 225 hours for November.

10. Approvals/Authorizations

The following items are for discussion, consideration, and action.

a) Public Information Officer.

1. Update on potential retention of Public Information Officer services.

Mayor Thompson stated there are no additional updates at this time, but this item is still pending.

b) Garden Ridge Market Days.

1. Discuss status and monthly activity update.

Councilmember Swint provided City Council with a monthly activity update and spoke regarding the Market Manager Report, which included the November Market Summary, November Marketing Recap, and December Highlights. The City Council discussed the need to consider any liabilities to the City with regards to activities that are primarily aimed to provide entertainment. Cynthia Trevino, City Attorney, spoke regarding the specific liabilities with regards to ponies and farm animals.

2. Take action on modifications to operating procedures.

Councilmember Swint stated the modifications for City Council action include considering the following items:

- Removing the Mayor from the Market governance
- Providing the Market with more autonomy by authorizing primary oversight to the City Administrator
- Expanding the Market to the Community and Event Center during January, February, July, and August due to those being the two (2) coldest months and the two (2) hottest months to increase turnout

Mayor Thompson spoke regarding the need for written guidelines and operating procedures to allow for Market autonomy, the costs incurred when expanding the Market to the Community and Event Center, and how other Markets typically close during a few months out of the year for weather purposes.

The City Council discussed creating Market guidelines and operating procedures, the complexion and future of the Market, goals for the Market and the City, liability concerns, and City Council involvement when it comes to decision making. The City Council also discussed the Market covering any additional expenses associated with expanding the Market to the Community and Event Center.

The City Council agreed by consensus to remove the Mayor from the Market governance.

The City Council agreed by consensus to put together written and specific guidelines, regulations, rules, operating procedures, operating costs, and any matters related to the Market in order to provide the Market with more autonomy.

Motion: A motion was made by Councilmember Lantzy, seconded by Councilmember Arvidson, to hold the Garden Ridge Market Days event at the Community and Event Center four (4) days a year for the monthly market in January, February, July, and either August or September. During the discussion of the motion, the City Council discussed putting guidelines and operating procedures in writing as soon as possible for review and consideration and reconsidering the guidelines and operating procedures on a set basis based on the future goals of the City. The City Council voted five (5) for and none (0) opposed. The motion carried unanimously.

11. Updates

a) City Administrator Reports.

1. Update on Feral Hogs.

Nancy Cain, City Administrator, provided City Council with an update regarding the status of feral hog trapping services and stated there has not been any recent reports of yard damage.

2. Update on CIP projects.

Nancy Cain, City Administrator, spoke regarding the remaining CIP funds and stated the project should be closed out prior to the January City Council meeting.

3. Update on security upgrades at Paul Davis Park.

Chief Eberhardt provided City Council with an update regarding the security upgrades at Paul Davis Park. He spoke regarding digital locks on the bathrooms as well as the status and projected timeline for completion of trenching and hardware installation.

4. Update on City use of password management system.

Marisa Spencer, City Secretary, stated there are no additional updates at this time, but this item is still pending.

b) Mayor's Projects.

1. Communication Report.

Mayor Thompson spoke regarding the front office staff communicating the change in garbage collection services due to Thanksgiving. He thanked the front office for creating the informational and catchy message that was posted on the City's website as well as the City's social media platforms.

2. Citizen Contact Report.

Mayor Thompson spoke regarding the Public Works Department contacting TxDOT regarding a drainage concern as it related to the MS4 Stormwater Management Program submitted by Public Works Director Steven Steinmetz and thanked the Public Works Department for their collaborative effort in resolving this concern.

Mayor Thompson spoke regarding the Police Department's concerns regarding commercial trucks being able to turn around prior to entering the City limits and thanked Chief Eberhardt for his efforts in communicating and coordinating with Comal County to allow "no thru truck" traffic signs to be strategically placed in locations outside the City limits.

3. City Facility Update.

3.1. Audio/Visual Upgrades and Streaming.

Marisa Spencer, City Secretary, provided City Council with an update on integrating the online portal that enables indexing streamed videos to the City's website and stated City Council and Commission meetings will be streamed directly to the City's website where agendas and minutes are posted. She also thanked Shelby Trial for his assistance and countless volunteer hours spent helping the City throughout all of the upgrades to the City Council Chambers.

4. TxDOT Coordination/FM 3009 Safety.

Mayor Thompson spoke regarding TxDOT committing to lower the speed limit on FM 3009 by the end of October. He stated after calling on November 1st for an update, he received information weeks later indicating TxDOT had not submitted the necessary paperwork. Mayor Thompson spoke regarding TxDOT continuing to be unresponsive, untimely, and uncoordinated throughout their projects, stating the City will not stop their efforts until the necessary changes are made by TxDOT.

c) City Council Projects.

1. Length of City Council Meetings (Lantzy).

Councilmember Lantzy spoke regarding how other cities conduct business during City Council meetings.

2. Pets (Bower).

Councilmember Bower spoke regarding being a responsible pet owner.

12. Discussion of Future Agenda Items

None at this time.

13. Citizen Comment Period – limited to 20 minutes total

Mayor Thompson reviewed the rules for Citizen Comment Period.

Ken Kneupper, 8891 Schoenthal Road, spoke regarding Comal ISD widening roadways and various projects TxDOT is currently working on.

Shannon Drichta, 9380 Cinchona Trail, spoke regarding automated meter reading infrastructure and costs.

14. Reports and Comments from Mayor and City Councilmembers

The Mayor and/or City Councilmembers may comment, make general announcements, and/or provide progress reports on events, activities and/or committees/board meetings concerning the following:

Alamo Area Metropolitan Planning Organization

Boy Scouts and/or Girl Scouts

City of Garden Ridge sponsored events and outreach efforts

Comal ISD (Garden Ridge Elementary School/Danville Middle School/Davenport High School)

Counties (Bexar/Comal/Guadalupe)

Garden Ridge Lions Club

Garden Ridge Citizen Police Academy Alumni Association/Citizen Patrol

Garden Ridge Women's Club

Greater Bexar County Council of Cities

Northeast Partnership

Mayor Pro-Tem McCaw spoke regarding the Garden Ridge Lions Club delivering meals for Thanksgiving and Christmas.

15. Executive Session

The City Council will recess its open meeting and reconvene in Executive Session:

a) Pursuant to Texas Government Code Section 551.071 – Consultation with Attorney.

- 1. To seek legal advice in connection with deliberating the purchase, lease, exchange, or value of real property and regarding related negotiations for City building projects, and utility projects.**

b) Pursuant to Texas Government Code Section 551.074 – Personnel Matters and Section 551.071 – Consultation with Attorney, if necessary.

- 1. To discuss the duties, responsibilities, and potential corrective action in relation to incident involving Eric Lowman and Brian Horne.**

c) Pursuant to Texas Government Code Section 551.071 – Consultation with Attorney.

- 1. To seek legal advice regarding requirements for Comal County Emergency Services and authority to contract for such services through an interlocal agreement.**
- 2. To seek legal advice regarding settlement offer and potential litigation related to Republic Services waste management agreement.**

Mayor Thompson announced the City Council will recess at 8:32 p.m. and reconvene into Executive Session at 8:42 p.m., in accordance with Texas Government Code Section 551.071 – Consultation with Attorney, and Section 551.074 – Personnel Matters to discuss and seek legal advice on the items stated above.

Mayor Thompson adjourned the Executive Session and reconvened back into Regular Session at 9:38 p.m.

16. Business Items

The City Council will reconvene into Regular Session upon conclusion of the Executive Session and may recall any item posted for Executive Session for action, as necessary.

Mayor Thompson asked if any Councilmembers wanted to recall any items posted for Executive Session to allow for any action they wanted to take.

Motion: A motion was made by Mayor Pro-Tem McCaw, seconded by Councilmember Lantzy, to approve the settlement offer with Republic Services and prepare an amendment to Ordinance No. 143 in order to increase the trash service fee by \$1.44 per household per month. The City Council voted five (5) for and none (0) opposed. The motion carried unanimously.

17. Adjournment

Motion: A motion was made by Councilmember Arvidson, seconded by Councilmember Bower, to adjourn. The City Council voted five (5) for and none (0) opposed. The motion carried unanimously. There being no further business, the Wednesday, December 4, 2019, City Council regular meeting was adjourned at 9:40 p.m. by Mayor Thompson.

ATTEST

Larry Thompson
Mayor

Marisa Spencer
City Secretary

CITY OF GARDEN RIDGE
MONTHLY ACCOUNT BALANCES & INTEREST RATES
PERIOD ENDED AS OF 11/30/2019

CITY FUNDS	BALANCE	CURRENT INTEREST RATE
GF OPERATING ACCOUNT	\$ 127,111.13	0.00%
GF MONEY MARKET	361,450.97	1.87%
PEG CAPITAL FEES	31,809.52	1.87%
TEXPOOL INVESTMENTS	1,782,227.23	1.6774%
FARMERS MARKET	2,264.51	1.06%
2009 I&S	2,021.74	1.86%
2012 I&S	8,751.95	1.87%
2012 REFI	13,930.42	1.87%
2015 I&S	7,446.51	1.87%
TEXPOOL WATER IMPACT FEES	169,467.04	1.6774%
TEXPOOL STREET IMPACT FEES	58,649.42	1.6774%
CONSTRUCTION BOND	138,177.07	1.87%
TEXPOOL WATER RIGHTS	5,165.27	1.6774%
TEXPOOL 2015 CIP PROJECT	-	0.00%
2015 CIP PROJECT	30,204.07	1.87%
ASSET/FORFEITURE - STATE	98.03	0.00%
ASSET/FORFEITURE - FED	236,793.44	1.87%
TOTAL CITY FUNDS	\$ 2,975,568.32	

WATER FUNDS	BALANCE	CURRENT INTEREST RATE
TEXPOOL WATER INVEST	\$ 1,388,614.69	1.6774%
WATER SURCHARGE	146,769.81	1.87%
OPERATING ACCOUNT	534,382.59	1.87%
TOTAL WATER FUNDS	\$ 2,069,767.09	

TOTAL ALL ACCOUNTS	\$ 5,045,335.41	
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CITY OF GARDEN RIDGE
CASH & INVESTMENTS STATEMENT
CURRENT AND YEAR TO DATE AS OF 11/30/2019
PRE-AUDIT

GENERAL FUND	BALANCE
GF Operational Checking	\$ 127,111.13
GF Money Market	361,450.97
TexPool Investments	1,782,227.23
Restricted Amounts	(36,109.30)
TOTAL General Fund Balance	\$ 2,234,680.03

WATER FUND	BALANCE
Operational Checking	\$ 534,382.59
TexPool Water Invest	1,388,614.69
Water Surcharge	146,769.81
Restricted Amounts	(135,584.49)
TOTAL Water Fund Balance	\$ 1,934,182.60

CITY OF GARDEN RIDGE
 STATEMENT OF ACTIVITIES
 CURRENT AND YEAR TO DATE AS OF 11/30/2019

GENERAL FUND	Nov-19	YTD	FY 2020 BUDGET	% OF BUDGET	BUDGET BALANCE
REVENUES	\$ 297,514.00	\$ 385,825.90	\$ 2,933,251.00	13.2%	\$ 2,547,425.10
EXPENDITURES					
ADMINISTRATION	44,069.89	101,007.03	768,797.00	13.1%	667,789.97
COURT	5,290.58	17,445.87	85,586.00	20.4%	68,140.13
POLICE	101,577.58	217,849.17	1,324,104.00	16.5%	1,106,254.83
PUBLIC FACILITIES	47,291.48	87,089.26	593,957.00	14.7%	506,867.74
COMMUNITY CENTER	5,844.94	11,139.87	61,295.00	18.2%	50,155.13
LIBRARY	6,774.68	14,474.72	96,182.00	15.0%	81,707.28
FARMERS MARKET	1,163.56	2,084.01	-		(2,084.01)
FUND CHANGES/XFER	-	-	-	0.0%	-
TOTAL EXPENDITURES	212,012.71	451,089.93	2,929,921.00	15.4%	2,478,831.07
REVENUE +/- EXPENDITURES	<u>\$ 85,501.29</u>	<u>\$ (65,264.03)</u>	<u>\$ 3,330.00</u>		<u>\$ 68,594.03</u>

WATER FUND	Nov-19	YTD	FY 2020 BUDGET	% OF BUDGET	BUDGET BALANCE
REVENUES	\$ 104,652.01	\$ 288,294.09	\$ 1,785,110.00	16.1%	\$ 1,496,815.91
EXPENDITURES	71,567.59	165,041.34	1,342,120.00	12.3%	1,177,078.66
REVENUE +/- EXPENDITURES	<u>33,084.42</u>	<u>123,252.75</u>	<u>442,990.00</u>		<u>319,737.25</u>
BALANCE SHEET PMTS					
BOND PRINCIPLE PMTS	-	-	442,600.00		442,600.00
AUTO LEASE PMT	-	-	-		-
NET POSITION	<u>\$ 33,084.42</u>	<u>\$ 123,252.75</u>	<u>\$ 390.00</u>		<u>\$ (122,862.75)</u>

CITY OF GARDEN RIDGE
STATEMENT OF ACTIVITIES - COMMUNITY CENTER
PERIOD ENDED AS OF 11/30/2019

REVENUES	YTD	Budget
RENTALS	\$ 7,645.00	32,000.00
DEPOSITS	1,950.00	11,000.00
CLEAN-UP FEES	600.00	2,250.00
DEPOSITS REFUNDED	(3,300.00)	(12,000.00)
DONATIONS	-	-
TOTAL REVENUES	<u>6,895.00</u>	<u>33,250.00</u>
 EXPENDITURES		
PAYROLL/TAXES/RETIREMENT	312.32	1,561.00
MANAGER FEES	2,667.00	17,100.00
COMPUTER/INTERNET	289.64	1,644.00
TELEPHONE	94.00	600.00
UTILITIES	1,194.86	10,600.00
MAINTENANCE	2,308.09	9,300.00
SUPPLIES	73.96	1,260.00
CLEANING	900.00	5,730.00
EQUIPMENT	-	500.00
MARKETING	-	1,000.00
DONATION EXPENDITURES	-	-
FACILITY ENHANCEMENTS	-	-
TOTAL EXPENDITURES	<u>7,839.87</u>	<u>49,295.00</u>
 NET POSITION	 <u><u>\$ (944.87)</u></u>	 <u><u>\$ (16,045.00)</u></u>

Garden Ridge

Farmers Market

Actual	Nov-19	Nov Booths	Total FY20	YTD Booths
Vendor Revenue	2,228.00	48	3,337.00	80
Management Fees	(710.00)		(1,175.00)	
Paypal Fees	(72.24)		(72.24)	
Net Vendor Revenue	1,445.76		2,089.76	
City Funding	1,000.00		1,000.00	
Interest Earned	1.70		1.97	
Other Revenue	1,001.70		1,001.97	
Total Revenue	2,447.46		3,091.73	
Expenditures				
Wages Reg & OT	119.04		241.58	
Wages Taxes/Retire	18.66		37.87	
Equipment Rental	0.00		96.17	
Marketing	235.57		427.15	
Misc. Supplies	8.05		34.00	
Total Expenditures	381.32		836.77	
Net +(-)	2,066.14		2,254.96	
Available Bank Balance	\$ 1,812.06			

Management's Discussion and Analysis of Results of Operations – November 2019

GENERAL FUND

Cash

The November 30th Unrestricted Fund Balance is \$2,234.7k.

Revenue

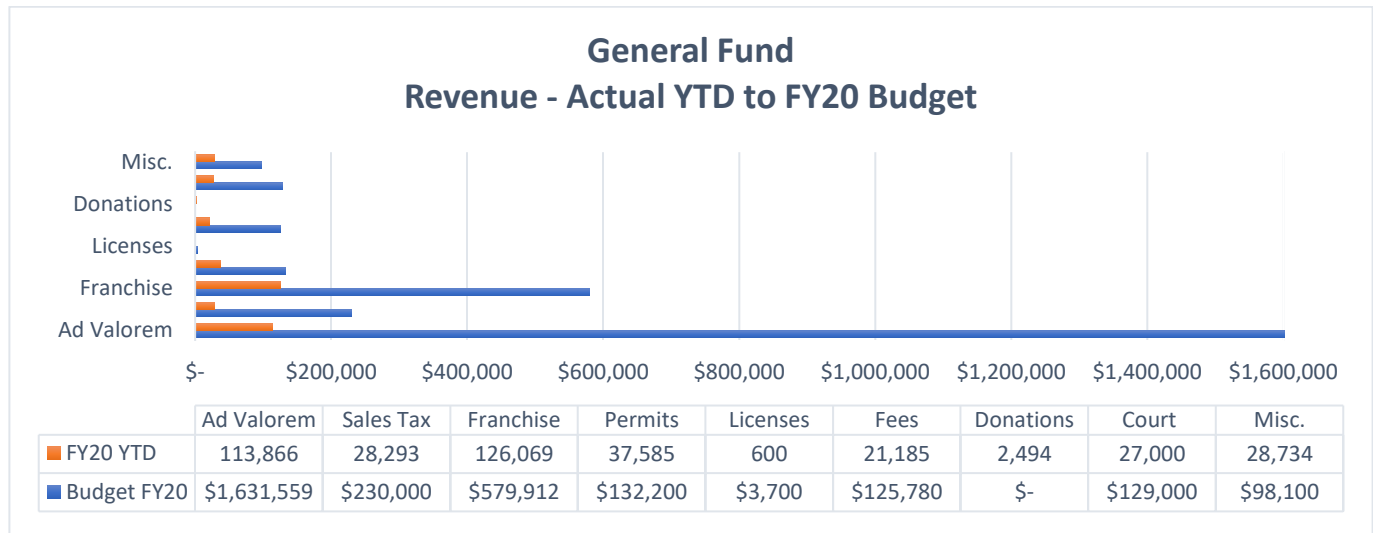
Ad Valorem Tax collections for November total \$109.6k. The Ad Valorem Tax Revenue budget for FY20 is \$1,622.6k. The bulk of this will be collected in January and February 2020.

YTD Sales Tax collections total \$28.3k or 12.3% of the budgeted \$230k.

Building Permits YTD are currently at 28.8% or \$37.4k of the \$130k budgeted.

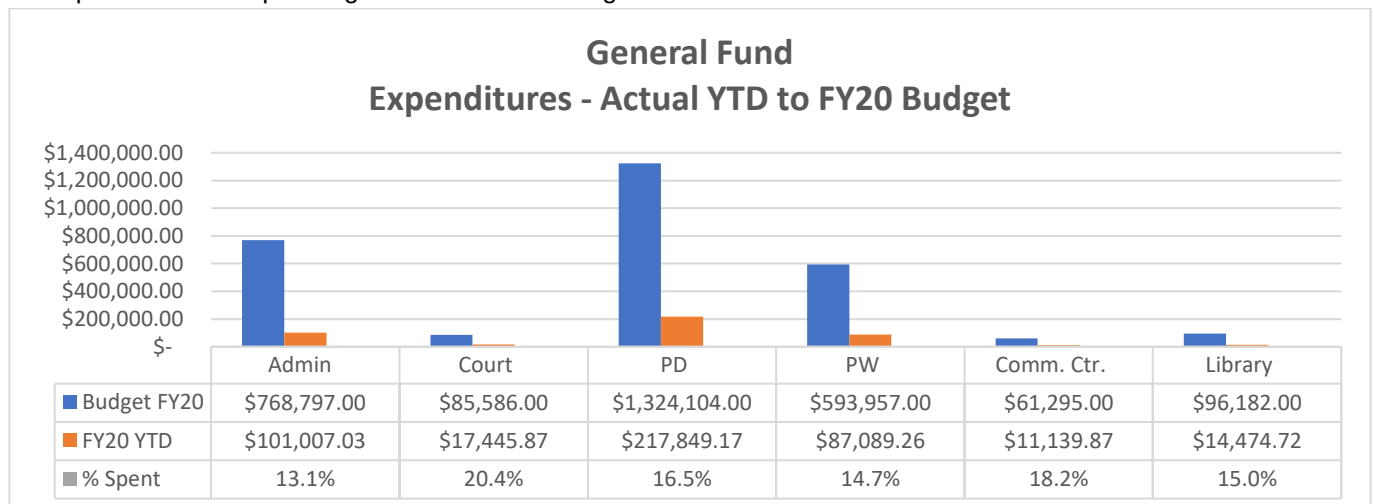
Quarterly Franchise fees of \$100k were collected from CPS Energy in November.

YTD revenue for Trash Collections total \$12.7k vs \$11.9k for the same period of the prior year.



Expenditures

All departments are operating within the FY20 budget.



WATER FUND

Meters

Current meters for November 2019 total 1655 vs 1620 for November 2018.

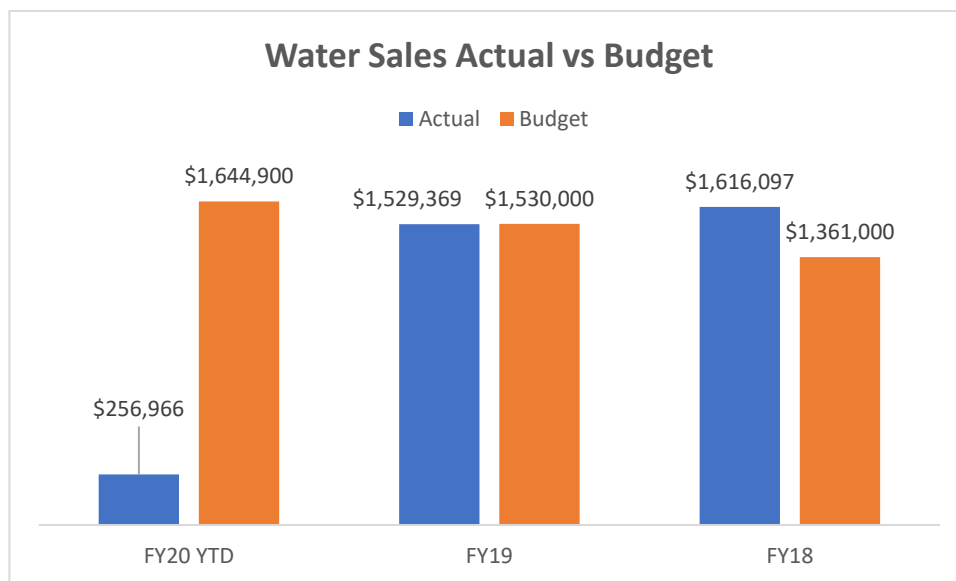
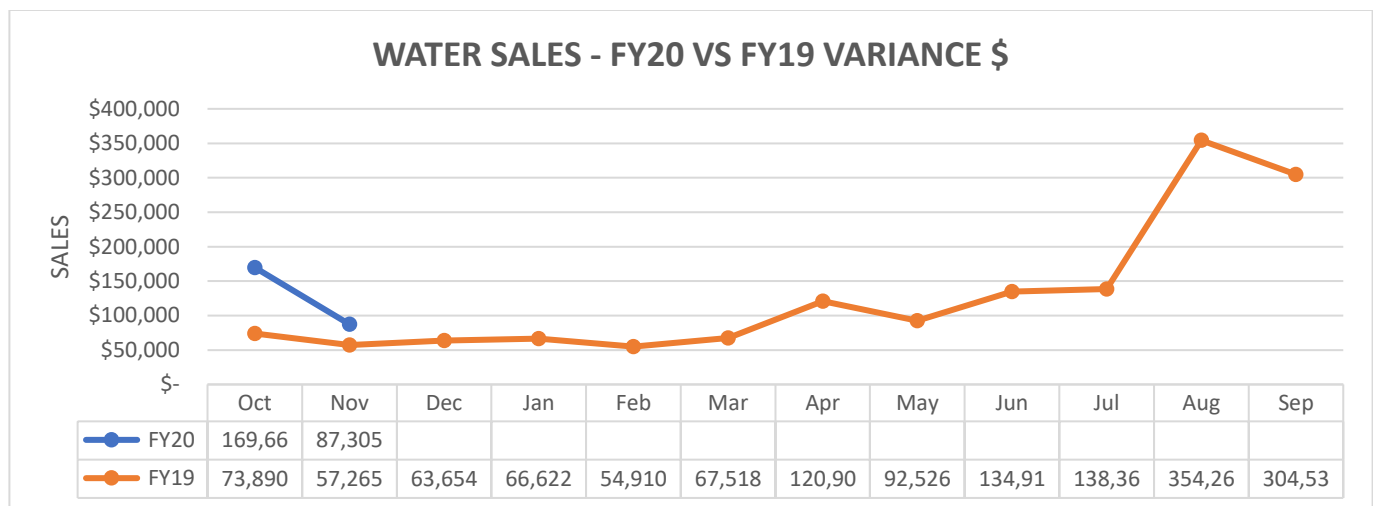
Cash

The November 30th Unrestricted Fund Balance is \$1,934.2k.

Revenue

YTD Total Revenue was \$288.3k vs the previous year at \$153.9k. Total Revenue is at 16.1% of the \$1.785.1k budgeted for FY20.

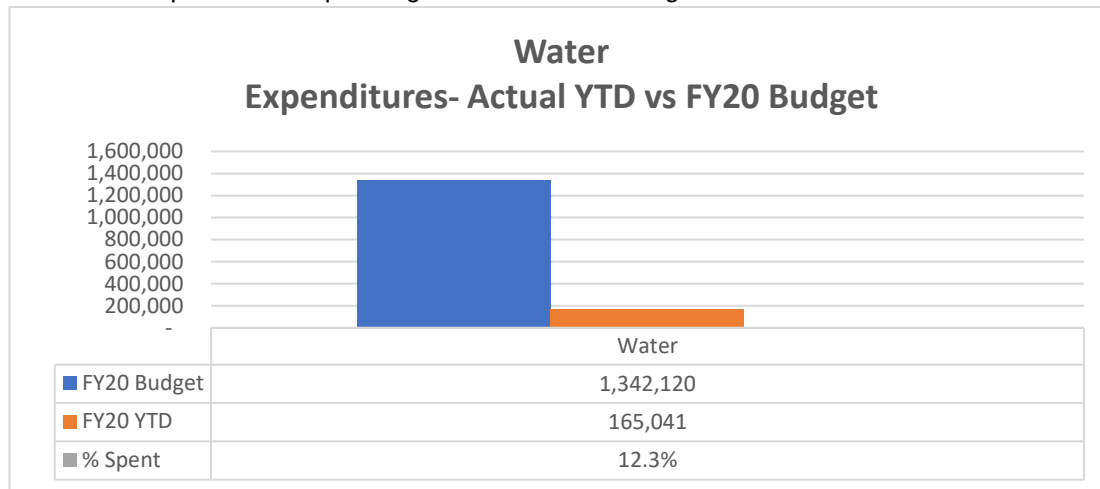
Water Sales YTD total \$257k or 15.6% of the \$1,644.9k FY20 budget, compared to the same period last year which was 8.6% of the \$1.530k FY19 budget.



Meter Installations to date total \$8k vs \$4k for the same period of FY19.

Expenditures

The Water department is operating within the FY20 budget.



Interest & Sinking Fund

Revenue

Ad Valorem Tax collections YTD total \$47.4k of the \$724k budget for FY20.

Expenditures

Next bond payment due in February 2020.

Capital Improvements Fund

Cash Balance

The 2015 CIP Project Balance is \$30.2k. *(Balance reflects only items that have been presented for payment.)*

Water Impact Fee Balance is \$174.6K.

Street Impact Balance is \$58.6k.

Revenue

Total YTD Interest earned for all CIF accounts is \$800.

Asset Seizure Fund

Cash Balance

The Restricted Fund Balance is \$236.9k.

Revenue

Asset seizure revenue totaled \$371 in November.

Expenditures

Expenditures for November total \$1.1k.

Summary

The City of Garden Ridge is financially sound and operating within the Budget set forth by the City Council.

Council Ideas/Suggestions List by Category

Updated: December 18, 2019

Ongoing Items	Status	Completed / Council Approval
Electronic Water Billing (Mayor Thompson)	Software upgrade on May 19 Include in FY 2017 Budget Begin implementation FY 2017 Full implementation TBD Online water bill payments active September 14, 2016 Online Court payments active October 2016 Electronic utility billing being researched for implementation during 2018 Fiscal Year Software purchase with Incode placed in the proposed FY2018 Budget Utility billing staff will begin work towards. Software will be installed first week in September. Training in late October. Implementation in November. E-Bill information and sign up form being sent with water bills to be received in October 2019. 130 water customer have signed up for electronic billing. Electronic billing will be tested on 4 customers during this billing period. 220 customers have signed up for electronic water billing. Testing of electronic billing for 4 select customers is ongoing. . 265 customers have signed up for electronic water billing and will begin receiving water bills electronically on January 1, 2020.	Software upgrade completed for online utility and court payments

Video stream Council Meetings (Mayor Thompson)	Discuss with legal pros/cons Sound system in Council room can be planned for future streaming capabilities Requires additional technology upgrades and equipment Budget impact Video streaming of Council meetings will be studied during the fiscal year Mayor and City Staff researching process and equipment for video streaming Council and Commission meetings Audio and video equipment in the City Council Chambers is being evaluated for video streaming capabilities and sound improvement City is awaiting proposals for audio and video upgrades for Council room and large conference room from 3 vendors Proposals received being reviewed Proposals are being reviewed with vendors The evaluation of proposals with vendors continues City Council will receive an update on the status of the project in November Evaluation of proposals for the project and evaluation of third-party vendors for streaming of meetings are in the final processes Project pricing is being negotiated and finalized with vendors Project contracts being reviewed and adjusted with City Attorney recommendations. Scheduling of work for the project being coordinated Finalizing project work schedule for possible completion of project in February 2019 Installation of audio and video equipment other than the encoder for streaming of meeting are expected to be completed for the March 6, 2019 City Council meeting	
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Video stream Council Meetings (Mayor Thompson)	Upgrades to the audio and video equipment are near completion Awaiting shipment and installation of encoder for streaming Awaiting installation of encoder for streaming and a few minor adjustments to the new audio/visual system Awaiting training on the BrightSign software for the Lobby monitor Additional cabling run to connect streaming equipment and lobby monitor to network server Awaiting coordinated onsite work by CIT and DDS-AV to complete connection to network server Lobby monitor is projecting information about the City Streaming equipment is connected to the City network Council meetings are being streamed on the City's YouTube channel. Vendor for software has changed from Icompass to CivicClerk. Training on agenda indexing and template development to be completed in September. Staff continues training on agenda indexing for City Council meeting streaming. City Commission meetings began being streamed on October 21, 2019. Staff continues work on indexing of agendas for City Council meetings and will begin utilizing the minutes section of module. Streaming of Commission meetings continues. Staff is working with Civic Plus to move all archived streamed meetings to Civic Plus. Staff continues to work on agenda templates for Commission meetings City staff continues working on agenda templates for City Commissions.	
Videos for website (Mayor Thompson)	Maybe prepared by GRES or students to increase civic involvement Volunteer Garden Ridge! Coordinator Shelby Trial has been filming videos that have been placed on City Website and NextDoor. City Secretary Goodwin is working on a YouTube channel for the City The City's YouTube channel is up and videos have been posted to it New videos have been added to the website	

Pending Items	Status	Completed / Council Approval
Annual or semi-annual inspection of buildings and other City facilities (Mayor Thompson)	To be implemented semi-annually	Implemented Monthly

Disaster recovery plan for City (Mayor Thompson)	Discuss at future Council meeting to determine the scope of recovery plan To be incorporated into the Emergency Management Plan for the City	
Disaster recovery plan for Water Department (Mayor Thompson)	Discuss at future Council meeting to determine the scope of recovery plan To be incorporated into the Emergency Management Plan for the City	
Business outreach by Council - walk businesses (Mayor Thompson)	Discuss at future Council meeting	

Garden Ridge Community and Event Center
Monthly Report
December 1st thru December 31st, 2019

Utilization (by Days)

FY 19-20 (Current Month)	FY 18-19 (Current Month)	FY 19-20 (Year to Date)	FY 18-19 (Year to Date)
28	22	83	258

Wildflower (Booked Current Month)
17

Bluebonnet (Booked Current Month)
11

Category Count (by Events)

(Current Month) (Year to Date)

1. Resident / Non-Resident	7	18
2. City Chartered Non-Profit Organizations	1	4
3. Non-Residents Service Organizations	9	30
4. Non-Profit Associations	4	18
5. City Use	7	14

Marketing Activity:

Advertisement on City Sign

Facility Improvements: None

CITY OF GARDEN RIDGE BUILDING REPORT

November-19

Major Permits

<u>Permit #</u>	<u>Address</u>	<u>Builder</u>	<u>Sq. Ft.</u>	<u>Value \$</u>	<u>Peermitt Fees</u>
1711 -19	8290 Eskimo Forest	Chesmar Homes	4,663	\$ 606,190.00	\$ 3,672.80
1712 -19	8279 Eskimo Forest	Chesmar Homes	3,742	\$ 486,460.00	\$ 3,120.20
1713 -19	8267 Eskimo Forest	Chesmar Homes	5,018	\$ 652,340.00	\$ 3,885.80
1715 -19	8287 Apache Forest	Chesmar Homes	2051	\$ 266,630.00	\$ 3,905.60
1719 -19	21411 Fairview Circle	Dolores Hernandez	2,057	\$ 267,410.00	\$ 2,109.20
	Total		17,531	\$ 2,279,030.00	\$ 16,693.60

Minor Permits

<u>Permit #</u>	<u>Address</u>	<u>Builder</u>	<u>Project</u>	<u>Peermitt Fees</u>
1704 -19	22010 Deer Canyon	FM Comstruction	Patio, Bathroom	\$ 425.80
1705 -19	20320 Regency Run	Tuff Shed	Outbuilding	\$ 100.00
1705 -19	22192 Quiet Moon	Brite Electric	Spa, Electric	\$ 225.00
1707 -19	19450 Arrowood Place	Switch Electric	Minor Electric	\$ 125.00
1708 -19	8215 Shining Elk	James Miller	Fence	\$ 125.00
1709 -19	20011 Buckhead Ln.	Fencecrete	Fence	\$ 125.00
1710 -19	20408 Wahl Ln.	Keith Zars Pools	Pool, Spa, Deck	\$ 705.08
1714 -19	8303 Shining Elk	Solar Alliance	Minor Electric	\$ 125.00
1716 -19	8219 Garden Ridge Dr.	Jon Wayne Service Co.	Minor Electric	\$ 125.00
1717 -19	8283 Apache Forest	Chesmar Homes	Landscape Wall	\$ 125.00
1718 -19	22187 Via Posada	Marc Jones Construction	Minor Electric	\$ 125.00
1720 -19	8516 Verano Dr.	Pool Concepts	Pool, Spa, Deck	\$ 711.80
	Total			\$ 3,042.68

Total Major Fees for the month	\$ 16,693.60
Total Minor Fees for the month	\$ 3,042.68
TOTAL	\$ 19,736.28

Fiscal Year 2020

Total major projects value	\$ 3,458,000.00
Total major projects sq. ft.	26,600
Total major permit fees	\$ 23,885.00
Total minor permit fees	\$ 7,680.32
Total permit fees	\$ 31,565.32

CITY OF GARDEN RIDGE BUILDING REPORT

December-19

Major Permits

<u>Permit #</u>	<u>Address</u>	<u>Builder</u>	<u>Sq. Ft.</u>	<u>Value \$</u>	<u>Peermitt Fees</u>
1722 -19	20617 Wahl Lane	Weston Dean Custom Homes	5,649	\$ 734,370.00	\$ 4,364.40
1728 -19	8303 Apache Forest	Chesmar Homes	3,648	\$ 474,240.00	\$ 3,063.80
1734 -19	8302 Apache Forest	Chesmar Homes	4605	\$ 598,650.00	\$ 3,638.00
1735 -19	8306 Apache Forest	Chesmar Homes	5,080	\$ 660,400.00	\$ 3,923.00
Total			18,982	\$ 2,467,660.00	\$ 14,989.20

Minor Permits

<u>Permit #</u>	<u>Address</u>	<u>Builder</u>	<u>Project</u>	<u>Peermitt Fees</u>
1721 -19	9956 Trophy Oaks	Alamo Fence of S A	Fence	\$ 125.00
1723 -19	8732 Verano Dr.	Keith Zars Pools	Pool, Deck	\$ 624.12
1724 -19	19531 Creekview Oaks	Cityline Fence Co.	Fence	\$ 125.00
1725 -19	20326 Regency Run	Ryan Vo	Outbuilding	\$ 100.00
1726 -19	21103 Tree Top Cove	Triple A Fencing	Fence	\$ 125.00
1126 -19	9380 Cinchona Trail	Countywide Services	Minor HVAC	\$ 100.00
1727 -19	9915 Trophy Oaks	Timeless Sunsets	Casita	\$ 742.80
1729 -19	19808 Regency Run	Texas Green Scapes	Patio	\$ 100.00
1730 -19	20519 Cedar Cavern	Kustom Coral LLC	Fence	\$ 125.00
1731 -19	8231 Shining Elk	S A Outdoor Living	Pergola	\$ 100.00
1732 -19	19808 Regency Run	Texas Green Scapes	Outdoor Kitchen	\$ 325.00
1733 -19	21302 Maricopa Path	Stanley Smith	Gazebo	\$ 100.00
1736 -19	9335 Sumac Lane	Texas Pools & Patios	Pool, Deck, Firepit	\$ 539.16
1737 -19	18955 FM 2252 2B	Chris Overman	Addition	\$ 1,227.00
Total				\$ 4,458.08

Total Major Fees for the month	\$ 14,989.20
Total Minor Fees for the month	\$ 4,458.08
TOTAL	\$ 19,447.28

Fiscal Year 2020

Total major projects value	\$ 5,925,660.00
Total major projects sq. ft.	45,582
Total major permit fees	\$ 38,874.20
Total minor permit fees	\$ 12,138.40
Total permit fees	\$ 51,012.60



POLICE DEPARTMENT MONTHLY BREAKDOWN

December 1 to December 31, 2019

Calls for Service

Dispatched: 108 City Ordinance: 7 Total: 115 False Alarms: 9

Arrests

- *3 – Traffic Arrest Warrant or Other
- *1 – Driving While License Invalid with Previous Convictions
- *1 – Reckless Driving
- *1 – Possession Marijuana < 2oz
- *1 – Possession Controlled Substance PG 2 < 1G
- *1 – Evading Arrest/Detention Using Vehicle
- *1 – Possession Controlled Substance PG 1 < 1G

Traffic Enforcement

Crashes: 3 Citations: 126 Warnings: 85 Total: 211

Training / Certifications

- *Cultural Diversity, Human Trafficking, Crisis Intervention Training, Field Training Programs: An Introduction, and Field Training Programs: Utilizing the Daily Observation Report - Ofc. Byrne
- *CPR/AED Certification Course- all city employees completed

Outreach Efforts

- * Held our usual Coffee With The Cops in December w/ exception of Dec 25th. We will resume regular schedule this month.
- * Refuse to be a Victim, CRASE and ASECC courses have been scheduled for first quarter 2020 Please refer to Police Department Facebook for dates.

Administrative Comments

- * Saying Goodbye to Detective Spiller this month after many dedicated years of service to our community.

Challenges

- * Recruiting still creates major issues. State wide shortage has all departments looking for officers.



MONTHLY PUBLIC WORKS REPORT

Steven Steinmetz
Public Works
Director

Eric Lowman
Deputy Public
Works Director

Stanley Georg
Brian Horn
Manuel Troncoso

Ongoing Responsibilities

- Parks maintenance
- Facilities maintenance
- Streets
- All public facilities grass and right-of-way's
- Storm water Drainage
- Oak Wilt monitoring

Upcoming Events

Jan. 4th & 5th
Dumpster Weekend

Jan. 11th & 12th
Dumpster Weekend

Jan. 18th & 19th
Dumpster Weekend

Jan. 25th & 26th
Dumpster Weekend

December 2019

Activities for the month

Streets

- Potholes filled: 16.
- Signs repairs: 1
- Right of ways: Picked up litter on Doerr Lane.
- Bindseil Lane: Edge of road repairs.
- Right of ways: Picked up brush on Bat Cave.

Storm water Drainage Facility and Easement Maintenance

- Inspected 11 outfalls.
- Stormwater public outreach: 2 messages displayed on FM 2252 sign.
- Drainages mowed: 1.

Parks Maintenance

- Paul Davis Park: Installed 2 poles and conduit for security cameras.
Mowed 1 time.
Graded drainage.
- Park Lane Park: Mowed 1 time.

City Facility/Property Maintenance

- City Hall: Ongoing landscape work provided by the Comal Master Gardeners.
Mowed 1 time.
- Community Center: Replaced control board for aerobic system.
Setup for the tree lighting event.
Replaced lights in the kitchen with LED lights.
- Rental Property: Mowed 1 time.

Oak Wilt

- No new cases.
- Continue monitoring live oak trees at Paul Davis Park.

Reports Submitted

- Wildlife Management Advisory Commission Report.

Education/Training for Staff

- Public Works/Water Department Safety meeting.

Events/Conducted Education to residents

- None at this time.

Future Projects or Needs

- Upgrade to a bigger flammable material storage building.
- Increase office space at the Public Works building.

Animal Services Monthly Activities

- 16 deer carcasses were disposed of, which makes for the year 114.
- 0 wild hogs or deer were donated this month to Hunters for the Hungry, the year-to-date combined totals for wild hogs and deer donated are 4.
- 0 live traps loaned out this month, traps loaned out year-to-date 12.
- 320 registered/reregistered animals for the year.
- 0 nuisance complaints received.
- 0 animal reported bites.

Adoptions

- 0 dogs; 5 year-to-date.
- 0 cats; 2 year-to-date.

Returned to owners

- 7 dogs; 44 year-to-date.
- 0 cats; 7 year-to-date.

Transferred to other agencies

- 0 dogs for month; 4 year-to-date.
- 0 cats for month; 7 year-to-date.

Currently in City care

- 3 dogs; cats 2.

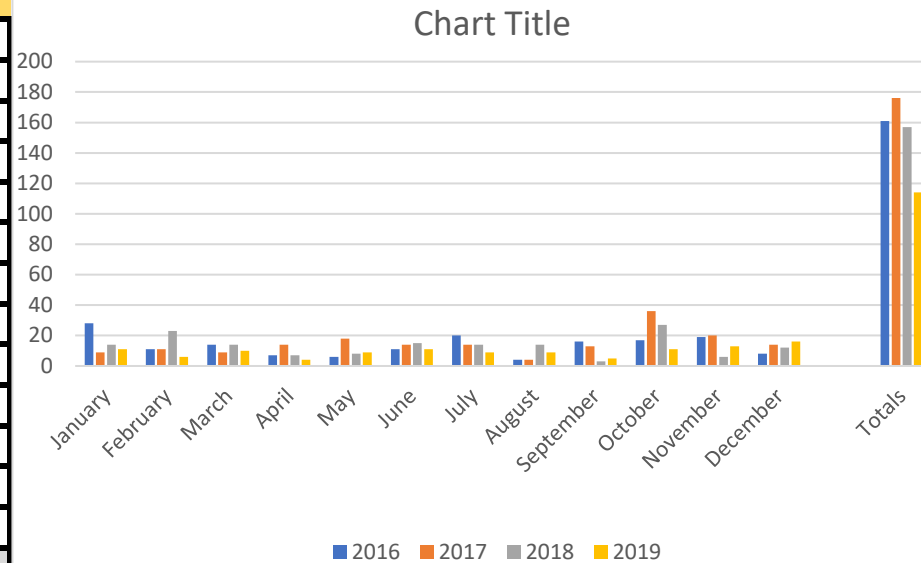


Year to Date Wildlife Report

	Jan	Feb.	Mar	Apr.	May	Jun	Jul	Aug.	Sep.	Oct	Nov	Dec.	Total
Deer	11	6	10	4	9	11	9	9	5	11	13	16	114
Raccoons	4	3	3	0	5	3	2	4	4	8	5	7	48
Opossums	5	1	1	4	2	4	4	0	3	6	3	7	40
Skunks	2	0	0	0	0	0	0	1	0	5	3	3	14
Wild hogs	0	0	0	0	0	0	0	0	4	0	5	0	9
Turtles	0	0	0	0	1	2	1	0	0	0	0	0	4
Squirrels	0	2	0	0	2	0	2	0	0	6	5	7	24
Foxes	5	1	0	0	0	3	0	0	0	1	2	1	13
Armadillos	0	1	0	1	1	0	0	2	5	5	3	6	24
Hawks	1	0	0	0	0	0	0	0	0	0	0	0	1
Bats	0	0	1	0	0	0	0	1	0	0	0	0	2
Coyotes	0	0	1	0	0	0	0	0	0	0	0	1	2
Buzzards	0	0	0	0	0	0	0	0	0	0	0	0	0
Ringtails	0	0	0	0	0	0	0	0	0	0	0	0	0
Snakes	0	0	0	1	0	4	1	1	0	2	0	0	9
Rabbit	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	28	15	16	10	20	27	19	18	21	44	39	48	305

Deer Carcass Removal Totals for 2017-2018-2019

	2016	2017	2018	2019
January	28	9	14	11
February	11	11	23	6
March	14	9	14	10
April	7	14	7	4
May	6	18	8	9
June	11	14	15	11
July	20	14	14	9
August	4	4	14	9
September	16	13	3	5
October	17	36	27	11
November	19	20	6	13
December	8	14	12	16
Totals	161	176	157	114

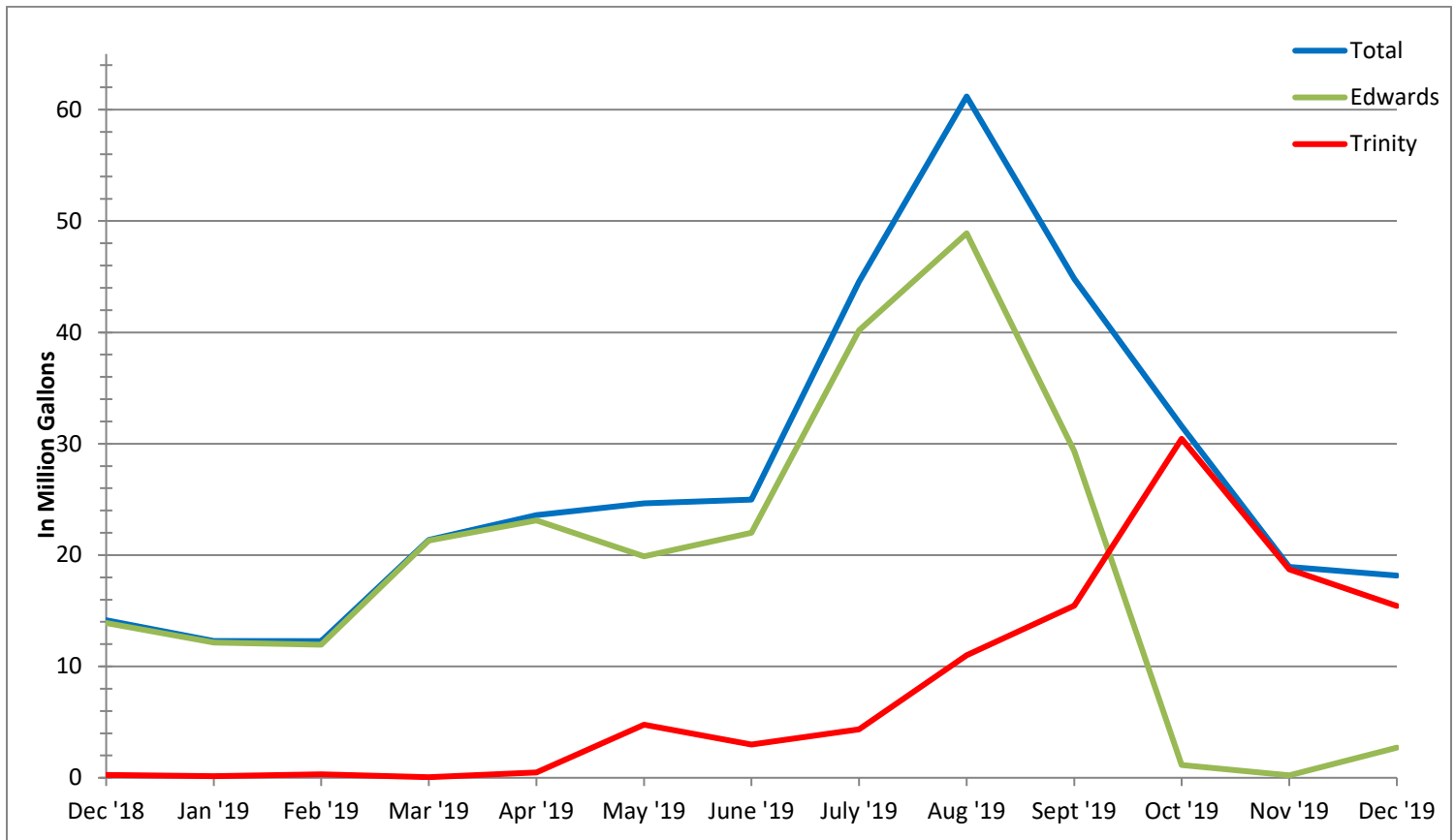




Water Department Report

As of December 31, 2019

City of Garden Ridge Well Usage

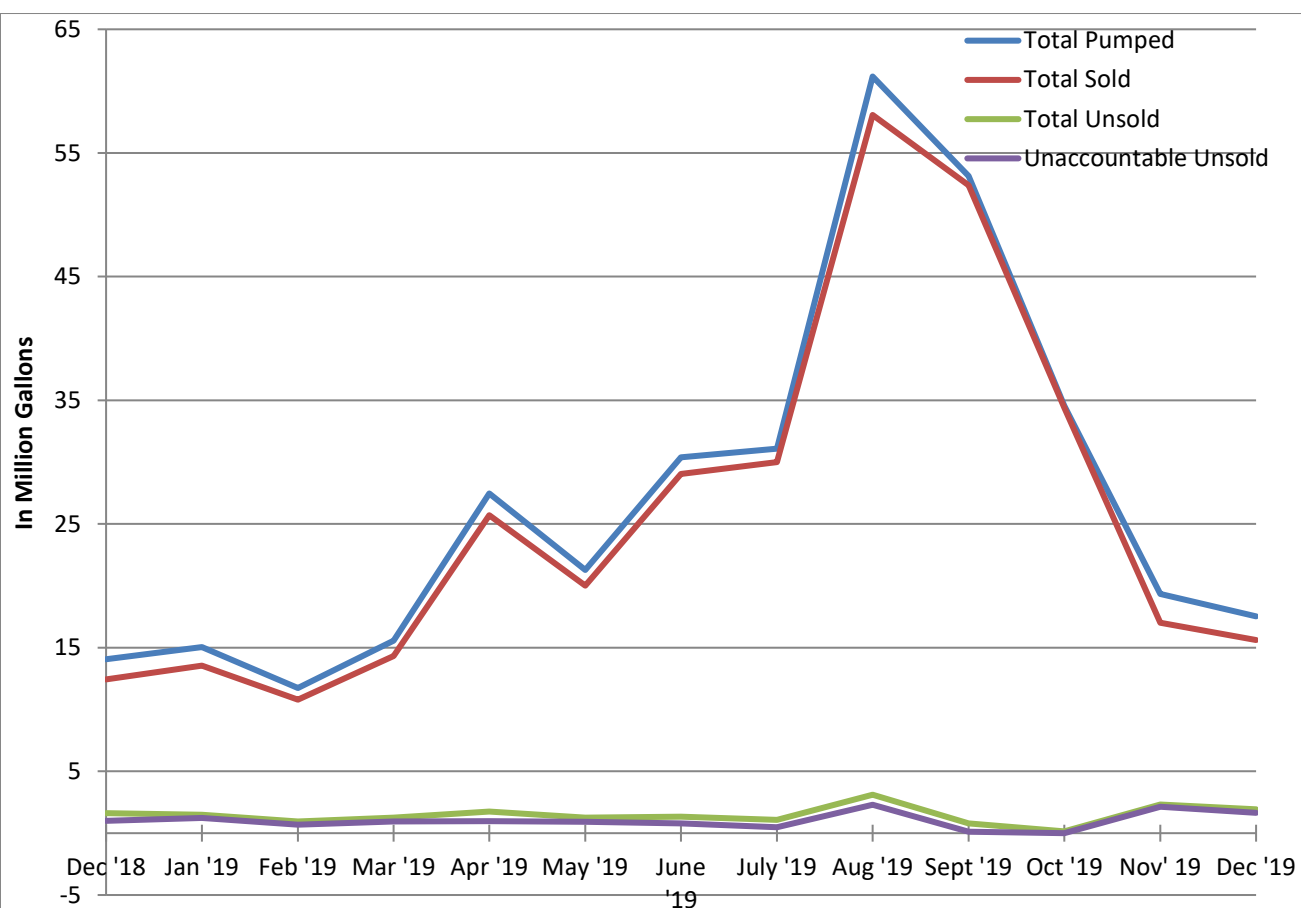


	Month:	Year:	Available:	Stage:
Edwards Well Usage AC/FT:	8.44	716.71	0	0
Trinity Well Usage AC/FT:	47.40	319.66	N/A	0%

Water Quality

	Due:	Missed:	Passed:	Failed:
Bacteriological:	6	0	6	0
Raw:	4	0	4	0
Chlorine Residual Test:	31	0	31	0

2018 – 2019 Pumping Report



Dec '18	14,073	12,447	1,626	998	7.1%
Jan '19	15,035	13,556	1,479	1,228	8.2%
Feb '19	11,738	10,795	943	691	5.9%
Mar '19	15,572	14,324	1,248	937	6.0%
Apr '19	27,464	25,712	1,752	985	3.6%
May '19	21,278	20,016	1,262	899	4.2%
June '19	30,391	29,047	1,343	802	2.6%
July '19	31,078	29,996	1,082	475	1.5%
Aug '19	61,184	58,074	3,110	2,298	3.8%
Sept '19 *	53,145	52,395	786	125	0.2%
Oct '19 *	34,551	34,405	146	0	0.0%
Nov '19	19,344	17,022	2,322	2,149	11.1%
Dec '19	17,527	15,610	1,917	1,657	9.5%

* September water loss is off due to inaccuracy of the Schoenthal well master meter.

Water Department Monthly Activities:

New Meter Installs	4	Work Orders	165
Meter Replacements	6	Locates	25
City Owned Leaks	1	Irrigations Permits Issued	0
Meters Read	1,674	Total Rebates	0
Meter Tests	0	Laptop Readings	14

Leak Adjustments

New Requests	5	Waiting for Customer	9	Approved	4	Amount Approved	562.66	Denied	2	Sent to Water Commission	4
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Projects:

- Whispering Oaks Project is Ongoing
- Tank Inspections and Rehab
- AMI/AMR System Prices
- Work Order Data Retention



Monthly Library Update

By Linda Crosland, Library Director

For leisure, for learning, for life!

Upcoming Events in January

Children's Activities, Beginning Week of January 13

Mondays, Shiraz the Reading Therapy Dog,
The Magic of Me Series, 3:15 pm

Tuesdays, Lego Robotics, 3:30-4:30 pm

Wednesdays, Lego Club, 3:30-4:30 pm

Thursdays, Prenda Coding Club, 5:30-6:30 pm

Fridays, (Beginning 1/10), Preschool Storytime
and Stay & Play, 10:30 am

Market Days Saturdays, 9-2, "Family Craft Time"

Teen Activities

The Teen Advisory Board is in the process of
planning a January Activity.

Adult Activities

Northside Knitters, Every Tuesday, 10:00 am

Adult Coloring, Every Thursday, 1:00 pm

First Monday of each month, Adult Games, 6-9
pm

Every Third Tuesday, Card-making class, 1:00 pm

Lunch-n-Learns, @ Noon

1/8/20, "Water Conservation/Rain Water Harvest-
ing."

1/22, "CPR and What to Do in Case of Breathing
Emergencies"

Department Statistics

Visits to the Library	838*
Items Checked Out	1,516*
New Patrons Added	14
New Items Added to the Collection	88
Volunteer Hours	161

*We have begun adding electronic checkouts to
both visits and items checked out.

Activity Statistics

The children's regular activities were on hiatus
during the month of December.

Adult Classes	62
Letters to Santa	156
Christmas Party with Santa Storytime and crafts	71

Total Activity Attendance 289

THANK YOU! A special thanks to Todd Vagi and Audi North Park for a donation of \$1,000 for the purchase of a special item like Tumblebooks, a children's online audio service, or a special program that we can offer to the public.



memorandum



To: Garden Ridge City Council
From: Trihydro Corporation
cc: Ms. Nancy Cain, City Administrator, City of Garden Ridge
Date: December 19, 2019
Re: Engineering Report for January 2020 Council Meeting

1. FM 2252 TxDOT Project
 - Trihydro is continuing to gather information about TxDOT design. Potential utility conflicts are being analyzed. Next Meeting with TxDOT January 20, 2020.
2. FM 2252 Wastewater Project
 - Trihydro continues to gather information about potential wastewater clients. Proposed system preliminary sizing is underway.
3. The Woods of Garden Ridge / Bindseil Lane Drainage Project
 - Revegetation of proposed drainage ways are complete. Final close-out documents are being processed.
4. T. Blackwell Office Building
 - New information received 12/12/19. Meeting to review documents proposed for early January.

DRAFT 11-18-19

City of Garden Ridge Wildlife Management Plan

Prepared by:
Garden Ridge Wildlife Management Advisory Commission

September 2019

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LIST OF ATTACHMENTS

- A. Exhibits
- B. White-tailed deer Census & Herd Health Monitoring Data
- C. Native Plant List & Local Nurseries
- D. Invasive & Noxious Plants
- E. Brown-headed cowbird Information

-
- F. Oak wilt information
 - G. Nest/Bat box design
 - H. Landscape design
 - I. Venomous snake ID & Safety

LIST OF EXHIBITS

- 1. Garden Ridge Location Map
- 2. Garden Ridge Aerial Map
- 3. Garden Ridge Vegetation Community Map

1. INTRODUCTION

This wildlife management plan (plan) was prepared for the City of Garden Ridge, by the Garden Ridge Wildlife Management Advisory Commission (WMAC) and approved by City Council on X. The purpose of a wildlife management plan is to provide guidance for implementing wildlife habitat improvement practices that may be taken to manage wildlife resources of a given area. In this case, the plan will serve to detail the proposed wildlife management practices of the City of Garden Ridge while providing recommendations for private residents and landowners. Wildlife management practices can provide direct and indirect benefit to wildlife and applies to both plant and animal species. The primary intent of this plan is to encourage ongoing enhancement of local wildlife species, with a focus on habitat management. This plan was developed in consultation with the Texas Parks and Wildlife Department (TPWD), to ensure that feasible and sound management practices were considered. If at any time new information becomes available that would warrant a change or update to the plan, the GRWMAC will recommend the appropriate changes as needed.

1. Ecological History of Garden Ridge

The City of Garden Ridge occurs in Comal County (see **Exhibit 1** and **Exhibit 2** of **Attachment A**), at the southeastern limits of the Edwards Plateau Ecoregion of Texas (TPWD, 1960). “When the Edward Plateau region was settled by European man in the mid-1800s, it was maintained as a grassland savannah largely by grazing habits of bison and antelope as well as by frequent natural and man-made fires. The land supported a rich diversity of forbs and grasses. Cedar was restricted to overgrazed areas along rivers and streams, and in areas of shallow soils and steep canyons where fires did not occur frequently. White-tailed deer were rarely found in the grasslands. With European settlement came fences, cows, sheep, goats and the control of fire. Livestock were continuously grazed in fenced pastures which disrupted the natural movement patterns of grazing animals. Plants were not allowed to rest and recover from grazing. By 1900, continuous overgrazing and control of fire had taken its toll. The land began to change from a grassland to a brushland. Many of the woody brush species were readily grazed by sheep, goats, cattle, and an increasing deer herd. These animals have selective eating habits and eat the more desirable plants first and leave the less desirable plants for last. By the 1940's, many of the good quality plant species were highly depleted and not readily found on most ranges. The Edwards Plateau is now dominated by many poor-quality browse, forb, and grass plants. Ashe juniper and red berry juniper (commonly called cedar) are highly undesirable forage plants for domestic livestock and deer. In much of the Edwards Plateau, cedar has become the dominant plant species causing a once diverse and healthy landscape to become a "cedar break" in many areas with very little plant diversity on the landscape” (TPWD, 2019).

2. Vegetation Communities / Habitats of Garden Ridge

The City of Garden Ridge comprises 4,882.7 acres of mixed land uses including residential, commercial, undeveloped and industrial lands. As shown in **Exhibit 3** of **Attachment A**, five vegetation communities comprise the majority Garden Ridge. **Table 1.** details the approximate aerial acreage of each and the quality of wildlife habitat they provide.

Table 1. Approximate Acreage of Habitat Types of Garden Ridge

Description	Approximate Acreage	Percent Cover	Habitat Quality for Wildlife
Residential	2,267.2	46.4%	Moderate/Low
Oak/Cedar woodlands	1,094.6	22.4%	High
Non-vegetated – Quarry	912.0	18.7%	low
Oak/Cedar Savannah	127.7	2.6%	High
Fallow shrubland	300.0	6.1%	High/Moderate
Improved pasture	172.5	3.5%	Low
Aquatic	12.0	0.2%	High

Total: 4,886 100%

Residential

The City of Garden Ridge is currently comprised primarily of lands developed for residential land use. As shown on **Exhibit 3**, these areas total approximately 2,364 acres (48.4 percent) of land within the city limits. These areas typically exhibit the vegetative stand of a well-developed forest with a dense canopy of mixed hardwoods, and understory dominated by non-native sod-grasses. Live oak (*Quercus virginiana*), cedar elm (*Ulmus crassifolia*) and ashe juniper (*Juniperus ashei*) are the dominant trees with interspersed species planted by landowners. The mid-story consists of various shrubs, most of which have been planted for landscaping. The herbaceous stratum is sod-grasses including bermuda grass (*Cynodon dactylon*), St. Augustine (*Stenotaphrum secundatum*) and zoysia grass (*Zoysia* sp.). These areas typically provide suitable habitat for small wildlife species including birds, small mammals, reptiles and amphibians. This habitat type is less suitable for large mammals such as white-tailed deer due to the replacement of naturally occurring food sources with non-native plants.

Oak/Cedar Woodlands

These areas occur where canopy cover ranges from closed to moderate from live oak, cedar elm (*Ulmus crassifolia*) and cedar with a smaller component of cedar elm and sugarberry (*Celtis laevigata*). The mid-story consists primarily of Texas persimmon (*Diospyros texana*), western soapberry (*Sapindus saponaria*) and younger plants of cedar. Plant densities in the herbaceous stratum vary with canopy cover with and range moderate to low. These areas provide good habitat for a variety of forest and woodland species.

Oak/Cedar Savannah

This vegetation type occurs at sites where a mix of woody species has been allowed to re-establish where pastureland previously occurred. The primary woody species are young live oak, and cedar with interspersed mesquite (*Prosopis glandulosa*) and huisache (*Vachellia farnesiana*). The canopy is open in these areas which promotes a dense herbaceous stratum of mixed grasses and forbs. This vegetation community provides good habitat for a variety of local wildlife species.

Improved pasture

These areas comprise grassland areas cleared of woody vegetation. In some cases, these areas may have been historically used for livestock grazing while others are used for hay production. In the cases where annual tillage and harvest do not occur, the primary cover types are KR bluestem (*Bothriochloa ischaemum*), bermudagrass (*Cynodon dactylon*) with some buffalo grass (*Bouteloua dactyloides*). Diversity in these areas is typically low, with limited food sources and a dense thatch layer which restricts natural movement by grassland species. Pastures where tillage occurs typically possess a more diverse mix of early successional species including johnsongrass (*Sorghum halepense*) and silver bluestem (*Bothriochloa laguroides*), yet annual harvest activities remove cover for wildlife.

Fallow shrubland

Fallow shrublands occur at disturbed sites that receive little or low levels of habitat management. These areas possess a mix of woody and herbaceous species with common occurrences of sugarberry, mesquite, huisache, retama (*Parkinsonia aculeata*) and baccharis (*Baccharis* sp.). The herbaceous stratum in these areas is comprised of a diverse mix of early successional species. These sites provide good habitat for a variety of wildlife due to a mix of cover types and food sources.

Aquatic

Man-made ponds serve as the only aquatic habitats within the City of Garden Ridge. These sites are privately managed and provide valuable water sources for the numerous species that occur in the area including migratory birds. These sites also serve as breeding habitat for amphibians including frogs and toads and feeding sites for waterfowl and wading birds.

2.0 WILDLIFE MANAGEMENT ADVISORY COMMISSION

By City Ordinance 196-032018, the City of Garden Ridge established a Wildlife Management Advisory Commission (GRWMAC). This commission was first created to formulate recommendations on the management of the white-tailed deer population. Since its establishment, the GRWMAC has expanded its assistance from white-tailed deer recommendations, to education trainings on native plants for landscaping,

migratory birds and urban wildlife management. **Section 6** of this document provides more detail on wildlife trainings and outreach.

3.0 GOALS

During the development of this plan, the following goals were considered of primary importance for the residence and wildlife of Garden Ridge.

1. **Management of White-tailed deer:** As with much of Comal County, the City of Garden Ridge is host to robust white-tailed deer (WTD) population. In 1998, the estimated 1,555,000 white-tailed deer population for the Hill Country constituted over 40 percent of the white-tailed deer found in Texas (Young and Traweek 1999). Census data from 2018 estimated a total of 1.9 acre per deer within the Garden Ridge. This differs greatly from the recommended stocking rate of 12-16 acre per deer (TPWD 2008). Accordingly, GR has committed to reducing the WTD herd to a target of 5 acres per deer.
2. **Improve Habitat for Wildlife:** The City shall, when feasible, incorporate the practices detailed in this plan to manage and enhance lands for wildlife. The City also encourages its residents to utilize this plan to enhance private lands for wildlife.
3. **Improve City Lands for Pollinator Species:** The City of Garden Ridge occurs within the migratory flyway and summer breeding area of the eastern monarch butterfly. The monarch population has recently declined to a fraction of its previous size. In the 1990s, estimates of up to one billion monarchs made the epic flight each fall from the northern plains of the U.S. and Canada to sites in the Oyamel fir forests northwest of Mexico City, and more than one million monarchs overwintered in forested groves on the California coast. In the winter of 2013-2014, estimates from overwintering sites in Mexico suggest that only about 33 million monarchs overwintered, representing a 90% drop from the 20-year average (Nature Serve 2015). To assist in conservation of this species as other valuable pollinators of the area, the City of Garden Ridge has committed to participate in the Mayor's Monarch Pledge by proclamation dated May 1, 2019. The following link details the various conservation measures recommended for participants in the program. At the development of this plan, the city was already practicing actions items 1,2,3,5,6,7,8,10 and 15.

<https://www.nwf.org/MayorsMonarchPledge/About/Pledge-Action-Items>

Citizens of Garden Ridge are encouraged to visit the link above for recommendations to enhance private property for monarch butterflies and other pollinator species.

4. **Promote Education for Wildlife:** The City of Garden Ridge recognizes the immense value gained by its residents through the preservation of wildlife and their associated habitats. As such, the City will provide ongoing programs and presentations to further education for wildlife and wildlife habitats.

4.0 COORDINATION & PERMITS

During the development of this plan, the city coordinated with Texas Parks and Wildlife for recommendations on management and enhancement measures for wildlife.

1. White-tailed deer Permits

In years when census data imply that population control is needed for white-tailed deer of Garden Ridge, the city will obtain the proper permits required by state law. These may include permits for trapping and relocation based on the current needs of the city. For information on white-tailed deer management see **Section 5.1** and **Attachment B**).

2. Brown-headed cowbird Permits

Any persons assisting with city with the trapping of brown-headed cowbirds shall obtain the required training and associated permits.

5.0 HABITAT MANAGEMENT

The city of Garden Ridge proposes various measures to manage habitat for wildlife. These include the management of white-tailed deer, invasive plant & animal control, oak wilt control and native plantings.

5.1 White-tailed deer management

5.1(a) Annual Census:

An annual census will be performed to estimate the population of white-tailed deer in Garden Ridge. From those results, a determination will be made for the need, if any, of population control. Methodologies used for the census will be those recommended by TPWD. (see **Attachment B** for WTD census results)

5.1(b) Population Control:

Given that very few large land tracts exist within the city limits today, hunting is a not a feasible means to control the local White Tail Deer (WTD) population. As such, the city has elected to utilize trapping methods approved through TPWD to assist in population control. These include trap, transport and process (TTP) and trap, transport and transplant (TTT). For detail on TTP and TTT please visit TPWD website:

https://tpwd.texas.gov/business/permits/land/wildlife_management/trap_transport/.

To reach the target goal of 5 acres per deer, annual trapping will persist at a rate recommended by TPWD. Annual recommendations, which may vary will be obtained by TPWD following census results. Trapping methods will also vary based on the availability of transport properties and TPWD approval. Processed WTD meat will be donated to approved local charity organizations.

5.1(c) Herd Health Monitoring

Reduced WTD population numbers will decrease browse pressure and provide higher forage potential for WTD and other species. Higher forage potential increases animal health and vigor. To assess

animal health and vigor, herd health monitoring will be conducted through an assessment of body weight and age (see **Attachment B** for WTD health monitoring data). This data will be obtained in years when trapping and processing occurs.

5.1(d) Conflict Management Practices

In Garden Ridge conflict between residents and wildlife may occur. It is always recommended to avoid physical contact with any wild animal including white-tailed deer fawns. Other common practices to avoid conflict with white-tailed deer include:

- Avoid feeding of deer as per Ordinance 186-092018.
- Obey posted speed limits.
- To help minimize landscape damage, it is recommended to plant varieties that are less favored by deer (see **Attachment C.**) and install fences when feasible.

Additional conflict management practices for white-tailed deer can be found at:

https://www.humanesociety.org/sites/default/files/docs/HSUS%20Deer%20Conflict%20Mgt%20Plan_FINAL.pdf

Texas is home to a number of raptors and the Red-shouldered hawk is common to the Garden Ridge area. When nesting, these large birds can be territorial toward humans and other wildlife. If an active nest is found the city recommends establishing an avoidance buffer when feasible. This will help to ensure the nesting pair and young do not feel threatened. **Note:** Red-shouldered hawks and any other raptors and migratory birds are protected by federal law, and the removal of a nest without the proper permit is illegal.

5.2 Control & Management of Invasive & Noxious Species

5.2(a) Invasive & Toxic Plant Management

A variety of toxic and invasive plants occur in the central Texas area (see **Attachment D**). These include native and non-native species that typically grow aggressively, multiply quickly without natural controls, and display adverse effects through contact or ingestion. When feasible, the city will implement standard practices to remove these plants such as mechanical removal and herbicide treatments. Any herbicide treatment will follow label instructions in compliance with all state and federal regulations. The goal of this effort is to promote a diverse mix of native plants in the city for wildlife. The city recommends that citizens review **Attachment D** for species to control or avoid as landscape plants.

5.2(b) Invasive & Nuisance Wildlife Management

Invasive wildlife can have profound impacts on native species, habitats and humans alike. Feral pigs are an invasive species that has been documented within the city. Feral pigs cause millions of dollars damage annually to the agriculture lands and residential landscaping. To minimize impacts from feral pigs, the city will trap when sightings occur.

Comal county is home to a wide variety of songbirds including the brown headed cowbird. This species is a brood parasite that lays its eggs in the nests of other songbirds. Studies have shown that the brown-headed cowbird to parasitize more than 225 species of American birds and that the

removal of one cowbird female enhances the survival of 35 songbird per year (TPWD, 2019). To minimize impacts to local songbird populations, the city will participate in the TPWD cowbird trapping program. All cowbird trapping efforts will follow TPWD protocol and local residents are encouraged to participate in addition to the city's efforts. **Attachment E** includes information on brown headed cowbirds and the TPWD trapping protocol.

5.3 Oak Wilt Management

Oak wilt is one of the most destructive tree diseases in the United States, and it is killing oak trees in Central Texas at epidemic proportions. Oak wilt is an infectious disease caused by the fungus *Ceratomyces fagacearum*, which invades and disables the water-conducting system in susceptible trees. All species of oaks (*Quercus* spp.) in Central Texas can be infected with the oak wilt fungus. (Texas Forest Service, 2019). **Attachment F** includes information on oak wilt. On March 7, 2018, ordinance #71-032018 was passed to follow guidelines from the Texas Forest Service to combat the spread of oak wilt.

5.4 Native Plantings and Management

Where feasible, the city will plant native plant species in common areas such as parks, city building areas and right of ways. These species are adapted to the local climate requiring less water or fertilizer and provide food and cover for native wildlife. **Attachment C** includes a list of native species that may be planted which are recommended for the area. The city recommends residents use these species when feasible. Also included in **Attachment C** is list of native plant nurseries currently in the area.

6.0 RECOMMENDATIONS FOR PRIVATE LANDOWNERS

With few lands under city control, the highest potential for wildlife enhancement and management resides with the residents of Garden Ridge. The following list of practices are recommended for Garden Ridge residents for wildlife enhancement. Singularly, these measures have a small impact, yet when implemented by multiple residents, the cumulative benefits can be profound for local wildlife.

6.1 Supplemental Water & Feeding of Migratory Birds

Texas is host to nearly 650 bird species and supplemental water and feed can benefit these species in migration or the extreme periods of winter and summer. Bird feeders and watering areas also bring people and birds together. These features can enhance the local awareness to the variety of bird species that frequent the area. When feasible, the city recommends the feeding of birds following recommendations from the U.S. Fish and Wildlife Service available at <https://www.fws.gov/birds/bird-enthusiasts/backyard/bird-feeding.php>.

6.2 Supplemental Cover & Nest/Roost Boxes

Wildlife utilize cover to travel, rear young, evade predators and extreme climate conditions. This is similar with nest/roost boxes. When feasible, the city recommends adding supplemental cover for wildlife such as leaf piles beneath shrubs and small piles of brush/tree trimmings and rocks. Low growing plants and shrubs can also provide cover for wildlife. Nest/Roost boxes are also recommended

for birds and bats. These features provide safe sites for the rearing of young. **Attachment G** includes a few basic nest and bat boxes designs for consideration by residents.

6.3 Landscaping Practices

With the proper design, residential landscaping can provide quality habitat for a variety of wildlife species. The following provides a few concepts to consider in landscape design for wildlife enhancement.

1. **Plant selection & Diversity**: Selecting the right plants can greatly enhance residential areas for wildlife. Native plants typically provide a natural food source and cover while requiring far less water or fertilization from homeowners. Additional benefit is gained by planting a variety of plants. This will result in flowering and fruiting at various times throughout the year.
2. **Structure & Edge**: Wildlife benefit greatly from habitats that possess a variety of physical structure. As such, when feasible, it is recommended to incorporate structural diversity to include an upper canopy (trees), mid-story (shrubs) and herbaceous stratum (low growing plants, such as annual or perennial flowers). Many wildlife species utilize edge habitats for nesting, feeding and travel. When feasible, it is recommended to create edge habitats within landscaped areas. For an example of structural diversity and edge habitats please see **Attachment H** or click the link below.
<http://agrillife.org/water/files/2014/01/central-texas-landscape-design-guide.pdf>

7.0 PUBLIC OUTREACH & EDUCATION

The City of Garden Ridge acknowledges that public outreach is essential to promoting wildlife and the safety of its residents. The following measures and services are provided to enhance education and promote participation with the cities goals of managing wildlife.

7.1 Presentations, Field Days & Local Events

Educational presentations on wildlife are provided on monthly basis during the GRWMAC meetings. For information on upcoming meetings visit the city website at the link below.

<https://ci.garden-ridge.tx.us/>

7.2 GR Species List & Wildlife Sightings

The GRWMAC encourages the residents of Garden Ridge to report wildlife sightings within the city limits. This information can be used to educate our residents to the variety of species that inhabit the city as year-round and as migrants. Tap on the link below to view sightings in Garden Ridge and to report wildlife sightings.

https://www.inaturalist.org/observations?place_id=141459

7.3 GR Facebook

For updates on city information and upcoming events visit the city's Facebook page at:

<https://www.facebook.com/City-of-Garden-Ridge-TX-259855264119437/>

7.4 GR Notify Me

To receive updates on city business or events please visit the city website and use the Notify Me service at : <https://ci.garden-ridge.tx.us/list.aspx>

7.5 Venomous Snake ID & Safety

As with much of central Texas, Garden Ridge is home to a variety of snake species. While the majority of these species are harmless, venomous species have the potential to occur. For information on proper snake identification and safety measures, please refer to **Attachment I** or click the link below.

<https://tpwd.texas.gov/education/resources/texas-junior-naturalists/snakes-alive/venomous-texas-snakes>

7.0 REFERENCES

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ATTACHMENT A. Exhibits

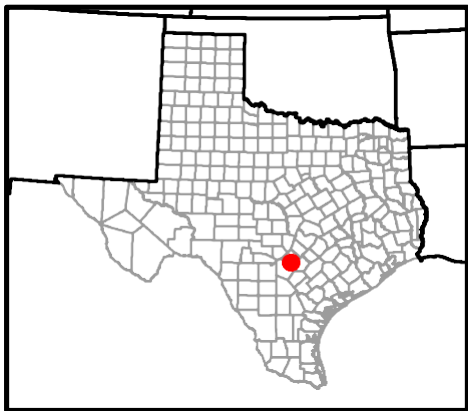
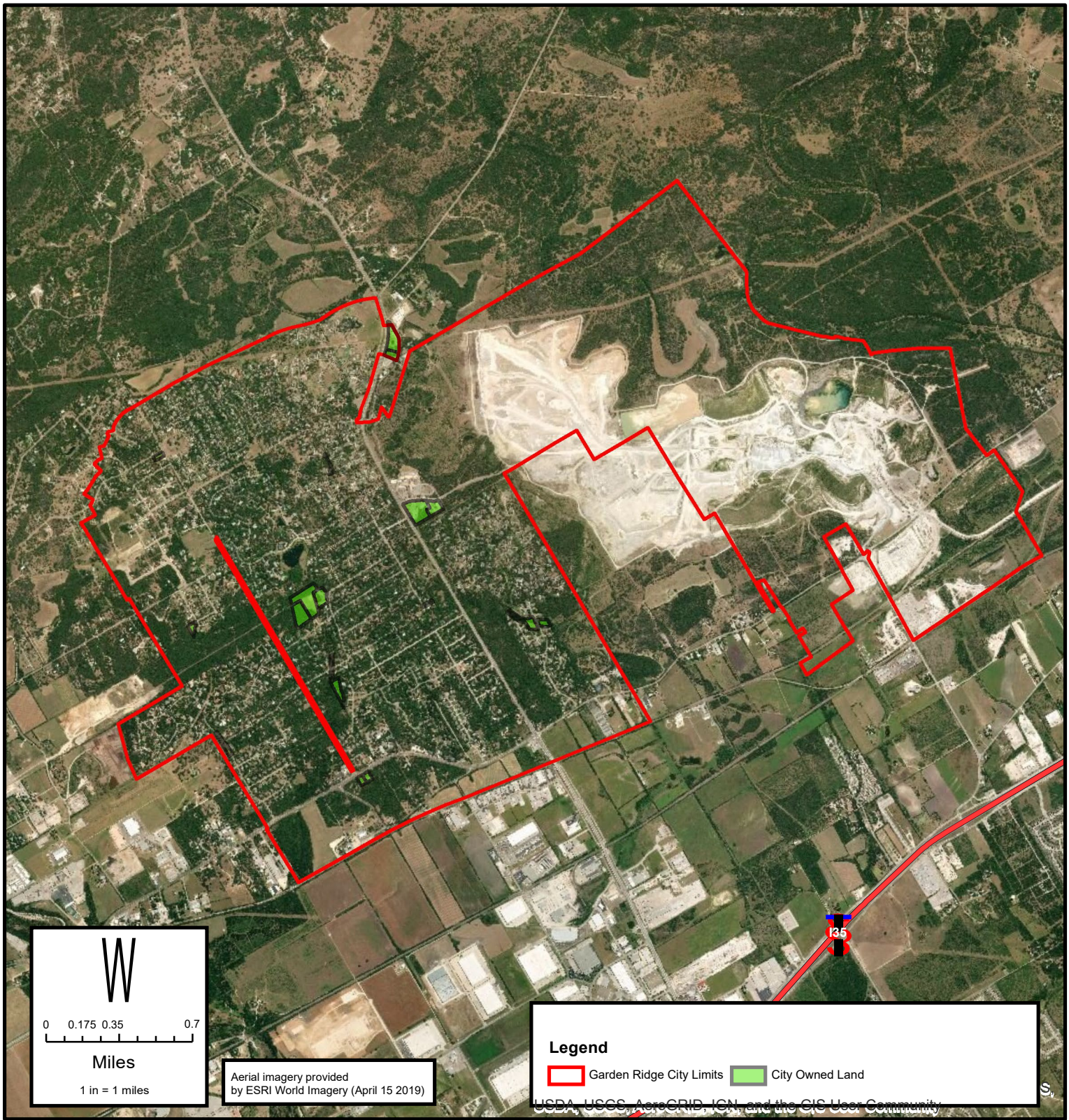
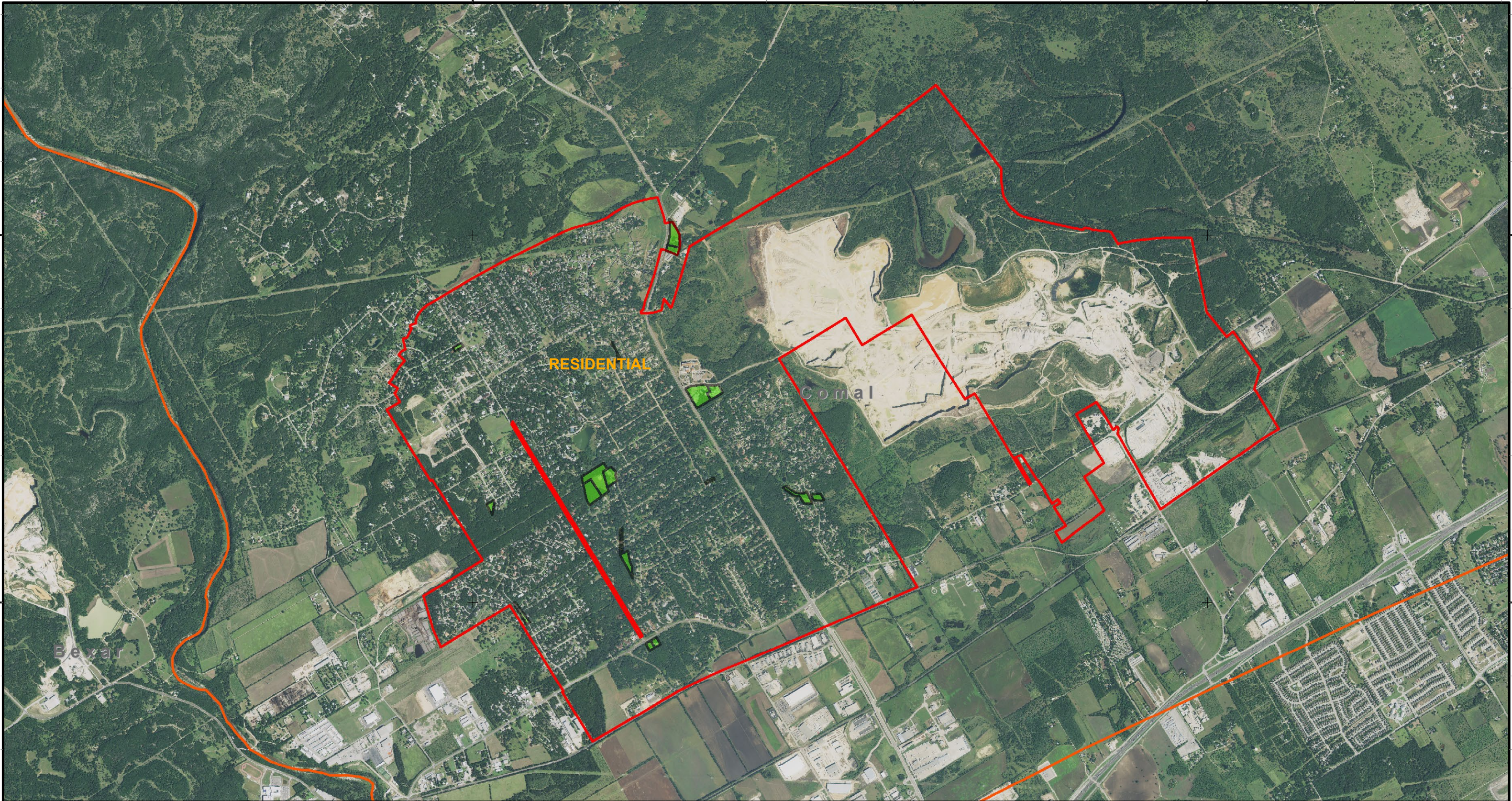


Exhibit 1

Location Map

City of Garden Rige Wildlife Management Plan Comal County, Texas





0 0.25 0.5 1
Miles
1 inch equals 0.47 miles

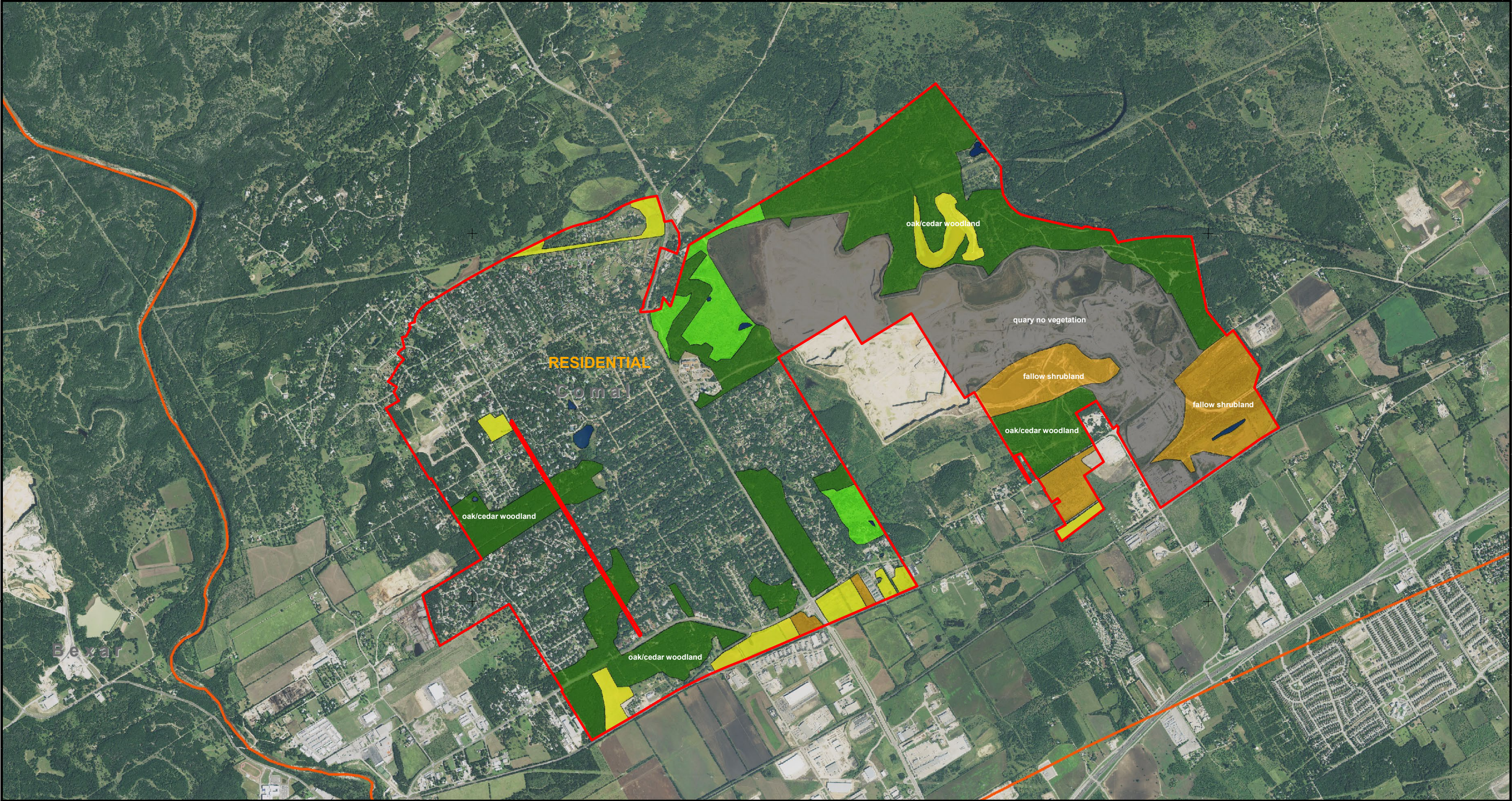


Legend

-  City Owned Land
-  Garden Ridge City Limits
-  Tx Counties

City of Garden Ridge Wildlife Management Plan Comal County, Texas Exhibit 2 Aerial Map

Map Created July 2019
ESRI World Imagery



0 0.25 0.5 1 Miles

1 inch equals 0.47 miles



Legend

- | | | |
|--|--|--|
|  Garden Ridge City Limits |  fallow shrubland (~300 ac) |  oak/cedar woodland (~1,094.6 ac) |
| Name |  improved pasture (~172.5 ac) |  quarry no vegetation (~912 ac) |
|  aquatic (~12 ac) |  oak/cedar savannah (~127.7 ac) |  Tx Counties |

**City of Garden Ridge Wildlife Management Plan
Comal County, Texas
Exhibit 3
Habitat Map**

Map Created July 2019
ESRI World Imagery

ATTACHMENT B. White-tailed deer Census & Heard Health Monitoring

DEER POPULATION SUMMARY

Ranch: Garden Ridge

Survey Technique: Spotlight & Herd Comp

County: Comal

Year: 2018

Survey Route/Pasture	Date	Deer Observed					Acres Sampled	Acres Per Deer	Deer Per 1,000 Ac.
		Bucks	Does	Fawns	Undet	Total			
Spotlight Survey	8.30.2018	149	734	488	4	1,375	2,772	2.02	495.0
Survey Totals		149	734	488	4	1,375	2,772	2.02	495.0
Incidental Observations									
Combined Totals		149	734	488		1,371			

Ranch Size (ac.): 2,780

Harvest Recommendation

Antlered Bucks:

Acres/Deer: 2.02

Does/Buck: 4.93

Fawns/Doe: 0.66

Composition -

Bucks: 10.9%

Does: 53.5%

Fawns: 35.6%

Antlerless Deer:

Deer/1,000Ac: 496.03

Adult/1,000Ac: 319.47

Acres/Adult: 3.13

Estimated Population -

Bucks: 150

Does: 738

Fawns: 491

Total: 1,379

Remarks:

CONDUCTING DEER SURVEYS GARDEN RIDGE, TX 2019



Presented by:

Craig Hensley, Biologist

Texas Parks & Wildlife Department

BRIEF HISTORY

- **First Deer Survey Conducted in October (2) & December (1) of 2014**
- **Subsequent surveys conducted in 2016-18**
 - **2016: Nine (9) surveys conducted in July**
 - **2017: Nine (9) surveys conducted in August (2) & September (7)**
 - **2018: Fourteen (14) surveys conducted in July (2) & August (12)**

“The key is to sample the study area as well as possible and make sure it is representative of the habitat type the estimates will be used on. It must be recognized that censuses are estimates and, therefore, subject to some error.”

-Texas A&M publication

“The actual number of deer in a community is nearly impossible to determine and will change seasonally. Therefore, it is often sufficient to estimate the minimum size or approximate density of the deer population.”

-DeNicola, et. al. Managing White-tailed Deer in Suburban Environments

What is a deer spotlight survey?

- ❖ A deer spotlight survey is a method of sampling a given area of land and the density of deer found there.
- ❖ Area is expressed as the number of visible acres, which is determined by taking a series of visibility readings along the designated route at 1/10- mile intervals.
- ❖ Data collected on a deer spotlight survey is expressed as the number of acres per deer.
- ❖ Three or more counts are normally required on the designated route for reliable information on deer density.

County: Comal
Line Name: Garden Ridge
Length (mi.): 5.9 (10,384 yds.)
Date: 9/30/2014
Observers: Liz B., Todd A.

Begin Data Entry

Resume Data

Number Readings: 60
Sum of Readings: 5,530 yds.
Average Width: 92.17 yds.
Calculated Visibility: 198 ac.

MILE	LEFT	RIGHT	TOTAL
START	98	83	181
0.1	16	80	96
0.2	43	45	88
0.3	31	32	63
0.4	53	44	97
0.5	23	64	87
0.6	17	41	58
0.7	31	79	110
0.8	43	38	81
0.9	58	35	93
1.0	50	34	84
TOTAL			1,038
1.1	19	28	47
1.2	43	62	105
1.3	47	42	89
1.4	43	39	82
1.5	164	10	174
1.6	72	53	125
1.7	71	30	101
1.8	34	37	71
1.9	31	24	55
2.0	25	54	79
TOTAL			928
2.1	36	30	66
2.2	34	35	69
2.3	37	22	59
2.4	28	26	54
2.5	55	28	83
2.6	37	106	143
2.7	24	107	131
2.8	38	37	75
2.9	68	126	194
3.0	47	35	82
TOTAL			956

MILE			
3.1			
3.2			
3.3			
3.4			
3.5			
3.6			
3.7			
3.8			
3.9			
4.2			
4.3			
4.4			
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4.7			
4.8			
4.9			
5.2			
5.3			
5.4			
5.5			
5.6			
5.7			
5.8			
5.9			

MILE	LEFT		
6.1			
6.2			
6.3			
6.4			
6.5			
6.6			
6.7			
6.8			
6.9			
7.2			
7.3			
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8.2			
8.3			
8.4			
8.5			
8.6			
8.7			
8.8			
8.9			

MILE	LEFT		
9.1			
9.2			
9.3			
9.4			
9.5			
9.6			
9.7			
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9.9			
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10.7			
10.8			
10.9			
11.2			
11.3			
11.4			
11.5			
11.6			
11.7			
11.8			
11.9			

MILE	LEFT		
12.1			
12.2			
12.3			
12.4			
12.5			
12.6			
12.7			
12.8			
12.9			
13.2			
13.3			
13.4			
13.5			
13.6			
13.7			
13.8			
13.9			
14.2			
14.3			
14.4			
14.5			
14.6			
14.7			
14.8			
14.9			

Under what weather conditions should a survey be conducted?

- ❖ Winds should be less than 20 mph.
- ❖ Cloud cover less than 50%.
- ❖ Relative humidity should be less than 70%.
- ❖ No rain.

When should spotlight surveys be conducted?

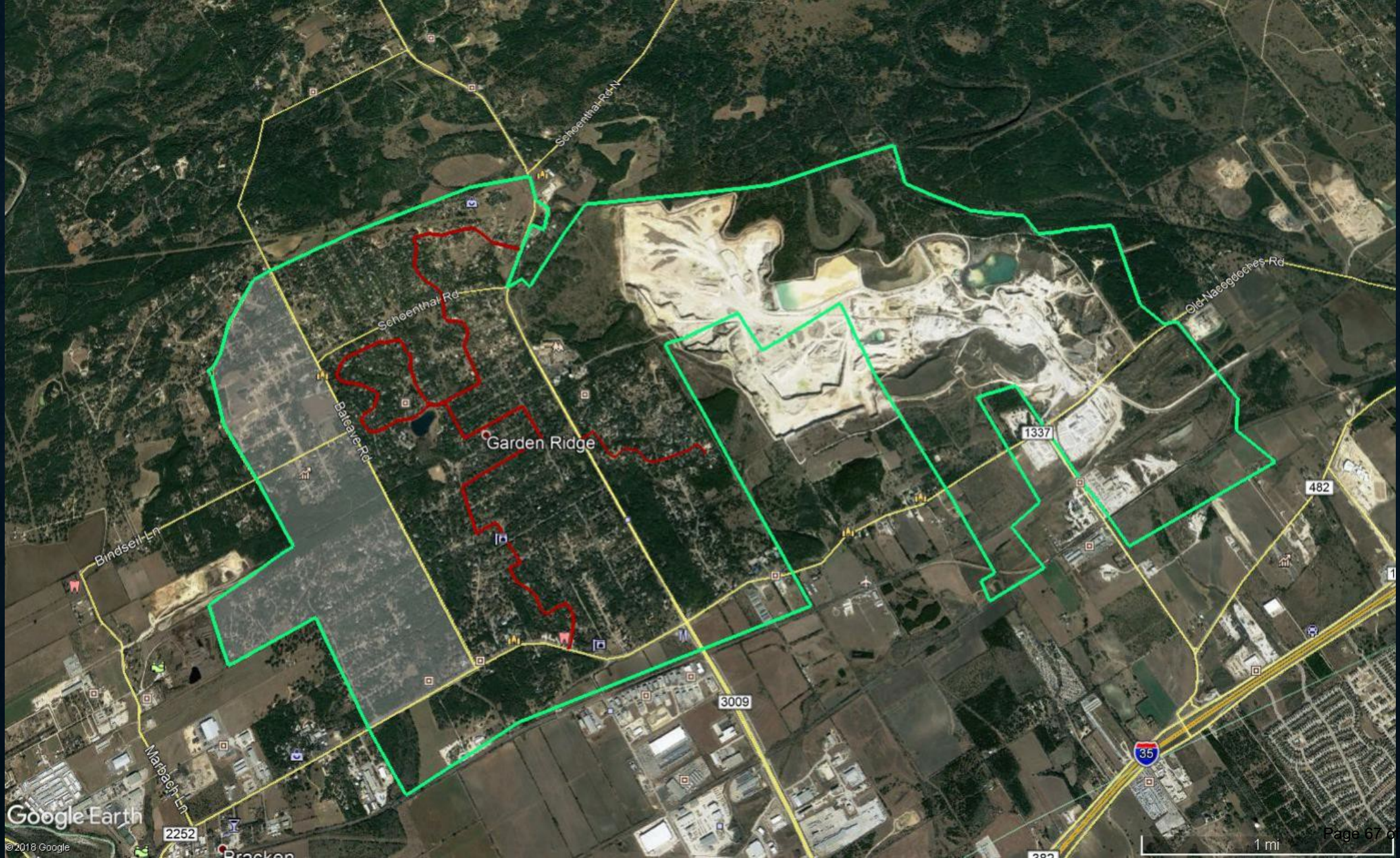
- ❖ Spotlight surveys conducted during August and September are less likely to be influenced by seasonal environmental factors, food distribution, acorn-drop, or other biological events affecting deer.
- ❖ Identification of deer by age (fawns vs. adults) and sex (bucks vs. does) is possible during this time frame

Where should spotlight surveys be conducted?

- ❖ A spotlight survey route should be established that covers as much of the area as is possible.
- ❖ That route, once established, should be used annually, beginning and ending at the same point each time.

What data are collected during each survey?

- ❖ Every effort should be made to count every deer seen within 250 yards of each spotter.
- ❖ Each deer should be identified as either a buck, doe or fawn.
- ❖ Deer that cannot be 100% identified to age or sex should be recorded as unknown.





Texas Parks and Wildlife Department
Spotlight Deer Survey

County & Ranch _____ Name of line _____

Date _____ Official Sunset _____ PM Time Began _____ PM Time Ended _____ PM

Start: Temp. _____ Cloud Cov. _____ Wind Speed _____ Wind Dir. _____ Odometer Reading _____

End: Temp. _____ Cloud Cov. _____ Wind Speed _____ Wind Dir. _____ Odometer Reading _____

Mile	Bucks	Does	Fawns	Unidentified	Total Observed	Acres of Visibility	Acres per Deer	Deer per 1,000 Acres
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
TOTAL								

Does Per Buck _____ Observers: _____

Fawns Per Doe _____

Comments _____

Will every deer be counted?

- ❖ Deer surveys, even under the best of circumstances, never account for every deer, even in high-fenced properties; deer survey data is an estimate of population.
- ❖ Another way to view census/survey information is that they are **trend** data; conducting annual surveys allows for the comparison of population trends over time, **not exact numbers**.
- ❖ **When population estimates are made carefully each year under similar conditions, trends become more important than actual numbers.**

How is the collected deer survey data used?

- ❖ The total number of deer counted can be divided into the total number of calculated visible acres to determine the number of deer per acre along the route.
- ❖ With this number, the estimated population for the community can then be determined by dividing the total acres of the community by the estimated acres per deer.
- ❖ The number of bucks, does and fawns in the population can also be determined – see the example on the next slide.
- ❖ In addition, because these are daylight counts, it is also possible to determine herd composition, i.e. the buck to doe ratio and the fawn to doe ratio.

Here is an example (from a paper by Texas A&M):

- ❖ 3 surveys conducted on a 5,000-acre ranch during August and September
- ❖ 420 visible acres multiplied by 3 surveys = 1,260 acres
- ❖ A total of 90 deer counted on all three surveys
- ❖ 1,260 visible acres divided by 90 deer = one deer per 14 acres
- ❖ To determine the estimated number of deer on the entire ranch, divide the total acreage by 14 and you arrive at 357 deer (remember, this is an estimate)
- ❖ To estimate the number of bucks, does and fawns, multiply the total number of deer by the percent of all deer positively identified as bucks, does and fawns:

357 Deer X 0.20 (% identified as bucks) = 71 bucks

357 Deer X 0.50 (% identified as does) = 179 does

357 Deer X 0.30 (% identified as fawns) = 107 fawns

TOTAL = 357 deer

2019 Proposed Protocols

- ❖ Three surveys to be conducted from mid-August to mid-September; specific dates tbd
- ❖ Each survey to begin one hour prior to sunset
- ❖ Each surveyor will have a pair of usable binoculars
- ❖ Each deer should be identified as either buck, doe or fawn; if a deer cannot be 100% identified by age/sex, it will be recorded as unknown
- ❖ All deer seen within 250 yards of the truck (either side) will be counted using criteria above
- ❖ Each surveyor will survey only his/her side of truck
- ❖ Truck will proceed at 5-8 mph stopping as needed to document each individual in groups
- ❖ Four participants:
 - ❖ Craig Hensley (driver)
 - ❖ One person in passenger seat recording observations on data sheet
 - ❖ Two people in back of truck – one member of wildlife commission or designated representative and one member of community opposed to deer management

Thank You

2019 DEER COUNT SCHEDULE

DATE & TIME:	DATE: (8/21/19 @ 7PM)	DATE: (9/3/19 @ 6:30PM)	DATE: (9/12/19 @ 6:30PM)
TPW:	Craig Hensley	Craig Hensley	Craig Hensley
W.M.A.C:	Cynthia Segovia	Lisa Swint	Paul Sullivan
W.M.A.C:	Ken Kneupper	Jeremiah McKinney	David Krawczynski
CITIZEN:	Tony Frasco	Martha Stipp	Denise Miner-Williams



City of Garden Ridge
Whitetail Management Report
2019

WHITETAIL CAPTURED & REMOVED

<i>TOTAL HEAD COUNT CAPTURED & REMOVED</i>	<i>107</i>
---	-------------------

<i>MALES CAPTURED & REMOVED</i>	
-------------------------------------	--

	<i>29</i>
--	-----------

<i>FEMALES CAPTURED & REMOVED</i>	
---------------------------------------	--

	<i>78</i>
--	-----------

**NOT INCLUDED IN THE TOTAL CAPTURE COUNT: 1 MALE RELEASED & 1 MELANISTIC WHITETAIL RELEASED*



CWD TESTING

15 WHITETAIL LYMPH NODES REMOVED & TESTED AT TVMDL COLLEGE STATION

RESULTS FOR SPECIMEN TESTED

MALES TESTED:

1 – 4 YEAR OLD

2 – 3 YEAR OLDS

NO DETECTION OF CWD

FEMALES TESTED:

1 – 5 YEAR OLD

4 – 4 YEAR OLDS

4 – 3 YEAR OLDS

3 – 2 YEAR OLDS

NO DETECTION OF CWD



TRAP & CAPTURE LOG

TRAP LOCATION 1 (K)

SET UP: FEBRUARY 24

TAKE DOWN: MARCH 7

TOTAL HEAD CAPTURED: 46

TRAP LOCATION 2 (F)

SET UP: MARCH 7

TAKE DOWN: MARCH 28 (21)

TOTAL HEAD CAPTURED: 44

TRAP LOCATION 3 (R)

SET UP: MARCH 6

TAKE DOWN: MARCH 29

TOTAL HEAD CAPTURED: 17



FINANCIAL DISCLOSURE

<i>CITY TOTAL BUDGET</i>	<i>\$50,000.00</i>
<i>107 WHITETAIL REMOVED AT \$175.00</i>	<i>\$18,725.00</i>
<i>15 WHITETAIL CWD TESTED AT \$125.00</i>	<i>\$1,875.00</i>
<i>AGENT FEE FOR TPWD CORRESPONDENCE</i>	<i>\$2,500.00</i>
<i><u>TOTAL PAID</u></i>	<i><u>\$23,100.00</u></i>



2020 TRAPPING SEASON

HOW TO
IMPROVE
TRAP,
CAPTURE, &
REMOVAL:

START
SOONER

MORE
TRAPPING
LOCATIONS

CWD
TESTING

TTP &
TTT



ATTACHMENT C. Native Plant List and Local Nurseries

Sources for Native Plants

1. Rainbow Gardens: Complete Nursery. 2585 Thousand Oaks, San Antonio, TX 78232
2. Rainbow Gardens: Complete Nursery. 8516 Bandera Rd, San Antonio, TX 78250
3. Native American Seeds: Native plants, flowers and grass seed. Speciality seed mixtures. www.seedsource.com. Phone: 325-446-3600
4. The Nectar Bar. Native plant sales, specialty plants and services. www.thenectarbarsa.com. Text: 210-844-2381
5. Hill Country Natives: Native trees and shrubs. By appointment: emitch@hillcountrynatives.net
6. Douglas Seed Company: Specializes in native grasses. Some native wildflower seeds. www.dkseeds.com. 4627 Emil Street, San Antonio 78219
7. Fanicks. Complete Nursery. 1025 Holmgreen Road. San Antonio 78220
8. Native Plant Society: Native plant sales. npsot.org for schedule
9. Hill Country Gardens. Complete Nursery. 588 FM1863, New Braunfels, TX 78132



Native^{and} Adapted *Landscape Plants*



Find your perfect
plant with our
online search tool!



an earthwise guide for Central Texas

Native and Adapted
Landscape Plants
an earthwise guide for Central Texas

This guide was developed to help you in your efforts to protect and preserve our water resources.



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For more information on deer-resistant, fire-resistant, rain garden and poisonous plants, see page 52

To help you create your own landscape design, resources are available to Austin citizens at www.austintexas.gov/departments/landscape-design

Cover Photo: Crossvine

Key

Native to:

- E** - Edwards Plateau, Rocky, Western Zone: shallow, limestone or caliche soil (generally on the west side of Austin)
- B** - Blackland Prairie, Eastern Zone: Deeper, dark, clay soils (generally on the east side of Austin)
- B/E** - Native to both Edwards Plateau and Blackland Prairie
- T** - Native to Texas (not a part of Edwards Plateau or Blackland Prairie)
- X** - Hybrid plant with native Texas parentage

For additional native plant information, visit the plant section of the Lady Bird Johnson Wildflower Center website at www.wildflower.org

Height and Spread:

Height and spread are provided in ranges. The maximum heights reflect ideal conditions.

Utility Approved Trees:

-  Plants appropriate for use near overhead and underground utilities should not exceed 20' (call 811 at least 3 business days before you plan to dig).

Light:

- Sun** – needs at least 6-8 hours of full, direct sun
- Sun/Part Shade** – can take anywhere from 4-8 hours of sun. Typically these plants bloom more in sun but require less water in part shade
- Shade** – less than 4 hours of direct sun; or dappled light for 6-8 hours

Evergreen or Deciduous:

- E** – Evergreen
- SE** – Semi-evergreen
- D** – Deciduous

Water:

Refers to the plant's water needs during the growing season **after they are established**. The majority of plants require more frequent watering while becoming established. For Austin's current water restrictions, variances and other irrigation information visit: www.WaterWiseAustin.org

- VL** – Very Low (Water occasionally, if no significant rainfall for 30 days)
- L** – Low (Water thoroughly every 3-4 weeks if no significant rainfall)
- M** – Medium (Water thoroughly every 2-3 weeks if no significant rainfall. Most plants in the guide with this designation prefer shade so the soil does not dry out as quickly)
- H** – High (Water thoroughly every 5-7 days if no rainfall) Due to the City's efforts to conserve water, there are only a few plants with this designation and they should be placed in areas that are naturally moist and/or receive stormwater runoff

Wildlife:

- X** – Most Texas native plants provide greater wildlife value than hybrid, non-native and/or exotic plants. Flowers, nectar, leaves, fruits and nuts provide food for wildlife; these plants also provide essential cover for nesting and raising young. To learn more visit: www.KeepAustinWild.com



Gardening, “Austin-style...”

This Grow Green guide was created to help you select plants that are native to and adapted for the Austin area. These plants tend to be drought tolerant, most need little, if any supplemental fertilizer, are resistant to most diseases and pests, and many provide habitat and food sources for local wildlife. The less watering, fertilizing and chemical usage required in your yard, the more you contribute to the conservation and protection of our precious water resources - our streams, lakes and aquifers

To achieve a successful earth-wise landscape, plant the right plant in the right place. Plants from other parts of the country are often poorly suited to our conditions. It is important to understand the regional climate as well as site specific conditions. Our climate can vary from baking hot heat and drought one year, to frequent rain and flooding in the next. Some years we may get a hard freeze and some not.

The environmental conditions across Austin vary quite a bit so it is critical to evaluate your specific site conditions. Consider the soil type and depth, sun and shade patterns, as well as any microclimate factors.

We hope you enjoy using this guide to bring a touch of Austin’s natural beauty to your own landscape. Visit **www.GrowGreen.org** for more earth-wise gardening information.



Texas Ash



Eastern Red Cedar



Black Cherry



Arizona Cypress



Bald Cypress



Montezuma Cypress



Cedar Elm



Honey Mesquite



Bigtooth Maple



Bur Oak



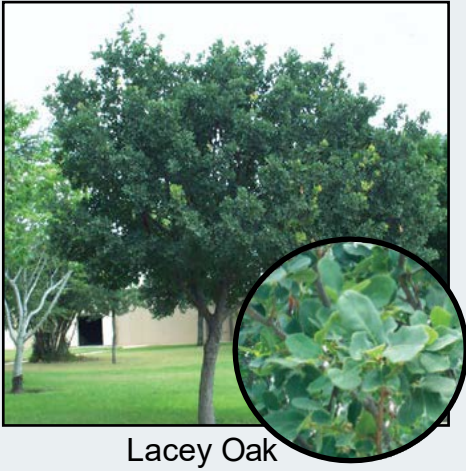
Chinquapin Oak

Common Name	Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
-------------	--------------	--------	--------	-------	---------------------	-------------------	---------------	-------	----------	--------------------------

Trees

General Maintenance: Eliminate crossing branches; shape a young tree in the first three years after planting to produce an attractive mature specimen. Avoid planting trees with fruit near sidewalks, pools and porches because they can be messy. For more tree care tips see the Grow Green Tree Care and Installation and Maintenance fact sheets. Did you know? Trees receive protection within the city limits of Austin once they reach 19" in diameter on single-family lots, and 8" in diameter on multi-family and commercial properties. For more information visit www.austintexas.gov/treeportal or call (512)974-1876.

Ash, Texas <i>Fraxinus texensis</i>	E	40-50'	40-50'	Sun	D	Fall	Yellow-bronze foliage	VL	x	Fast-growing; native; only Ash appropriate for Austin area; provide good drainage; relatively long life; provides nesting and cover; birds eat flowers and fruit; susceptible to emerald ash borer; prune to shape or raise canopy if needed
Cedar, Eastern Red <i>Juniperus virginiana</i> var. <i>virginiana</i>	B	30-50'	15-25'	Sun	E	Year round	Evergreen leaves	L	x	Columnar, spreading shape; needs deep soil; good screen plant; native; provides cover and food for wildlife; Ashe Juniper, <i>J. ashei</i> , (mistakenly called Cedar) is a native alternative for shallow soils; does not need pruning
Cherry, Black <i>Prunus serotina</i> var. <i>exima</i>	B	25-50'+	35'	Sun	D	Spring	White flower; yellow fall foliage	L-M	x	Attractive shape; fall color; fragrant flowers; glossy leaves; fruit bearing; not for heavy clay soils; foliage can be fatal if consumed; provide moist location; attracts birds, butterflies and pollinators; prune for shape or to raise canopy
Cypress, Arizona <i>Cupressus arizonica</i>	T	25-50'	15-25'	Sun	E	Year round	Blue-silver foliage	VL	x	Suited to well-drained, limestone soils; attractive, peeling red bark; some disease problems; native to Chisos Mountains; prune to shape, if needed
Cypress, Bald <i>Taxodium distichum</i>	B/E	60-100'	35-50'+	Sun/Part Shade	D	Fall	Copper foliage	H	x	For riparian/moist, deep soil or poor drainage conditions only; foliage dries up in dry, hot location; obtain plants of western seed source; does not need pruning
Cypress, Montezuma <i>Taxodium mucronatum</i>	T	60-100'	25-50'+	Sun/Part Shade	D	Fall	Bronze foliage	M	x	Similar to Bald Cypress but faster growth and more adapted to dry conditions; may freeze in severe winters; native to south Texas; does not need pruning
Elm, Cedar <i>Ulmus crassifolia</i>	B/E	50-75'	25-35'	Sun/Part Shade	D	Fall	Gold foliage	VL	x	Upright form, native; adapted to rocky soils; can withstand poor soils; provides seeds and nesting for wildlife; prune to shape or raise canopy if needed
Honey Mesquite <i>Prosopis glandulosa</i> var. <i>glandulosa</i>	B/E	25'-40'	25-30'	Sun	D	Spring-Fall	Creamy white flowers	VL	x	2-3" long blooms; bright green foliage and weeping shape; very slow growing; thorns; excellent nectar source; Thornless Mesquite is <i>Prosopis chilensis</i> ; prune to shape or raise canopy if needed
Maple, Bigtooth <i>Acer grandidentatum</i>	E	20-50'	20-30'	Sun/Part Shade	D	Fall	Red, gold foliage	M	x	Best maple for alkaline soils; outstanding fall color; prune to shape or raise canopy if needed
Oak, Bur <i>Quercus macrocarpa</i>	B/E	50-70'+	30-50'+	Sun	D	Spring	Large acorns	M	x	Large, majestic tree, very adaptable; provide plenty of space and deep soil; moderate growth rate; important source of food for wildlife; prune to shape or raise canopy if needed
Oak, Chinquapin <i>Quercus muhlenbergii</i>	B/E	50-70'+	30-40'	Sun	D	Fall	Yellow and rust foliage	L	x	Stately form; provide deep soil; moderate growth rate; provides food for many birds and mammals; prune to shape or raise canopy if needed



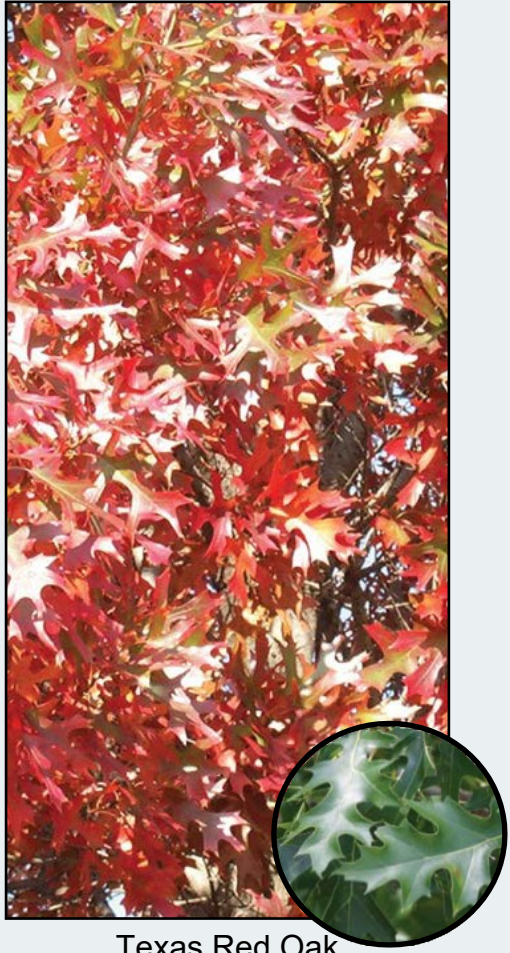
Lacey Oak



Mexican White Oak



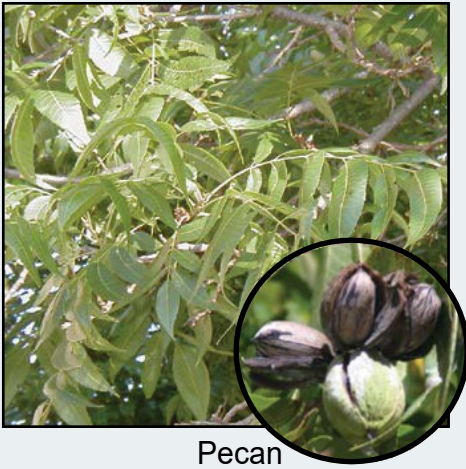
Southern Live Oak*



Texas Red Oak



Texas Palmetto



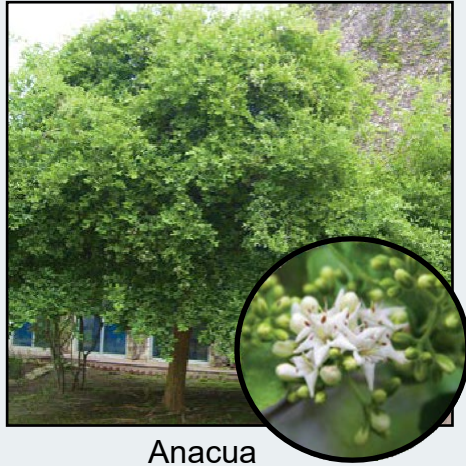
Pecan



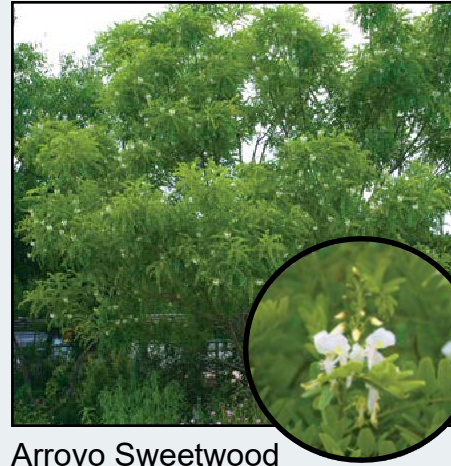
Mexican Sycamore



Anacacho Orchid



Anacua



Arroyo Sweetwood



Mexican Buckeye

Common Name	Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Oak, Lacey <i>Quercus laceyi</i>	E	30-50'+	25'	Sun/Part Shade	D	Spring-fall	Blue-green foliage	VL	x	Ideal for small urban yards; slow growth rate; will grow on shallow, limestone soils; resistant to oak wilt; susceptible to oak phyloxera insects; prune to shape or raise canopy if needed
Oak, Mexican White <i>Quercus polymorpha</i>	T	45-60'+	30-40'	Sun	SE	Spring	New foliage peach	VL	x	Handsome tree; provide deep soil; sheds leaves in spring when new leaves emerge; small population native to West Texas; resistant to oak wilt; susceptible to oak phyloxera insects; prune to shape or raise canopy if needed
Oak, Southern Live <i>Quercus virginiana</i>	B/E	40-60'+	50'+	Sun/Part Shade	E	Year round	Evergreen leaves	L-VL	x	Oak wilt susceptible; provide large open space; evergreen but sheds leaves in spring as new leaves emerge; if planting in shallow soil, use Escarpment Live Oak, <i>Q. fusiformis</i> , which is more drought tolerant; prune only during hottest and coldest months; paint all wounds immediately to help prevent spread of oak wilt
Oak, Texas Red <i>Quercus texana</i>	E	60-75'+	15-30'	Sun	D	Fall	Red foliage in fall	L	x	Well adapted to rocky soils; susceptible to oak wilt; provides food and cover for wildlife; Shumard Oak, <i>Q. shumardii</i> is a taller alternative, but only for deep, well-drained soil; prune to shape or raise canopy
Palmetto, Texas Palm, Texas Sabal <i>Sabal texana</i> or <i>S. mexicana</i>	T	45'	15'	Sun/Part Shade	E	Spring	Small white flowers	L	x	Not a true tree; found in moist, wet locations and/or those areas with occasional flooding; provides food for birds and other wildlife; prune only to remove dead fronds
Pecan <i>Carya illinoensis</i>	B	60-75'+	60-75'	Sun	D	Fall	Nut	H	x	For riparian/moist, deep soil conditions only; tall impressive tree; nut-producing; susceptible to disease and insects; many cultivars available
Sycamore, Mexican <i>Platanus mexicana</i>		60'	40'	Sun/Part Shade	D	Fall	Yellow/orange	H	x	For riparian/moist, deep soil conditions only; fast-growing; resistant to bacterial leaf scorch; may not be cold tolerant; prune to shape or raise canopy if needed

Small Trees/Large Shrubs

Ⓐ For small trees see the TREE section General Maintenance Comments; for large shrubs, if a plant is multi-stemmed leave lower foliage to create screening or to "limb up" remove lower branches as needed; see individual species notes. Plants that prefer Low (L) and Very Low (VL) water can be used in a rain garden if the soil is fast draining and they don't sit in water for an extended period. Rain garden plant success depends on the soil, how fast it drains and if the plants are in their preferred growing conditions.

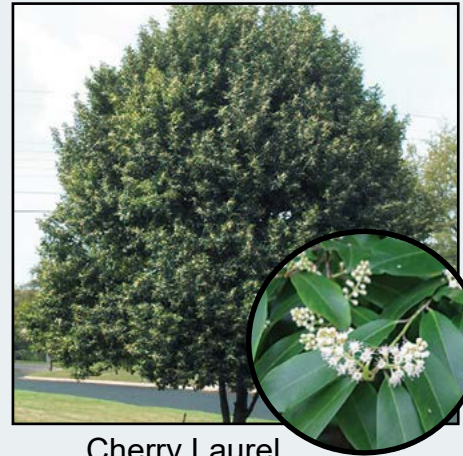
Anacacho Orchid Tree <i>Bauhinia lunarioides</i>	T	6-12' Ⓐ	6-12'	Sun/Part Shade	D	Spring	White or pink flowers	L	x	Excellent understory tree; protect from winter winds; prefers well-drained soil; fragrant flowers attract butterflies and bees; prune to shape or raise canopy if needed
Anacua (Sandpaper Tree) <i>Ehretia anacua</i>	T	20-25'+	15-30'	Sun/Part Shade	SE	Spring-summer	White flowers	L	x	Fast-growing; often suckers or is multi-trunked; provide well-drained, alkaline soil; may die back in severe winters; edible fruit; attracts birds; bee nectar source; prune to shape or raise canopy if needed
Arroyo Sweetwood <i>Myrosporum sousanum</i>		up to 20'+ Ⓐ	15'	Sun/Part Shade	D	Spring	White flowers; gold fall foliage	VL	N	Fast-growing shrub, often multi-trunked; nice foliage; prefers alkaline soil; fragrant, showy flowers; attracts butterflies, birds and bees; prune to shape or raise canopy if needed
Buckeye, Mexican <i>Ungradia speciosa</i>	E	12-20' Ⓐ	12-20'	Sun/Part Shade	D	Early spring	Pink flowers	L	x	Multi-trunked; use as understory shrub; needs 1/2 day of sun; 1" fragrant blooms; good nectar source; seeds eaten by wildlife but poisonous to humans; does not need pruning



Red Buckeye



Carolina Buckthorn



Cherry Laurel



Crape Myrtle



Dessert Willow



Eve's Necklace



Goldenball Leadtree



Possumhaw Holly



Yaupon Holly

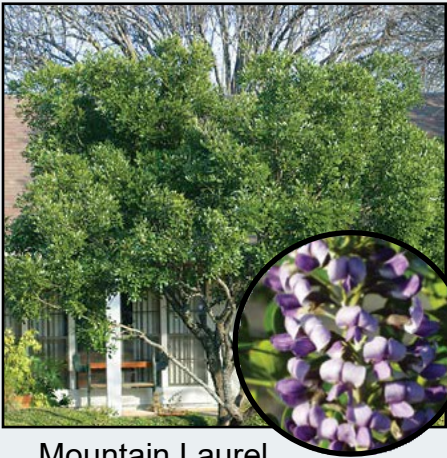


Huisache



Kidneywood

Common Name		Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Buckeye, Red <i>Aesculus var. pavia</i>	B/E	10-20' Ⓢ	10-15'	Part Shade	D	Spring	Red flowers	L-M	x		Red, funnel-shaped flowers; attracts hummingbirds; nectar source; seeds poisonous to wildlife; prune for shape only
Carolina Buckthorn <i>Frangula caroliniana</i>	B/E	12-20' Ⓢ	10-15'	Sun/Part Shade	D	Fall - winter	Yellow foliage	L	x		Understory tree with glossy leaves; can withstand periodic flooding; red berries attract wildlife; flowers are good nectar source; prune to shape or raise canopy if needed
Cherry Laurel <i>Prunus caroliniana</i>	T	15-20'+	15'	Sun/Part Shade	E	Spring	White flowers	M	x		Screening plant; avoid using in hot dry locations; requires deep soil and even soil moisture so is not suited for rain gardens; is susceptible to iron chlorosis; wildlife food; 'Bright and Tight' can be used as a large hedge
Crape Myrtle <i>Lagerstroemia indica</i>		varies if under 20' Ⓢ	varies	Sun	D	Summer	Varies	L-M	x		Often too big for selected space, so note mature size of cultivar (dwarf cultivars available); large types not suited to rain gardens; needs good air circulation; choose powdery mildew resistant cultivars; aphids and a new scale insect can be a problem; occasionally reseeds; remove suckers but do not chop tops
Desert Willow <i>Chilopsis linearis</i>	E	varies if under 20' Ⓢ	15-20'	Sun/Part Shade	D	Spring - fall	White, pink or burgundy	VL	x		Open, airy structure creates light shade for underplantings; native; trumpet-shaped, 3" long flower; provide well-drained soil; flowers and seeds provide food for wildlife; prune for shape or to raise canopy; remove suckers if needed
Eve's Necklace <i>Styphnolobium affine</i>	E	15-20'+ Ⓢ	10-20'+	Sun/Part Shade	D	Spring - fall	Light pink flowers	VL	x		Small, understory tree; native; 4-6" drooping flower clusters; provides nectar; seeds are poisonous; prune to shape or raise canopy, if needed
Goldenball Leadtree <i>Leucaena retusa</i>	E	12-20'+ Ⓢ	12-15'	Sun/Part Shade	D	Spring - Fall	Gold flowers	VL	x		Small, understory tree with 1" round globe-like fragrant blooms; native; airy foliage casts light shade for underplantings; provides cover, nesting and nectar; prune for shape or to raise canopy if needed
Holly, Possumhaw <i>Ilex decidua</i>	B/E	12-20' Ⓢ	12'	Sun/Part Shade	D	Fall - winter	Red berries	M	x		Large multi-stemmed, shade-tolerant shrub; red berries on female plants attract birds in winter; tolerates poor drainage; similar to Yaupon Holly but loses its leaves in winter; prune for shape if needed
Holly, Yaupon <i>Ilex vomitoria</i>	B	12-20' Ⓢ	10-15'	Sun/Part Shade	E	Winter	Red berries	L-M	x		Large, evergreen, multi-stemmed, shade-tolerant shrub; red berries on female plants attract birds in winter; tolerates poor drainage; fruits best in full sun; poisonous berries; prune for shape if needed
Huisache <i>Acacia farnesiana</i>	T	15-20'+	20'	Sun	SE	Spring	Yellow flowers	VL	x		Excellent native tree for waterwise gardens; fragrant blooms; forage for birds and other small creatures; prune for shape or to raise canopy if needed
Kidneywood <i>Eysenhardtia texana</i>	E	8-15' Ⓢ	6-8'	Sun/Part Shade	D	Spring - fall	White flowers	VL	x		Fast-growing, native shrub with open, airy foliage; fragrant flowers; blooms off and on through growing season; foliage smells citrusy when crushed; attracts butterflies and bees, prune for shape if needed



Mountain Laurel



Mexican Olive



Windmill Palm



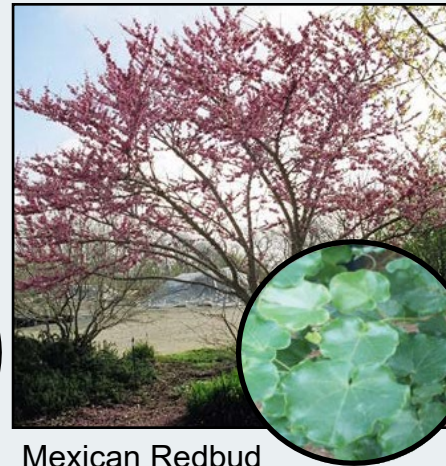
Texas Persimmon



Mexican Plum



Pomegranate



Mexican Redbud



Roughleaf Dogwood



Mexican Silktassel

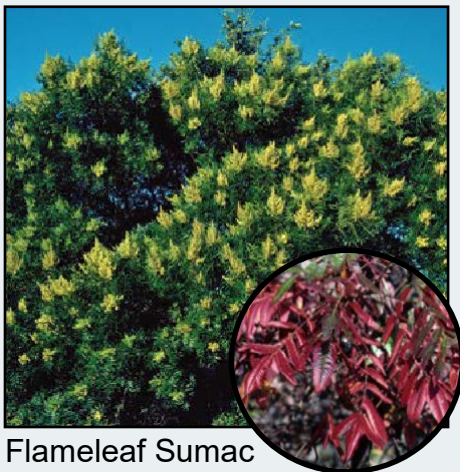


Evergreen Sumac



Retama

Common Name		Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Mountain Laurel, Texas <i>Sophora secundiflora</i>	E	12-20' UA	8-12'	Sun/Part Shade	E	Spring	Purple flowers	VL	x		Slow-growing evergreen native; showy purple flowers with grape bubble gum fragrance; poisonous seeds; native to rocky, limestone cliffs; provide good drainage; prune to shape or raise canopy if desired
Olive, Mexican <i>Cordia boissieri</i>	T	15' UA	15'	Sun/Part Shade	D	Spring and Summer	Gray green foliage	VL	x		Furry-textured foliage; top may die in hard freeze; some reports fruit edible but not palatable; fruit can be messy so don't plant near paved surfaces or rain gardens; prune to shape or raise canopy if needed
Palm, Windmill <i>Trachycarpus fortunei</i>		25'	7-10'	Sun/Part Shade	E	Year round	Dark green foliage	L-VL	x		Palms are not true trees; tropical-looking, fan-shaped fronds; furry-looking trunks; painful spines; avoid west sun; hardy to 5° F; remove dead fronds as needed; can be heavy-feeders
Persimmon, Texas <i>Diospyros texana</i>	E	12-20'+ UA	8-12'	Sun/Part Shade	D	Spring	White flowers	VL	x		Multi-trunked, slow-growing native shrub; smooth, gray bark; native to shallow, rocky limestone soils; female trees bear fruit which attract wildlife but can be messy so don't plant near paved surfaces or in rain gardens; prune to shape or raise canopy if needed
Plum, Mexican <i>Prunus mexicana</i>	B/E	15-20'+ UA	15-20'	Sun/Part Shade	D	Spring	White flowers	L	x		Great understory tree; earliest spring bloomer; provide good drainage and fair amount of soil; fragrant flowers are nectar source; larval host; edible fruit in July-Sept; but can be messy so don't plant near paved surfaces or in rain gardens; prune to shape or raise canopy if needed
Pomegranate <i>Punica granatum</i>		varies if under 20' UA	varies	Sun	SE	Summer - fall	Orange flowers	L	x		Will grow on shallow, rocky, limestone soil; thorny stems; dwarf fruiting and non-fruiting cultivars are available; some have edible fruit, don't plant fruiting cultivars near paved surfaces or rain gardens
Redbud, Mexican <i>Cercis canadensis</i> var. 'mexicana' Redbud, Texas <i>Cercis canadensis</i> var. 'texensis'	E	10-15' 15-20'	10-15'	Sun/Part Shade	D	Early spring	Pinkish purple	L-VL	x		Mexican variety has small wavy leaves; Texas variety has leaves that are larger and less wavy; provide well-drained site; Eastern Redbud not recommended; prune to shape, raise canopy or remove suckers
Retama <i>Parkinsonia aculeata</i>	T	12-20' UA	12-20'	Sun/Part Shade	D	Spring - fall	Yellow flowers	VL	x		Green trunk and branches; seeds out; root suckers; thorns; fast-growing; short-lived; provides nectar, seeds and nesting; prune to shape or raise canopy if needed
Roughleaf Dogwood <i>Cornus drummondii</i>	B/E	12'-20' UA	15-20'	Sun/Part Shade	D	Spring	White berries	L	x		Give lots of space; thicket-forming; suckers extensively; use for natural areas and habitat gardens; tolerates alkaline soil; good nectar and fruit source
Silktassel, Mexican <i>Garrya ovata</i> spp. <i>lindheimeri</i>	E	5-11' UA	5-11'	Sun/Part Shade	E	Spring	Green flowers	L	x		Extremely drought and disease tolerant; must have well-drained soil to do well; fast-growing; good substitute for Ligustrum
Sumac, Evergreen <i>Rhus virens</i>	E	8-10' UA	6-8'	Sun/Part Shade	E	Late summer to winter	White blooms	L	x		Glossy leaves turn burgundy in cool season; fuzzy, orange/red berries provide food for birds and other wildlife; needs good drainage; prune as needed to maintain natural form



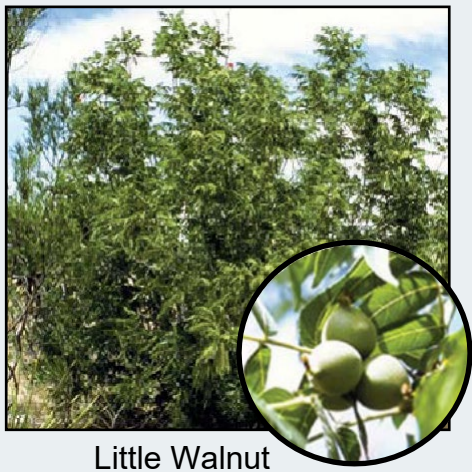
Flameleaf Sumac



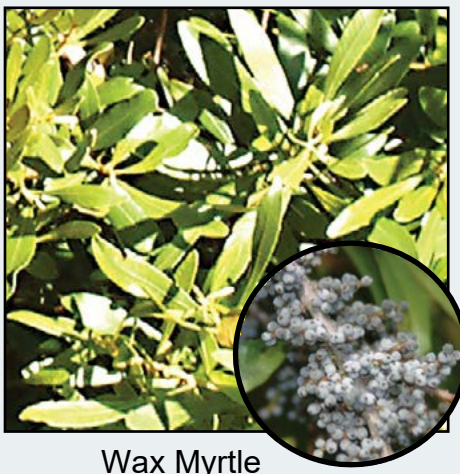
Rusty Blackhaw Viburnum



Sandankwa Viburnum



Little Walnut



Wax Myrtle



Xylosma



Abelia



Agarita



American Beautyberry



Apache Plum



Common Name	Tolerance	Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Sumac, Flameleaf <i>Rhus lanceolata</i>	B/E	12-15'+ UA	10-20'+	Sun/Part Shade	D	Fall	Orange/red fall foliage	VL	x		Give lots of space; thicket-forming suckers can go out 20'; native to limestone soils; provides food for bees, mammals, and birds; no pruning necessary
Viburnum, Rusty Blackhaw <i>Viburnum rufidulum</i>	B/E	15-20' UA	10-15'	Sun/Part Shade	D	Late spring and fall	White flowers; fall foliage	L	x		Good understory tree; provide deep, well-drained soils; slow-growing; yellow, orange, and red fall color; fall fruit favored by birds; prefers deep soil so not suited to rain gardens; prune to shape or raise canopy as needed after blooming
Viburnum, Sandankwa <i>Viburnum suspensum</i>		6-8' UA	6-8'	Sun/Part Shade	E	Spring	White flower	M			Fairly fast-growing; needs good drainage; prefers deep soil so not suited to rain gardens; prune to shape as needed after blooming
Walnut, Little <i>Juglans microcarpa</i>	T	18-20'	20'	Sun/Part Shade	D	Spring and fall	White flowers; nuts	M	x		Grows in limestone soil; provides good cover, nesting; nuts provide food for wildlife; poisonous flowers; prune for shape or to raise canopy as needed
Wax Myrtle <i>Morella cerifera</i>	B	12 - 15'+ UA	15'	Sun/Part Shade	E	Winter	Blue berries	M	x		Fast-growing evergreen screen; foliage aromatic when crushed; dwarf cultivars available at 8-10' height; provides food and cover for wildlife; prefers deep soil so not suited for rain gardens; prune for shape or to raise canopy if needed
Xylosma <i>Xylosma congestum</i>		12-20' UA	8-15'	Sun/Part Shade	SE	Spring	White flowers	M	x		Large, loose, airy shrub or small tree; glossy foliage; inconspicuous flowers; adaptable to most soils, but prefers consistent soil moisture so not suited to rain gardens; heat tolerant; occasional scale or spider mites; hardy to 10° F; can be pruned as tree or hedge

Shrubs

To maintain a natural look, selectively prune to shape if needed but do not shear. Plants that prefer Low (L) and Very Low (VL) water can be used in a rain garden if the soil is fast draining and they don't sit in water for an extended period. Rain garden plant success depends on the soil, how fast it drains and if the plants are in their preferred growing conditions.

Abelia, Glossy <i>Abelia x grandiflora</i>		6'	6'	Sun/Part Shade	E	Summer-fall	Pink/white flowers	L-M	x		Fast-growing, very adaptable, dense, evergreen hedge; fragrant flowers; 3-4' dwarf cultivars available; check label for specifics; attracts bees; selectively prune errant stems if too wild-looking
Agarita <i>Berberis trifoliata</i> (<i>Mahonia trifoliata</i>)	E	3-7'	3-6'	Sun/Part Shade	E	Early spring	Yellow flowers; red berries	VL	x		Native, evergreen shrub; bluish-green, holly-like foliage; fragrant early spring flowers; prickly leaves not pedestrian friendly but provides excellent nesting for birds; red edible berries; pruning not necessary
American Beautyberry <i>Callicarpa americana</i>	B	4-6'	6'	Shade	D	Fall-winter	Purple fruit	L-M	x		Great native understory shrub; prefers dependable moisture and deep soil, so not suited to rain gardens; attractive berries in fall and winter; wildlife food; graceful structure does not need pruning
Apache Plume <i>Fallogia paradoxa</i>	E	4-6'+	4-6'	Sun/Part Shade	SE	Spring	White flowers; pink fruit	L	x		Multi-stemmed; 2" showy blooms; good for erosion control; adaptable to dry, well-drained, limestone, sandy and clay soils; provides nectar, cover; attracts bees, butterflies, birds; evergreen to 20° F



Japanese Aralia



Barbados Cherry



Purple Baptisia



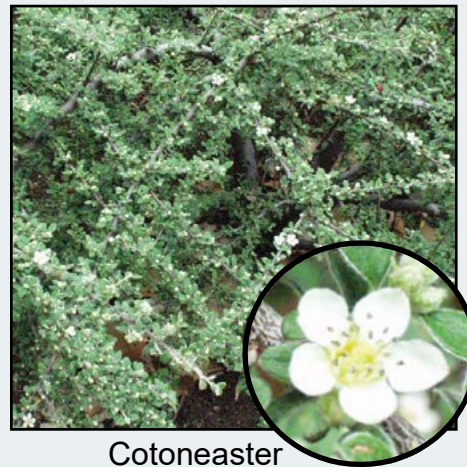
Bottlebrush



Woolly Butterfly Bush



Coralberry



Cotoneaster



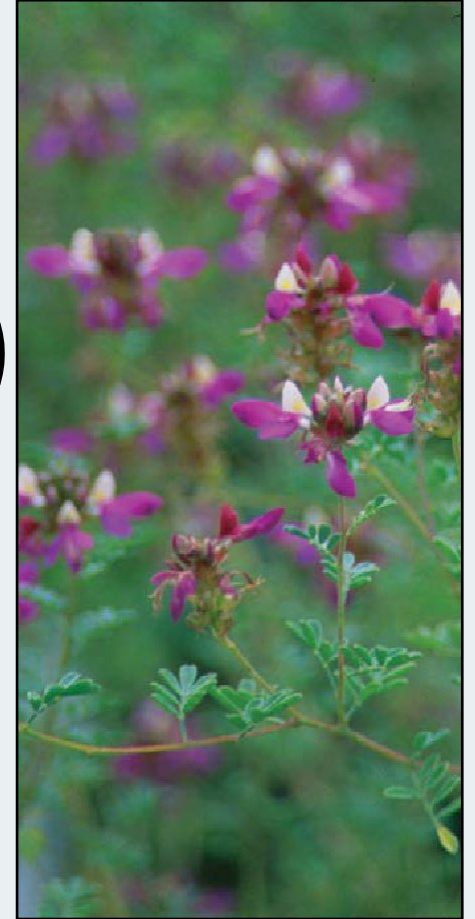
Desert Broom



Elbow Bush



Flame Acanthus



Black Dalea

Common Name	Tolerance	Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Aralia, Japanese <i>Fatsia japonica</i>			10'	10-12'	Shade	E	Late summer-early fall	Cream flowers	M	x	Large, tropical-looking foliage; inconspicuous blooms; water from below to reduce foliage disease; may die back in harsh winter; prefers consistent soil moisture so not suited to rain gardens; remove yellow foliage as needed
Baptisia, Purple (Wild Indigo) <i>Baptisa australis</i>	T		up to 5'	3'	Sun	D	Spring-early summer	Blue/purple	L-M	x	Tap-rooted plant; prefers well-drained soil; tolerates limestone, most parts of plants poisonous; attracts butterflies and bees
Barbados Cherry <i>Malpighia glabra</i>	T		4-6'+	2-3'	Sun/Part Shade	SE	Spring-Fall	White to pale pink flowers	L-M	x	1/2" delicate, crepe-paper flowers; red berries that are prized by birds and small mammals; evergreen above 25° F
Bottlebrush <i>Callistemon citrinus</i>			8'	6'	Sun	E	Spring-Summer	Red flowers	L	x	Unusual, tropical-looking flowers; provide well-drained soil; drought tolerant; pest and disease resistant; many cultivars available; attracts bees; prune for natural look if needed
Butterfly Bush, Woolly <i>Buddleja marrubifolia</i>	T		4-6'	4-6'	Sun/Part Shade	D	Late spring-fall	Orange flowers	L	x	South Texas native shrub with fuzzy, silvery blue-green leaves; interesting 1/2" flower; provide good drainage; winter hardy, attracts butterflies; prune for natural look if needed
Coralberry <i>Symphoricarpos orbiculatus</i>	B		2-3'	3'	Sun/Part Shade	D	Fall - winter	Magenta berries	M	x	Good native for erosion control; stems root to form colony; prefers consistent soil moisture so not suited to rain gardens; needs rich soil and good air circulation; provides cover and berries for wildlife; cut back in winter if gets leggy; control runners as required
Cotoneaster <i>Cotoneaster</i> spp.			3-5'	4-7'	Sun/Part Shade	E	Fall	Red berries	M	x	Adaptable evergreen shrubs; many species and cultivars available; foliage varies from silver-gray to dark green; check label for specifics; attractive fleshy berries; attracts bees; prune for natural look if needed
Dalea, Black <i>Dalea frutescens</i>	E		1-3'	3'	Sun	D	Summer	Purple flowers	VL	x	Native to dry, limestone soils; requires little water; long roots will find water some distance away; excellent nectar source; may shear back after first frost browns leaves
Desert Broom <i>Baccharis sarothroides</i>			3-6'+	3-4'	Sun	SE	Fall	White flowers	L	x	Multi-stemmed shrub; very adaptable; readily colonizes disturbed areas; use in wildscapes; may shed leaves during drought
Elbow Bush <i>Forestiera pubescens</i>	E		4-6'	4-5'	Sun/Part Shade	D	Spring	White	VL	x	Thicket-forming, irregular-shaped shrub; use in natural areas or wildlife habitats; non-showy flowers provide spring nectar for many insects; berries eaten by birds and small mammals; prune to shape if needed
Flame Acanthus <i>Anisacanthus quadrifidus</i> var. <i>wrightii</i>	E		3-5'	3-4'	Sun/Part Shade	D	Summer - fall	Orange-red flowers	VL	x	Medium-sized native shrub can be used as low hedge; orange, tubular flowers attract hummingbirds and butterflies; reseeds aggressively; if frost browns leaves, cut back by 1/3 to 1/2 before spring growth begins



Fragrant Mimosa



Bush Germander



Greek Myrtle



Indian Hawthorne



Dwarf Burford Holly



Dwarf Yaupon Holly



Nellie R. Stevens Holly



Japanese Yew



Globe Mallow



White Mistflower



Mock Orange

Common Name		Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Fragrant Mimosa <i>Mimosa borealis</i>	E	6-8'	6-8'	Sun	D	Spring-summer	Pink flowers	VL	x		Needs good drainage; prickly stems; tolerates poor caliche soil; little maintenance necessary
Germander, Bush <i>Teucrium fruticans</i>		4-6'	4-6'	Sun/Part Shade	E	Summer	Lavender/blue flowers	L		x	Don't over water; attractive silvery-gray green foliage; attracts bees and butterflies; prune errant stems for a natural look, shaping not necessary
Greek Myrtle <i>Myrtus communis</i>		10-12'+	5-8'	Sun/Part Shade	E	Spring-summer	White flowers	L-M			Fine-textured evergreen shrub or small tree; fragrant flowers; heat and drought tolerant; good substitution for Boxwood; prune only to shape as needed
Hawthorn, Indian <i>Raphiolepis indica</i>		4-6'	4-6'	Sun/Part Shade	E	Spring	White or pink flowers	L-M		x	Adaptable evergreen shrubs; many cultivars available; susceptible to leaf spot problems in wet weather; look for disease resistant and cold hardy cultivars; check label for specifics; attractive fleshy berries; pruning usually not necessary
Holly, Dwarf Burford <i>Ilex cornuta</i> 'Burfordii'		4-6'	3-4'	Sun/Part Shade	E	Spring-winter	White blooms; red berries	L		x	Use as evergreen hedge or screen; adapts to many soil types; attracts bees; susceptible to scale insects; non-dwarf cultivars available; prune for natural look
Holly, Dwarf Yaupon <i>Ilex vomitoria</i> 'Nana'	X	2-4'	2-4'	Sun/Part Shade	E	Year Round	Evergreen foliage	L			Low, mounding, evergreen shrub; maintains a formal shape; good substitute for Boxwood; hybrid with native Texas parentage; pruning not usually necessary
Holly, Nellie R. Stevens <i>Ilex cornuta</i> 'Nellie R. Stevens'		8-10'	5-6'	Sun	E	Fall-winter	Red berries	L-M			Inconspicuous blooms in spring; female plants produce red berries if not sheared; susceptible to iron chlorosis and scale insects; berries attract wildlife; prune to shape
Japanese Yew <i>Podocarpus macrophyllus</i>		10-20'	5-10'	Sun/Part Shade	E	Year round	Dark green foliage	L-M		x	Narrow, upright evergreen shrub; provide well-drained soil; slow-growing; poisonous fruit, prefers even soil moisture, so not suited for rain gardens; prune to shape if needed
Mallow, Globe <i>Sphaeralcea ambigua</i>	T	2-5'	2-5'	Sun	D	Summer-fall	Orange, pink or purple flowers	L		x	Provide good drainage and fertile soil; flowers attract bees and butterflies; seeds eaten by seed-eating birds and small mammals; lightly prune for shape
Mistflower, White <i>Ageratina havanensis</i>	E	3-5'	2-3'	Sun/Part Shade	D	Fall	White flowers	L		x	Rounded shape; grows in most soils; fragrant blooms in fall; attracts butterflies, moths and hummingbirds; cut back by 1/2 in winter before new growth begins, if needed to maintain compactness
Mock Orange <i>Philadelphus coronarius</i>		8-12'	6-8'	Sun/Part Shade	D	Spring	White/yellow flowers	L-M			Fragrant flowers; avoid use in poorly drained soil; medium fast growth; fruit has no major landscape interest; disease and pest free; prune non-flowering woody stems immediately after flowering



Texas Dwarf Palmetto



Pineapple Guava



Pittosporum



'Belinda's Dream' Rose



'Cecile Brunner' Rose



'Grandma's Yellow' Rose



'Knockout' Rose



'Livin' Easy' Rose



'Marie Daly' Rose*



'Martha Gonzales' Rose



'Mutabulis' Rose

Common Name	Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Palmetto, Texas Dwarf <i>Sabal minor</i>	B/E	3-5'	4-6'	Sun/Part Shade	E	Spring	White flowers	L-M	x	Not a true shrub; trunkless native palm; tropical-looking but tough; tolerates poor drainage; 1-6' flower clusters; provides cover and food; prune only to remove damaged fronds
Pineapple Guava <i>Feijoa sellowiana</i>		6-10'	6-8'	Sun	E	Spring -early summer	Pink and red blooms	L-M	x	Likes well-drained soil; a little cold tender; fruit can be messy so don't plant near paved surfaces or in rain gardens; prune for desired shape
Pittosporum <i>Pittosporum tobira</i>		8-10'	7-9'	Sun/Part Shade	E	Spring	Creamy-white flowers	M	x	Broad-leaved evergreen makes a good screen; glossy leaves; fragrant flowers; provide well-drained soil; 'Variegata' has leaves with white edges; dwarf cultivars available; susceptible to scale insects; may be damaged in severe winter; pruning not necessary
Roses Prune back by 1/3 in late winter; remove spent blooms to encourage more blooms; Use drip irrigation to reduce wet foliage and and prevent fungal diseases. Roses are not recommended for rain gardens due to thorns, maintenance and variable water needs.										
Rose, Belinda's Dream <i>Rosa 'Belinda's Dream'</i>		4'	4'	Sun	SE	Spring - fall	Pink flowers	M		Repeat bloomer; fragrant; disease resistant; good shrub form with large blooms
Rose, Cecile Brunner <i>Rosa 'Cecile Brunner'</i>		3-4'	3-4'	Sun	SE	Spring - fall	Pink flowers	M		Repeat bloomer; disease resistant; easy to grow and care for
Rose, Grandma's Yellow <i>Rosa 'Grandma's Yellow'</i>		4-5'	3'	Sun	SE	Spring - fall	Yellow flowers	M		Formerly 'Nacogdoches'; repeat bloomer; purest and most disease-resistant yellow rose; fragrant flowers; very thorny
Rose, Knock Out <i>Rosa 'Knock Out'</i>		3'	3'	Sun	SE	Spring - fall	Red flowers	M		Purple new growth; repeat bloomer; cultivar showing disease resistance
Rose, Livin' Easy <i>Rosa 'Livin' Easy'</i>		4'	3'	Sun	SE	Spring - fall	Coral to orange	M		Repeat bloomer; showing good disease resistance; upright growth habit
Rose, Marie Daly <i>Rosa 'Marie Daly'</i> , Rose, Marie Pavie <i>Rosa 'Marie Pavie'</i>		3'	3'	Sun/ Part Shade	SE	Spring - fall	White to pale pink	M		Antique rose; repeat bloomer; fragrant, very few thorns; disease tolerant; 'Marie Pavie' is white version (see insert)
Rose, Martha Gonzales <i>Rosa 'Martha Gonzales'</i>		3'	3'	Sun/ Part Shade	SE	Spring - fall	Red flowers	M		Antique rose; repeat bloomer; few thorns; disease tolerant
Rose, Mutabilis <i>Rosa 'Mutabilis'</i>		6'	8'	Sun	SE	Spring - fall	Copper yellow to pink	M		Antique rose; very drought tolerant; copper yellow flowers turn to a pretty pink, repeat bloomer; disease resistant



'Nearly Wild' Rose



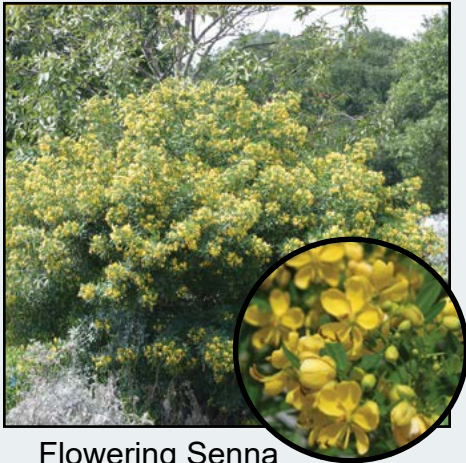
'Old Blush' Rose



Upright Rosemary



Texas Sage



Flowering Senna



Skyflower



Fragrant (Aromatic) Sumac



Turk's Cap



Sweet Almond Verbena



Thryallis (Golden Showers)

Common Name	Taxa	Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Rose, Nearly Wild <i>Rosa</i> 'Nearly Wild'			3'	4'	Sun	SE	Spring-fall	Deep pink	M		Single pink bloom; repeat bloomer; disease resistant; needs soil with compost added
Rose, Old Blush <i>Rosa</i> 'Old Blush'			5'	5'	Sun	SE	Spring-fall	Deep pink	M		Antique rose; repeat bloomer; disease resistant
Shrubs continued											
Rosemary, Upright <i>Rosmarinus officinalis</i>			4'	4-6'	Sun	E	On and off all year	Pale blue	L-M	x	Culinary herb; upright shrub; good drainage required; attracts bees; Trailing Rosemary, <i>R. officinalis</i> var. <i>prostratus</i> makes good groundcover
Sage, Texas <i>Leucophyllum frutescens</i>	T		5-8'	4-5'	Sun	E	Spring-summer	Purple, pink or white flowers	L-VL	x	Gray leaves but green-leaved and compact cultivars also available; blooms off and on after rain events; provide well-drained soil; prune for natural look; do not shear or hedge
Senna, Flowering <i>Senna corymbosa</i>			6-8'	4-6'	Sun/Part Shade	SE	Summer - fall	Yellow flowers	L-M	x	Dark green leaves, showy bloomer, adapted to caliche soils; attracts hummingbirds and butterflies; susceptible to extremely cold weather; prune for shape or to raise canopy; cut back 1/2 in late winter if damaged by freeze
Skyflower, <i>Duranta</i> <i>Duranta erecta</i>			5-10'	4-10'	Sun/Part Shade	SE	Summer - fall	Purple or white flowers	L-M		Fine texture; yellow fruit, cold tender; provide fertile, well-drained soil; more flowers in full sun; many cultivars available; cut back after freeze but before new spring growth
Sumac, Fragrant (Aromatic) <i>Rhus aromatica</i>	B/E		6-9'	4-6'	Sun/Part Shade	D	Fall	Vibrant fall leaves	L	x	Leaves have spicy fragrance when crushed; flowers provide early nectar; smaller varieties available; fruits ripen early, attract wildlife; prune errant stems for natural look; shaping not necessary
Sweet Almond Verbena <i>Aloysia virgata</i>			4-8'+	8'	Sun/Part Shade	SE	Spring-summer	White flowers	M-L	x	Multi-branched, upright habit, adaptable; fragrant flowers; blooms on and off all summer; attracts butterflies, bees and hummingbirds; dies back in severe winter; prune to shape
Thyralis, (Golden Showers) <i>Galphimia glauca</i>			4-6'	4'	Sun	E	Spring-fall	Yellow	L		Easy to grow; needs room to spread; tolerates most soils; prefers well-drained soils; hardy to 25° F; lightly prune if needed, to reduce legginess
Turk's Cap <i>Malvastrum arboreum</i> var. 'Drummondii'	E		2-6'	3-5'	Sun/Part Shade	D	Late spring - fall	Red flowers; red fruit	L	x	Forms expanding colonies, but easy to contain; attracts hummingbirds and butterflies; top of plant may freeze; cut back to keep confined, when leggy, or if needed after freeze



Artemesia



Beebalm



Yellow Bird of Paradise



Black-eyed Susan



Bulbine



Red Bird of Paradise



Mexican Butterfly Weed



Calylophus



Cast Iron Plant



Catmint

Common Name	Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Perennials Mild winters and/or protecting plants may eliminate the need to cut them back; if the plant looks good, leave it alone. If it needs rejuvenating or you want to encourage compactness, most perennials will respond positively if cut back 1/3 to 1/2. In general it is best to cut back perennials in winter before new spring growth occurs. Plants that prefer Low (L) and Very Low (VL) water can be used in a rain garden if the soil is fast draining and they don't sit in water for an extended period. Rain garden plant success depends on the soil, how fast it drains and if the plants are in their preferred growing conditions.										
Artemisia <i>Artemisia 'Powis Castle'</i>		1-2'	3-6'	Sun	E	Year round	Blue-gray foliage	VL		Aromatic, lace-like; low water use and low maintenance; cut back to 4" in late winter before new spring growth
Beebalm <i>Monarda fistulosa</i>	B	2-5'	2-3'	Sun/Part Shade	D	Summer	Lavender, pink or white flowers	L-M	x	Showy native perennial with many cultivars; grows on a variety of soils; nectar source attracts butterflies, birds and hummingbirds; fragrant foliage; cut back to 4" in late winter before new spring growth
Bird of Paradise, Red <i>Caesalpinia pulcherrima</i>		5-6'+	3-6'	Sun	D	Summer - fall	Red/orange flowers	L	x	Dependable summer bloomer with very showy, tropical-looking flowers; heat tolerant; attracts hummingbirds; top will be damaged by freeze but roots are hardy to 15° F; prune for shape only; mulch to prevent winter kill of roots
Bird of Paradise, Yellow <i>Caesalpinia gilliesii</i>		6-8'	6-12'	Sun	D	Spring - fall	Yellow with orange	L		Light airy foliage; tropical look; dependably hardy; disease and pest resistant; seeds are toxic; prune for shape only; mulch to prevent winter kill of roots
Black-eyed Susan <i>Rudbeckia hirta</i> var. <i>pulcherrima</i>	B/E	1-2'	1-2'	Sun/Part Shade	D	Summer	Yellow with dark centers	L-M	x	Daisy-like blooms in summer; butterfly nectar; can grow native from seed; <i>Rudbeckia fulgida</i> var. <i>sullivantii</i> 'Goldsturm' is a cultivar with larger blooms; prune back in late winter
Bulbine <i>Bulbine frutescens</i>		2'	2.5'	Sun	SE	Spring - fall	Orange or yellow	VL		Aloe-like leaves; cold tender; may not survive harsh winter unless protected, so not recommended for rain gardens; trim off bloom stalks as they decline
Butterfly Weed, Mexican (Tropical Milkweed) <i>Asclepias currasavica</i>		3-4'	1-2'	Sun/Part Shade	D	Summer - fall	Yellow and/or orange flowers	L	x	Leaves of milkweeds are eaten by monarch caterpillars; non-native Mexican is common in nurseries, to encourage migration and reduce local overwintering, which may increase disease; cut back to 6" Nov-Feb. Plant natives when possible. Native <i>A. tuberosa</i> needs good drainage; do not disturb its taproot when transplanting; or try it, <i>A. asperula</i> and <i>A. viridis</i> from seed
Calylophus (Square Bud Primrose) <i>Calylophous berlandieri</i>	E	1-2'	1-2'	Sun/Part Shade	E	Spring - summer	Yellow flowers	VL	x	Good rock garden plant; needs good drainage; 'Compact Gold' is a low-growing variety; good for use as groundcover; no maintenance needed
Cast Iron Plant <i>Aspidistra elatior</i>		3'	2-3'	Shade	E	Spring - fall	Large green leaves	L		Good understory plant for dry shade; large, long green leaves; leaf edges will scorch if too much sun; remove damaged foliage to 3" height as needed
Catmint <i>Nepeta X faassenii</i>		1-2'	1.5 - 3'	Sun/Part Shade	D	Summer - fall	Lavender blue flowers	L-M	x	Silvery green foliage; provide well-drained soil and afternoon shade; seeds are sterile so it will not spread; attracts bees and butterflies; cut back to 3-6" after freeze damage but before spring growth



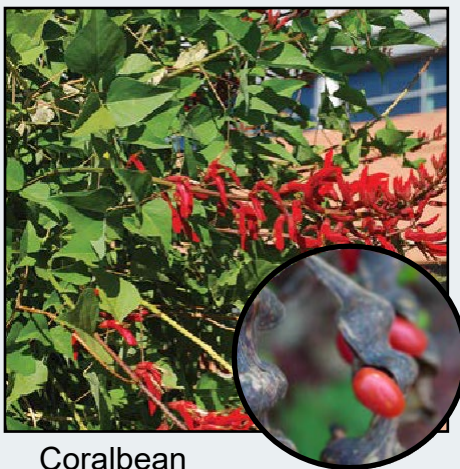
Chile Pequin (Petin)



Red Columbine



Columbine



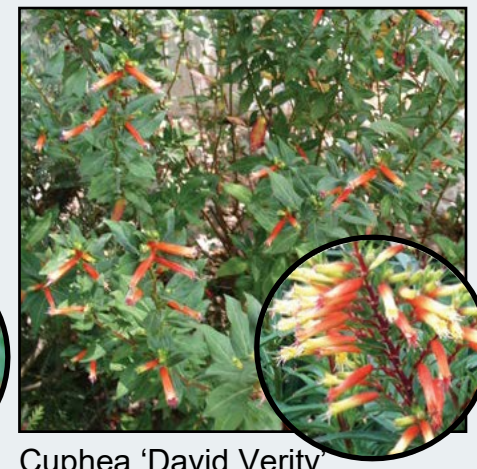
Coralbean



Coreopsis



Batface Cuphea



Cuphea 'David Verity'



Blackfoot Daisy



Chocolate Daisy



Copper Canyon Daisy



Englemann Daisy

Common Name	Tolerance	Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Chile Pequin <i>Capsicum annuum</i>	E		2-4'	2-4'	Sun/Part Shade	D	Summer - fall	White flowers	L	x	Red peppers are edible and very hot!; perennial only in mild winter; reseeds easily; birds love the fruit; cut back to 3-6" after freeze damage but before new spring growth
Columbine, Red <i>Aquilegia canadensis</i>	E		1-2'	1-2'	Sun/Part Shade	SE	Spring	Red flowers	M	x	Prefers moist, yet well-drained soils; reseeds; dormant in summer without water; susceptible to leaf miners; attracts some hummingbirds; prune off spent foliage and seedheads in late May
Columbine <i>Aquilegia chrysantha</i> var. 'Hinkleyana'	T		1-2'	1-2'	Sun/Part Shade	SE	Spring	Yellow flowers	L-M	x	Prefers moist, yet well-drained soils; reseeds; dormant in summer without water; susceptible to leaf miners; attracts some hummingbirds; prune off spent foliage and seedheads in late May
Coralbean <i>Erythrina herbacea</i>	T		5'	4'	Sun/Part Shade	D	Spring	Red flowers	L	x	Good understory plant; blooms on long stalks; sharp spines; attracts hummingbirds; seeds are poisonous and not eaten by wildlife; will freeze back so not suited for rain gardens; remove tall bloom shoots after flowering; cut back after freeze and before spring growth
Coreopsis, Lance-leaf <i>Coreopsis lanceolata</i>	T		1-1.5'	1.5-2'	Sun/ Part Shade	D	Spring-summer	Yellow flowers	L-M	x	Butterfly plant; covered with yellow daisy-like flowers; native to east and southeast Texas; 'Sunray' and 'Baby Sun' are tighter, more compact; prune or shear off spent blooms to encourage more flowers
Cuphea, Batface <i>Cuphea llavea</i>			1'	1'	Sun/Part Shade	D	Late spring - fall	Red and purple flowers	L-M	x	Appropriately named; very heat tolerant; cold tender so not suited for rain gardens; cut back to 6" after cold damage occurs but before spring growth
Cuphea, 'David Verity' <i>Cuphea 'David Verity'</i>			2-3'	2-3'	Sun	D	Summer - fall	Orange and yellow	L	x	Appropriately named; very heat tolerant; cold tender so not suited for rain gardens; cut back to 6" after cold damage occurs but before spring growth
Daisy, Blackfoot <i>Melampodium leucanthum</i>	E		6-12"	1-1.5'	Sun	E	Spring and summer	White with yellow centers	VL	x	Short daisy-like blooms all spring and summer; occasionally reseeds; requires dry conditions; excellent rock garden plant; can be temperamental when transplanting; prune back if leggy
Daisy, Chocolate <i>Berlandiera lyrata</i>	T		1-2'	2'	Sun/Part Shade	D	Late summer	Yellow flowers	L-M	x	Likes dry, rocky limestone, plant has chocolate scent; nectar source for bees and other insects; use in natural area or habitat garden; can be grown from seed; no maintenance
Daisy, Copper Canyon <i>Tagetes lemmonii</i>			3'	4'	Sun	D	Fall	Yellow flowers	L	x	Daisy-like flowers; strongly-scented leaves; native to Mexico; attracts beneficial insects; can prune plants to size mound you want; stop shearing by mid-summer to allow fall flowers
Daisy, Engelmann <i>Engelmannia peristenia</i>	B/E		1.5-2'	2'	Sun/Part Shade	E	Spring to mid-summer	Yellow flowers	M	x	Easy to grow native perennial; good for natural areas, meadows and habitat gardens; reseeds easily moving around the garden; flowers open in late afternoon; attracts birds; seeds commercially available; remove spent bloom stalks



Damianita



Datura



Esperanza



Fall Aster



Firecracker Fern



River Fern



Firebush



Frostweed



Gaura



Gayfeather

Common Name	Taxa	Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Damianita <i>Chrysactina mexicana</i>	E	1	1.5 - 2'	Sun	E	Spring and some summer	Golden yellow flowers	VL	x		Low-growing; mounding; use in rock garden; mainly blooms in spring and then on and off through growing season; drought hardy; aromatic foliage; provide well-drained soil; attracts bees; prune in early spring to shape
Datura (Jimson Weed) <i>Datura wrightii</i>	E	4-5'	4-5'	Sun/Part Shade	D	Spring - fall	Large white flowers	L	x		Large, night-blooming, white, trumpet-shaped flowers; native; all parts are poisonous, attracts bees, butterflies, and moths; may reseed; cut back to 6-8" after cold damage and before new spring growth
Esperanza (Yellow Bells) <i>Tecoma stans</i>	T	4-8'	4-6'	Sun	D	Summer - fall	Yellow or orange	L-M	x		Showy blooms; native species has narrow leaves; new cultivars provide color options; top attracts bees and humminbirds; remove spent blooms as needed; cut back to 6-8" after cold damage but before new spring growth
Fall Aster <i>Aster oblongifolium</i>	E	2-3'	2.5-3'	Sun/Part Shade	D	Fall	Purple/ lavender flowers	L	x		Native perennial with fine-textured flowers; profuse fall bloomer; nectar source; colonizes but easy to control; lightly prune if needed through spring and summer to keep compact
Fern, Firecracker <i>Russelia equisetiformis</i>		3'	3'	Sun/Part Shade	E	Spring - winter	Red or white flowers	L	x		Needs moderately rich, well-drained soils; not a true fern; attracts hummingbirds; prune spent flower stalks
Fern, River <i>Thelypteris kunthii</i>	B/E	2-3'	3'	Shade	D			M-H	x		Likes shady, moist areas, so not suited for rain gardens; prune dead fronds before spring time growth; mulch well
Firebush <i>Hamelia patens</i>		3-4.5'	4-5'	Sun	D	Summer - fall	Orange-red flowers	M	x		Tubular flowers attract hummingbirds; turns burgandy in fall; needs protection in severe winters; prune to 6" above ground after first hard freeze and before new spring growth
Frostweed <i>Verbesina virginica</i>	E	3-6'	colonizes	Shade	D	Fall	White flowers	L-M	x		Forms colonies; nectar source; attracts bees and butterflies; stem ruptures with freeze creating ice crystal formations (inset photo); commercial availability limited; cut back to 6" after cold damage occurs and before new spring growth
Gaura <i>Gaura lindheimeri</i>	B	2-3'	3'	Sun/Part Shade	D	Spring - summer	Pink or white/pink	L	x		Tall flower spikes with 1" flowers that that resemble fluttering butterflies; attracts butterflies; cut back to 3" after first hard freeze
Gayfeather <i>Liatris mucronata</i>	E	1-3'	1-1.5'	Sun	D	Fall	Purple to rose pink	VL	x		Likes well-drained limestone soil; best if kept dry; great nectar source for butterflies and other insects; cut back to 3" after first hard freeze



Green Germander



Ghost Plant



Gregg Mistflower



Perennial Hibiscus



Mexican Honeysuckle



Hymenoxys



'Indigo Spires' Salvia



Bicolor or Butterfly Iris



Lamb's Ear



Lantana (hybrid)



Texas Lantana

Common Name		Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Germander, Green <i>Teucrium chamaedrys</i>		up to 1'	1-2'	Sun	D	Spring	Pink, purple, lavender	L-M	x		Shrubby; clump-forming; dark evergreen, aromatic foliage; needs well-drained soil; attracts bees and butterflies; no pruning necessary
Ghost Plant <i>Graptopetalum paraguayense</i>		7-12"	6-12"	Sun/Part Shade	E	Spring	Grayish pink leaves	VL	x		Easy to grow with good drainage, light blue to gray, pink foliage; succulent leaves break off easily (and readily re-root); attracts bees; no maintenance necessary
Gregg Mistflower <i>Conoclinium greggii</i>	T	1-2'	2-4'+	Sun/Part Shade	D	Summer - fall	Blue flowers	L-M	x		Forms colonies, but easy to contain; tolerates poor soil; can take full sun but does best in morning sun or part shade; attracts butterflies; native to West Texas; cut back to 3" if needed after hard freeze
Hibiscus, Perennial <i>Hibiscus</i> spp.	X	3-5'	4'	Sun	D	Summer - fall	Bright red blooms	M	x		Showy blooms can reach 8-10" across; many cultivars available are hybrids; provides nectar for hummingbirds; <i>H. moscheutos</i> <i>H. coccineus</i> ; cut back to 6" after hard freeze
Honeysuckle, Mexican <i>Justicia spicigera</i>		3'	4'	Sun/Part Shade	SE	Spring-fall	Orange flowers	L	x		Hummingbird plant; grayish foliage; long bloom period; prune back as needed to encourage fullness
Hymenoxys (Four Nerve Daisy) <i>Tetaneuris scaposa</i>	E	1'	1'	Sun/Part Shade	E	Spring-fall	Yellow flowers	VL	x		Daisy-like blooms grow from small tuft; prefers dry, well-drained soils; good in rock garden; prune off spent bloom stalks
Indigo Spires <i>Salvia</i> 'Indigo Spires'	x	3-4'	5-7'	Sun/Part Shade	D	Summer	Blue/purple	L-M	x		Allow room to mound and spread; shear back by 1/3 in summer
Iris, Bicolor <i>Dietes bicolor</i>		4'	2-3'	Sun/ Part Shade	E	Spring -early summer	Creamy yellow w/ markings	L			Forms clumps of long, narrow, iris-like foliage; Butterfly Iris, <i>D. iriodoides</i> , has wider leaves and white flower with blue and yellow markings; remove unsightly foliage as needed
Lamb's Ear <i>Stachys byzantina</i>		1'	1.5'	Sun	D	Year round	Gray fuzzy leaves	L	x		Tolerates dry soil; used for foliage not flowers; attracts bees; remove unsightly foliage as needed; avoid overhead watering
Lantana (hybrid) <i>Lantana x hybrida</i>	X	2-4'	4'	Sun	D	Spring-fall	Varies	L	x		Many varieties; butterfly delight; prolific blooming (photo: 'New Gold'); can be cold tender; all parts are poisonous; cut back to 6" after freeze and before new spring growth
Lantana, Texas <i>Lantana urticoides</i>	B/E	3-5'	4-5'	Sun	D	Summer - fall	Orange and yellow flowers	L	x		Flowers begin yellow and turn orange; give lots of room; attracts butterflies; stems become thorny with age; all parts are poisonous, cut back in winter as desired to keep in bounds

Perennials

31



Trailing Lantana



Lion's Tail



Maximillian Sunflower



Mexican Mint Marigold



Fall Obedient Plant



Mexican Oregano



Gulf Coast Penstemon



Hill Country Penstemon



Rock Penstemon



Garden Phlox



Plumbago

Common Name	Tolerance	Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Lantana, Trailing <i>Lantana montevidensis</i>			1-1.5'	4'+	Sun/Part Shade	SE	Spring-fall	Lavender or white flowers	L	x	May be used as a groundcover; very tolerant of poor soils; resistant to lantana lacebugs; attracts butterflies; all parts are poisonous; do not plant near preserves
Lion's Tail <i>Leonotis leonurus</i>			4-6'	4-6'	Sun	E	Late spring - fall	Orange flowers	L		Unusual, multi-tiered bloom; provide well-drained soil; seeds out readily; do not plant near preserves; prune after flowering to maintain compact form
Maximilian Sunflower <i>Helianthus maximiliani</i>	B/E		up to 10'	Forms colony	Sun/Part Shade	D	Fall	Yellow flowers	L-M	x	Forms colony so plant with plenty of space toward back of garden; easy to grow; seed is commercially available; cut back stalks after freeze and birds have harvested seeds
Mexican Mint Marigold <i>Tagetes lucida</i>			2-3'	2-3'	Sun/Part Shade	D	Fall	Yellow/orange flowers	L	x	Tarragon-flavored culinary herb; spreads over time; nectar source for butterflies; shear in early summer to encourage compactness
Obedient Plant, Fall <i>Physostegia virginiana</i>	B		2-4'	4'+	Sun/Part Shade	D	Fall	Lavender	M	x	Tolerates poor drainage; spreads aggressively by underground rhizomes, but easy to contain; <i>P. angustifolia</i> is spring-blooming relative; cut back to 6" after fall bloom
Oregano, Mexican <i>Polioanthus longiflora</i>			3'	4'	Sun/Part Shade	E	Summer	Lavender/pink	L	x	Aromatic foliage; edible leaves; attracts hummingbirds and butterflies; will sprawl if not pruned; cut back top 1/2 after bloom and to 3-4" after cold damage and before spring growth
Penstemon, Gulf Coast <i>Penstemon tenuis</i>	T		1.5-2.5'	1-1.5'	Sun/Part Shade	SE	Spring	Lavender	L	x	Attracts hummingbirds; seeds out readily; remove flower stalks before they set seed to avoid spread
Penstemon, Hill Country <i>Penstemon triflorus</i>	E		1.5-2.5'	1.5'	Sun/Part Shade	D	Spring	Hot pink to red	L	x	Good hummingbird plant; needs well-drained soil; cut back flowers after blooming
Penstemon, Rock <i>Penstemon baccharifolius</i>	E		1-1.5'	2'	Sun	E	Spring-summer	Cherry red	L	x	Needs well-drained soil; attracts hummingbirds; trim if leggy
Phlox, Garden <i>Phlox paniculata</i>			3'	2'	Sun/Part Shade	D	Summer	Purple flowers	M	x	Tall bloom spikes all summer; susceptible to powdery mildew; attracts butterflies; cut back to 3" after hard freeze and before spring growth
Plumbago <i>Plumbago auriculata</i>			3-4'	4-6'	Sun/Part Shade	D	Summer	Sky blue or white	L-M	x	Light green foliage; does best with morning sun and afternoon shade; attracts hummingbirds; cut back to 6" if hard freeze damage occurs



Missouri Primrose



Purple Coneflower



Rock Rose



Dwarf Ruellia



Cedar Sage



Cherry Sage



Jerusalem Sage



Majestic Sage



Mealy Blue Sage



Mexican Bush Sage



Penstemon Sage

Common Name	T	Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Primrose, Missouri <i>Oenothera macrocarpa</i>	B/E		1-1.5'	3'	Sun/Part Shade	D	Spring	Yellow flowers	L	x	Silver foliage; large, yellow, buttercup-like flowers that open in the evening; may go dormant in summer; interesting seed pods; cut back to 3" after freeze damages leaves
Purple Coneflower <i>Echinacea purpurea</i>	T		1-3'	3+	Sun/Part Shade	D	Spring-summer	Violet or white flowers	L	x	Daisy-like flowers; native; good butterfly plant; seed available for native species; hybrid selections also available; remove flower stalks after birds have harvested seeds
Rock Rose <i>Pavonia lasiopetala</i>	E		3'	3'	Sun/Part Shade	D	Summer	Pink	L	x	Small native shrub with 1.5" hibiscus-like blooms; more prone to powdery mildew in shade; very few blooms after spring; reseeds freely; attracts butterflies; cut back by 1/3 in late winter
Ruellia, Dwarf <i>Ruellia brittoniana</i>			8"-1'	1'	Sun/Part Shade	D	Spring-summer	Blue/purple to pink	L	x	Petunia-like flower; dwarf varieties include 'Katie' or 'Bonita'; reseeds profusely; taller types are invasive; do not plant near preserves; attracts butterflies; cut back to 3" after first frost browns leaves
Sage, Cedar <i>Salvia roemeriana</i>	E		1-2'	1-2'	Shade/Part Shade	D	Spring-summer	Red	VL	x	Reseeds freely; red bloom spikes bring color to shady spots; great for hummingbirds; remove seed heads after flowering, then scatter in new areas to expand population
Sage, Cherry (Autumn Sage) <i>Salvia greggii</i>	E		2-3'	2-3'	Sun/Part Shade	E	Spring-fall	Red, many other colors	M	x	1" long blooms; comes in a variety of colors; hummingbirds love the red ones; tough, may bloom less after 4-5 years; cut back mature plants by 1/3 to 1/2 after spring or fall bloom if needed to rejuvenate
Sage, Jerusalem <i>Phlomis fruticosa</i>			2-3'	3-4'	Sun	E	Spring-summer	Yellow flowers	L	x	Unusual flowers; multi-tiered; attractive gray green foliage; attracts bees and hummingbirds; remove spent bloom stalks and ratty foliage as needed
Sage, Majestic <i>Salvia guaranitica</i>			3-5'	4-5'	Sun/Part Shade	D	Spring-summer	Blue or purple flowers	L	x	Attractive green foliage and large florets on spikes; attracts hummingbirds; cut back to 6" after cold weather browns leaves and before new spring growth begins
Sage, Mealy Blue <i>Salvia farinacea</i>	B/E		2-3'	2-3'	Sun	D	Spring-summer	Blue flowers	L	x	Will grow in most soils; attracts hummingbirds and bees; easy to grow from seed; the cultivar <i>S. farinacea</i> 'Henry Duelberg' has dark blue flowers; remove spent bloom stalks to encourage flowering; cut back mature plants to 6" in late winter before new spring growth begins
Sage, Mexican Bush <i>Salvia leucantha</i>			4-5'	4-5'	Sun	D	Late summer-fall	Purple and white	L	x	Silver-green, lance-like foliage; new growth white and fuzzy; an all purple flowering type is available; cut back after frost browns leaves and before new spring growth
Sage, Penstemon/ Big Red Sage <i>Salvia penstemonoides</i>	E		3-4'	1-2'	Sun/Part Shade	E	Summer-fall	Magenta flowers	L	x	Tall, spiked blooms provide vertical accent and nectar for hummingbirds in summer; attractive glossy leaves form evergreen rosette (basal leaves) in winter; remove spent bloom stalks at base



Russian Sage



San Luis Sage



Tropical Sage



Lindheimer Senna



Shrimp Plant



Skeletonleaf Goldeneye



Heartleaf Skullcap



Pink Skullcap



Wright's Purple Skullcap



Society Garlic



Spider Lily

Common Name	Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Sage, Russian <i>Perovaskia atricpilifolia</i>		3'	3'	Sun	D	Late summer - fall	Blue flowers	L	x	Fine-textured, silvery green lacy leaves; spiky flower stalks; needs good drainage; cut back to 3" after first freeze browns leaves and before new spring growth
Sage, San Luis <i>Salvia microphylla</i>		3-4'	3-4'	Sun/Part Shade	E	Summer - fall	Red, many other colors	L	x	Prefers well-drained soil; has scented foliage; attracts butterflies and hummingbirds; many cultivars available; from Mexico
Sage, Tropical <i>Salvia coccinea</i>	B	2-3'	1-1.5'	Sun/Part Shade	D	Late spring - fall	Red	L-M	x	Short-lived perennial; reseeds profusely; dwarf varieties available; outstanding hummingbird plant; attracts butterflies; cut back in early summer to 3" and after first frost browns leaves
Senna, Lindheimer <i>Cassia lindheimeriana</i>	E	3-4'	3-4'	Sun/Part Shade	D	Late Summer - fall	Yellow flowers	L	x	Gray foliage; provide well-drained soil; very tolerant of poor, rocky soils; prune back after frost browns leaves
Shrimp Plant <i>Justicia brandegeana</i>		3-4'	3-4'	Sun/Part Shade	D	Spring - fall	Copper, red or yellow	L	x	Does best in morning sun, afternoon shade; great hummingbird plant; best when massed; flowers resemble shrimp; do not plant near preserves; cut back to 6" in winter to encourage bushiness
Skeletonleaf Goldeneye <i>Viguiera stenoloba</i>	E	3-4'	4-6'	Sun/Part Shade	SE	Summer - fall	Yellow flowers	VL	x	Mound of daisy-like flowers; attractive fine-textured foliage; provide well-drained soil; cut back to 6" in winter to encourage bushiness
Skullcap, Heartleaf <i>Scutellaria ovatasubsp. bracteata</i>	E	2'	2'	Shade	E	Spring	Blue flowers	L	x	Colonizes and spreads easily; flowers attract butterflies; may be dormant in summer; little maintenance required
Skullcap, Pink <i>Scutellaria suffrutescens</i>		1'	3'	Sun/Part Shade	E	Summer	Pink flowers	L	x	Low-growing; very tidy; mounding plant; attracts bees; cut back by 1/3 after bloom if needed to keep compact
Skullcap, Wright's Purple <i>Scutellaria wrightii</i>	B/E	6-10"	1'	Sun/Part Shade	E	Spring - summer	Purple flowers	L	x	Native, low water use; drought and heat tolerant; showy blooms; attracts bees; cut back by 1/2 after bloom if needed to keep compact
Society Garlic <i>Tulbaghia violacea</i>		1.5-2.5'	1.5'	Sun/Part Shade	E	Spring - summer	Pink flowers	L-M		Provide well-drained soil; solid or variegated leaf forms available; bruised foliage has onion aroma; remove spent bloom stalks
Spider Lily <i>Hymenocallis lirisome</i>	T	1-2'	1-2'	Sun/Part Shade	D	Spring	White flowers	L-M	x	Large 7" fragrant, white flowers; glossy strap-like leaves grow in clumps; attracts insects; will die back after freeze and stay dormant until spring



Spiderwort



Texas Betony



Winecup



Yarrow



Zexmenia



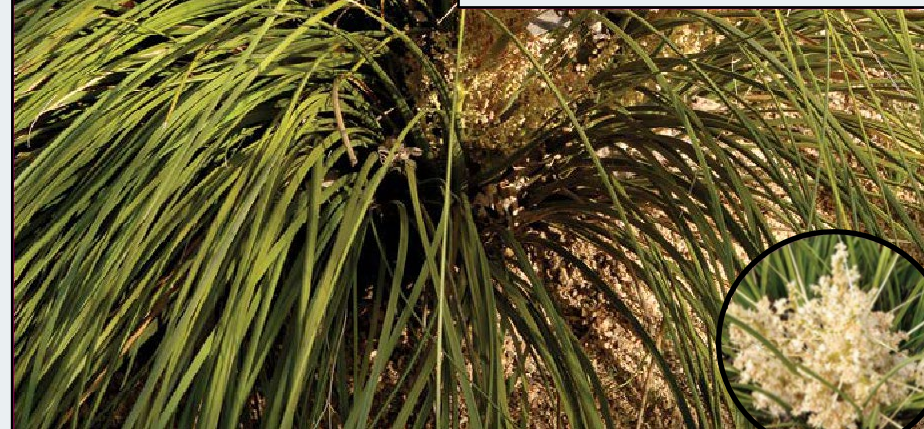
Agave



Basket Grass



Prickly Pear Cactus



Nolina



Texas Sotol

Common Name		Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Spiderwort <i>Tradescantia</i> spp.	T	1-3'	2'	Shade	D	Spring-fall	Purple or pink flowers	L	x		Fast spreading; dormant in summer, woody; edible; nectar source for insects; cut back to 6" in winter or to increase blooms
Texas Betony <i>Stachys coccinea</i>	T	1-1.5'	2-3'	Sun/Part Shade	D	Summer-fall	Coral/red flowers	L	x		Constantly blooming; can be used as a groundcover; nice gray green foliage; attracts hummingbirds; stems can be brittle; shear regularly to encourage fullness and bloom
Winecup, Perennial <i>Callirohoe involucrata</i>	B/E	6"-1'	4-5'	Sun/Part Shade	D	Spring-early summer	Magenta flowers	L	x		Sprawling habit great for filling in between plants; will go dormant in summer without supplemental water; larval host plant; cut back to rosette in winter
Yarrow <i>Achillea</i> spp.		1-1.5'	3'	Sun/Part Shade	E	Late spring and summer	varies	L-M	x		Forms groundcover; fern-like leaves; butterflies enjoy nectar; larval host plant for Painted Lady butterfly; remove spent blooms; cut back to basal foliage after frost browns leaves
Zexmenia <i>Wedelia texana</i>	E	1.5-2.5'	2-3'	Sun/Part Shade	SE	Spring-fall	Golden flowers	L	x		Blooms continuously though not profusely; use in combination with other blooming plants; reseeds; periodic shearing will encourage repeat blooming and fullness

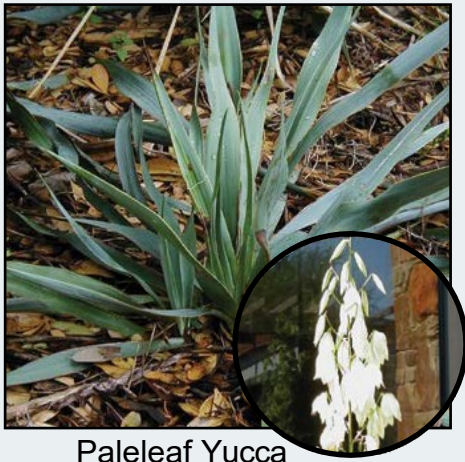
Yuccas/Agaves/Succulents/Cacti/Sotols

These plants require very little, if any maintenance but they all must have well-drained soil. Old bloom stalks should be removed at the base; old leaves can be removed for a neater appearance; wear heavy-duty gloves and eye protection

Agave spp. <i>Agave</i> spp.		varies	varies	Sun/Part Shade	E	Spring-summer	White to creamy white and yellow	VL	x		Agave spp. are available in many sizes, leaf types, and varying degrees of hardiness; after blooming rosette dies but it leaves "pups"; provides nectar, pollen and seeds; agave weevil is new pest to watch for; Century Plant (<i>A. americana</i>); Parry's Agave (<i>A. parryi</i> var. <i>truncata</i>); Queen Victoria Agave (<i>A. victoriae-reginae</i>); Squid (<i>A. bractosa</i>); no maintenance required
Basket Grass (Sacahuista) <i>Nolina texana</i>	E	2'	3'	Sun/Part Shade	E	Fall	Cream-colored plume	VL	x		Not a true grass; grass-like mounding form effective on slopes; keep away from walkways as leaves have sharp edges; remove old bloom stalks at base
Cactus, Prickly Pear <i>Opuntia</i> spp.	B/E	varies	varies	Sun	E	varies	varies	L	x		Likes well-drained, alkaline soil; may become shrub-like; parts are edible; purple fruit; provides pollen, nectar and fruit for wildlife; many types available including spineless; check label for size, flower color, hardiness and distinguishing attributes
Nolina <i>Nolina lindheimeriana</i>	E	10-12'	4-5'	Sun/Part Shade	E	Summer	Tan flowers	L	x		10' tall spike of small, tan flowers; remove old leaves from trunk for neater appearance
Sotol, Texas <i>Dasylirion texanum</i>	E	3-4'	3-4'	Sun/Part Shade	E	Early summer		L	x		Long blade-like leaves with sharp edges (not pedestrian-friendly); needs space; good barrier plant; requires good drainage; remove old bloom stalks at the base



Yucca



Paleleaf Yucca



Red Yucca



Twistleaf Yucca



Little Bluestem



Indian Grass



Inland Sea Oats



Meadow Sedge



Bamboo Muhly



Big Muhly

Common Name	Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Yucca spp.		varies	varies	Sun/Part Shade	E	Spring-summer	Mostly white	VL	x	Fragrant flowers; deer typically eat blooms but not foliage; Yucca spp. are available in many sizes, leaf types and hardiness; seeds eaten by small mammals; Paleleaf (<i>Y. pallida</i>); Twistleaf (<i>Y. rupicola</i>); Softleaf (<i>Y. recurvifolia</i>); Big Bend (<i>Y. rostrata</i>); remove old bloom stalks at the base
Yucca, Paleleaf <i>Yucca pallida</i>	B	1'	2'	Sun/Part Shade	E	Summer	White flowers	VL	x	Fragrant flowers; leaves pale blue-green; deer will eat bloom but not foliage; remove old bloom stalks at the base; (<i>H. funifera</i>) is Giant Yucca
Yucca, Red <i>Hesperaloe parviflora</i>	E	2-4'	4'	Sun	E	Spring-summer	Coral spike	VL	x	May colonize; deer will eat blooms but not foliage; attracts hummingbirds; remove old bloom stalks at the base
Yucca, Twistleaf <i>Yucca rupicola</i>	E	1-2'	2'	Sun/Part Shade	E	Summer	White	L	x	Older leaves are twisted; deer eat blooms but not foliage; nectar attracts nocturnal moths; larval host plant for the Yucca Giant Skipper; remove old bloom stalks at the base

Ornamental Grasses

The Muhlys are all good options as accents, in groups or in rain gardens. They stay in mounding forms and can be cut back once a year if needed. The prairie grasses are best used in restoration, prairie, habitat gardens or natural plantings.

Bluestem, Little <i>Schizachyrium scoparium</i>	B/E	3-4'	1.5'	Sun	D	Fall	Copper foliage	L	x	Prairie plant appropriate in mass plantings in meadow, natural areas or restoration project; larval host plant for several Skipper butterflies; provides cover for wildlife; cut back to 6" in winter before new spring growth
Indiangrass <i>Sorghastrum nutans</i>		3-5'	5'	Sun	D	Fall	Bright gold	M-H	x	Prairie plant appropriate in mass plantings in meadow, natural areas or wetlands; tall seed heads in fall; provides food and cover for wildlife; reseeds; cut back to 8" height in winter prior to new spring growth
Inland Sea oats <i>Chasmanthium latifolium</i>	B/E	2-4'	3-6'+	Shade	D	Summer-fall	Ivory seeds	L-M	x	Good understory plant; graceful, drooping wheat-like seed heads, reseeds easily; appropriate for woodlands; prefers moist areas; cut back to 4" in winter
Sedge, Meadow <i>Carex perdentata</i>	B/E	1-1.5'	1.5'	Sun/Part Shade	E	Spring	Green foliage	M	x	Clumping sedge; coarser texture than most sedges and is one of the tallest; trim to contain; seeds provide food for wildlife
Muhly, Bamboo <i>Muhlenbergia dumosa</i>		4-5'	3-4'	Sun/Part Shade	D	Late summer to winter	Fine-textured seed stalks	L	x	Silver-green, fine-textured foliage; hardy but stems brittle; bloom stalks turn attractive straw color in winter; selectively prune stalks to maintain elegant shape; cut back in winter if needed
Muhly, Big <i>Muhlenbergia lindheimeri</i>	E	3-4'	3-4'	Sun/Part Shade	D	Fall	White flowers on 6' stalk	L-M	x	Clumping, blue-green grass; smaller native alternative to Pampasgrass; featherlike blooms in fall; provides seeds, denning and nesting material; rake or cut back in winter



Deer Muhly



Gulf Muhly



Pine Muhly



Sideoats Grama



Switchgrass



Alamo Vine



Carolina Jessamine



Fig Vine



Coral Honeysuckle



Crossvine

Common Name		Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Muhly, Deer <i>Muhlenbergia rigens</i>	T	1-1.5'	1-1.5'	Sun/Part Shade	D	Fall	Feathery seed heads	L	x		Tidy clump grass that maintains a round shape; commercial availability may be limited; cut back in winter
Muhly, Gulf <i>Muhlenbergia capillaris</i>	T	2-1/2'	2'	Sun/Part Shade	D	Fall	Pink seed heads	L-M	x		Wispy seed heads provide great fall color, especially when backlit; cut back in winter
Muhly, Pine <i>Muhlenbergia dubia</i>	T	1-3'	1-3'	Sun	D	Fall	Feathery seed heads	VL	x		Nicely shaped bunchgrass; stiff needles; no maintenance required
Sideoats Grama <i>Bouteloua curtipendula</i>	T	2-3'	1'	Sun/Part Shade	D	Fall	One-sided seed head	L	x		State grass of Texas; side hanging seed pods; easy to grow from seed; drought tolerant; cut back to 6" height in winter prior to new spring growth
Switchgrass <i>Panicum virgatum</i>	B/E	6'	4'	Sun/Part Shade	D	Fall	Reddish tint	L-H	x		Upright, habit; tall seed heads in fall; usually has a reddish tint; prefers moist areas; prairie plant appropriate in mass plantings in meadow, natural areas or wetlands; reseeds; cut back to 8" height in winter prior to new spring growth; numerous cultivars available

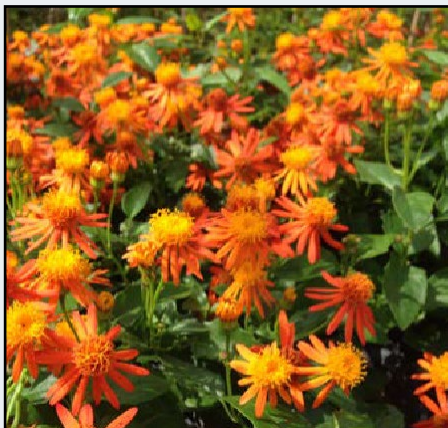
Vines

Most vines prefer their roots to be shaded while the vegetation grows in dappled light to full sun.

Alamo Vine <i>Merremia dissecta</i>	E	12'	10-12'	Sun/Part Shade	D	Spring - fall	White flowers w/ red throat	L-M			Fast-growing, twining vine; easy to grow from seed; tolerates poor soil and alkaline soil but needs good drainage; spreads by rhizomes; poisonous seed; blooms in afternoon; nectar for butterflies; prune to direct and control growth
Carolina Jessamine <i>Gelsemium sempervirens</i>	T		6-20'	Sun/Part Shade	E	Early spring	Yellow flowers	M	x		Twining vine; fragrant; attracts hummingbirds; prefers even soil moisture so is not suited for rain gardens; poisonous if ingested
Crossvine <i>Bignonia capreolata</i>	T		6-30'+	Sun/Part Shade	SE	Spring - summer	Orange flowers	L	x		Tendrill vine attaches to wall; very aggressive climber; 'Tangerine Beauty' variety has bright coral blooms; attracts hummingbirds and bees; prune to direct and control growth
Fig Vine <i>Ficus pumila</i>			6-30'+	Sun/Part Shade	SE	Spring - fall	Green leaves	M			Vine attaches to wall; very aggressive; not recommended for wood structures; do not plant near preserves; free of insects and diseases; susceptible to hard freezes; prune to direct and control growth
Honeysuckle, Coral <i>Lonicera sempervirens</i>	T		6-12'	Sun/Part Shade	SE	Late winter to early spring	Coral flowers	L-M	x		Twining vine for smaller structures; nectar attracts hummingbirds and butterflies; fruit attracts birds; prefers fertile, moist soil; prune to direct and control growth



Star Jasmine



Mexican Flame Vine



Passion Vine



Lady Banksia Rose



Trumpet Vine



Virginia Creeper



Texas Wisteria



Aztec Grass



Clover Fern



Gregg Dalea

Common Name	Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Jasmine, Star <i>Trachelospermum jasminoides</i>		20'	12-16'	Sun/Part Shade	E	Spring-summer	White flowers	L		Fragrant blooms; glossy leaves; poisonous if ingested; aggressive in shady areas; do not plant near preserves; prune to direct and control growth
Mexican Flame Vine <i>Pseudogynoxys chenopodioides</i>		10'+		Sun/Part Shade	D	Spring-fall	Orange flowers	L	x	Non-aggressive twining vine with thick glossy leaves; provides quick cover for chainlink fence; dies back in severe winter; attracts bees, butterflies, and birds; prune to direct and control growth
Passion Vine <i>Passiflora incarnata</i>	T		6-15'	Sun/Part Shade	D	Early spring-summer	Lavender flowers	L-M	x	Tendrill vine; perennial; food for several species of butterfly larva; exotic-looking flower; aggressive growth; spreading; prune to direct and control growth
Rose, 'Lady Banksia' <i>Rosa banksiae</i>			20'+	Sun	E	Spring	White to yellow	M		Fast-growing, climbing rose; needs sturdy support and lots of space so not suited for rain gardens; thornless, disease free; white flowers are fragrant; prune after spring bloom to control and direct growth
Trumpet Vine <i>Campsis radicans</i>	B/E		6-40'+	Sun/Part Shade	D	Summer	Reddish-orange flowers	L	x	Not recommended for wood structures; attracts hummingbirds; aggressive spreader; plant where roots can be confined; 'Madame Galen' and 'Georgia' have larger blooms; prune to direct and control growth
Virginia Creeper <i>Parthenocissus quinquefolia</i>	B/E		to 40'+	Sun/Part Shade	D	Fall	Scarlet fall foliage	L	x	Vigorous vine or groundcover; not recommended for wood structures; pest free; many birds eat fruit; fruit is poisonous
Wisteria, Texas <i>Wisteria frutescens</i>	T	25-30'	3-6'	Sun/Part Shade	D	Spring	Bluish-lilac flowers	M	x	High heat tolerance; fragrant; plants can become chlorotic on alkaline soils; flowers attract several insect species; prune to direct and control growth

Groundcovers

Some groundcovers are great turf alternatives. They are most effective in large masses to form a solid cover on the ground. Most are very low maintenance. Plants that prefer Low (L) and Very Low (VL) water can be used in a rain garden if the soil is fast draining and they don't sit in water for an extended period. Rain garden plant success depends on the soil, how fast it drains and if the plants are in their preferred growing conditions

Aztec Grass <i>Ophiopogon intermedius</i>		1'	1-1.5'	Shade	E	Year round	Variegated foliage	M		Clumping grass-like groundcover; similar to Liriope with white variegated leaves; no pests or diseases; variety of cultivars available - check label for specifics; no pruning necessary
Clover Fern <i>Marsilea macropoda</i>	T	6"-1'	2'	Sun/Part Shade	D	Spring-fall	Grayish leaves	L		Tough groundcover with clover-like leaves; does not require much water but likes it; spreads by runners; dies back during severe winters; no pruning necessary
Dalea, Gregg <i>Dalea greggii</i>	T	6"-1'	2-4"	Sun	SE	Summer-fall	Purple flowers	L	x	Good for slopes; silvery blue-green leaves; dry soil; winter-hardy; mostly fall flowers attract bees and butterflies; seeds eaten by birds and small mammals; pruning not necessary



Frogfruit



Creeping Germander



Golden Groundsel



Horseherb



Iceplant



Leadwort Plumbago



Liriope



Monkey Grass



Mountain Pea



Oregano



Pigeonberry

Common Name		Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Frogfruit <i>Phyla nodiflora</i>	B/E	6-8"	1.5-2'	Sun/Part Shade	D	Spring-fall	White	L-M	x		Native groundcover; spreads rapidly; small flower; larval host plant to butterflies; can tolerate poor drainage; commercial availability may be limited; cut back to 3" in winter
Germander, Creeping <i>Teucrium cossonii</i>		4-6"	1.5-2'	Sun	E	Summer	Pink and purple flowers	L	x		Low mounding form; silver foliage; attracts bees; dark green cultivar available; requires well-drained soil; pruning not necessary
Golden Groundsel (Round-leaf ragwort) <i>Packera obovata</i>	E	1.5'	1-2'	Shade	E	Spring	Yellow flowers	L-M	x		Colonizes and spreads by runners but is easy to control; blooms in spring; is an evergreen rosette most of the year; attracts butterflies; pruning not necessary
Horseherb <i>Calyptracarpus vialis</i>	B/E	8-10"	1'	Sun/Part Shade	SE	Spring-fall	Yellow flowers	VL	x		Recommended for revegetation; tolerates some foot traffic; great for dry shade; naturally abundant in shady areas and lawns - but limited commercial availability; can mow as needed to maintain preferred height
Iceplant <i>Aptenia</i> spp. <i>Delosperma</i> spp. <i>Malephora</i> spp.		6"	12"	Sun	SE	Spring-fall	purple to yellow flowers	VL			Iceplant is the common name for 3 genera; fast-growing, groundcover for hot, dry sites; great for hanging baskets; has thick green succulent leaves; attracts bees and butterflies; no pruning necessary
Leadwort Plumbago <i>Ceratostigma plumbaginoides</i>		6-12"	3-5'	Sun/Part Shade	D	Summer	Blue flowers	L	x		Deep blue flowers and green foliage with burgundy tinge in cool weather; attracts butterflies; cut back if needed in winter
Liriope <i>Liriope muscari</i>		12-18"	12"	Sun/Part Shade	E	Summer	Purple spikes	M			Grass-like clumps of evergreen foliage; requires more water in sun; cultivars of varying height available; check plant label for details; cut back in winter if needed
Monkey Grass (Mondo Grass) <i>Ophiopogon japonicus</i>		4-8"	12+"	Shade	E	Year round	Green foliage	M			Great lawn alternative in shade; provide fertile, well-drained soil; clusters of flowers close to the leaves; dwarf form also available; do not plant near preserves; needs even moisture so not suited for rain gardens; cut back in winter if needed
Mountain Pea <i>Orbexilum pedunculatum</i>	T	8-12"	2-3'	Sun/Part Shade	SE	Spring	Purple flowers	L	x		Loose-textured, fast-growing, spreading groundcover; attracts bees; good substitute for Asian Jasmine; limited commercial availability; native to east and southeast Texas; shear occasionally to promote compact growth
Oregano <i>Origanum vulgare</i>		10"-2'	2'	Sun	E	Summer	White to rosy pink	L-M	x		Sprawling plant; pungently aromatic; attracts bees; flavorful leaves used in cooking; cut back to 3" in winter if needed
Pigeonberry <i>Rivina humilis</i>	B/E	1-1.5'	2'	Shade	D	Spring-fall	White/pink flowers	M	x		Spreads rapidly; tolerates moist or dry soil; tiny attractive red berries are prized by birds; may go dormant in summer; limited commercial availability; prune for natural look



Purple Heart



Lyre Leaf Sage



Santolina



Sedges



Sedum (varieties)



Silver Ponyfoot



Snakeherb



Verbena



Violet



Wavy Scaly Cloak Fern



Woolly Stemodia

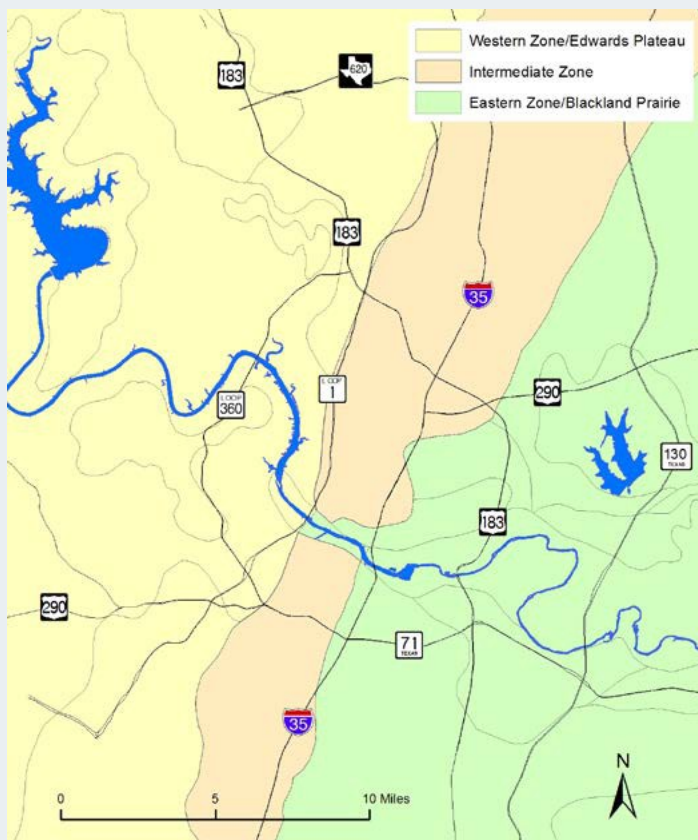
Common Name	Texas Native	Height	Spread	Light	Evergreen/Deciduous	Seasonal Interest	Color/Feature	Water	Wildlife	Comments and Maintenance
Purple Heart <i>Setcreasea pallida</i>		1'	3'	Sun/Part Shade	D	Spring - fall	Purple leaves w/pink flowers	L		Requires more water in sun but very drought tolerant once established; roots may rot in poorly drained soil, so not suited to rain gardens; not fully cold hardy in severe winter unless in protected location; prune to direct and control growth
Sage, Lyre Leaf <i>Salvia lyrata</i>	T	1-2'	1'	Sun/Part Shade	E	Spring	White to purplish blue flowers	L-M	x	Great for dry shade but can grow in full sun; reseeds easily so may move in garden; attracts hummingbirds, bees, and butterflies
Santolina (Lavender Cotton) <i>Santolina chamaecyparissus</i>		1-2'	1-2'	Sun	E	Spring	Yellow flowers	VL	x	Shrubby groundcover; fine-textured, aromatic evergreen foliage; attracts bees; requires excellent drainage; not long-lived; green leaf species also available
Sedges <i>Carex</i> spp.		varies	varies	Sun/Part Shade	E	Year round	Evergreen leaves	most are L		Grassy, clumplike foliage; plant in masses for groundcover; Berkeley (<i>C. tumicola</i>); Meadow (<i>C. perdentata</i>); Texas, (<i>C. texensis</i>); check label for specifics on height, hardiness and water needs; no pruning necessary
Sedum (Stonecrop) <i>Sedum</i> spp.		6"	1'	Sun/Part Shade	E	Summer	White	L		Succulent plants with many species, leaf types, flower colors; check label for specifics; good drainage required; withstands shallow, poor soil; no pruning necessary
Silver Ponyfoot <i>Dichondra argentea</i>	T	2-4"	2.5'	Sun/Part Shade	SE	Year round	Silver-gray leaves	L	x	Attractive silver gray foliage on low-growing runners; good drainage is critical; do not over water; native to west Texas; no pruning required
Snakeherb <i>Dyschoriste linearis</i>	T	6-12"	1.5'	Sun/Part Shade	E	Late spring - summer	Lavender flowers	L	Prefer x	Prefers dry caliche soils; upright stems, blooms mainly in spring but on/off through fall after rain; attracts butterflies; no pruning required
Verbena spp.		varies up to 18"	varies	Sun	SE	Spring - fall	varies	L	x	Spreading habit; fine-textured leaves; needs good drainage; attracts butterflies; there are many types of verbenas available commercially so check labels for details; native Praire Verbena is <i>V. bipinnatifida</i> ; cut back to 3" if needed in winter
Violets <i>Viola missouriensis</i>	T	4-6"	8-10"	Shade	D	Spring	Violet flowers	L-M	x	Reseeds easily; will move around in garden; lighter purple bloom than houseplant
Wavy Scaly Cloak Fern <i>Astrolepis sinuata</i>	T	1'	3'	Sun/Part Shade	SE	Spring - fall	Feathery fronds	L		Xeric fern; drought tolerant; low water use; heat and cold tolerant; may go partially dormant with less water; no pruning needed
Wooly Stemodia <i>Stemodia lanata</i>	T	4-10"	3'+	Sun/Part Shade	D	Summer	Purple blooms	L	x	Delicate purple blooms contrast with gray foliage; good cascading plant for pots; needs good drainage; prune unattractive foliage

Sustainable landscape practices promote reducing turfgrass use because of its potential high water use and higher maintenance from mowing and nutritional needs. If you decide to use turf then choose it wisely and keep the area small. If you decide not to use turf consider using one of the groundcovers listed in this guide as a lawn alternative. If you already have a lawn, check out the Grow Green Lawn Care and Lawn Problems fact sheets.

No turfgrass is perfect for all sites in Central Texas. Austin Water restrictions may be more limiting during times of drought so it is best to select one of the warm-season grasses listed below. During extended periods of drought these grasses will turn brown and go dormant but will green up after enough rain.

Turfgrass species and variety selection depends largely on the following considerations:

- Water use
- Amount of sun or shade
- Use and how much foot traffic it will receive
- Maintenance requirements
- Soil depth and quality: Regardless of the species, **to use the least amount of water you must provide at least 4-6" of tilled, or otherwise un-compacted soil**, which will encourage turfgrasses to develop deep, extensive root systems that allow them to persist. If you have a site with limited or compacted soil, suitable turfgrass quality may be difficult to maintain during periods of drought.



What are the most common types of soil in the Austin area?

There are three main types:

1. **Western Zone, Edwards Plateau:** On the rocky hills west of MOPAC/Loop One on the west side of town are highly alkaline limestone and caliche soils that are shallow and often with exposed rock. In those areas the soil depth can be a matter of inches.
2. **Intermediate Zone, Combination and Disturbed Soils:** In the central parts of Austin (running north and south) where the Eastern and Western Zones intersect and overlap there are intermediate areas that are a mix of shallow to moderately deep soils intermingled in areas with soil brought in during construction. Due to the potential variability, identify specific soil types on your site to determine your best approach.
3. **Eastern Zone, Blackland Prairie:** Generally east of IH 35 is the beginning of the deep, dark, clay prairie soils. Due to their tiny particle sizes, heavy clay soils do not have a lot of air spaces and typically do not drain very quickly. Adding compost or expanded shale improves aeration and drainage.

Warm-season Turfgrasses from Low to Medium water use:



Buffalograss

Buchloe dactyloides

Very low water use / Full sun / Tolerates light foot traffic

It does not have a dense canopy so it is more susceptible to weed invasions than other turfgrasses. Fewer weeds will invade with a more natural look by mowing 2 to 4 times per year on the highest mowing height adjustment. It does best in areas with 25 inches or less of annual rainfall. Overseeding turf or mixing the seed with other shortgrass species is one way to produce a denser turf.

See Shortgrass Prairie Seed Mixes

Sod: '609', 'Density', 'Prairie', 'Prestige'

Seeds: Common, 'Texoka', 'Bison', 'Bowie', 'Comanche', 'Topgun'



Shortgrass Prairie Seed Mixes

Low water use / Full sun / Tolerates light foot traffic

Several commercial native seed mixes are available that combine Buffalograss, *Buchloe dactyloides*, Curly Mesquite, *Hilaria belangeri* and Blue Grama Grass, *Bouteloua gracilis*; short wildflowers can also be added to create a short-grass meadow.

Seeds: Native grasses (wildflowers) mix



Bermudagrass hybrids that do not produce viable seed

Low-medium water use / Full sun / Tolerates high foot traffic.

Bermudagrass produces a dense canopy and is the most widely used turfgrass species for golf course and athletic turf in the southern United States. It is also popular for home lawns. The hybrids have a finer leaf texture than common types and create a denser turf that performs better under more frequent use, mowing, watering and fertilization. Hybrid varieties of Bermudagrass (interspecific crosses of *C. dactylon* and *C. transvaalensis*) are most often planted as sod and produce seedheads that are sterile. As a result, most hybrids do not pose the same invasive threat as Common Bermuda types and are preferred for use in the landscape. All Bermudagrass varieties have the potential to be invasive to neighboring plant beds and gardens due to their aggressive growth from rhizomes and stolons.

Sod, plugs or sprigs: 'Celebration', 'GN1', 'Grimes EXP', 'Tex Turf', 'TifSport', 'Tifway 419'

Special Note: Common Bermuda, *Cynodon dactylon*, is listed as one of Austin's Top 24 Invasive Plants in the City's Invasive Species Management Plan and is not accepted for Austin Water landscape rebates. It is not recommended for use in home lawns. Common Bermudagrass, as well as improved varieties of Common, that are left unmowed produce viable seeds that can escape the garden and invade natural areas. Bermudagrass seed and sod are listed in the City of Austin Environmental Criteria Manual, (used for commercial development only), to stabilize the soil and to reduce damages from sediment and runoff to downstream areas.



Zoysiagrass

(*Zoysia japonica*):

Low - medium water use / Full sun or partial shade / Tolerates some foot traffic.

Zoysiagrass spreads by rhizomes and stolons producing a dense turf. Within the zoysiagrass genus, *japonica* species are typically coarse-textured while *matrella* species are typically finer textured. However, much like Bermudagrass there are also interspecific crosses of each. Zoysiagrasses require less mowing and fertilization than Bermudagrass and are often considered lower maintenance for those reasons. It is best established from sod due to slow germination and growth that make it difficult to establish from seed. Like Bermudagrass, be sure to stay ahead of the rhizome and stolon growth into planting beds as it is wicked to try and eradicate if it is left to invade. It is slower than Bermudagrass in invading but will do so... and even in shaded beds!

Sod: 'Palisades', 'Jamur', 'El Toro', or 'Crowne'

Seed: 'Zenith' and 'Compadre'

Where can I get information about rain gardens and rain garden plants?

A rain garden is a low vegetated area that adsorbs and filters rainwater runoff from, roofs, sidewalks and driveways. Many of the plants featured in this guide can be expected to grow successfully in a residential rain garden. Plants that are not recommended are those that typically grow in the shade and need consistent soil moisture, require deep soil or have some undesirable plant characteristic (short-lived, weak wood, plants that have spines or fruit that falls on pavement and any that are considered invasive).

How much rainfall does Austin receive per year?

On average 32 inches of rain per year with very little in summer.

How hot and cold does it get?

Heat: The average temperature highs in the summer months are above 90° F, so plants that need cool summer temperatures, like peonies, lilacs or fuchsias, will not do well here. Summer heat is the biggest stress when planting, so the best time to plant is the fall; worst time to plant late spring – summer.

Cold: Austin is in Zone 8b where the average extreme minimum is 15 – 20° F. Our temperatures don't usually go below 20° F – but in severe winters they can. Plants that are susceptible to damage in severe winters should be planted in protected areas, such as on the south or west side of your house, and well-mulched before cold weather arrives.

Why was the Deer Resistance rating removed from this version of the guide?

This rating was removed from this version because after consulting numerous information sources it is clear that there is very little consensus on which plants specifically are “deer resistant.” To be safe, all woody plants in areas with deer need to be protected when the plants are young and until they can grow above the browse line.

Plant characteristics that may deter deer:

- Aromatic plants like rosemary, most of the salvias and lantanas
- Prickly, spiny or thorny foliage or stems like agarita, cactus, sotols (deer often eat the flowers)
- Bad-tasting sap like star jasmine
- Fuzzy leaves like Texas sage and lamb's ear
- Other approaches to deter deer include fencing, repellents and scare devices.

Where can I find out more information about which plants to choose when designing a fire-resistant landscape?

Building a fire-resistant landscape isn't as simple as only looking at plant selection. It includes a variety of factors from the slope of the landscape, building materials in and around the home to choosing the right plant for the right location. For more details on determining the right plant for the right place and how you can help build defensible space around your home

visit: www.austintexas.gov/WildfireEnviroBMPs

Where can I find more information about plants that are poisonous to humans and pets?

This guide includes some comments on plants' toxicity but it should not be considered exhaustive resource on the topic.

For poisoning emergencies call the **American Association of Poison Control Centers at (800) 222-1222**

For more information on common plants that are poisonous to animals visit www.asPCA.org/pet-care/animal-poison-control/toxic-and-non-toxic-plants

You may also call **ASPCA Poison Control Center at (888) 426-4435** (there may be a consulting fee).

AUSTIN'S TOP INVASIVE PLANTS TO AVOID

Invasive plants spread into areas where they are not native. Their introduction causes or is likely to cause economic or environmental harm or harm to human health.

The following plants have already invaded preserves and greenbelts in Austin. They spread by seeds, berries and spores that can be easily transported long distances. For more information about Austin's invasive species, visit www.austintexas.gov/invasive

Common Name	Botanical Name	Non-Invasive Alternatives
Bermudagrass, Common	<i>Cynodon dactylon</i>	Hybrid Bermudagrasses (with sterile seeds)
Catclaw Vine	<i>Macfadyena unguis-cati</i>	Carolina Jessamine, Crossvine
Chinaberry	<i>Melia azedarach</i>	Chinquapin Oak, Texas Red Oak
Chinese Parasol Tree	<i>Firmiana simplex</i>	Arizona Cypress
Chinese Pistache	<i>Pistacia chinensis</i>	Chinquapin Oak, Texas Red Oak
Chinese Tallow	<i>Triadica sebifera</i>	Bigtooth Maple, Texas Redbud, Red Oak
Chinese Wisteria	<i>Wisteria sinensis</i>	Passion Vine
Elephant Ear	<i>Colocasis esculenta</i>	Arrowhead, Crinum Lily, Tuckahoe
Golden Bamboo	<i>Phyllostachys aurea</i>	Evergreen Yaupon, Bamboo Muhly
Japanese Hollyfern	<i>Cyrtomium falcatum</i>	River Fern
Japanese Honeysuckle	<i>Lonicera japonica</i>	Coral Honeysuckle
Johnsongrass	<i>Sorghum halepense</i>	Little Bluestem, Bushy Bluestem
Kudzu	<i>Pueraria montana var. lobata</i>	Virginia Creeper
Lilac Chaste Tree	<i>Vitex agnus-castus</i>	Mexican Buckeye
Paper Mulberry	<i>Broussonetia papyrifera</i>	Cherry Laurel, Texas Persimmon
Phontina, Red Tip	<i>Photinia x fraseri</i>	Cherry Laurel, Possumhaw, Silktassel
Photina, Tawainese	<i>Photinia serratifolia</i>	Cherry Laurel, Possumhaw, Silktassel
Privets, Large Leaf	<i>Ligustrum japonicum</i> , <i>L. lucidum</i> , <i>L. vulgare</i>	Cherry Laurel, Yaupon
Privets, Small Leaf	<i>Ligustrum quhoui</i> , <i>L. sinense</i>	Possumhaw, Wax Myrtle, Yaupon
Sacred Bamboo	<i>Nandina domestica</i>	Bush Germander, Texas Sage
Scarlet Firethorn	<i>Pyracantha coccinea</i>	Evergreen Sumac, Yaupon
Tree of Heaven	<i>Ailanthus altissima</i>	Chinquapin Oak, Lacey Oak

These plants travel by runners and rhizomes. While they are not generally transported long distances, they can invade nearby or "downstream" areas. Avoid planting near parks and preserves.

English Ivy	<i>Hedera helix</i>	Leadwort Plumbago, Mountain Pea
Vinca	<i>Vinca major & V. minor</i>	Leadwort Plumbago, Mountain Pea
Wisteria (non-native species)	<i>Wisteria sinensis</i> , <i>W. floribunda</i>	Passion Vine



Already have these plants?
Most plants can be controlled by trimming back berries, seedheads or runners.

THIS PLANT LIST IS ONLY A RECOMMENDATION AND HAS NO LEGAL EFFECT IN THE STATE OF TEXAS. IT IS LAWFUL TO SELL, DISTRIBUTE, IMPORT OR POSSESS A PLANT ON THIS LIST UNLESS THE TEXAS DEPARTMENT OF AGRICULTURE LABELS THE PLANT AS NOXIOUS OR INVASIVE ON THE DEPARTMENT'S PLANT LIST.

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Abelia, Glossy	15	Cuphea, 'David Verity'	27	Horseherb	47	Passion Vine	45	Santolina (Lavender Cotton)	49
Agarita	15	Cypress, Arizona	7	Huisache	11	Pecan	9	Sedge, Meadow	41
Agave spp.	39	Cypress, Bald	7	Hymenoxys (Four Nerve Daisy)	31	Penstemon, Gulf Coast	33	Sedges	49
Alamo Vine	43	Cypress, Montezuma	7	Iceplant	47	Penstemon, Hill Country	33	Sedum (Stonecrop)	49
American Beautyberry	15	Daisy, Blackfoot	27	Indiangrass	41	Penstemon, Rock	33	Senna, Flowering	23
Anacacho Orchid Tree	9	Daisy, Chocolate	27	Indigo Spires	31	Persimmon, Texas	13	Senna, Lindheimer	37
Anacua (Sandpaper Tree)	9	Daisy, Copper Canyon	27	Inland Seaoats	41	Phlox, Garden	33	Shrimp Plant	37
Apache Plume	15	Daisy, Engelmann	27	Iris, Bicolor	31	Pigeonberry	47	Sideoats Grama	43
Aralia, Japanese	17	Dalea, Black	17	Japanese Yew	19	Pineapple Guava	21	Silktassel, Mexican	13
Arroyo Sweetwood	9	Dalea, Gregg	45	Jasmine, Star	45	Pittosporum	21	Silver Ponyfoot	49
Artemisia	25	Damianita	29	Kidneywood	11	Plumbago	33	Skeletonleaf Goldeneye	37
Ash, Texas	7	Datura (Jimson Weed)	29	Lamb's Ear	31	Plum, Mexican	13	Skullcap, Heartleaf	37
Aztec Grass	45	Desert Broom	17	Lantana (hybrid)	31	Pomegranate	13	Skullcap, Pink	37
Baptisia, Purple (Wild Indigo)	17	Desert Willow	11	Lantana, Texas	31	Primrose, Missouri	35	Skullcap, Wright's Purple	37
Barbados Cherry	17	Elbow Bush	17	Lantana, Trailing	33	Purple Coneflower	35	Skyflower, Duranta	23
Basket Grass (Sacahuista)	39	Elm, Cedar	7	Leadwort Plumbago	47	Purple Heart	49	Snakeherb	49
Beebalm	25	Esperanza (Yellow Bells)	29	Lion's Tail	33	Redbud, Mexican	13	Society Garlic	37
Bird of Paradise, Red	25	Eve's Necklace	11	Liriope	47	Redbud, Texas	13	Sotol, Texas	39
Bird of Paradise, Yellow	25	Fall Aster	29	Mallow, Globe	19	Retama	13	Spider Lily	37
Black-eyed Susan	25	Fern, Firecracker	29	Maple, Bigtooth	7	Rock Rose	35	Spiderwort	39
Bluestem, Little	41	Fern, River	29	Maximilian Sunflower	33	Rose, 'Belinda's Dream'	21	Sumac, Evergreen	13
Bottlebrush	17	Fig Vine	43	Mexican Flame Vine	45	Rose, 'Cecile Brunner'	21	Sumac, Flameleaf	15
Buckeye, Mexican	9	Firebush	29	Mexican Mint Marigold	33	Rose, 'Grandma's Yellow'	21	Sumac, Fragrant (Aromatic)	23
Buckeye, Red	11	Flame Acanthus	17	Mistflower, White	19	Rose, 'Knock Out'	21	Sweet Almond Verbena	23
Bulbine	25	Fragrant Mimosa	19	Mock Orange	19	Rose, 'Lady Banksia'	45	Switchgrass	43
Butterfly Bush, Wooly	17	Frogfruit	47	Monkey Grass	47	Rose, 'Livin' Easy'	21	Sycamore, Mexican	9
Butterfly Weed, Mexican	25	Frostweed	29	Mountain Laurel	13	Rose, 'Marie Daly'	21	Texas Betony	39
Cactus, Prickly Pear	39	Gaura	29	Mountain Pea	47	Rose, 'Marie Pavie'	21	Thyrallis, (Golden Showers)	23
Calylophus	25	Gayfeather	29	Muhly, Bamboo	41	Rose, 'Martha Gonzales'	21	Trumpet Vine	45
Carolina Buckthorn	11	Germander, Bush	19	Muhly, Big	41	Rose, 'Mutabilis'	21	Turk's Cap	23
Carolina Jessamine	43	Germander, Creeping	47	Muhly, Deer	43	Rose, 'Nearly Wild '	23	Verbenaspp.	49
Cast Iron Plant	25	Germander, Green	31	Muhly, Gulf	43	Rose, 'Old Blush'	23	Viburnum, Rusty Blackhaw	15
Catmint	25	Ghost Plant	31	Muhly, Pine	43	Rosemary, Upright	23	Viburnum, Sandankwa	15
Cedar, Eastern Red	7	Goldenball Leadtree	11	Nolina	39	Roughleaf Dogwood	13	Violets	49
Cherry, Black	7	Golden Groundsel	47	Oak, Bur	7	Ruellia, Dwarf	35	Virginia Creeper	45
Cherry Laurel	11	Greek Myrtle	19	Oak, Chinquapin	7	Sage, Cedar	35	Walnut, Little	15
Chile Pequin	27	Gregg Mistflower	31	Oak, Lacey	9	Sage, Cherry (Autumn Sage)	35	Wavy Scaly Cloak Fern	49
Clover Fern	45	Hawthorn, Indian	19	Oak, Mexican White	9	Sage, Jerusalem	35	Wax Myrtle	15
Columbine	27	Hibiscus, Perennial	31	Oak, Southern Live	9	Sage, Lyre Leaf	49	Winecup, Perennial	39
Columbine, Red	27	Holly, Dwarf Burford	19	Oak, Texas Red	9	Sage, Majestic	35	Wisteria, Texas	45
Coralbean	27	Holly, Dwarf Yaupon	19	Obedient Plant, Fall	33	Sage, Mealy Blue	35	Wooly Stemodia	49
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Coreopsis, Lance-leaf	27	Holly, Possumhaw	11	Oregano	47	Sage, Penstemon/Big Red Sage	35	Yarrow	39
Cotoneaster	17	Holly, Yaupon	11	Oregano, Mexican	33	Sage, Russian	37	Yucca, Paleleaf	41
Crape Myrtle	11	Honey Mesquite	7	Palmetto, Texas Dwarf	21	Sage, San Luis	37	Yucca, Red	41
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For additional earthwise landscaping information
and an online plant database, visit

www.growgreen.org



#ATXGrowGreen

Photo Credits: (L) = large image (S) = small inset image (C) = cover

Ray Matthews: Cover **Far South Nursery:** Arroyo Sweetwood (L, S), Catmint (L), Desert Broom (L), Greek Myrtle (L), Mexican Flame Vine (L) Mountain Pea (L, S), Texas Dwarf Palmetto (L), Roughleaf Dogwood (L), San Luis Sage (L), Sweet Almond Verbena (L), White Mistflower (L) **Lady Bird Johnson Wildflower Center:** **Andy and Sally Wasowski:** Alamo Vine (L), Apache Plume (L), Beebalm (L), Flameleaf Sumac (S), Golden Groundsel (L), Huisache (L, S), Lyre Leaf Sage (S), Maximilian Sunflower (L), Purple Baptisia (L), Snakeherb (L), Switchgrass (L); **Joseph A. Marcus:** Carolina Buckthorn (L), Datura (L), Lyre Leaf Sage (L), Pine Muhly, Roughleaf Dogwood (L), Purple Wright's Skullcap (L), Wavy Scaly Cloak Fern (L); **Lee Page:** Mealy Blue Sage (L); **Melody Lytle:** Frostweed (S); **Michael Dana:** Spiderwort (L); **Myra B. Allison:** Frostweed (L); **Norman G. Flaigg:** Little Walnut (L, S); **Paul Cox:** Clover Fern (L); **Ray Matthews:** Crossvine (C); **R.W. Smith:** Purple Baptisia (S); **Rachel Cywinski:** Anacua (L); **W.D. and Dophia Bransford:** Flameleaf Sumac (L), Spider Lily (L), **Meredith O'Reilly:** Anacua (S), Chocolate Daisy (L), Fragrant Sumac (S), Gregg Mistflower (S), Mexican Buckeye (S), Mexican Olive (L, S), Tropical Milkweed (S) **Native Texas Nursery:** Eve's Necklace (L, S), Texas Redbud (L, S) **Plant Resources Center and Bio406d at the University of Texas at Austin:** Coralbean (S), Elbowbush (L), Evergreen Sumac (L, S), Gayfeather (S), Indiangrass (S), Maximilian Sunflower (S), Texas Persimmon (S), Violets (L, S)

Contributing Organizations:

American Society of Landscape Architects, Austin Parks Foundation, Capital Area Master Naturalists, Countryside Nursery, Far South Growers, Keep Austin Beautiful, Lady Bird Johnson Wildflower Center, McNeal Growers, National Wildlife Federation, Native Texas Nursery, Texas A&M, The Great Outdoors, The Natural Gardener, Texas A&M Extension Service/Travis County, TreeFolks, Turfgrass Producers of Texas

City Departments:

Austin Energy, Austin Resource Recovery, Austin Water, Development Services Department, Office of Sustainability, Parks and Recreation Department, Public Works, Watershed Protection Department

With special thanks to all the City of Austin staff past and present, who have contributed to the guide

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outside Austin: \$2.00
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Revised 2016**

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Correll and Johnston, *Manual of the Vascular Plants of Texas*, The University of Texas at Dallas, 1996

Simpson, Benny, *A Field Guide to Texas Trees*, Texas Monthly Press Texas Monthly Press, 1988

Wasowski A. and Wasowski, S., *Native Texas Plants Second Edition; Landscaping Region by Region*, Texas Monthly Press, 1997

Comments:

We recognize that there are many other plants well deserving of selection and we welcome your comments and suggestions regarding any new additions and changes you think would be useful. Please call **512-974-2550** or email us through www.growgreen.org.

ATTACHMENT D. Invasive & Noxious Plants

Attachment D.

Noxious plants¹
alligatorweed
balloonvine
Brazilian peppertree
broomrape
camelthorn
Chinese tallow tree
Eurasian watermilfoil
giant duckweed
giant reed
hedge bindweed
hydrilla
itchgrass
Japanese dodder
kudzu
lagarosiphon
paperbark
purple loosestrife
rooted waterhyacinth
saltcedar
salvinia
serrated tussock
torpedograss
tropical soda apple
water spinach
waterhyacinth
waterlettuce

Poisonous Plants²	
Amaryllis	Jimson Weed
Azalea	Juniper
Bird of Paradise	Lantana
Black Nightshade	Larkspur
Buttercup	Laurel
Butterfly Weed	Lily-of-the-Valley
Calla Lily	May Apple
Calamondin	Mistletoe
Caladium	Moonflower
Carnation	Morning Glory
Carolina Jasmine	Needlepoint Ivy
Castor Bean	Oleander
Chinaberry	Oxalis
Chinese Tallow	Peace Lily
Christmas Berry	Philodendron
Cyclamen	Poison Ivy
Daffodil	Poison Oak
Daisy	Poison Sumac
Daphne	Pokeweed
Deadly Nightshade	Potato Plant
Devils Ivy	Pothos
Dieffenbachia	Pyracantha
Dumbcane	Rhododendron
Elderberry	Rhubarb
Elephant Ears	Sand Begonia
English Holly/Ivy	Skunk Cabbage
Eucalyptus	Spathe Flower
Eyebane	String of Pearls
Foxglove	Tomato Leaves
Golden Chain	Tulips
Holly Berry	Violet Seed
Horsechestnut	Water Hemlock
Hyacinth	Wild Carrots
Hydrangea Blossom	Wild Cucumber
Iris	Wild Parsnip
Jack-in-the-Pulpit	Wild Peas
Jerusalem Cherry	Wisteria
	Yew

Invasive plants¹
Chinese tallow tree
kudzu
saltcedar
tropical soda apple
KR bluestem
Silky bluestem
malta star thistle
bastard cabbage
buffelgrass
common dandelion
dallisagrass
elephant ears
field brome
giant reed
hydrilla
japanese honeysuckle
Johnsongrass
Klerbeg bluestem
large leaf lantana
little bur-clover
mimosa tree
pampas grass
paper mulberry
perennial ryegrass
rescuegrass
spiny cocklebur
white mulberry

Sources:

1. https://texasinvasives.org/invasives_database/index.php
2. <https://www.poisoncontrol.org/prevention/poisonous-plants/>

ATTACHMENT E. Brown Headed Cowbird Information

Brown-headed Cowbirds

The Brown-headed Cowbird, *Molothrus ater*, is a member of the blackbird family. The adult male is easily identified by his brown head and metallic green-black body. Female cowbirds are a pale brown with a gray-brown head. Both males and females have a length of about 7½ inches. Cowbirds are called brood parasites because they lay their eggs in the nests of other birds and do not care for their own young. Their parasitic reproduction strategy is unique among the world's blackbird species. Today, brown-headed cowbirds occur throughout the United States.



Male Brown-headed Cowbird

Cowbirds evolved to follow herds of grazing animals, often covering many miles in a day. They can little afford the time to build their own nests, lay and incubate eggs, and care for the chicks. Instead, the female cowbird finds the nest of another bird, lays a single egg in it, and leaves. The female cowbird may do this an average of up to 40 times per breeding season. In fact, a female in a captive breeding study laid over 70 eggs in a single year. The female cowbird will remove or destroy some or all of the eggs and or nestlings of the host birds.

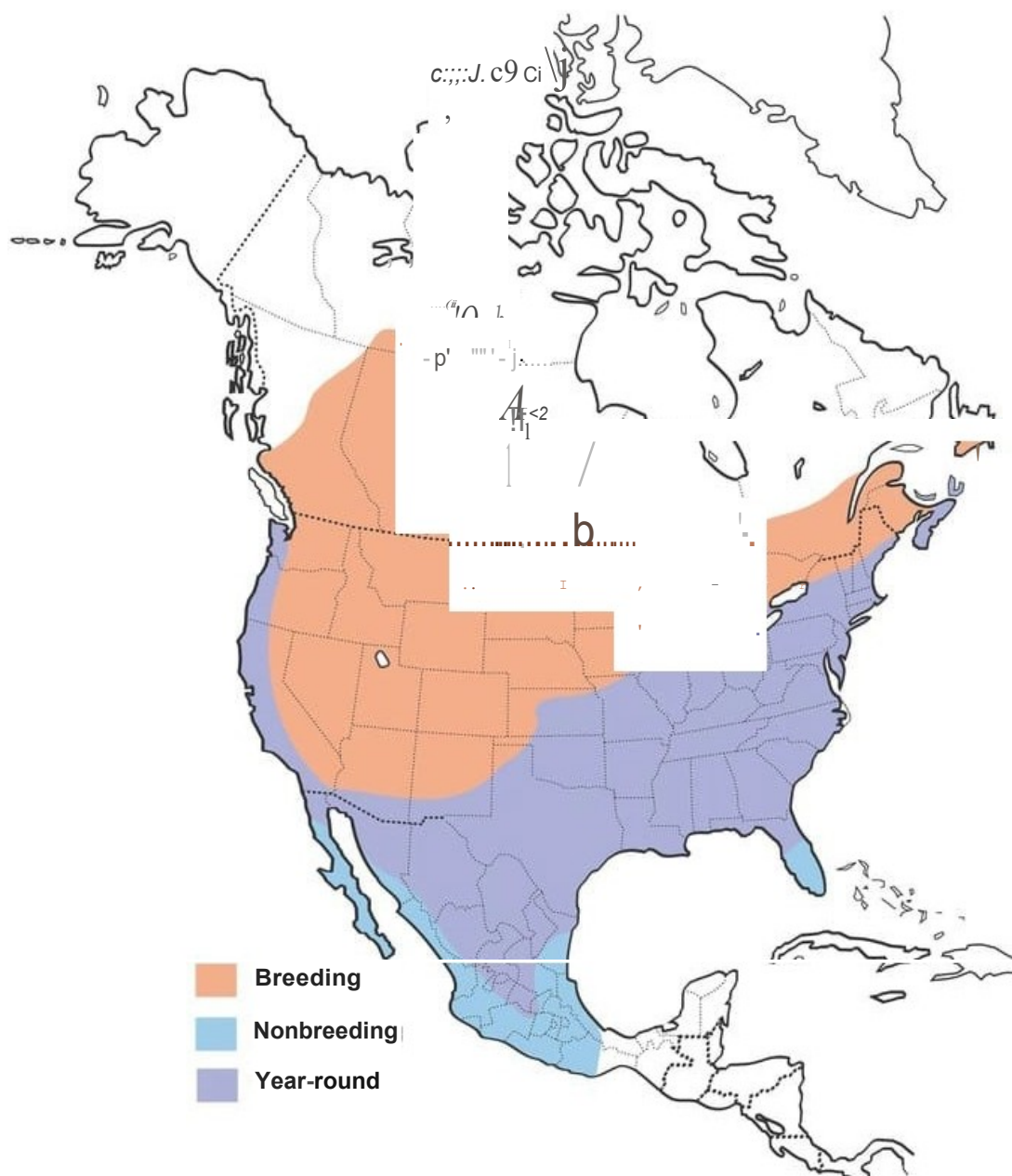
The host birds, usually songbirds, raise the cowbird chick as their own. Cowbird eggs hatch sooner and the young grow faster, so the cowbird chicks get most of the food and have been known to push the host's chicks completely out of the nest. The majority of the time the adult host birds end up feeding and caring for only the cowbird chick, rather than raising the next generation of their own kind.

Declining Songbird Populations

Throughout North America songbird numbers are declining. While there is no single reason for this decline, one major contributing factor is the spread of the cowbirds due to landscape changes throughout North America.

Cowbirds once occurred only in short-grass prairies, where they followed buffalo herds, feeding on insects stirred up by the grazing animals. Human-caused changes to the environment, including the introductions of domesticated grazing animals and cultivated fields and lawns, has greatly benefited the cowbird, helping it to spread to new territories and prey on more songbird species. Today the cowbird parasitizes more than 225 species of North American birds. The cowbird may pose a particular danger to already-threatened species like the Black-capped Vireo. Studies have shown that the removal of one female cowbird enhances the survival of 35 songbirds per year.

In an effort to manage the brown-headed cowbird populations, Texas Parks and Wildlife has implemented a [Cowbird Trapping Program](#). Anyone interested in participating is welcome to go through our training and certification process.



Online Cowbird Certification Training

All persons wishing to trap cowbirds must be certified through an approved training program before the trap is put into operation. This training is offered at no cost by Texas Parks and Wildlife Department (TPWD) and affords the landowner with permit coverage to handle and release non-target birds that may inadvertently enter the trap. All applicable state and federal laws must be observed during the duration of trapping. If questions arise, contact your closest TPWD office for assistance.

Because cowbirds are a native species in North America, they are protected under the Migratory Bird Treaty Act. However, there are exceptions to this law for acts of depredation by a few select species. Under the Texas Parks and Wildlife Code, Section 64.002(c) brown-headed cowbirds are included among this small group of eight non-protected bird species that may be killed when found committing or about to commit depredations on ornamental or shade trees, agricultural crops, livestock, or wildlife, or when concentrated in numbers and in a manner that constitutes a health hazard or other nuisance. State regulations may not supersede federal regulations, so it is important that all participants in this project follow the protocols outlined here. No traps are to be in operation either before March 1, or after May 31.

Successful completion of this online training will certify you to trap cowbirds and release non-target birds. A score of 100% is required for passing. There is no limit to the number of times the test may be taken.

The goals of this test are:

- Enable more people to be conveniently certified to trap cowbirds.
- Educate landowners and other interested persons to the background and biological necessity for trapping cowbirds to reduce nest parasitism on songbird populations.
- Provide the information necessary for landowners and other interested persons to successfully, properly, and safely maintain a cowbird trap, identify cowbirds, and safely release non-target captures.

Upon completion of this test the learner will:

- Be able to correctly answer all quiz questions with an accuracy of 100%.
- Be able to distinguish cowbirds from other birds.
- Know why cowbird trapping is beneficial to songbird populations.
- Know how to properly set up and maintain a cowbird trap.
- Know the proper procedures for humanely dispatching cowbirds.

Take the Test

[Online Cowbird Certification Training](#) (Online registration is required)

Report

[Annual Report 50 CFR 21.43 Depredation Order for Blackbirds, Grackles, Cowbirds, Magpies and Crows Form](#)
(Word Doc)



Office Use Only

Date Completed Report received: ____/____/____

Initials: _____

**ANNUAL REPORT - 50 CFR 21.43
DEPREDATION ORDER FOR BLACKBIRDS,
GRACKLES, COWBIRDS, MAGPIES, AND CROWS**

INSTRUCTIONS. You must submit an annual report if you conducted any control activities under the provisions of 50 CFR 21.43. Complete this reporting form and return it to your Regional Migratory Bird Permit Office (see addresses below) by January 31, if you conducted depredation control under the depredation order in the previous calendar year. Use of this form is not mandatory, but you must submit the information requested. Please summarize by species and then by location.

SIGN AND DATE THE CERTIFICATION STATEMENT AT THE END OF THE SUMMARY

REPORTING PERSON OR ORGANIZATION: _____

ADDRESS: _____ **CITY** _____ **STATE** _____ **ZIP** _____

TELEPHONE NUMBER: _____ **EMAIL ADDRESS:** _____ **REPORT FOR CALENDAR YEAR** _____

Species Taken	Number Taken	Month Taken	County and State Where Birds were Taken	Purpose of the Take (Crop or Animal Species)
Total:				

I certify that the information in this report is true and correct to the best of my knowledge. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. 1001.

Signature: _____ **Date:** _____

ANNUAL REPORT - 50 CFR 21.43
SUPPLEMENTAL SHEET - DEPREDATION ORDER FOR BLACKBIRDS, GRACKLES, COWBIRDS, GRACKLES, MAGPIES, AND CROWS

NAME/ORGANIZATION: _____ **REPORT YEAR:** _____ **PAGE NO.** _____

Species Taken	Number Taken	Month Taken	County and State Where birds Were Taken	Purpose of the Take (Crop or Animal Species)
Total:				

FISH AND WILDLIFE SERVICE DEPREDAATION ORDER ANNUAL REPORT
Paperwork Reduction Act and Privacy Act – Notices

In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, *et seq.*) and the Privacy Act of 1974 (5 U.S.C. 552a), please be advised of the following.

1. The gathering of information on fish and wildlife is authorized by the Bald and Golden Eagle Protection Act (16 U.S.C. 668); 50 CFR 22, the Migratory Bird Treaty Act (16 U.S.C. 703-712), 50 CFR 21; General Provisions of 50 CFR 10, and the Wildlife Provisions (Import/export/transport) of 50 CFR 14. You can find the authorizing statutes at: <http://www.gpoaccess.gov/cfr/index.html> and <http://www.fws.gov/permits/ltr/ltr.shtml>.
2. Information requested in this form is purely voluntary. However, submission of requested information is a condition of your operating under the depredation order and the above laws. Failure to provide the requested information may be sufficient cause to pursue legal action against you for take of migratory birds. However, your response is not required unless a currently valid Office of Management and Budget (OMB) control number is displayed on the form.
3. Disclosures outside the Department of the Interior may be made without the consent of an individual under the routine uses listed below, if the disclosure is compatible with the purposes for which the record was collected (Ref. 68 FR 52611, 4 September 2003). Among the purposes are the following, not all of which are applicable in every case.
 - a. Routine disclosure to subject matter experts, and Federal, tribal, State, local, and foreign agencies, for the purpose of obtaining advice relevant to making a decision on an application for a permit or when necessary to accomplish a FWS function related to this system of records.
 - b. Routine disclosure to Federal, tribal, State, local, or foreign wildlife and plant agencies for the exchange of information on permits granted or denied to assure compliance with all applicable permitting requirements.
 - c. Routine disclosure to Federal, tribal, State, and local authorities who need to know who is permitted to receive and rehabilitate sick, orphaned, and injured birds under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act; federally permitted rehabilitators; individuals seeking a permitted rehabilitator with whom to place a bird in need of care; and licensed veterinarians who receive, treat, or diagnose sick, orphaned, and injured birds.
 - d. Routine disclosure to the Department of Justice, or a court, adjudicative, or other administrative body or to a party in litigation before a court or adjudicative or administrative body, under certain circumstances.
 - e. Routine disclosure to the appropriate Federal, tribal, State, local, or foreign governmental agency responsible for investigating, prosecuting, enforcing, or implementing statutes, rules, or licenses, when we become aware of a violation or potential violation of such statutes, rules, or licenses, or when we need to monitor activities associated with a permit or regulated use.
 - f. Routine disclosure to a congressional office in response to an inquiry to the office by the individual to whom the record pertains.
 - g. Routine disclosure to the Government Accountability Office or Congress when the information is required for the evaluation of the permit programs.
 - h. Routine disclosure to provide addresses obtained from the Internal Revenue Service to debt collection agencies for purposes of locating a debtor to collect or compromise a Federal claim against the debtor or to consumer reporting agencies to prepare a commercial credit report for use by the FWS.
4. For individuals, personal information such as home address and telephone number, and personal identifiers (if reported) will be removed prior to any release of the report.
5. The relevant burden for an annual report for activities under 50 CFR 21.43 is 2 hours. This burden estimate includes time for reviewing instructions, gathering and maintaining data and completing and reviewing the form. You may direct comments regarding the burden estimate or any other aspect of the form to the Service Information Clearance Officer, U.S. Fish and Wildlife Service, Mail Stop 2042-PDM, U.S. Department of the Interior, 1849 C Street, NW, Washington D.C. 20240.

U.S. Fish and Wildlife Service
Regional Migratory Bird Permit Offices

REGION	AREA OF RESPONSIBILITY	MAILING ADDRESS	CONTACT INFORMATION
1	Hawaii, Idaho, Oregon, and Washington	911 N.E. 11 th Avenue Portland, OR 97232-4181	Tel: (503) 872-2715 Fax: (503) 231-2019 Email: permitsR1MB@fws.gov
2	Arizona, New Mexico, Oklahoma, and Texas	P.O. Box 709 Albuquerque, NM 87103	Tel: (505) 248-7882 Fax: (505) 248-7885 Email: permitsR2MB@fws.gov
3	Iowa, Illinois, Indiana, Minnesota, Missouri, Michigan, Ohio, and Wisconsin	5600 America Boulevard West Suite 990 Bloomington, MN 55437-1458	Tel: (612) 713-5436 Fax: (612) 713-5393 Email: permitsR3MB@fws.gov
4	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virgin Islands, and Puerto Rico	P.O. Box 49208 Atlanta, GA 30359	Tel: (404) 679-7070 Fax: (404) 679-4180 Email: permitsR4MB@fws.gov
5	Connecticut, District of Columbia, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, Vermont, and West Virginia	P.O. Box 779 Hadley, MA 01035-0779	Tel: (413) 253-8643 Fax: (413) 253-8424 Email: permitsR5MB@fws.gov
6	Colorado, Kansas, Montana, North Dakota, Nebraska, South Dakota, Utah, and Wyoming	P.O. Box 25486 DFC (60154) Denver, CO 80225-0486	Tel: (303) 236-8171 Fax: (303) 236-8017 Email: permitsR6MB@fws.gov
7	Alaska	1011 East Tudor Road Mail Stop 201 Anchorage, AK 99503-6103	Tel: (907) 786-3693 Fax: (907) 786-3641 Email: permitsR7MB@fws.gov
8	California and Nevada	2800 Cottage Way Sacramento, CA 95825-1829	Tel: (916) 978-6183 Fax: (916) 414-6486 Email: permitsR8MB@fws.gov

Trapping Brown-headed Cowbirds to Control Songbird Nest Parasitism



Trapping Brown-headed Cowbirds

The purpose of this guide is to assist landowners that wish to help songbird reproduction by building and operating a cowbird trap. Please note that all persons wishing to trap cowbirds should participate in the online training program before the trap is put into operation. This training is offered at no cost by **Texas Parks and Wildlife (TPW)**. All applicable state and federal laws must be observed during the duration of trapping. If questions arise, contact your closest **TPW** office for assistance.

Why Trap Cowbirds?

Throughout North America songbird numbers are declining. While there is no one single reason for this decline, one major contributing factor is the spread of the brown-headed cowbird. These birds were once limited to the short-grass prairies, where they followed the herds of buffalo, feeding on the insects stirred up by the movement of herds as they moved from place to place. Today however, this highly adaptive bird is found throughout North America. This is a problem because of the reproductive strategies the species employs. The cowbird is what is referred to as a brood parasite. This means the female lays her eggs in the nests of other birds, abandoning them to the care of foster parents. The foster birds raise the cowbird chick to the detriment of their own young. Because the female cowbird can lay as many as 70 eggs per season, susceptible species of songbirds, such as the black-capped vireo and the golden-cheeked warbler, that are already endangered, are particularly at risk.

Collecting Data

As with any scientific endeavor, cowbird trapping requires that data be collected in order to determine how effective it is. Collecting data also allows scientists to track the movements of banded birds, and hopefully to find new ways to reduce the parasitism rate that has caused many songbird populations to decline. By participating in this project landowners have the opportunity to help songbirds, and make a genuine contribution to the threatened and endangered wildlife in Texas.

Once the data has been collected, landowners should keep a copy, and forward a completed annual report to **Regional Migratory Bird Permitting Office for the U.S. Fish and Wildlife Service (USFWS)** by January 31st each year. This allows **USFWS** to monitor the total numbers of birds being trapped and the locations of the traps. Data to be collected should include the date, the number and type of non-target species that might get into the trap, the number of males, the number of females, and the numbers of banded birds that might be caught. *Banded birds are to be released* after the data is collected.

Selecting a Trapping Location

The location of the trap is critical to maximize cowbird capture and to minimize non-target birds being caught. The idea is to put the trap in a place that is as attractive to cowbirds as possible, without being disruptive to other species. Ideally the trap should be located in areas that include the following:

- Close to where cattle or other livestock graze.

- In open pasture, away from any brush, and in low grass.
- The trap should be readily accessible to vehicles, even after heavy rain.
- Water and some perching snag (dead trees) nearby.

Site Precautions

Even on a perfect location site there are precautions that should be taken to insure the safety of landowners and others participating in cowbird trapping.

One of the hazards to be aware of is that of predators. Any mammal, bird, or reptile that eats birds will be attracted to the traps in search of an easy meal. Keep the grass around the trap short. This will not only make it easier to spot snakes, but it will also make it more attractive to cowbirds. Raccoons and skunks will dig under the traps if precautions are not taken to keep them out. Owls and hawks also try to swoop down on the birds inside the trap. Fire ants can pose an additional hazard. Before using fire ant bait, check with your local Extension Service office for application recommendations. Always be sure to read and follow pesticide label directions. Never use any insecticides in the trap itself.

TRAP OPERATION: It is suggested that traps be operated from March 1 to May 31 **ONLY**. This is to avoid incidental catch of non-target species. After May 31, fledglings of beneficial species such as cardinals, mockingbirds, buntings, and finches are most abundant and are more likely to be accidentally trapped.

Setting up the Trap

Erect the trap on a level site with no gaps between the frame and the ground. Use a shovel to fill in any gaps, if necessary.

Place a one gallon poultry waterer on level ground inside the trap. Scatter about a half a coffee can of cleaned milo (grain sorghum) on the ground, being careful to avoid getting it in the water. Do not feed milo during rainy weather because the birds do not like soggy grain. Wait until the ground has dried up before scattering it out again. Each trap must contain adequate food, water and shade and be checked daily.

Since cowbirds are gregarious birds, the traps work best if about 10-15 live cowbirds are present to act as decoys. When first starting a trap without decoys, be patient. If cowbirds are in the area, they'll find and enter the trap.

Use a large minnow dip or trout net to catch birds in the trap. You must **immediately release** any non-target bird species. Any bird not a cowbird is a non-target bird. Always remove and dispose of any dead or injured birds (usually a result of avian predator attack on the trap). The most common species of non-target birds that have been found in traps are mockingbirds, cardinals, various sparrows, grackles, blackbirds, and loggerhead shrikes. Consult a bird field guide to help you identify these species. Non-target birds will enter the traps for a variety of reasons. Some are attracted to the grain, some for company, and still others just out of curiosity. Putting a board across one side at the top to provide shade to trapped birds is recommended. Humanely treating birds while in the trap and humanely euthanizing birds is important.

If a federally permitted wildlife rehabilitator is within 1 hour or less of your capture efforts, you must send injured or debilitated non-target federally protected migratory

birds to the rehabilitator. If no rehabilitator is closer than 1 hour away, you may euthanize an injured or debilitated bird of a non-target species unless the species is federally listed as an endangered, threatened, or candidate species, in which case you must deliver it to a rehabilitator and report the take to the nearest U.S. Fish and Wildlife Service Field Office or Special Agent.

For a listing of endangered, threatened birds:

http://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/

For a listing of U.S. Fish and Wildlife Service Offices:

<http://www.fws.gov/southwest/es/FieldOffices.html>

For a listing of U.S. Fish and Wildlife Special Agents:

<http://www.fws.gov/southwest/lawenforcement/statecontacts.html>

Euthanizing Cowbirds

This is the real job of protecting songbirds from nest parasitism. Whichever method is used to kill cowbirds, it must be humane, fast, and certain. The recommended method is cervical dislocation, or separating the vertebra.

Cervical dislocation: Hold top of neck between thumb and forefinger, grab head with other hand, turn and lift until you feel the cervical vertebrae detach from the head – HINT: hold the bird away from you when you do this the first few times until you have the “touch”. A catch box, net, gloves, and a light for night time are useful items to have on hand.

Alternative Dispatch Methods: Carbon dioxide (CO₂) gas in a 5-gallon bucket may be used to euthanize brown-headed cowbirds. Use dry ice as the source of carbon dioxide. Cut a hole in the top of the bucket, cover opening with a piece of inner tube, or similar material, that has a slash in it to facilitate putting birds inside. Birds must not be touching the dry ice! Birds should be dead within 20 seconds.

Taking Traps out of Operation

Because cowbirds are a native species in North America, they are protected under the Migratory Bird Treaty Act. However, there are exceptions to this law for acts of depredation by a few select species. Under the **Texas Parks and Wildlife** Code, Section 64.002(c) brown-headed cowbirds are included among this small group of eight non-protected bird species that “may be killed at any time and their nests or eggs may be destroyed.” State regulations may not supersede federal regulations, so it is important that all participants in this project follow the protocols outlined here in this module. Again, it is recommended that no traps be in operation either before March 1, or after May 31.

If it is not possible to remove the trap to a location where it can be stored under cover, then certain precautions must be taken because birds, including non-target species, will tend to enter the trap. The traps may be taken out of operation by placing boards over the entry slots or by securing the door in an open position. Be sure to remove all cowbirds, and release any banded birds, disposing of any dead or injured birds.

Reporting the Data

Be sure to record all data on birds captured on an approved data form and forward copies to United States Fish and Wildlife Office in Albuquerque, New Mexico. Landowners who are actively participating in trapping brown-headed cowbirds must submit their data by January 31st each year. Submit data to:

U.S. Fish and Wildlife Service
Regional Migratory Bird Permit Offices
P.O. Box 709
Albuquerque, NM 87103

2 cuts 5" of 7/16" rod (door hinge part)
1 cut 7" of 1" x 1/4" strap (door latch)
1 cut 5" of 1" x 1/4" strap (on door)
1 cut 2" of 3/8" tubing (on door)
1 cut 3 1/4" 7/16" rod

Alternate Trap Entrance Plate:

2 pieces of plate 7" wide x 94 1/2" long, separated by 1 1/4" inches that will form the opening. *The exact 1 1/4" width of the opening is critical.*



Construction Tips

- Use treated lumber throughout. Added initial cost is compensated for by longer field life and reduced maintenance.
- Don't rip lumber until you are ready to start construction. Ripped lumber will bow and twist if allowed to sit for several days.
- Use a shelf bracket on diagonal corners to square each panel before attaching gussets. To cut gussets, lay out sheet of plywood in 12" squares, then draw diagonals across the square. A sheet of plywood will make 64 gussets.
- Gussets go on one side of panel, hailscreen attaches to the other side. For side and top panels, wire will end up being on the inside on the panel. This prevents birds from roosting on framework next to wire where they are prone to predation. **Exception:** End panels are constructed the same way, but during final trap assembly, the wire goes on the outside, because the drop entrance attaches to horizontal members for structural stability.
- This pattern is designed to use 48" wide hailscreen to maximize efficiency. Internal cross members are placed to allow for slight overlap. Wide hailscreen will probably not be readily available in stock, but any building supply can order it. Use of narrower hailscreen requires repositioning of tack strips, and results in higher lumber use.
- To maximize shop efficiency: cut gussets; rip lumber; pre-cut lengths; cut out slot assembly; assemble side, top, and end panels; attach hailscreen; final assembly. When building multiple units, performing similar actions for several traps at the same time will allow you to develop an assembly line process that cuts construction time per unit.
- ***Slot width of 1.25 inches in slot assembly is critical.*** Wider slots will increase non-target captures, including small raptors, which will feed on your decoy birds. Escapes by females may also increase with wider slots.
- Side panels attach to the outside of end panels. Nothing else will fit if you attach ends outside.
- During final assembly assemble in this order: end, side, side, top, top, dropping slot assembly (3 pieces), then finish with the other end.



Cowbird “pick-up” Trap Construction Instructions

This is the “Pick-Up” style trap and it will fit in the bed of a pick-up truck. It measures 6’L X 4’W X 4’H.



- Materials needed:**
- Approximately 40 feet of 1” X 1” inch mesh wire (4 ft. tall)
 - 1’ X 4’ piece of plywood
 - cage clips and pliers
 - screen door spring
 - 6-8’ of heavy duty string
 - tie wire

Procedure:

- 1 Roll out wire mesh.
- 2 Measure out and cut 20’ for sides of trap.
- 3 Carefully bend at 4’, 10’ and 14’ so that a square trap that is 4’ X 6’ is created. *This can be accomplished by lying the wire between two boards – be careful to bend between the two wires and not right up against one or the other wires.*
- 4 Cut a 6’ piece to be used for the floor of the trap.
- 5 Use cage clips about every 4-5 inches to attach the floor and secure the side pieces.
- 6 Cut a 4’ piece of mesh wire and bend 90° at 1 foot to form an “L” shaped piece.

ATTACHMENT F. Oak wilt Information



TEXAS A&M FOREST SERVICE

Forest Health: Identify and Manage Oak Wilt

Oak wilt is one of the most destructive tree diseases in the United States, and it is killing oak trees in Central Texas at epidemic proportions. Oak wilt is an infectious disease caused by the fungus *Ceratocystis fagacearum*, which invades and disables the water-conducting system in susceptible trees. All species of oaks (*Quercus* spp.) in Central Texas can be infected with the oak wilt fungus. Red oaks (Spanish oak, Shumard oak, blackjack oak) and live oaks are most commonly killed by oak wilt when compared with white oaks (post oak, bur oak, Mexican white oak) which are less commonly killed. However, those white oaks such as shin oak, chinkapin oak and Lacey oak that grow in stands with interconnected root systems also may die in large numbers from oak wilt.

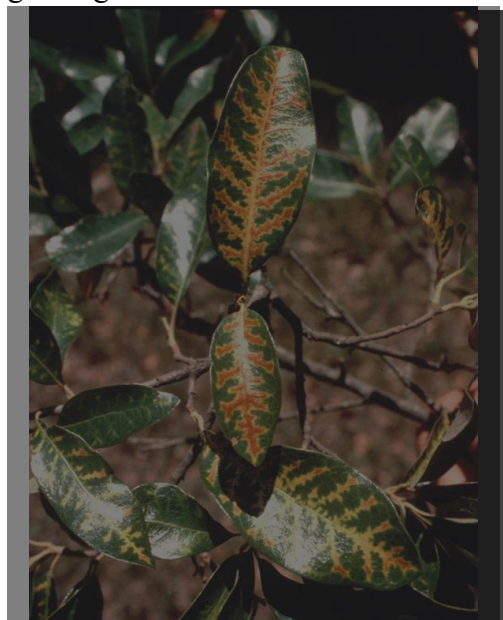
The successful management of oak wilt depends on correct diagnosis and an understanding of how the pathogen spreads between different oak species. Red oaks play a critical role in the spread of oak wilt through the formation of fungal mats while live oaks are most commonly affected due to their tendency to grow from root sprouts and vast interconnected root systems that allow movement of the fungus between adjacent trees.

Identification of Oak Wilt:

Patterns of Tree Mortality: Most live oaks defoliate and die over a 1-6 month period following initial appearance of symptoms. Some live oaks take longer to die, and a few live oaks in oak wilt centers escape infection or may be resistant to the fungus.

Red oaks rarely survive oak wilt and often die within 3 to 4 weeks following the initial appearance of symptoms. During summer months, diseased red oaks often can be spotted from a distance because of their bright autumn-like coloration in contrast to the surrounding greenery.

Foliar Symptoms: Leaves on diseased live oaks often develop chlorotic (yellow) veins that eventually turn necrotic (brown), a symptom called veinal necrosis. Defoliation may be rapid, and dead leaves with brown veins often can be found under the tree for months after defoliation. Leaves may exhibit other patterns of chlorosis and necrosis, but these symptoms are less reliable than veinal necrosis for diagnosing oak wilt in live oaks.



Foliar symptoms of oak wilt on red oaks are less distinct. In early spring, young leaves simply wilt, turning pale green and brown. Mature leaves develop dark green water-soaking symptoms or turn pale green or bronze, starting at the leaf margins and progressing inward.

Fungal Mats: Fungal mats are reliable indicators for diagnosis of oak wilt. These specialized spore-producing structures most often form in spring on red oaks that develop advanced symptoms of oak wilt the previous late summer or fall. Red oak infections in late spring or summer usually do not give rise to fungal mats due to high temperatures and low soil moisture conditions. Fungal mats can be

Forest Health: Identify and Manage Oak Wilt

found by looking for inconspicuous narrow cracks in the bark of dying red oaks leading to hollow areas between the bark and wood. They often have a distinctive odor similar to fermenting fruit. Fungal mats can be exposed for inspection by chopping away the loose bark. Fungal mats do not form on infected live oaks or white oaks.



Laboratory Diagnosis: Oak wilt diagnosis may be confirmed by isolating the fungus from diseased tissues in the laboratory. Samples can be submitted to: Texas Plant Disease Diagnostic Laboratory, 1500 Research Parkway, Suite A130, Texas A&M University Research Park, College Station, TX 77845. A Texas A&M Forest Service forester, a county extension agent or trained arborist should be consulted for proper collection and submission of samples.

Integrated Oak Wilt Management:

Early detection and prompt action are essential for successful management of oak wilt. The specific measures taken depend on several circumstances outlined in this fact sheet, but should include appropriate combinations of the following:

Prevent New Infections

- Cut and dispose of diseased red oaks immediately.
- Avoid wounding oak trees, including pruning, from February through June, and paint all wounds and fresh stumps regardless of season.
- Handle oak firewood cautiously, burn all firewood before spring, and never store unseasoned oak wood from infected trees near healthy oaks.
- Cover unseasoned firewood (from infection centers and unknown origins) with clear plastic, and bury the edges of the plastic.

Stop Spread through Roots

- Install a trench at least 4 ft deep and 100 ft beyond the perimeter of infection centers to break up root connections.
- Cut or uproot all trees within the 100-ft barrier (except those injected with fungicide).

Inject High-Value Oaks with Fungicide

- Identify high-value oak trees in close proximity to expanding oak wilt infection centers.
- Consult a trained and licensed arborist (with certified applicator's license) for treatment of high-value oak trees with injections of the fungicide *propiconazole*.

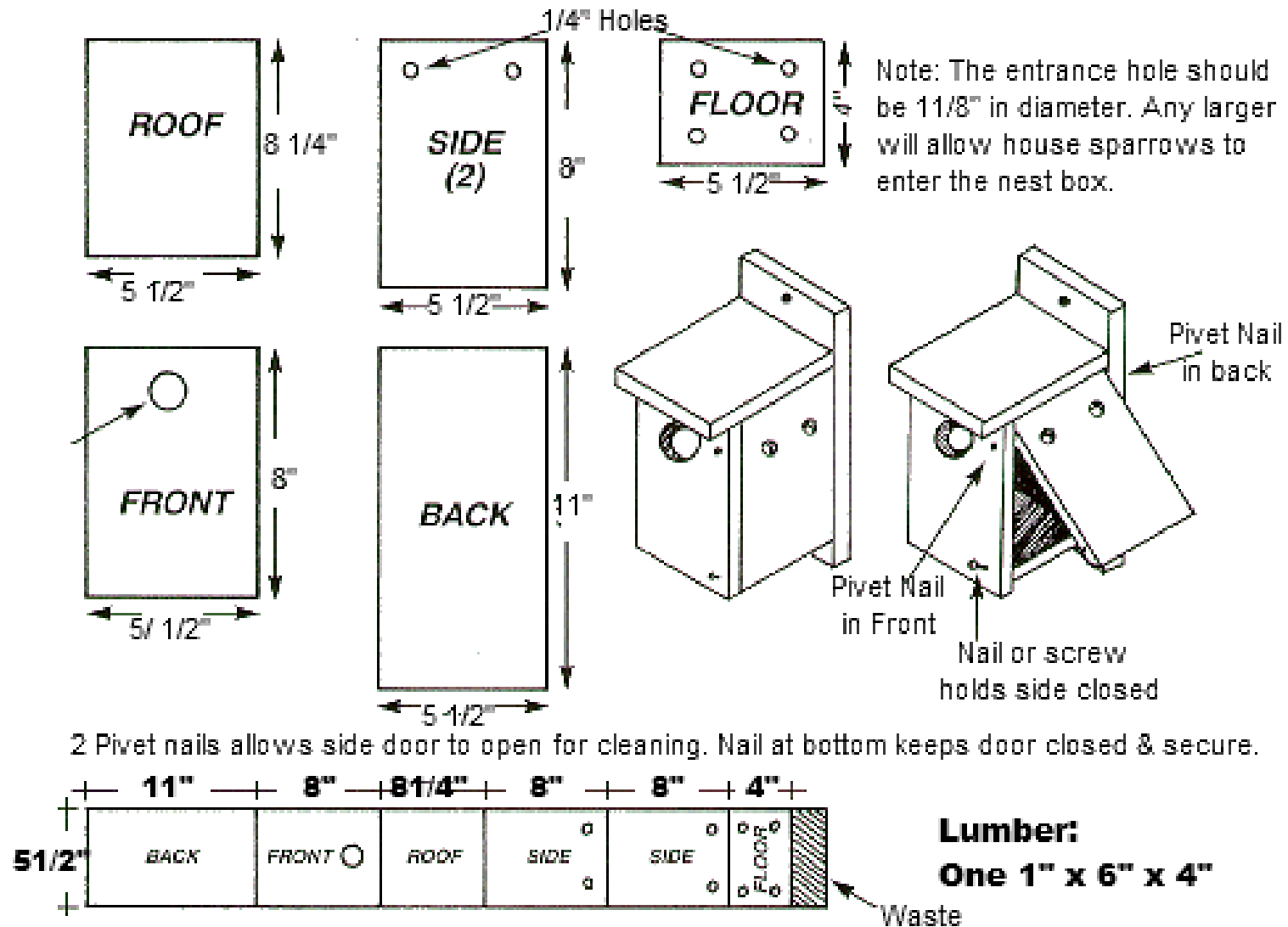
Plant New Trees

- Promote biological diversity in the landscape by planting less-common native trees.
- Avoid wounding oaks during planting.

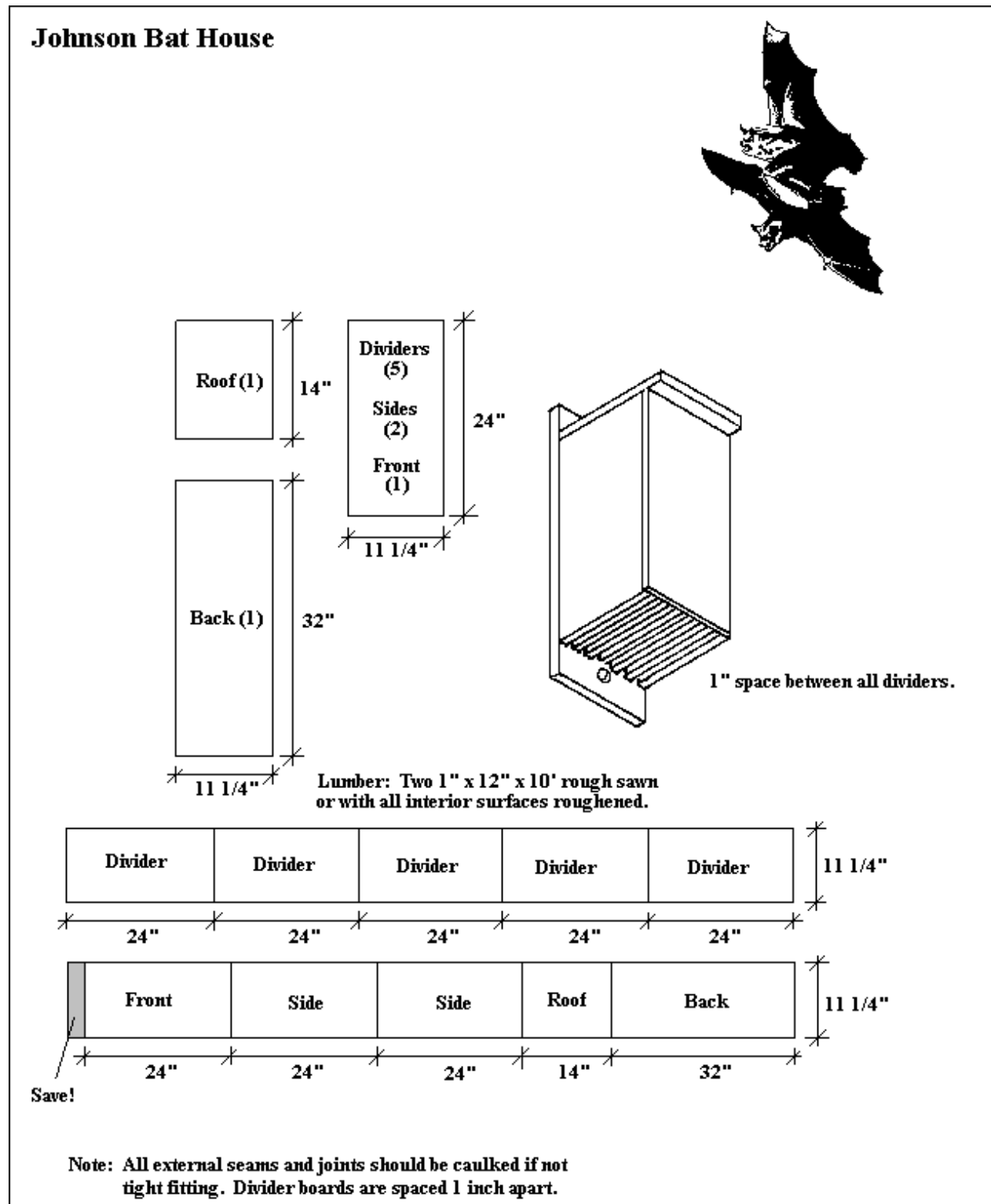
For more information on oak wilt in Texas, visit the internet website www.texasoakwilt.org.

ATTACHMENT G. Nest/Bat box design

Wren House Design



Source: <http://www.birdwatching-bliss.com/wren-house-plans.html>. (accessed May 2019)



Source:

<https://web.archive.org/web/20140803181652/http://www.npwrc.usgs.gov/resource/wildlife/ndblinds/johnbat.htm> (accessed May 2019)

ATTACHMENT H. Landscape design



earth-wise guide to

Landscape Design

The purpose of this fact sheet is to provide background information on creating a green garden for either the do-it-yourselfer or for those working with a landscape professional

Benefits of a Green Garden:

- Reduce water usage
- Reduce the need for pesticides and fertilizers
- Lower the overall impact on the surrounding environment
- Provide wildlife habitat
- Preserve the look and feel of Central Texas

Steps to a Green Garden:

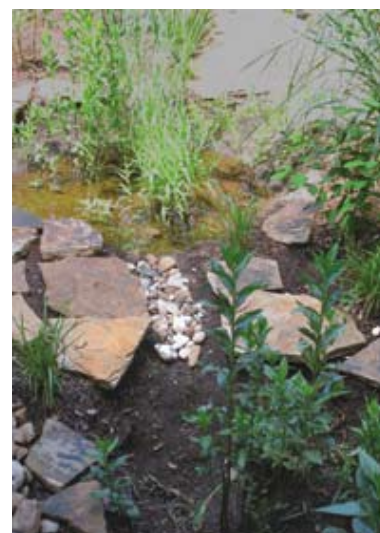
- Analyze conditions in your yard
- Start with a plan
- Plant trees to create shade
- Incorporate techniques to keep water on the land
- Select tough plants

Choose a style or design that appeals to you (clockwise from top left): The structural elegance of sun-loving xeric plants or the bright colors of a cottage garden, a tailored formal yard or an innovative rain garden.

Green Garden, Central Texas Style

Green Gardens come in many styles. They range from cottage gardens full of color, to soothing Zen gardens, to hot cactus rock gardens. Each of these styles can be created using a plant palette tailored to the unique conditions of the Central Texas area, and more specifically, to the conditions in your own yard. An array of native and adapted plants makes a Green Garden a beautiful, earth-friendly landscape that reflects the character of our local environment, and gives your yard and your community a distinct sense of place.

In addition, Green Gardens require less water and are less prone to insect and disease problems and the need for chemical maintenance. Less chemical input reduces pollution in our creeks and streams. By creating a Green Garden, you are helping to protect Austin's environment one yard at a time.



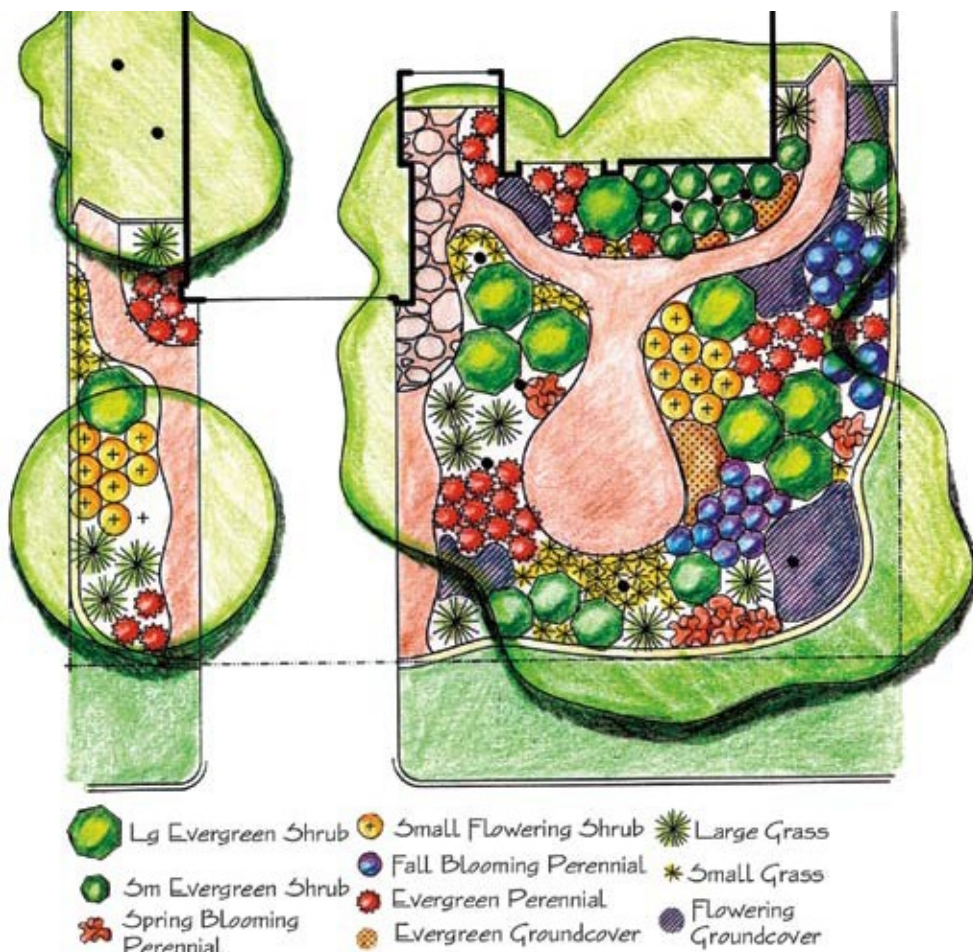
Planning is...

...the evaluation of what you already have in your landscape and the creation of a clear road map to what you would like to achieve. Begin with the end in mind!

- **Lifestyle** - Think about **how you use your yard now**, and how you would like to use it in the future, so you can design with those needs in mind. Lawns can demand significant maintenance (time, chemicals and water), so minimize turf areas when possible
- **Current Conditions** - Evaluate the **current conditions in your yard**...where are the sun and shade? What views would you like to hide or enhance? How can you accommodate difficult conditions such as steep slopes, deer, problem soils or poor drainage?
- **Seasons** - Take into account the **different seasons**. For example, many landscapes look great in spring, but lack winter interest. Once identified, this problem is easily corrected by adding a few interesting structural plants or evergreens
- **Budget** - Realize that landscaping can be costly. As a rough estimate, **allow for a budget** of \$3-5 per square foot to be landscaped if you are doing the work yourself. Then create a budgetary timeline for completion of your project
- **Timing** - Implement your plan in the following sequence:
 - Install hardscapes (sidewalks, paths, edges, etc.) and underground irrigation system if desired. *Installing hardscapes after planting endangers plants that are already in the ground*
 - Create beds before planting turf
 - Plant trees and shrubs
 - Install beds according to your own priorities – complete them in the order that is most satisfying to you

Optional Plan Layouts

The Details:



The Look:



Taking photos may help you to better analyze your current conditions. Use tracing paper over a "before" photo to outline existing features and then pencil in new plants and beds. Incorporate plants of different heights, structures and textures to add aesthetic interest.

KEEP WATER ON THE LAND

With increased population growth and smaller lots, much of our land is being covered with roadways, rooftops, parking lots and sidewalks that do not let water soak into the soil. This decreases baseflow (the constant flow in a creek) while increasing the chances of flooding and streambank erosion. The result is that many creeks have excessive flow during heavy rains and dry up shortly afterwards.

You can help both our waterways and your drainage problems by incorporating some “greenscape” techniques into your landscape plans.

Gutter downspouts

Direct downspouts to either
a) vegetated areas rather than pavement to allow water to soak in rather than run off or
b) underground to a rain garden

Rainwater Harvesting

By directing rooftop gutters to a rain barrel, you can then use the collected rainwater on areas of the land that most need water.

Swale or “DryCreekbed”

Installing a stone or grassed channel that directs rainwater to an area of the yard where it can be better absorbed.

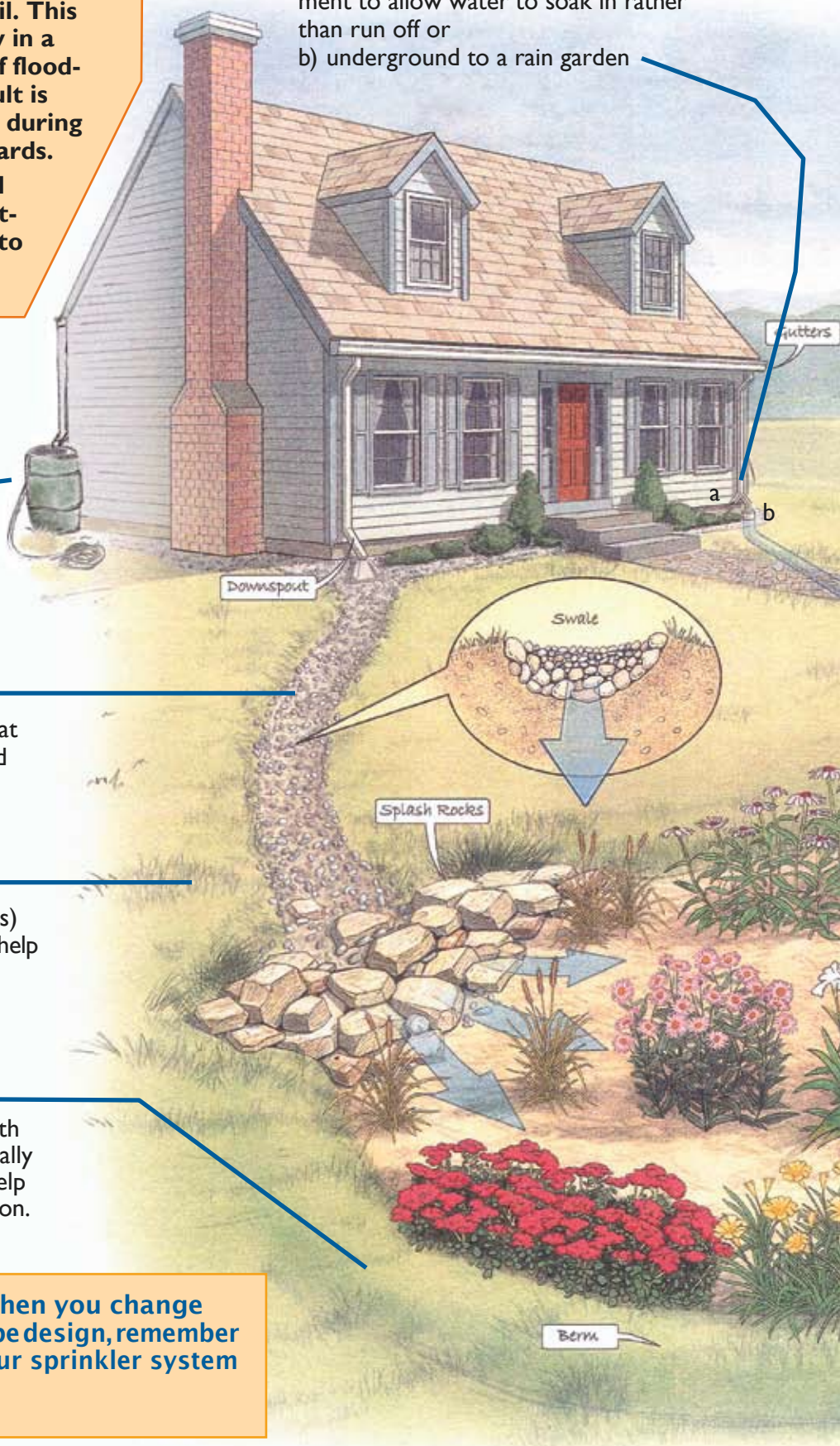
Soils

At least 4 inches (and ideally 6-8 inches) of organic topsoil should be added to help keep nutrients and water on the land.

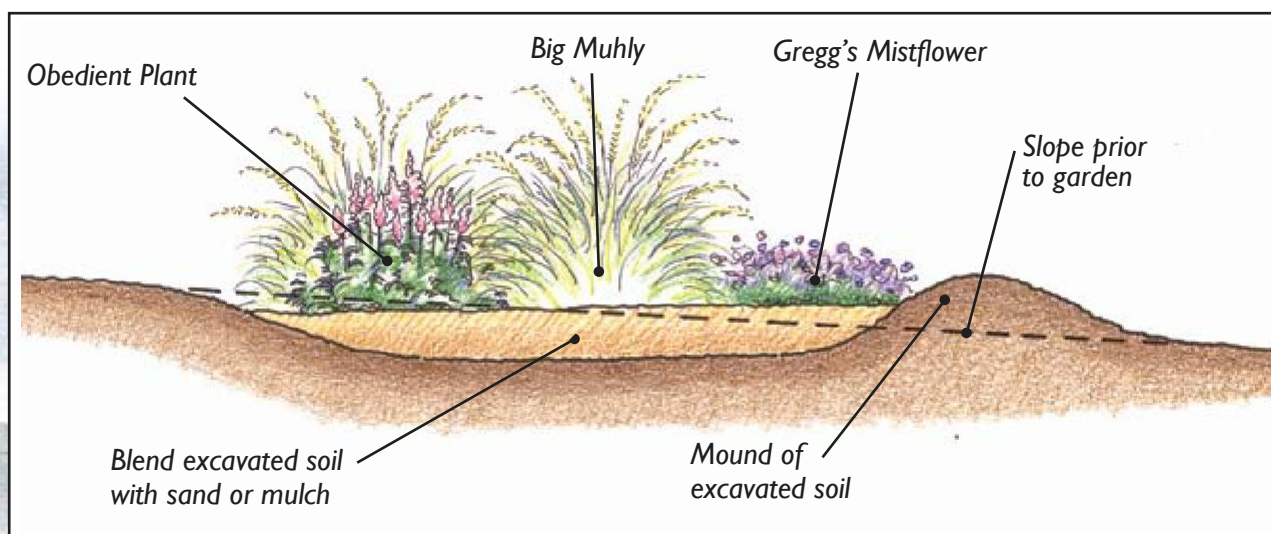
Berm

This could be a mound of earth or a low stone wall. It is typically at the bottom of a slope to help retain water or prevent erosion.

Reminder: When you change your landscape design, remember to change your sprinkler system as well!



Cross Section: Rain Garden



Trees

Plant disease-resistant natives to promote water retention, improve air quality, provide shade and habitat.

Porous Pavement

An alternative to asphalt, porous materials contain voids to encourage water to infiltrate the land. Some options include bark mulch, gravel, pervious concrete, paving stones and tumbled glass.

Your Lawn As a Filter

Grass slows down water flow and allows infiltration. Lawn does best in an area that is nearly level and should not be treated with chemicals in order to reduce the potential for water pollution.

Rain Gardens

These gardens are designed to catch and store rainfall for short periods of time and then dry out; they can be filled with attractive plants and often help solve drainage issues in the yard. For details on rain garden design and plant choices, see the following page and visit www.growgreen.org/plants.htm.

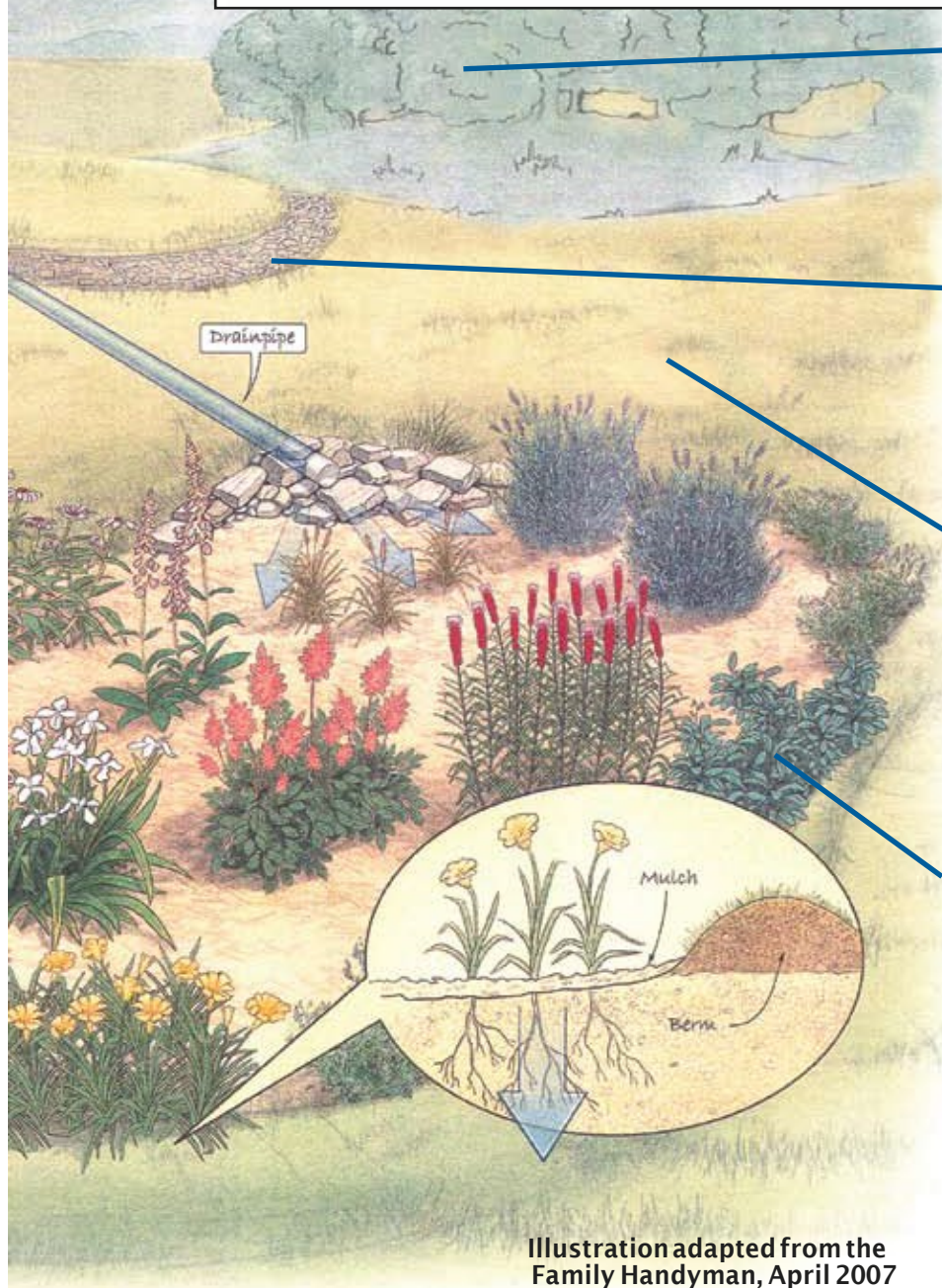


Illustration adapted from the Family Handyman, April 2007

Transition is...

...the logical and efficient way to convert your yard to a green garden. For more information look for the **Grow Green Installation and Maintenance fact sheet**

1. The original yard had a typical suburban look – a single row of shrubs near the house and a large area of St. Augustine grass.



2. To remove neighborhood plants and add plants. An irrigation system is installed.



5. The finished product – a green garden with textural and seasonal variety for all to enjoy!



St. Augustine was and donated to a Enriched soil was maintain healthier d to conserve water. ion system would be at this time.

Step-by-Step Transition



3. Walkways and landscape beds were installed to set the framework for the yard.



4. Trees and plants were placed to anticipate growth and shade

Think you have
a beautiful
Green Garden?

Apply for an award at
www.ci.austin.tx.us/greengarden/downloads/awgg_form.pdf
or look for an application at a Grow Green nursery.



Design is...

... the arrangement of plant and structural elements to satisfy your landscape plan

Use graph paper to draw up your design, and choose a scale of 1 inch = 10 feet (10 little squares per inch on your paper). This scale is good for many residential size projects, and using graph paper facilitates the placing of plants when you are ready for installation

Consider the following in your design:



- **Combination of evergreen and deciduous plants** - having only evergreen plants creates a static, unchanging landscape, yet deciduous plants often have no winter appeal. Use a combination of both



- **Foliage color** - if flowers aren't in season it is possible to have a colorful landscape using plants with different foliage color



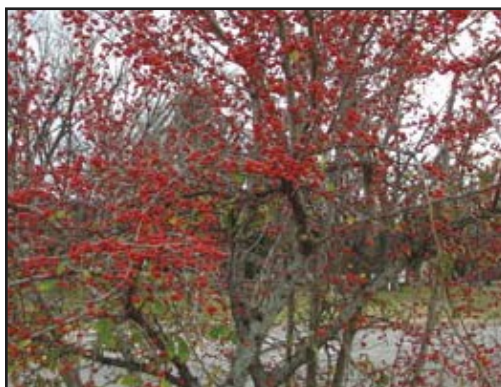
- **Proportion** - keep the size of your plants proportional to the house and environment around you, i.e., smaller plants for smaller spaces, larger plants for larger spaces



- **Plant texture** - coarse-textured plants have large sturdy leaves that stand still and silent; fine-textured plants have feathery leaves that dance in the wind. Use a combination for added interest



- **Variation in height** - an interesting design has a variety of plant heights, from groundcover underfoot to vines and trees overhead



- **Seasonal interest** - choose plants for interest in each season – structure, berries and bark for winter, flowers and foliage for the other seasons

• Plant Choice and Placement

- See the Grow Green Native and Adapted Landscape Plant Guide for plants that thrive in central Texas. Copies are available at all Grow Green nurseries or online at www.growgreen.org
- Even native and well-adapted plants can have differing water and drainage requirements. Choose mainly drought-tolerant plants, and group them with others of similar needs
- If you select a few more water-needy plants, group them together, and close to a source of water
- Put the right plant in the right place
 - shade-loving plants in the shade, and sun-loving plants in the sun
- Pay careful attention to plant spacing. Even the tiniest acorn grows into a mighty oak. Plant young plants according to their adult space requirements to minimize crowding, pest and disease problems
- Design your yard to create more shade. It is an excellent way to save on water and cooling costs through the summer months

Plants to Avoid - Avoid invasive plants that escape from yards to take over natural areas.

They choke out native species and upset the balance of the surrounding ecosystem. For a list of earth-wise plants, look for a copy of the **Grow Green Native and Adapted Landscape Plant Guide**, or check the web at www.growgreen.org

Frog Fruit

Alternative: Horseherb

Central Texas Rain Garden Plants

Fall Obedient Plant

Alternative: Spring Obedient Plant

Gulf Muhly

Alternative:
Inland Sea Oats

Black-eyed Susan

Alternative: River Fern

Gregg's Misflower

Alternative: Brazos
Penstemon

Big Muhly

Alternative:
Indian Grass

KEEP DIRT AND MULCH OUT OF THE STORM DRAIN

Soil is one of our most common pollutants. Bare dirt can erode during rainfall and travel to our creeks, clogging waterways, damaging fish gills and carrying chemicals with it.

Solutions:

- Plant or mulch any bare soil
- Stabilize eroded areas as needed
- Install erosion controls if you are doing construction or landscaping projects

Caution: If you mulch a sloped area, make sure to contain any loose materials with edging so a heavy rain doesn't wash it away.



For a landscape design template that fits your needs and style, visit www.growgreen.org and click on Landscape Design!

Become a Backyard Habitat

Austin is one of America's first Wildlife Habitat Communities!

Learn how to certify your yard by visiting the
National Wildlife Foundation website at

www.nwf.org/backyard/

www.growgreen.org

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EXTENSION

ATTACHMENT I. Venomous snake ID & Safety

ORDINANCE NO. 143-012020

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF GARDEN RIDGE, TEXAS, GRANTING AN EXCLUSIVE FRANCHISE AGREEMENT BETWEEN THE CITY OF GARDEN RIDGE, TEXAS, AND BFI WASTE SERVICES OF TEXAS, LP/DBA/REPUBLIC SERVICES OF SAN ANTONIO FOR THE COLLECTION AND DISPOSAL OF SOLID WASTE AND RECYCLING SERVICE; AUTHORIZING THE MAYOR TO EXECUTE THE CONTRACT; SETTING FORTH GENERAL SPECIFICATIONS ESTABLISHING RATES FOR COLLECTION AND DISPOSAL OF SOLID WASTE AND RECYCLING SERVICE; PROVIDING FOR ENFORCEMENT AND THE COLLECTION OF ESTABLISHED RATES; PROVIDING A PENALTY FOR VIOLATIONS OF THIS ORDINANCE OF A FINE OF NOT LESS THAN \$100.00 NOR MORE THAN \$500.00 AND MAKING EACH DAY A SEPARATE OFFENSE; PROVIDING A CUMULATIVE AND SAVINGS CLAUSE; PROVIDING FOR SEVERABILITY; AND DECLARING AN EFFECTIVE DATE.

WHEREAS, the City of Garden Ridge has the responsibility to provide for the health and welfare of its citizens; and

WHEREAS, the City Council of the City of Garden Ridge has determined that it is in the public interest of said City and its citizens to grant an exclusive franchise to BFI Waste Services of Texas, LP/dba/Republic Services of San Antonio, to provide for the satisfactory and efficient collection, removal, and disposal of solid waste and recyclable materials so as to maintain safe and sanitary conditions within Garden Ridge; and

WHEREAS, it has been, and is, determined by the City Council of the City of Garden Ridge to be in the best-interest and necessary to preserve and protect the public health of all citizens; and

WHEREAS, the City Council finds and determines that it is necessary to adopt an Ordinance granting an exclusive franchise agreement between the following parties to this Contract: the City of Garden Ridge, Texas (hereinafter called "City") and BFI Waste Services of Texas, LP/dba/Republic Services of San Antonio (hereinafter called "Contractor").

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GARDEN RIDGE, TEXAS, THAT:

SECTION 1. GRANT OF AUTHORITY.

There is hereby granted by the City to Contractor the exclusive right and privilege to operate and maintain within the City of Garden Ridge a service for the collection and removal of garbage, trash, brush, and other items intended to be discarded, (hereinafter called "solid waste"), and recyclable materials. The right and privilege granted in this contract for the purpose set forth above shall be exclusive and no other contractor, person, or corporation shall be permitted to engage in garbage collection or recycling service from residential, commercial or industrial generators, within the City during the term of this franchise.

SECTION 2. COMPLIANCE WITH LAWS AND ORDINANCES.

Contractor shall, at all times during the terms of this contract, be subject to all such reasonable regulations as the City may hereafter provide. In addition, Contractor shall observe all state and federal laws, rules, and regulations relevant to collection, removal, and disposal of solid waste.

SECTION 3. DEFINITIONS.

For purposes of this Ordinance and Contract, the following terms, words, and the derivation thereof shall have the meaning given herein. All other terms have their usual and ordinary meaning.

Bags means plastic sacks designed to store refuse with sufficient wall strength to maintain physical integrity when lifted by top. Total weight of a bag shall not exceed 35 pounds.

Bulky Waste means stoves, refrigerators (freon must be removed), water tanks, washing machines, furniture and other waste materials other than construction debris, dead animals, brush, yard waste, hazardous waste, or stable matter with weights or volumes greater than those allowed for containers.

Bundle means tree, shrub and brush trimmings or newspapers and magazines securely tied together forming an easily handled package not exceeding four feet in length and 35 pounds in weight.

Commercial Container means metal receptacle designed to be lifted and emptied mechanically for use at Commercial and Industrial Units.

Commercial and Industrial Unit means all premises, locations or entities, public or private, requiring refuse collection within the corporate limits of the City, which is not a Residential Unit.

Construction Debris means waste building materials resulting from construction, remodeling, repair, or demolition operations.

Container means a receptacle with a capacity of greater than 20 gallons, but less than 35 gallons constructed of plastic, metal or fiberglass, having handles of adequate strength for lifting and having a tight-fitting lid capable of preventing entrance into the containers by vectors. The mouth of a container shall have a diameter greater than or equal to that of the base. The weight of a container and its contents shall not exceed 35 pounds.

Dead Animals means animals or portions thereof equal to or greater than 20 pounds in weight that have expired from any cause, except those slaughtered or killed for human use. Farm and ranch animals are excluded.

Disposal Site means a refuse depository including but not limited to sanitary landfills, transfer stations, incinerators and waste processing/separation centers licensed, permitted or approved to receive for processing or final disposal of refuse and dead animals by all governmental bodies and agencies having jurisdiction and requiring such licenses, permits, or approvals.

Garbage means any and all dead animals equal to or greater than 20 pounds in weight except those slaughtered for human consumption and excluding farm and ranch animals; every accumulation of waste (animal, vegetation, household, and/or other matter) that results from the preparation, processing, consumption, dealing in, handling, packing, canning, storage, transportation, decay, or decomposition of meats, fish, fowl, birds, fruits, grains, or other animal or vegetable matter (including, but not by way of limitation, used tin cans and other food containers; and all putrescible

or easily decomposable waste, animal or vegetable matter which is likely to attract flies or rodents); except (in all cases) any matter included in the definition of Bulky Waste, Construction Debris, Dead Animals, Hazardous Waste, Rubbish, or Stable Matter.

Hazardous Waste means any chemical, compound, mixture, substance, or article which is designated by the United States Environmental Protection Agency or appropriate agency of the state to be “hazardous” as that term is defined by or pursuant to Federal or state law.

Producer means an occupant of a Residential Unit or Commercial Unit who generates refuse.

Recyclable Material means any and all materials as the parties may agree in writing (i.e., newspaper, glass, aluminum cans, and plastic)

Recycling Container means a rigid plastic container with a capacity of approximately eighteen (18) gallons used to facilitate curbside recycling.

Refuse refers to Residential Refuse and Bulky Waste, Construction Debris, and Stable Matter generated at a Residential Unit unless the context otherwise requires.

Residential Refuse means all garbage and rubbish generated by a producer at a residential unit.

Residential Unit means a dwelling within the corporate limits of the City occupied by a person or group of persons comprising not more than one family. A Residential Unit shall be deemed occupied when either water or domestic light and power services are being supplied thereto.

Rubbish means all waste wood, wood products, tree trimmings, grass cuttings, dead plants, weeds, leaves, dead trees, or branches thereof, chips, shavings, sawdust, printed matter, paper, pasteboard, rags, straw, used and discarded mattresses, used and discarded clothing, used and discarded shoes and boots, combustible waste pulp and other products such as are used for packing or wrapping crockery and glass, ashes cinders, floor sweepings, glass mineral or metallic substances, and any and all other waste materials not included in the definitions of Bulky Waste, Construction Debris, Dead Animals, Garbage, Hazardous Waste or Stable Matter.

Stable Matter means all manure and other waste matter normally accumulated in or about a stable, or any animal, livestock or poultry enclosure, and resulting from the keeping of animals, poultry or livestock.

SECTION 4. RESPONSIBILITIES OF CONTRACTOR.

- a) Hold Harmless: The Contractor will indemnify, save harmless, defend and exempt the City, its officers, agents, servants, and employees from and against any and all suits, actions, legal proceedings, claims, demands, damages, costs, expenses, and attorney’s fees incident to any work done in the performance of this Contract, arising out of a willful or negligent act or omission of the Contractor, its officers, agents, servants and employees; provided however, that the Contractor shall not be liable for any suits, actions, legal proceedings, claims, demands, damages, costs, expenses and attorney’s fees arising out of a willful or negligent act or omission of the City, its officers, agents, servants, and employees.
- b) Insurance: The Contractor shall at all times during the Contract maintain in full force and affect Employer’s Liability, Workmen’s Compensation, Public Liability, and Property Damage Insurance, including contractual liability coverage as provided for herein.

All insurance shall be by insurers and for policy limits acceptable to the City and before commencement of work hereunder the Contractor agrees to furnish the City certificates of insurance or other evidence satisfactory to the City to the effect that such insurance has been procured and is in force. The coverage's may be provided by the Contractor's parent corporation and the City shall be named as an "additional insured". The certificates shall contain the following express obligation:

This is to certify that the policies of insurance described herein have been issued to the insured for whom this certificate is executed and are in force at this time. In the event of cancellation or material change in a policy affecting the certificate holder, thirty (30) days prior written notice will be given to the certificate holder.

For the purpose of the Contract, the Contractor shall carry the following types of insurance in at least the limits specified below:

<u>Coverage</u>	<u>Limits of Liability</u>
Workmen's Compensation	Statutory
Employer's Liability	\$1,000,000
Excess Umbrella Liability	\$1,000,000 each occurrence
Bodily Injury Liability (Except Automobile)	\$1,000,000 each occurrence \$2,000,000 aggregate
Property Damage Liability (Except Automobile)	\$1,000,000 each occurrence \$1,000,000 each occurrence
Automobile Property Damage Liability	\$1,000,000 each occurrence
Automobile Bodily Injury Liability	\$1,000,000 each person \$2,000,000 each occurrence

- c) Licenses: The Contractor shall obtain all licenses and permits (other than the license and permit granted by the Contract) necessary to perform the services required of Contractor by this Ordinance.
- d) Equipment: The Contractor shall maintain and operate its collection system and equipment in order to render competent and efficient service subject to the terms of this Contract. All equipment, including motor vehicles and trucks necessary for the performance of this franchise shall, be in good condition and repair. The trucks used in collection of garbage shall be all metal, with completely enclosed "packer" type bodies that are designed and manufactured for the collection of garbage and rubbish. Said collection vehicles shall be painted and numbered and shall have Contractor's name and telephone number painted in letters of a contrasting color on each side of the vehicle in a size and type so as to be easily readable from a distance of fifty (50) feet. All vehicles shall be kept in a clean and sanitary condition and shall be cleaned inside and outside at least once each week. Contractor shall furnish the City with a list of the type, model, and age of the equipment to be utilized for servicing Garden Ridge. A standby vehicle shall always be available.

SECTION 5. SERVICE REQUIRED OF CONTRACTOR.

The Contractor shall provide, at a minimum, the following services within the corporate limits of the City of Garden Ridge, Texas.

- a) Residential Service: Contractor shall provide collection service for the collection of residential garbage (except bulky waste) to each Residential Unit two (2) times per week on either Monday and Thursday or Tuesday and Friday depending location of residence. Such collection services must be provided between the hours of 7:00 a.m. and 8:00 p.m.

Contractor will furnish curbside pickup of grass, leaves, and other similar residential yard-grown refuse on regular pickup days placed in plastic bags not exceeding 35 pounds in weight or placed in garbage cans. Trees, brush, shrubbery and the like to be picked up with garbage, subject to the quantity limitations hereinabove set forth, shall be cut and tied in bundles of not more than four (4) feet in length and thirty-five (35) pounds in weight each, if the same is not place in garbage cans.

Contractor will furnish curbside pickup of recyclable material one day each week on the second pick up day of the week depending on the section of city residence is located. A schedule indicating each date of recycling pick up for the calendar year will be determined and agreed upon by the City and the Contractor prior to the beginning of the new calendar year. The City shall distribute the recycling calendar to all residents of the City.

Contractor will provide a contractor-owned 18-gallon recycling bin to each residence. All proceeds from the marketing of recyclables will be returned to the City. Residents shall not be limited to recycle what the bin will hold. The resident may place additional recyclable material beside the recycling bin in a garbage can or in bags and must be designated as recyclable material. Recyclable material will include newspaper, aluminum, tin, plastic, and glass. The Contractor will provide the City with a list of allowable recyclable materials annually and must provide an updated list of recyclable materials as deletions or additions are made to the list of recyclables. Contractor shall pickup curbside recyclables, with the exception that citizens may participate in other governmental sponsored recycle activities.

In the event that a resident may desire pick-up of excessive or unusual items, or service not contemplated by the Ordinance, such resident should make independent arrangements with the Contractor. Contractor shall have no obligation whatsoever to collect Hazardous Waste, Infectious Waste, or Special Waste.

A schedule of costs for residential solid waste collection and recycling are attached as **Exhibit A.**

- b) Commercial Service: All commercial establishments and business operations in the City are required to have solid waste collection and disposal service. Commercial service is available for either “hand pick-up” or by commercial or industrial containers. All commercial or industrial containers will be supplied by the Contractor. Each commercial establishments and business operation is responsible for insuring that the size of container and number of times of service are adequate to meet the solid waste collection needs of the business and to assure that no “overflow” situations occur.

The schedule of costs for commercial hand pickups, commercial or industrial containers for solid waste collection for commercial and business operations in the City are attached as **Exhibit A**.

- c) Construction Debris: Debris from lot clearing and construction operations, rock, brush, tree limbs, waste, scrap, building materials, or other trash resulting from construction or major remodeling, resulting from a general cleanup of vacant or improved property just prior to its occupancy, or resulting from sizeable amounts of trees, brush and debris cleared from property in preparation for construction, or the remodeling of residence, will not be removed as a part of a regular service. Builder/contractors must contract with for collection and disposal of construction debris. Collection and disposal of construction debris is not included as part of the exclusive grant of authority to the Contractor under this agreement.
- d) Other Provisions:
 - 1. Contractor shall have the responsibility of the disposal of all refuse and garbage collected under this agreement and all of said materials shall be disposed of in compliance with the laws of the Federal Government and State of Texas and/or the rules, regulations and standards established or to be established by the Federal Government and the Texas Commission on Environmental Quality.
 - 2. Contractor will provide removal of dead animals (regardless of weight or size) from the right-of-way without charge to the City. Contractor must pick up dead animals reported by the City on the days service is provided in the City, or sooner.
 - 3. Contractor shall provide regularly scheduled garbage collection sufficient to avoid unhealthy or unsightly accumulation to all City facilities free of charge.
 - 4. Contractor will provide at no charge to the City, a sufficient number of roll-off containers at a location designated by the City for disposal of brush, tree cuttings, yard waste, and bulky waste during the first, second, third and fourth weekends (Saturday and Sunday) for the months of January, March, May, July, September, and November of each year. Contractors and commercial establishments are excluded from this service. The City shall call for pulls when needed during each period, there will not be a charge for the pulls and the container will be simultaneously replaced as necessary. Contractor shall provide roll-off containers for emergency waste removal, such as storm damage in sufficient number and on demand by City without charge.
 - 5. Contractor shall provide containers for City-sponsored events without charge.
 - 6. Contractor shall discontinue garbage collection service at any residential unit upon written notice from the City. Upon further notification by the City the Contractor shall resume collection on the next regularly scheduled collection day. The City shall be solely responsible for any claims, suits, damages, liabilities, or expenses resulting from Contractor's discontinuance of service at any location at the direction of the City as long as the Contractor is without responsibility and following the specific instructions of the City.

7. In the event the Contractor for any reason after being notified by telephone or email shall fail to make any garbage pickup or collection; then the City, without further notice, may cause the same to be picked up and disposed of and shall deduct or bill to the Contractor the charges therefore.
8. Contractor shall maintain an office through which it may be contacted. It shall be staffed with sufficient competent personnel to handle calls and inquiries from 8:00 a.m. to 5:00 p.m., Monday through Friday and from 8:00 a.m. to 12:00 p.m. on Saturdays.
- e) Holiday Schedule: The following holidays will be observed by the Contractor and services will not be provided on these days: New Year's Day (January 1), Thanksgiving Day (last Thursday in November), and Christmas Day (December 25). During the holiday week, collection will run one (1) day behind after one of the listed holidays.

SECTION 6. RESPONSIBILITIES OF CITY.

The City shall have the following responsibilities under this Franchise Contract:

- a) To advise Contractor monthly of any additions or deletions to the list of residential, commercial and industrial units from whom collections are made or to be made.
- b) To notify Contractor of any complaints regarding Contractor's services under this Agreement.

SECTION 7. RESPONSIBILITIES OF CUSTOMER.

Garbage collection service is mandatory for all residences and places of business within the City excepting those residences located on farms and ranches, as defined as ten (10) or more acres where farming and ranching operations are being conducted.

Garbage container, bags, and bundles must be placed at curbside locations for collection. Curbside refers to that portion of right-of-way adjacent to paved or traveled City roadways. Garbage container, bags, and bundles shall be placed as close to the roadway as practicable without interfering with or endangering the movement of vehicles or pedestrians. When construction work is being performed in the right-of-way, garbage containers, bags, and bundles shall be placed as close as practicable to an access point for the collection vehicle. All dead animals less than forty (40) pounds must be doubled bagged and placed at curbside. Contractor is not responsible for pickup of farm and ranch properties. Contractor may decline to collect any garbage container, bag, and bundle not so placed or any Residential Garbage not in a garbage container, bag, or bundle.

SECTION 8. RATES, COLLECTION, AND PAYMENT.

- a) Rates for collection services are attached in Exhibit A. Annual rate adjustment for CPI (Water, Sewer & Trash index) as warranted by economic conditions may be assessed the second and subsequent years of the contract for all services as a whole. Contractor shall give a ninety (90) day notice of such rate adjustment.

- b) In addition, the Contractor may petition the City for a rate adjustment after giving a sixty (60) day written notice to the City. The notice and petition must include specific and detailed documentary support for the requested adjustment and support for any amount proposed which increases the expenses paid for the services provided under this contract and include whether a denial of the proposed increase would result in the termination of this contract by the Contractor. The petition's support shall include any and all documents, including revised laws, ordinances, regulations, or landfill operator dumping fees that impact the costs of the provided services. The Contractor shall be entitled to "pass through" any taxes, fees, or other impositions of any governmental, regulatory entity or landfill operator dumping fees placed upon or charged against the business or activity of collection and disposal of solid waste only to the extent that the costs are in addition to the customary and usual expenses of doing business by Contractor. Should the City reject the Contractor's petition for rate adjustment, Contractor is required to continue providing services for a period of one hundred twenty (120) days, after providing written notice of intent to terminate this contract to the City. This provision does not prohibit the City and the Contractor to negotiate new or different services to offset any proposed rate adjustment at any time.
- c) The City shall collect from the Contractor four percent (4%) of the total collections, excluding sales tax, from residential, commercial, and industrial customers as a gross receipt's tax/franchise fee for the privilege of using the streets of the City in connection with this franchise agreement. Contractor shall remit a five percent (5%) franchise fee to the City for Roll-Off container services. Contractor shall pay such amount to the City on a monthly basis with the City retaining four percent (4%) from the monthly remittance made to the Contractor.
- d) The City shall bill and collect from all residential, commercial, and industrial customers in the City.
- e) All customers will be billed the monthly rates detailed in Exhibit A. Residences located outside of the corporate limits of Garden Ridge that are serviced by City water may subscribe to solid waste collection with the Contractor and billed for such service by the City. Subscribers outside of the City will be billed at the rates detailed in Exhibit A.
- f) The City shall calculate the amount of solid waste collection service and recycling billed to residential, commercial, and industrial customers monthly and shall retain eleven percent (11%) of the total collections as a billing service charge.
- g) The City shall remit to the Contractor, on a monthly basis a total of eighty-five percent (85%) of the total collections plus sales tax to the Contractor. With the remittance to the Contractor, the City shall submit documentation to support the monthly calculation of total sales, eleven percent (11%) billing retainage, and four percent (4%) franchise fee plus sales tax. The Contractor is responsible for remitting the sales tax submitted by the City for the services billed.
- h) The City reserves the right to negotiate billing and collection for solid waste collection and disposal service with the Contractor with one hundred twenty (120) days written notice by

the City to the Contractor. Should billing and collection be transferred to the Contractor transfer of all customer information would be coordinated between the City and contractor during the one hundred twenty (120) day period.

SECTION 9. COMPLAINTS.

Complaints received by the City concerning solid waste collection and recycling services from residential and commercial customers will promptly be reported to Contractor. The Contractor shall promptly respond to complaints received and provide the City with a report concerning corrective and/or investigative actions taken by the Contractor on each complaint.

SECTION 10. LEGAL PROVISIONS.

- a) In the event the collection and disposal of garbage shall be interrupted for any reason for more than forth-eight (48) hours as a sole result of a willful or negligent act of the Contractor, the City shall have the right to make temporary independent arrangements for the purpose of continuing this necessary service to its citizens in order to provide and protect the public health and safety.

An exception for not providing regularly scheduled service to certain locations would be hazardous conditions in which case a report will be made to the City and service shall resume when the hazardous condition is rectified. The City and Contractor agree that the Contractor shall not be responsible or liable in any way for damages by fire, flood, earthquake, or act of God.

If the interruption in service continues for a period of seven (7) days as a sole result of a willful or negligent act of Contractor, then City shall have the right to terminate the rights and privileges granted in this contract. The City and Contractor agree that Contractor shall not be responsible or liable in any way for damages caused by fire, flood, earthquake, or act of God.

- b) No assignment of Franchise Contract or any right accruing hereunder shall be made in whole or in part by the Contractor without the express written consent of any assignment; the assignee shall assume the liability of the Contractor.
- c) The Mayor is authorized to execute such contract on behalf of the City of Garden Ridge, Texas.
- d) In the event that the City is required to take any legal action to enforce the terms and conditions of this agreement because of the breach of or failure to perform any term or condition by the Contractor, the Contractor agrees to pay all costs expended by the City including reasonable attorney fees.
- e) In the event of a natural disaster (defined as a storm, flood, or tornado) wherein the City is declared a disaster area by the State or Federal government, City shall have the right to dispose of rubbish and trash and will attempt in good faith to use Contractor's facilities if they can be used at the same or lower costs than other methods available to the City. This

provision shall also apply to the disposal of any rubbish or trash resulting from severe weather or fires of a lesser degree than a natural disaster.

- f) Where written notices are provided for in this agreement, same shall be sufficient to notify Contractor if mailed by certified mail to BFI Waste Services of Texas, LP/dba/Republic Services of San Antonio, 4542 S.E. Loop 410, San Antonio, Texas 78222 Attention: Tom Armstrong, Manager, Municipal Sales and shall be sufficient to notify the City if mailed certified mail to the City of Garden Ridge, 9400 Municipal Parkway, Garden Ridge, Texas 78266.

SECTION 11. VIOLATION OF ORDINANCE.

A violation of this Ordinance is a Class C Misdemeanor punishable upon conviction by a fine of not less than one hundred (\$100) dollars nor more than five hundred (\$500) dollars for each day that such offense continues and shall be a separate offense. Any violator may be subject to the enforcement provisions of Chapter 54 of the Texas Local Government Code.

SECTION 12. CUMULATIVE AND SAVINGS.

This Ordinance is cumulative of all provisions of ordinances of the City of Garden Ridge, Texas, except where the provisions of this Ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed. All previous Ordinances, Resolutions, and Agreements, including Amendments thereto, regarding and granting permission for the collection, removal, and disposal of solid waste and recyclable materials within the City are hereby superseded on the effective date of this Ordinance.

SECTION 13. SEVERABILITY.

It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs, and sections of this Ordinance are severable, and if any phrase, clause, sentence, paragraph, or section of this Ordinance is declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality will not affect any of the remaining phrases, clauses, sentences, paragraphs, or sections of this Ordinance, since the same would have been enacted by the City Council without the incorporation in this Ordinance of any such unconstitutional phrase, clause, sentence, paragraph, or section.

SECTION 14. TERM OF CONTRACT AND EFFECTIVE DATE.

This Ordinance shall become effective immediately upon its passage, approval, and publication as provided by law. This Contract shall become effective and in force as of the 1st day of April, 2008, and terminating on March 31, 2023; provided, however this contract may be extended after said fifteen (15) year period for successive one-year periods thereafter upon the express mutual consent of the City Council and BFI Waste Services of Texas, LP/dba/Republic Services of San Antonio and the passage of an ordinance declaring the period of extension. Notwithstanding any other provision in this contract, the City may terminate this Contract, with or without cause, with a one hundred twenty (120) day written notice.

PASSED AND APPROVED ON this 2nd day of January, 2020.

Larry Thompson
Mayor
City of Garden Ridge

ATTEST:

Marisa Spencer
City Secretary
City of Garden Ridge

Tom Armstrong
Manager Municipal Services
BFI Waste Services of Texas, LP/
dba/Republic Services of San Antonio Bexar Waste

ATTEST:

Jevon Herman
Area Director of Operations
BFI Waste Services of Texas, LP/
dba/Republic Services of San Antonio Bexar Waste

EXHIBIT A

CITY OF GARDEN RIDGE
EFFECTIVE 01-2020
RESIDENTIAL AND COMMERCIAL WASTE RATES

RESIDENTIAL (SINGLE FAMILY DWELLING):	\$26.00 per month
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COMMERCIAL HAND PICK UPS

Class 1 (offices, churches, small business) 1 Cart	\$25.99 per month
Class 2 (light retail/industrial) 2 Carts	\$44.52 per month
Class 3 (medium retail) 3 Carts	\$63.09 per month

COMMERCIAL/INDUSTRIAL CONTAINERS

CONTAINER SIZE	TIMES SERVICED PER WEEK					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
2 Cubic Yards	\$ 58.13	\$ 98.93	\$117.52	\$132.35	\$148.44	\$164.52
3 Cubic Yards	\$ 72.98	\$126.17	\$169.47	\$194.20	\$217.71	\$241.21
4 Cubic Yards	\$ 91.53	\$149.68	\$202.87	\$241.21	\$280.79	\$320.37
6 Cubic Yards	\$134.83	\$213.99	\$284.50	\$355.01	\$426.76	\$497.26
8 Cubic Yards	\$155.86	\$270.90	\$366.15	\$461.38	\$557.87	\$651.88

EXTRA DUMPSTER PICKUP

2 Cubic Yards	\$20.00 per haul
3 Cubic Yards	\$27.00 per haul
4 Cubic Yards	\$30.00 per haul
6 Cubic Yards	\$34.00 per haul
8 Cubic Yards	\$36.00 per haul

ROLL OFFS

20 yard	\$353.53 per haul
30 yard	\$414.37 per haul
40 yard	\$476.22 per haul
Deliveries	\$117.52 each
Container Rental	\$111.33 per month

DECEMBER MARKET SUMMARY

This was a great market! We enjoyed beautiful weather and had 60 total vendors in attendance, filling our lot to capacity almost 2 weeks prior to the market date. We have a waiting list of over 40 additional vendors that tried to book during the 2 weeks prior, but could not fit! Our volunteer attendance tracker counted around 1,200 customers in attendance, plus 60 vendors, their staff, and our own. Activities included live music, magician, obstacle course for kids, visit from Olaf character for photo op, a toy drive, crafts for kids, and face painting. Our non-profit was Angel Helpers Ministry who collected toys for those in need this holiday season. They were very happy with the amount collected. Our craft booth was donated and run by Bracken MAMAS/church without their requesting any promotion in return for their assistance. Much praise has been given to the city and market during and following the event for supporting the community and local vendors and businesses. Vendor responses are very positive and continue to be collected for retention and continued market success.

DECEMBER MARKETING RECAP

The screen shot attached shows the amazing results of the December Market alone... 85,100 people reached and 4,200 people responded to attending or being interested in attending the event via Facebook ALONE! No marketing dollars were spent to advertise the market this month, yet we still managed to have more customers than any prior market. This is thought to be due to increased social media posts, mainly aimed at the additional activities offered to the community which provided a multitude of ways to promote and angle the market to potential customers. Also, the obvious December Christmas-shopping timeframe and warm weather of the day had positive impacts on attendance.

Event Insights

 Edit 

 Events

- Events
- Calendar
- Garden Ridge Holiday Market!**
- Birthdays
- Discover
- Hosting

[+ Create Event](#)

Manage Page Events

 Garden Ridge Market ...



DEC 14 Garden Ridge Holiday Market!
Public · Hosted by Garden Ridge Market Days

 Going 

 Saturday, December 14, 2019 at 9 AM – 2 PM
4 days ago

 Garden Ridge Market Days
9400 Municipal Parkway, Garden Ridge, Texas 78266 [Show Map](#)

INSIGHTS [See More](#)



85.1K
People Reached
+10.2K last 7 days



4.2K
Responses
+369 last 7 days



Track ticket sales on your next event by adding a ticket link

Audience

Women 45-54
23% of total responses

English (US) · Español · Português (Brasil) · Français (France) · Deutsch 

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Market Governance Guidelines

Market Manager Authority

The Market Manager has the authority to strategize and implement Market design, to initiate and maintain relationships with vendors, to manage ongoing Market activities, to serve as a representative of the Market in the community, to propose purchases of goods and services and to engage in future Market planning.

Financial

- All financial documentation, including PayPal transactions, will be turned over by the Market Manager to the City's Finance Department for accounting purposes.
- Purchases by Market Manager will be approved in writing prior to expenditure by at least one governing representative.
- Expenditures over \$300 require approval by Council.
- The Market Manager will either arrange payments for goods and services with the Finance department or pay directly for goods and services and submit receipts for reimbursements.
- The Market Manager will submit a written report to include activity overview, financial transactions and receipts for reimbursements within five days after the close of the Market.
- Finance will provide a monthly financial report to Council.
- Any changes in Market fees will require Council approval.
- The Market Manager is authorized to exchange vendor fees for services of benefit to the Market.
- When possible, purchases will benefit the City as a whole, not just the Market (i.e. signage).

Staffing

- Public Works or Water Department staff will work a maximum of four hours on the day of the Market.
- Public Works staff will be notified of sign placement scheduling and expectations for the day of the Market a week in advance of the Market.

Recordkeeping

- The Market Manager will collect and maintain the necessary paperwork from vendors to include applications, indemnification form and necessary permits and/or licenses.
- The Market Manager will submit original copies of the necessary paperwork to the City for record retention within 5 business days following the conclusion of the applicable Market.
- Maintain an inventory list.
- Maintain and submit monthly list of Market vendors.

Extraordinary Activities

- Any proposed extraordinary activities will be presented to the governance officials for approval/denial during the first week of Market planning. (Requires approval of all governance officials).
- The Market Manager will avoid activities that involve a high degree of risk and potential liability exposure for the City.

Revenue Considerations

- The Market Manager and governance officials agree to conservative spending of surplus revenue.
- After refunding seed money and maintaining a consistent balance of \$1,000, potential spending of revenue could include providing appropriations to: augment existing community events (i.e. 4th of July, tree lighting); enhance community center facilities, parks, library or City properties (parking lot). The aforementioned expenditures will require City Council approval.

Future Agenda Items

City Council

February 5, 2020, Regular Meeting

14 days before Meeting	(01/22/20)	City Council and Staff items are due.
9 days before Meeting	(01/27/20)	City Administrator and Mayor review agenda. Mayor sets the agenda. City Attorney is sent agenda.
7 days before Meeting	(01/29/20)	Post agenda on bulletin board. City Council receives packet (allowing a day and half for corrections/request additional information be added)
5 days before Meeting	(01/31/20)	Post agenda packet to City Website.
Meeting Day	(02/05/20)	Mayor and City Administrator meet with Department Heads Wednesday @ 10 a.m.

City Council = Red

Planning & Zoning = Green

Water Commission = Blue

Wildlife Management Advisory Commission = Brown

City Holiday = Orange

Municipal Court = Gray

Sun	Mon	Tues	Wed	Thur	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

March 4, 2020, Regular Meeting

14 days before Meeting	(02/19/20)	City Council and Staff items are due.
9 days before Meeting	(02/24/20)	City Administrator and Mayor review agenda. Mayor sets the agenda. City Attorney is sent agenda.
6 days before Meeting	(02/27/20)	Post agenda on bulletin board. City Council receives packet (allowing a day and half for corrections/request additional information be added)
5 days before Meeting	(02/28/20)	Post agenda packet to City Website.
Meeting Day	(03/04/20)	Mayor and City Administrator meet with Department Heads Wednesday @ 10 a.m.

City Council = Red

Planning & Zoning = Green

Water Commission = Blue

Quarry Commission = Purple

Wildlife Management Advisory Commission = Brown

City Holiday = Orange

Municipal Court = Gray

Sun	Mon	Tues	Wed	Thur	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

PENDING FUTURE AGENDA ITEMS

1. Design on Water Tanks at Well Site 9 and 10/Retainer Wall of City Hall...**McCaw**
2. Monitoring Wells in the City of Garden Ridge...**Arvidson**
3. Update on City-funded monument for Paul Davis Park... **Bower**
4. Ethics Ordinance ... **8-30-17 City Council motion**
5. Website and Social Media Policy